DATE 8-4-64	TMC SPECIFICATION NO. S-465	B
SHEET 1 OF 18		
R.M. COMPILED / G. CHECKED	TITLE: Production Test f Mod 1 SBE-3	
JB APPROVED		

COMPLETE PRODUCTION TEST

INSTRUCTIONS FOR

TMC MODEL SBE-3

TRANSMITTING MODE SELECTOR

OGILVIE PRESS, INC., BROOKLYN 17, N. Y. STOCK NO. 459M 8444

DATE 8-4-64 SHEET 2 OF 18	TMC SPECIFICATION NO. S -465	B
COMPILED / CHECKED	TITLE: Production Test of Model SBE-3	
APPROVED		

TEST EQUIPMENT REQUIRED

Hewlett Packard	Model	524-C	Frequency Counter
Ballentine	"	314	A.C. Voltmeter
Hewlett Packard	"	410B	VTVM
Hewlett Packard	"	200CD	Audio Generator
Tektronics	"	543	Oscilloscope
TMC	"	PTE-3	Spectrum Analyzer
Heath Kit	"	AV-3	VTVM
Crystal		TMC Type CR-27/U	2.000 MC
Crystal		TMC Type CR-27/U	4.000 MC
Crystal		TMC Type CR-27/U	2.250 MC
Crystal		TMC Type CR-27/U	4.250 MC

70Ω 2 Watt Resistor

1 Megohm Resistor ½ Watt

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*A. PRELIMINARY:

1. Inspect the unit for mechanical imperfections, proper type and placement of filters, vacuum tubes/and obvious wiring errors. Attach jumper to terminals 2 & 3 of E-101.

2. Check the oven heaters by measuring the resistance between pins D and E of J-109. For 115 V AC connections this value should be 300 ± 10%; for 230 V AC conn ctions 600 ± 10%.

3. Check ALDC circuitry as fillows: From J113 to ground (chassis) reading should be 470 K ± 10%; From J113 to pins 2 and 7 of V113 reading should be 23K ± 10% in each case.

4. Check to insure that the RF and MF dial calibration marks line up with the Red line at the counterclockwise dial stop.

5. Connect the 70Ω load to the RF Output connector J-103.

6. Place test crystals in the oven as follows:

Position	Frequency
1.	2.0 mc
2.	4.0 mc
3.	2.25 mc
4.	4.25 mc

7. Connect the unit to the power supply and apply AC pow r. The Oven and Dial lamps should light up. After a bri f warmup period, when oven lamp commences to cycle ON and OFF, proceed with the tests below.

8. With the Meter Switch in the CAL position, adjust the CAL potentiometer for ZERO reading of Meter M-101.

*B. 250 Kcs Oscillator Check:

1. With the VTVM check the output voltage of the 250 Kcs oscillator at Pin 8 of Z103. Th reading should b b - tw n .8 and 1.2 volts.

NOTE: Indicat compl tion and acc ptanc of portion(s) of this t st pr ceeded by (*) by recording r quir d observed valu or by check (✓) mark as requir d on attach d test Data Sheets.

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2. With the Frequency Counter check the frequency of th 250 Kcs oscillator at Pin 8 of Z103. Adjust C-210 if n cessary to obtain 250 Kcs ± 3 cps.

*C. Modulator Tests:

*1. Tuning T-125 and 250 Kcs Carrier Balance, LSB.

a. Place the Output Tuning Bandswitch to 4-8 mc band, LSB selector switch to CHAN 1, and all other chann 1 controls to minimum or off.

b. Connect the AF generator to terminals 6 and 8 of E-101, Channel 1, for balanced line operation. To minimize unwanted pick up use twisted shielded pair with the shield grounded to terminal 7 thence by jumper to terminal 5.

c. Adjust the AF generator frequency for approximat ly mid point of the audio bandpass, 3575 cps at .05 volt output.

d. Connect the Ballentine VM to the Output terminals of Z-110 and adjust LSB Gain control for a 10 db d flection on the .1 volt scale. Adjus t the top and bottom tuning slugs of T-125 for maximum deflection.

e. Turn OFF the AF generator and adjust R-265, Carri r Balance, for minimum deflection of the VM across the output of Z-110.

