

Simpson

INSTRUMENTS THAT STAY ACCURATE

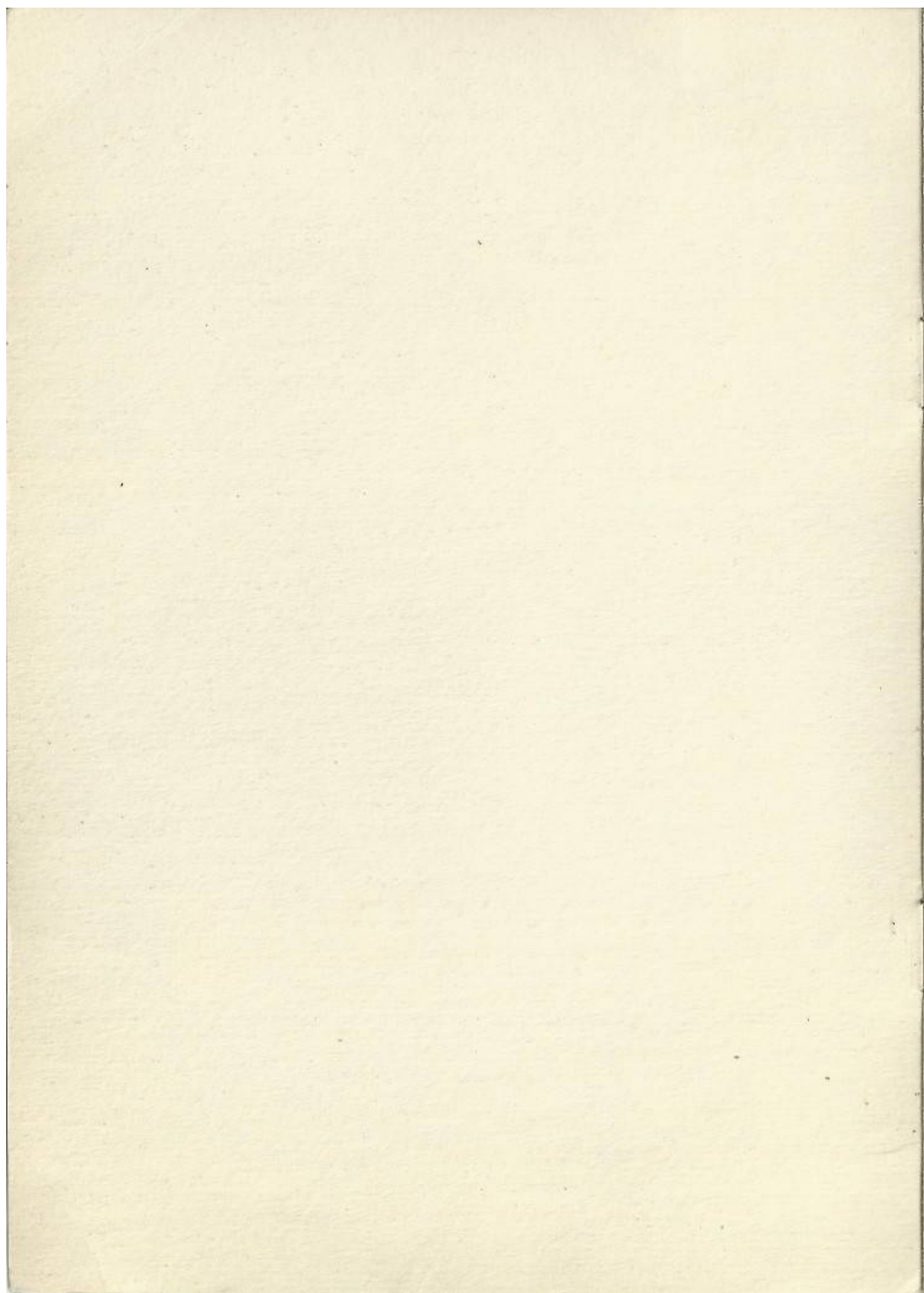
OPERATOR'S MANUAL

**MODEL 330 and MODEL 330-RC
TUBE TESTER**

SIMPSON ELECTRIC COMPANY

5200 W. Kinzie St., Chicago 44, Illinois, ES 9-1121

In Canada, Bach-Simpson, Ltd., London, Ontario



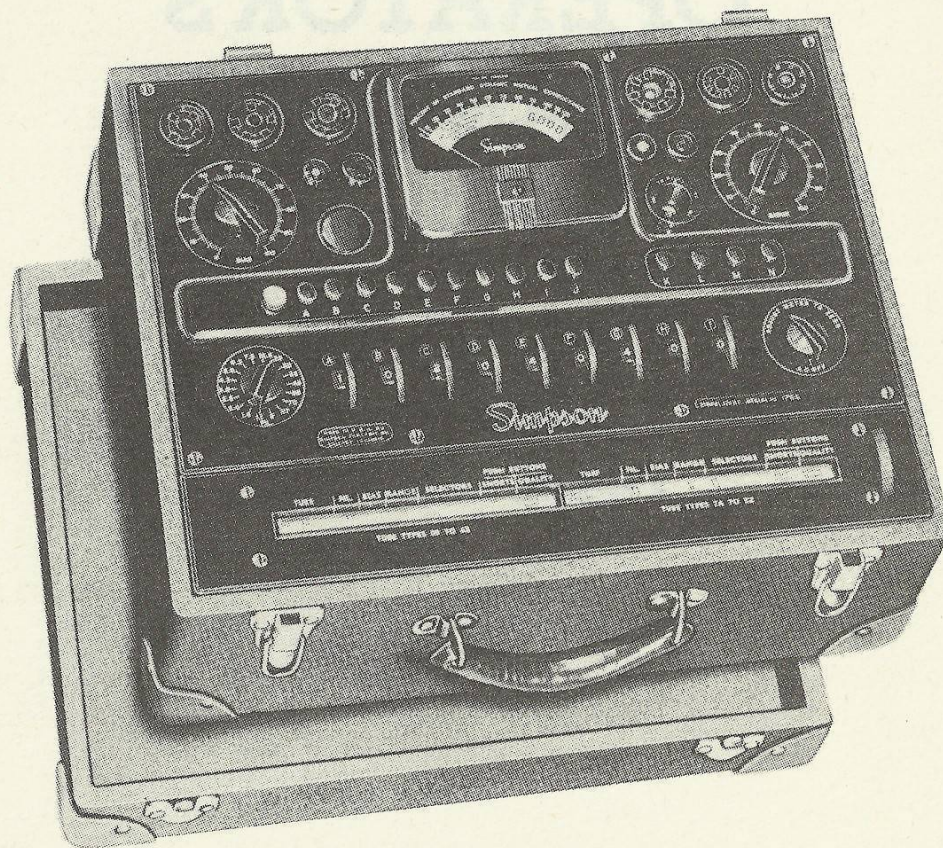
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Simpson Model 330 Tube Tester
Size: 15½" x 9½" x 6¼". Weight: 16 lbs.

Foreword

The Simpson Model 330RC tests tubes in terms of percentage of rated dynamic mutual conductance—a comparison of the tube under test against the standard rated micromho value of that tube. It tests tubes with voltage applied automatically over the entire operating range, reproducing more completely than ever before the actual conditions under which a tube functions in a radio receiver. The colored zones on the dial coincide with the micromho rating or the percent of mutual conductance, indicating that the tube is good, fair, doubtful, or definitely bad. Thus you check against manufacturers' ratings.

Equally revolutionary is the switching arrangement. The circuit is so arranged that, even though numerous combinations are possible, very few switches require moving to test any one tube. Many popular tubes are tested in the "normal" position without moving any of the nine circuit switches. Only a few settings of the rotary and push button switches are necessary for the most complicated tube.

When you have finished a test, just press the Automatic Reset button and instantly all switches, both push button and rotary, return to normal automatically. This not only saves time but prevents the possibility of error due to previous settings being left in position at the beginning of the new test. The Reset mechanism, in whose design and tooling many thousands of dollars have been invested, is Simpson patented.

On the Model 330RC, the "No-Backlash" Roll Chart prevents the chart from being torn or from getting out of alignment by automatically keeping chart in constant tension. This gives precision selection at all times. If you will remove the Roll

Chart unit you will see the very superior Simpson construction throughout. It is, beyond question, the finest roll chart mechanism, in design and in quality manufacture, on any tube tester today.

When you purchase Simpson test equipment you get equipment made almost entirely within the various plants of our Company. We are by far more self-contained than any other manufacturer of test equipment. This is your assurance that testers we offer will not quickly become obsolete. Our tremendous investment in expensive production tools is your safe-guard against obsolescence and further assurance of unvarying quality.

Here at Simpson we do not regard our job finished when we have sold an instrument. Our interest in your Model 330 or 330RC never ceases. We want your satisfaction with it to be continuing. That is the reason for this Operator's Manual. We want you to know how to get the most from your tube-tester.

We have made this instrument as rugged as we know how. Give it the care and careful handling it deserves and it will give you a lifetime of accurate, dependable service.

OPERATOR'S MANUAL

SIMPSON MODEL 330 AND MODEL 330-RC TUBE TESTER

The Model 330 tube tester has been designed to measure the mutual conductance of amplifier tubes in the percentage of published standard ratings. This is the final quantity involved in the appraisal of amplifier tube condition.

In addition to the percentage scale, the dial is arranged in four English reading sections—Good, Fair, Weak and a "Danger Zone."

Exhaustive tests have shown that tubes above 85% of their rated mutual conductance give good performance, while those between 70% and 85% are only fair, tubes falling between 55% and 70% will still operate but with poor results, and those below 55% may cause serious distortion, lack of sensitivity or even damage to associated equipment if the tube is continued in service.

The Model 330 circuit has been set up in such a manner as to minimize the number of operations necessary to test the most popular tubes, yet maintaining maximum flexibility for the more complicated types and to provide adequate switching facilities for future tubes.

The meter in this tester is of the right hand suppressed zero type. When the tester is turned off, the pointer rests against the stop on the right hand side.

The TUBE column of the chart lists the tube and, on multisection tubes, the section being tested.

The FIL. column refers to the filament switch (lower left) which has 17 voltage positions and a "special" (S) position used on some cold cathode tubes such as 6Z4.

The BIAS column refers to the bias adjustment (upper left) through which the proper bias is applied to the grid of the tube under test.

The RANGE column refers to the range adjustment (upper right). This control, in conjunction with push buttons K and L,

adjusts the meter circuit to a point where 100% conforms to the standard published value of mutual conductance for the tube under test.

The SELECTORS column refers to the nine rotary selector switches A to I (lower center), each of which is associated with a tube socket contact. Listings in this column indicate the switch and its position—i.e., C1-D3 means that switch C is rotated to position 1 and switch D is rotated to position 3.

It is important that all switches NOT shown in the selector column remain in their NORMAL or Zero (0) position. All selector switches return to zero position when the RESET (white) push button is pressed.

The SHORTS column (under PUSH BUTTONS) refers to the push buttons A to I, each of which is associated with a tube socket contact. To test for shorts or leakage, each button in the SHORTS column is successively pressed while lightly tapping the tube. Shorted or leaking elements will cause the neon lamp (upper right) to glow. The shorts indicator will sometimes glow when tubes such as 0Z4, 0Y4, 117N7, VR tubes and Thyratrons are tested for quality. Disregard any glow caused by buttons NOT appearing in the SHORTS column. A single flash caused by the condenser charge while switching is also to be disregarded.

The QUALITY column (under PUSH BUTTONS) refers to all push buttons A to N. In the quality test, push buttons A to I are the plate circuit selectors, buttons K and L are load selectors, button M controls the plate, screen and grid voltage supply and button N switches the meter from line test to tube test.

CKM-N in the quality column means: (a) Press buttons C, K and M; (b) Adjust meter to zero (line adjustment); (c) Press button N and observe meter reading for the tube condition. When button N is released, buttons K, L and M automatically return to the open position to prevent the possibility of the wrong load being applied on subsequent tests.

The proper procedure for testing tubes is as follows: Set FIL., BIAS, RANGE and SELECTORS as listed in the tube chart. Insert the tube in its proper socket and allow time to heat. Test

for shorts or leakage by pressing each push-button shown in the SHORTS column while lightly tapping the tube and observing the neon lamp. To test for quality; (a) Press each push button shown in the QUALITY column except N; (b) Adjust meter to zero (line adjustment); (c) Press push button N and read the tube condition on the meter.

For tubes requiring a second test, proceed as follows: If ditto marks appear in the BIAS, RANGE or SELECTOR columns, leave such controls and switches as they were for the first test. If changes or additions are indicated, set them accordingly. For example:

TUBE	FIL.	BIAS	RANGE	SELECTORS	SHORTS	QUALITY
7B8 MIX	6.3	12	41	D2-F1-G2	CDEFGH	CKLM-N
7B8 OSC	"	17	36	DO-F1-G2-E4		DKM-N

Leave FIL. set at 6.3, change BIAS to 17, change RANGE to 36, leave selectors F1 and G2 as they were for the first test, change D2 to DO and add selector E4.

All short tests were made in the first test and none are required for the second test.

Press the push-buttons shown in the QUALITY column opposite the second test (DKM-N).

If a third test is required, proceed as for the second test.

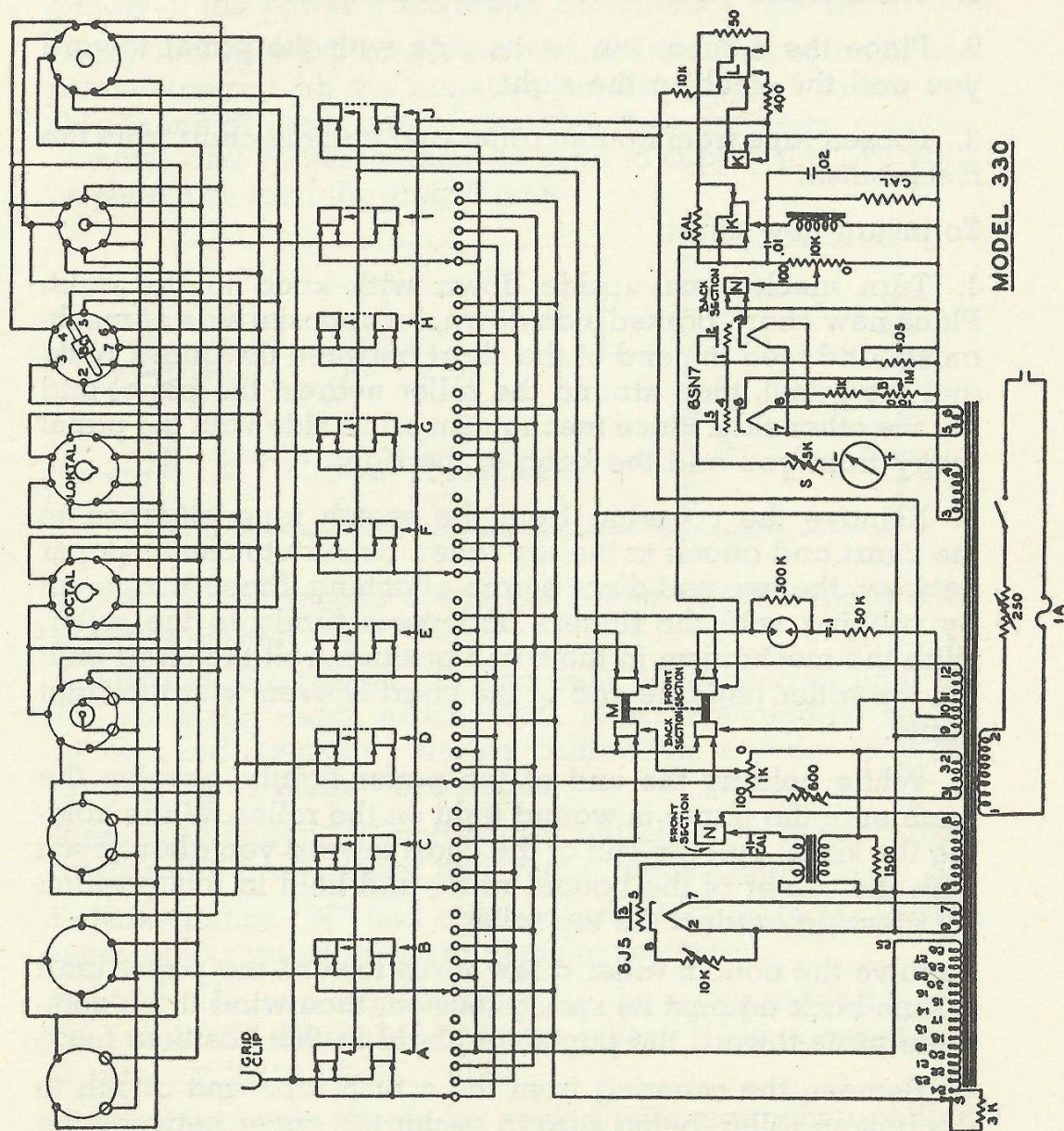
After the tube is completely tested and removed from the socket, press the RESET button (white button, extreme left). All push buttons and rotary selector switches will return to the NORMAL position.

