

Directly Interchangeable Tubes

NOTE: Tubes in the "Tube Number" column are directly replaceable with tubes in the "Replace With" column. The reverse, however, will not be a correct replacement on many tube types.

Replacements shown for many older tube types are the newer more reliable industrial equivalents. Many of these will be listed only in the catalog of Allied Radio's industrial subsidiary, Allied Electronics Corp., but may be purchased from Allied Radio. Prices on request.

Tube Number	Replace with	Tube Number	Replace with	Tube Number	Replace with
01A	40	1AX2	{ 1H2 1S2A	1LA4	1LA4E
0A2	{ 6073 6626			1LA6	1LC6
0A3	VR75			1LC5	1LN5
0A4	1267	1B3GT	{ 1AU3 1G3GT 1G3GT/1B3GT 1J3GT 1K3GT	1LC6	1LA6
			{ 1N2 1N2A	1LE3	1LF3
0B2	{ OB2WA 6074 6627			1LF3	1LE3
0B3	VR90			1LN5	1LC5
0C3	VR105			1M3	1N3
0D3	VR150			1N2	{ 1N2A 1AU3 1J3A
0Y4	0Y4G	1B4	{ 1A4 1A4P 1A4T 1B4P 1B4T	1N2A	{ 1N2 1AU3 1J3A
0Z4	{ 1003 0Z4A		{ 32 34 951	1N5	1P5
				1P5	1N5
				1Q5	1C5
				1R5SF	1AQ5
1A4	{ 1A4P 1A4T 1B4 1B4P 1B4T 32 34 951	1C5	1Q5	1S2	{ 1S2A 1H2
		1C8	1E8		
		1D5	1E5	1S6	1T6
		1D8	1B8		
		1DN5	1U5	1T4SF	{ 1AF4 1AJ4 1AM4
1A5	1T5	1E4	1G4		
1AC5	1V5	1E5	1D5		
1AD5	1W5	1E8	1C8		
1AF4	{ 1AJ4 1AM4 1T4SF	1G3GT	{ 1AU3 1B3GT 1G3GT/1B3GT 1J3GT 1K3GT	1T5	1A5
			{ 1N2 1N2A	1T6	1S6
1AF5	{ 1AH5 1AR5			1U4	5910
1AH5	{ 1AF5 1AR5	1G4	1E4	1U5	1DN5
		1G5	1J5	1U5SF	1AS5
				1V	6Z3
1AJ4	{ 1AF4 1AM4 1T4SF			1V5	1AC5
1AM4	{ 1AF4 1AJ4 1T4SF	1G4	1E4	1W5	1AD5
1AR5	{ 1AF5 1AH5	1G5	1J5	1X2	{ 1X2A 1X2B
1AQ5	1R5SF				
1AS5	1U5SF			2A3	{ 2A3H 5930
1AU3	{ 1N2 1N2A	1J3GT	{ 1AU3 1B3GT 1G3GT/1B3GT 1K3GT	2A7	2A7S
			{ 1N2 1N2A	2AF4	{ 2AF4A 2AF4B
		1J5	1G5	2B7S	2B7
				2CY5	{ 2EA5 2EV5
		1K3GT	{ 1AU3 1B3GT 1G3GT 1G3GT/1B3GT 1J3GT	2EA5	2EV5
			{ 1N2 1N2A	2ER5	{ 2FQ5 2FQ5A 2FY5

Directly Interchangeable Tubes—(Continued)

Tube Number	Replace with	Tube Number	Replace with	Tube Number	Replace with
2EV5	2EA5	3C5	3Q5	3W4	{ 3S4SF 3Z4
2E30	5812				
2E31	2E32	3CB6	{ 3BZ6 3CF6 3DK6	3Z4	{ 3S4SF 3W4
2E32	2E31				
2E35	2E36	3CE5	3BC5	4AU6	4BA6
2E36	2E35			4BA6	4AU6
2E41	2E42	3CF6	{ 3BZ6 3CB6 3DK6	4BC5	4CE5
2E42	2E41				
2FH5	{ 2ES5 2FQ5 2FQ5A 2GK5	3CS6	{ 3BE6 3BY6	4BC8	{ 4BQ7A 4BS8 4BX8 4BZ7 4BZ8 5BK7A
2FQ5	{ 2ES5 2FQ5A 2GK5	3CY5	{ 3EA5 3EV5	4BE6	4CS6
2FS5	2GU5	3DK6	{ 3BZ6 3CB6 3CF6		
2FY5	{ 2ER5 2FQ5 2FQ5A 2GK5	3EA5	3EV5	4BQ7A	{ 4BC8 4BS8 4BX8 4BZ7 4BZ8 5BK7A
		3EH7	3EJ7		
		3EJ7	3EH7		
2GK5	{ 2FQ5 2FQ5A	3ER5	{ 3FQ5 3FQ5A 3FY5	4BS8	{ 4BC8 4BQ7A 4BX8 4BZ7 4BZ8 5BK7A
2GU5	2FS5	3EV5	3EA5	4BU8	{ 4GS8 4HS8
2G21	2G22				
2G22	2G21	3FH5	{ 3ES5 3FQ5 3FQ5A 3GK5	4BX8	{ 4BC8 4BQ7A 4BS8 4BZ7 4BZ8 5BK7A
3A3	3AW3, 3B2				
3AF4A	3AF4B	3FQ5	{ 3FQ5A 3ES5 3GK5	4BZ6	{ 4CB6 4DE6 4DK6
3AU6	3BA6	3FS5	3GU5		
3AW3	3A3	3FY5	3ER5	4BZ7	{ 4BC8 4BQ7A 4BS8 4BX8 4BZ8 5BK7A
3B2	{ 3A3 3AW3	3GK5	{ 3FQ5 3FQ5A		
3B7	1291	3GS8	{ 3BU8 3BU8A 3HS8	4BZ8	{ 4BC8 4BQ7A 4BS8 4BX8 4BZ8 5BK7A
3BA6	3AU6				
3BC5	3CE5	3GU5	3FS5		
3BE6	{ 3BY6 3CS6	3GS8	{ 3BU8 3BU8A 3GS8	4BZ8	{ 4BC8 4BQ7A 4BS8 4BX8 4BZ8 5BK7A
3BU8	{ 3BU8A 3GS8 3HS8				
3BX6	3BY7	3H58	{ 3BU8 3BU8A 3GS8		
3BY6	{ 3BE6 3CS6	3LE4	3LF4		
3BY7	3BX6	3Q4	3S4	4BZ8	{ 4BC8 4BQ7A 4BS8 4BX8 4BZ7 5BK7A
3BZ6	{ 3CB6 3CF6 3DK6	3Q5	3C5		
		3S4SF	{ 3W4 3Z4		

Directly Interchangeable Tubes—(Continued)

