

JACKSON

Electronic Test Equipment

TUBE TEST DATA

MODELS 634 AND 637

TUBE TESTERS

THE JACKSON ELECTRICAL INSTRUMENT CO.

DAYTON, OHIO

Printed in U.S.A.

TM Reg. U.S. Pat. Off.

CROSS REFERENCE

Of Equivalent or Similar Types
Consult Listing under Column Two
for Test Settings

11F3	.....	1LE3	1621	.....	6F6
4S	.....	2S	1622	.....	6L6
6AJ7	.....	6AC7	1634	.....	12SC7
6AK7	.....	6AG7	1642	.....	2C21
6G5	.....	6U5	1649	.....	6AC7
6H5	.....	6U5	1655	.....	6SC7
6N5	.....	6AB5	1659	.....	2A6
6Q5	.....	8B4	1662	.....	3A4
6Z3	.....	1Y	1852	.....	6AC7
6Z4	.....	84	1853	.....	6AB7
12B7	.....	14A7	5654	.....	6AK5
12Z5	.....	6Z5	5659	.....	12A6
25S	.....	1B5	5660	.....	12C8
40Z5	.....	45Z5	5661	.....	12SK7
44	.....	39	5670	.....	2C51
51	.....	35	5691	.....	6SL7
G84	.....	2Z2	5692	.....	6SN7
112A	.....	12A	5693	.....	6SJ7
117M7	.....	117L7	5725	.....	6AS6
183	.....	483	5726	.....	6AL5
482B	.....	182B	5727	.....	2D21
502A	.....	2050	5732	.....	6K7
879	.....	2X2	5749	.....	6BA6
951	.....	1B4P	5750	.....	6BE6
1003	.....	0Z4A	5751	.....	12AX7
1201	.....	7E5	5814	.....	12AU7
1203A	.....	7C4	5930	.....	2A3
1204	.....	7AB7	5932	.....	6L6
1206	.....	7G8	5933	.....	807
1221	.....	6C6	6005	.....	6AQ5
1232	.....	7G7	6046	.....	25L6
1282	.....	7W7	6072	.....	12AY7
1291	.....	3B7	6087	.....	5Y3
1294	.....	1R4	6135	.....	6C4
1299	.....	3D6	6136	.....	6AU6
1602	.....	10	6137	.....	6SK7
1603	.....	6C6	6201	.....	12AT7
1610	.....	47	7700	.....	6C6
1611	.....	6F6	8016	.....	1B3
1612	.....	6L7	XXB	.....	3C6
1613	.....	6F6	XXD	.....	14AF7
1614	.....	6L6	XXFM	.....	7X7
1620	.....	6J7	XXL	.....	7A4

**THE JACKSON ELECTRICAL
INSTRUMENT CO.**

Dayton, Ohio

Printed in U.S.A.

For 634

*This section O.K. if meter reads
above 10.

†This section O.K. if meter reads
above 15.

For 637

*This section O.K. if meter reads
above 2 on the O-10 D.C. Scale.

†This section O.K. if meter reads
above 3 on the O-10 D.C. Scale.

Tube Type	Fil.	Pla.	Circuit Test
OA4G	50.G	20	1 RS
			Conducting
			Hold RS and Set Fil. to 70.G
			Non-Conducting
OY4	—	18	4 S
			Shows Shorted at 7.
OZ3	—	20	2 S
		20	3 S
OZ4A	—	20	2 S
1003	—	20	4 S
1A3*	1.4G	60	2 JQJ
			Shows Shorted at 1, 2, 5 & 6.
1A4	2.0	50	2 JLQ
1A5	1.4	60	2 JLMR
1A6	2.0	55	2 MPQ
*		80	3 MPQ
1A7	1.4	55	2 JLQ
*		80	6 MQ
1AB5	1.4	82	2 JLOR
			Shows Shorted at 7.
1AE4	1.4G	63	2 JLOR
			Shows Shorted at 1 & 5.
1AF4	1.4G	57	2 JLOQ
			Shows Shorted at 1 & 5.
1AF5	1.4	56	5 JMOQ
		67	3 Q
1AX2†	1.4	98	8 S
			USE X SOCKET
1B3	1.4	88	8 Q
8016			
			May Show Shorted at 2, 4, 5, & 7.
1B4P	2.0	50	2 JLQ
1B5	2.0	65	2 PQ
255		65	3 Q
		65	4 Q
1B7	1.4	55	2 JLQ
		75	6 JLMQ
1B8	1.4	48	2 JLMR
		65	6 Q
		65	7 Q
1C3*	1.4	95	2 MOR
			Shows Shorted at 2, 6.
1C5	1.4	45	2 JLMR
1C6	2.0	50	2 MPQ
		100	3 MPQ
1C7	2.0	50	2 JLMQ
		100	6 JLMQ
1C21	.75	40	4 S
1D5	2.0	50	2 JLQ
1D7	2.0	55	2 JLMQ
*		80	6 JLMQ
1D8	1.4	45	2 JLMR
		80	6 Q
		65	7 Q
1E4	1.4	90	2 MR
1E5	2.0	50	2 JLQ
1E7	2.0	67	2 LPR
		67	6 MPR
1F4	2.0	55	2 LPR
1F5	2.0	55	2 JLMR
1F6	2.0	100	2 JLR
		65	4 Q
		65	7 Q
1F7	2.0	100	2 JLR
		65	3 Q
		65	4 Q
1G4	1.4	80	2 MR
1G5	2.0	45	2 JLMR

1G6	1.4	65	2 LQ
		65	6 MQ
1H4	2.0	80	2 MR
1H5	1.4	90	2 Q
		65	4 Q
1H6	2.0	65	2 OQ
		65	3 Q
		65	4 Q
1J5	2.0	55	2 JLMR
1J6	2.0	62	2 LQ
		62	6 MQ
1L4	1.4G	55	2 JLOQ
			Shows Shorted at 1 & 5.
1L6	1.4	55	2 JNOQ
		80	3 MNQ
1LA4	1.4	60	2 JLOR
1LA6	1.4	55	2 JNOQ
		100	3 MNQ
1LB4	1.4	50	2 JLOR
1LC5	1.4	90	2 JLOR
			Shows Shorted at 5.
1LC6	1.4	100	2 JNOR
		60	3 MNQ
1LD5	1.4	100	2 JLOR
		65	4 Q
1LE3	1.4	100	2 OR
1LG5	1.4	75	2 JLOR
			Shows Shorted at 5.
1LH4	1.4	80	2 OQ
		65	4 Q
1LN5	1.4	60	2 JLOQ
			Shows Shorted at 5.
1N5	1.4	55	2 JLQ
1N6	1.4	65	2 JLMR
		65	6 Q
1P5	1.4	55	2 JLQ
1Q5	1.4	41	2 JLMR
1R4	1.4	55	4 Q
1294			
1R5	1.4G	55	2 JLOQ
		55	3 MQ
			Shows Shorted at 1 & 5.
1S4	1.4G	95	2 LMOQ
			Shows Shorted at 1, 2, 5 & 6.
1S5	1.4	54	5 JMOQ
		65	3 Q
1SA6	1.4	50	7 LOR
1SB6	1.4	66	2 JLPQ
		78	4 Q
1T4	1.4G	55	2 JLOQ
			* Shows Shorted at 1 & 5.
1T5	1.4	47	2 JLMR
1U4	1.4G	57	2 JLOQ
			Shows Shorted at 1 & 5.
1U5	1.4	57	2 JLOQ
		65	4 Q
1U6	1.4	73	3 JMQ
		59	2 JNQ
1V	6.3	30	2 R
1V2	.75	100	7 S
1W4	1.4	52	2 JLOR
1X2	1.4	55	8 S
			USE Y SOCKET
2A3	2.5	20	2 LS
2A4	2.5	16	2 S
			Shows Shorted at 4.
2A5	2.5	27	2 JLMS
2A6	2.5	50	2 Q
		65	3 Q
		65	4 Q