DIODES: Due to the wide variations permitted in diodes, a special diode scale is provided on the meter. Good diodes should fall within this scale.

CONDENSED INSTRUCTIONS

1. Set FIL. (filament switch) according to chart.
2. Set BIAS adjustment according to chart.
3. Set RANGE adjustment according to chart.
4. Set rotary SELECTORS, A to I, according to chart.
5. Insert tube in socket and allow time to heat.
6. Press each button shown in SHORTS column while tapping tube lightly. Steady or intermittent glow of the neon lamp indicates a short or leakage. Disregard a single flash while switching or a glow caused by buttons NOT appearing in the SHORTS column.
7. Press each button shown in the QUALITY column, except N.
8. Adjust meter to zero (line adjustment).
9. Press button N and observe tube condition on the meter. For tubes requiring a second test, proceed as follows:
 10. If ditto marks appear in the BIAS, RANGE or SELECTOR columns, leave such controls and switches as they were for the first test. If changes or additions are indicated, set them accordingly.
 11. Press each button shown in QUALITY column and observe tube condition.
 12. If the tube requires a third test, proceed as for the second.

After the tube has been completely tested and removed from the socket, press the RESET button (white) returning selectors to NORMAL position ready for the next tube.



ROLL CHART INSTRUCTIONS (MODEL 330-RC)

To remove old chart:

1. Wind entire chart to the upper roller.
2. Place the mechanism on its side with the panel toward you and the knob to the right.
3. Loosen tape from bottom roller and pull old chart from the mechanism.

To install new chart:

1. Turn mechanism upside down with knob to the right. Place new chart, printed side down, on opposite side of mechanism and feed the end of the chart between the guard plate and the panel, then around the roller nearest the panel and out the other side. Place mechanism on its side with the panel away from you and the knob to the right.

2. Remove the covering from the scotch tape attached to the chart and attach to the top roller. Be sure to center paper between the two end discs before attaching. Smooth tape out by rubbing with the fingers and press firmly to the roller. With the mechanism in the same position, roll the chart onto the top roller until the end of the chart is even with the front panel.

3. While holding the end of the paper tightly, revolve the knob until the paper is wound tight on the roller. While holding the knob, pull the end of the chart toward you about even with the center of the bottom roller and hold in this position by pressing against the top roller.

Revolve the bottom roller a few turns toward the paper until it runs back against its spring tension, then wind it ten complete turns toward the paper and hold in this position.

4. Remove the covering from the scotch tape and attach to the bottom roller, being sure to center the paper between the end discs of the roller. Smooth out tape and press firmly to roller.

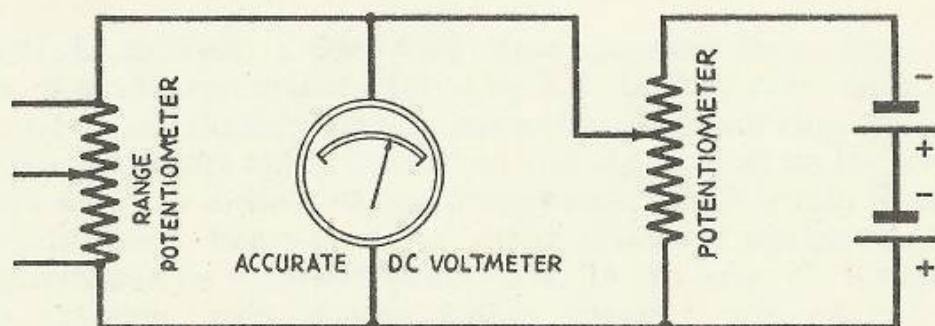
5. If the paper is either too tight or too loose, the tape may be pulled away from the roller and the tension adjusted as desired.

CALIBRATION PROCEDURE

Turn the tester on and allow a few minutes to warm up.

Connect an accurate AC voltmeter across the primary terminals of the power transformer (terminals 1 and 2).

Apply 1.96 volts DC across the outside terminals of the Range potentiometer with the negative polarity applied to the outside terminal (near end of chassis). Two dry cells, a potentiometer and voltmeter may be used to supply the 1.96 volts as shown in the following figure.



When all connections are made, rotate Range control knob to extreme right (near 100).

Adjust the line rheostat (lower right hand control) until the AC voltmeter reads exactly 100 volts. This reading should be checked frequently during calibration in order to guard against line voltage fluctuations.

Press push button "N" and adjust control "B" on tester chassis (near small transformer) until meter reads 120 percent.

Release button "N" and adjust control "S" on tester chassis (near power transformer) until meter reads zero.

Repeat these two adjustments until the meter reads 120 percent with "N" depressed and zero when "N" is released with a primary input of 100 volts.

Both adjustments should be sealed with wax when calibration is complete.

When it is found necessary to replace tubes, it is best to use tubes that have been "aged" for at least 24 hours at approximately 6 mils of plate current.

DECLARATION OF THE
The undersigned do hereby declare that the
information furnished by me is true and correct
to the best of my knowledge and belief.
I am a resident of the State of
and am the owner of the
property described in the foregoing
declaration.

Witness my hand and seal this
day of
19

Attest:
Notary Public in and for the State of
My commission expires this
day of

My commission expires this
day of

WARRANTY

SIMPSON ELECTRIC COMPANY warrants each instrument and other articles of equipment manufactured by it to be free from defects in material and workmanship under normal use and service, its obligation under this warranty being limited to making good at its factory any instrument or other article of equipment which shall within 90 days after delivery of such instrument or other article of equipment to the original purchaser be returned intact to it, or to one of its authorized service stations, with transportation charges prepaid, and which its examination shall disclose to its satisfaction to have been thus defective; this warranty being expressly in lieu of all other warranties expressed or implied and of all other obligations or liabilities on its part, and SIMPSON ELECTRIC COMPANY neither assumes nor authorizes any other persons to assume for it any other liability in connection with the sale of its products.

This warranty shall not apply to any instrument or other article of equipment which shall have been repaired or altered outside the SIMPSON ELECTRIC COMPANY factory or authorized service stations, nor which has been subject to misuse, negligence or accident, incorrect wiring by others, or installation or use not in accord with instructions furnished by the manufacturer.

Quality is the indispensable component
of every Simpson instrument

Simpson
INSTRUMENTS THAT STAY ACCURATE

SPEED CHART

for

MODEL 330

**Dynamic Mutual Conductance
Tube Tester**

January 1, 1956

TUBE	FIL.	BIAS	RANGE	SELECTORS	PUSH BUTTONS		TUBE
					SHORT	QUALITY	
O1A	5.0	22	30	C1	CE	CKM-N	O1A
OA2			30	B4-C2-D2-E5-H5		BLM-N	OA2
OA3			45	B1-C2-E1		ELM-N	OA3
OA4	S		55	E1		ELM-N	OA4
OA5	50		65	D2-E3-G5-13	BCDEI	CLM-N	OA5
OB2			20	B4-C2-D5-E5-I5		BLM-N	OB2
OB3			60	B1-C2-E1		ELM-N	OB3
OC3			85	B1-C2-E1		ELM-N	OC3
OD3			35	B1-C2-E2		ELM-N	OD3
OY4	S		19	C4-E1		ELM-N	OY4
OZ4-P 2	S		36	H4		CLM-N	OZ4
OZ4-P 1	S		36	H4-C2-E2		ELM-N	OZ4
1A3-DIO	1.4		9	C2-E5-H5	CG	CM-N	1A3
1A4	2.0	19	21	E1	ACE	CKM-N	1A4
1A5	1.4	18	73	C1	CDE	CKLM-N	1A5
1A6-MIX	2.0	26	64	C1-D1-G1-H2	ACDGH	CKM-N	1A6
1A6-OSC	"	"	76	" " " "-A4		DKM-N	1A6
1A7-MIX	1.4	20	33	C1-G2	ACDEG	CKM-N	1A7
1A7-OSC	"	0	88	" " "-A3		GKM-N	1A7
1AB5	1.1	10	72	C1	CDE	CKLM-N	1AB5
1AD4	1.1	0	32	B1-C1-14	CDE	CKLM-N	1AD4
1AE4	1.1	0	53	B1-C1-E5-G2-H1-I4	CGH	CKLM-N	1AE4
1AE5-MIX	1.1	38	55	B1-C1-D2-H4-12	CDEI	CKM-N	1AE5
1AE5-OSC	1.1	38	64	B1-C1-D2-H4-12		IKM-N	1AE5
1AF4	1.4	15	46	B1-C1-E5-G2-H1-14	CGH	CKM-N	1AF4
1AF5-PEN	1.4	13	42	B1-E1-H1-14	DEGH	EKM-N	1AF5
1AF5-DIO	1.4		9	B1-E1-H1-14		GM-N	1AF5
1B3/8016	1.1		14	A1-C5-E5-F5-H5	A	AM-N	1B3
1B4	2.0	17	27	C1-E1	ACE	CKM-N	1B4
1B5-TRI	2.0	12	33	C1-D2-H1	CDGH	CKM-N	1B5
1B5-DIO 1	"	"	12	" " "		DM-N	1B5
1B5-DIO 2	"	"	"	" " "		GM-N	1B5
1B7-MIX	1.4	35	70	C1-G2	ACDEG	CKM-N	1B7

TUBE	FIL.	BIAS	RANGE	SELECTORS	PUSH BUTTONS		TUBE
					SHORT	QUALITY	
1B7-OSC	1.4	21	45	C1-G2-A4		GKM-N	1B7
1B8-PEN	1.4	0	58	C1-G2	ACDEGH	CKLM-N	1B8
1B8-TRI	"	"	38	" "		GKM-N	1B8
1B8-DIO	"	"	9	" "		HM-N	1B8
1C3	1.4	15	22	C1-D3-H5	CD	CKM-N	1C3
1C5	1.4	25	44	C1	CDE	CKLM-N	1C5
1C6-OSC	2.0	35	77	G1-H2	ACDGH	DKM-N	1C6
1C6-MIX	"	"	30	" " "-A3		CKM-N	1C6
1C7-MIX	2.0	14	62	G2	ACDEG	CKLM-N	1C7
1C7-OSC	"	40	65	C2-G2		GKM-N	1C7
1C21-NON-CON	30	0	11			EM-N	1C21
1C21-CON	45	"	"			EM-N	1C21
1D5-GP	2.0	24	29	C1	ACD	CKM-N	1D5
1D7-MIX	2.0	37	43	A3-G2	ACDEG	CKM-N	1D7
1D7-OSC	"	"	95	AO-G2-C2		GKM-N	1D7
1D8-PEN	1.4	29	74	C1-G2	ACDEH	CKLM-N	1D8
1D8-TRI	"	13	48	" " "-D2		GKM-N	1D8
1D8-DIO	"	"	9	" " "		HM-N	1D8
1E4	1.4	0	84	C1	CE	CKLM-N	1E4
1E5	2.0	17	80	C1	ACD	CKLM-N	1E5
1E7-PEN-1	2.0	14	60	C1-D3-G2-H2	CDEGH	GKLM-N	1E7
1E7-PEN-2	"	"	"	" " " "		CKLM-N	1E7
1F4	2.0	14	50	C1-H2	CEH	CKLM-N	1F4
1F5	2.0	14	53	C1	CDE	CKLM-N	1F5
1F6-AMP	2.0	19	30	C1	ACDGH	CKM-N	1F6
1F6-DIO 1	"	"	9	"		HM-N	1F6
1F6-DIO 2	"	"	"	"		GM-N	1F6
1F7-AMP	2.0	19	32	C1-D2-E3-G2	ACDEG	CKM-N	1F7
1F7-DIO 1	"	"	9	" " " "		EM-N	1F7
1F7-DIO 2	"	"	"	" " " "		DM-N	1F7
1G4	1.4	25	32	C1	CE	CKM-N	1G4
1G5	2.0	29	56	C1	CDE	CKLM-N	1G5
1G6-TRI 1	1.4	0	90	C1-D3-G2	CDEG	GKLM-N	1G6

1G6

2B7

5T4

6AK6

6BD4A

6D8

6R7

6V4

7E6

TUBE	FIL.	BIAS	RANGE	SELECTORS	PUSH BUTTONS		TUBE
					SHORT	QUALITY	
1G6-TRI 2	1.4	0	90	C1-D3-G2		CKLM-N	1G6
1H4	2.0	23	32	C1	CE	CKM-N	1H4
1H5-TRI	1.4	0	48	C1	ACE	CKM-N	1H5
1H5-DIO	"	"	9	"		EM-N	1H5
1H6-AMP	2.0	12	35	C1-D2-G1	CDEG	CKM-N	1H6
1H6-DIO 1	"	"	10	" " "		EM-N	1H6
1H6-DIO 2	"	"	"	" " "		DM-N	1H6
1J5	2.0	33	80	C1	CDE	CKLM-N	1J5
1J6-TRI-1	2.0	12	89	C1-D3-G2	CDEG	CKLM-N	1J6
1J6-TRI-2	"	"	"	" " "		GKLM-N	1J6
1L4	1.4	0	65	C1-E5-G2-H1	CGH	CKLM-N	1L4
1L6-MIX	1.4	21	56	C1-D3-E1-G2-H1	CDEGH	CKM-N	1L6
1L6-OSC	1.4	21	85	C1-D3-E1-G2-H1		GKM-N	1L6
1LA4	1.4	18	80	C1	CDE	CKLM-N	1LA4
1LA6-MIX	1.4	17	35	C1-F1-G2	CDEFG	CKM-N	1LA6
1LA6-OSC	"	31	67	C0-F1-G2-D1-E4		DKM-N	1LA6
1LB4	1.4	29	68	C1	CDE	CKLM-N	1LB4
1LC5	1.4	16	83	C1	CDEF	CKLM-N	1LC5
1LC6-MIX	1.4	30	44	C1-F1-G2	CDEFG	CKM-N	1LC6
1LC6-OSC	"	40	95	C2 " " -E4		DKM-N	1LC6
1LD5-PEN	1.4	15	33	C1	CDEF	CKM-N	1LD5
1LD5-DIO	"	"	9	"		FM-N	1LD5
1LE3	1.4	17	26	C1	CE	CKM-N	1LE3
1LG5	1.4	13	66	C1	CDEF	CKLM-N	1LG5
1LH4-TRI	1.4	0	53	C1	CEF	CKM-N	1LF4
1LH4-DIO	"	"	9	"		FM-N	1LH4
1LN5	1.4	10	87	C1	CDE	CKLM-N	1LN5
1N5	1.4	9	90	C1	ACD	CKLM-N	1LN5
1N6-PEN	1.4	18	79	C1	CDEG	CKLM-N	1N6
1N6-DIO	"	"	10	"		GM-N	1N6
1P5	1.4	10	90	C1	ACD	CKLM-N	1P5
1Q5	1.4	18	34	C1	CDE	CKLM-N	1Q5
1R4-DIO	1.4	"	9	"	PH	FM-N	1R4

