TMC SPECIFICATION	NO. KIT404
REV: 1	
COMPILED:	CHECKED: APPD: SHEET OF
TITLE:	

KIT404

1. AC/AF GAIN

A. To apply power to the receiver turn the AF GAIN control cw. The STBY/REC pushbutton located on the front panel marked (BANDWIDTH KHZ) must be in the "OUT" position in order for all receiver circuits to operate.

B. When the receiver is not needed for immediate operation depress the STBY/REC pushbutton, this will maintain power in the crystal oven of the 1 MHz standard. All other circuits will be shut off.

2. MHz SWITCH

32 position switch used to select the operating frequency band in 1 MHz step.

3. FREQUENCY CONTROL PUSHBUTTON SWITCH (red/black)

A. Each MHz band is divided into ten (10) (APPROX 100 KHz) steps. Each 100 KHz step does not cover a symmetrical range but within the ten steps the total MHz is covered. Switching is accomplished by depressing both frequency control pushbuttons. The high end of the band appears first and the frequency is switched in a downward direction. the pushbutton switching has twelve positions, only 10 positions are required to cover a 1 MHz band range therefore the last two positions will read a random 000000 or 390000 these frequencies should be disregarded.

Typical Example

High End		Low End
02.0039		01.9248
01.9472		01.8560
01.8837		01.7886
01.7905		01.6813
01.7073		01.5843
01.6147		01.4749
01.5149		01.3548
01.4240		01.2444
01.2712		01.0544
01.2049		00.9705
00.0000	Disregard	00.0000
00.0000	Disregard	00.0000

The above example is a 1 MHz band range. Note the high end frequency 01.9472 overlaps the low end frequency 01.9248 the high end overlapping is consistent throughout the MHz range. Thus, 1 MHz is completely covered.

B. Within the 100 KHz range (APPROX) the exact desired frequency can be obtained by depressing the red pushbutton raising the frequency 10 KHz, 1 KHz, and 100 Hz. The black pushbutton lowers the frequency 10 KHz, 1 KHz, and 100 Hz, by depressing the red than black pushbuttons in this manner the desired frequency will be obtained.

it is possible to have a situation where a desired frequency is for example 01.9300 and the readout indicates 01.8837 in this case, the red and black pushbuttons must be simultanously depressed and the frequency stepped through the band (in this case 11 times) until the frequency 01.9427 is reached. Now the black pushbutton will bring the frequency down to 01.9300.

4. FINE TUNE

FINE TUNES TO THE NEAREST HERTZ. An indication of this can be read at the meter ±50 Hz.

5. SYNC INDICATOR

A steady red light will indicate when the receiver is tuned within ±50 Hz of the transmitted signal.

6. MODE SWITCH

Five position rotary switch selects 5 operating modes AM, CW, USB, LSB and ISB.

7. SQUELCH ADJUST

Squelch is used to remove background noise and is activated by a received signal. It is set up by starting with control in ccw direction and slowly adjusting cw until background noise disappears.

Received Signal

CAUTION: Extreme care should be excersied in use of the Squelch function. Setting of the Squlech level breaking point to high could result in loss of weak signals.

8. 4 KHz, 1 KHz, 6 KHz, WIDE BANDWIDTH PUSHBUTTON

When any of these pushbuttons are pressed a corresponding filter in the symmetrical filter card changes the bandwidth. (Used only for AM or CW modes)

9. BFO CONTROL

BFO control varies the pitch of the audio signal in the CW/SSB modes.

10. RF GAIN/AGC

Controls the gain in the tuneable IF Audio assemblies. When tuned to extreme ccw the switch disconnects the gain control and activates the AGC line.

11. AFC PUSHBUTTON

AFC pushbutton, when depressed locks the receiver frequency to a transmitted signal by continuously compensating for drift.

11. BFO FIXED/VAR

The BFO fixed pushbutton when depressed locks the BFO frequency at 250 KHz. When the BFO Fixed/Var pushbutton is in the "OUT" position the pitch of the audio will vary at approximately ±1000 Hz for CW/SSB modes.

11. AGC FAST, SLOW PUSHBUTTON

The AGC FAST pushbutton when depressed responds to variations in signal level rapidly (useful with cw signal). The AGC SLOW, when in the "OUT" position provides a constant audio level.

11. ANL PUSHBUTTON

The Automatic Noise Limiting (ANL) pushbutton when depressed provides a quieting effect to transit noise. When this pushbutton is in the "OUT" position the meter will indicate an audio level.