2A7	2.5	75	2 JLS
		65	4 OQ
2B6	2.5	60	2 MS
		100	3 OS
			Shows Shorted at 6.
2B7	2.5	60	2 JLS
		65	4 Q
		65	6 Q
2C21	6.3	32	3 S
		32	6 MS
2C50	12.6F	25	1 NS
		25	4 LS
2C51	6.3A	45	1 S
		45	4 S
			Shows Shorted at 7.
2C52	12.6F	62	1 NS
		62	4 LS
2D21	6.3	16	4 S
			Conducting
			Hold S and Push O Button
			Non-conducting
			Shows Shorted 2 & 5
			USE X SOCKET
2E5	2.5	70	2 LS
		Vis. —	4 S
2E24	3.3	35	8 JKS
			Shows Shorted at 3, 5, 6.
		3.3G	35
			8 JKS
			Shows Shorted at 1, 3, 5, 6.
			Test each half of fil. separate.
2E26	6.3	20	8 JKS
			Shows Shorted at 3, 5, 6.
2E30	3.3G	30	5 JOS
			Shows Shorted at 3, 4.
2G5	2.5	70	2 LS
		Vis. —	4 S
2S	2.5	65	2 Q
4S		65	3 Q
2W3	2.5	18	3 S
			Shows Shorted at 7.
2X2	2.5	70	8 S
2Z2	2.5	20	2 S
G84			
3A4	1.4D	47	3 MR
			Shows Shorted at 1, 2 & 6.
3A5	1.4C	50	2 LQ
		50	6 NQ
			Shows Shorted at 1.
3A8	1.4D	55	2 JLQ
		75	6 MQ
		65	7 Q
			Shows Shorted at 1.
3B4	1.4A	55	5 JLR
			Shows Shorted at 4, 6.
		1.4G	55
			5 JLR
			Shows Shorted at 2, 4, 6.
			USE X SOCKET
3B5	1.4F	40	2 JLMR
			Shows Shorted at 1.
3B7	1.4C	40	2 LQ
		40	7 OQ
			Shows Shorted at 1.
3C5	1.4F	45	2 JLMR
			Shows Shorted at 1.
3C6	1.4F	85	3 MR
XXB		85	5 NR
			Shows Shorted at 1.
3D6	1.4F	33	2 JLOR
1299			
			Shows Shorted at 1.
3E5	1.4D	42	2 JLOR
			Shows Shorted at 1.

3E6	1.4D	72	2	JLOR
	Shows Shorted at 1.			
3LE4	1.4F	45	2	JLMR
	Shows Shorted at 1.			
3LF4	1.4F	40	2	JLOR
	Shows Shorted at 1.			
3Q4	1.4D	95	2	LMOQ
	Shows Shorted at 1, 2 & 6.			
3Q5	1.4F	41	2	JLMR
	Shows Shorted at 1.			
3S4	1.4D	95	2	LMOQ
	Shows Shorted at 1, 2 & 6.			
3V4	1.4D	38	2	JLOR
	Shows Shorted at 1.			
4A6	2.0F	55	2	LQ
		55	6	MQ
	Shows Shorted at 1.			
5A6	2.5F	35	2	JMNR
	Shows Shorted at 1, 6, 9.			
5AX4	5.0F	20	3	S
		20	6	S
	Shows Shorted at 1.			
5AZ4	5.0A	18	4	S
		18	6	S
5R4GY	5.0	18	3	S
		18	6	S
	Shows Shorted at 7.			
5T4	5.0	20	3	S
		20	6	S
	Shows Shorted at 7.			
5U4	5.0	18	3	S
		18	6	S
	Shows Shorted at 7.			
5V4	5.0	20	3	S
		20	6	S
	Shows Shorted at 7.			
5W4	5.0	20	3	S
		20	6	S
	Shows Shorted at 7.			
5X3	5.0	20	2	S
		20	3	S
5X4	5.0F	18	2	S
		18	4	S
5Y3	5.0	20	3	S
		20	6	S
	Shows Shorted at 7.			
5Y4	5.0F	22	2	S
		22	4	S
5Z3	5.0	18	2	S
		18	3	S
5Z4	5.0	18	3	S
		18	6	S
	Shows Shorted at 7.			
6A3	6.3	20	2	LS
6A4	6.3	41	2	LPR
LA				
6A5	3.3F	20	2	MS
	Shows Shorted at 1.			
6A6	6.3	56	2	LS
		56	7	OS
6A7	6.3	75	2	JLS
		65	4	OQ
6A8	6.3	75	2	JLS
		65	6	MQ
6AB4	6.3	35	3	MR
	USE X SOCKET			
6AB5	6.3	70	2	LR
6N5	Vis.	—	4	S
6AB6	6.3	55	2	JLMS
6AB7	6.3	35	7	LOS
6AC5	6.3	85	2	MS
6AC6	6.3	32	2	JLMS

6AC7	6.3	50	7	LOS
6AD5	6.3	50	2	MQ
6AD6	6.3	—	4	S
	Visual test			
6AD7	6.3	31	2	JLMS
		75	6	NS
6AE5	6.3	37	2	MR
6AE6	6.3	90	2	MS
		95	3	MS
6AE7	6.3	50	2	LOPR
		38	6	JKR
6AF4	6.3	77	2	RS
	Shows Shorted at 3, 4, 5, & 6.			
	USE X SOCKET			
6AF5	6.3	38	2	MR
6AF6	6.3	—	4	S
	Visual test			
6AG5	6.3	80	2	JMS
	Shows Shorted at 5 & 6.			
	USE X SOCKET			
6AG7	6.3	25	7	LOS
6AH4	6.3	18	4	NS
6AH5	6.3	33	3	JNOR
6AH6	6.3	50	2	JMS
	USE X SOCKET			
6AH7	6.3F	35	2	NS
		35	6	MS
6AJ4	6.3E	76	3	RS
	Shows Shorted at 1, 2, 4, 5, 7 & 9.			
6AJ5	6.3	41	2	JMR
	Shows Shorted at 5 & 6.			
	USE X SOCKET			
6AK5	6.3	41	2	LMR
	Shows Shorted at 5 & 6.			
	USE X SOCKET			
6AK6	6.3	28	2	LMS
	USE X SOCKET			
6AL5	6.3	55	5	Q
		55	6	Q
	USE X SOCKET			
6AL6	6.3	20	8	JLS
6AL7	6.3	Vis.	2	NS
6AM4	6.3E	77	3	RS
	Shows Shorted at 1, 2, 4, 5, 7 & 9.			
6AN4	6.3	77	2	RS
	Shows Shorted at 3, 4, 5 & 6.			
	USE X SOCKET			
6AN5	6.3	18	2	LMS
	Shows Shorted at 5, 6.			
	USE X SOCKET			
6AN6	6.3	55	2	Q
		55	3	Q
		55	4	Q
		55	5	Q
6AQ5	6.3	30	2	JMS
	Shows Shorted at 3 & 5.			
	USE X SOCKET			
6AQ6	6.3	50	5	LQ
		62	2	Q
		62	4	Q
	USE X SOCKET			
6AQ7	6.3F	70	4	LS
		55	2	Q
		55	5	Q
6AR5	6.3	28	2	LMS
	USE X SOCKET			
6AR6	6.3E	18	2	JMS
	Shows Shorted at 7.			
6AS5	6.3	30	5	KMR
	Shows Shorted at 2, 6.			
	USE X SOCKET			
6AS6	6.3	55	2	LMS
	USE X SOCKET			

