

Tube Type	Fil. Sel.	Tube Sel.	"IN" Position	00A 1S4
00A	5	39	BC	1S5
0Z4 Spec.	1.5	45	B & D	6AG7
01	5	33	BC	
01A	5	36	BC	
1A3 Di. §	1.5	0	FG	6AH6
1A4-P Bat.	1.5	22	BCE	6L5-G
1A4-T Bat.	1.5	22	BCE	
1A5-G Bat.	1.5	21	BCD	
1A5-GT Bat.	1.5	21	BCD	
1A6 Bat.	2	18	BCEFG	6L6
1A6S Bat.	2	18	BCEFG	7A8
1A7 Bat.	1.5	26	BCDEF	
1AB5 Bat.	1.5	28	BCF	
1B4 Bat.	2	21	BCE	7AB7
1B4-P Bat.	2	21	BCE	12J7
1B5 Bat.	2	17	BG	
1B5 Di.	2	0	C & F	
1B5/25S Bat.	2	17	BG	
1B5/25S Di.	2	0	C & G	12K7
1B7-G Bat.	1.5	19	BCDEF	25Y5
1B8 Bat.	1.5		BCD	
1B8 Bat.	1.5		EF	
1B8 Di.	1.5		G	25Z3
1C5-GT Bat.	1.5	26	BCD	58A
1C6 Bat.	2	23	BCEFG	
1C7-G Bat.	2	23	BCDEF	
1D5-GP Bat.	2	21	BCE	58AS
1D5-GT Bat.	2	21	BCE	951
1D7-G Bat.	2	18	BCDEF	
1D8-GT Bat.	1.5	22	BCD	954
1D8-GT Bat.	1.5	15	EF	XXL
1D8-GT Di.	1.5	0	G	
1E4-G Bat.	1.5	23	BD	
1E5-G Bat.	2	20	BCE	NOTES
1E5-GP Bat.	2	20	BCE	NSTR.
1E7-G Bat.	2	25	BCG & DFG	
1F4 Bat.	2	26	BCG	
1F5-G Bat.	2	26	BCD	

Tube Type	Fil. Sel.	Tube Sel.	"IN" Position
1F6-G Bat.	2	19	BCE
1F6-G Di.	2	0	F & G
1F7-G Bat.	2	19	BEF
1F7-G Di.	2	0	C & D
1F7-GH Bat.	2	19	BEF
1F7-GH Di.	2	0	C & D
1F7-GV Bat.	2	19	BEF
1F7-GV Di.	2	0	C & D
1G4-G Bat.	1.5	23	BD
1G5-G Bat.	2	25	BCD
1G6-G Bat.	1.5	23	BC & DF
1H4-G Bat.	2	18	BD
1H5-GT Bat.	1.5	16	BE
1H5-GT Di.	1.5	0	D
1H6-G Bat.	2	19	BF
1H6-G Di.	2	0	C & D
1J5 Bat.	2	22	BCD
1J6-G Bat.	2	23	BC & DF
1L4 Bat.	1.5	25	BGF
1LA4 Bat.	1.5	21	BCF
1LA6 Bat.	1.5	19	BCDEF
1LB4 Bat.	1.5	22	BCF
1LB6 Bat.	1.5		BCDEFG
1LC5 Bat.	1.5	25	BCDF
1LC6 Bat.	1.5	17	BCDEFG
1LD5 Bat.	1.5	21	BCF
1LD5 Di.	1.5	0	D
1LE3 Bat.	1.5	24	BF
1LH4 Bat.	1.5	18	BF
1LH4 Di.	1.5	0	D
1LN5 Bat.	1.5	24	BCDF
1N5 Bat.	1.5	22	BCE
1N6 Bat.	1.5	21	BCD
1N6 Di.	1.5	0	F
1P5-GT Bat.	1.5	22	BCE
1Q5-GT Bat.	1.5	28	BCD
1R4/1294 Di.	1.5	0	D
1R5 Bat.	1.5	25	BCFG
1S4 Bat. §	1.5	26	BCFG