*2. Tuning T-126 and 250 Kcs Carrier Balance, USB.

a. Repeat the above tests for T-126 for the USB Z-111 filter and Carrier Balance control R-266.

*3. Tuning T-127.

a. With the AF generator disconnected from the unit, MF XTAL switch in VMO position connect the Ball ntine VM to Pin 2 or 7 of V-113, MF Modulator, insert full carrier with the Carrier Insert control R-263.

b. Tune top and bottom slugs of T-127 for maximum indication on the Ballentine VM.

NOTE: Indicat compl tion and acc ptanc of portion(s) of this t st prec eded by (*) by r cording r quired observed value or by check (✓) mark as r quir d on attach d t st Data Sh ts.

c. Repeat with reduced carrier to insure sharp tuning indication on meter.

*D. Audio & Sideband Reversal Test.

*1. Microphone Input.

a. Connect the AF generator unbalanced output in series with 1 megohm resistor to Pin 1 of Mike Input jack and thence to ground, Pin 2.

b. Set the USB and LSB Selector switches to OFF and Carrier Insert minimum.

c. Set RF Bandswitch to any position except 2-4 mcs.

d. Turn LSB Selector switch to Mike position. With the AF gen rator set to 1000 cps and an output of .05 volt, adjust the LSB Gain control for a deflection of 100% on LSB meter position. This point on the gain control should be reached before its maximum gain position.

e. Connect the VTVM across the Output terminals of LSB filter Z-110 on the 0-1 volt scale. Note output indication and turn RF Bandswitch to the 2-4 mcs band the output indication should now b transferred from the LSB filter Z-110 to the output of the USB filter Z-111.

*2. Channel 1 Input.

a. Connect the AF generator balanced output to terminals 6 and 8 of E-101 with a twisted shielded pair and shield connected to terminal 7 thence by jumper to terminal 5, ground.

b. Set USB and LSB Selector switches to OFF and Carrier Insert to minimum.

c. Set RF Bandswitch to any position except 2-4 mcs.

d. Turn LSB Selector switch to Channel 1 position. With the AF generator set to 1000 cps and an output of .05.

NOTE: Indicate completion and acceptance of portion(s) of this test preceeded by (*) by recording required observed value or by check (✓) mark as required on the attached test Data Sheets.

volt, as measured across one side of the AF generator balanced output and ground. Adjust the LSB Gain control for a deflection of 100% on the LSB meter position. This point on the gain control should be reached befor its maximum gain position.

e. Connect the VTVM across the Output terminals of LSB filter Z110 on the 0-1 volt scale. Note output indication and turn RF bandswitch to the 2-4 mcs band the output indication should now be transferred from the LSB filter Z110 to the output of the USB filter Z111.

*3. Channel 2 Input.

a. Connect the AF generator balanced output to terminals 10 and 12 of E-101 with a twisted shielded pair and shield connected to terminal 11 thence by jump r to terminal 9, ground.

b. Repeat the tests for paragraphs b thru e of Chann l 1 Input above, with the exception that USB should be substituted for LSB and vice versa, Z110 for Z111 and vice versa. Requirements remain as for Chann l 1 Input above.

*E. VOX Tests:

*1. Gain

a. Set VOX gain R-140 to maximum.

b. All other gain controls to minimum.

c. Increase Carrier Insertion R-263 until the Excit r Lamp T-101 lights and relay K-101 operates, as evidenced by ZERO resistance reading from Pin 4 of E101 to ground.

d. With the VTVM on Pin 2 of V110 a reading of .17 to .5 volt should be obtained.

e. With the Carrier Insertion R-263 reduced to minimum, the Exciter Lamp and Relay K-101 should deenergiz

NOTE: Indicat completion and acceptance of portion(s) of this t st pr c ed d by (*) by r cording required obs rved valu or by check (✓) mark as requir d on attached t st Data Sh ts.

as indicated by infinite resistance from terminal 4 of E101 to ground.

f.. Set the Transmitter switch S-104 to ON, the resistance reading from terminal 4 to ground of K-101 should again be ZERO.