6AS7	6.3F	16	1	NS
		16	4	LS
6AT6	6.3	50	5	LQ
		65	2	Q
		65	4	Q
	USE X SOCKET			
6AU5	6.3	18	4	NPS
6AU6	6.3	28	2	LMS
	USE X SOCKET			
6AV5	6.3	16	4	NPS
6AV6	6.3	50	5	LQ
		65	2	Q
		65	4	Q
	USE X SOCKET			
6AW6	6.3	85	2	JMS
	USE X SOCKET			
6AX4	6.3F	16	4	S
6AX5	6.3	17	2	S
		17	4	S
6AX6	6.3	18	2	S
		18	4	S
6B4	6.3	20	2	LS
6B5	6.3	60	2	JLMS
6B6	6.3	50	2	Q
		65	3	Q
		65	4	Q
6B7	6.3	60	2	JLS
		65	4	Q
		65	6	Q
6B8	6.3	60	2	JOS
		65	3	Q
		65	4	Q
6BA6	6.3	28	2	LMS
	USE X SOCKET			
6BA7	6.3	65	7	JKNS
		52	2	LQ
6BC5	6.3	80	2	JMS
	Shows Shorted at 5, 6.			
	USE X SOCKET			
6BC7	6.3	55	3	Q
		55	4	Q
		55	6	Q
6BD5	6.3	18	4	NPS
6BD6	6.3	33	2	LMS
	USE X SOCKET			
6BE6	6.3	85	2	JMNS
		35	4	LR
	USE X SOCKET			
6BF5	6.3	18	2	JMS
	Shows Shorted at 3 & 5.			
	USE X SOCKET			
6BF6	6.3	40	5	LS
		65	2	Q
		65	4	Q
	USE X SOCKET			
6BG6	6.3	18	8	JPS
6BH6	6.3	32	2	LMS
	USE X SOCKET			
6BJ6	6.3	30	2	LMS
	USE X SOCKET			
6BK5	6.3	40	2	JOS
	Shows Shorted at 5 & 9.			
6BK6	6.3	50	5	LQ
		60	2	Q
		60	4	Q
	USE X SOCKET			
6BK7	6.3	20	2	LS
		20	4	NS
6BL7	6.3F	24	1	NS
		24	4	LS
6BN6	6.3	57	5	JKMOQ
	USE X SOCKET			
6BN7	6.3	41	2	LS
		31	7	NR
6BQ6	6.3	16	8	JLS

6BQ7	6.3	20 20	2 LS 4 NS
6BT6	6.3	50 60 60 4 Q	5 LQ 2 Q 4 Q
USE X SOCKET			
6BU6	6.3	40 60 60	5 LS 2 Q 4 Q
USE X SOCKET			
6BX7	6.3F	17 17	1 NS 4 LS
6BY5	6.3	18 18	3 S 4 S
6BZ7	6.3	34 34	2 LR 4 NR
6C4	6.3	95	2 JLMR
Shows Shorted at 2 & 3. USE X SOCKET			
6C5	6.3	40	2 MS
6C6	6.3	64	2 JLS
6C7	6.3	37 65 65	2 S 4 Q 6 Q
6C8	6.3	57 57	2 S 6 MS
6CB6	6.3	52	3 JKMG
USE X SOCKET			
6CD6	6.3	15	8 JPS
6CG6	6.3	28	2 LMS
USE X SOCKET			
6CL6	6.3	77	2 RS
Shows Shorted at 3, 6, 7 & 9.			
6CS6	6.3	52	2 LMNS
USE X SOCKET			
6D4	6.3	16	5 S
USE X SOCKET			
6D6	6.3	43	2 JLS
6D7	6.3	48	2 JLS
6D8	6.3	53 70	2 JLS 6 MQ
6E5	6.3	70	2 LS
Vis.		—	4 S
6E6	6.3	30 30	2 LS 7 OS
6E7	6.3	40	2 JLS
6F5	6.3	50	3 Q
6F6	6.3	27	2 JLMS
6F7	6.3	63 70	2 JLS 4 OQ
6F8	6.3	32 32	2 S 6 MS
6G6	6.3	29	2 JLMS
6H4	6.3	55	3 Q
6H6	6.3	55 55	2 Q 4 Q
6J4	6.3	33	5 S
Shows Shorted at 2, 3 & 4. USE X SOCKET			
6J5	6.3	30	2 MS
6J6	6.3	38 38	3 MR 6 KR
USE X SOCKET			
6J7	6.3	70	2 JLS
6J8	6.3	70 50	2 JLS 6 MS
6K5	6.3	49	2 S
6K6	6.3	36	2 JLMR
6K7	6.3	46	2 JLS
6K8	6.3	56 52	2 JLQ 6 MR
6L5	6.3	35	2 MS
6L6	6.3	33	2 JLMR

6L7	6.3	56	2 JLS
6M8	6.3	44 83 65 7 Q	2 JLR 6 MR 7 Q
6N4	6.3	36	2 S
Shows Shorted at 3, 4, 5 & 6. USE X SOCKET			
6N6	6.3	60	2 JLMS
6N7	6.3	56 56	2 LS 6 MS
6P5	6.3	40	2 MS
6P7	6.3	55 85	3 JMS 6 Q
Shows Shorted at 2.			
6Q6	6.3	50 65	2 Q 4 Q
6Q7	6.3	50 65 65	2 Q 3 Q 4 Q
6R6	6.3	46	4 JKS
6R7	6.3	43 65 65	2 S 3 Q 4 Q
6R8	6.3	40 60 60 60	7 OS 2 Q 3 Q 4 Q
6S4	6.3	35	7 MS
Shows Shorted at 4 & 9.			
6S7	6.3	43	2 JLS
6S8	6.3F	77 65 65 65	6 S 2 Q 3 Q 5 Q
Shows Shorted at 1.			
6SA7	6.3	90 55	2 JLP5 3 MQ
6SB7	6.3	62 55	2 JLP5 3 MQ
6SC7	6.3F	90 90	1 KS 4 LS
6SD7	6.3	45	7 LOS
6SF5	6.3F	50	4 KQ
6SF7	6.3F	60 65	6 JLS 4 Q
6SG7	6.3	32	7 LOS
Shows Shorted at 2 & 4.			
6SH7	6.3	35	7 LOS
Shows Shorted at 2 & 4.			
6SJ7	6.3	48	7 LOS
6SN7	6.3	38	7 LOS
6SL7	6.3F	70 70	1 NS 4 LS
6SN7	6.3F	35 35	1 NS 4 LS
6SQ7†	6.3F	100 65 65	6 Q 3 Q 4 Q
6SR7	6.3F	60 65 65	6 S 3 Q 4 Q
6SS7	6.3	38	7 LOS
6ST7	6.3F	55 65 65	6 S 3 Q 4 Q
6SU7	6.3F	68 68	1 NS 4 LS
6SV7	6.3F	55 65	6 JLQ 4 Q
6SZ7	6.3F	72 65 65	2 RS 3 Q 4 Q