Tube Number	Replace with	Tube Number	Replace with	Tube Number	Replace with
4CB6	{ 4BZ6 4DE6 4DK6	5BK7A	{ 4BC8 4BQ7A 4BS8 4BX8 4BZ7 4BZ8	5U4GA	{ 5U4GB 5AS4 5AS4A 5AU4 5DB4 5R4 5V3
4CE5	4BC5	5BQ7A	{ 5BS8 5BZ7	5U4GB	{ 5AS4 5AS4A 5DB4
4CS6	4BE6	5BS8	{ 5BQ7A 5BZ7	5U8	{ 5EA8 5GH8
4DE6	{ 4BZ6 4CB6 4DK6	5BZ7	{ 5BQ7A 5BS8	5V4	{ 5V4GY 5AR4
4DK6	{ 4BZ6 4CB6 4DE6	5CG4	{ 5AR4 5V4 5Z4	5W4	{ 5AR4 5AZ4 5CG4 5R4 5T4 5V4 5Y3 5Z4
4EH7	4EJ7	5CG8	5FG7	5X3	{ 13 80 83V 88
4EJ7	4EH7	5CM6	5CZ5		5Y3
4EW6	4GM6	5DB4	{ 5AS4 5AS4A 5U4GB	5Z3	
4GS8	{ 4BU8 4HS8	5DH8	5CL8		5Z4
4HS8	{ 4BU8 4GS8	5DJ4	5DN4	6AB5	
5AS4	{ 5AS4A 5DB4 5U4GB 5V3 5V3A	5DN4	5DJ4		6AB7
	5AU4	5EA8	{ 5GH8 5U8	6AC5G	
5AW4	{ 5AS4 5AS4A 5AU4 5DB4 5R4G 5U4GB 5V3 5V3A	5EW6	5GM6		5T4
	5AX4	{ 5AR4 5AS4 5AS4A 5R4G 5T4 5U4GB 5V4	5FV8	5BR8	
5AZ4		{ 5AR4 5AX4 5CG4 5R4 5T4 5V4 5V3 5Z4	5GH8	{ 5EA8 5U8	5U4G
		5GM6	5EW6		

Directly Interchangeable Tubes—(Continued)

Tube Number	Replace with	Tube Number	Replace with	Tube Number	Replace with
6AC7	{ 6AB7 6AJ7 1852 6134	6AT6	{ 6AV6 6BK6 6BT6 6066	6AX8	{ 6EA8 6GH8 6U8 6U8A
6AD4	{ 5637 5719 5719A 5898 SD917A	6AU4GT 6AU5GT	6AU4GTA 6FW5	6AY3	{ 6AY3A 6BA3
6AD6 6AE5 6AF5 6AF6 6AF11	6AF6 6AF5 6AE5 6AD6 6AS11	6AU6	{ 6AU6A 6BA6 6136 7543	6AY3A	{ 6AY3 6BA3
6AG5	{ 6BC5 6CE5 6186	6AU7	7AU7	6B6	6Q7
6AJ7	{ 6AB7 6AC7	6AU8A	{ 6AU8 6AW8A 6BA8A 6BH8	6BA3	{ 6AY3 6AY3A
6AK5	{ 6AJ5 1220 5654 6096 6968	6AV5GA	{ 6AV5GT 6FW5	6BA6	{ 6AU6 6AU6A 6BD6 6CG6 5749 6660 7496 7543
6AK7	6AG7	6AV6	{ 6AT6 6BK6 6BT6	6BA8	{ 6AU8 6AW8A 6BH8
6AK8	{ 6T8 6T8A	6AW6	{ 6CB6 6CB6A 6CF6 6CD6 6DE6	6BC5	{ 6AG5 6CE5
6AL5	{ 6EB5 5726 6058 6097 6663 7631	6AW8	{ 6AU8A 6BA8A	6BC8	{ 6BQ7 6BQ7A 6BS8 6BX8 6BZ7 6BZ8 6HK8 X155
6AM8	6HJ8	6AW8A	{ 6AW8 6AU8 6AU8A 6BA8 6BA8A	6BD6	{ 6BA6 6CG6
6AQ5	{ 6AQ5A 6BM5 6005 6095 6669	6AX4GT	{ 6AX4GTA 6AX4GTB 6AS4GT 6DA4 6DA4A 6DM4 6DQ4	6BE6	{ 6BY6 6CS6 5750 5915
6AS4	6DQ4	6AX4GT	{ 6AX4GTB 6DA4 6DA4A 6DM4 6DQ4	6BF6	6BU6
6AS7G	{ 6AS7GA 6AS7GT 6080 6520	6AX4GTA	{ 6AX4GTB 6DA4 6DA4A 6DM4 6DQ4	6BG7	{ 6BF7 6021
6AS11	6AF11			6BH8	{ 6AU8 6AU8A 6AW8 6AW8A 6BA8 6BA8A

Directly Interchangeable Tubes—(Continued)

Tube Number	Replace with	Tube Number	Replace with	Tube Number	Replace with
6BJ6	{ 6BJ6A 6662 7694	6BU6	6BF6	6CA5	6EH5
6BK6	{ 6AT6 6AV6 6BT6	6BU8	{ 6BU8A 6GS8 6HS8	6CB5	{ 6CB5A 6CL5
6BL7GT	{ 6BL7GTA 6BX7GT 6DN7	6BW7	{ 6BX6 6EL7	6CB5A	6CL5
6BL8	{ 6U8 6U8A	6BX6	{ 6BW7 6BY7 6EL7	6CB6	{ 6CB6A 6AW6 6CF6 6DC6 6DE6 6DK6 6HQ6 6676 7732
6BM5	{ 6AQ5 6AQ5A	6BX7GT	{ 6BL7GT 6BL7GTA 6DN7	6CD6G	{ 6DN6 6EX6
6BQ5	{ 7189 7189A 7320	6BX8	{ 6BC8 6BQ7 6BQ7A 6BS8 6BZ7 6BZ8 6HK8 X155	6CF6	{ 6AW6 6BZ6 6CB6 6CB6A 6DC6 6DE6 6DK6
6BQ6GT	{ 6BQ6GTA 6BQ6GTB 6BQ6GTB/6CU6 6CU6 6DQ6A 6DQ6B 6FH6 6GW6	6BY6	{ 6BE6 6CS6	6CG6	{ 6BA6 6BD6
6BQ7	{ 6BQ7A 6BC8 6BS8 6BX8 6BZ7 6BZ8 6HK8 X155	6BY7	6BX6	6CG8	{ 6CG8A 6FG7
6BR5	6DA5	6BZ6	{ 6DC6 6HQ6	6CG8A	6FG7
6BR8	{ 6BR8A 6FV8 6FV8A	6BZ7	{ 6BC8 6BQ7 6BQ7A 6BS8 6BX8 6BZ8 6HK8 X155	6CH7	6CX7
6BR8A	{ 6FV8 6FV8A	6BZ8	{ 6BC8 6BQ7 6BQ7A 6BS8 6BX8 6BZ7 6BZ8 6HK8 X155	6CJ6	6DR6
6BS8	{ 6BC8 6BQ7 6BQ7A 6BX8 6BZ7 6BZ8 6HK8 X155	6C4	{ 6100 9002	6CM6	6CZ5
6BT6	{ 6AT6 6AV6 6BK6	6C5	{ 6J5 6L5	6CS5	6DW5
		6C6	{ 77 1221 1223 7700	6CS6	{ 6BE6 6BY6
				6CU6	{ 6BQ6GTB 6BQ6GTB/6CU6 6DQ6 6DQ6A 6DQ6B 6FH6 6GW6
				6CW4	{ 6DS4 7895
				6CW7	6CF7
				6CX7	6CH7
				6CX8	{ 6EB8 6GN8 6HF8 6JE8

Directly Interchangeable Tubes—(Continued)

