DATE 9/3/53 SH. 1 OF 14 COMPILED BY A.J.J.	TMC SPECIFICATION NO. S-221	
	TITLE: PRODUCTION TESTING OF MODEL PMO	JOB 285
APPROVED A.J.J.	C	

COMPLETE INSTRUCTIONS FOR THE PRODUCTION TESTING OF THE

MODEL PMO

DATE 9/3/53 SH. 2 OF 14 COMPILED BY A.J.J.	TMC SPECIFICATION NO. S-221	
	TITLE: PRODUCTION TESTING OF MODEL PMO	JOB 285
APPROVED A.J.J.	C	

INDEX

DATE 9/3/53 SH. 3 OF 14 COMPILED BY A.J.J.	TMC SPECIFICATION NO. S-221	
	TITLE: PRODUCTION TESTING OF MODEL PMO	JOB 285
APPROVED A.J.J. C		

1. (a). PURPOSE:

The Model PMO, Portable Master Oscillator, performs a double function. It may be employed wherever a high stability frequency source is necessary, as in the case of a transmitter exciter or as a substitute for a receiver high frequency oscillator. The unit also has a built-in feature enabling its utilization as a frequency meter whereby an external source of energy may be calibrated against the Model PMO.

(b). DESCRIPTION:

Primarily the Model PMO is a high stability, free running, oven controlled, direct reading oscillator which may be calibrated at 100 Kcs. intervals against a precisely set internal crystal standard. This means that the frequency will be correct at each 100 Kcs. interval and that some device must be employed to automatically alter the main tuning condenser calibration so that the frequencies between check points are accurately set according to a predetermined curve. An adjustable cam combined with a small trimmer condenser serve this purpose.

Of course, provision must be made for a mixer-audio amplifier section so that the calibration beats can be obtained. In addition, a power amplifier and doubler provide the necessary power output and extend the frequency range.

TMC SPECIFICATION NO. S-221

TITLE: PRODUCTION TESTING OF MODEL PMO

JOB 285

2. TEST EQUIPMENT REQUIRED:

(a). 1 - Communications Receiver: TMC Model FFR with 1 each FFRD -5 and FFRD - 6 heads or Hammarlund 600J

(b). 1 - V.T.V.M. (Audio Type): Daven 170 or Heathkit AV2

(c). 1 - Audio Signal Generator: Hewlett Packard 200 or Heathkit AG8

(d). 1 - V.T.V.M. (R.F.): Hewlett Packard 410B or Heathkit V6 with R.F. probe

(e). 1 - Approximately 72 ohm non-inductive load rated at 10 watts.

3. TEST INSTRUCTIONS:

(a). Proceed as outlined in Test Sequence and Procedure. (Part 4 to follow.)

(b). Fill in blanks on Report Sheets, rejecting those units which do not meet the specifications stated herein.

(c). Sign Report Sheets and submit them to your supervisor.

4. TEST SEQUENCE AND PROCEDURE:

Part 1: Initial Calibration, Master Oscillator-

(a). Set up and calibrate the 100 Kcs. oscillator as per the first part of Specification S-110 which relates to this subject alone.

(b). Set up and calibrate the master oscillator cam as per the first part of Specification S-110 which relates to this subject alone.

Part 2: Mechanical Inspection-

(a). Inspect the total unit for obvious electrical errors.

(b). Inspect the total unit for obvious mechanical imperfections.

(c). Carefully inspect the unit for loose screws on shaft couplings and other critical points. Most carefully inspect for loose screws at grounding points such as under tube sockets and at ground lugs.

Part 3: Power Supply and Mixer-Amplifier Section:

(a). After the master oscillator chassis has been inserted in the Model PMO unit in which it has been designated to operate, withdraw P301 and P302 from their sockets. This is to prevent damage to the now relatively inaccessible oscillator parts due to wiring errors within the other portions of the PMO.

TMC SPECIFICATION NO. S-221

TITLE: PRODUCTION TESTING OF MODEL PMO

JOB 285

APPROVED A. J. J. 11C1

WARNING

UNDER NO CIRCUMSTANCES SHALL EITHER V301 OR V302 BE REMOVED FROM ITS SOCKET WITHOUT FIRST WITHDRAWING P301 FROM ITS SOCKET. THIS WILL SERVE TO PROTECT THE REGULATED FILAMENT CIRCUITRY.