6T4	6.3	75	2 RS
Shows Shorted at 3, 4, 5 & 6. USE X SOCKET			
6T5	6.3	70	2 LS
Vis.		—	4 S
6T7	6.3	65 65 65	2 S 3 Q 4 Q
6T8	6.3	75 55 55 55	7 OS 2 Q 3 Q 4 Q
6U4	6.3F	16	4 S
6U5	6.3	70	2 LS
Vis.		—	4 S
6U6	6.3	35	2 JLMR
6U7	6.3	40	2 JLS
6U8	6.3	72 20	5 RS 2 PS
6V3	6.3	79	8 RS
Shows Shorted at 3, 5 & 7			
6V5	6.3G	20	2 JLMS
Shows Shorted at 7.			
6V6	6.3	22	2 JLMS
6V7	6.3	36 65 65	2 S 3 Q 4 Q
6V8	6.3	60 51 51 57	2 MS 3 Q 5 Q 7 Q
6W4	6.3F	16	4 S
6W5	6.3	18 18	2 S 4 S
6W6	6.3	17	2 JLMS
6W7	6.3	58	2 JLS
6X4	6.3	18 18	3 S 4 S
USE X SOCKET			
6X5	6.3	18 18	2 S 4 S
6X8	6.3	50 36	5 JPQ 9 LR
6Y5	6.3	18 18	3 S 7 S
6Y6	6.3	33	2 JLMR
6Y7	6.3	65 65	2 LS 6 MS
6Z5	6.3	18 18	3 S 7 S
Shows Shorted at 2.			
6Z6	6.3	18 18	2 S 4 S
6Z7	6.3	70 70	2 LS 6 MS
6ZY5	6.3	18 18	2 S 4 S
7A4	6.3	33	2 OS
7A5	6.3	35	2 JLOR
7A6	6.3	55 55	3 Q 6 Q
7A7	6.3	38	2 JLOS
7A8	6.3	60 80	2 JNOS 3 MQ
7AB7	6.3A	70	1 JLNS
1204 Shows Shorted at 4, 6, & 7.			
7AD7	6.3	30	2 JLOS
7AF7	6.3	60 60	3 MR 6 NR
7AG7	6.3	38	2 JLOS
7AH7	6.3	33	2 JLOS

7AJ7	6.3	45	2	JLOS
7AK7	6.3	32	2	JLOS
7B4	6.3	50	2	OQ
7B5	6.3	27	2	JLOS
7B6	6.3	50	2	LQ
		65	5	Q
		65	6	Q
Shows Shorted at 4, 7.				
7B7	6.3	37	2	JLOS
7B8	6.3	67	2	JNOS
		60	3	MQ
7C4	6.3	50	4	Q
1203A				
7C5	6.3	19	2	JLOS
7C6	6.3	50	2	LQ
		65	5	Q
		65	6	Q
Shows Shorted at 4 & 7.				
7C7	6.3	58	2	JLOS
7E5*	6.3A	100	3	JPR
Shows Shorted at 1, 3, 4, 5, 6 & 7.				
7E6	6.3	35	2	LS
		65	5	Q
		65	6	Q
Shows Shorted at 4 & 7.				
7E7	6.3	50	2	JNOS
		65	3	Q
		65	4	Q
7F7	6.3	70	3	MS
		70	6	NS
7F8	6.3A	60	3	S
		60	6	S
Shows Shorted at 7.				
7G7	6.3	65	2	JLS
7G8	6.3	46	2	JLMS
		46	7	JLNS
7H7	6.3	30	2	JLOS
7J7	6.3	58	2	JNOS
		72	3	MR
7K7	6.3	65	3	MS
		65	5	Q
		65	6	Q
7L7	6.3	45	2	JLOS
7N7	6.3	30	3	MS
		30	6	NS
7Q7	6.3	80	2	JLOS
		40	3	MR
7R7	6.3	32	2	JNOS
		65	3	Q
		65	4	Q
7S7	6.3	48	2	JNOS
		72	3	MR
7T7	6.3	32	2	JLOS
7V7	6.3	30	2	JLOS
7W7	6.3	30	2	JLOS
Shows Shorted at 4 & 7.				
7X6	6.3	16	3	S
		16	6	S
7X7	6.3	100	2	LS
XXFM		65	5	Q
		65	6	Q
7Y4	6.3	18	3	S
		18	6	S
7Z4	6.3	18	3	S
		18	6	S
10	7.5	36	2	LS
12A	5.0	30	2	LS
112A				
12A4	6.3	29	7	S
Shows Shorted at 3, 5 & 9.				
	6.3G	29	7	S
Shows Shorted at 1, 3, 5 & 9.				
Tests Each Half Filament Separately.				

12A5	6.3F	35	2	JLMR
Shows Shorted at 1.				
12A6	12.6	25	2	JLMS
12A7	12.6	40	2	JLR
		32	6	R
12A8	12.6	70	2	JLS
		65	6	MQ
12AH7	12.6F	35	2	NS
		35	6	MS
12AL5	12.6	55	5	Q
		55	6	Q
USE X SOCKET				
12AQ5	12.6	30	2	JMS
Shows Shorted at 3 & 5.				
USE X SOCKET				
12AT6	12.6	50	5	LQ
		65	2	Q
		65	4	Q
USE X SOCKET				
12AT7	6.3F	23	2	LS
		23	4	NS
Shows Shorted at 1.				
12AU6	12.6	28	2	LMS
USE X SOCKET				
12AU7	6.3F	30	2	LS
		30	4	NS
Shows Shorted at 1.				
12AV6	12.6	50	5	LQ
		65	2	Q
		65	4	Q
USE X SOCKET				
12AV7	6.3F	22	2	LS
		22	4	NS
Shows Shorted at 1.				
12AW6	12.6	80	2	JMS
USE X SOCKET				
12AX4	12.6F	16	4	S
12AX7	6.3F	60	2	LS
		60	4	NS
Shows Shorted at 1.				
12AY7	6.3F	62	2	LS
		62	4	NS
Shows Shorted at 1.				
12AZ7	6.3F	24	2	LS
		24	4	NS
Shows Shorted at 1.				
12B4	6.3	20	7	S
Shows Shorted at 3, 5 & 9.				
	6.3G	20	7	S
Shows Shorted at 1, 3, 5 & 9.				
Tests Each Half Filament Separately.				
12B8	12.6	43	2	JLR
		62	4	PR
12BA6	12.6	28	2	LMS
USE X SOCKET				
12BA7	12.6	65	7	JKNS
		52	2	LQ
12BD6	12.6	33	2	LMS
USE X SOCKET				
12BE6	12.6	85	2	JMNS
		35	4	LR
USE X SOCKET				
12BF6	12.6	40	5	LS
		65	2	Q
		65	4	Q
USE X SOCKET				
12BH7	6.3F	22	2	LS
		22	4	NS
Shows Shorted at 1.				
12BK6	12.6	50	5	LQ
		60	2	Q
		60	4	Q
USE X SOCKET				
12BN6	12.6	57	5	JKMOG
USE X SOCKET				

12BT6	12.6	50	5	LQ
		60	2	Q
		60	4	Q
USE X SOCKET				
12BU6	12.6	40	5	LS
		60	2	Q
		60	4	Q
USE X SOCKET				
12BY7	6.3C	24	5	LOS
Shows Shorted at 1, 7 & 9.				
12BZ7	6.3F	34	2	LR
		34	4	NR
Shows Shorted at 1.				
12C8	12.6	60	2	JOS
		65	3	Q
		65	4	Q
12E5	12.6	38	2	MS
12F5	12.6	50	3	Q
12G4	12.6	75	5	RS
Shows Shorted at 2 & 3.				
USE X SOCKET				
12H6	12.6	55	2	Q
		55	4	Q
12J5	12.6	30	2	MS
12J7	12.6	70	2	JLS
12K7	12.6	46	2	JLS
12K8	12.6	56	2	JLQ
		52	6	MR
12L8	12.6E	38	3	KMS
		38	7	JMNS
12Q7	12.6	50	2	Q
		65	3	Q
		65	4	Q
12S8	12.6F	77	6	S
		65	2	Q
		65	3	Q
		65	5	Q
12SA7	12.6	90	2	JLPS
		55	3	MQ
12SC7	12.6F	90	1	KS
		90	4	LS
12SF5	12.6F	50	4	KQ
12SF7	12.6F	60	6	JLS
		65	4	Q
12SG7	12.6	32	7	LOS
Shows Shorted at 2 & 4.				
12SH7	12.6	35	7	LOS
Shows Shorted at 2 & 4.				
12SJ7	12.6	48	7	LOS
12SK7	12.6	38	7	LOS
12SL7	12.6F	70	1	NS
		70	4	LS
12SN7	12.6F	35	1	NS
		35	4	LS
12SQ7†	12.6F	100	6	Q
		65	3	Q
		65	4	Q
12SR7	12.6F	60	6	S
		65	3	Q
		65	4	Q
12SW7	12.6F	60	6	S
		65	3	Q
		65	4	Q
12SX7	12.6F	35	1	NS
		35	4	LS
12SY7	12.6	90	2	JLPS
12V6	12.6	22	2	JLMS
12X4	12.6	18	3	S
		18	4	S
USE X SOCKET				
12Z3	12.6	30	2	R
14A4	12.6	33	2	OS