*2. Squelch Test and Push to Talk:

a. Set VOX gain R-140 to maximum.

b. All other gain controls to minimum.

c. Increase Carrier Insertion R-263 until Exciter Lamp lights.

d. Place Squelch Gain R-129 to maximum.

e. Connect AF generator unbalanced output to Terminals 13 and 14 of E-101. With the generator set to 1000 cps adjust its output until the Exciter Lamp extinguishes.

f. With the VTVM measure the voltage at Pin 9 of V110 it should be between .5 to 1.0 volt.

g. To simulate closing of the Push to Talk circuit short terminal 1 of E-101 to ground. The Exciter Lamp should light and Relay K-101 should operate.
Repeat on term. 3 of J101.

h. Return VOX gain and Squelch controls to minimum.

*F. M.F. ALIGNMENT-INJECTION-CARRIER BALANCE

*1. Mid Frequency Alignment.

a. At the mixer grid of V113 there may appear two frequencies, a 250Kc frequency (carrier insert d) and a VMO injection frequency. At the band extremes the following table applies.

XTAL OR VMO	DIAL READING	LF	RESULTING FREQ.
2000 Kc	2.0 Mc	250 Kc	1.75 Mc
4000 Kc	4.0 Mc	250 Kc	3.75 Mc

NOTE: Indicate compl tion and acc ptanc of portion(s) of this t st prec ed d by (*) by r cording requir d observed value or by ch ck (✓) mark as r quired on attached t st Data Sh ts.

b. The MID FREQUENCY is aligned so that the proper product is chosen when the dial is set to the VMO or XTAL frequency, that is, when a 2000 Kc xtal is inje t d, the MF dial is set to 2.0 Mc but the actual frequency is 1.75 Mc which is the difference between the 2000 K xtal and the 250 Kc LF. With this in mind, preliminary alignment may be accomplished by using the 2000 Kc and 4000 Kc xtals (or VMO).

c. Before aligning the MF, see that the tuning capacit rs are in full mesh when the dial is set to the mark r on the MF dial.

d. Remove P107 from J110 on Z107. Connect VTVM to Pin 2 of Z107. Unbalance injection with R130, MF Balanc Control.

e. Select xtal position 1 (2000 Kc). Set MF dial to 2.25 Mc. Tune T109 and T110 for maximum output.

f. Select xtal position 2 (4000 Kc). Set MF dial to 4.25 Mc. Tune trimmers C140 and C141 for maximum output.

g. This preliminary alignment will ensure subsequent selection of the proper mixer product on the MF dial.

*2. Carrier Balance.

a. Select xtal position 1 (2000 Kc)

b. MF dial to 2.25 Mc.

c. Carrier Insert CCW, adjust R130 for minimum carrier as indicated by observing Meter in MF position. Lock R130. Reconnect P107 to J110.

d. Correct MF alignment will be indicated when a signal indication is noted on the MF dial at 2.0 mc and 2.5 mc, with carrier inserted and Xtal Position 1.

e. Insert full carrier. Select xtal position 1 (2000 Kc). Set MF dial to 2.0 Mc. Tune T109 and T110 for maximum output. Select xtal position 2 (4000) Kc. S t MF dial to 4.0 mc. Tune C140 and C141 for maximum output in each case reduce the carrier to insure that prop r mix r product has been selected. Repeat until band is track d. Lock slugs with spintit tool.

NOTE: Indicate completion and a c ptanc of p rtion (s) f this test pr c d d by (*) by rec rding required observed valu or by ch ck (✓) mark as requir d on attach d t st Data Sh ts.