TUBE	FIL.	BIAS	RANGE	SELECTORS	PUSH BUTTONS		TUBE
					SHORT	QUALITY	
1R5-OSC	1.4	30	45	C1-D3-E5-G2	CDGH	GKM-N	1R5
1R5-MIX	"	20	92	" " " " -H1		CKLM-N	1R5
1S4	1.4	30	45	C1-E5-G1-H5	CDG	CKLM-N	1S4
1S5-PEN	1.4	15	35	E1-H1	DEGH	EKM-N	1S5
1S5-DIO	"	"	9	" "		GM-N	1S5
1SA6	1.4	14	73	C2-D3-G2-H2	CDGH	HKLM-N	1SA6
1SB6-PEN	1.4	14	29	C1-E3-H1	CDEH	CKM-N	1SB6
1SB6-DIO	"	"	10	" " "		EM-N	1SB6
1T4	1.4	15	77	C1-E5-G2-H1	CGH	CKLM-N	1T4
1T5	1.4	22	59	C1	CDE	CKLM-N	1T5
1U4	1.4	10	79	B1-C1-E3-G2-H1-I4	CGH	CKLM-N	1U4
1U5-PEN	1.4	14	32	B1-C1-D2-G2-H1-I4	CDGH	CKM-N	1U5
1U5-DIO	"	"	9	" " " " " "		DM-N	1U5
1-V	6.3	"	25	C1-E3	CE	CLM-N	1-V
1V2	1.1	"	17	A5-C5-D5-E5-F5-H5	F	GM-N	1V2
1W4	1.4	44	32	B1-C1-G2-H1-14	CGH	CKM-N	1W4
1X2-A-B	1.1	"	19	A5-C5-D5-G5-H5	F	FM-N	1X2
1X2-A-B	Plug Special Lead into Center of 7-Pin Miniature Socket and Clip to Top Cap.						
1Z2	1.4	"	13	A3-C5-D5-E5-G5-H5	A	AM-N	1Z2
2A3	2.5	89	25	"	CE	CKM-N	2A3
2A4-NON-CON	2.5	35	20	C1	C	CLM-N	2A4
2A4-CON	"	25	"	"		CLM-N	2A4
2A5	2.5	37	40	D1-G1	CDGH	CKLM-N	2A5
2A6-TRI	2.5	10	28	D2	ACDGH	CKM-N	2A6
2A6-DIO 1	"	"	9	"		GM-N	2A6
2A6-DIO 2	"	"	"	"		DM-N	2A6
2A7-MIX	2.5	21	91	A4-G2	ACDEGH	CKLM-N	2A7
2A7-OSC	"	20	71	" "		DKM-N	2A7
2B6	2.5	32	35	D3	CDGH	CKM-N	2B6
2B7-PEN	2.5	11	70	D2-E3-G2	ACDEGH	CKLM-N	2B7
2B7-DIO 1	"	"	9	" " "		EM-N	2B7
2B7-DIO 2	"	"	"	" " "		DM-N	2B7

2B7

5T4

6AK6

6BD4A

6D8

6R7

6V4

7E6

TUBE	FIL.	BIAS	RANGE	SELECTORS	PUSH BUTTONS		TUBE
					SHORT	QUALITY	
2C4-NON-CON	2.5	50	19	C5-D2-E1-G1-H5		ELM-N	2C4
2C4-CON	"	35	"	" " " " "		ELM-N	2C4
2C21-TRI 1	6.3	36	91	C2-D3-E2-G3	ACDEGH	EKLM-N	2C21
2C21-TRI 2	"	"	"	" " " " "		GKLM-N	2C21
2C22	6.3	29	72	F3	AFH	FKLM-N	2C22
2C22	Standard cap on rear terminal, special cap on front terminal						
2C52-TRI 1	12.6	14	37	B4-C2-D3-E2-F1-H4	BCDEFG	EKM-N	2C52
2C52-TRI 2	12.6	14	37	B4-C2-D3-E2-F1-H4		BKM-N	2C52
2C53	6.3	0	60	A2	AEH	AKM-N	2C53
2D21-NON-CON	6.3	20	18	B2-C2-D4-E3-H2		HLM-N	2D21
2D21-CON	"	10	"	" " " " "		HLM-N	2D21
2E5-OPEN	2.5	0	20	C2-D3-G3	CDGH	KM	2E5
2E5-CLOSED	"	"	"	CO- " "		CKM-N	2E5
2E24	6.3	45	43	A2-C1-D5-F5-G5	ACE	AKLM-N	2E24
2E25A	6.3	60	45	A2-D1	ADEH	AKLM-N	2E25
2E26	6.3	54	31	A2-D2-F5-G5	ACDE	AKLM-N	2E26
2E30	6.3	40	45	B2-C2-D4-E2-H2-I5	BCEH	EKLM-N	2E30
2G5-OPEN	2.5	0	28	C2-D3-G3	CDGH	KM	2G5
2G5-CLOSED	"	"	"	CO " "		CKM-N	2G5
2S/4S-P 2	2.5		10	C2-E3	CEH	CM-N	2S/4P
2S/4S-P 1	"		"	" "		EM-N	2S/4P
2V3	2.5		14		A	AM-N	2V3
2W3	2.5		32		D	DLM-N	2W3
2X2	2.5		72	A2	A	ALM-N	2X2
2Y2	2.5		65	A2	A	ALM-N	2Y2
2Z2/G84	2.5		35	C1	C	CLM-N	2Z2
3A3	3.0	0	15	A1-C5-E5-F5-H5		M-N	3A3
3A4	2.5	26	45	C1-D3-E5-G2-H5	CDG	CKLM-N	3A4
3A5	2.5	13	66	C1-D5-G1-H2	CEGH	HKLM-N	3A5
3A5-TRI 2	"	"	"	" " " " "		CKLM-N	3A5
3A8-PEN	2.5	0	27	C1-F5-G2	ACDEGH	CKM-N	3A8
3A8-TRI	"	"	41	" " " "		GKM-N	3A8
3A8-DIO	"	"	10	" " " "		HM-N	3A8

TUBE	FIL.	BIAS	RANGE	SELECTORS	PUSH BUTTONS		TUBE
					SHORT	QUALITY	
3AL5-DIO 1	3.0	0	9	B1-C2-D4-E3	BCEI	IM-N	3AL5
3AL5-DIO 2	3.0	0	9	" " " " "		CM-N	3AL5
3AU6	3.0	13	45	B2-C2-D4-E2-H2	BCEHI	EKLM-N	3AU6
3B4	1.1	53	76	B3-C2-D4-E4-G1-12	BGI	IKLM-N	3B4
3B5	2.5	29	45	C1-H5	CDE	CKLM-N	3B5
3BE6-OSC	3.0	0	43	B2-C2-D4-E2-H2	BCEHI	HKLM-N	3BE6
3BE6-MIX	3.0	13	52	B2 " " " " "		EKLM-N	3BE6
3B7/1291-TRI 1	2.5	13	67	C1-D3-F5-H2	CDEH	CKLM-N	3B7
3B7/1291-TRI 2	"	"	"	" " " " "		HKLM-N	3B7
3B24	5.0		63	A1-B5-C4	A	ALM-N	3B24
3C6-TRI 1	1.4	14	21	B1-E1-F1-G1-H4	DEFG	EKM-N	3C6
3C6-TRI 2	1.4	14	21	B1-E1-F1-G1-H4		DKM-N	3C6
3D21A	12.6	30	22	A2-F5-G1	ADGH	AKLM-N	3D21A
3D6/1299	2.5	18	34	C1-H5	CDE	CKLM-N	3D6/1299
3E5	1.4	38	75	C1-E3-G2-H1-14	CGH	CKLM-N	3E5
3E6	2.5	0	42	C1-F2-G5	CDEF	CKLM-N	3E6
3LF4	2.5	18	36	C1-H5	CDE	CKLM-N	3LF4
3Q4	2.5	18	35	C1-E5-G1-H5	CDG	CKLM-N	3Q4
3Q5	2.5	18	33	C1-H5	CDE	CKLM-N	3Q5
3S4	2.5	29	44	C1-E5-G1-H5	CDG	CKLM-N	3S4
3V4	3.0	19	32	C1-E5-G2-H1	CGH	CKLM-N	3V4
4A6-TRI 1	2.0	10	89	C1-D3-G2-I4	CDEG	GKLM-N	4A6
4A6-TRI 2	"	"	"	" " " " "		CKLM-N	4A6
5A6	5.0	38	29	B1-C1-G5-H5-14	CDEF	CKLM-N	5A6
5AU4-P 1	5.0	0	30	B1-G2-H4		GLM-N	5AU4
5AU4-P 2	5.0	0	30	" " " "		DLM-N	5AU4
5AW4-PL 1	5.0	0	28	G2	DE	DLM-N	5AW4
5AW4-PL 2	5.0	0	28	"		ELM-N	5AW4
5AZ4-P 2	5.0		29	C4-E1	EF	ELM-N	5AZ4
5AZ4-P 1	"		"	" -E3-F2		FLM-N	5AZ4
5R4-P 2	5.0		27		DG	DLM-N	5R4
5R4-P 1	"		"	D2-G2		GLM-N	5R4
5T4-P 2	5.0		23		DG	DLM-N	5T4

5T4

6AK6

6BD4A

6D8

6R7

6V4

7E6

TUBE	FIL.	BIAS	RANGE	SELECTORS	PUSH BUTTONS		TUBE
					SHORT	QUALITY	
5T4-P 1	5.0		23	D2-G2	ACDEFGH	GLM-N	5T4
5T8-TRI	5.0	0	20	A5-C5-D5-E3-G2-H0		GKM-N	5T8
5T8-DIO 1	5.0	0	9	" " " " " "		DM-N	5T8
5T8-DIO 2	5.0	0	9	" " " " " "		AM-N	5T8
5T8-DIO 3	5.0	9	9	" " " " " "		CM-N	5T8
5U4-P 2	5.0		26	D2-G2	DG	DLM-N	5U4
5U4-P 1	"		"			GLM-N	5U4
5V4-P 2	5.0		22	D2-G2	DG	DLM-N	5V4
5V4-P 1	"		"			GLM-N	5V4
5W4-P 2	5.0		28		DG	DLM-N	5W4
5W4-P 1	"		"	D2-G2	CE	GLM-N	5W4
5X3-P 2	5.0		30	C1		CLM-N	5X3
5X3-P 1	"		"	C2-E1	CE	ELM-N	5X3
5X4-P 2	5.0		25	C1-H4		CLM-N	5X4
5X4-P 1	"		"	C2- " -E1		ELM-N	5X4
5Y3-P 2	5.0		31	D2-G2	DG	DLM-N	5Y3
5Y3-P 1	"		"			GLM-N	5Y3
5Y4-P 2	5.0		30	C1-H4	CE	CLM-N	5Y4
5Y4-P 1	"		"	C2- ' -E1		ELM-N	5Y4
5Z3-P 2	5.0		25	C1	CE	CLM-N	5Z3
5Z3-P 1	"		"	C2-E1	DG	ELM-N	5Z3
5Z4-P 2	5.0		22			DLM-N	5Z4
5Z4-P 1	"		"	D2-G2		GLM-N	5Z4
6A3	6.3	85	20		CE	CKM-N	6A3
6A4/LA	6.3	35	34	H3	CEH	CKLM-N	6A4/LA
6A5	6.3	88	25	H5	CE	CKM-N	6A5
6A6-TRI 1	6.3	14	61	D2-G1-H3	CDEGH	CKLM-N	6A6
6A6-TRI 2	"	"	"	" " "		HKLM-N	6A6
6A7-MIX	6.3	12	61	A3-G2	ACDEGH	CKLM-N	6A7
6A7-OSC	"	20	48	A4- "		DKM-N	6A7
6A8-MIX	6.3	20	67	G2	ACDEGH	CKLM-N	6A8
6A8-OSC	"	"	75	A4-G3		GKLM-N	6A8
6AB4	6.3	17	62	B4-D4-H1	BHI	BKLM-N	6AB4

TUBE	FIL.	BIAS	RANGE	SELECTORS	PUSH BUTTONS		TUBE
					SHORT	QUALITY	
6AB5-OPEN	6.3	0	20	C2-D3-G2	CDGH	KM	6AB6
6AB5-CLOSED	"	"	"	C1- " "		CKM-N	6AB5
6AB6	6.3	0	62	D1	CDEH	CKLM-N	6AB6
6AB7	6.3	11	17	C2-D3-E3-G3-H3	CDEGH	HKLM-N	6AB7
6AC5	6.3	0	67		CEH	CKLM-N	6AC5
6AC6	6.3	0	43	C2-D3-E3-G2-H2	CDEH	CKLM-N	6AC6
6AC7	6.3	10	22		CDEGH	HKLM-N	6AC7
6AD5	6.3	10	62	C3-E2	CEH	EKLM-N	6AD5
6AD6-OPEN	6.3			C2-D2-E2	CDEH	M	6AD6
6AD6-CLOSED	"			CO-D1- "		M-N	6AD6
6AD7-TRI	6.3	25	58	F1-G3	CDEFGH	GKM-N	6AD7
6AD7-PEN	"	29	"	" "		CKLM-N	6AD7
6AE5	6.3	43	34	C1	CEH	CKM-N	6AE5
6AE6-REMOTE	6.3	9	27	D1	CDEH	CKM-N	6AE6
6AE6-SHARP	"	"	28	"		DKM-N	6AE6
6AE7-SEC 1	6.3	29	75	D3-E5-G1	CDEGH	CKLM-N	6AE7
6AE7-SEC 2	"	"	"	" E3- " -H5		CKLM-N	6AE7
6AF4	6.3	17	40	B3-C3-D4-E3-H5-I5	BCE	BKLM-N	6AF4
6AF5	6.3	50	23		CEH	CKM-N	6AF5
6AF6-OPEN	6.3			C2-D2-E2	CDEH	M	6AF6
6AF6-CLOSED	"			CO-D1- "		M-N	6AF6
6AG5	6.3	10	24	B2-C2-D4-E2-H2-I5	BCEH	EKLM-N	6AG5
6AG7	6.3	0	17	A3-C2-D3-E3-G2-H2	CDEGH	HKLM-N	6AG7
6AH4	6.3	26	60	E1-F1	EFH	EKLM-N	6AH4
6AH5	6.3	32	21	D1-F3-G1	DFGH	DKLM-N	6AH5
6AH6	6.3	0	19	B2-C1-D4-E1-H2	BCEHI	EKLM-N	6AH6
6AH7-TRI 1	6.3	22	70	B1-D2-F1-G3-H4	BCDEFG	GKLM-N	6AH7
6AH7-TRI 2	"	"	"	" " " " " "		CKLM-N	6AH7
6AJ4	6.3	0	44	A3-B5-C3-D5-E4-F5-G5-I3	CI	ILM-N	6AJ4
6AJ5	6.3	14	23	B2-C5-D4-E1-H2	BEHI	EKLM-N	6AJ5
6AK5	6.3	0	19	B2-C2-D4-E1-H2-I5	BCEH	EKLM-N	6AK5
6AK6	6.3	0	33	B2-C2-D4-E2-H2	BCEHI	EKLM-N	6AK6