Tube Type	Fil. Sel.	Tube Sel.	"IN" Position
1S5 Bat.	1.5	18	CDF
1S5 Di.	1.5	0	B
1SA6-GT Bat.	1.5	24	BCFG
1SB6-GT Bat.	1.5	21	BCG
1T4 Bat.	1.5	25	BFG
1T5-GT Bat.	1.5	22	BCD
1U4 Bat.	1.5	25	BFG
1U5 Bat.	1.5	17	BFG
1U5 Di.	1.5	0	C
1-V *	6.3	43	B
2A3	2.5	43	BC
2A3-H	2.5	43	BC
2A5 *	2.5	41	BCF
2A6 *	2.5	42	BE
2A6 Di.	2.5	0	C & F
2A7 *	2.5	41	BCDEF
2A7-S *	2.5	41	BCDEF
2B6 *	2.5	41	BDF
2B7 *	2.5	35	BCE
2B7 Di.	2.5	0	D & F
2B22 Di. *	6.3	0	E
2C21 *	6.3	42	CE & DF
2C22 °° *	6.3	43	E
2C51 *††	6.3	45	BC & EF
2E5 *	2.5	32	BCF
2E22	6.3	44	BCEG
2G5 *	2.5	34	BCF
2W3 Spec.	2.5	45	C
2X2/879 Spec.	2.5	41	E
2Z2/G84	2.5	29	B
3A4 Bat. †§	2.5	30	ABCFG
3A5 Bat.	2.5	29	ABG & ADF
3A8-GT Bat. †	2.5	24	ABCE
3A8-GT Bat. †	2.5	20	ADF
3A8-GT Di. †	2.5	0	AG
3B5-GT Bat. †	2.5	26	ABCD
3B7/1291 Bat. †	2.5	30	ABC & AFG
3C5 Bat. †	2.5	27	ABCD
3D6/1299 Bat. †	2.5	32	ABCF

1S5
6AG7

6AH6
6L5-G

6L6
7A8

7AB7
12J7

12K7
25Y5

5Z3
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TES
TR.

Tube Type	Fil. Sel.	Tube Sel.	"IN" Position
3LE4 Bat. †	2.5	28	ABCF
3LF4 Bat. †	2.5	32	ABCF
3Q4 Bat. †§	2.5	28	ABCFG
3Q5 Bat. †	2.5	28	ABCD
3S4 Bat. †§	2.5	28	ABCFG
3V4 Bat. †	2.5	28	ABFG
4A6-G Bat. †	3	23	ABC & ADF
5R4-G Y Spec.	5	45	C & F
5T4 Spec.	5	45	C & F
5U4-G Spec.	5	45	C & F
5V4-G Spec.	5	46	C & F
5W4 Spec.	5	45	C & F
5X3-G Spec.	5	45	B & C
5X4-G Spec. ††	5	45	B & D
5Y3-G Spec.	5	45	C & F
5Y4-G Spec.	5	45	B & D
5Z3 Spec.	5	45	B & C
5Z4 Spec.	5	45	C & F
6A3	6.3	43	BC
6A4/LA	6.3	39	BCG
6A5-G †	6.3	44	ABD
6A6 *	6.3	41	BC & FG
6A7 *	6.3	42	BCDEF
6A7-S *	6.3	42	BCDEF
6A8 *	6.3	43	BCDEF
6AB5/6N5 *	6.3	33	BCF
6AB6-G *	6.3	37	BCD
6AB7/1853 *	6.3	44	BCFG
6AC5-G *	6.3	42	BD
6AC6 *	6.3	31	BCD
6AC7/1852 *	6.3	45	BCFG
6AD5 *	6.3	42	BD
6AD7-G *	6.3	41	BCD
6AD7-G *	6.3	22	FH
6AE5-GT *	6.3	42	BD
6AE6-G *	6.3	41	BCD
6AE7-GT *	6.3	43	BCD
6AF5 *	6.3	43	BD
6AG5 Bat. *††	6.3	33	BDF
6AG7 *	6.3	46	CFGH

