

# TMC SPECIFICATION

NO. S 1114

REV: ~~A~~ B C D

COMPILED: W. Burns      CHECKED: J. Sabatino      APPD: *MMay*      SHEET 1 OF 10

TITLE: GPT-10K & 40K UNSYNTHEZIZED TO SYNTHESIZED MODIFICATION KIT

TMC NO. KIT-128(1)

GPT-10K & 40K UNSYNTHEZIZED TO SYNTHESIZED  
MODIFICATION KIT  
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**I. EQUIPMENT AFFECTED**

- A. GPT-10K Transmitter Set Radio (with TIS-3 already on hand).
- B. GPT-40K Transmitter Set Radio (with TIS-3 already on hand).

**II. PURPOSE**

- A. To replace existing Exciter with a synthesized Exciter to provide a large number of highly stable frequency controlled outputs. (This KIT is for transmitters which already have a TIS-3 (or Equiv.) on hand).

**III. MATERIALS SUPPLIED**

<u>ITEM</u>	<u>QUANTITY</u>	<u>TMC PART NO.</u>	<u>DESCRIPTION</u>
1	one	APP-10	Auxiliary Power Panel
2	one	CBE-1	Sideband Exciter
3	one	CHG-2B	Frequency Amplifier
4	one	CHL-1	Divider Chain
5	one	CLL-1	Controlled Oscillator
6	one	CMO-1	Controlled Master Oscillator
7	one	CPP-2	Main Power Supply Complete with CA-555-1 AC Cable
8	one	CPP-5	Power Supply (CHG-2) Complete with CA-555-1 AC Cable
9	one	CSS-1C	Frequency Standard Complete with CA-555-1 AC Cable
10	DELETED		
11	one	A-4473	Main Cable and Center Shield Assembly
12	one	CA-551-5	Power Cable, Yellow (For CLL-1)
13	one	CA-551-4	Power Cable, Black (For CHL-1)
14	one	CK-925	Wiring Diagram

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### III. MATERIALS SUPPLIED (cont)

<u>ITEM</u>	<u>QUANTITY</u>	<u>TMC PART NO.</u>	<u>DESCRIPTION</u>	
15	one	ID-277	Installation Details	
16	two	IN-220	Instruction Manual, SBG-2	
17	one	S-1114	Installation Procedure	
18	one	NP-362-17	Nameplate Modification	
19	one set	TK-105-14S	Track, Stationary Section	} FOR CPP-5
* 20	one set	TK-105-14G	Track, Intermediate Section	
21	one	TK-106-18SL	Track, Stationary Section Left	} FOR CPP-2
22	one	TK-106-18SR	Track, Stationary Section Right	
* 23	one	TK-106-18GL	Track, Intermediate Sect. Left	
* 24	one	TK-106-18GR	Track, Intermediate Sect. Right	
25	two sets	TK-107-18S	Track, Stationary Section	} FOR CHG-2B CMO-1
* 26	two sets	TK-107-18G	Track, Intermediate Section	
27	four sets	TK-108-18S	Track, Stationary Section	} FOR CHL-1 CSS-1 CLL-1C TIS-3
28	four sets	TK-108-18G	Track, Intermediate Section	
29	One Bag Containing:			
	A. Two	MS-2482	Bracket, Extention, Rear	} Track Mtg. CPP-5
	B. 16	SCHH1032BN8	Screw, Machine	
	C. 16	LWS10MRN	Washer, Lock, Split	
	D. Six	TK-105-NB	Nut, Bar	
30	Two Bags Each Containing:			
	A. Two	MS-2458	Bracket, Extention, Rear Track	} Track Mtg. CHG-2B CMO-1
	B. 16	SCHH1032BN8	Screw, Machine	
	C. 16	LWS10MRN	Washer, Lock, Split	
	D. Six	<b>TK-107-NB</b>	Nut, Bar	

\* Indicates shipped mounted to equipment.