(b). Connect the Model PMO to a monitored power line which has been set for 110 volts within plus or minus 2 volts. Turn the Main Power switch on.

Test A: Primary Power-

Remove the B Plus fuse (F103). The high voltage at C101 must disappear.

Remove the Main fuse (F102). The Main Power pilot lamp must go out.

Remove the Oven fuse (F101). Both Inner and Out r Oven lamps must go out.

Re-insert all fuses in their appropriate holders.

Test B: Wiring of J101-

(a). At Pin 1 (with no jumper on E304) -- Must be shorted to ground in positions 1 and 2 of S103 and must be op n circuit to ground in position 3 of S103.

(b). At Pin 2 -- 150 volts ±5 volts DC all positions of S103.

(c). At Pin 3 -- 150 volts ±5 volts D.C. at position 2 and zero volts at positions 1 & 3 of S103.

(d). At Pin 4 --Approsimately 12-6 volts 60 cps.

(e). At Pin 5 -- Short to ground.

(f). At Pin 6 -- Open circuit r lative to ground.

Test C: Mixer-Amplifier Gain-

(a). Connect an audio signal generator set for 500 cps. and .2 volts output at pin 1 of V203. The output at J204 without phones being inserted must be 20 volts within ± 5 volts.

(b). The same output results must be obtained with the signal generator set for .8 volts at pin 7 of V203.

Test D: Beat Indicator-

While still connected to Pin 7 of V203 and driving with .8 volts, set generator at its lowest frequency. I202 must then flash on and off.

Part 4. THE P.A. SECTION:

(a). Plug in P301 and P302 and allow the master oscillator a few minutes to warm up.

(b). Place a jumper across the terminals of E304.

(c). By means of the slug in L301 and the trimmer C303, roughly align the low and high ends, respectively, of the master osc.

(d). Set the master oscillator at approximately 2 Mcs.

(e). Set the OUTPUT pot in the full clockwise position.

(f). Set S103 in the Exciter position.

(g). Place S102 in the On position.

(h). Set S201 in the 2-4 Mcs. position.

(i). Load J203 with approximately 70 ohms of non-inductive resistance.

(j). Set the C207 knob so that the pointer is horizontal to the right when C207 is fully closed. Then rotate the knob so that the pointer is on the 2 Mcs. mark.

(k). Set C219 approximately in the center of its range.

(l). Rotate the slug in L203 until maximum output is indicated at J203. The high end of the band may now be aligned. It is not necessary to change the master oscillator from its 2 Mcs. setting since, for the purposes of alignment, the use of harmonics is adequate.

(m). Rotate C207 until it is set at 4 Mcs. Tune C219 for a maximum output reading. Repeat this process of tuning the slug at 2 Mcs. and C219 at 4 Mcs. several times until an alignment within ± 200 Kcs. of the correct is obtained.

This process serves to properly determine the ratio of Cmax to Cmin which, in turn produces proper end alignment. Now only the lower end of the 4-8 Mcs. band need be set by means of the slug in L105- the upper end will then automatically be correct. Perform this operation and lock both slugs in place.

Test A: P.A. Alignment and Output-

Rotate the master oscillator through the band from two to four Mcs. and follow along with C207. At each 500 Kcs. interval, note the output across the load and the accuracy of the alignment of C207 on both bands.

(a). Alignment at each 500 Kcs. point must be within ±200 Kcs. to be acceptable.

(b). Output must be above 3 watts throughout the 2-4 Mcs. band and above 2 watts throughout the 4-8 Mcs. band to be acceptable.

Test B: P.A. Spurious -

With R218, set for full output, remove P302 from J202 and the load from J203. Rotate C207 slowly from on extreme to the other on both bands. Reject any unit which shows even a minute output under these conditions since this indicates self-oscillation.

Test C: Output Control -

Replace P302 and the load in J203. Rotate R218. To be acceptable, the power output on either band and at any arbitrary frequency must drop continuously from maximum to an unreadable value.