Tube Type	Fil. Sel.	Tube Sel.	"IN" Position
6AH6 *††	6.3	45	BDFG
6AH7 *††	6.3	41	BC & DF
6AJ5 *††	6.3	45	BDF
6AK5 *††	6.3	45	BDF
6AK6 *††	6.3	42	BDFG
6AK7 *	6.3	46	CFGH
6AL5 *††	6.3	45	C & G
6AL6 *††	6.3	44	CDE
6AQ5 *††△	6.3	46	BCDF
6AQ6 *††	6.3	42	BC
6AQ6 Di. *††	6.3	0	D & F
6AS5 *§§††	6.3	44	CDFG
6AS6 *††	6.3	45	BCDF
6AS7-G *††	6.3	45	CD & GH
6AT6 *††	6.3	43	BC
6AT6 Di. *††	6.3	0	D & F
6AU6 *††	6.3	45	BDFG
6AX5 *††	6.3	45	BDF
6B4-G	6.3	42	BD
6B5 *	6.3	36	BCF
6B6 *	6.3	41	BE
6B6 Di.	6.3	0	C & D
6B7 *	6.3	37	BCE
6B7 Di.	6.3	0	D & F
6B7-S *	6.3	37	BCE
6B7-S Di.	6.3	0	D & F
6B8 *	6.3	38	BEF
6B8 Di.	6.3	0	C & D
6BA6 *††	6.3	45	BDFG
6BA7 *	6.3	45	BCEFG
6BE6 *††	6.3	45	BCDF
6BF6 *††	6.3	41	BC
6BF6 Di. ††	6.3	0	D & F
6BG6-G *	6.3	44	DEG
6BH6 *††	6.3	44.5	BCDE
6BJ6 *††	6.3	44.5	BCDF

6AH6
6L5-G

6L6
7A8

7AB7
12J7

12K7
25Y5

5Z3
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TES
TR.

Tube Type	Fil. Sel.	Tube Sel.	"IN" Position
6C4 *††°	6.3	42	BDF
6C5 *	6.3	41	BD
6C6 *	6.3	41	BCEF
6C7 *	6.3	41	BE
6C7 Di.	6.3	0	D & F
6C8-G *	6.3	41	BE & DF
6D6 *	6.3	41	BCEF
6D7 *	6.3	42	BCDE
6D8-G *	6.3	40	BCDEF
6E5 *	6.3	36	BCF
6E6 *	6.3	40	BC & FG
6E7 *	6.3	42	BCDE
6F5 *	6.3	43	CE
6F6 *	6.3	41	BCD
6F7 *	6.3	38	BCE
6F7 *	6.3	24	DF
6F7-S *	6.3	38	BCE
6F7-S	6.3	24	DF
6F8-G	6.3	42	BE & DF
6G6 *	6.3	42	BCD
6G7 *	6.3	37	BE
6G7 Di.	6.3	0	D & G
6H4-G Di. *	6.3	0	C
6H5 *	6.3	37	BCF
6H6 *	6.3	39	B & D
6H7 *	6.3	41	BCD
6H7 *	6.3	25	EF
6H8			
6J4 *††▽	6.3	46	BCDF
6J5 *	6.3	42	BD
6J6 *††	6.3	44	BF & DG
6J7 *	6.3	41	BCDE
6J8-G *	6.3	44	BCDEF
6K5-G *	6.3	42	BE
6K6-GT *	6.3	42	BCD
6K7 *	6.3	40	BCDE
6K8 *	6.3	44	BCDEF
6L5-G *	6.3	41	BD

Tube Type	Fil. Sel.	Tube Sel.	"IN" Position
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6L6 *	6.3	43	BCD
6L7 *	6.3	43	BCDE
6N5 *	6.3	31	BCF
6N6 *	6.3	40	BCD
6N7 *	6.3	41	BC & DF

6P5-G *	6.3	39	BD
6P7-G *	6.3	40	CDE
6Q6 *	6.3	41	BE
6Q6 Di.	6.3	0	D

6Q7 *	6.3	42	BE
6Q7 Di.	6.3	0	C & D
6R6 *	6.3	40	BDE
6R7 *	6.3	41	BE
6R7 Di.	6.3	0	C & D

6S6 *			
6S7 *	6.3	41	BCDE
6S8-GT *††	6.3	42	EF
6S8-GT Di. ††	6.3	0	B & C & G
6SA7 *	6.3	44	BCDGH

6SA7-GT *	6.3	44	BCDG
6SB7-Y *	6.3	45	BCDG
6SC7 *††	6.3	40	BH & CD
6SD7 *	6.3	44	BCFG

6SF5 *††	6.3	43	BD
6SF7 *††	6.3	41	CFH
6SF7 Di. ††	6.3	0	D
6SG7 *	6.3	45	CFG
6SH7 *	6.3	45	CFG

6SJ7 *	6.3	42	BCFG
6SK7 *	6.3	42	BCFG
6SL7 *††	6.3	41	CD & GH
6SN7 *††	6.3	43	CD & GH
6SQ7 *††	6.3	41	FH
6SQ7 Di. ††	6.3	0	C & D

6SR7 *††	6.3	41	FH
6SR7 Di. ††	6.3	0	C & D
6SS7 *	6.3	42	BCFG
6ST7 *††	6.3	41	FH
6ST7 Di. ††	6.3	0	C & D

6L6
7A8

7AB7
12J7

12K7
25Y5

25Z3
58A

58AS
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NOTES
NSTR.