*3. Crystal and VMO Injection Check.

a. Connect the VOX-5 output from the PTE analyzer to VMO input J104. Maintain a .1 on VOX-5 output meter level for all subsequent tests.

*b. Connect the RF voltmeter at the junction of C163 and C164 and measure the voltages under conditions indicated below:

S-107 Position	Freq.	Min. Voltag Limit
1	2.0 mc	1.5 V.
2	4.0 mc	.6 V.
VMO	2.0 mc	1.5 V.
VMO	4.0 mc	.6 V.

*G. R.F. CIRCUITS ALIGNMENT

*1. HF Oscillator and Multiplier Alignment:

a. Remove lead from J108 and make connections from J108 to RF VTVM.

b. All controls except "Power On" and "Exciter ON" switches in OFF Position or minimum.

c. Adjust L101 through L114 for maximum indication on RF VTVM at the corresponding "Injection" Frequency shown below. Output requirement is not less than 3.0 volts.

d. Remove VTVM and connect frequency Counter to J-108.

e. Adjust C-233 through C-240 for the correct frequency as indicated by the Frequency Counter for th frequencies shown in "Injection" column below.

NOTE: Indicate completion and acceptance of portion(s) of this test preceeded by (*) by recording required observed value or by check (✓) mark as required on attached test Data Sheets.

f. Repeat above until frequency and output voltag s are correct. Reconnect P-105 to J-108.

BAND POS.	MC XTAL F. (mc)	INJECT F. (mc)	ADJUSTMENTS	REMARKS
4	8	8	C233 L101	NOTE
5	10	10	C234 L102	
6	12	12	C235 L103	When adjusting coil
7	14	14	C236 L104	slugs L101 thru L114
8	8	16	L105	turn slug all the way
9	18	18	C237 L106	out and adjust on the
10	10	20	L107	first peak indication.
11	11	22	C238 L108	
12	12	24	L109	
13	13	26	C239 L110	
14	14	28	L111	
15	10	30	L112	
16	8	32	L113	
17	17	34	C240 L114	

2. Preliminary RF Amplifier Alignment:

a. Before alignment, check full meshing of capacitors C-181 against dial marking at low frequency end of dial.

b. Channel 1 and 2 selector switches OFF.

c. XTAL Switch Position 3 (2.250 mc), Carrier Ins rt set for maximum, CW.

d. MF Tuning tuned at 2.250 mc.

e. RF Output terminated in 70Ω load.

f. R.F. Voltmeter across 70Ω load.

g. In subsequent RF alignment tests the drive should be sufficiently low to preclude broad response m t r indications.

NOTE: Indicate compl tion and acc ptanc of portion(s) of this t st prec d d by (*) by r cording r quir d obs rv d value or by ch ck (✓) mark as r quir d on attach d t st Dat Sh ets.

3. 2-4 MC Band Alignment:

   a. Output Tuning Bandswitch to 2-4 Mc Band.

   b. Band MC Switch to Band 0. MF Tuning to 2.25 mc.

   c. R.F. Tuning tuned to 2 MC, RF Meter switch in RF output position.

   d. Tune T-116 and T-120 for maximum output.

   e. XTAL position 4 (4.250 mc), carrier inserted and MF Tuning tuned to 4.250 mc on MF Meter position.

   f. RF Tuning tuned to 4.0 mc, Meter in RF Position.

   g. Peak C-191 and C-179 for maximum output.

   h. Repeat above steps to insure proper band alignment with reduced drive to insure sharp tuning peaks.

4. 4-8 MC Band.

   a. Output Tuning Bandswitch to 4-8 MC Band.

   b. Tune MF to 4.250 mc, Output Tuning tuned to 4 MC., RF Meter Switch in RF output position.

   c. Tune T-113, T-117, and T-121 for maximum output.

   d. Carrier insert CCW, minimum carrier.

   e. MF XTAL switch in VMO position (remains in this position for subsequent RF band alignments).

   f. Band MC Switch in Band 4. (8MC)

   g. Output Tuning tuned to 8 MC.

   h. Peak capacitors C-203, C-192 and C-180 for maximum output.

   i. Repeat above procedure to insure proper band alignm nt with reduced drive to insure sharp tuning peaks.