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<u>ITEM</u>	<u>QUANTITY</u>	<u>TMC PART NO.</u>	<u>DESCRIPTION</u>	
31	One Bag Containing:			
A.	Two	MS-2458	Bracket, Extention, Rear	} Track Mtg. CPP-2
B.	16	SCHH1032BN8	Screw, Machine	
C.	16	LWS10MRN	Washer, Lock, Split	
D.	Six	TK-106-NB	Nut, Bar	
32	Four Bags Each Containing:			
A.	Two	MS-2457	Bracket, Extention, Rear	} Track Mtg. CHL-1 CLL-1 TIS-3A CSS-1C
B.	16	SCHH1032BN8	Screw, Machine	
C.	16	LWS10MRN	Washer, Lock, Split	
D.	Six	TK-108-NB	Nut, Bar	
33	One Bag Containing:			
A.	One	A-2048-2	Attenuator Assembly	
B.	Two	SCBP0632BN8	Screw, Machine	
C.	Two	LWE06MRN	Washer, Lock, External	
34	Two Bags each Containing:			
A.	One	SP-137-2	Spring, Retracting	
B.	One	MS-2470	Bracket, Spring Mtg.	
C.	Two	SCBP1032BN8	Screw, Machine	
D.	Two	SCBP1024BN6	Screw, Machine	
E.	One	SCBP0540BN6	Screw, Machine	
F.	One	LWE06MRN	Washer, Lock, External	
G.	Four	LWE10MRN	Washer, Lock, External	
H.	Two	NTH1032BN12	Nut, Hexagon	

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<u>ITEM</u>	<u>QUANTITY</u>	<u>TMC PART NO.</u>	<u>DESCRIPTION</u>	
35	One Bag Containing:			
	A. One	CU-130-9	Clamp, Cable	
	B. Three	CU-131-5	Clamp, Cable	
	C. Four	SCBP1032BN8	Screw, Machine	
	D. Four	FW10HBN	Washer, Flat	
	E. Four	LWE10MRN	Washer, Lock, External	
	F. Four	NTH1032BN12	Nut, Hexagon	
36	One Bag Containing:			
	A. Twelve	SCBP1032BN10	Screw, Machine	} Cable Clamp Mtg.
	B. Twelve	FW10HBN	Washer, Flat	
	C. Twelve	LWE10MRN	Washer, Lock, External	
	D. Twelve	NTH1032BN12	Nut, Hexagon	
	E. One	SCBP0832BN12	Screw, Machine	
	F. One	FW08HBN	Washer, Flat	
	G. One	LWE08MRN	Washer, Lock, External	
	H. One	NTH0832BN10	Nut, Hexagon	
37	One Bag Containing:			
	A. 48	SCBP1032BN8	Screw, Machine	} SBG Units Mtg.
	B. 48	WA-101-11	Washer, Fiber	
38	One Bag Containing:			
	A. Two	SCBP1032BN12	Screw, Machine	} Cent r Shield Mtg. (A-4473)
	B. Two	FW10HBN	Washer, Flat	
	C. Two	LWE10MRN	Washer, Lock, External	
	D. Two	NTH1032BN12	Nut, Hexagon	

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<u>ITEM</u>	<u>QUANTITY</u>	<u>TMC PART NO.</u>	<u>DESCRIPTION</u>
39	DELETED		
40	DELETED		
41	DELETED		
42	One each	PM-688	Two Part Catch
43	One each	HA-114-Dwg only	Drawing
44	One Bag Containing:		
	A. Six	TE-120-2	Lugs
45	Two each	NT-121-71B	Wire, Nut
46	One Foot	MWC16/19/B0	Wire

}

Handle  
Modification

**IV. TOOLS REQUIRED**

To be provided by the installing activity.

1. Pliers, 6 inch longnose
2. Pliers, 6 inch diagonal cutting
3. Screwdriver, 4 inch
4. Screwdriver, 4 inch Phillips #2
5. Wrench, open end, 3/8 inch - 7/16 inch
6. Wrench, open end, 1/4 inch - 5/16 inch
7. Wrench, crescent 10 inch
8. Portable Drill, 1/4 inch chuck
9. Soldering Iron, 75 watt.
10. 3/16 dia. Twist Drill Bit.

**V. PROCEDURE (REFERENCE, ID-277, ITEM 15)**

1. Remove all power from the unit (GPT-10K or GPT-40K which ever applies)
2. Remove the two vertical trim strips from the auxiliary frame section, also remove the trim strip across the bottom of the transmitter, Fig.1.
3. Remove all the following units from the transmitter (SLM, FSA, SBE, MCP, VOX, XFK, TTG, SBE Power Supply, APP, also on the rear of the Exciter frame remove the AK-100 and the FSA Power Supply), Fig. 1.