Tube Type	Fil. Sel.	Tube Sel.	"IN" Position
6SU7-GTY *††	6.3	41	CD & GH
6SV7 *††	6.3	44	CFH
6SV7 Di. ††	6.3	0	D
6SZ7 *††	6.3	41	FH
6SZ7 Di. ††	6.3	0	C & D
6T5 *	6.3	36	BCF
6T7-G *	6.3	40	BE
6T7-G Di.	6.3	0	C & D
6T8 *	6.3	42	EH
6T8 Di. *	6.3	0	B & C & F
6U5/6G5 *	6.3	37	BCF
6U6-G *	6.3	44	BCD
6U7-G *	6.3	41	BCDE
6V6 *	6.3	42	BCD
6V7-G *	6.3	37	BE
6V7-G Di.	6.3	0	C & D
6W5-G *	6.3	43	B & D
6W6-G *	6.3	45	BCD
6W7-G *	6.3	42	BCDE
6X4 Spec. *††	6.3	45	B & F
6X5 Spec. *	6.3	45	B & D
6Y3			
6Y5 *	6.3	43	B & G
6Y6-G *	6.3	45	BCD
6Y7 *	6.3	42	BC & DF
6Z3 Spec. *	6.3	45	B
6Z4 Spec. *	6.3	45	B & C
6Z6			
6Z7-G *	6.3	42	BC & DF
6ZY5 Spec. *	6.3	45	B & D
7A4/XXL *	6.3	43	BF
7A5 *	6.3	44	BCF
7A6 Di. *	6.3	0	C & F
7A7 *	6.3	43	BCDF
7A8 *	6.3	42	BCDEF

Tube Type	Fil. Sel.	Tube Sel.	"IN" Position
7AB7/1204	6.3	41	BCH
7AD7 *	6.3	44	BCDF
7AF7 *	6.3	41	CD & EF
7AG7 *	6.3	45	BCDF
7AH7 *	6.3	45	BCDF
7AK7 *	6.3	44.5	BCDF
7B4 *	6.3	43	BF
7B5 *	6.3	42	BCF
7B6 *	6.3	42	BC
7B6 Di.	6.3	0	E & F
7B7 *	6.3	42	BCDF
7B8 *	6.3	42	BCDEF
7C4/1203A *	6.3	36	D
7C5 *	6.3	43	BCF
7C6 *	6.3	40	BC
7C6 Di.	6.3	0	E & F
7C7 *	6.3	41	BCDF
7E5/1201 ☐ ††	6.3	44	BCGH
7E6 *	6.3	42	BC
7E6 Di.	6.3	0	E & F
7E7 *	6.3	40	BEF
7E7 Di.	6.3	0	C & D
7F7 *	6.3	41	CD & EF
7F8 * ⊕	6.3	45	BH & FG
7G7/1232 *	6.3	45	BCDF
7G8/1206 *	6.3	32	BCD & CEG
7H7 *	6.3	45	BCDF
7J7 *	6.3	44	BCDEF
7K7 *	6.3	42	CD
7K7 Di.	6.3	0	E & F
7L7 *	6.3	44	BCDF
7N7 *	6.3	43	CD & EF
7Q7 *	6.3	44	BCDEF
7R7 *	6.3	44	BEF
7R7 Di.	6.3	0	C & D
7S7 *	6.3	45	BCDEF
7T7	6.3	45	BCDEF
7V7 *	6.3	45	BCDF

7AB7
12J7

12K7
25Y5

25Z3
58A

58AS
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XXL

NOTES
INSTR.