Tube Number	Replace with	Tube Number	Replace with	Tube Number	Replace with		
6HS8	{ 6BU8 6BU8A 6GS8	6SQ7	6SQ7W	6W4GTA	{ 6AX4GTA 6AX4GTB 6DA4 6DA4A 6DM4 6DQ4 6U4GT		
6J5	{ 6C5 6L5	6SU7	6188				
6J7	{ 1233 1620 7000	6T5	{ 6G5 6H5 6U5				
6JE8	{ 6EB8 6GN8 6HFB	6T8	{ 6T8A 6AK8	6X5GT	0Z4		
6K4	6778	6U4GT	{ 6AS4GT 6AX4GT 6AX4GTA 6AX4GTB 6DA4 6DA4A 6DM4 6DQ4 6W4GT 6W4GTA	6X8	6X8A		
6K7	{ 6U7 5732		6U5	{ 6G5 6H5 6T5	6Z3	1V	
6K11	6Q11		6U7	6K7	7A4	XXL	
6L4	6F4		6U8	{ 6U8A 6AX8 6EA8 6GH8 1252 6678 7731	7A7	{ 7A7LM 7H7	
6L6	{ 6L6G 6L6GA 6L6GAY 6L6GB 6L6GC 6L6GT 6L6GX 1622 5881 5932 7581 7581A	6U8A		{ 6EA8 6GH8	7AB7	1204	
	6L7	{ 1612 1620		6V6	7AG7	7AH7	
	6N5	{ 6N5G 6AB5	7AH7		{ 7AG7 7B7		
	6N8	{ 6AD8 6DC8	7A17		1273		
6Q7	{ 6B6 6118	6U8A	{ 6V6G 6V6GT 6V6GTA 6V6GTX 6V6GTY 6V6GX 6V6GY 7408 7871	7AN7	7EK7		
6SA7	{ 6SB7Y 5961	6W4GT	{ 6W4GTA 6AS4GT 6AX4GT 6AX4GTA 6AX4GTB 6DA4 6DA4A 6DM4 6DQ4 6U4GT	7AU7	6AU7		
6SD7	6SE7		6U8	{ 6U8A 6AX8 6EA8 6GH8 1252 6678 7731	7B7	7AH7	
6SE7	6SD7		6U8A	{ 6EA8 6GH8	7C4	{ 1203 1203A	
6SJ7	5693		6V6	{ 6V6G 6V6GT 6V6GTA 6V6GTX 6V6GTY 6V6GX 6V6GY 7408 7871	7E5	1201	
6SK7	6137	6W4GT	{ 6W4GTA 6AS4GT 6AX4GT 6AX4GTA 6AX4GTB 6DA4 6DA4A 6DM4 6DQ4 6U4GT	7E7	7R7		
6SL7	6113			6V6	{ 6V6G 6V6GT 6V6GTA 6V6GTX 6V6GTY 6V6GX 6V6GY 7408 7871	7EK7	7AN7
6SN7	{ 6SN7GTA 6SN7GTB 5692			6V6	{ 6V6G 6V6GT 6V6GTA 6V6GTX 6V6GTY 6V6GX 6V6GY 7408 7871	7ES8	7DJ8
				7FC7	7EK7		
				7G7	1232		
				7H7	{ 7A7 7A7LM		
				7J7	7S7		
				7R7	7E7		
				7S7	7J7		
				7V7	7G7		
				8AU8A	8AW8A		
				8AW8A	8AU8A		
				8BA8A	{ 8AU8 8AU8A 8AW8A 8BH8		
				8BH8	{ 8AU8 8AU8A 8AW8A 8BA8A		

Directly Interchangeable Tubes—(Continued)

Tube Number	Replace with	Tube Number	Replace with	Tube Number	Replace with
8CX8	{ 8EB8 8GN8 8JE8	12AG6	12AD6	12AZ7	12AZ7A
8EB8	{ 8CX8 8GN8 8JE8	12AT6	{ 12AT6A 12AV6 12AV6A 12BK6 12BT6	12B7	{ 14A7 14H7
8GN8	{ 8CX8 8EB8 8JE8	12AT6A	12AV6A	12BA6	{ 12BA6A 12AU6 12AU6A
8JE8	{ 8CX8 8EB8 9GN8	12AT7	{ 12AT7WA 12AT7WB 6060 6201 6671 6679 7492 7728	12BA6A	12AU6A
9A8	{ 9U8 9U8A	12AU6	{ 12AU6A 12BA6 12BA6A	12BD6	{ 12BA6 12BA6A
9U8	{ 9U8A 9A8	12AU7	{ 12AU7A 12AU7W 12AU7WA 5963 6067 6189 6680 7316 7489 7730	12BE6	{ 12BE6A 12CS6
10DE7	10EW7	12AV6	{ 12AV6A 12AT6 12AT6A 12BK6 12BT6	12BH7	{ 12BH7A 6913
10DR7	{ 10FD7 10FR7	12AV6A	12AT6A	12BK6	{ 12AT6 12AT6A 12AV6 12AV6A 12BT6
10EB8	{ 10GN8 10HF8 11JE8	12AX4GT	{ 12AX4GTA 12AX4GTB 12D4 12D4A 12DM4 12DQ4	12BL6	12AF6
10EG7	10EM7	12AX7	{ 12AX7A 12DF7 12DT7 5721 6057 6681 7025 7025A 7494 7729	12BQ6GT	{ 12BQ6/12CU6 12CU6 12DQ6A 12DQ6B 12GW6
10EM7	10EG7			12BT6	{ 12AT6 12AT6A 12AV6 12AV6A 12BK6
10FD7	10FR7			12BU6	12BF6
10FR7	10FD7			12BV7	{ 12BY7 12BY7A 12DQ7
10GN8	{ 10EB8 10HF8 11JE8			12BY7	{ 12BY7A 12BV7 12DQ7 7733
10HF8	{ 10EB8 10GN8 11JE8			12BY7A	12DQ7
11C5	12DM5			12C5/12CU5	{ 12C5 12CU5 12R5
11JE8	{ 10EB8 10GN8 10HF8			12CA5	12EH5
12AE6	{ 12AE6A 12FT6				
12AE6A	{ 12AE6 12FT6				
12AF6	{ 12BL6 12AC6				

Directly Interchangeable Tubes—(Continued)

Tube Number	Replace with	Tube Number	Replace with	Tube Number	Replace with
12CS5	{ 12DT5 12DW5	12EK6	{ 12DZ6 12EA6	14R7	14E7
12CS6	{ 12BE6 12BE6A	12EN6	{ 12L6GT 12W6GT	14S7	14J7
12CU6	{ 12BQ6GTB 12BQ6GT/12CU6 12DQ6A 12DQ6B 12GW6	12EZ6	12CX6	15EA7	13EM7
12CX6	12EZ6	12FK6	12FM6	16A5	15CW5
12D4	{ 12D4A 12AX4GTB 12DM4 12DQ4	12FM6	12FK6	17AX3	17BE3
12D4A	{ 12DM4 12DQ4	12FT6	{ 12AE6 12AE6A	17AX4GT	{ 17AX4GTA 17D4 17D4A 17DM4 17DQ4
12DF7	{ 12AX7 12AX7A 12DT7 7025 7025A	12G4	12H4	17AX4GTA	{ 17D4 17D4A 17DM4 17DQ4
12DM4	{ 12D4A 12DQ4	12GW6	12DQ6B	17BQ6GTB	{ 17DQ6A 17DQ6B 17GW6
12DM5	11C5	12L6GT	{ 12EN6 12W6GT	17C5	{ 17CU5 17R5
12DQ6	{ 12DQ6A 12DQ6B 12GW6	12L8	1644	17CU5	{ 17C5 17R5
12DQ6A	{ 12DQ6B 12GW6	12SA7	12SY7	17D4	{ 17D4A 17AX4GTA 17DM4 17DQ4
12DQ6B	12GW6	12SC7	1634	17D4A	{ 17DM4 17DQ4
12DQ7	12BY7A	12SK7	5661	17DM4	{ 17D4A 17DQ4
12DT7	{ 12AX7 12AX7A 12DF7 7025 7025A	12SN7	12SX7	17DQ6	{ 17DQ6A 17DQ6B 17GW6
12DW7	7247	12SR7	12SW7	17DQ6A	{ 17DQ6B 17GW6
12DZ6	{ 12EA6 12EK6	12SW7	12SR7	17DQ6B	{ 17DQ6B 17GW6
12EA6	{ 12DZ6 12EK6	12SX7	12SN7	17DQ6B	{ 17DQ6B 17GW6
12EH5	12CA5	12SY7	12SA7	17DQ6B	{ 17DQ6B 17GW6
		12W6GT	{ 12EN6 12L6GT	17DQ6B	{ 17DQ6B 17GW6
		13DR7	{ 13FD7 13FR7	17DQ6B	17GW6
		13EM7	15EA7	17L6GT	17W6GT
		13FD7	13FR7	17W6GT	17L6GT
		13FR7	13FD7	18FW6	{ 18FW6A 18GD6 18GD6A
		14A7	{ 12B7 14H7	18FW6A	18GD6A
		14A7	14H7	18FY6	{ 18FY6A 18GE6 18GE6A
		14AF7	XXD		
		14C7	1280		
		14E7	14R7		
		14GT8	{ 14GT8A 14JG8 7724		
		14H7	{ 12B7 14A7		
		14J7	14S7		
		14JG8	{ 14GT8 14GT8A		