Test D: Plate Switch -

Turning plate switch (S102) to the off position must remove all B plus voltage from V201 and V202.

Test E: Function Switch -

Portions of the function switch have already been tested. For the remaining section:

(a). Positions 1 and 2 - B plus must appear at R214 zero volts must appear at S102

(b). Position 3 - B plus must appear at S102 zero volts must appear at R214

Test F: Tuning Indicator -

When the power amplifier is tuned at full output, the tuning indicator must light brightly and then extinguish when C207 is brought out of resonance.

Part 5. THE MASTER OSCILLATOR SECTION:

WARNING

AFTER THE OVEN HAS COME UP TO TEMPERATURE, NEVER PERMIT THE MODEL PMO TO COOL DOWN IN ANY POSITION OTHER THAN RIGHT SIDE UP. THIS IS TO PREVENT MERCURY SEPARATION IN THE THERMOSTAT.

After having concluded Part 3, leave the unit on until the inner oven commences to cycle. Depending upon ambient temperature conditions, as much as three or four hours may be required to reach this point.

Test A: Inner Oven Cycling -

Observe the inner oven cycling by means of I301. The on time should be very roughly one minute and the off time, very roughly two minutes. Do not pass a unit which varies radically from these figures. (By more than -50, +100%).

Test B: Outer Oven Cycling -

Outer oven cycling should be roughly two to four seconds on and thirty to one hundred and twenty seconds off.

Test C: 100 Kcs. Oscillator Calibration -

Couple lightly from the input to V201 to a communications receiver tuned to WWV at either 2.5 Mcs. or 5 Mcs. (Be sure BFO is off). Tune the master oscillator dial to the region of 2.5 Mcs. and set the Function switch in th CAL position. Carefully zero beat the master oscillator against WWV to within a fraction of one cycle. Now, by means of C311 and the beat indicator (I202), zero beat the 100 Kcs. crystal against the master oscillator to within a fraction of a cycle. The unit can be passed only after this operation has been concluded.

Test D: Master Oscillator Calibration -

Re-calibrate the master oscillator at both the upper and lower ends and then, without again touching either end adjustment control, record the amount of error in the master oscillator dial against the 100 Kcs. standard at every 100 Kcs. point between 2 and 4 Mcs. A form has been provided for this purpose. No unit may be passed where this error exceeds 200 Cps.

Test E: Master Oscillator Keying -

Tune the master oscillator and power amplifier to about 3 Mcs. and pick the signal up on a communications receiver. Insert key at J301 after jumper has been neatly placed across E304. Key the unit at about a five Cps. rate (about fifteen words per minute) and listen on the receiver to see that the keying sounds clean and follows the key.

When all of the preceding tests have been successfully passed, the unit must be placed in its final form with cover plates, etc., and prepared for shipment. One copy of each report sheet shall be enclosed with each Model PMO.

DATE 9/3/53 SH. 13 OF 14 COMPILED BY A.J.J.	TMC SPECIFICATION NO. S-221	
	TITLE: PRODUCTION TESTING OF MODEL PMO	JOB 285
APPROVED A. J. J. |C|		

SAMPLE

TEST REPORT SHEET #1

MODEL PMO

For each item check the accept or reject column, as the case may be.

		ACCEPT	REJECT
Part 2:	Mechanical Inspection		
Part 3:	Pwr. Supply and Mixer-Amp. Section		
Test A:	Primary Power	____	____
Test B:	Wiring of J101	____	____
Test C:	Mixer-Amplifier Gain	____	____
Test D:	Beat Indicator	____	____
Part 4:	The Power Amplifier Section		
Test A:	P.A. Alignment and Output	____	____
Test B:	P.A. Spurious	____	____
Test C:	Output Control	____	____
Test D:	Plate Switch	____	____
Test E:	Function Switch	____	____
Test F:	Tuning Indicator	____	____
Part 5:	The Master Oscillator Section		
		____	____
Test A:	Inner Oven Cycling	____	____
Test B:	Outer Oven Cycling	____	____
Test C:	100 Kcs. Osc. Calibration	____	____
Test D:	Master Oscillator Calibration	____	____
Test E:	Master Oscillator Keying	____	____