Tube Type	Fil. Sel.	Tube Sel.	"IN" Position
7W7 *	6.3	45	BCEF
7X7/XXFM *	6.3	41	BC
7Y4 Spec. *	6.3	45	C & F
7Z4 Spec. *	6.3	45	C & F
10	7.5	38	BC
10Y	7.5	38	BC
12	5	40	BC
12-A	5	40	BC
12A5 †	12.6	42	ABCD
12A6 *	12.6	42	BCD
12A7 *	12.6	38	BCE
12A7 *	12.6	43	F
12A8 *	12.6	42	BCDEF
12AH7 *††	12.6	41	BG & DF
12AL5 *††	12.6	45	C & G
12AT6 *††	12.6	43	BC
12AT6 Di. ††	12.6	0	D & F
12AT7†	12.6	45	ABC & AFG
12AU7 †	12.6	43	ABC & AFG
12AX7†	12.6	44.5	ABC & AFG
12B7 *	12.6	42	BCDF
12B8-GT *	12.6	43	BCE
12B8-GT *	12.6	44	DG
12BA6 *††	12.6	45	BDFG
12BA7 *	12.6	45	BCEFG
12BE6 *††	12.6	45	BCDF
12BF6 *††	12.6	41	BC
12BF6 Di. ††	12.6	0	D & F
12C8 *	12.6	38	BEF
12C8 Di.	12.6	0	C & D
12E5-GT *	12.6	41	BD
12F5 *	12.6	42	BE
12H6 *	12.6	39	B & D
12J5 *	12.6	42	BD
12J7-GT *	12.6	42	BCDE

Tube Type	Fil. Sel.	Tube Sel.	"IN" Position
12K7-GT *	12.6	41	BCDE
12K8-GT *	12.6	44	BCDEF
12Q7-GT *	12.6	42	BE
12Q7-GT Di.	12.6	0	C & D
12SA7 *	12.6	44	BCDGH
12SA7-GT *	12.6	44	BCDG
12SC7 *††	12.6	41	BH & CD
12SF5 *††	12.6	43	BD
12SF7 *††	12.6	41	CFH
12SF7 Di. ††	12.6	0	D
12SG7 *	12.6	45	CFG
12SH7 *	12.6	45	CFG
12SJ7 *	12.6	42	BCFG
12SK7 *	12.6	42	BCFG
12SL7 *††	12.6	41	CD & GH
12SN7 *††	12.6	43	CD & GH
12SQ7 *††	12.6	41	FH
12SQ7 Di. ††	12.6	0	C & D
12SR7 *††	12.6	41	FH
12SR7 Di. ††	12.6	0	C & D
12Z3 Spec. *	12.6	45	B
12Z5 Spec. †	12.6	45	AB & AG
14	12.6	39	BC
14A4 *	12.6	43	BF
14A5 *	12.6	42	BCF
14A7 *	12.6	42	BCDF
14AF7/XXD	12.6	41	CD & EF
14B6 *	12.6	42	BC
14B6 Di.	12.6	0	E & F
14B8 *	12.6	42	BCDEF
14C5 *	12.6	43	BCF
14C7 *	12.6	43	BCDF
14E6 *	12.6	42	BC
14E6 Di.	12.6	0	E & F
14E7 *	12.6	40	BEF
14E7 Di.	12.6	0	C & D
14F7 *	12.6	42	CD & EF
14F8 *⊕	12.6	45	BH & FG

12K7
25Y5

25Z3
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58AS
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XXL

NOTES
NSTR.

Tube Type	Fil. Sel.	Tube Sel.	"IN" Position
14H7 *	12.6	45	BCDF
14J7 *	12.6	44	BCDEF
14N7 *	12.6	43	CD & EF
14Q7 *	12.6	44	BCDEF
14R7 *	12.6	44	BEF
14R7 Di.	12.6	0	C & D
14S7 *	12.6	45	BCDEF
14W7 *	12.6	45	BCEF
14Y4 Spec. *	12.6	45	C & F
14Z3 Spec. *	12.6	45	B
15 Bat.	2	16	BCE
17	12.6	39	BC
18 *	12.6	42	BCF
19 Bat.	2	20	BC & FG
19T8 *	19	42	EH
19T8 Di.	19	0	B & C & F
20 Bat.	3	9	BC
22 Bat.	3	8	BCE
24-A *	2.5	40	BCE
VT-25-A	7.5	38	BC
25A6 *	25	42	BCD
25A7-G *	25	41	BCD
25A7-G *	25	44	F
25AC5 *	25	42	BD
25B5 *	25	41	BCF
25B6-G *	25	44	BCD
25B8-G *	25	43	BCE
25B8-G *	25	44	DG
25C6-G *	25	45	BCD
25D8 *	25	43	BCE
25D8 *	25	42	DF
25D8 Di.	25	0	G
25L6 *	25	45	BCD
25N6-G *	25	40	BCD
25S Bat.	2	17	BG
25S Di.	2	0	C & F
25X6 Spec. *	25	45	B & D
25Y5 Spec. *	25	45	B & G