11. METER RF/AUDIO PUSHBUTTON

Selects meter indication monitoring of RF or audio. When this pushbutton is in the "OUT" position the meter will indicate an audio level.

11. USB/LSB PUSHBUTTON

An UPPER SIDEBAND indication is read at the meter when USB/LSB pushbutton is depressed. When this pushbutton is in the "OUT" position, a LOWER SIDEBAND reading is indicated.

12. SYNC SWITCH

When in the SYNC condition (up position) the meter will indicate while the receiver is being fine tuned.

REAR TEST LAMP PUSHBUTTON

Test lamp pushbutton located on the rear of the panel. Test lamp pushbutton S105 is used when it is necessary to test the filament segments of the display tubes, when depressed the tubes will read 888888.

In order to operate the GPR-110 remotely, the following front panel conditions must be satisfied:

1. The AC/AF GAIN switch, set clockwise (ON).
2. The AF GAIN set to a desired audio level.
3. STD/BY pushbutton in the "OUT" position (deactivated).
4. The BFO switch off.
5. The MODE switch must in the each counterclockwise position.

NOTE

All other front panel functions must be preset at the receiver.

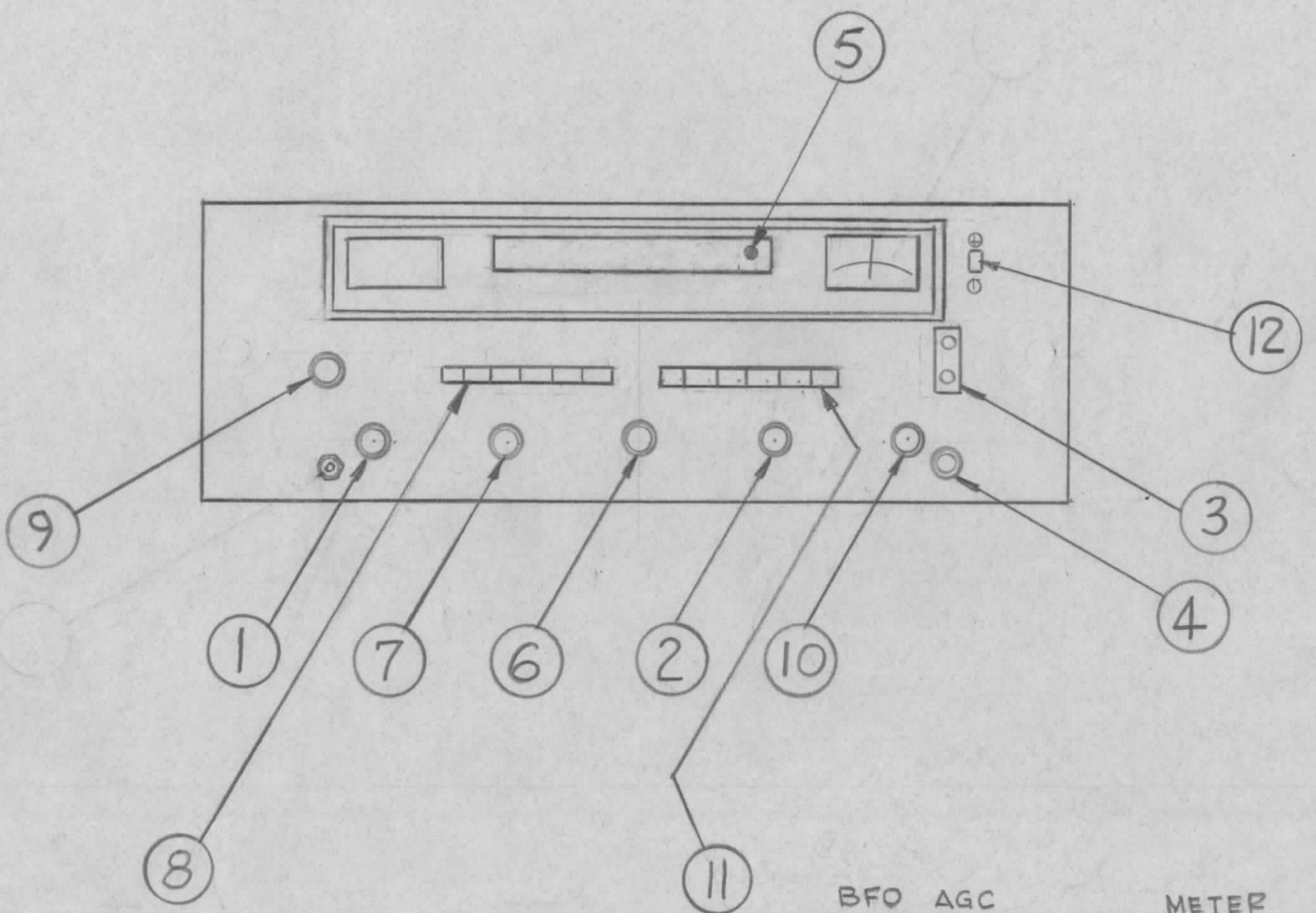
In order to operate the GPR-110 remotely, the following front panel conditions must be satisfied:

1. The AC/AF GAIN switch, set clockwise (ON).
2. The AF GAIN set to a desired audio level.
3. STD/BY pushbutton in the "OUT" position (deactivated).
4. The BFO switch off.
5. The MODE switch must in the counterclockwise position.

NOTE

All other front panel functions must be preset at the receiver.

APPLICATION			REVISIONS						
QTY	MODEL USED ON	ASS'Y NO.	LTR	DESCRIPTION	DATE	E.M.N.NO	DRAFT	CHKD	APPD



STBY .4 1 3 6 WIDE

REC BAND SWIDTH KHZ

BFO AGC METER

AFC FXD FAST ANL RF USB

VAR SLOW AUDIO LSB

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE CHEMICALLY APPLIED OR PLATED FINISHES	REQ'D	ITEM	PART NUMBER	DESCRIPTION	SYM.
DECIMALS .X ± .05 .XX ± .01 .XXX ± .005 TOLS. FRACTIONS 1/64 ANGLES 0° 30'				LIST OF MATERIAL	
MATERIAL	FINAL APPROVAL		DATE	THE TECHNICAL MATERIEL CORP. MAMARONECK, NEW YORK	
FINISH	MECH. DES.		DATE		
	ELECT. DES.		DATE		
	CHECKED		DATE		
	DRAWN R Unw		DATE		

SIZE	CODE IDENT. NO.	DWG NO.	ISSUE
A	82679	KIT404	
SCALE		SHEET OF	

☐PRELIMINARY

☒FINAL

MATERIAL LIST

FOR

TMC MODEL - KIT404

TITLE- GPR-110 REMOTE CONTROL

TOTAL SHEETS

REVISION

REV.	SHEET (S)	DATE	APPR.
Ø	ORIG. REL.	9/16/05	

USED ON
MODEL -

CONSISTS OF
SUPPORTING LISTS

A5602
BMA524

LAST SYMBOLS

SYMBOLS NOT USED

COMPILED R Uzo
CHECKED
ENG APPR
FNL APPR 09/05
ISS DATE

ENGINEERING JOB NUMBER
E -

§ FOR SPECIAL NOTES,
REFER TO S1200.

MATERIAL LIST

KIT404
REV. Ø

PART NUMBER	DESCRIPTION	USED ON	QTY.	QTY. PER UNIT	REFERENCE SYMBOLS	SPECIAL NOTES REFER TO S1200
A5602	ASSY, PC BD	KIT404	1	1*		1
A5623	ASSY, TUNING	KIT404	1	1*		
A5606	ASSY, SWITCHING	KIT404	1	1		
BM524	ASSY, AUTO BFO CON	KIT404	1	1*		1
CE116-8V	CAP. FXD, ELEC	KIT404	1	1*		
CK2104	DIAG, SCHEMATIC	KIT404	1	1*		
CU128	CLIP, FUSE HOLDER	KIT404	1	1*		
DD130-200-3	SCOND, BRIDGE	KIT404	1	1*		
FU100-2	FUSE	KIT404	1	1*		
LD3032	MARKIN, PLATE	KIT404				
MS6618	BRACKET, 24V REG	KIT404	1	1*		
MS6619	PLATE, IF INTERFACE	KIT404	1	1*		
RW109-3	RES, FXD, COMP	KIT404	1	1*		
PM1580	BRACKET, SWITCH	KIT404	1	1*		
TS166-1	SOCKET, TRANSISTOR	KIT404	1	1*		
TF10046	TRANSFORMER	KIT404	1	1*		
TE102-2	TERMINAL TURRET	KIT404	6	6*		
TE102-3	TERMINAL TURRET	KIT404	1	1*		
1N2071A	SCOND, DEV, DIO	KIT404	1	1*		
1N2986B	SCOND, DEV, DIO	KIT404	1	1*		
2N3442	TRANSISTOR	KIT404	1	1*		
SW296-1	SWITCH, PUSH	KIT404	1	1		
SW296-2	SWITCH PUSH	KIT404	1	1		