Serial Number _____ ACCEPTED ____ Tested by

Date _____ REJECTED ____ _____

DATE 9/3/53 SH. 14 OF 14 COMPILED BY A.J.J.	TMC SPECIFICATION NO. S - 221	
	TITLE: PRODUCTION TESTING OF MODEL PMO	JOB 285
APPROVED A. J. J. IC		

MODEL PMO CAM CALIBRATION

VOX SERIAL NO. _____

CONDENSER NO. _____

FREQUENCY KC	CYCLES DEVIATION
2000	
2100	
2200	
2300	
2400	
2500	
2600	
2700	
2800	
2900	
3000	
3100	
3200	
3300	
3400	
3500	
3600	
3700	
3800	
3900	
4000	

DATE _____

TESTED BY _____

MODEL PMO REVISION SHEET ~~XX~~ S-221

DATE	REV.	PAGE	ITEM	DESCRIPTION	REMARKS	APP
2/7	A	7	-	Voltage Data Added.		A.J.
4-5-61	B	10	4589	Deleted "Test A: Mercury Thermostat";		
		"	"	Chg. "Test B" to "Test A".		
4-5-61	B	11	4589	Chg. "Test C" to "Test B". to		
		"	"	Chg. "Test D" to "Test C".		
		"	"	Chg. "Test E" to "Test D".		
4-5-61	B	12	4589	Chg. "Test F" to "Test E".		
4-5-61	B	13	4589	Deleted "Test A- Mercury Thermostat".		
		"	"	Chg. "Test B" to "Test A".		
		"	"	Chg. "Test C" to "Test B".		
		"	"	Chg. "Test D" to "Test C".		
		"	"	Chg. "Test E" to "Test D".		
		"	"	Chg. "Test F" to "Test E".		
8/10/65	C	6,7	14641	Revised per EMN		

16 for OP

wmf entile

DATE 9/3/53 SH. 1 OF 14 COMPILED BY A.J.J.	TMC SPECIFICATION NO. S-221	
	TITLE: PRODUCTION TESTING OF MODEL PMO	JOB 285
APPROVED A.J.J.		

COMPLETE INSTRUCTIONS FOR THE PRODUCTION TESTING OF THE

MODEL PMO

Out of House
Out to CANADA

FEB 2 - 1963

FORM — 100

DATE 9/3/53 SH. 2 OF 14 COMPILED BY A.J.J.	TMC SPECIFICATION NO. S-221	
	TITLE: PRODUCTION TESTING OF MODEL PMO	JOB 285
APPROVED A.J.J.		

INDEX

DATE 9/3/53 SH. 3 OF 14 COMPILED BY A.J.J.	TMC SPECIFICATION NO. S-221	
	TITLE: PRODUCTION TESTING OF MODEL PMO	JOB 285
APPROVED A.J.J.		

1. (a). PURPOSE:

The Model PMO, Portable Master Oscillator, performs a double function. It may be employed wherever a high stability frequency source is necessary, as in the case of a transmitter exciter or as a substitute for a receiver high frequency oscillator. The unit also has a built-in feature enabling its utilization as a frequency meter whereby an external source of energy may be calibrated against the Model PMO.

(b). DESCRIPTION:

Primarily the Model PMO is a high stability, free running, oven controlled, direct reading oscillator which may be calibrated at 100 Kcs. intervals against a precisely set internal crystal standard. This means that the frequency will be correct at each 100 Kcs. interval and that some device must be employed to automatically alter the main tuning condenser calibration so that the frequencies between check points are accurately set according to a predetermined curve. An adjustable cam combined with a small trimmer condenser serve this purpose.

Of course, provision must be made for a mixer-audio amplifier section so that the calibration beats can be obtained. In addition, a power amplifier and doubler provide the necessary power output and extend the frequency range.

DATE 9/3/53 SH. 4 OF 14 COMPILED BY A.J.J.	TMC SPECIFICATION NO. S-221	
	TITLE: PRODUCTION TESTING OF MODEL PMO	JOB 285
APPROVED A. J. J.		

