DATE 10-10-60 SH. 1 OF 9 COMPILED BY T.G.	TMC SPECIFICATION NO. S 489	REV D
	TITLE:	JOB
APPROVED		

PRODUCTION TESTING

MODEL CHL-1

DATE 10-10-60	TMC SPECIFICATION NO. S 489	REV. D
SH. 2 OF 9		
COMPILED BY T.G.	TITLE: PRODUCTION TESTING MODEL CHL-1	JOB
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PRELIMINARY

A. Inspect the unit for mechanical imperfections and for proper placement of components.

B. Inspect for obvious wiring errors.

C. Check for B+ shorts.

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SH. 3 OF 9		
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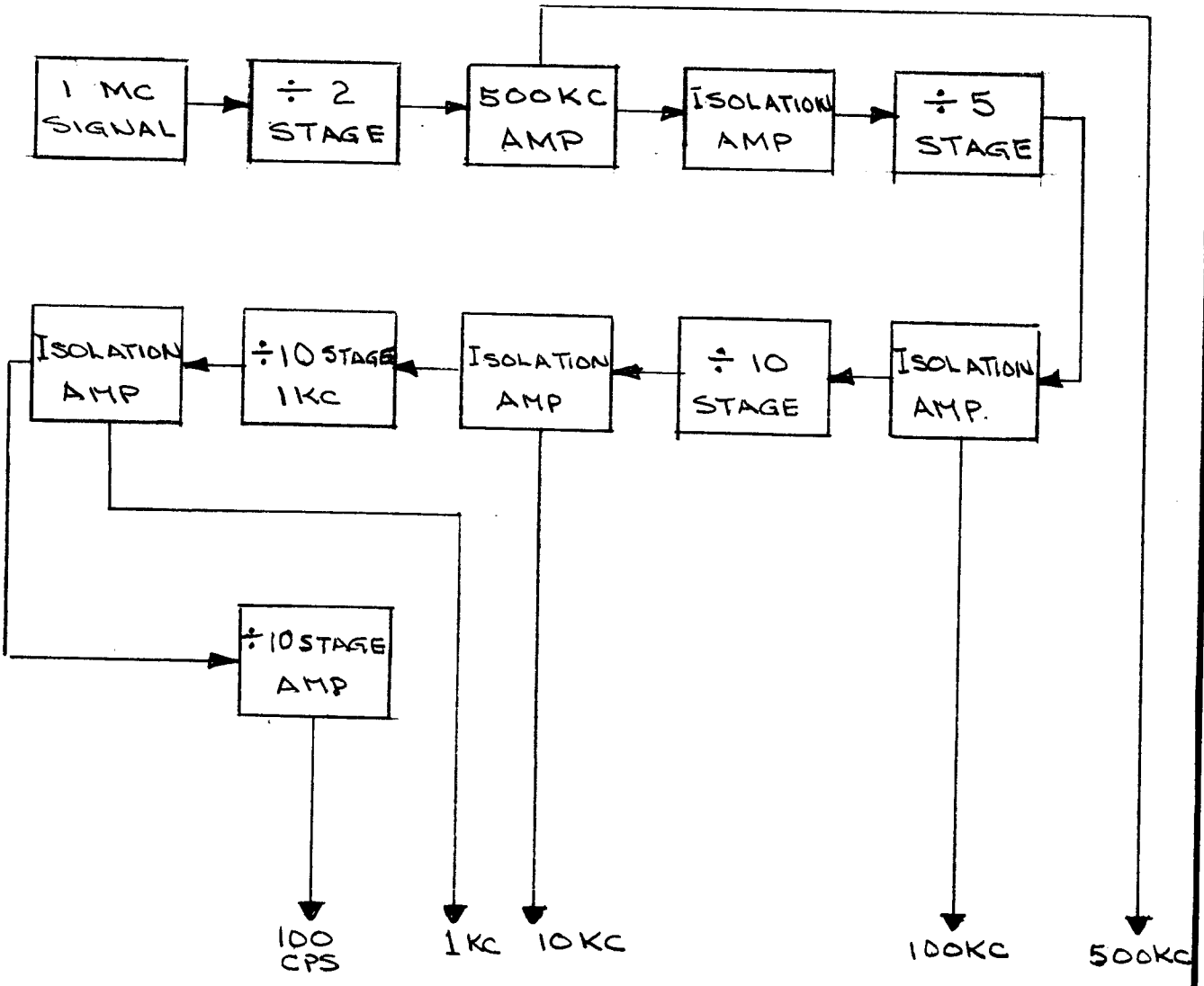
DIVIDER CHAIN