5. 8-16 MC Band.

   a. Output Tuning Band switch to 8-16 MC Band.

NOTE: Indicat compl tion and acc ptance of portion(s) of this test pr ce d d by (*) by recording r quir d obs rved value or by check (✓) mark as r quir d on attach d test Data Sh ets.

b. Output Tuning tuned to 8 MC.

c. Band MC Switch in Band 4. (8MC)

d. Tune T-115, T-119 and T-122 for maximum output.

e. Band MC Switch to band 8 (16MC)

f. Output Tuning tuned to 16MC. Meter switch in RF position.

g. Peak capacitors C-202, C-190 and C-178 for maximum output.

h. Repeat above procedure to insure proper band alignment with reduced drive to insure sharp tuning peaks.

6. 16-32 MC Band.

a. Output Tuning Bandswitch to 16-32 Band.

b. Output Tuning tuned to 16MC.

c. Band MC Switch in Band 8 (16MC)

d. Tune T-114, T-118 and T-112 for maximum output.

e. Band MC Switch to Band 16 (32MC)

f. Output Tuning tuned to 32 MC, and RF Meter Switch to RF output position.

g. Peak capacitors C-201, C-189 and C-177 for maximum output.

h. Repeat above procedure to insure proper band alignment with reduced drive to insure sharp tuning peaks.

*7. Output Voltages and HF Carrier Balance.

a. Carrier insert CCW, minimum.

b. Band MC Switch to Position 0, RF tuning tuned to 18MC.

c. RF Output Control set for mid scale reading on meter in RF position.

d. Balance R-150 of Z107 for minimum indication on RF output meter.

NOTE: Indicat compl tion and acceptanc of portion(s) of this test prece ded by (*) by r cording requir d obs rv d valu or by ch ck (✓) mark as r quired on attach d t st Data Sh ets.

e. Band MC Switch to band 0

f. Set xtal selector switch to position 3 (2.250 Mc)

g. With carrier inserted, tune MF to 2.250 Mc as indicated on Meter in MF Position.

* h. Audio generator connected to terminals 6-8 of E101 carri r insert CCW. LSB or USB gain set for 100% on MF met r.

i. Set RF bandswitch to 2-4 MC range. Tune output amplifi r to 2 Mc.

j. Check for 10.V minimum across 70Ω load.

k. The above Output Voltage test procedure must be r - peated in two (2) megacycles increments from 2 through 32 Mc, each time checking that a minimum 10 volt RF output is obtained across the 70Ω load.

l. When performing above tests insure dial calibration is correct.

H. OVERALL TESTS & REQUIREMENTS

*1. Power Output & Signal to Distortion Test

a. This test will be made on one frequency selected at random in each one of the four RF Bands, n t shown on 18 of 18, Data Sheet.

b. Connect the two AF test tones from the PTE analyzer with a twisted shielded pair to Channel 1 input, terminals 6 and 8 of E-101 with the shield connect d to terminals 7 and 5. Connect the analyzer RF input to the 70Ω load.

c. With the USB selector set to channel 1 and USB gain set not to exceed 100 on Meter in MF position, tun the unit to the selected output frequency for an output of 8.4 RF volts across the 70Ω load.

d. Setup and adjust PTE as follows to measure th S/D in the USB-

(a) Gain fully clockwise.

(b) Amplitud s ale switch t LOG.

(c) CAL OSC to OFF.