6AK6

6BD4A

6D8

6R7

6V4

7E6

TUBE	FIL.	BIAS	RANGE	SELECTORS	PUSH BUTTONS		TUBE
					SHORT	QUALITY	
6AL5-DIO 1	6.3		9	B1-C2-D4-E3	BCEI	IM-N	6AL5
6AL5-DIO 2	"		"	" " " "		CM-N	6AL5
6AL6	6.3	32	21	A2-D1	ADEH	AKLM-N	6AL6
6AL7-TRI	6.3	0	16	E1-F1-G2	CDEFGH	CM-N	6AL7
6AL7-TAR	"	"	"	" " "		CKM-N	6AL7
6AM8-PEN	6.3	0	25	C2-D1-E3-F3-H5	ADF	DKLM-N	6AM8
6AM8-DIO	6.3	0	9	C2-D1-E3-F3-H5		HM-N	6AM8
6AN4	6.3	13	22	B4-C3-D4-E3-H5-I5	BCE	BKLM-B	6AN4
6AN5	6.3	22	22	B2-C2-D4-E1-H2-I5	BCEH	EKLM-N	6AN5
6AN6-DIO 1	6.3		9	C2-D2-E3	CDEGH	EM-N	6AN6
6AN6-DIO 2	6.3		9	C2-D2-E3		DM-N	6AN6
6AN6-DIO 3	6.3		9	C2-D2-E3		GM-N	6AN6
6AN6-DIO 4	6.3		9	C2-D2-E3		CM-N	6AN6
6AN7-MIX	6.3	15	50	C1-D5-E2-G1-H2	ACEFGH	EKLM-N	6AN7
6AN7-OSC	6.3	13	74	C1-D5-E2-G1-H2		HKLM-N	6AN7
6AN8-TRI	6.3	10	39	B1-D1-E1-H1-I4	AEH	CKLM-N	6AN8
6AN8-PEN	6.3	0	14	" " " " "		DKLM-N	6AN8
6AQ5	6.3	29	26	B2-C2-D4-E2-H3-I5	BCEH	EKLM-N	6AQ5
6AQ6-AMP	6.3	10	64	B2-C2-D4-E3-I3	BCEHI	IKLM-N	6AQ6
6AQ6-DIO 1	"	"	9	" " " " "		HM-N	6AQ6
6AQ6-DIO 2	"	"	"	" " " " "		EM-N	6AQ6
6AQ7-TRI	6.3	0	55	B1-C2-D3-E2-H4	BCDEFG	EKLM-N	6AQ7
6AQ7-DIO 1	"	"	9	" " " " "		FM-N	6AQ7
6AQ7-DIO 2	"	"	"	" " " " "		CM-N	6AQ7
6AR5	6.3	32	66	B2-C2-D4-E2-H2	BCEH	EKLM-N	6AR5
6AR6	6.3	60	28	E2-G4-I1	CEFI	CKLM-N	6AR6
6AS5	6.3	20	20	B1-C3-D4-E5-H2-I2	BCHI	IKLM-N	6AS5
6AS6	6.3	12	38	B2-C2-D4-E1-H2	BCEHI	EKLM-N	6AS6
6AS7-TRI- 1	6.3	61	38	B1-C2-D3-E1-F1-H4	BCDEFG	EKM-N	6AS7
6AS7-TRI 2	"	"	"	B3-" " -E3-" "		BKM-N	6AS7
6AS8-PEN	6.3	15	85	D5-E1-G3	CADEG	GLM-N	6AS8
6AS8-DIO	6.3	0	9	D1-E1-G5		DM-N	6AS8
6AT6-TRI	6.3	14	31	B2-C2-D4-E3-I3	BCEHI	IKM-N	6AT6

TUBE	FIL.	BIAS	RANGE	SELECTORS	PUSH BUTTONS		TUBE
					SHORT	QUALITY	
6AT6-DIO 1	6.3	14	9	B2-C2-D4-E3-I3		EM-N	6AT6
6AT6-DIO 2	"	"	"	" " " " "		HM-N	6AT6
6AU4	6.3	0	17	C2-E2-I4	CE	LM-N	6AU4
6AU5	6.3	34	23	C2-E1-F1-H2	CEFH	EKLM-N	6AU5
6AU6	6.3	13	41	B2-C2-D4-E2-H2	BCEHI	EKLM-N	6AU6
6AV5	6.3	54	34	C2-E2-F1-H2	CEFH	EKLM-N	6AV5
6AV6-TRI	6.3	13	30	B2-C2-D4-E3-I3	BCEHI	IKM-N	6AV6
6AV6-DIO 1	"	"	9	" " " " "		HM-N	6AV6
6AV6-DIO 2	"	"	"	" " " " "		EM-N	6AV6
6AW6	6.3	14	58	B2-C2-D4-E1-H2	BCEHI	EKLM-N	6AW6
6AX4	6.3		20	C2-E1-H4	CE	ELM-N	6AX4
6AX5-P1	6.3		23	C2-E1	CEH	ELM-N	6AX5
6AX5-P2	6.3		23	C1-E3		CLM-N	6AX5
6B4	6.3	85	24		CE	CKM-N	6B4
6B5	6.3	0	48	D1-G1	CDGH	CKLM-N	6B5
6B6-TRI	6.3	0	62	D2-E3	ACDEH	CKLM-N	6B6
6B6-DIO 1	"	"	9	" "		EM-N	6B6
6B6-DIO 2	"	"	"	" "		DM-N	6B6
6B7-PEN	6.3	11	70	D2-G2	ACDEGH	CKLM-N	6B7
6B7-DIO 1	"	"	10	" "		EM-N	6B7
6B7-DIO 2	"	"	"	" "		DM-N	6B7
6B8-PEN	6.3	12	63	D2-E3-G2	ACDEGH	CKLM-N	6B8
6B8-DIO 1	"	"	9	" " "		EM-N	6B8
6B8-DIO 2	"	"	"	" " "		DM-N	6B8
6BAC	6.3	9	23	B2-C2-D4-E2-H2	BCEHI	EKLM-N	6BA6
6BA7-MIX	6.3	12	47	A3-C1-D2-G2	ACDEFG	GKLM-N	6BA7
6BA7-OSC	6.3	18	65	A0-C1-D2-E3-G2		CKLM-N	6BA7
6BC4	6.3	5	70	C1-D2-E5-F5-G5-H5	AC	CLM-N	6BC4
6BC5	6.3	15	64	B2-C2-D4-E2-H2-I5	BCEH	EKLM-N	6BC5
6BC7-DIO 1	6.3		9	A3-C2-D2-E3-F5	ACDEGH	HM-N	6BC7
6BC7-DIO 2	6.3		9	A3-C2-D2-E3-F5		DM-N	6BC7
6BC7-DIO 3	6.3		9	A3-C2-D2-E3-F5		AM-N	6BC7
6BD4A	6.3	0	68	A1	DE	AM-N	6BD4A

6BD4A

6D8

6R7

6V4

7E6

TUBE	FIL.	BIAS	RANGE	SELECTORS	PUSH BUTTONS		TUBE
					SHORT	QUALITY	
6BD5	6.3	45	29	C2-E2-F1-H3	CEFH	EKLM-N	6BD5
6BD6	6.3	32	50	B2-C2-D2-E2-G4-H3	BCEH	EKLM-N	6BD6
6BE6-OSC	6.3	0	43	B2-C2-D4-E2-H2	BCEHI	HKLM-N	6BE6
6BE6-MIX	"	13	52	B1- " " " "-I1		EKLM-N	6BE6
6BE7	6.3	14	39	A3-C1-H5	ACDEFG	DKM-N	6BE7
6BF5	6.3	36	38	B2-C2-D4-E1-H2-I5	BCEH	EKLM-N	6BF5
6BF6-TRI	6.3	23	66	B2-C2-D4-E3-I3	BCEHI	IKLM-N	6BF6
6BF6-DIO 1	"	"	9	" " " " " "		HM-N	6BF6
6BF6-DIO 2	"	"	"	" " " " " "		EM-N	6BF6
6BG6	6.3	26	19	A2-C2-H3	ACEH	AKLM-N	6BG6
6BG7-TRI 1	6.3	11	39	B2-C4-D2-E3-F2-H2-I1	BDEFHI	HKLM-N	6BG7
6BG7-TRI 2	"	"	"	" " " " " " " "		FKLM-N	6BG7
6BH6	6.3	0	25	B2-C2-D4-E2-H2	BCEHI	EKLM-N	6BH6
6BJ6	6.3	10	28	B2-C2-D4-E2-H2	BCEHI	EKLM-N	6BJ6
6BJ7-DIO 1	6.3	0	10	A1-C2-E3-H2	ADH	AM-N	6BJ7
6BJ7-DIO 2	6.3	0	10	" " " " " "		DM-N	6BJ7
6BJ7-DIO 3	6.3	0	10	" " " " " "		HM-N	6BJ7
6BK5	6.3	21	17	D2-E5-F1-H3	CDFH	CKLM-N	6BK5
6BK6-TRI 1	6.3	14	45	B2-C2-D4-E3-I3	BCEHI	IKM-N	6BK6
6BK6-DIO 1	6.3		9	B2-C2-D4-E3-I3		HM-N	6BK6
6BK6-DIO 2	6.3		9	B2-C2-D4-E3-I3		EM-N	6BK6
6BK7-TRI 1	6.3	10	35	C1	ACDEFH	DKLM-N	6BK7
6BK7-TRI 2	"	"	"	"		CKLM-N	6BK7
6BL7-TRI 1	6.3	24	40	B4-C2-D3-E2-F1-H4	BCDEFG	EKLM-N	6BL7
6BL7-TRI 2	"	"	"	" " " " " " " "		BKLM-N	6BK7
6BN6	6.3	15	30	B1-C3-D4-E1-I2	BCEHI	IKM-N	6BN6
6BN7-SEC 1	6.3	37	46	C2-D2-G3	ACDEFG	GKLM-N	6BN7
6BN7-SEC 2	"	"	76	C1-D2-G0		CKLM-N	6BN7
6BQ6	6.3	43	24	A2	ADEH	AKLM-N	6BQ6
6BQ7-TRI 1	6.3	10	29	C1	ACDEFH	DKLM-N	6BQ7
6BQ7-TRI 2	"	"	"	"		CKLM-N	6BQ7
6BT6-TRI	6.3	15	35	B2-C2-D4-E3-I3	BCEHI	IKM-N	6BT6
6BT6-DIO 1	6.3		9	B2-C2-D4-E3-I3		HM-N	6BT6

TUBE	FIL.	BIAS	RANGE	SELECTORS	PUSH BUTTONS		TUBE
					SHORT	QUALITY	
6BT6-DIO 2	6.3		9	B2-C2-D4-E3-I3		EM-N	6BT6
6BU6-TRI	6.3	23	62	B2-C2-D4-E3-I3	BCEHI	IKLM-N	6BU6
6BU6-DIO 1	6.3		9	B2-C2-D4-E3-I3		HM-N	6BU6
6BU6-DIO 2	6.3		9	B2-C2-D4-E3-I3		EM-N	6BU6
6BX7-TRI 1	6.3	44	71	B4-C2-D3-E2-F1-H4	BCDEFG	EKLM-N	6BX7
6BX7-TRI 2	"	"	"	" " " " " " " "		BKLM-N	6BX7
6BY5-P1	6.3		21	D2-E1	DEFH	ELM-N	6BY5
6BY5-P2	"		"	D0-E3		DLM-N	6BY5
6BZ6	6.3	12	69	B2-C2-D2-E2-G4-H3	BEH	ELM-N	6BZ6
6BZ7-TRI 1	6.3	17	31	D1	ACDEFH	DKLM-N	6BZ7
6BZ7-TRI 2	"	"	"	"		CKLM-N	6BZ7
6C4	6.3	21	60	B5-C5-D4-E2-H1	EHI	EKLM-N	6C4
6C5	6.3	20	60		CEH	CKLM-N	6C5
6C6	6.3	13	63		ACDGH	CKLM-N	6C6
6C7	6.3	22	75	D2-E3	ACDEH	CKLM-N	6C7
6C7-DIO 1	"	"	10	" "		EM-N	6C7
6C7-DIO 2	"	"	"	" "		DM-N	6C7
6C8-TRI 1	6.3	14	59	D2-G3	ACDEGH	GKLM-N	6C8
6C8-TRI 2	"	"	"	" "		CKLM-N	6C8
6CB6	6.3	15	46	B2-C2-D4-E2-H2	BCEHI	EKLM-N	6CB6
6CD6	6.3	49	26	A1-C2-H2	ACEH	AKLM-N	6CD6
6CF6	6.3	0	89	B2-C2-D2-E2-G4-H2	BEH	ELM-N	6CF6
6CL6	6.3	15	16	C2-D1-E3-F2-G5-H5	ACDEF	DKLM-N	6CL6
6CM6	6.3	0	21	C1-D5-E3-F1-G3	CFG	GKLM-N	6CM6
6CR6-PEN	6.3	0	36	B1-C5-D4-E2-F2-H2-I1	IH	EKLM-N	6CR6
6CR6-DIO	6.3	0	10	" " " " " " " "		CM-N	6CR6
6CS6	6.3	18	12	B2-C2-D2-E1-G4-H2	BEH	EM-N	6CS6
6CU6	6.3	20	27	A2	CDE	ALM-N	6CU6
6D4-NON-CON	6.3	50	19	B2-C5-D4-E3-H5-I2		ILM-N	6D4
6D4-CON	"	35	"	" " " " " " " "		ILM-N	6D4
6D6	6.3	13	51		ACDGH	CKLM-N	6D6
6D7	6.3	13	59	D2-G2	ACDGH	CKLM-N	6D7
6D8-MIX	6.3	0	52	E3-G2	ACDEGH	CKLM-N	6D8

TUBE	FIL.	BIAS	RANGE	SELECTORS	PUSH BUTTONS		TUBE
					SHORT	QUALITY	
6D8-OSC	6.3	12	32	A4-E0-G2	CDGH	GKM-N	6D8
6E5-OPEN	6.3	0	20	C2-D3-G3		KM	6E5
6E5-CLOSED	"	"	"	C0- " "	CDEGH	CKM-N	6E5
6E6-TRI 1	6.3	56	29	D2-G1-H3		HKM-N	6E6
6E6-TRI 2	"	"	"	" " "		CKM-N	6E6
6E7	6.3	13	49	D2-G2	ACDGH	CKLM-N	6E7
6F4	6.3	9	46	C1-D3-E5-F5	CDH	CKLM-N	6F4
6F5	6.3	0	49	D1	ADH	DKLM-N	6F5
6F6	6.3	37	40	D1	CDEH	CKLM-N	6F6
6F7-TRI	6.3	13	55	G2	ACDEGH	DKM-N	6F7
6F7-PEN	"	"	68	"		CKLM-N	6F7
6F8-TRI 1	6.3	21	54	D2-G3	ACDEGH	CKLM-N	6F8
6F8-TRI 2	6.3	21	54	" "		GKLM-N	6G8
6G5-OPEN	6.3	0	28	C2-D3-G3	CDGH	KM	6G5
6G5-CLOSED	"	"	"	C0- " "		CKM-N	6G5
6G6	6.3	30	36	D1	CDEH	CKLM-N	6G6
6H4-DIO	6.3		9	D2	DH	DM-N	6H4
6H5-OPEN	6.3	0	28	C2-D3-G3	CDGH	KM	6H5
6H5-CLOSED	"	"	"	C0 " "		CKM-N	6H5
6H6-DIO 1	6.3		9	C2-D2-E3	CDEH	EM-N	6H6
6H6-DIO 2	"		"	" " "		CM-N	6H6
6J4	6.3	10	26	B5-C2-D4-H5-I2	CEI	IKLM-N	6J4
6J5	6.3	13	43		CEH	CKLM-N	6J5
6J6-TRI 1	6.3	12	41	B3-C1-D4-H1	BCEHI	CKLM-N	6J6
6J6-TRI 2	"	"	"	" " " "		BKLM-N	6J6
6J7	6.3	13	63	E3	ACDEH	CKLM-N	6J7
6J8-MIX	6.3	10	57	E3-G2	ACDEGH	CKLM-N	6J8
6J8-OSC	"	14	28	E0-G2-A4		GKM-N	6J8
6K5	6.3	11	63		ACH	CKLM-N	6K5
6K6	6.3	39	40	D1	CDEH	CKLM-N	6K6
6K7	6.3	13	54	E3	ACDEH	CKLM-N	6K7
6K8-MIX	6.3	12	58		ACDEGH	CKLM-N	6K8
6K8-OSC	6.3	28	87	D2-G3		GKLM-N	6K8