Directly Interchangeable Tubes—(Continued)

Tube Number	Replace with	Tube Number	Replace with	Tube Number	Replace with
18FY6A	18GE6A	25CU6	{25BQ6T 25BQ6GTB/25CU6 25DQ6A}	34GD5	{34GD5A 32ET5 32ET5A}
18GD6	{18GD6A 18FW6 18FW6A}			34GD5A 37	32ET5A 76
18GD6A	18FW6A	25DN6	{25CD6GB 21EX6}	39	{39/44 44}
18GE6	{18GE6A 18FY6 18FY6A}	25EC6	{25CD6GB 21EX6}	39/44	{39 44}
18GE6A	18FY6A	25EH5	25CA5	44	{39 39/44}
19AU4	{19AU4GT 19AU4GTA 17DE4}	25L6GT	{25W6GT 6046}	50EH5	{50EH5A 50CA5}
19AU4GT	{19AU4 19AU4GTA 17DE4}	25S	{25 1B5 1B5/25S}	50HK6	50HC6
19C8	{19T8 19T8A}	25U4GT	{25AX4GT 25D4 25W4GT}	50Y7	50Z7
19CL8A	{19CL8B 19JN8}	25W4GT	{25AX4GT 25D4 25U4GT}	50Z6	50AX6
19EA8	19EA8A	25W6GT	{25L6GT 6046}	50Z7	50Y7
19JN8	{19CL8A 19CL8B}	25Y5	25Z5	56	27
19T8	{19T8A 19C8}	27GB5	56 28GB5	76	37
21EX6	25CD6GB	32	{1A4 1A4P 1A4T 1B4 1B4P 1B4T 34 951}	77	6C6
25AX4GT	25D4			78	6D6
25BQ6GA	{25BQ6GTB/25CU6 25CU6 25DQ6A}	32ET5	{32ET5A 34GD5 34GD5A}	80	{5X3 13 83V 88}
25CA5	{25C5 25EH5}	32L7	25A7	81	{16 16B}
25CD6G	{25CD6GA 25CD6GB 25DN6 21EX6}	34	{1A4 1A4P 1A4T 1B4 1B4P 1B4T 32 951}	83	5Z3, 80
25CD6GA	{25CD6GB 25DN6 21EX6}			117L7	117M7
25CD6GB	21EX6	117N7	117P7	807	5933
				CK1005	{0Y4 0Z4A}
				CK1013	5517
				1201	7E5
				1203	7C4
				1204	7AB7
				1206	768
				1221	6C6
				1223	6J7
				1229	1A4
				1230	30
				1231	7V7
				1232	7G7
				1267	0A4
				1273	7A7

Directly Interchangeable Tubes—(Continued)

Tube Number	Replace with	Tube Number	Replace with	Tube Number	Replace with	
1274	6X5	5672	5678	7025	{ 7025A 12AX7 12AX7A 12DF7 12DT7	
1275	{ 5X3 80 83	5678	5672			
		5691	{ 6SN7 5692			
		5692	{ 5691 6SN7			
1280	14H7	5693	6S17	7247	12DW7	
1284	12B7		7408	6V6		
1291	3B7	5725	{ 6AJ5 6AK5	7543	{ 6AU6 6AU6A	
1294	1R4		5731	955	7581	{ 7581A 6L6GC
1299	3D6			5824		{ 25A6 25B6 25C6 25L6
1612	6L7	5881	{ 6L6GC 7581 7581A		X155	{ 6BC8 6BQ7 6BQ7A 6BS8 6BX8 6BZ7 6BZ8
1614	6L6		5910	1U4		
1620	6J7	5915	6BE6	XXB	3C6	
1634	12SC7	6080	6AS7		XXD	14AF7
1644	12L8	5590	{ 5591 9001 9003	XXFM	7X7	
5517	CK1003			XXL	7A4	
5590	{ 5591 9001 9003	5910	1U4	XXL	7A4	
						5608-A
5654	{ 6AJ5 6AK5	5915	6BE6	XXL	7A4	
		6080	6AS7			

Directly Interchangeable Tubes

Foreign to American Tubes

Foreign Tube Number	Replace with American Tube	Foreign Tube Number	Replace with American Tube	Foreign Tube Number	Replace with American Tube
1C1	1R5	5M-HH3	5J6	6F22	6267
1C2	1AC6	5P29	6CN6	6F23	6EL7
1C3	1AB6	5S1	807	6F24	6EJ7
1D13	1A3	6AT7N	6D78	6F25	6EH7
1F2	1L4	6B32	6AL5	6F26	6BY7
1F3	1T4	6BC32	6AV6	6F31	6BA6
1FD1	1AH5	6CC31	6J6	6F33	6AS6
1FD9	1S5	6D2	6AL5	6F36	6AH6
1H35	1AB6	6F10	6AC7	6FD12	6DC8
1P1	3C4	6F12	6AM6	6G-B3A	6GW6
1P10	3S4	6F16	6CJ5	6G-B6	6BQ6GT
1P11	3V4	6F18	6EC7	6G-B9	6DQ6A
4R-HH2	4BS8	6F19	6BY7	6G-K17	6AU4GT
4Y25	807	6F21	6CQ6	6H31	6BE6

Continued on page 52

Directly Interchangeable Tubes—(Continued)