Tube Type	Fil. Sel.	Tube Sel.	"IN" Position
25Z3 Spec. *	25	45	B
25Z5 Spec. *	25	45	B & G
25Z5-MG Spec. *	25	45	B & G
25Z6 Spec. *	25	45	B & D
26	1.5	36	BC
26A6 *††	25	46	BDFG
26C6 *††	25	40	BC
26C6 Di. ††	25	0	D & F
26D6 *††	25	45	BCDF
27 *	2.5	39	BC
27S *	2.5	39	BC
28D7 *	28	44	BCD & CEG
28Z5 Spec. †	28	45	AC & AF
29 *	2.5	36	BC & BF
30 Bat.	2	19	BC
31 Bat.	2	19	BC
32 Bat.	2	19	BCE
32L7 *	25	42	BCD
32L7 *	25	43	F
33 Bat.	2	24	BCG
RK33 *	6.3	42	CE & DF
34 Bat.	2	20	BCE
35/51 *	2.5	40	BCE
35A5 *	35	44	BCF
35B5 *††△	35	45	BCDF
35C5 *§§	35	44.5	CDFG
35L6 *	35	44	BCD
35S/51S *	2.5	40	BCE
35W4 Spec. † ††	35	45	AD
35Y4 Spec. †	35	45	AB
35Z3-GT Spec. *	35	45	B
35Z4-GT Spec.	35	45	D
35Z5-GT Spec. †	35	45	AD
35Z6-GT Spec. *	35	45	B & D
36 *	6.3	40	BCE
37 *	6.3	39	BC
38 *	6.3	39	BCE
39/44 *	6.3	41	BCE
40	5	35	BC

25Z3
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Tube Type	Fil. Sel.	Tube Sel.	"IN" Position
40Z5 †	50	45	AD
41 *	6.3	42	BCF
41M *	6.3	42	BCD
42 *	6.3	41	BCF
43 *	25	43	BCF
44 *	6.3	41	BCE
45	2.5	41	BC
45Z3 Spec. * §	50	45	FG
45Z5-GT Spec. †	50	45	AD
46	2.5	40	BCG
47	2.5	40	BCG
48 *	25	43	BCF
49 Bat.	2	21	BCG
50	7.5	37	BC
50A5 *	50	45	BCF
50B5 *††Δ	50	45	BCDF
50C5 *§§	50	44.5	CDFG
50C6 *	50	44	BCD
50L6-GT *	50	45	BCD
50X6 Spec. *	50	46	C & F
50Y6-GT Spec. *	50	45	B & D
50Z6 Spec. *	50	45	B & D
50Z7 Spec. †	50	45	AB & AD
51 *	2.5	40	BCE
51/51S *	2.5	40	BCE
52	6.3	40	BCG
53 *	2.5	41	BC & FG
55 *	2.5	37	BE
55 Di.	2.5	0	C & F
55S *	2.5	37	BE
55S Di.	2.5	0	C & F
56 *	2.5	41	BC
56AS *	6.3	39	BC
56S *	2.5	41	BC
57 *	2.5	42	BCEF
57A *	6.3	41	BCEF
57AS *	6.3	41	BCEF
57S *	2.5	42	BCEF
58 *	2.5	42	BCEF
58A/58AS *	6.3	41	BCEF