TUBE	FIL.	BIAS	RANGE	SELECTORS	PUSH BUTTONS		TUBE
					SHORT	QUALITY	
6L4	6.3	18	65	C1-D3-E5-F5	CDH	CKLM-N	6L4
6L5	6.3	23	64		CEH	CKLM-N	6L5
6L6	6.3	32	21	D1	CDEH	CKLM-N	6L6
6L7	6.3	11	64	E3	ACDEH	CKLM-N	6L7
6M5	6.3	25	17	D5-E2-H5	ACEF	EKLM-N	6M5
6M8-PEN	6.3	19	64	C1-G2	ACDEFGH	CKLM-N	6M8
6M8-TRI	6.3	12	64	C1-G2		GKM-N	6M8
6M8-DIO	6.3		9	C1-G2		HM-N	6M8
6N4	6.3	15	27	B2-C5-D4-E2-I5	BEH	EKLM-N	6N4
6N5-OPEN	6.3	0	20	C2-D3-G2	CDGH	KM	6N5
6N5-CLOSED	"	"	"	C1- " "		CKM-N	6N5
6N6	6.3	0	53	D1	CDE	CKLM-N	6N6
6N7-TRI 1	6.3	14	62	D3-G3	CDEGH	GKLM-N	6N7
6N7-TRI 2	"	"	"	" "		CKLM-N	6N7
6N8-PEN	6.3	17	75	C1-D1-E3	ACDEFGH	DKLM-N	6N8
6N8-DIO 1	6.3		9	C1-D1-E3		EM-N	6N8
6N8-DIO 2	6.3		9	C1-D1-E3		HM-N	6N8
6P5	6.3	32	21		CE	CKM-N	6P5
6P7-TRI	6.3	13	48	C2-D1-E1-G2-I1	ADEGHI	GKM-N	6P7
6P7-PEN	"	11	63	" " " " "		DKLM-N	6P7
6Q4	6.3	16	42	A5-C5-G3-H5	EFG	GKLM-N	6Q4
6Q5-CON	6.3	0	10	C1		M-N	6Q5
6Q5-NON-CON	6.3	30	10	C1		M-N	6Q5
6Q6-TRI	6.3	15	44	E3	ACEH	CKM-N	6Q6
6Q6-DIO	6.3		9	E3		EM-N	6Q6
6Q7-TRI	6.3	0	49	D2-E3	ACDEH	CKLM-N	6Q7
6Q7-DIO 1	"	"	9	" "		EM-N	6Q7
6Q7-DIO 2	"	"	"	" "		DM-N	6Q7
6R4	6.3	14	52	C3-H2	CFH	HKLM-N	6R4
6R6	6.3	12	51	C1-E2	ACEH	EKLM-N	6R6
6R7-TRI	6.3	23	65	D2-E3	ACDEH	CKLM-N	6R7
6R7-DIO 1	"	"	9	" "		EM-N	6R7
6R7-DIO 2	"	"	"	" "		DM-N	6R7

6R7

6V4

7E6

TUBE	FIL.	BIAS	RANGE	SELECTORS	PUSH BUTTONS		TUBE
					SHORT	QUALITY	
6R8-TRI	6.3	30	79	A3-C2-D2-E3-G3-H1	ACDEFGH	GKLM-N	6R8
6R8-DIO 1	6.3		9	A3-C2-D2-E3-G3-H1		DM-N	6R8
6R8-DIO 2	6.3		9	A3-C2-D2-E3-G3-H1		AM-N	6R8
6R8-DIO 3	6.3		9	A3-C2-D2-E3-G3-H1		CM-N	6R8
6S4	6.3	27	50	A3-C5-D3-E5-F5-G3-H5	ADG	GKLM-N	6S4
6S6	6.3	14	44	H2	ADFH	DKLM-N	6S6
6S7	6.3	13	46	E3	ACDEH	CKLM-N	6S7
6S8-TRI	6.3	10	80	B1-C2-D2-E3-G3-H4	ABCDEFG	GKLM-N	6S8
6S8-DIO 1	"	"	9	" " " " " " "		FM-N	6S8
6S8-DIO 2	"	"	"	" " " " " " "		CM-N	6S8
6S8-DIO 3	"	"	"	" " " " " " "		DM-N	6S8
6SA7-OSC	6.3	23	85	C1-H4	CDEFGH	DKLM-N	6SA7
6SA7-MIX	"	12	52	C0-H1		CKLM-N	6SA7
6SB7-Y-OSC	6.3	15	48	H4	CDEFGH	DKLM-N	6SB7
6SB7-Y-MIX	6.3	12	39	H1-E3		CKLM-N	6SB7
6SC7-TRI 1	6.3	10	73	B4-C3-D3-E2-H4	BCDEG	EKLM-N	6SC7
6SC7-TRI 2	"	"	"	" " " " " " "		BKLM-N	6SC7
6SD7	6.3	10	25	C2-D3-E3-G2-H3	CDEGH	HKLM-N	6SD7
6SE7	6.3	10	25	C2-D3-E3-G2-H3	CDEGH	HKLM-N	6SE7
6SF5	6.3	0	71	B1-C3-E1-H4	BCE	EKLM-N	6SF5
6SF7-PEN	6.3	9	43	B2-C2-E3-G3-H4	BCDEG	GKLM-N	6SF7
6SF7-DIO	"	"	9	" " " " " " "		EM-N	6SF7
6SG7	6.3	0	26	C2-D3-E5-G2-H3	CDGH	HKLM-N	6SG7
6SH7	6.3	0	24	C2-D3-E5-G2-H3	CDGH	HKLM-N	6SH7
6SJ7	6.3	13	44	C2-D3-E3-G2-H3	CDEGH	HKLM-N	6SJ7
6SK7	6.3	13	40	C2-D3-E3-G2-H3	CDEGH	HKLM-N	6SK7
6SL7-TRI 1	6.3	10	62	B4-C2-D3-E2-F1-H4	BCDEFG	EKLM-N	6SL7
6SL7-TRI 2	"	"	"	" " " " " " "		BKLM-N	6SL7
6SN7-TRI 1	6.3	21	52	B4-C2-D3-E2-F1-H4	BCDEFG	EKLM-N	6SN7
6SN7-TRI 2	"	"	"	" " " " " " "		BKLM-N	6SN7
6SQ7-TRI	6.3	0	67	B2-C2-D2-E3-G3-H4	BCDEG	GKLM-N	6SQ7
6SQ7-DIO 1	"	"	9	" " " " " " "		EM-N	6SQ7
6SQ7-DIO 2	"	"	"	" " " " " " "		DM-N	6SQ7

TUBE	FIL.	BIAS	RANGE	SELECTORS	PUSH BUTTONS		TUBE
					SHORT	QUALITY	
6SR7-TRI	6.3	22	67	B2-C2-D2-E3-G3-H4	BCDEG	GKLM-N	6SR7
6SR7-DIO 1	"	"	9	" " " " " " "		EM-N	6SR7
6SR7-DIO 2	"	"	9	" " " " " " "		DM-N	6SR7
6SS7	6.3	13	42	C2-D3-E3-G2-H3	CDEGH	HKLM-N	6SS7
6ST7-TRI	6.3	22	65	B2-C2-D2-E3-G3-H4	BCDEG	GKLM-N	6ST7
6ST7-DIO 1	"	"	9	" " " " " " "		EM-N	6ST7
6ST7-DIO 2	"	"	"	" " " " " " "		DM-N	6ST7
6SU7-TRI 1	6.3	12	24	B4-C2-D3-E2-F1-H4	BCDEFG	EKM-N	6SU7
6SU7-TRI 2	"	"	"	" " " " " " "		BKM-N	6SU7
6SV7-PEN	6.3	8	32	B2-C2-E3-G3-H4	BCDEG	GKLM-N	6SV7
6SV7-DIO	"	"	9	" " " " " " "		EM-N	6SV7
6SZ7-TRI	6.3	13	27	B2-C2-D2-E3-G3-H4	BCDEG	GKM-N	6SZ7
6SZ7-DIO 1	"	"	9	" " " " " " "		EM-N	6SZ7
6SZ7-DIO 2	"	"	"	" " " " " " "		DM-N	6SZ7
6T4	6.3	0	42	B3-C3-D2-E3-G4-H5-I5	BCE	LM-N	6T4
6T7-TRI	6.3	11	70	D2-E3	ACDEH	CKLM-N	6T7
6T7-DIO 1	"	"	9	" "		EM-N	6T7
6T7-DIO 2	"	"	"	" "		DM-N	6T7
6T8-TRI	6.3	0	20	A5-C5-D5-E3-G2-H1	ACDEFGH	GKM-N	6T8
6T8-DIO 1	"	"	9	" " " " " " "		DM-N	6T8
6T8-DIO 2	"	"	"	" " " " " " "		AM-N	6T8
6T8-DIO 3	"	"	"	" " " " " " "		CM-N	6T8
6U4	6.3		19	C2-E1-H4	CE	ELM-N	6U4
6U5-OPEN	6.3	0	28	C2-D3-G3	CDFG	KM	6U5
6U5-CLOSED	"	"	"	C0- " "		CKM-N	6U5
6U6	6.3	32	21		CDEH	CKLM-N	6U6
6U7	6.3	13	46	E3	ACDEH	CKLM-N	6U7
6U8-TRI	6.3	10	31	C1-D1-E3-F2-G1	ACDEFGH	CKLM-N	6U8
6U8-PEN	"	10	31	" " " " " "		DKLM-N	6U8
6V3	6.3		19	A1-E5-G5	AF	ALM-N	6V3
6V3	Plug special lead into center of 7-pin miniature socket and clip to top cap.						
6V4-P1	6.3		25	C1-E3	CEF	CLM-N	6V4-P1

TUBE	FIL.	BIAS	RANGE	SELECTORS	PUSH BUTTONS		TUBE
					SHORT	QUALITY	
7E6-DIO 2	6.3	23	9	D3-E3-F5	CDEFGH	GM-N	7E6
7E7-PEN	6.3	12	58	D2-G2		CKLM-N	7E7
7E7-DIO 1	"	"	9	" "		FM-N	7E7
7E7-DIO 2	"	"	"	" "	CDEFGH	DM-N	7F7
7F7-TRI 1	6.3	10	64	C2-D1-E2-F1-G1		EKLM-N	7F7
7F7-TRI 2	"	"	"	" " " " " "		DKLM-N	7F7
7F8-TRI 1	6.3	0	28	B2-C4-D1-E2-I1	BDEFGI	EKLM-N	7F8
7F8-TRI 2	"	"	"	" " " " " "		DKLM-N	7F8
7G7/1232	6.3	10	22		CDEFH	CKLM-N	7G7
7G8/1206-TET 1	6.3	13	49	E3-G1-H3	CDEFGH	HKLM-N	7G8
7G8/1206-TET 2	"	"	"	"-GO- "-F1		CKLM-N	7G8
7H7	6.3	0	24		CDEFH	CKLM-N	7H7
7J7-MIX	6.3	12	57	F1-G2	CDEFGH	CKLM-N	7J7
7J7-OSC	"	0	77	" "-E4		DKLM-N	7J7
7K7-TRI	6.3	0	52	C2-D1-E3-F1	CDEFGH	DKLM-N	7K7
7K7-DIO 1	"	"	9	" " " " " "		GM-N	7K7
7K7-DIO 2	"	"	"	" " " " " "	CDEFH CDEFGH	EM-N	7K7
7L7	6.3	9	31			CKLM-N	7L7
7N7-TRI 1	6.3	21	56	C2-D1-E2-F1-G1		EKLM-N	7N7
7N7-TRI 2	"	"	"	" " " " " "	CDEFGH	DKLM-N	7N7
7Q7-MIX	6.3	10	38	F1		CKLM-N	7Q7
7Q7-OSC	"	"	47	F1-E4	CDEFGH	DKLM-N	7Q7
7R7-PEN	6.3	9	33	D2-G2		CKLM-N	7R7
7R7-DIO 1	"	"	9	" "		FM-N	7R7
7R7-DIO 2	"	"	"	" "	CDEFGH	DM-N	7R7
7S7-MIX	6.3	11	41	F1-G2		CKLM-N	7S7
7S7-OSC	"	0	68	" "-E4	CDEFH CDEFH CDEFG	DKLM-N	7S7
7T7	6.3	0	26			CKLM-N	7T7
7V7	6.3	10	23			CKLM-N	7V7
7W7	6.3	0	20	H5	CDEH CDEFGH	CKLM-N	7W7
7X6-P1	6.3		20	C2-E3		DLM-N	7X6
7X6-P2	6.3		20	C2-D2-E1		ELM-N	7X6
7X7-TRI	6.3	0	61	D3-E3	CDEFGH	CKLM-N	7X7

TUBE	FIL.	BIAS	RANGE	SELECTORS	PUSH BUTTONS		TUBE
					SHORT	QUALITY	
7X7-DIO 1	6.3	0	9	D3-E3	DEH	GM-N	7X7
7X7-DIO 2	"	"	"	" "		EM-N	7X7
7Y4-P 2	6.3		25	E3		DLM-N	7Y4
7Y4-P 1	"		"	D2-E1	DEH	ELM-N	7Y4
7Z4-P 2	6.3		30	E3		DLM-N	7Z4
7Z4-P 1	"		"	D2-E1		ELM-N	7Z4
10	7.5	48	70		CE	CKLM-N	10
12A	5.0	18	80	C1	CE	CKLM-N	12A
12A4	12.6	34	70	C2-E5-F5-G2	ACG	GKLM-N	12A4
12A5	12.6	11	37	C1-D3-E3-G2-H5	CDEG	CKLM-N	12A5
12A6	12.6	29	34	D1	CDEH	CKLM-N	12A6
12A7-REC	12.6	29	24	C1-D2-E1	ACDEGH	ELM-N	12A7
12A7-PEN	"	"	84	" "-E3-G2		CKLM-N	12A7
12A8-MIX	12.6	12	51	G2	ACDEGH	CKLM-N	12A8
12A8-OSC	"	0	38	"-A4		GKM-N	12A8
12AH7-TRI 1	12.6	14	74	B1-C1-D2-F1-G2-H4	BCDEFG	GKLM-N	12AH7
12AH7-TRI 2	"	"	"	" " " " " "		CKLM-N	12AH7
12AL5-DIO 1	12.6		9	B1-C2-D4-E3	BCEI	IM-N	12AL5
12AL5-DIO 2	"		"	" " " " " "		CM-N	12AL5
12AT6-TRI	12.6	0	17	B2-C2-D4-E3-I2	BCEHI	IKM-N	12AT6
12AT6-DIO 1	"	"	9	" " " " " "		EM-N	12AT6
12AT6-DIO 2	"	"	"	" " " " " "	ACDEFH	HM-N	12AY6
12AT7-TRI 1	12.6	0	30	D1-G5		DKLM-N	12AT7
12AT7-TRI 2	"	"	"	" "		CKLM-N	12AT7
12AU6	12.6	10	28	B2-C2-D4-E2-H2	CBEHIF	EKLM-N	12AU6
12AU7-TRI 1	12.6	18	25	C1-G5		DKM-N	12AU7
12AU7-TRI 2	"	"	"	" "	ACDEGH	CKM-N	12AU7
12AV6-TRI	12.6	13	30	B2-C2-D4-E5-H5-I3		IKM-N	12AV6
12AV6-DIO 1	"	"	9	" " " " " "		HM-N	12AV6
12AV6-DIO 2	"	"	"	" " " " " "	BCEHI	EM-N	12AV6
12AV7-TRI 1	12.6	12	38	C1-G5		DKLM-N	12AV7
12AV7-TRI 2	12.6	12	38	C1-G5	ACDEFH	CKLM-N	12AV7
12AW6	12.6	10	36	B2-C2-D4-E1-H2		EKLM-N	12AW6