NOTE: Indicat completion and acceptanc of portion(s) of this test pro ceded by ( ) by recording required obs rved value or by check (✓) mark as required on attached t st Data Sho ts.

e. IF attenuator to 20 db position.

f. Sweep selector to 14 Kc.

g. AFC to OFF

h. The VOX-5 in the PTE should be adjusted for a frequency 500 kc higher than the signal frequency to be displayed. The two tone test signal should be set to the center of the analyzer.

i. Adjust input attenuator switches so that two tone test signal peaks are as close as possible to the 0 line or slightly above. With the gain control set these peaks to the 0 line on the analyzer.

j. Place IF attenuator switch to 0 position thus expanding the 0 to 40 db scale to 0 to 60. Note the odd order distortion products.

REQUIREMENT: The S/D must be at least 45db below either tone of a standard two tone test for 1 watt PEP as viewed on PTE Panalyzer.

*2. Carrier Suppression.

a. This test will be performed on the same frequencies as the test in paragraph 1 above and with the same general PTE setup.

b. Turn USB and LSB switches to OFF, no AF input.

c. Tune the unit to the desired frequency with carri r insert drive for 1 Watt PEP output. Carrier presentation in center of analyzer and peak adjust d to the 0 line with IF 20 db attenuator IN.

*d. Set IF attenuator switch to 0 and place carrier Insert fully CCW, carrier drive at minimum. Note level of the remaining carrier on analyzer.

REQUIREMENT: Maximum carrier suppression must be at least 55 db below the test signal at 1 Watt PEP.

NOTE: Indicat completion and acc ptanc of portion(s) of this test prec eded by (*) by r cording required obs rved valu or by che k (✓) mark as r quir d on attached t st Data She ts.

*3. Unwanted Sideband Rejection.

a. This test will be performed on the same frequencies as the test in Paragraph 1 above and with the same general PTE setup.

b. Connect 500~AF to terminals 6 & 8 of E-101, USB Channel 1 adjusted for -6 db and unit tuned to desired frequency for 1 watt PEP. PTE sweep at 14Kc adjust presentation of 500~ tone signal to 0 line on analyzer with IF 20db attenuator in.

c. Set LSB to Channel 1. This will provide a dual 500~ tone signal presentation. Note position of the LSB 500~ tone signal and then place LSB to OFF.

*d. Set IF 20 db attenuator to 0 and read the level of the 500~ tone appearing as an unwanted signal in the LSB.

e. Repeat the above test for the LSB.

REQUIREMENT: Unwanted Sideband rejection shall be at least 60 db below 500~ tone test signal for 1 Watt PEP, both USB and LSB.

*4. 2nd Harmonic Suppression.

a. This test will be performed on frequency in the 4-8 mc band.

b. Set both LSB and USB OFF and tune the unit with carrier drive to 1 Watt PEP output at the 2nd Harmonic of the fundamental frequency to be measured. (Example:-If desired frequency to be measured is 4 MC, the unit would be tuned to 8 MC.)

c. Adjust presentation on PTE with IF 20 db attenuator IN and signal peak on 0 line. Leave all PTE controls at their present settings.

d. Tune the unit to the fundamental frequency at the same output as above.

*e. Set the IF 20 db attenuator to 0. The 2nd harmonic component will now be presented on the analyz r. Note th level of this 2nd harmonic signal.

NOTE: Indicat compl tion and acc ptanc of portion(s) of this test prec d d by (*) by r cording requir d observ d value or by check (✓) mark as r quired on attached t st Data Sheets.

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REQUIREMENT: The 2nd harmonic shall be at least 40 db below the level of the fundamental frequency at 1 Watt PEP output.

*5. Overall Frequency Response Test.

a. Setup AF generator to approximately the center frequency of the bandpass spectrum (3575~) at .05V output connected to terminals 6 and 8 of E-101., with shielded twisted pair, shield connected to 7 and 5. Monitor AF Generator output with Heath Kit AV-3 VTVM. Output should b constant.

b. With MF XTAL Switch in position 4, tune unit to 4 MC output frequency with USB OFF and carrier ins rt at minimum.

c. Connect VTVM across the 70Ω load.

d. Advance LSB gain control to -6 db and adjust RF Output for center scale reading on Ballantine.

e. Maintaining constant output from the AF generator vary the frequency from 250~ to 7500~ noting th maximum and minimum RF output readings across th 70Ω load.

f. Repeat above test for the USB with AF generator connected to terminals 10 and 12 on E-101 with the ground shield tied to terminals 11 and 14.