Foreign to American Tubes

Foreign Tube Number	Replace with American Tube	Foreign Tube Number	Replace with American Tube	Foreign Tube Number	Replace with American Tube
6L10	6AG7	30P16	16A5	DF904	1U4
6L12	6AQ8	30P18	15CW5	DH77	6AT6
6L13	12AX7	30P19	25GF6	DH118	14L7
6L31	6AQ5	30PL1	13GC8	DH142	14L7
6L34	6AQ4	30PL13	16GK8	DH149	7C6
6L43	6CL6	52KU	5Z4G	DH150	6CV7
6LD3	6CV7	62DDT	6CV7	DH719	6AK8
6LD12	6AK8	62TH	6CU7	DK32	1A7GT
6LD13	6BD7	62VP	6CJ5	DK91	1R5
6M-HH3	6J6	63TP	6AB8	DK92	1AC6
6P9	6BM5	64ME	6CD7	DK96	1AB6
6P15	6BQ5	64SPT	6BX6	DL33	3Q5GT
6P17	6AM5	65ME	6BR5	DL35	1C5GT
6R-HH2	6BS8	66KU	6BT4	DL36	1Q5GT
6R-R8C	5847	67PT	6CK5	DL91	1S4
6S5G	6E5	108C1	0B2	DL92	3S4
6Z4	6BX4	121VP	12AC5	DL93	3A4
6Z31	6X4	141DDT	14L7	DL94	3V4
7D9	6AM5	141TH	14K7	DL95	3Q4
7D10	6CH6	150C2	0A2	DL96	3C4
7F16	6CJ5	150C3	0D3	DM70	1M3
8A8	9A8	171DDP	17C8	DM71	1N3
8D3	6AM6	213PEN	21A6	DY30	1B3GT
8D5	6BR7	311SU	31A3	DP61	6AK5
8D6	6BW7	451PT	45A5	DY70	5642
8D7	6BS7	A1834	6AS7G	DY80	1X2A
8D8	6267	AD	6Z3	DY86	1S2
8R-HP1	6CQ6	B36	12SN7GT	DY87	1S2A
9D6	6CQ6	B152	12AT7	EAA91	6AL5
9P5	9BM5	B309	12AT7	EABC80	6AK8
10C14	19D8	B319	7AN7	EAF42	6CT7
10LD3	14L7	B329	12AU7	EB91	6AL5
10P18	45B5	B339	12AX7	EBC41	6CV7
10PL12	50BM8	B739	12AT7	EBC8	6BD7
12BC32	12AV6	B749	12AU7	EBC90	6AT6
12F31	12BA6	B759	12AX7	EBC91	6AV6
12G-B3	12GW6	BF61	6CK5	EBF80	6N8
12G-B6	12BQ6GT	BPM04	6AQ5	EBF81	6AD8
12G-K17	12D4A	D2M9	6AL5	EBF83	6DR8
12H31	12BE6	D63	6H6	EBF89	6DC8
13D2	6SN7GT	D77	6AL5	EC84	6AJ4
17N8	17C8	D152	6AL5	EC86	6CM4
18AK5	6028	D717	6AL5	EC90	6C4
19AJ8	19D8	DA90	1A3	EC91	6AQ4
19BD	19X3	DAC32	1H5GT	EC92	6AB4
19M-R9	18GD6	DAF91	1S5	EC94	6AF4
19SU	19Y3	DAF92	1U5	EC95	6ER5
19U3	19X3	DAF96	1AH5	EC97	6FY5
20D3	12AH8	DD6	6AL5	ECC81	12AT7
20D4	6AJ8	DD7	6AM5	ECC82	12AU7
25G-B6	25BQ6GT	DDR7	6AM5	ECC83	12AX7
30C1	9A8	DF33	1N5GT	ECC84	6CW7
30F5	7ED7	DF62	1AD4	ECC85	6AQ8
30L1	7AN7	DF91	1T4	ECC86	6GM8
30L15	7EK7	DF92	1L4	ECC88	6DJ8
30P4	25GF6	DF96	1AJ4	ECC89	6FC7
30P12	12FB5	DF97	1AN5	ECC91	6J6

Directly Interchangeable Tubes—(Continued)
Foreign to American Tubes

Foreign Tube Number	Replace with American Tube	Foreign Tube Number	Replace with American Tube	Foreign Tube Number	Replace with American Tube
ECC180	6BQ7A	EM81	6DA5	N77	6AM5
ECC189	6ES8	EM84	6FG6	N78	6BJ5
ECC230	6O80	EM840	6FG6	N119	45B5
ECF80	6BL8	EQ80	6BE7	N142	45A5
ECF82	6U8	EY80	6U3	N144	6AM5
ECF86	6HG8	EY81	6R3	N150	6CK5
ECH42	6CU7	EY82	6N3	N152	21A6
ECH80	6AN7	EY86	6S2	N153	15A6
ECH81	6AJ8	EY87	6S2A	N154	16A5
ECH83	6DS8	EY88	6AL3	N308	25E5
ECL80	6AB8	EZ35	6X5G	N309	15A6
ECL82	6BM8	EZ40	6BT4	N329	16A5
ECL84	6DX8	EZ80	6V4	N359	21A6
ECL86	6GW8	EZ81	6CA4	N709	6BQ5
EF41	6CJ5	EZ90	6X4	OBC3	12SQ7
EF80	6BX6	EZ91	6AV4	OF1	6S7
EF81	6BH5	GZ30	5AZ4	OH4	12A8
EF82	6CH6	GZ32	5V4G	OSW2190	6AC7
EF85	6BY7	GZ34	5AR4	OSW2192	6AG7
EF86	6267	H63	6F5GT	OSW2600	6AC7
EF89	6DA6	HAA91	12AL5	OSW2601	6AG7
EF89F	6DG7	HABC80	19T8	OSW3104	6SA7
EF91	6AM6	HBC90	12AT6	OSW3105	6SQ7
EF92	6CQ6	HBC91	12AV6	OSW3106	6V6GT
EF93	6BA6	HCC85	17EW8	OSW3109	6H6
EF94	6AU6	HCH81	12AJ7	OSW3110	6E5
EF95	6AK5	HD14	1H5GT	OSW3111	6SK7
EF96	6AG5	HF61	6CJ5	OSW3112	6J5
EF97	6ES6	HF93	12BA6	P17A	807
EF98	6ET6	HF94	12AU6	PABC80	9AK8
EF183	6EH7	HF121	12AC5	PC86	4CM4
EF184	6EJ7	HK90	12BE6	PC95	4GK5
EF190	6CB6	HL90	19AQ5	PCC84	7AN7
EH90	6CS6	HL92	50C5	PCC85	9AQ8
EK90	6BE6	HL94	30A5	PCC88	7DJ8
EL34	6CA7	HMO4	6BE6	PCC89	7FC7
EL36	6CM5	HP6	6AM6	PCF80	9A8
EL37	6L6	HY90	35W4	PCF82	9U8
EL38	6CN6	KT32	25W6GT	PCF86	7HG8
EL41	6CK5	KT63	6FG6	PCL82	16A8
EL80	6M5	KT66	6L6GC	PCL84	15DQ8
EL81	6CJ6	KT71	50L6GT	PF9	6K7
EL82	6DY5	KT77	6CA7	PH4	6A8
EL83	6CK6	KT88	6550	PL36	25E5
EL84	6BQ5	KTW61	6S7	PL81	21A6
EL85	6BN5	L63	6J5	PL82	16A5
EL86	6CW5	L77	6C4	PL83	15A6
EL90	6AQ5	LN152	6AB8	PL84	15CW5
EL91	6AM5	LZ319	9A8	PL500	27GB5
EL95	6DL5	LZ329	9A8	PL820	21A6
EL180	12BY7	N14	1C5GT	PL1267	0A4G
EL500	6GB5	N15	3Q5GT	PLL80	12HU8
EL821	6CH6	N16	3Q5GT	PM04	6BA6
EL822	6CH6	N17	3S4	PM07	6AM6
ELL80	6HU8	N18	3Q4	PY80	19X3
EM34	6CD7	N19	3V4	PY81	17Z3
EM80	6BR5	N25	3C4	PY82	19Y3