Tube Type	Fil. Sel.	Tube Sel.	"IN" Position
58AS *	6.3	41	BCEF
58S *	2.5	42	BCEF
59 *	2.5	40	BCDF
70A7-GT	70	45	BCD
70A7-GT	70	45	G
70L7-GT *	70	45	BCD
70L7-GT *	70	44	G
71-A	5	40	BC
75 *	6.3	40	BE
75 Di.	6.3	0	C & F
75S *	6.3	40	BE
75S Di.	6.3	0	C & F
76 *	6.3	39	BC
77 *	6.3	41	BCEF
77-M *	6.3	40	BCDE
78 *	6.3	41	BCEF
78-S *	6.3	41	BCEF
79 *	6.3	42	BC & EG
80 Spec.	5	45	B & C
81 Spec.	7.5	45	B
82 Spec.	2.5	45	B & C
82-V Spec.	2.5	45	B & C
83 Spec.	5	45	B & C
83-V Spec.	5	45	B & C
84/6Z4 Spec. *	6.3	45	B & C
85 *	6.3	37	BE
85 Di.	6.3	0	C & F
85-M *	6.3	37	BE
85-M Di.	6.3	0	C & D
85S *	6.3	37	BE
85S Di.	6.3	0	C & F
86M *	6.3	40	BD
88 Spec.	5	45	B & C
89 *	6.3	40	BCEF
89RS *	6.3	37	BE
89RS Di.	6.3	0	D & G
89/89Y *	6.3	40	BCEF
90 *	2.5	36	BC & BF
92 *	6.3	35	BC & BF
95 *	2.5	41	BCF

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Tube Type	Fil. Sel.	Tube Sel.	"IN" Position
96 Spec. *	10	45	B
98 Spec. *	6.3	45	B & C
99 Bat.	3	0	B & C
112A	5	40	BC
117L7/M7-GT *	117	43	BCD
117L7/M7-GT Spec.	117	45	F
117N7-GT *	117	44	BCD
117N7-GT Spec. ¶	117	45	G
117P7-GT *	117	44	BCD
117P7-GT Spec. ¶	117	45	G
117Z3 Spec. *††°	117	45	BD
117Z4 Spec. *	117	45	D
117Z6-GT Spec. *	117	45	B & D
182-B/482-B	5	40	BC
183/483	5	39	BC
210T	7.5	38	BC
227 *	2.5	39	BC
264 Bat.	1.1	22	BC
482 Spec.	2.5	45	B & C
482B	5	40	BC
485 *	3	40	BC
585	7.5	37	BC
586	7.5	37	BC
717-A *°	6.3	42	CFG
801 *	6.3	41	CDEF
837 *	12.6	44	CDEF
841	7.5	38	BC
842	7.5	40	BC
843			
864 Bat.	1.1	22	BC
865 *	7.5	20	BCE
879/2X2 Spec.	2.5	31	E
951/IB4	2	21	BCE

Tube Type	Fil. Sel.	Tube Sel.	"IN" Position
954 *	6.3	42	BCEF
955 *	6.3	43	BC
956 *	6.3	43	BCEF
957 Di. * *	1.5	4	BC
958 Di. * *	1.5	13	BC
1201  ††	6.3	44	BCGH
1203 Di. *	6.3	0	D
1204 $\oplus$ *	6.3	41	BDH
1221 *	6.3	40	BCEF
1223 *	6.3	40	BCDE
1231 *	6.3	46	BCDF
1232/7G7 *	6.3	46	BCDF
1284 *	12.6	42	BCDF
1291 Bat. †	3	30	ABC & AFG
1293 Bat.	1.5	24	BF
1294 Di.	1.5	0	D
1299 Bat. †	2.5	32	ABCF
1602	7.5	38	BC
1603 *	6.3	40	BCEF
1609 Bat.	1.1	33	BCG
1612 *	6.3	43	BCDE
1613 *	6.3	41	BCD
1614 *	6.3	43	BCD
1619	2.5	42	BCDG
1620 *	6.3	42	BCDE
1621 *	6.3	41	BCD
1622 *	6.3	42	BCDE
1624	2.5	42	BCE
1626 *	12.6	41	BD
1629 *	12.6	37	BCD
1631 *	12.6	43	BCD
1632 *	12.6	45	BCD
1634 *††	12.6	41	BH & CD
1635			
1642 *	6.3	42	CE & DF
1851 *	6.3	44	BCDE
1852/6AC7 *	6.3	45	BCFG
1853/6AB7 *	6.3	44	BCFG

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Tube Type	Fil. Sel.	Tube Sel.	"IN" Position
7193 *oo	6.3	43	E
9001 *††	6.3	42	BDF
9002 *o††	6.3	43	BDF
9003 *††	6.3	42	BDF
9004 Di. *	6.3	0	B
9005 Di.	3	0	C
G2-S Di. *	2.5	0	B & C
G-84 *	2.5	29	B
XXD *	12.6	41	CD & EF
XXFM *	6.3	41	BC
XXFM Di.	6.3	0	E & F
XXL *	6.3	43	BF