14A5	12.6	22	2	JLOS
14A7	12.6	38	2	JLOS
12B7				
14AF7	12.6	60 60	3 6	MR NR
14B6	12.6	50 65 65	2 5 6	LQ Q Q
Shows Shorted at 4, 7.				
14B8	12.6	67 60	2 3	JNOS MQ
14C5	12.6	19	2	JLOS
14C7	12.6	48	2	JLOS
14E6	12.6	35 65 65	2 5 6	LS Q Q
Shows Shorted at 4 & 7.				
14E7	12.6	50 65 65	2 3 4	JNOS Q Q
14F7	12.6	70 70	3 6	MS NS
14F8	12.6A	60 60	3 6	S S
Shows Shorted at 7.				
14H7	12.6	30	2	JLOS
14J7	12.6	58 72	2 3	JNOS MR
14K7	12.6	65 65 65	3 5 6	MS Q Q
14N7	12.6	30 30	3 6	MS NS
14Q7	12.6	80 40	2 3	JLOS MR
14R7	12.6	32 65 65	2 3 4	JNOS Q Q
14S7	12.6	48 72	2 3	JNOS MR
14W7	12.6	30	2	JLOS
Shows Shorted at 4 & 7.				
14X7	12.6	100 65 65	2 5 6	LS Q Q
14Y4	12.6	18 18	3 6	S S
15	2.0	50	2	JLQ
19	2.0	62 62	2 7	LQ MQ
19BG6	Spare	18	8	JPS
19C8	Spare	55 55 55 55	7 2 3 4	OQ Q Q Q
19J6	Spare	38 38	3 6	MR KR
USE X SOCKET				
19T8	Spare	75 55 55 55	7 2 3 4	OS Q Q Q
19V8	Spare	60 52 52 57	2 3 5 7	MS Q Q Q
19X8	Spare	50 36	5 9	JPQ LR
20	3.3	70	2	LR
22	3.3	50	2	JLQ
24A	2.5	61	2	JLS
25A6	25.	30	2	JLMR
25A7	25.	33 33	2 6	JLMR R
25AC5	25.	85	2	MR

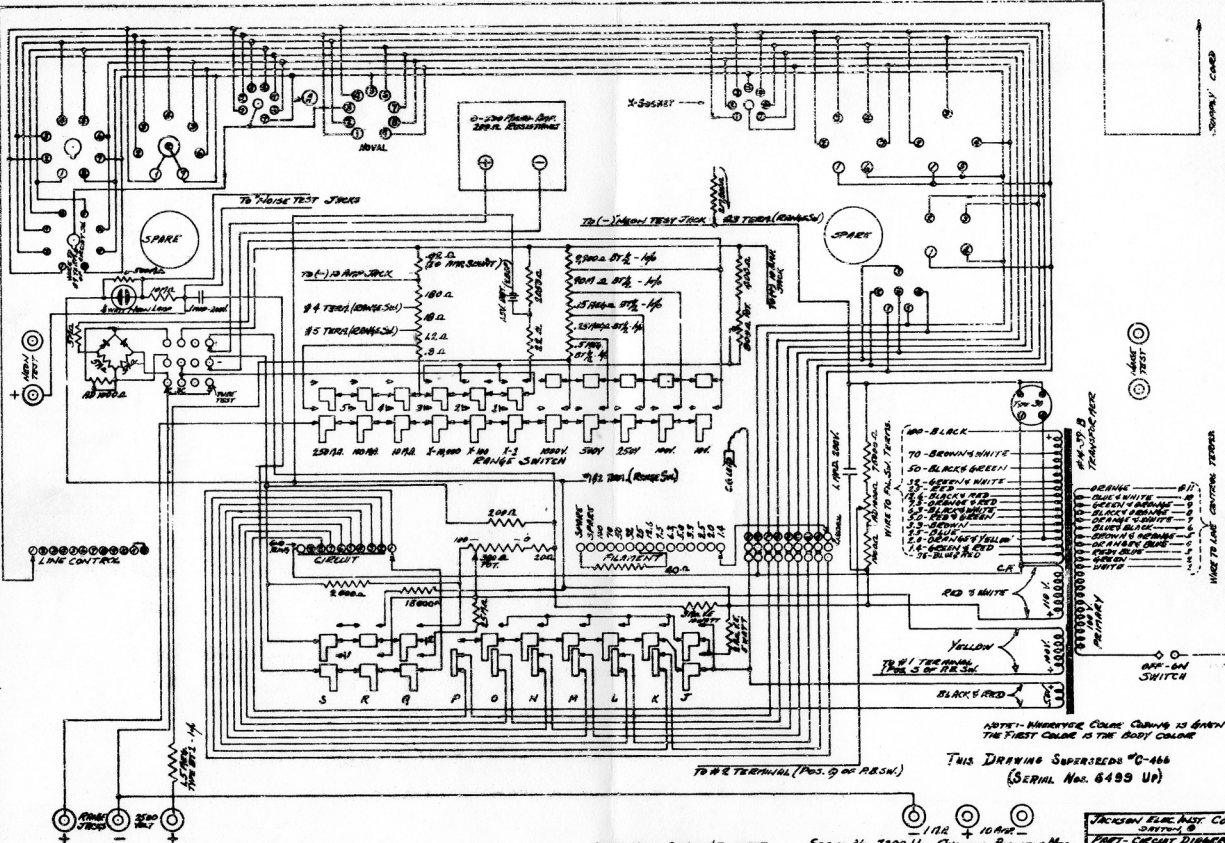
25AV5	25.	16	4	NPS
25B5	25.	35	2	JLMR
25B6	25.	32	2	JLMR
25B8	25.	43 62	2 4	JLR PR
25BK5	25.	40	2	JOS
Shows Shorted at 5 & 9.				
25BQ6	25.	16	8	JLS
25C6	25.	32	2	JLMR
25CD6	25.	15	8	JPS
25D8	25.	44 83 65	2 6 7	JLR MR Q
25L6	25.	35	2	JLMR
25N6	25.	35	2	JLMR
25WA	25.F	16	4	S
25W6	25.	17	2	JLMS
25X6	25.	30 30	2 4	R R
25Y5	25.	33 33	2 7	R R
25Z3	25.	32	2	R
25Z5	25.	33 33	2 7	R R
25Z5	25.	33	2	R
MG		33	4	R
25Z6	25.	33 33	2 4	R R
26	1.4	34	2	LS
26A6	25.	42	2	LMR
USE X SOCKET				
26A7	25.E	30 30	3 7	KMR JMNR
26BK6	25.	50 60 60	5 2 4	LQ Q Q
USE X SOCKET				
26C6	25.	70 65 65	5 2 4	LR Q Q
USE X SOCKET				
26CG6	25.	30	2	LMS
USE X SOCKET				
26D6	25.	85 36	2 4	JMNR LR
USE X SOCKET				
26Z5	12.6F	33 33	2 4	R R
Shows Shorted at 1.				
27	2.5	39	2	LS
28D7	25.	28 28	4 5	KLR JLPR
28Z5	12.6C	18 18	3 6	S S
Shows Shorted at 1.				
30	2.0	80	2	LR
31	2.0	60	2	LR
32	2.0	55	2	JLQ
32L7	32.	37 33	2 6	JLMR R
33	2.0	43	2	LPR
34	2.0	50	2	JLQ
35	2.5	50	2	JLS
35A5	35.	35	2	JLOR
35B5	35.	17	2	JMS
Shows Shorted at 3, 5.				
USE X SOCKET				
35C5	35	30	5	KMR
Shows Shorted at 2, 6				
USE X SOCKET				
35L6	35.	33	2	JLMR