Directly Interchangeable Tubes—(Continued)
Foreign to American Tubes

Foreign Tube Number	Replace with American Tube	Foreign Tube Number	Replace with American Tube	Foreign Tube Number	Replace with American Tube
PY83	17Z3	UBC81	14G6	X63	6A8
QB65	6SN7GT	UBF80	17C8	X64	6L7
QB309	12AT7	UCH42	14K7	X77	6BE6
QE06/50	807	UCH81	19D8	X81	7S7
QL77	6C4	UCL82	50BM8	X119	19B8
QV05-25	807	UF41	12AC5	X142	14K7
QW77	6CQ6	UL41	45A5	X148	7S7
QZ77	6AM6	UL84	45B5	X719	6AJ8
R16	1T2	UU12	6CA4	X727	6BE6
R19	1X2A	UY41	31A3	XC95	2ER5
R52	5Z4G	UY42	31A3	XCC189	4ES8
SP6	6AM6	UY85	38A3	XCF80	4BL8
STV108/30	0B2	UY89	38A3	XF183	3EH7
STV150/30	0A2	V2M70	6X4	XF184	3EJ7
T2M05	6J6	V61	6BT4	XL36	13CM5
TM12	6J4	V884	6CQ6	XL84	8BQ5
U26	2J2	VP6	6CQ6	Y25	1M3
U37	1T2	VP12D	12C8	YF88	16AQ3
U41	1B3GT	W17	1T4	YF183	4EH7
U50	5Y3GT	W25	1AJ4	YF184	4EJ7
U52	5U4G	W61	6K7	Z14	1N5GT
U70	6X5G	W63	6K7	Z63	6J7
U76	35Z5GT	W76	12K7	Z77	6AM6
U119	38A3	W77	6CQ6	Z152	6B X6
U142	31A3	W119	13EC7	Z300T	0A4G
U147	6X5G	W142	12AC5	Z719	6B X6
U149	7Y4	W148	7A7	Z729	6267
U150	6BT4	W149	7B7	ZD17	1S5
U152	19X3	W719	6BY7	ZD25	1AH5
U153	17Z3	W727	6BA6	ZD152	6N8
U154	19Y3	W739	6EC7		
U192	19Y3	WD142	12S7		
U309	19X3	WD150	6CT7		
U319	19Y3	WD709	6N8		
U381	38A3	X14	1A7GT		
U707	6X4	X17	1R5		
UAA91	12AL5	X18	1AC6		
UAF42	12S7	X20	1AC6		
UBC41	14L7	X25	1AB6		

See Below to Page 58
for Listing of
American to Foreign
Directly Interchangeable
Tubes.

Directly Interchangeable Tubes
American to Foreign Tubes

American Tube Number	Replace with Foreign Tube	American Tube Number	Replace with Foreign Tube	American Tube Number	Replace with Foreign Tube
0A2	{ 150C2 M8223 STV150/30	0B2	{ 108C1 M8224 STV108/30	1A3	{ 1D13 DA90
0A4G	{ PL1267 Z300T	0D3	150C3	1A7GT	{ DK32 X14

Directly Interchangeable Tubes—(Continued)

American to Foreign Tubes

American Tube Number	Replace with Foreign Tube	American Tube Number	Replace with Foreign Tube	American Tube Number	Replace with Foreign Tube
1AB6	{ 1C3 1H35 DK96 X25	1T2	{ R16 U37	5Y3GT	V50
1AC6	{ 1C2 DK92 X18 X20	1T4	{ 1F3 DF91 W17	5Z4G	{ 52KU GZ30 R52 U77
1AD4	DF62	1U4	DF904	6A6	B63
1AH5	{ 1FD1 DAF96 ZD25	1U5	DAF92	6A8	{ PH4 X63
1AJ4	{ 1F1 DF96 W25	1V6	DCF60	6AB4	EC92
1AN5	DF97	1X2A	{ DY80 R19	6AB8	{ 63TP ECL80 LN152
1B3GT	{ DY30 U41	2ER5	XC95	6AC7	{ 6F10 OSW2190 OSW2600
1C5GT	{ DL35 N14	2J2	U26	6AD8	EBF81
1E3	DC80	3A4	DL93	6AF4	EC94
1H5GT	{ DAC32 HD14	3C4	{ 1P1 DL96 N25	6AG5	EF96
1L4	{ 1F2 DF92	3D6	DL29	6AG7	{ 6L10 OSW2192 OSW2601
1M3	{ DM70 DM71 Y25	3EH7	XF183	6AH6	6F36
1N3	{ DM70 DM71 Y25	3EJ7	XF184	6AJ4	EC84
1N5GT	{ DF33 Z14	3Q4	{ DL95 N18	6AJ8	{ 6C12 20D4 ECH81 X719
1Q5GT	DL36	3Q5GT	{ DL33 N15 N16	6AK5	DP61
1R5	{ 1C1 DK91 X17	3S4	{ 1P10 DL92 N17	6AK8	{ 6LD12 DH719 EABC80
1S2	DY86	3V4	{ 1P11 DL94 N19	6AL3	EY88
1S2A	DY87	4BL8	XCF80	6AL5	{ 6B32 6D2 D2M9 D77 D152 D717 DD6 EAA91 EB91 EAA901 EAA901S M8079 M8212 QA2404
1S4	DL91	4BS8	4R-HH2		
1S5	{ 1FD9 DAF91 ZD17	4CM4	PC86		
		4EH7	Y183		
		4EJ7	Y184		
		4ES8	XCC189		
		4GK5	PC95		
		5AR4	{ GZ34 U77		
		5AZ4	GZ30		
		5J6	5M-HH3		
		5T4	U52		
		5U4G	U52		
		5V4G	{ 53KU 54KU GZ32 GZ33 U77		

Directly Interchangeable Tubes—(Continued)
 American to Foreign Tubes

American Tube Number	Replace with Foreign Tube	American Tube Number	Replace with Foreign Tube	American Tube Number	Replace with Foreign Tube
6AM5	{ 6P17 7D9 DD7 DDR7 EL91 N77 N144 QA2402	6BE6	{ 6H31 EK90 HM04 X77 X727	6CB6	EF190
	6AM6		{ 6F12 8D3 EF91 HP6 M8083 PM07 QA2403 QZ77 SP6 Z77	{ 6BE7 6BH5 6BH6 6BJ5 6BJ6 6BL8 6BM5 6BM8 6BN5	{ EQ80 EF81 E90F N78 E99F ECF80 6P9 ECL82 EL85
6AN7		ECH80	6BQ5	{ EL84 N709	6CF6
6AQ4	{ 6L34 EC91 M8099	6BQ6GT 6BQ7A	6G-B6 ECC180	6CJ5	{ 6F16 7F16 6ZVP EF41 HF61
	6AQ5	{ 6L31 BPM04 EL90 M8245	6BR5		{ 65ME EM80
6AQ8		{ 6L12 ECC85	6BR7 6BS7 6BS8	8D5 8D7 6R-HH2	6CK5
	6AS6	{ 6F33 M8196	6BT4	{ 66KU EZ40 U150 V61	
6AS7G	{ A1834 ECC230	6BW7 6BX4	8D6 6Z4	6CN6	{ EL38 5P29
6AT6	{ DH77 EBC90	6BX6	{ 64SPT EF80 Z152 Z719		6CQ6
6AU4GT 6AU6 6AV4	6G-K17 EF94 EZ91	6BY7	{ 6F19 6F26 EF85 W719	6CS6	
6AV6	{ 6BC32 EBC91	6C4	{ EC90 L77 M8080 QA2401 QL77	6CT7	{ EAF42 WD150
	6BA6		{ 6F31 EF93 M8101 PM04 W727	6CA4	{ EZ81 UU12
6BD7		{ 6LD13 EBC81	6CA7	{ EL34 KT77	6CV7