— NOTES —

- ° When testing for open elements or short checking, both B&D toggles should be thrown to "IN" or "OUT" positions together.
- § The same holds for toggles F&G. See note above.
- The same holds for toggles B&H and C&G. See first note.
- ▽ The same holds for toggles B,D&F. See first note.
- △ The same holds for toggles B&C. See first note.
- * * Reject Point is 16 on 50 Line Arc.
- † Index switch "A" to "IN" before inserting tube; keep in this position during complete test. A lighted neon lamp will indicate continuity of third filament connection. No short test; refer to DETAILED OPERATING INSTRUCTIONS.
- * Test for cathode leakage by throwing "A" switch to "IN" when tube is hot. All other switches should be at "OUT."
- †† Test in "A" socket.
- ⊕ Test in "B" socket.
- ¶ Place "Norm." "Rev." toggle in "Rev." position. To short check, index "A" toggle to "IN" position, leaving "G" in the "IN" position.
- || Place "Norm." "Rev." toggle in "Rev." position.
- & Move lead to the cap that gives the higher reading.
- °° Tie both caps together.

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STEP-BY-STEP PROCEDURE FOR TESTING TUBES

1. a. Plug the device into a 50 to 1600 cycle 110 or 120 volt supply.
- b. Rotate the "CIRCUIT SELECTOR" to the "LINE SHORT CHECK" position.
- c. Set the "FILAMENT ELECTOR" in accordance with the tube data.
- d. If a single dagger (†) appears following the tube type number, index the "A" toggle to the "IN" position before inserting any tubes.

Note: See DETAILED OPERATING INSTRUCTIONS.

- e. Insert the tube in the socket corresponding to the proper pin arrangement. If a double dagger (††) appears after the tube type number on the tube data chart, the "A" socket should be used.
- f. Rotate the "LINE VOLTAGE" control until the pointer indicates at the "LINE CHECK" mark.
- g. Rotate the "TUBE SELECTOR" to the figure indicated on the tube data chart.
- h. Short Test the tube in the following manner:
 1. Place all toggle switches in "OUT" position.

Note: Do not index the "A" toggle switch to the "OUT" position when a single dagger (†) follows a tube type number.

(Continued)

2. Index one of the toggle switches called for on the data chart under the "IN" position column to the "IN" position.
3. Tap tube and note if the neon lamp lights.
4. A lighted neon lamp indicates a short and the tube should be rejected.
5. Return the toggle to the "OUT" position.
6. Repeat the above procedure for each of the other toggle switches called for on the data card.

Note: The position of the TUBE SELECTOR has no effect when short checking a tube. Index only those toggle switches called for on the data chart under "IN" position column.

7. If a star (*) follows the tube number on the data chart check for cathode leakage by indexing the "A" toggle to "IN" position with all the other toggles in the "OUT" position.
- i. Rotate the CIRCUIT SELECTOR to a position determined by the following:
1. Select the DIODE, BAT. TUBES, or SPEC. TUBES position on the CIRCUIT SELECTOR in accordance with the abbreviations Di., Bat., or Spec., following the tube type number on the data chart.
 2. Use the NORMAL TUBES position when no abbreviation follows the tube type number on the data chart.

(Continued)

j. Index the toggle switches at the bottom of the panel to the "IN" position as called for on the tube data chart under the "IN" position column for a total emission test.

k. Note meter indication. If pointer is in the red or yellow section, reject the tube as bad. If the pointer indicates in the green section, proceed as outlined below with the separate element check.

l. Check each element separately as follows:

1. Leave the tube checker set for total emission test as above per paragraphs i-k.

2. Using one of the toggles already in the "IN" position, index it to the "OUT" position and note a drop in the meter deflection.

3. A drop in meter deflection of only one-quarter of a division indicates that the element is making contact. (See DETAILED OPERATING INSTRUCTIONS).

4. Return the toggle to the "IN" position.

5. Repeat the same procedure for each of the other toggles that are in the "IN" position. Note: Do not index an "A" toggle switch to the "OUT" position when a single dagger (†) follows the tube type number.