35W4	35.	17	2	S
Shows Shorted at 4.				
USE X SOCKET				
35Y4	35.G	30	2	R
Shows Shorted at 1 & 4.				
35Z3	35.	18	2	S
35Z4	35.	33	4	R
35Z5	32.G	31	4	R
Shows Shorted at 1 & 2.				
35Z6	35.	30 30	2 4	R R
36	6.3	55	2	JLS
37	6.3	40	2	LS
38	6.3	45	2	JLS
39	6.3	55	2	JLS
44				
41	6.3	36	2	JLMR
42	6.3	27	2	JLMS
43	25.	28	2	JLMR
45	2.5	18	2	LS
45Z3	45.	50	2	JOQ
Shows Shorted at 2 & 6.				
45Z5	45.G	31	4	R
Shows Shorted at 1 & 2.				
46	2.5	27	2	LPS
47	2.5	33	2	LPS
48	32.	31	2	JLMR
49	2.0	60	2	LPR
50	7.5	25	2	LS
50A5	50.	16	2	JLOS
50AX6	50.	17 17	2 5	S S
50B5	50.	17	2	JMS
Shows Shorted at 3 & 5.				
USE X SOCKET				
50C5	50	30	5	KMR
Shows Shorted at 2, 6.				
USE X SOCKET				
50C6	50.	18	2	JLMS
50L6	50.	35	2	JLMR
50X6	50.	33 33	3 6	R R
50Y6	50.	33 33	2 4	R R
50Y7	50	31 31	2 4	R R
Shows Shorted at 6.				
50Z7	50.	30 30	2 4	R R
Shows Shorted at 6.				
52	6.3	50	2	LPR
53	2.5	56 56	2 7	LS OS
55	2.5	36 65 65	2 3 4	S Q Q
56	2.5	35	2	LQ
57	2.5	58	2	JLS
58	2.5	40	2	JLS
59	2.5	28	2	JLMS
70A7	70.	38 70	2 5	JLMR RS
Shows Shorted at 6.				
Note: To test 2nd. section depress R & S buttons together.				
70L7	70.	35 33	2 7	JLMR R
71A	5.0	23	2	LS

75	6.3	50	2 Q
		65	3 Q
		65	4 Q
76	6.3	35	2 LS
77	6.3	60	2 JLS
78	6.3	40	2 JLS
79	6.3	75	2 LS
		75	7 S
80	5.0	20	2 S
		20	3 S
81	7.5	20	2 S
82	2.5	18	2 S
		18	3 S
83	5.0	18	2 S
		18	3 S
83V	5.0	20	2 S
		20	3 S
84	6.3	17	2 S
624		17	3 S
85	6.3	36	2 S
		65	3 Q
		65	4 Q
89	6.3	27	2 JLS
99	3.3	70	2 LQ
117L7	115.	38	2 LMR
117M7		35	6 R
117N7	115.	34	2 LMR
		75	7 RS
Note: To test 2nd. section depress R & S buttons together.			
117P7	115.	34	2 LMR
		75	7 RS
117Z3	115.	32	2 JLR
May Show Shorted at 2 & 3. USE X SOCKET			
117Z4	115.	30	4 R
117Z6	115.	30	2 R
		30	4 R
182B	5.0	24	2 LS
482B			
TS383	6.3	32	3 S
USE X SOCKET			
TS385	12.6	30	3 S
USE X SOCKET			
483	5.0	24	2 LS
485	3.3	32	2 LS
807	6.3	20	8 JKS
884	6.3	18	2 MS
885	2.5	18	2 LS
950	2.0	50	2 LPR
FM1000	6.3	100	4 JNOR
1005	6.3E	18	2 S
		18	4 S
Shows Shorted at 7.			
1222	6.3D	33	1 JKLR
Shows Shorted at 6.			
1223	6.3	64	2 JLS
1231	6.3	45	2 JLOS
1233	25.F	35	1 NS
		35	4 LS
1273	6.3	48	2 JLOS
1280	12.6	48	2 JLOS
1284	12.6	40	2 JLOR
1293	1.4	75	2 OR
1625	12.6	20	8 JLS
1626	12.6	24	2 MS
1629	12.6	70	2 MS
	Vis.	—	3 S
1631	12.6	33	2 JLMR

1632	12.6	35	2 JLMR
1633	25.F	35	1 NS
		35	4 LS
1635	6.3	95	2 LS
		95	6 MS
1644	12.6E	38	3 KMS
		38	7 JMNS
1654	1.4	72	8 Q
Shows Shorted at 2, 3 & 6.			
1851	6.3	50	2 JLS
2050	6.3	30	2 R
Conducting Hold R and Push P Button Non-Conducting			
2051	6.3	30	2 R
Conducting Hold R and Push P Button Non-Conducting			
5516	3.3	45	8 JKS
Shows Shorted at 3, 5, 6. 3.3G 45 8 JKS Shows Shorted at 1, 3, 5, 6. Test each half of fil. separate.			
5556	5.0	44	2 LS
5590	6.3	42	2 LMR
Shows Shorted at 5 & 6.			
5591	6.3	42	2 LMR
Shows Shorted at 5 & 6. USE X SOCKET			
CK5608	2.5G	45	2 LS
		45	7 OS
Shows Shorted at 1, 4.			
5608A	2.5	42	2 LS
		42	7 OS
5610	6.3	76	6 RS
Shows Shorted at 2 & 3. USE X SOCKET			
5618	3.3D	22	2 JLOS
Shows Shorted at 1.			
5656	6.3	60	5 JKS
		60	6 JKS
Shows Shorted at 4 & 7.			
5662	6.3	16	5 S
Shows Shorted at 2 & 6. USE X SOCKET			
5663	6.3	15	5 S
Conducting Hold S and Push O Button Non-Conducting USE X SOCKET			
5679	3.3C	55	3 Q
		55	6 Q
Shows Shorted at 1.			
5686	6.3	100	5 LS
Shows Shorted at 2, 4, 6, 7 & 9.			
5687	6.3E	18	2 LS
		18	7 NS
Shows Shorted at 1.			
5694	6.3	46	2 LS
		46	6 MS
5696	6.3	30	4 R
Conducting Hold R and Push O Button Non-conducting Shows Shorted at 2 & 5. USE X SOCKET			
5755	6.3F	50	9 Q
		50	6 MQ
Shows Shorted at 1.			
5763	6.3	30	2 JMS
Shows Shorted at 6 & 7.			
5812	2.5D	18	2 LMS
Shows Shorted at 1. USE X SOCKET			