12AW6

12SH7

18

28D7

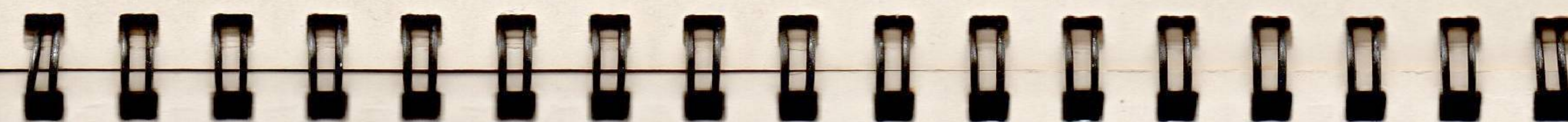
75-DIO

1231

5690

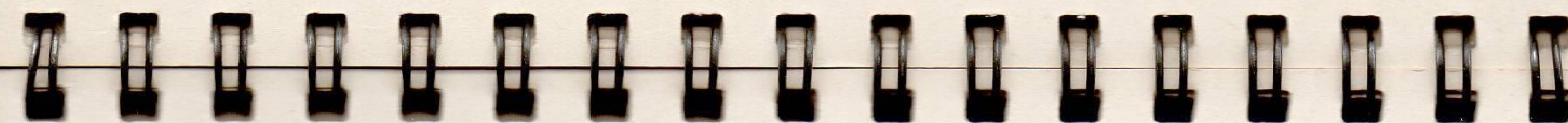
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TUBE	FIL.	BIAS	RANGE	SELECTORS	PUSH BUTTONS		TUBE
					SHORT	QUALITY	
12AX4	12.6		20	C2-E1-H4	CE	ELM-N	12AX4
12AX7-TRI 1	12.6	0	64	C1-G5	ACDEFH	DKLM-N	12AX7
12AX7-TRI 2	"	"	"	"	"	CKLM-N	12AX7
12AY7-TRI 1	12.6	14	61	D1-G5	ACDEFH	DKLM-N	12AY7
12AY7-TRI 2	12.6	14	61	D1-G5	"	CKLM-N	12AY7
12AZ7-TRI 1	12.6	12	32	D1-G5	ACDEFH	DKLM-N	12AZ7
12AZ7-TRI 2	"	"	"	"	"	CKLM-N	12AZ7
12B4	12.6	34	70	C2-E5-F5-G2	ACG	GKLM-N	12B4
12B7	12.6	11	38	"	CDEFH	CKLM-N	12B7
12B8-PEN	12.6	13	39	C1-E1-H1	ACDEFGH	CKLM-N	12B8
12B8-TRI	"	9	69	" " "-D2	"	EKLM-N	12B8
12BA6	12.6	9	25	B2-C2-D4-E2-H2	BCEHI	EKLM-N	12BA6
12BA7-MIX	12.6	0	38	A3-C1-D2-G2	ACDEFG	GKLM-N	12BA7
12BA7-OSC	12.6	12	41	A0-C1-D2-E3-G2	"	CKLM-N	12BA7
12BD6	12.6	10	36	B2-C2-D4-E2-H2	BCEHI	EKLM-N	12BD6
12BE6-OSC	12.6	0	43	B2-C2-D4-E2-H2	BCEHI	HKLM-N	12BE6
12BE6-MIX	"	13	52	B1- " " " "-I1	"	EKLM-N	12BE6
12BF6-TRI	12.6	23	66	B2-C2-D4-E3-I3	BCEHI	IKLM-N	12BF6
12BF6-DIO 1	"	"	9	" " " " "	"	HM-N	12BF6
12BF6-DIO 2	"	"	"	" " " " "	"	EM-N	12BF6
12BH7-TRI 1	12.6	29	61	D1-G5	ACDEFH	DKLM-N	12BH7
12BH7-TRI 2	12.6	29	61	D1-G5	"	CKLM-N	12BH7
12BK6-TRI	12.6	12	25	B2-C2-D4-E3-I3	BCEHI	IKM-N	12BK6
12BK6-DIO 1	12.6	"	9	B2-C2-D4-E3-I3	"	HM-N	12BK6
12BK6-DIO 2	12.6	"	9	B2-C2-D4-E3-I3	"	EM-N	12BK6
12BN6	12.6	15	30	B1-C3-D4-E1-I2	BCEHI	IKM-N	12BN6
12BT6	12.6	16	50	B2-C2-D4-E3-I3	BCEHI	IKM-N	12BT6
12BT6-DIO 1	12.6	"	9	B2-C2-D4-E3-I3	"	HM-N	12BT6
12BT6-DIO 2	12.6	"	9	B2-C2-D4-E3-I3	"	EM-N	12BT6
12BU6-TRI	12.6	23	62	B2-C2-D4-E3-I3	BCEHI	IKLM-N	12BU6
12BU6-DIO 1	12.6	"	9	B2-C2-D4-E3-I3	"	HM-N	12BU6
12BU6-DIO 2	12.6	"	9	B2-C2-D4-E3-I3	"	EM-N	12BU6
12BY7	12.6	0	12	C2-D5-E2-G5-H2	ACEFH	EKLM-N	12BY7



TUBE	FIL.	BIAS	RANGE	SELECTORS	PUSH BUTTONS		TUBE
					SHORT	QUALITY	
12BZ7-TRI-1	12.6	15	21	D1-G5	ACDEFH	DKM-N	12BZ7
12BZ7-TRI-2	"	"	"	"	"	CKM-N	12BZ7
12C8-PEN	12.6	12	64	D2-E3-G2	ACDEGH	CKLM-N	12C8
12C8-DIO 1	"	"	9	"	"	EM-N	12C8
12C8-DIO 2	"	"	"	"	"	DM-N	12C8
12E5	12.6	32	24	"	CEH	CKM-N	12E5
12F5	12.6	0	67	"	ADH	DKLM-N	12F5
12G4-TRI	12.6	15	44	B4-D4-E5-H1	H	BKLM-N	12G4
12H6-DIO 1	12.6	"	9	C2-D2-E3	CDEH	EM-N	12H6
12H6-DIO 2	"	"	"	"	"	CM-N	12H6
12J5	12.6	21	52	"	CEH	CKLM-N	12J5
12J7	12.6	13	63	E3	ACDEH	CKLM-N	12J7
12K7	12.6	13	54	E3	ACDEH	CKLM-N	12K7
12K8-MIX	12.6	12	58	"	ACDEGH	CKLM-N	12K8
12K8-OSC	"	28	87	D2-G3	"	GKLM-N	12K8
12L8-PEN 1	12.6	18	50	B1-C3-E1-F1-G4-H2	BCDEFH	HKLM-N	12L8
12L8-PEN 2	"	"	"	" " " " " "	"	DKLM-N	12L8
12Q7-TRI	12.6	0	46	D2-E3	ACDEH	CKLM-N	12Q7
12Q7-DIO 1	"	"	9	"	"	EM-N	12Q7
12Q7-DIO 2	"	"	"	"	"	DM-N	12Q7
12S8-TRI	12.6	0	61	B1-C2-D2-E3-G3-H4	ABCDEFGH	GKLM-N	12S8
12S8-DIO 1	"	"	9	" " " " " "	"	CM-N	12S8
12S8-DIO 2	"	"	"	" " " " " "	"	DM-N	12S8
12S8-DIO 3	"	"	"	" " " " " "	"	FM-N	12S8
12SA7-OSC	12.6	24	85	C1-H4	CDEFGH	DKLM-N	12SA7
12SA7-MIX	"	12	52	C0-H1	"	CKLM-N	12SA7
12SC7-TRI 1	12.6	10	73	B4-C3-D3-E2-H4	BCDEG	EKLM-N	12SC7
12SC7-TRI 2	"	"	"	" " " " " "	"	BKLM-N	12SC7
12SF5	12.6	0	71	B1-C3-E1-H4	BCE	EKLM-N	12SF5
12SF7-PEN	12.6	9	43	B2-C2-E3-G3-H4	BCDEG	GKLM-N	12SF7
12SF7-DIO	"	"	9	" " " " " "	"	EM-N	12SF7
12SG7	12.6	0	24	C2-D3-E5-G2-H3	CDGH	HKLM-N	12SG7
12SH7	12.6	0	26	C2-D3-E5-G2-H3	CDGH	HKLM-N	12SH7

TUBE	FIL.	BIAS	RANGE	SELECTORS	PUSH BUTTONS		TUBE
					SHORT	QUALITY	
12SJ7	12.6	12	44	C2-D3-E3-G2-H3	CDEGH	HKLM-N	12SJ7
12SK7	12.6	13	40	C2-D3-E3-G2-H3	CDEGH	HKLM-N	12SK7
12SL7-TRI 1	12.6	10	62	B4-C2-D3-E2-F1-H4	BCDEFG	EKLM-N	12SL7
12SL7-TRI 2	"	"	"	" " " " " " "	"	BKLM-N	12SL7
12SN7-TRI 1	12.6	21	52	B4-C2-D3-E2-F1-H4	BCDEFG	EKLM-N	12SN7
12SN7-TRI 2	"	"	"	" " " " " " "	"	BKLM-N	12SN7
12SQ7-TRI	12.6	0	67	B2-C2-D2-E3-G3-H4	BCDEG	GKLM-N	12SQ7
12SQ7-DIO 1	"	"	9	" " " " " " "	"	EM-N	12SQ7
12SQ7-DIO 2	"	"	"	" " " " " " "	"	DM-N	12SQ7
12SR7-TRI	12.6	23	66	B2-C2-D2-E3-G3-H4	BCDEG	GKLM-N	12SR7
12SR7-DIO 1	"	"	9	" " " " " " "	"	EM-N	12SR7
12SR7-DIO 2	"	"	"	" " " " " " "	"	DM-N	12SR7
12SW7-TRI	12.6	23	66	B2-C2-D2-E3-G3-H4	BCDEG	GKLM-N	12SW7
12SW7-DIO 1	"	"	9	" " " " " " "	"	EM-N	12SW7
12SW7-DIO 2	"	"	"	" " " " " " "	"	DM-N	12SW7
12SX7-TRI 1	12.6	12	55	B3-C2-D3-E1-F1-H4	BCDEFG	EKLM-N	12SX7
12SX7-TRI 2	"	"	"	" " " " " " "	"	BKLM-N	12SX7
12SY7-MIX	12.6	12	50	H1	CDEFGH	CKLM-N	12SY7
12SY7-OSC	"	0	54	C1-H0	"	DKLM-N	12SY7
12X4-PI	12.6	"	24	B1-D4-H2	BHI	HLM-N	12X4
12X4-P2	"	"	"	B3-D4-H0	"	BLM-N	12X4
12Z3	12.6	"	23	C1-E3	CE	CLM-N	12Z3
12Z5-P 2	12.6	"	24	B5-C4	DGH	DLM-N	12Z5
12Z5-P 1	"	"	"	" " " " " " "	"	HLM-N	12Z5
14A4	12.6	21	50	" " " " " " "	CEH	CKLM-N	14A4
14A5	12.6	29	32	D1	CDEH	CKLM-N	14A5
14A7	12.6	11	38	"	CDEFH	CKLM-N	14A7
14AF7-TRI 1	12.6	24	65	C2-D1-E2-F1-G1	CDEFGH	DKLM-N	14AF7
14AF7-TRI 2	"	"	"	" " " " " " "	"	EKLM-N	14AF7
14B6-TRI	12.6	10	83	D3-E3-H5	CDEFG	CKLM-N	14B6
14B6-DIO 1	"	"	9	" " " " " " "	"	EM-N	14B6
14B6-DIO 2	"	"	"	" " " " " " "	"	DM-N	14B6
14B8-MIX	12.6	12	41	D2-F1-G2	CDEFGH	CKLM-N	14B8

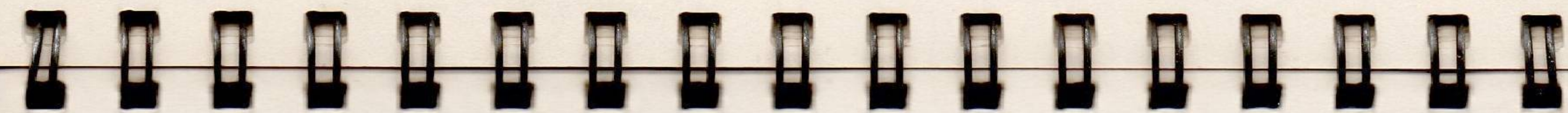


TUBE	FIL.	BIAS	RANGE	SELECTORS	PUSH BUTTONS		TUBE
					SHORT	QUALITY	
14B8-OSC	12.6	17	36	D0-F1-G2-E4	"	DKM-N	14B8
14C5	12.6	20	28	D1	CDEH	CKLM-N	14C5
14C7	12.6	12	43	"	CDEFH	CKLM-N	14C7
14E6-TRI	12.6	23	68	D3-E3-F5	CDEGH	CKLM-N	14E6
14E6-DIO 1	"	"	9	" " " " " " "	"	EM-N	14E6
14E6-DIO 2	"	"	"	" " " " " " "	"	GM-N	14E6
14E7-PEN	12.6	12	58	D2-G2	CDEFGH	CKLM-N	14E7
14E7-DIO 1	"	"	9	" " " " " " "	"	FM-N	14E7
14E7-DIO 2	"	"	"	" " " " " " "	"	DM-N	14E7
14F7-TRI 1	12.6	10	64	C2-D1-E2-F1-G1	CDEFGH	EKLM-N	14F7
14F7-TRI 2	"	"	"	" " " " " " "	"	DKLM-N	14F7
14F8-TRI 1	12.6	0	28	B2-C4-D1-E2-I1	BDEFGI	EKLM-N	14F8
14F8-TRI 2	"	"	"	" " " " " " "	"	DKLM-N	14F8
14H7	12.6	0	20	"	CDEFH	CKLM-N	14H7
14J7-MIX	12.6	12	57	F1-G2	CDEFGH	CKLM-N	14J7
14J7-OSC	"	0	77	" " " " " " "	"	DKLM-N	14J7
14N7-TRI 1	12.6	21	56	C2-D1-E2-F1-G1	CDEFGH	EKLM-N	14N7
14N7-TRI 2	"	"	"	" " " " " " "	"	DKLM-N	14N7
14Q7-MIX	12.6	10	38	F1	CDEFGH	CKLM-N	14Q7
14Q7-OSC	"	"	47	" " " " " " "	"	DKLM-N	14Q7
14R7-PEN	12.6	9	33	D2-G2	CDEFGH	CKLM-N	14R7
14R7-DIO 1	"	"	9	" " " " " " "	"	FM-N	14R7
14R7-DIO 2	"	"	"	" " " " " " "	"	DM-N	14R7
14S7-MIX	12.6	10	41	F1-G2	CDEFGH	CKLM-N	14S7
14S7-OSC	"	0	21	" " " " " " "	"	DKM-N	14S7
14W7	12.6	0	20	H5	CDEFG	CKLM-N	14W7
14X7-TRI	12.6	0	63	D3-E3	CDEFGH	CKLM-N	14X7
14X7-DIO 1	"	"	9	" " " " " " "	"	GM-N	14X7
14X7-DIO 2	"	"	"	" " " " " " "	"	EM-N	14X7
14Y4-P 2	12.6	"	25	E3	DEH	DLM-N	14Y4
14Y4-P 1	"	"	"	D2-E1	"	ELM-N	14Y4
15	2.0	19	49	C1-E1	ACDH	CKM-N	15
18	12.6	35	40	D1-G1	CDG	CKLM-N	18