TMC SPECIFICATION NO. S 489 REV. D

TITLE: PRODUCTION TESTING MODEL CHL-1

JOB

TEST EQUIPMENT NEEDED

1. Regulated power supply (Lambda)
2. 1 Mc source CSS or equivolent.
3. A.C. VTVM (HP 410B)
4. Frequency Counter (H.P. 524C)

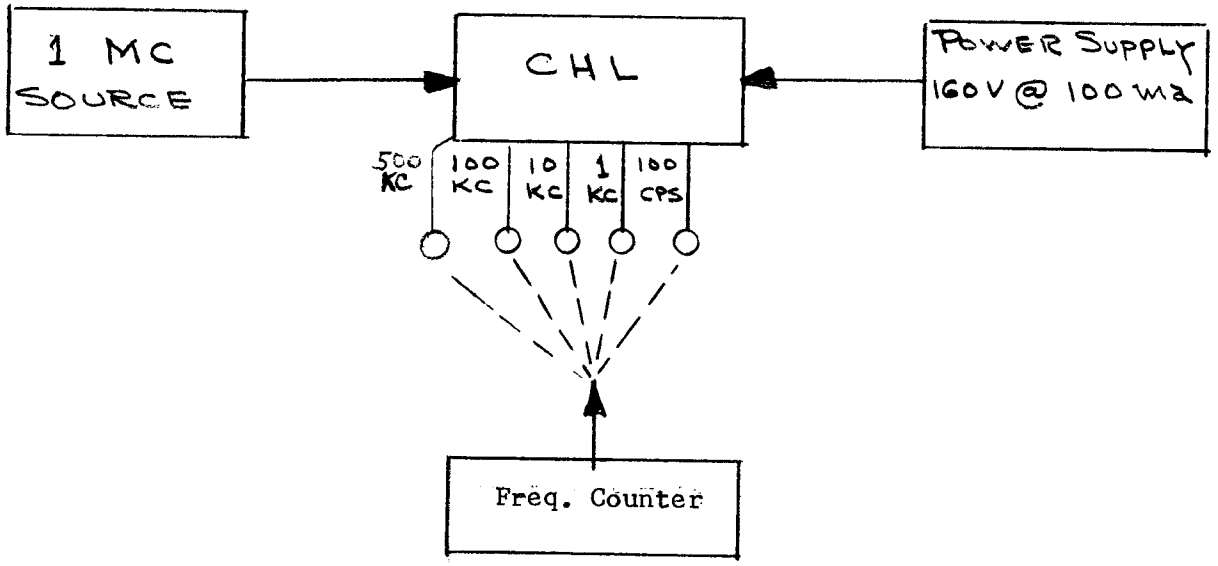


FIG 1

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SHEET 5 OF 9		
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PROCEDURE:

1. Set the divider chain as shown in Fig. 1.

2. Adjust the 1MC input signal for one volt at T101 primary to ground.

*3. Check T101 secondary to ground with VTVM. It should read between 10 volts and 12 volts.

*4. Connect the VTVM and counter to the 500KC output jack. Tune L102 for maximum output. Remove counter and read VTVM, it should be between 3 volts and 4 volts.