5824	25.	20	2 LMS
5842	6.3F	29	2 S
Shows Shorted at 1, 5, 6 & 9.			
5844	6.3	52	3 MQ
		52	6 KQ
USE X SOCKET			
5847	6.3F	18	4 KOS
Shows Shorted at 9.			
5879	6.3	72	7 KNQ
5881	6.3	33	2 JLMR
5910	1.4G	54	2 JLOQ
Shows Shorted at 1 & 5.			
5915	6.3	62	2 LMS
USE X SOCKET			
5963	6.3F	26	2 LS
		26	4 NS
Shows Shorted at 1.			
5964	6.3	34	3 MR
		34	6 KR
USE X SOCKET			
5965	6.3F	30	2 LR
		30	4 NR
Shows Shorted at 1.			
6004	5.0F	20	8 S
Top Cap Section 1. 20 8 S Top Cap Section 2. Shows Shorted at 1.			
6012	6.3	16	2 PS
Conducting Hold S and Push K Button Non-Conducting May Show Leakage at 5.			
6028	Spare	42	2 LMR
Shows Shorted at 5 & 6. USE X SOCKET			
6145	6.3	26	2 JLOS
6146	6.3	15	8 JKMS
Shows Shorted at 3, 5 & 6.			
6159	25.	15	8 JKMS
Shows Shorted at 3, 5 & 6.			
6211	6.3F	35	2 LR
		35	4 NR
Shows Shorted at 1.			
6215	1.4	92	8 Q
Shows Shorted at 2, 4, 5 & 7.			
6216	6.3	40	2 LMMR
Shows Shorted at 2, 4, 6 & 9.			
9001	6.3	52	2 LMS
Shows Shorted at 5 & 6. USE X SOCKET			
9002*	6.3	50	2 JLMR
Shows Shorted at 2, 3, 5 & 6. USE X SOCKET			
9003	6.3	40	2 LMS
Shows Shorted at 5 & 6. USE X SOCKET			
9006	6.3	75	2 JLQ
Shows Shorted at 2, 3, 5 & 6. USE X SOCKET			
HY113	1.4	70	2 LQ
HY115	1.4	65	2 JPQ
HY125	1.4	54	2 JPQ



SECRET

0-200 Ohm Imp.
200 P.C. RESISTANCE

TO NOISE TEST JACK

TO (-) LINE TEST JACK (40 TURNS (CLOCKWISE))

SPARE

SPARE

TO (-) 10 AMP. JACK

TO 4 TURNS (CLOCKWISE)

TO 5 TURNS (CLOCKWISE)

100Ω 100Ω 100Ω 5-AMP F-100 1-3 100Ω 500Ω 100Ω 100Ω

RANGE SWITCH

TO 2 TERMINAL (POS. 9 OF P.B.S.W.)

TO 2 TERMINAL (POS. 9 OF P.B.S.W.)

TO 2 TERMINAL (POS. 9 OF P.B.S.W.)

TO 2 TERMINAL (POS. 9 OF P.B.S.W.)

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TO 2 TERMINAL (POS. 9 OF P.B.S.W.)

TO 2 TERMINAL (POS. 9 OF P.B.S.W.)

TO 2 TERMINAL (POS. 9 OF P.B.S.W.)

- 40- BLACK
- 70- BROWN & WHITE
- 10- BLACK & GREEN
- 15- GREEN & WHITE
- 15- RED
- 15- GREEN & RED
- 15- BLACK & WHITE
- 15- RED & WHITE
- 15- BLACK & RED
- 15- BLACK & YELLOW
- 15- GREEN & RED
- 15- BROWN & RED

- DRANGE - 81
- BLACK & WHITE - 82
- GREEN & BROWN - 83
- BLACK & BROWN - 84
- DRANGE & WHITE - 85
- BLACK & BLACK - 86
- GREEN & RED - 87
- BLACK & RED - 88
- BLACK & YELLOW - 89
- GREEN & RED - 90
- BROWN & RED - 91

1071-1100VOLT COLOR CODING IS GIVEN THE FIRST COLOR IS THE BODY COLOR

THIS DRAWING SUPERSEDES "G-466 (SERIAL NO. 6499 UP)

ADDED NOVA, SECRET FILAMENT RESISTOR 2-24-53 5HM. ADDED X MINATURE SOCKET SERIAL "G-9006-UP 1-2-57 6HM

SERIAL No. 7200 UP - CHANGED RESISTOR FROM BLK - 100 OHMS RESISTOR TO 100Ω 1/2W 5% L. PARALLEL 40 TURNS - BROWN PLOT LAMP. CABLED WIRING - 6-8-53

JACKSON ELECT. MFG. CO. PART - CIRCUIT DIAGRAM DATE 6-25-53 POS. NO. 839 DIV. OF G.P.R. CABLED WIRING. 6-8-53

WIRE TO LINE CENTERING FEEDERS

WIRE TO LINE CENTERING FEEDERS

TEST

TEST

TEST

TEST

TEST

TEST



MODEL No. 637 DYNAMIC OUTPUT TUBE TESTER

Instructions For Tube Testing

OVERLOAD: Connect the test leads to the proper jacks depending on the range required. The METER SWITCH must be turned to the D.C. position. When using the 10 Ampere range read value directly on the 0-10 scale. When using the 1 M.A. range read on the 0-10 scale and divide reading by 10.

DECIBEL MEASUREMENTS: To measure decibels set up the instrument as when using the 10 volt A.C. range. Read value of DB directly on the DB scale. If decibel readings beyond the base range are required use the 100 and 1000 A.C. volt ranges. When using the 100 A.C. volt range add 20 DB (plus) to the indicated value. When using the 1000 A.C. volt range add 40 DB (plus) to the indicated value. Decibel readings from—(minus) 10 DB to (plus) 54 DB can be made.

The DB scale has been calibrated for the standard reference level of 6 M.W. in a 500 ohm line.

NEON TEST: This test has been provided to assist in the location of faulty condensers. To use this feature the tester must be turned ON. Connect the test leads to these jacks and place free ends across the condenser to be tested. A momentary flash (except for capacities less than .005 Mfd.) should occur at the instant the test leads are touched to the condenser terminals. If no flash at all results it is an indication that the condenser is "open". If the lamp glows steadily or flickers rapidly it is an indication that the condenser is shorted or leaky.

Electrolytic condensers are tested in a similar manner with the exception that polarity observance is required. Moreover, this type of condenser has a certain allowable percentage of leakage current and therefore the neon lamp may have a slight glow on the larger values of this type. Usually, however, if the condenser has been properly polarized before this test is made a momentary flash will occur. Do not test condensers with a lower than 100 volt rating.

BATTERY REPLACEMENT

The X-1 and X-100 Ohms ranges are powered from a 1.5 volt battery (Burgess No. 2BBP or equal). When full scale adjustment can no longer be secured on either the X-1 or X-100 Ohms ranges, replacement of the 1.5 volt battery is necessary.

The above mentioned battery is easily accessible for replacement by removing the 6 screws holding the main panel to the instrument case.

GENERAL INFORMATION

Mail the Registration Card for your tester promptly, giving correct name and address, so that additional technical bulletins from our factory will be properly delivered. Notify us of a change of address, listing model number and serial number of your tester in the notice.

Information on new tubes will be sent promptly at regular intervals from our factory. New chart service will be continued for a period of one year after purchase date and will entitle the tester owner to receive tube testing information as the occasion warrants. (Nominal charge thereafter.)

Repairs and adjustments will be made under the terms and conditions stated in the guarantee furnished with this tester. The tester should not be returned to our factory except where we authorize such return to be advisable. When corresponding concerning this instrument always mention model number and serial number. Be certain to describe fully and accurately the information desired.

MANUFACTURED BY

The Jackson Electrical Instrument Company
Dayton, Ohio, U. S. A.

This DYNAMIC tube tester incorporates the most advanced features of design and accuracy. The test method is a new advancement in the JACKSON DYNAMIC OUTPUT circuit which has established an excellent reputation for accuracy. The control arrangement is greatly simplified—this permits easy and rapid testing of tubes. As is true with any fine piece of equipment, it is always well to thoroughly understand operation before attempting to use. Please read the following instructions CAREFULLY:

CONTROLS USED FOR TUBE TESTING

OFF-ON SWITCH: This switch turns the tester either on or off.

METER SWITCH: The purpose of this control is to properly arrange the meter circuit for the type of test to be made. For all tube testing or ballast tube testing, this switch must be turned to the TUBE TEST position.

LINE CONTROL: The purpose of this control is to establish accurate voltage to the tube being tested. It is important that the meter needle be adjusted, by means of this control, to read at the LINE point on the meter dial during all tests.