2. TEST EQUIPMENT REQUIRED:

(a). 1 - Communications Receiver: TMC Model FFR with 1 each FFRD -5 and FFRD - 6 heads or Hammarlund 600J

(b). 1 - V.T.V.M. (Audio Type): Daven 170 or Heathkit AV2

(c). 1 - Audio Signal Generator: Hewlett Packard 200 or Heathkit AG8

(d). 1 - V.T.V.M. (R.F.): Hewlett Packard 410B or Heathkit V6 with R.F. probe

(e). 1 - Approximately 72 ohm non-inductive load rated at 10 watts.

3. TEST INSTRUCTIONS:

(a). Proceed as outlined in Test Sequence and Procedure. (Part 4 to follow.)

(b). Fill in blanks on Report Sheets, rejecting those units which do not meet the specifications stated herein.

(c). Sign Report Sheets and submit them to your supervisor.

4. TEST SEQUENCE AND PROCEDURE:

Part 1: Initial Calibration, Master Oscillator-

(a). Set up and calibrate the 100 Kcs. oscillator as per the first part of Specification S-110 which relates to this subject alone.

(b). Set up and calibrate the master oscillator cam as per the first part of Specification S-110 which relates to this subject alone.

Part 2: Mechanical Inspection-

(a). Inspect the total unit for obvious electrical errors.

(b). Inspect the total unit for obvious mechanical imperfections.

(c). Carefully inspect the unit for loose screws on shaft couplings and other critical points. Most carefully inspect for loose screws at grounding points such as under tube sockets and at ground lugs.

Part 3: Power Supply and Mixer-Amplifier Section:

(a). After the master oscillator chassis has been inserted in the Model PMO unit in which it has been designated to operate, withdraw P301 and P302 from their sockets. This is to prevent damage to the now relatively inaccessible oscillator parts due to wiring errors within the other portions of the PMO.

DATE 9/3/53 SH. 6 OF 14 COMPILED BY A.J.J.	TMC SPECIFICATION NO. S-221	
	TITLE: PRODUCTION TESTING OF MODEL PMO	JOB 285
APPROVED A. J. J.		

WARNING

UNDER NO CIRCUMSTANCES SHALL EITHER V301 OR V302 BE REMOVED FROM ITS SOCKET WITHOUT FIRST WITHDRAWING P301 FROM ITS SOCKET. THIS WILL SERVE TO PROTECT THE REGULATED FILAMENT CIRCUITRY.

(b). Connect the Model PMO to a monitored power line which has been set for 110 volts within plus or minus 2 volts. Turn the Main Power switch on.

Test A: Primary Power-

Remove the B Plus fuse (F103). The high voltage at C101 must disappear.

Remove the Main fuse (F102). The Main Power pilot lamp must go out.

Remove the Oven fuse (F101). Both Inner and Outer Oven lamps must go out.

Re-insert all fuses in their appropriate holders.

Test B: Wiring of J101-

(a). At Pin 1 (with no jumper on E304) -- Must be shorted to ground in positions 1 and 2 of S103 and must be open circuit to ground in position 3 of S103.

(b). At Pin 2 -- Approximately 12.6 volts, 60 cps.

(c). At Pin 3 -- 150 volts ± 5 volts D.C.

(d). At Pin 4 -- 150 volts ± 5 volts D.C. in position 2 of S103 and zero volts in positions 1 and 3 of S103.

(e). At Pin 5 -- Short to ground.

(f). At Pin 6 -- Open circuit relative to ground.

Test C: Mixer-Amplifier Gain-

(a). Connect an audio signal generator set for 500 cps. and .2 volts output at pin 1 of V203. The output at J204 without phones being inserted must be 20 volts within ± 5 volts.

(b). The same output results must be obtained with the signal generator set for .4 volts at pin 7 of V203.

Test D: Beat Indicator-

While still connected to Pin 7 of V203 and driving with .4 volts, set generator at its lowest frequency. I202 must then flash on and off.

Part 4. THE P.A. SECTION:

(a). Plug in P301 and P302 and allow the master oscillator a few minutes to warm up.

(b). Place a jumper across the terminals of E304.

(c). By means of the slug in L301 and the trimmer C303, roughly align the low and high ends, respectively, of the master osc.