*5. Connect the VTVM and counter to the 100KC test jack. Adjust R114 until 100KC is indicated on the counter. Remove counter and read VTVM, it should be between 2 volts and 3 volts.

*6. Connect the VTVM and counter to the 10KC test jack. Adjust R124 until 10KC is indicated on the counter. Remove counter and read VTVM, it should be between 3 volts and 4.5 volts.

*7. Connect the VTVM and counter to the 1KC test jack. Adjust R135 until 1KC is indicated on the counter. Remove counter and read VTVM, it should be between 4 volts and 5 volts.

*8. Connect the VTVM and counter to the 100 cps test jack. Adjust R147 until 100 cps is indicated on the counter. Remove counter and read VTVM, it should be 17.5 volts minimum.

9. Note that no frequency deviation is expected in the alignment procedure. The frequency should be "locked" in at 500KC, 100KC, 10KC, 1KC and 100 cps. Any deviation in frequency indicates an error in the circuit.

* Record on Test Data Sheet

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DATE 10/10/60	TMC SPECIFICATION NO. S-489	D
SHEET 6 OF 9		
COMPILED / CHECKED	TITLE: PRODUCTION TESTING MODEL CHL-1	
APPROVED		

THE TECHNICAL MATERIEL CORPORATION
MAMARONECK N.Y.
CHL-1 TEST DATA SHEET

SERIAL NO._____

MFG. NO._____

PRELIMINARY

A. MECHANICAL ERRORS_____OK

B. WIRING ERRORS_____OK

PROCEDURE

3. T101 Secondary should be between 10 V. and 12 V._____Volts

4. 500KC output at J103 should be between 3.0 V. and 4.0 V._____Volts

5. 100KC output at J112 should be between 2.0 V. and 3.0 V._____Volts

6. 10KC output at J104 should be between 3.0 V. and 4.5 V._____Volts

7. 1KC output at J105 should be between 4.0 V. and 5.0 V._____Volts

8. 100 cps output at J106 should be 17.5V minimum, _____Volts

DATE_____

TESTER_____

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

TMC SPECIFICATION NO. S 489 REV. D

TITLE: PRODUCTION TESTING MODEL CHL-1

JOB

VOLTAGE CHARTS (FOR REFERENCE ONLY)

DC VOLTAGE

With 1 mc Input Signal _____ E_{bb} = 160V

PINS	1	2	3	4	5	6	7	8	9
V102, 5814A, ÷ 2.	141	53	61	0	0	139	53	61	0
V101A, 6U8, 500KC Amp	0	-.9	90	0	0	132	1.35	0	0
1/2 V103A, 5814A. Isolation Amp	125	-3.3	0	0	0	-	-	-	0
V104 5725 ÷ 5.	5.3	8	0	0	125	105	5	None	None
V103B, 5814A Isolation Amp	-	-	-	0	0	158	-10.0	.68	0
V105, 5725, ÷ 10	4.6	7.7	0	6.3	115	120	5	None	None
V106A, 5814A, Isolation Amp	-	-	-	0	0	160	-16	.58	0
V107, 5725, ÷ 10	2.8	7.3	0	0	98	138	5	None	None
V106B, 5814A, Isolation Amp	160	-36	.25	0	0	-	-	-	0
V108, 5725, ÷ 10	1.3	5.7	0	0	90	137	5.5	None	None

VOLTAGE CHARTS (FOR REFERENCE ONLY)

DC VOLTAGE

Without 1 mc Input Signal _____ E_{bb} = 160V

PINS	1	2	3	4	5	6	7	8	9
V102 5814A, ÷ 2.	120	61	68	0	0	125	59	68	0
V101A 6U8, 500KC Amp	0	0	110	0	0	109	1.7	0	0
1/2 V103A, 5814A, Isolation Amp	105	-.66	0	0	0	-	-	-	0
V104, 5725, ÷ 5.	12	11.8	0	0	159	145	5	None	None
V103B, 5814A, Isolation Amp	-	-	-	0	0	150	0	2.7	0
V105, 5725, ÷ 10	14	13.9	0	6.3	159	60	5	None	None
V106A, 5814A, Isolation Amp	-	-	-	0	0	145	0	2.7	0
V107, 5725, ÷ 10	19	18.5	0	0	150	75	5.2	None	None
V106B, 5814A, Isolation Amp	145	0	2.7	0	0	-	-	-	0
V108, 5725, ÷ 10	14.3	14.2	0	0	156	60	5.3	None	None