FILAMENT CONTROL: This control permits the correct selection of filament voltage for the tube type to be tested. Before inserting any tube in the tester make sure that the FILAMENT control is correctly set per listing given on the tube chart.

A single setting of the FILAMENT control (such as 35-45) is suitable for any tube having heater voltage between 35V. and 45 V. There is a spare position not in use at present.

SPECIAL TEST: Several tube types have their filament terminals in other than the standard position. The function of this switch is to properly set up the filament circuit.

The majority of tubes are tested with this switch in the NORMAL position. If other than a normal setting is required, the filament listing on the chart is followed by a letter and in this case the SPECIAL TEST switch must first be turned to the specified position.

CIRCUIT CONTROL: This control is used for making shorts and leakage tests and, later on in the tube testing procedure, is used to select the proper element to secure a meter reading to determine the tube's output worth. When shorts test is made a full rotation of this control will test for any shorted or leaky condition at each and every tube element, including the shell on metal tube types.

PLATE: This control adjusts the meter to the proper condition for the tube type to be tested. This knob has been carefully adjusted at the factory—do not loosen set screw.

TEST BUTTONS: Push buttons have been provided. It is the purpose of these buttons to simultaneously arrange the circuit for the type to be tested, to remove the line control reading on the meter, and to secure a meter reading on the quality or output worth of the tube. Buttons J K L M N O P are lock type for circuit switching. Buttons Q R S are non-lock type. With proper button in this group (per chart) depressed, line voltage reading is removed from meter, proper load applied to tube and reading of tube condition obtained. When the chart specifies RS these two buttons should be pressed simultaneously. After completing test, depress the RELEASE button before proceeding with any other test.

NOISE TEST JACKS: By connecting conventional head phones to these jacks, tubes can be tested for noisy operation.

SPECIAL SOCKET: A miniature probe socket (MARKED X) is provided for the testing of some miniature tube types. Use this socket for those types so indicated on chart. For types not indicated on chart use regular miniature screw prong socket.

THE METER DIAL

Tubes which fall in the red portion of the dial are classified by the tester as defective. It will be noted that a tube which delivers an ultra high deflection is classified as questionable by the red area (extreme right on the dial). Such a tube may be questionable in performance because of the possibility of a "gassy" condition; or the defect might be misplaced elements or damaged connections in the base of the tube.

THE TUBE CHART

This chart lists the proper settings for the FILAMENT, PLATE, and CIRCUIT controls. It also designates the proper TEST buttons that must be used. The FILAMENT (FIL) and PLATE (PLA) listings are self-explanatory. The CIRCUIT TEST column in addition to designating the proper setting of the CIRCUIT control also designates the proper TEST buttons to be used. For example: If a CIRCUIT TEST listing of 2LS is given, the CIRCUIT control should first be set at "2" then the "L" button locked down and then the "S" button pressed to secure meter reading.

MANNER OF OPERATION

1—LINE VOLTAGE ADJUSTMENT: Turn LINE CONTROL in a clockwise direction, until the meter needle points to "LINE"

2—TEST FOR SHORTS AND LEAKAGES: Set FILAMENT CONTROL as shown on chart for tube type to be tested. Types having a letter following filament setting turn SPECIAL TEST switch to given position. All types not having above designations turn SPECIAL TEST switch to NORMAL position. Insert tube in socket and allow time to heat.

Turn CIRCUIT CONTROL to all positions tapping tube at each position and watching leakage indicator. If lamp flashes or glows steadily the tube is shorted or leaky and is not satisfactory. Several types will indicate shorted even though normal. These types are identified on the chart.

NOISE TEST: This test essentially duplicates the Shorts and Leakage test and is performed in the same manner. The indication is audible instead of visual. It is valuable in that it goes beyond the capabilities of the Shorts and Leakage test in catching intermittently "open" tube elements.

A completely shorted tube will produce a 60 cycle hum in the phones. An intermittent short or open will produce noise clicks when the tube is tapped.

3—QUALITY TEST: Set ALL CONTROLS to settings given on the chart for tube types to be tested. Press the correct TEST buttons as indicated under column CIRCUIT TEST and note reading on the meter. If the meter pointer stops in the green section the tube is satisfactory. If pointer stops in the red section tube is unsatisfactory and should be replaced.

4—DUAL TEST: Tubes of the dual section type, several settings are given on the chart. When testing a tube of this type repeat the above procedure for each set of test settings given on the chart. Press RELEASE key before setting up controls for each test condition.

5—TARGET TEST: The target sections of tuning indicator tubes are tested by setting the controls as shown under VIS and Visual Test on the chart. Press the correct TEST button and watch target element of the tube for glow.

BALLAST TUBES: Instructions for testing ballast type tubes and a ballast tube chart are supplied with this tester.

6—DIAL LIGHTS, etc., are tested in the center receptacle of the 7-prong socket. Be sure SPECIAL TEST switch is in NORMAL and filament volts set for rating of lamp to be tested.

Instructions For Using Multi-Meter Ranges

CONTROLS USED FOR MULTI-METER RANGES

RANGES SELECTOR: This 11 button push button switch permits the instantaneous and automatic selection of any range desired.

METER SWITCH: This switch should be turned to the D. C. position for all measurements except A. C. volts.

OHMS ADJUSTMENT: As the name implies, this control is used for making exact full scale adjustment of the meter pointer when ohms are to be measured.

RANGE JACKS: These jacks are to be used for any of the ranges selected by the RANGES selector.

10 AMPS.—1 M. A. JACKS: In order to provide the greatest measure of protection to the instrument, separate jacks have been provided for the 1 M. A. and ampere range. The 1 M. A. range permits the measurement of very small current values.

2500 V. JACK: By connecting leads to this jack and the (—) RANGE JACK, voltages up to 2500 volts either A. C. or D. C. can be measured.

NEON TEST JACKS: A polarized neon continuity test has been incorporated. This is valuable for testing the leakage condition of condensers.

MANNER OF MAKING MEASUREMENTS

VOLTAGE MEASUREMENTS: Press the desired VOLTS range button. If A. C. volts are to be measured set the METER switch to the A. C. VOLTS position. (It is always well to use the highest range first. If the reading is within the limits of the next lowest range then press the next lowest VOLTS button.) Connect the test leads to the RANGE JACKS. If D. C. volts are to be measured correct polarity observance is required.

Read all D. C. voltage values on the D. C. meter scale. Likewise, read all A. C. voltage values on the A. C. meter scale. When using the 10, 250, and 500 volt ranges read value directly on the 0-10, 0-250, and 0-500 scales, respectively. When using the 100 and 1000 volt ranges read value on the 0-10 scale and multiply the readings by 10 and 100, respectively.

When using the 2500 volt range read on the 0-250 scale and multiply the readings by 10. CAUTION: Use extreme care when making high voltage measurements, as these voltages are dangerous.

OHMS MEASUREMENTS: Select the desired OHMS button. Connect the test leads to the RANGE JACKS and short-circuit the free ends together. Adjust the meter pointer to an exact full scale deflection by means of the OHMS ADJ. Then proceed with the ohms measurement and read the value on the Ohms scale. (The X-10,000 Ohms range is powered from a self contained powered supply. To use this range the tester must be turned ON. It may be necessary to advance the LINE CONTROL to secure the proper full scale adjustment for this range.)

When using the X-1 range read value being measured directly on the OHMS scale. When using the X-100 and X-10,000 ranges multiply the readings by 100 and 10,000, respectively.

CURRENT MEASUREMENTS: Press the desired MILLS button. Connect the test leads to the RANGE JACKS, observing correct polarity. When using the 10 and 250 MILL ranges read value being measured on the 0-10 and 0-250 D. C. scales, respectively. When using the 100 MILL range read value on the 0-10 scale and multiply the readings by 10.

10 AMPS.—1 M. A.: Caution should be exercised in the use of either of these ranges, particularly the 1 M. A. range. DO NOT