(d). Set the master oscillator at approximately 2 Mcs.

(e). Set the OUTPUT pot in the full clockwise position.

(f). Set S103 in the Exciter position.

(g). Place S102 in the On position.

(h). Set S201 in the 2-4 Mcs. position.

(i). Load J203 with approximately 70 ohms of non-inductive resistance.

(j). Set the C207 knob so that the pointer is horizontal to the right when C207 is fully closed. Then rotate the knob so that the pointer is on the 2 Mcs. mark.

(k). Set C219 approximately in the center of its range.

(l). Rotate the slug in L203 until maximum output is indicated at J203. The high end of the band may now be aligned. It is not necessary to change the master oscillator from its 2 Mcs. setting since, for the purposes of alignment, the use of harmonics is adequate.

(m). Rotate C207 until it is set at 4 Mcs. Tune C219 for a maximum output reading. Repeat this process of tuning the slug at 2 Mcs. and C219 at 4 Mcs. several times until an alignment within ± 200 Kcs. of the correct is obtained.

This process serves to properly determine the ratio of Cmax to Cmin which, in turn produces proper end alignment. Now only the lower end of the 4-8 Mcs. band need be set by means of the slug in L105- the upper end will then automatically be correct. Perform this operation and lock both slugs in place.

Test A: P.A. Alignment and Output-

Rotate the master oscillator through the band from two to four Mcs. and follow along with C207. At each 500 Kcs. interval, note the output across the load and the accuracy of the alignment of C207 on both bands.

(a). Alignment at each 500 Kcs. point must be within ±200 Kcs. to be acceptable.

(b). Output must be above 3 watts throughout the 2-4 Mcs. band and above 2 watts throughout the 4-8 Mcs. band to be acceptable.

Test B: P.A. Spurious -

With R218, set for full output, remove P302 from J202 and the load from J203. Rotate C207 slowly from one extreme to the other on both bands. Reject any unit which shows even a minute output under these conditions since this indicates self-oscillation.

Test C: Output Control -

Replace P302 and the load in J203. Rotate R218. To be acceptable, the power output on either band and at any arbitrary frequency must drop continuously from maximum to an unreadable value.

Test D: Plate Switch -

Turning plate switch (S102) to the off position must remove all B plus voltage from V201 and V202.

Test E: Function Switch -

Portions of the function switch have already been tested. For the remaining section:

(a). Positions 1 and 2 - B plus must appear at R214 zero volts must appear at S102

(b). Position 3 - B plus must appear at S102 zero volts must appear at R214

Test F: Tuning Indicator -

When the power amplifier is tuned at full output, the tuning indicator must light brightly and then extinguish when C207 is brought out of resonance.

Part 5. THE MASTER OSCILLATOR SECTION:

WARNING

AFTER THE OVEN HAS COME UP TO TEMPERATURE, NEVER PERMIT THE MODEL PMO TO COOL DOWN IN ANY POSITION OTHER THAN RIGHT SIDE UP. THIS IS TO PREVENT MERCURY SEPARATION IN THE THERMOSTAT.

After having concluded Part 3, leave the unit on until the inner oven commences to cycle. Depending upon ambient temperature conditions, as much as three or four hours may be required to reach this point.

Test A: Inner Oven Cycling -

Observe the inner oven cycling by means of I301. The on time should be very roughly one minute and the off time, very roughly two minutes. Do not pass a unit which varies radically from these figures. (By more than -50, +100%).

DATE 9/3/53 SH. 11 OF 14 COMPILED BY A.J.J.	TMC SPECIFICATION NO. S-221	
	TITLE: PRODUCTION TESTING OF MODEL PMO	JOB 285
APPROVED A.J.J.		

Test B Outer Oven Cycling -

Outer oven cycling should be roughly two to four seconds on and thirty to one hundred and twenty seconds off.

Test C 100 Kcs. Oscillator Calibration -

Couple lightly from the input to V201 to a communications receiver tuned to WWV at either 2.5 Mcs. or 5 Mcs. (Be sure BFO is off). Tune the master oscillator dial to the region of 2.5 Mcs. and set the Function switch in the CAL position. Carefully zero beat the master oscillator against WWV to within a fraction of one cycle. Now, by means of C311 and the beat indicator (I202), zero beat the 100 Kcs. crystal against the master oscillator to within a fraction of a cycle. The unit can be passed only after this operation has been concluded.