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SH. 9 OF 9		
COMPILED BY T.G.	TITLE: PRODUCTION TESTING MODEL CHL-1	JOB
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VOLTAGE CHART (FOR REFERENCE ONLY)

A.C. VOLTAGE

PINS	1	2	3	4	5	6	7	8	9
V102, 5814A, - 2.	8.2	6.2	.12	-	-	8.4	5.8	.12	-
V101A, 6U8, 500KC Amp	None	1.3	0	-	-	87	.14	none	none
1/2 V103A, 5814A, Isolation Amp	22	2.2	0	-	-	-	-	-	-
V104, 5725, - 5.	10	8.3	-	-	18.5	23.5	.7	none	none
V103B, 5814A, Isolation Amp	-	-	-	-	-	1.8	11	3	-
V105, 5725, - 10	16	13.5	-	-	30	19.5	.02	none	none
V106A, 5814A, Isolation Amp	-	-	-	-	-	1.6	16	3	-
V107, 5725, - 10	16	12	-	-	38	14	.32	none	none
V106B, 5814A, Isolation Amp	1.2	32	4.1	-	-	-	-	-	-
V108, 5725, - 10	11.8	8	-	-	52	17.5	.27	none	none

NOTE: The filament voltages have been omitted.

REVISION SHEET

THE TECHNICAL MATERIEL CORP.
MAMARONECK NEW YORK

S-489

MODEL _____ PROJECT NO _____

DATE	REV.	PAGE	EMN#	DESCRIPTION	CHK.	APP.
6-19-61	A	2	5077	On "Bottom Block", chg. "÷ stage AMP" to"÷ 10 stage."	✓	
6-19-61	A	3	5077	Deleted #3 "Frequency counter (H.P. 524 C),	✓	
		"	"	Chg. #4 to #3; added #4, CHL-1 test unit.	✓	
		"	"	On Fig. 1, chg. 500 KC to 100 KC,	✓	
		"	"	added new lead 500 KC,	✓	
		"	"	Chg. "Freq. Counter" to "CHL-1 Test Unit".	✓	
6-19-61	A	4 & 5	5077	On sheet 4 and 5 (PROCEDURE), revise and retype completely.	✓	
"	"	"	"	Renumbered pages (old 5 to 6, 6 to 7, etc)	✓	
12/19/62	B	Title	7913	Add sh. no. 1 of 9		
		1,		Chg sh. 1 of 9 to 2 of 9		
		2		chg sh 2 of 9 to 3 of 9		
		3		chg sh 3 of 9 to 4 of 9		
		3		chg it. 4 from "CHL TEST UNIT" to "FREQ COUNTER"		
		3		On Fig 1, on bttm block, make same chg.		
		4		dele. old sh 4 (Proc Steps 1 thru 8)		
		5		Add new sh 5 (Proc)		
		5		Dele old sh 5 (Proc Steps 9 thru 11)		
		6		Add new sh 6 (Test Data)		
		6		Chg old sh 6 of 9 to 7 of 9, add REF note		
		7		Chg old sh 7 of 9 to 8 of 9, add REF note, chg		
		7		"with" to "without"		
		8		chg old sh 8 of 9 to 9 of 9, add REF note		
		9		dele old sh 9 (Test Data) which is now sh 6		
5/3/66	C	5,6	16200	Revised per EMN		
2/24/69	D	5,6	19337	Revised per EMN		

TMC FORM 184-A