TUBE	FIL.	BIAS	RANGE	SELECTORS	PUSH BUTTONS		TUBE
					SHORT	QUALITY	
19-TRI 1	2.0	12	90	C1-D3-G1-H2	CDGH	HKLM-N	19
19-TRI 2	"	"	"	" " " "		CKLM-N	19
19BG6	12.6	55	35	A2-C2-H3	ACEH	AKLM-N	19BG
19C8-TRI	12.6	12	71	A3-C2-D2-E3-G2-H1	ACDEFGH	GKM-N	19C8
19C8-DIO 1	12.6		9	A3-C2-D2-E3-G2-H1		DM-N	19C8
19C8-DIO 2	12.6		9	A3-C2-D2-E3-G2-H1		AM-N	19C8
19C8-DIO 3	12.6		9	A3-C2-D2-E3-G2-H1		CM-N	19C8
19J6-TRI 1	12.6	13	67	B3-C1-D4-H1	BCEHI	BKLM-N	19J6
19J6-TRI 2	12.6	13	67	B3-C1-D4-H1		CKLM-N	19J6
19T8-TRI	12.6	0	27	A5-C5-D5-E3-G2-H1	ACDEFGH	GKM-N	19T8
19T8-DIO 1	"	"	9	" " " " " " "		DM-N	19T8
19T8-DIO 2	"	"	"	" " " " " " "		AM-N	19T8
19T8-DIO 3	"	"	"	" " " " " " "		CM-N	19T8
19V8-TRI	12.6	16	83	A3-D3-E3	ACDEFGH	CKM-N	19V8
19V8-DIO 1	"		9	" " " "		GM-N	19V8
19V8-DIO 2	"		"	" " " "		EM-N	19V8
19V8-DIO 3	"		"	" " " "		AM-N	19V8
20	3.0	65	78	C1	CE	CKM-N	20
22	3.0	20	34	E1	ACE	CKM-N	22
24A	2.5	12	64	E1	ACEH	CKLM-N	24A
25A6	25	39	41	C1	CDEH	CKLM-N	25A6
25A7-PEN	25	39	48	C1	CDEFGH	CKLM-N	25A7
25A7-REC	"	"	22	C1-D2-G2		GLM-N	25A7
25AC5	25	0	47		CEH	CKLM-N	25AC5
25AV5	25	46	24	C2-E2-F1-H2	CEFH	EKLM-N	25AV5
25AX4	25.0	0	20	C2-E1-I4	E	ELM-N	25AX4
25B5	25	0	60	C1-G1	CDGH	CKLM-N	25B5
25B6	25	61	33	C1	CDEH	CKLM-N	25B6
25B8-PEN	25	13	39	C1-E1-H1	ACDEFGH	CKLM-N	25B8
25B8-TRI	"	9	69	" " " "-D2		EKLM-N	25B8
25BQ6	25	50	30	A2	ADEH	AKLM-N	25BQ6
25C6	25	32	25	C1	CDEH	CKLM-N	25C6
25D8-PEN	25	13	40	C1-G2	ACDEFGH	CKLM-N	25D8

TUBE	FIL.	BIAS	RANGE	SELECTORS	PUSH BUTTONS		TUBE
					SHORT	QUALITY	
25D8-TRI	25	9	31	C1-G2-D2		GKM-N	25D8
25D8-DIO	"	"	9	" " " "		HM-N	25D8
25L6	25	23	16		CDEH	CKLM-N	25L6
25N6	25	0	60	C1	CDEH	CKLM-N	25N6
25S-TRI	2.0	12	33	C1-D2-H1	CDGH	CKM-N	25S
25S-DIO 1	"	"	12	" " " "		DM-N	25S
25S-DIO 2	"	"	"	" " " "		GM-N	25S
25W4	25		19	C2-E1-H4	CE	ELM-N	25W4
25X6-P 1	25		24	C2-D2-E1	CDEH	ELM-N	25X6
25X6-P 2	"		"	C1-D2-E3		CLM-N	25X6
25Y5-P 2	25		25	C1-D2	CDGH	CLM-N	25Y5
25Y5-P 1	"		"	C2-D2-H2		HLM-N	25Y5
25Z5-P 2	25		23	C1-D2	CDGH	CLM-N	25Z5
25Z5-P 1	"		"	C2-D2-H2		HLM-N	25Z5
25Z6-P 1	25		22	C2-D2-E1	CDEG	ELM-N	25Z6
25Z6-P 2	"		"	C1-D2-E3		CLM-N	25Z6
26	1.4	25	29	C1	CE	CKM-N	26
26A6	25	15	46	B2-C1-D4-E1-H2	BCEHI	EKM-N	26A6
26A7-PEN 1	25	71	51	B1-C3-E1-F1-G4-H2	BCDEFH	HKLM-N	26A7
26A7-PEN 2	"	"	"	" " " " " " "		DKLM-N	26A7
26BK6-TRI	25	15	51	B2-C2-D4-E3-I3	BCEHI	IKM-N	26BK6
26BK6-DIO 1	"		9	" " " " " "		HM-N	26BK6
26BK6-DIO 2	"		"	" " " " " "		EM-N	26BK6
26C6-TRI	25	0	65	B2-C2-D4-E3-I2	BCEHI	IKLM-N	26C6
26C6-DIO 1	"	"	9	" " " " " "		HM-N	26C6
26C6-DIO 2	"	"	"	" " " " " "		EM-N	26C6
26D6-MIX	25	10	41	B2-C2-D4-E1-H2-I1	BCEHI	EKLM-N	26D6
26D6-OSC	"	15	49	" " " " " " I4		HKLM-N	26D6
26Z5-W-P1	25		21	C2-G5	CDFH	DLM-N	26Z5W
26Z5W-P 2	"		"	C1-G5-D3		CLM-N	26Z5W
27	2.5	44	31		CEH	CKM-N	27
28D7-PEN 1	25	58	62	C3-E3-F2-G2-H1	CDEFGH	GKLM-N	27D7
28D7-PEN 2	"	"	"	" " " " " "		FKLM-N	28D7

TUBE	FIL.	BIAS	RANGE	SELECTORS	PUSH BUTTONS		TUBE
					SHORT	QUALITY	
30	2.0	23	35	C1	CE	CKM-N	30
31	2.0	44	43	C1	CE	CKM-N	31
32	2.0	17	46	C1-E1	ACE	CKM-N	32
32L7-AMP	30	25	24	C1	CDEFGH	CKLM-N	32L7
32L7-REC	"	"	22	C1-D2-G2		GLM-N	32L7
33	2.0	30	55	C1-H2	CEH	CKLM-N	33
34	2.0	10	47	C1-E1	ACE	CKM-N	34
35/51	2.5	14	70	E1	ACEH	CKLM-N	35/51
35A5	35	23	19		CDEH	CKLM-N	35A5
35B5	35	24	23	B2-C2-D4-E1-H2-I5	BCEH	EKLM-N	35B5
35C5	35	24	23	B1-C3-D4-E5-H2-I2	BCHI	IKLM-N	35C5
35L6	35	23	19		CDEH	CKLM-N	35L6
35W4	35		20	D4-E1-H5	EI	ELM-N	35W4
35Y4	35		20	C1-F5	CH	CLM-N	35Y4
35Z3	35		20	C1	CH	CLM-N	35Z3
35Z4	35		21	E1	EH	ELM-N	35Z4
35Z5	35		20	C5-E1	EH	ELM-N	35Z5
35Z6-P 1	35		20	C1-D3-E3	CDEH	CLM-N	35Z6
35Z6-P 2	"		"	C2-D3-E1		ELM-N	35Z6
36	6.3	14	63	E1	ACEH	CKLM-N	36
37	6.3	39	29		CEH	CKM-N	37
38	6.3	54	78	E2	ACEH	CKLM-N	38
39/44	6.3	14	69	E1	ACEH	CKLM-N	39/44
41	6.3	38	42	D1-G1	CDGH	CKLM-N	41
42	6.3	26	40	D1-G1	CDGH	CKLM-N	42
43	25	39	41	C1-G1	CDGH	CKLM-N	43
44/39	6.3	14	69	E1	ACEH	CKLM-N	44/39
45	2.5	52	32	C1	CE	CKM-N	45
45Z3	45		23	C1-D2-G5-H5	CD	CLM-N	45Z3
45Z5/40Z5	45		21	C5-E1	EH	ELM-N	45Z5
46	2.5	67	65	H3	CEH	CKLM-N	46
47	2.5	36	38	H3	CEH	CKLM-N	47
48	30	41	39	C1-G1	CDGH	CKLM-N	48



TUBE	FIL.	BIAS	RANGE	SELECTORS	PUSH BUTTONS		TUBE
					SHORT	QUALITY	
49	2.0	39	24	C1-H2	CEH	CKM-N	49
50	7.5	88	31		CEH	CKM-N	50
50A5	50	23	15		CDEH	CKLM-N	50A5
50B5	50	22	19	B5-C2-D4-E1-H2-I1	CEHI	EKLM-N	50B5
50C5	50	22	19	B1-C3-D4-E5-H2-I2	BCHI	IKLM-N	50C5
50C6	50	39	24		CDEH	CKLM-N	50C6
50L6	50	23	15		CDEH	CKLM-N	50L6
50X6-P 1	50		21	C2-E3	CDEH	DLM-N	50X6
50X6-P 2	"		"	"-E1-D2		ELM-N	50X6
50Y6-P 1	50		22	C2-D2-E1	CDEH	ELM-N	50Y6
50Y6-P 2	"		"	C1-D2-E3		CLM-N	50Y6
50Y7-P 1	50		20	C2-D2-E1-G5	CDEH	ELM-N	50Y7
50Y7-P 2	50		20	C1-D2-E3-G5		CLM-N	50Y7
50Z7-P 1	50		22	C2-D2-E1-G5	CDEH	ELM-N	50Z7
50Z7-P 2	"		"	C1- "-E3- "		CLM-N	50Z7
51/35	2.5	14	70	E1	ACEH	CKLM-N	51/35
52	6.3	12	63	C1-H2	CEH	CKLM-N	52
53-TRI 1	2.5	14	61	D2-G1-H3	CDEGH	CKLM-N	53-
53-TRI 2	"	"	"	" " "		HKLM-N	53
55-TRI	2.5	41	29	D2	ACDGH	CKM-N	55
55-DIO 1	"	"	9	"		GM-N	55
55-DIO 2	"	"	"	"		DM-N	55
56	2.5	32	24		CEH	CKM-N	56
57	2.5	13	63		ACDGH	CKLM-N	57
58	2.5	13	46		ACDGH	CKLM-N	58
59	2.5	38	43	D3-E3-G3	CDEGH	CKLM-N	59
70A7-AMP	70	34	33	C1-G5	CDEFH	CKLM-N	70A7
70A7-REC	"	"	50	" "-D2-F1		JLM-N	70A7
70L7-AMP	70	25	18	C1	CDEFGH	CKLM-N	70L7
70L7-REC	"	"	21	C1-D2-H2		HLM-N	70L7
71A	5.0	57	39	C1	CE	CKM-N	71A
75-TRI	6.3	10	25	D2	ACDGH	CKM-N	75
75-DIO 1	1	1	9	"		GM-N	75

TUBE	FIL.	BIAS	RANGE	SELECTORS	PUSH BUTTONS		TUBE
					SHORT	QUALITY	
75-DIO 2	6.3	10	9	D2		DM-N	75
76	6.3	32	23		CEH	CKM-N	76
77	6.3	13	63		ACDGH	CKLM-N	77
78	6.3	12	51		ACDGH	CKLM-N	78
79-TRI 1	6.3	0	58	D3-H3	ACDGH	HKLM-N	79
79-TRI 2	"	"	"	"		CKLM-N	79
80-P 1	5.0		30	C1-E3	CE	CLM-N	80
80-P 2	"		"	C2-E1		ELM-N	80
81	7.5		35	C1	C	CLM-N	81
82-P 1	2.5		20	C2-E1	CE	ELM-N	82
82-P 2	"		"	C1-E3		CLM-N	82
83-P 1	5.0		20	C2-E1	CE	ELM-N	83
83-P 2	"		"	C1-E3		CLM-N	83
83V-P 1	5.0		23	C2-E1	CE	ELM-N	83V-P 1
83V-P 2	"		"	C1-E3		CLM-N	83V-P 2
84 P 1	6.3		25	C2-E1	CEH	ELM-N	84
84 P 2	"		"	C1-E3		CLM-N	84
85-TRI	6.3	41	27	D2	ACDGH	CKM-N	85
85-DIO 1	"	"	9	"		GM-N	85
85-DIO 2	"	"	"	"		DM-N	85
89	6.3	52	53	D1	ACDGH	CKLM-N	89
117L/M7-AMP	117	18	23	C1-D3-E1	CDEFGH	CKLM-N	117L
117L/M7-REC	"	"	22	" " -E0-G2		GLM-N	117L
117N7-AMP	117	20	19	C1-D3-E1	CDEGH	CKLM-N	117N7
117N7-REC	"	"	41	" " -E0-H1		JLM-N	117N7
117P7-AMP	117	18	24	C1-D3-E1	CDEGH	CKLM-N	117P7
117P7-REC	"	"	41	" " -E0-H1		JLM-N	117P7
117Z3	117		21	B5-D4-E1	EH	ELM-N	117Z3
117Z4	117		23	E1	EH	ELM-N	117Z4
117Z6-P 1	117		21	C2-D2-E1	CDEH	ELM-N	117Z6
117Z6-P 2	"		"	C1-D2-E3		CLM-N	117Z6
182B/482B	5.0	35	24		CE	CKM-N	182B
183/483	5.0	60	34		CEH	CKM-N	183