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4. Remove all of the tracks and slide sets from the auxiliary frame, Fig. 2.
5. Remove the connections on terminal E3003 for the Red Transmitter light and record which wire colors go to which terminal.
6. Deleted.
7. Deleted.
8. Remove the cable coming from the fans located in the top front and bottom rear of Auxiliary Frame and remove the capacitor mounting brackets, Fig. 2.
9. Unsolder the leads on the fan receptacle from the terminals, A & B, but leave the two leads that connect the capacitor and put the bracket aside for remounting.
10. Unsolder the alarm cable from the feed-thru #6 and #7 on the center shield, Fig. 2.
11. Disconnect the connection to the Main Frame side, Auxiliary Frame contactor coils, the center shield assy and any attached cables should be removed and discarded. Mark cable clamp locations.
12. Deleted.
13. Deleted.
14. Drill two 3/16" holes in the center partition of the auxiliary frame according to Fig. 4.
15. Mount the attenuator assembly, A-2048, in the drilled holes. (Item 33)
16. Mount the new cable and center shield assembly, A-4473 (Item 11) using the cable clamps supplied and mounted in the approximate positions shown in Fig. 3. Mount the center shield with the two center holes only as the four groups of three holes will be used to mount tracks in later steps. (Use mounting hardware & clamps supplied, Items 38, 35, and 36). Install the new cable, CA1041, hanging from the rear of the new center shield assembly, to the same points that were recorded in Step 11 when the old similar cable was removed.
17. Mount the two cables, CA-551-4 and CA-551-5 as shown in Fig. 3. Also be sure to mount the cable, CA-551-6 that is part of the cable assembly A-4473. (Cables supplied, Items 12 and 13).
18. Tape up and tie back terminals marked J101, J102, ~~FB~~102. (KMCU-2).
19. Tape up and tie back terminals marked J101, ~~J102~~ J105. (SWCU-1).

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20. Solder the wires in the new cable to terminals A and B of the receptables for the fan connections that were removed previously, Fig. 3 (Steps 8, 9). Make sure that the W/VIO wire from the fuse on the center shield goes to terminal B on the receptacle J3006 as marked on the wire label. On J3000 solder the 2 Blue wire to terminal A and the Orange wire to terminal B. Remount the bracket, and plug in the Fan Cable.
21. Solder the alarm cable to the feed-thrus #6 and #7 on the new center shield, Fig. 3.
22. Deleted.
- 22.1 In Aux.Frame Meter Box, Relocate Ballast Xfmr (T3001) to Rear of Box, using wire nuts, item 45, supplied.
23. Solder the wires to the proper position of the rear of the meter panel box as indicated by the labels on the wires. i.e. Wire marked C3016 is to be soldered to capacitor feed-thru #C3016.
- 23.1 Connect the wire to terminals on E3003 for Red light using info recorded in Step 5.
24. Mount the tracks and slide sets in the auxiliary frame as shown in Fig. 4. Hand tighten them only. Also mount the two brackets MS-2470 and springs SP-137-2. (Supplied as items 19 thru 32 and 34)
25. Connect the cables as shown by their labels and using the wiring diagram CK925 and mount the units not requiring slides in the positions shown in Fig. 4. (i.e. The APP-10 and the CBE-1). The APP-10 is mounted in the first and sixth holes from the bottom of the frame and the CBE-1 is mounted with the bottom of the panel 55-3/4" from the bottom hole.
26. Next mount each unit in its tracks and adjust the tracks vertically for proper clearance of the unit below. Start with the bottom units and work up to the top, as per Fig. 4. Be sure to securely tighten the track in the frame after making any adjustments. (Units supplied, Items 1 thru 7 & 9).
27. As each unit is put in connect the cables to the rear of each unit as per the wiring diagram CK925 (item 14) and the cable labels.
28. The CPP-5 is mounted individually on the rear of the transmitter and no adjustment need be made when mounting it. (CPP-5, Item 8)
29. Fasten the units in place with the fiber washers and the screws that are supplied. This step may be done after checking the system.



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30. Replace the trim strips on the bottom of the transmitter and the sides of the auxiliary frame.
31. Mount the modification nameplate, NP-362-17 (Item 18) on the relay panel cover in the Main Frame.
32. Turn on the power and refer to the SBG Manual, IN-220, for proper operating instructions. (Manual, item 16)
33. Modify auxiliary frame front door handles as indicated on HA-114--:Dwg. Omit hardware and use PM-688 cam. (Items 42 and 43 supplied)

\* NOTE: After a short warm-up, preliminary tests can be made on the system, but for proper frequency stability a 24 hour warm-up is required.