REQUIREMENT: The difference between the maximum and minimum readings in step 5 above shall not exceed 3 db for LSB and USB.

NOTE: Indicat completion and acc ptance of portion(s) of this t st prec d d by (*) by r cording requir d observ d valu or by ch ck (✓) mark as r quired on attach d t st Data Sh ts.

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APPROVED	TEST DATA SHEET	

1. (A-1 thru 8) Preliminary checks & tests completed _____ (✓)

2. (B) 250 Kc Osc. Checks
   (1) Output Voltage _____ V
   (2) Frequency _____ K ± _____

3. (C) Modulator Tests
   (1) Tuning T-125 & LSB Car. Bal. completed _____ (✓)
   (2) Tuning T-126 & USB Car. Bal. completed _____ (✓)
   (3) Tuning T-127 completed _____ (✓)

4. (D) Audio & Sideband reversal
   (1) Microphone input completed _____ (✓)
   (2) Channel 1 input completed _____ (✓)
   (3) Channel 2 input completed _____ (✓)

5. (E) VOX Tests
   (1) Gain & K101 relay operation checked _____ (✓)
   (2) Squelch & Push-to-talk checked _____ (✓)

6. (F) MF Alignment
   (1a thru g) Alignment completed. _____ (✓)
   (2) Carrier Balance completed (a thru e) _____ (✓)
   (3b) Crystal injection at 2MC _____ V. at 4.MC _____ V.
   VMO injection at 2MC _____ V. at 4.MC _____ V.

7. (G) RF Circuits Alignment
   (1) RF OSC and Multiplier alignment completed _____ (✓)
   (7) Output voltages across 70Ω load for frequencies obtained as below:

2 MC _____ V.	14 MC _____ V.	26 MC _____ V.
4 MC _____ V.	16 MC _____ V.	28 MC _____ V.
6 MC _____ V.	18 MC _____ V.	30 MC _____ V.
8 MC _____ V.	20 MC _____ V.	32 MC _____ V.
10 MC _____ V.	22 MC _____ V.	
12 MC _____ V.	24 MC _____ V.	

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APPROVED	TEST DATA SHEET	

(H) OVERALL TESTS & REQUIREMENTS

BAND SW POS.	F OUT (mcs)	MADE AT 1 WATT PEP OUTPUT						
		S/D RATIO		MAX CAR SUP		UNWANTED SB. REJ.		SECOND HARM REJ.
		USB	LSB	db		USB	LSB	
2-4 mcs								
4-8 "								
8-16 "								
16-32"								

POWER OUTPUT: 1 Watt PEP obtained across 70Ω load with 8.4 V.RF

Requirements:

a. S/D at least 45 db below either tone of a two ton test signal at 1 watt PEP.
b. Maximum Carrier Suppression at least 55 db below the signal at 1 watt PEP.
c. Unwanted Sideband Rejection at least 60 db below 500~ tone test signal at 1 watt PEP.
d. 2nd Harmonic Rejection at least 40 db below two tone test signal at 1 watt PEP.
e. Overall Frequency Response from 250 cps to 7500 cps flat within 3 db (± 1½ db).

Max. output Variation (1) USB _____ DB (2) LSB _____ DB

MFG. NO._____ SERIAL NO._____ DATE_____

TESTED BY_____ APPROVED BY_____

REMARKS

OGILVIE PRESS, INC., BROOKLYN 17, N. Y. STOCK NO. 439M

REVISION SHEET

THE TECHNICAL MATERIEL CORP.
MAMARONECK NEW YORK

S465
LIST NO.

DATE	REV.	SHEET	EMN #	DESCRIPTION	APP.
8/19/64	B	ALL	12190	Revised ALL SHTS. per EMN	