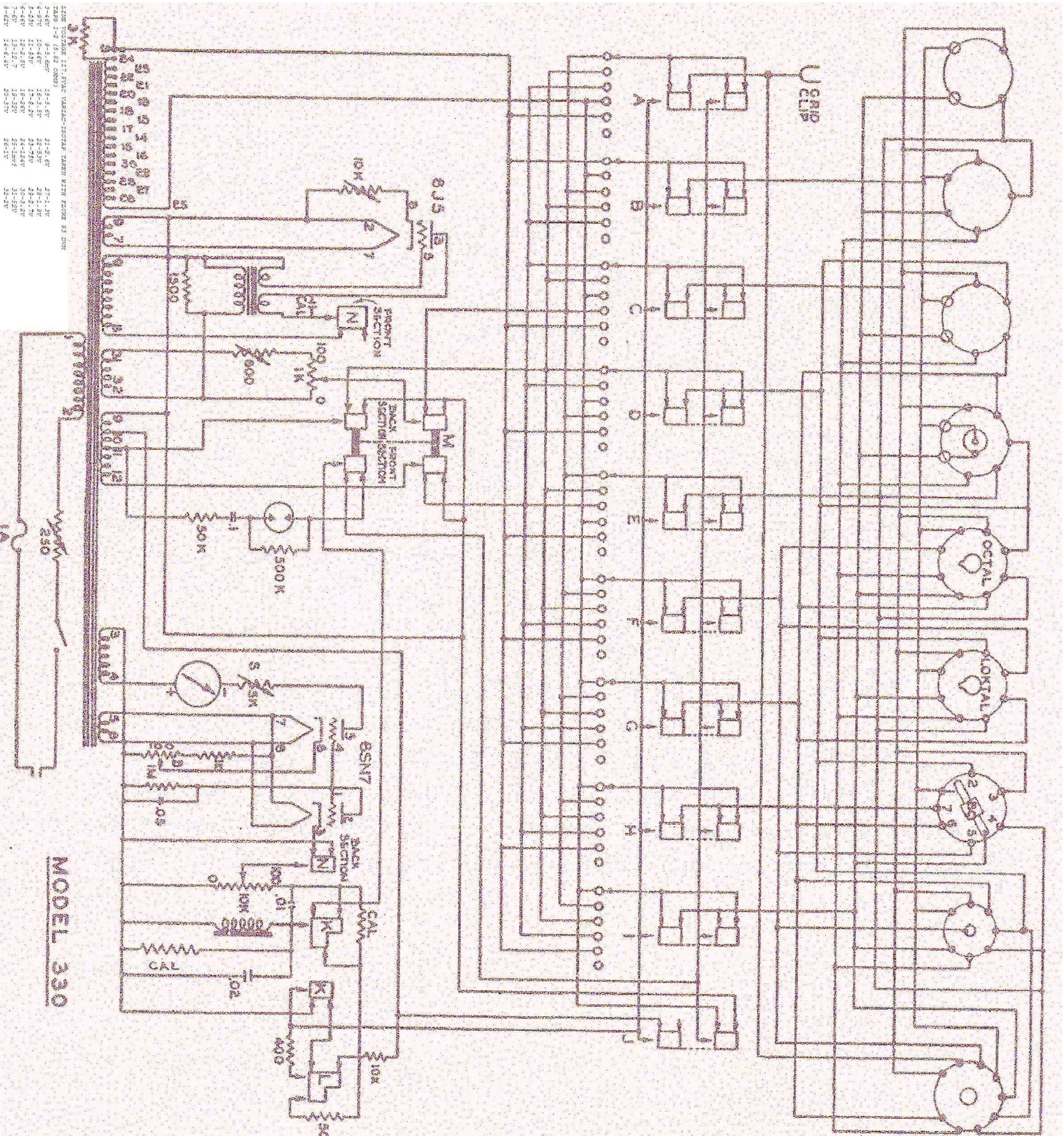
TUBE	FIL.	BIAS	RANGE	SELECTORS	PUSH BUTTONS		TUBE
					SHORT	QUALITY	
257	5.0	49	66	C1-H2	CEH	CKLM-N	257
485	3.0	18	25	C1	CEH	CKM-N	485
502A-NON CON	6.3	35	30	C1	CEGH	CKLM-N	502A
502A-CON	"	19	"	"		CKLM-N	502A
717A	6.3	15	48	C2-D3-E5-G2-H2	CDGH	HKLM-N	717A
807	6.3	50	32	A2	ACEH	AKLM-N	807
864	1.1	18	41	C1	CE	CKM-N	864
874			75	B1-C2-E1		ELM-N	874
884-NON-CON	6.3	50	20	C1		CLM-N	884
884-CON	"	35	"	"		CLM-N	884
885-NON-CON	2.5	50	20	C1		CLM-N	885
885-CON	"	35	"	"		CLM-N	885
950	2.0	32	72	C1-H2	CEH	CKLM-N	950
951	2.0	17	27	C1-E1	ACE	CKM-N	951
954	6.3	13	48	C1-E3-F3-I1	CEFHI	FKLM-N	954
954	Special lead plugged into center of 7 pin to top cap.				MIN. socket and connected		
955	6.3	19	52		CEH	CKLM-N	955
956	6.3	13	40	C1-E3-F3-I1	CEFH	FKLM-N	956
956	Special lead plugged into center of 7 pin to top cap.				MIN. socket and connected		
957	1.1	15	43	C1	CE	CKM-N	957
958	1.1	19	24	C1	CE	CKM-N	958
959	1.1	17	30	C1-E3-F2-I1	CEFI	FKM-N	959
959	Special lead plugged into center of 7 pin to top cap.				MIN. socket and connected		
1201	6.3	14	37	B2-C4-D1-E5-G5-H5	BDF	DKLM-N	1201
1203A-DIO	6.3		9		FH	FM-N	1203A
1204	6.3	14	67	B3-C4-D1-E5-G1-I5	BDFG	DKLM-N	1204
1221	6.3	13	60		ACDGH	CKLM-N	1221
1223	6.3	13	60	E3	ACDGH	CKLM-N	1223
1229	2.0	33	33	E1	ACE	CKM-N	1229
1231	6.3	0	20		CDEFH	CKLM-N	1231

TUBE	FIL.	BIAS	RANGE	SELECTORS	PUSH BUTTONS		TUBE
					SHORT	QUALITY	
1232	6.3	10	22	B1-E2	CDEFH	CKLM-N	1232
1267			16		BEI	ELM-N	1267
1273	6.3	17	29		CDEFH	CKM-N	1273
1280	12.6	17	29		CDEFH	CKM-N	1280
1291/3B7-TRI 1	2.5	13	67	C1-D3-F5-H2	CDEH	CKLM-N	1291
1291/3B7-TRI 2	"	"	"	"	"	HKLM-N	1291
1293	1.4	16	25	C1	CE	CKM-N	1293
1294-DIO	1.4		9		FH	FM-N	
1299	2.5	18	34	C1-H5	CDE	CKLM-N	1299
1602	7.5	48	70		CE	CKLM-N	1602
1603	6.3	13	63	C1-H2	ACDGH	CKLM-N	1603
1609	1.1	11	26		CEH	CKM-N	1609
1612	6.3	11	59		ACDEH	CKLM-N	1612
1614	6.3	50	32		CDEH	DKLM-N	1614
1619	2.5	32	26	A3-D1	CDEFH	CKLM-N	1619
1620	6.3	13	63	E3	ACDEH	CKLM-N	1620
1621	6.3	37	40	D1	CDEH	CKLM-N	1621
1622	6.3	32	21	D1	CDEH	CKLM-N	1622
1624	2.5	32	26	A2	ACE	AKLM-N	1624
1625	12.6	50	32	A2-D3-G3	ADGH	AKLM-N	1625
1626	12.6	70	28	C2-D1	CEH	CKM-N	1626
1629-OPEN	12.6	0	20		CDEH	KM	1629
1629-CLOSED	"	"	"	C0-	"	CKM-N	1629
1631	12.6	32	21	D1	CDEH	CKLM-N	1631
1632	12.6	23	16		CDEH	CKLM-N	1632
1633-TRI 1	25	21	52	B4-C2-D3-E2-F1-H4	BCDEFG	EKLM-N	1633
1633-TRI 2	"	"	"	"	"	BKLM-N	1633
1634-TRI 1	12.6	10	71	B4-C3-D3-E2-H4	BCDEG	EKLM-N	1634
1634-TRI 2	"	"	"	"	"	BKLM-N	1634
1635-TRI 1	6.3	0	35	C1-D3-G2	CDEGH	GKM-N	1635
1635-TRI 2	"	"	"	"	"	CKM-N	1635
1642-TRI 1	6.3	36	91	C2-D3-E2-G3	ACDEGH	EKLM-N	1642
1642-TRI 2	"	"	"	"	"	GKLM-N	1642

TUBE	FIL.	BIAS	RANGE	SELECTORS	PUSH BUTTONS		TUBE
					SHORT	QUALITY	
1644-PEN-1	12.6	18	48	B1-C3-E1-F1-G4-H2	BCDEPH	HKLM-N	1644
1644-PEN 2	"	"	"	"	"	DKLM-N	1644
1654	1.4		19	A3-C2	A	AM-N	1654
1851	6.3	13	32	C1-E3	ACDEH	CKLM-N	1851
1852	6.3	10	22	C2-D3-E3-G2-H2	CDEGH	HKLM-N	1852
1853	6.3	11	17	C2-D3-E3-G3-H3	CDEGH	HKLM-N	1853
2050-NON-CON	6.3	20	18	C1	CEGH	CLM-N	2050
2050-CON	"	10	"	"	"	CLM-N	2050
2051-NON-CON	6.3	20	20	C1	CEGH	CLM-N	2051
2051-CON	"	10	"	"	"	CLM-N	2051
5516	6.3	28	27	A2-C1-D5-F5-G5	ACE	AKLM-N	5516
5517-NON-CON	S		55	A1-B1-C5-D3-H5-I5	AD	ALM-N	5517
5517-CON	S		55	A1-B1-C5-D4-H5-I5	"	ALM-N	5517
5608-P1	2.5	20	85	D2-G1-H3	CDEGH	HKLM-N	5608
5608-P2	2.5	20	85	D2-G1-H3		CKLM-N	5608
5610	6.3	19	67	B3-C2-D4-E5-H1	BCH	BKLM-N	5610
5618	6.3	10	25	B1-D2-E5-H1-I4	CDGH	CKLM-N	5618
5642	1.1	0	9	A3-C4	A	AM-N	5642
Insert filament leads into outside pin connections (#1 and #7) of 7 pin sub-miniature socket. Test on diode scale.							
5651			72	B3-C2-D5-E5-I5	BC	BLM-N	5651
5654	6.3	17	52	B2-C2-D4-E1-H2-I5	BCEH	EKLM-N	5654
5662-NON-CON	6.3	25	19	B2-C2-D4-E5-H5-I2	BCI	ILM-N	5662
5662-CON	6.3	0	19	B2-C2-D4-E5-H5-I2	"	ILM-N	5662
5663-NON-CON	6.3	25	18	B2-C2-D4-I2	BCEI	ILM-N	5663
5663-CON	6.3	0	18	B2-C2-D4-I2		ILM-N	5663
5670-TRI 1	6.3	15	77	A3-B3-C4-F1	ABDEFH	DKLM-N	5670
5670-TRI 2	6.3	15	77	A3-B3-C4-F1	CDEH	BKLM-N	5670
5679-DIO 1	6.3		9	C2-D2-E3-F5		EM-N	5679
5679-DIO 2	6.3		9	C2-D2-E3-F5		DM-N	5679
5687-TRI 1	12.6	36	61	D2-G3-H5	ACDEFG	GKLM-N	5687
5687-TRI 2	12.6	36	61	D2-G3-H5		CKLM-N	5687
5690-P1	6.3	0	20	B1-C1-D2-E1-F4		CLM-N	5690

TUBE	FIL.	BIAS	RANGE	SELECTORS	PUSH BUTTONS		TUBE
					SHORT	QUALITY	
1232	6.3	10	22	B1-E2	CDEFH	CKLM-N	1232
1267			16		BEI	ELM-N	1267
1273	6.3	17	29		CDEFH	CKM-N	1273
1280	12.6	17	29		CDEFH	CKM-N	1280
1291/3B7-TRI 1	2.5	13	67	C1-D3-F5-H2	CDEH	CKLM-N	1291
1291/3B7-TRI 2	"	"	"	"	"	HKLM-N	1291
1293	1.4	16	25	C1	CE	CKM-N	1293
1294-DIO	1.4		9		FH	FM-N	
1299	2.5	18	34	C1-H5	CDE	CKLM-N	1299
1602	7.5	48	70		CE	CKLM-N	1602
1603	6.3	13	63	C1-H2	ACDGH	CKLM-N	1603
1609	1.1	11	26		CEH	CKM-N	1609
1612	6.3	11	59		ACDEH	CKLM-N	1612
1614	6.3	50	32		CDEH	DKLM-N	1614
1619	2.5	32	26	A3-D1	CDEFH	CKLM-N	1619
1620	6.3	13	63	E3	ACDEH	CKLM-N	1620
1621	6.3	37	40	D1	CDEH	CKLM-N	1621
1622	6.3	32	21	D1	CDEH	CKLM-N	1622
1624	2.5	32	26	A2	ACE	AKLM-N	1624
1625	12.6	50	32	A2-D3-G3	ADGH	AKLM-N	1625
1626	12.6	70	28	C2-D1	CEH	CKM-N	1626
1629-OPEN	12.6	0	20		CDEH	KM	1629
1629-CLOSED	"	"	"		"	CKM-N	1629
1631	12.6	32	21		CDEH	CKLM-N	1631
1632	12.6	23	16	D1	CDEH	CKLM-N	1632
1633-TRI 1	25	21	52	B4-C2-D3-E2-F1-H4	BCDEFG	EKLM-N	1633
1633-TRI 2	"	"	"	"	"	BKLM-N	1633
1634-TRI 1	12.6	10	71	B4-C3-D3-E2-H4	BCDEG	EKLM-N	1634
1634-TRI 2	"	"	"	"	"	BKLM-N	1634
1635-TRI 1	6.3	0	35	C1-D3-G2	CDEGH	GKM-N	1635
1635-TRI 2	"	"	"	"	"	CKM-N	1635
1642-TRI 1	6.3	36	91	C2-D3-E2-G3	ACDEGH	EKLM-N	1642
1642-TRI 2	"	"	"	"	"	GKLM-N	1642

TUBE	FIL.	BIAS	RANGE	SELECTORS	PUSH BUTTONS		TUBE
					SHORT	QUALITY	
1644-PEN-1	12.6	18	48	B1-C3-E1-F1-G4-H2	BCDEPH	HKLM-N	1644
1644-PEN 2	"	"	"	"	"	DKLM-N	1644
1654	1.4		19	A3-C2	A	AM-N	1654
1851	6.3	13	32	C1-E3	ACDEH	CKLM-N	1851
1852	6.3	10	22	C2-D3-E3-G2-H2	CDEGH	HKLM-N	1852
1853	6.3	11	17	C2-D3-E3-G3-H3	CDEGH	HKLM-N	1853
2050-NON-CON	6.3	20	18	C1	CEGH	CLM-N	2050
2050-CON	"	10	"	"	"	CLM-N	2050
2051-NON-CON	6.3	20	20	C1	CEGH	CLM-N	2051
2051-CON	"	10	"	"	"	CLM-N	2051
5516	6.3	28	27	A2-C1-D5-F5-G5	ACE	AKLM-N	5516
5517-NON-CON	S		55	A1-B1-C5-D3-H5-I5	AD	ALM-N	5517
5517-CON	S		55	A1-B1-C5-D4-H5-I5	"	ALM-N	5517
5608-P1	2.5	20	85	D2-G1-H3	CDEGH	HKLM-N	5608
5608-P2	2.5	20	85	D2-G1-H3		CKLM-N	5608
5610	6.3	19	67	B3-C2-D4-E5-H1	BCH	BKLM-N	5610
5618	6.3	10	25	B1-D2-E5-H1-I4	CDGH	CKLM-N	5618
5642	1.1	0	9	A3-C4	A	AM-N	5642
Insert filament leads into outside pin connections (#1 and #7) of 7 pin sub-miniature socket. Test on diode scale.							
5651			72	B3-C2-D5-E5-I5	BC	BLM-N	5651
5654	6.3	17	52	B2-C2-D4-E1-H2-I5	BCEH	EKLM-N	5654
5662-NON-CON	6.3	25	19	B2-C2-D4-E5-H5-I2	BCI	ILM-N	5662
5662-CON	6.3	0	19	B2-C2-D4-E5-H5-I2	"	ILM-N	5662
5663-NON-CON	6.3	25	18	B2-C2-D4-I2	BCEI	ILM-N	5663
5663-CON	6.3	0	18	B2-C2-D4-I2	"	ILM-N	5663
5670-TRI 1	6.3	15	77	A3-B3-C4-F1	ABDEFH	DKLM-N	5670
5670-TRI 2	6.3	15	77	A3-B3-C4-F1	"	BKLM-N	5670
5679-DIO 1	6.3		9	C2-D2-E3-F5	CDEH	EM-N	5679
5679-DIO 2	6.3		9	C2-D2-E3-F5		DM-N	5679
5687-TRI 1	12.6	36	61	D2-G3-H5	ACDEFG	GKLM-N	5687
5687-TRI 2	12.6	36	61	D2-G3-H5		CKLM-N	5687
5690-P1	6.3	0	20	B1-C1-D2-E1-F4		CLM-N	5690



MODEL 300