Test D Master Oscillator Calibration -

Re-calibrate the master oscillator at both the upper and lower ends and then, without again touching either end adjustment control, record the amount of error in the master oscillator dial against the 100 Kcs. standard at every 100 Kcs. point between 2 and 4 Mcs. A form has been provided for this purpose. No unit may be passed where this error exceeds 200 Cps.

Test E: Master Oscillator Keying -

Tune the master oscillator and power amplifier to about 3 Mcs. and pick the signal up on a communications receiver. Insert key at J301 after jumper has been neatly placed across E304. Key the unit at about a five Cps. rate (about fifteen words per minute) and listen on the receiver to see that the keying sounds clean and follows the key.

When all of the preceding tests have been successfully passed, the unit must be placed in its final form with cover plates, etc., and prepared for shipment. One copy of each report sheet shall be enclosed with each Model PMO.

DATE 9/3/53 SH. 13 OF 14 COMPILED BY A.J.J.	TMC SPECIFICATION NO. S-221	
	TITLE: PRODUCTION TESTING OF MODEL PMO	JOB 285
APPROVED A.J.J.		

SAMPLE

TEST REPORT SHEET #1

MODEL PMO

For each item check the accept or reject column, as the case may be.

		ACCEPT	REJECT
Part 2:	Mechanical Inspection		
Part 3:	Pwr. Supply and Mixer-Amp. Section		
Test A:	Primary Power	_____	_____
Test B:	Wiring of J101	_____	_____
Test C:	Mixer-Amplifier Gain	_____	_____
Test D:	Beat Indicator	_____	_____
Part 4:	The Power Amplifier Section		
Test A:	P.A. Alignment and Output	_____	_____
Test B:	P.A. Spurious	_____	_____
Test C:	Output Control	_____	_____
Test D:	Plate Switch	_____	_____
Test E:	Function Switch	_____	_____
Test F:	Tuning Indicator	_____	_____
Part 5:	The Master Oscillator Section		
Test A:	Inner Oven Cycling	_____	_____
Test B:	Outer Oven Cycling	_____	_____
Test C:	100 Kcs. Osc. Calibration	_____	_____
Test D:	Master Oscillator Calibration	_____	_____
Test E:	Master Oscillator Keying	_____	_____

Serial Number _____ ACCEPTED _____ Tested by

Date _____ REJECTED _____ _____

FORM — 100

DATE 9/3/53
SH. 14 OF 14.
COMPILED BY
A.J.J.

TMC SPECIFICATION NO. S - 221

TITLE: PRODUCTION TESTING OF MODEL PMO

JOB 285

APPROVED A. J. J.

MODEL PMO CAM CALIBRATION

VOX SERIAL NO. _____

CONDENSER NO. _____

FREQUENCY KC	CYCLES DEVIATION
2000	
2100	
2200	
2300	
2400	
2500	
2600	
2700	
2800	
2900	
3000	
3100	
3200	
3300	
3400	
3500	
3600	
3700	
3800	
3900	
4000	

DATE _____

TESTED BY _____

PMO

XX S-221

2/7	A	7	-	Voltage Data Added.		
4-5-61	B	10	4589	Deleted "Test A: Mercury Thermostat";		
		"	"	Chg. "Test B" to "Test A".		
4-5-61	B	11	4589	Chg. "Test C" to "Test B".		
		"	"	Chg. "Test D" to "Test C".		
		"	"	Chg. "Test E" to "Test D".		
4-5-61	B	12	4589	Chg. "Test F" to "Test E".		
4-5-61	B	13	4589	Deleted "Test A- Mercury Thermostat".		
		"	"	Chg. "Test B" to "Test A".		
		"	"	Chg. "Test C" to "Test B".		
		"	"	Chg. "Test D" to "Test C".		
		"	"	Chg. "Test E" to "Test D".		
		"	"	Chg. "Test F" to "Test E".		

46 for OP