Directly Interchangeable Tubes—(Continued)
 American to Foreign Tubes

American Tube Number	Replace with Foreign Tube	American Tube Number	Replace with Foreign Tube	American Tube Number	Replace with Foreign Tube				
6CW5	EL86	6J5	{ L63 OSW3112	6X5G	{ EZ35 U70 U147				
6CW7	ECC84								
6DA5	EM81	6J6	{ 6CC31 6M-HH3 ECC91 M8081 T2M05	7AN7	{ 30L1 B319 PCC84				
6DA6	EF89								
6DC8	{ 6FD12 EBF89								
6DG7	EF89E	6J7	{ A863 Z63	7A7	W148				
6DJ8	ECC88			7B6	DH81				
6DL5	EL95	6K7	{ PF9 W61 W63	7B7	W149				
6DQ6A	6G-B9			7C6	DH149				
6DR8	EBF83			7DJ8	PCC88				
6DS8	ECH83			7ED7	30F5				
6DT8	6AT7N	6L6	EL37	7EK7	30L15				
6DX8	ECL84			6L6GC	KT66	7FC7	PCC89		
6DY5	EL82			6L7	X64	7HG8	PCF86		
				6M5	EL80	7S7	{ X81 X148		
6E5	{ 6S5G OSW3110	6N3	EY82	7Y4	U149				
	6EC7	{ 6F18 W739	6N8	{ EBF80 WD709 ZD152	8B8	8R-HP1			
					8BQ5	XL84			
6EH7	{ 6F25 EF183	6Q7	DH63	9A8	{ 8A8 30C1 LZ319 LZ329 PCF80				
6EJ7	{ 6F24 EF184					6R3	EY81		
						6S2	EY86		
6EL7	6F23	6S2A	EY87	9AK8	PABC80				
						9AQ8	PCC85		
6ER5	EC95	6S7	{ KTW61 OF1	9BM5	9P9				
6ES6	EF97		6SA7	OSW3104	9EN7	30C15			
6ES8	ECC189	6SK7			OSW3111	9GB8	30PL1		
6ET6	EF98	6SN7GT	{ 13D2 B65 QA2408 QB65	9U8	PCF82				
6F5GT	H63			6SQ7	OSW3105	12A8	OH4		
6F6G	KT63					12AC5	{ 121VP HF121 UF41 WF41 W142		
6FC7	ECC89								
6FG6	{ EM84 EM840	6T8	{ 6LD12 DH719 EABC80	12AH8	20D3				
					12AJ7	HCH81			
6FY5	EC97	6U3	EY80	12AL5	{ HAA91 UAA91				
6GB5	EL500					6U8	ECF82		
6GM8	ECC86	6V4	EZ80	12AT6	HBC90				
6GW8	ECL86	6V6GT	OSW3106						
6H6	{ D63 OSW3109	6X4	{ 6Z31 EZ90 U707 V2M70	12AT7	{ B152 B309 B739 ECC81 M8162 QA2406 QB309				
6HG8	ECF86								
6HU8	ELL80								
6J4	{ M8232 TM12								

Directly Interchangeable Tubes—(Continued)

American to Foreign Tubes

American Tube Number	Replace with Foreign Tube	American Tube Number	Replace with Foreign Tube	American Tube Number	Replace with Foreign Tube
12AU6	HF94	15CW5	{ 30P18 PL84	25GF6	30P4
12AU7	{ B329 B749 ECC82 M8136	15DQ8	PCL84	25W6	KT32
12AV6	{ 12BC32 HBC91	16A5	{ 30P16 163PEN N154 N329 PL82 PL87	27GB5	PL500
12AX7	{ 6L13 B339 B759 ECC83 M8137	16A8	PCL82	30A5	HL94
12BA6	{ 12F31 HF93	16AQ3	XY88	31A3	{ 311SU U142 UY41 UY42
12BE6	{ 12H31 HF90	16GK8	{ 30PL13 30PL14	35W4	HY90
12BQ6GT	12G-B6	17C8	{ 17N8 171DDP UBF80	35Z4GT	U76
12BY7	EL180	17EW8	HCC85	38A3	{ U119 U381 UY85
12C8	VPI2D	17Z3	{ PY81 PY83 U153	45A5	{ 451PT BF451 N142 UL41
12DF7	ECC83	18GD6	19M-R9	45B5	{ 10P18 N119 UL84
12DT7	ECC83	19AQ5	HL90	50BM8	{ 10PL12 UCL82
12FB5	30P12	19CS4	U191	50C5	HL92
12HU8	PLL80	19D8	{ 10C14 UCH81 X119	50L6GT	KT71
12K7	W76	19T8	HABC80	807	{ 4Y25 5S1 P17A QE06/50 QV05-25
12Q7GT	{ DH74 DH76	19X3	{ 19BD 19U3 PY80 U152 U309	5642	DY70
12SN7GT	B36	19Y3	{ 19SU PY82 U154 U192 U319	5847	6R-R8C
12S07	OBC3	21A6	{ 213PEN N152 N359 PL81 PL820	6080	{ A1834 ECC230
12SX7GT	B36	25BQ6GT	25G-B6	6267	{ 8D8 6F22 EF86 M8195 Z729
13CM5	XL36	25E5	{ N308 PL36	6550	KT88
13EC7	{ 10F18 W119	15A6	{ N153 N309 PL83	7025	{ B339 B759 ECC83 M8137
13GC8	30PL1			7543	EF94
14G6	UBC81			7581	KT66
14K7	{ 141TH UCH42 UCH43 X142				
14L7	{ 10LD3 141DDT DH118 DH142 UBC41				

Directly Interchangeable TV Picture Tubes

Tube Number	Replace with	Tube Number	Replace with	Tube Number	Replace with								
7NP4	7WP4*	12ZP4	{ 12ZP4A 12KP4* 12KP4A*	14NP4A	{ 14NP4 14SP4 14WP4* 14ZP4*								
7WP4	7NP4												
8AP4	8AP4A												
8AP4A	8AP4												
9AQP4	9AQP4A												
9AQP4A	9AQP4	12ZP4A	{ 12ZP4 12KP4* 12KP4A*	14QP4	{ 14QP4A 14HP4								
10ABP4	{ 10ABP4A 10ABP4B 10ABP4C	14ACP4	14AEP4*	14QP4A	{ 14QP4 14HP4								
		10BP4	{ 10BP4A 10FP4*	14AJP4	{ 14ASP4* 14AVP4*								
						10BP4A	10FP4A*	14ASP4	14AVP4	14RP4	{ 14RP4A 14NP4 14NP4A 14SP4 14WP4* 14ZP4*		
10EP4	10CP4	14AUP4	14AWP4										
10FP4	10FP4A	14AVP4	14ASP4										
10FP4A	10FP4	14AWP4	14AUP4										
10MP4	10MP4A	14BP4	{ 14BP4A 14CP4 14CP4A 14EP4	14RP4A	{ 14RP4 14NP4 14NP4A 14SP4 14WP4* 14ZP4*								
10MP4A	10MP4												
12KP4	12KP4A												
12KP4A	12KP4												
12LP4	{ 12LP4A 12LP4C 12KP4* 12KP4A*					14BP4A	{ 14BP4 14CP4 14CP4A 14EP4					14SP4	{ 14NP4 14NP4A 14WP4* 14ZP4*
		12LP4A	{ 12LP4 12LP4C 12KP4* 12KP4A*	14CP4	{ 14CP4A 14BP4 14BP4A 14EP4								
								12LP4C	{ 12LP4 12LP4A 12KP4* 12KP4A*	14CP4A	{ 14CP4 14BP4 14BP4A 14EP4		
12QP4A	{ 12QP4 12RP4 12JP4*	14EP4	{ 14BP4 14BP4A 14CP4 14CP4A	15DP4	{ 15DP4A 15AP4*								
12RP4	{ 12JP4* 12QP4 12QP4A	14FP4	{ 14UP4* 14CP4* 14CP4A* 14EP4*	15DP4A	{ 15DP4 15DP4*								
12TP4	{ 12LP4* 12LP4A* 12LP4C*			14KP4	14KP4A	16AEP4	16ARP4						
						12UP4	12UP4A	16AP4	{ 16AP4A 16AP4B				
		12VP4	12VP4A										
12XP4	{ 12ZP4 12ZP4A	14NP4	{ 14NP4A 14SP4 14WP4* 14ZP4*	16AP4A	{ 16AP4 16AP4B								
				16AP4B	{ 16AP4 16AP4A								

*Connect external connector to chassis.

*Remove ion trap

Directly Interchangeable TV Picture Tubes—(Continued)

Tube Number	Replace with	Tube Number	Replace with	Tube Number	Replace with
16CP4	15CP4				
16DP4	{ 16DP4A 16HP4*	16GP4A	{ 16GP4 16GP4B 16GP4C		{ 17AVP4A 17ATP4 17ATP4A 17BUP4 17CBP4 17CLP4 17BJP4* 17DCP4*
16DP4A	16DP4	16GP4B	{ 16GP4 16GP4A 16GP4C	17AVP4	{ 17BUP4 17CBP4 17CLP4 17BJP4* 17DCP4*
16EP4	{ 16EP4A 16EP4B				
16GP4	{ 16GP4A 16GP4B 16GP4C	16KP4A	{ 16KP4 16RP4 16RP4A		{ 17AVP4 17ATP4 17ATP4A 17BUP4 17CBP4 17CLP4 17BJP4* 17DCP4*
16GP4C	{ 16GP4 16GP4A 16GP4B	16MP4	{ 16MP4A 16JP4 16JP4A 16HP4 16HP4A	17AVP4A	{ 17BUP4 17CBP4 17CLP4 17BJP4* 17DCP4*
16HP4	16HP4A				
16HP4A	16HP4				
16JP4	{ 16HP4 16HP4A 16JP4A	16MP4A	{ 16MP4 16JP4 16JP4A 16HP4 16HP4A	17BJP4	17CZP4
16JP4A	{ 16HP4 16HP4A 16JP4			17BKP4	17BKP4A
16KP4	{ 16KP4A 16RP4 16RP4A	16RP4	{ 16RP4A 16KP4 16KP4A	17BKP4A	17BKP4
16KP4A	16TP4	16RP4A	{ 16RP4 16KP4 16KP4A	17BMP4	17BNP4*
16LP4	{ 16LP4A 16ZP4				
16LP4A	{ 16LP4 16ZP4	16UP4	16XP4*	17BP4	{ 17AP4* 17BP4A* 17BP4B* 17BP4C* 17JP4*
16MP4	16MP4A	16WP4A	{ 16SP4 16SP4A	17BP4A	{ 17AP4 17BP4B 17BP4C 17JP4
16MP4A	16MP4	16XP4	16QP4	17BP4B	{ 17AP4 17BP4A 17BP4C 17JP4
16QP4	16XP4				
16RP4	{ 16KP4 16KP4A 16TP4	17ATP4	{ 17ATP4A 17AVP4 17AVP4A 17BUP4 17CBP4 17CLP4 17BJP4* 17DCP4*	17BP4C	{ 17AP4 17BP4A 17BP4B 17JP4
16RP4A	{ 16RP4 16KP4 16KP4A			17BRP4	17CKP4*
16SP4	16SP4A			17BUP4	17CBP4
16SP4A	16SP4				
16VP4	16YP4*	17ATP4A	{ 17ATP4 17AVP4 17AVP4A 17AUP4 17CBP4 17CLP4 17BJP4* 17DCP4*	17BVP4	{ 17BWP4* 17CSP4*
16WP4	{ 16SP4* 16SP4A* 16WP4A* 16WP4B*			17BWP4	17CSP4
				17BZP4	{ 17CAP4 17CKP4 17CWP4 17DSP4

*Connect external connector to chassis.

*Remove ion trap.

Directly Interchangeable TV Picture Tubes—(Continued)

Tube Number	Replace with	Tube Number	Replace with	Tube Number	Replace with
17CAP4	{ 17BZP4 17CKP4 17CWP4 17DSP4	17HP4B	{ 17HP4 17HP4A 17KP4 17KP4A 17RP4 17RP4C 17DWP4*	19ACP4	{ 19CHP4 19CKP4
17CBP4	17BUP4	17JP4	{ 17AP4 17BP4A 17BP4B 17BP4C	19AFP4	19AUP4
17CFP4	17CYP4	17KP4	17KP4A	19AP4	{ 19AP4A 19AP4B 19AP4C 19AP4D
17CKP4	17DSP4	17KP4A	17KP4	19AP4A	{ 19AP4 19AP4B 19AP4C 19AP4D
17CLP4	{ 17ATP4 17ATP4A 17AVP4 17AVP4A 17BUP4 17CBP4 17BJP4*	17LP4	{ 17LP4A 17VP4 17VP4B	19AP4B	{ 19AP4 19AP4A 19AP4C 19AP4D
17CP4	17CP4A	17LP4A	{ 17LP4 17VP4 17VP4B	19AP4C	{ 19AP4 19AP4A 19AP4B 19AP4D
17CP4A	17CP4	17QP4	{ 17QP4A 17YP4	19AP4D	{ 19AP4 19AP4A 19AP4B 19AP4C
17CRP4	17CXP4	17QP4A	{ 17QP4 17YP4	19AUP4	19AFP4
17CSP4	17BWP4	17RP4	{ 17RP4C 17HP4 17HP4A 17HP4B 17KP4 17KP4A 17DWP4*	19AXP4	19AYP4
17CTP4	{ 17DHP4 17EBP4	17RP4C	{ 17RP4 17HP4 17HP4A 17HP4B 17KP4 17KP4A 17DWP4*	19BAP4	{ 19BCP4 19CEP4
17CUP4	17DCP4	17UP4	{ 17QP4 17QP4A 17YP4	19BCP4	{ 19BAP4 19CEP4
17CWP4	{ 17DSP4 17DTP4	17VP4	{ 17VP4B 17LP4 17LP4A	19BHP4	19AVP4
17CXP4	17CRP4	17VP4B	{ 17VP4 17LP4 17LP4A	19BLP4	{ 19AVP4 19BHP4 19XP4
17CYP4	17CFP4	17YP4	17QP4A	19BNP4	19BQP4
17DAP4	17DRP4		17YP4	19BQP4	19BNP4
17DCP4	17CUP4			19CFP4	{ 19CHP4 19CKP4
17DHP4	17EBP4			19CHP4	19CKP4
17DLP4	17DSP4			19CKP4	19CHP4
17DRP4	17DAP4			19CLP4	19BDP4
17FP4	17FP4A			19DP4	19DP4A
17FP4A	17FP4			19DP4A	19DP4
17HP4	{ 17HP4A 17HP4B 17KP4 17KP4A 17RP4 17RP4C 17DWP4*	17VP4A	17QP4A	19EP4	19JP4
17HP4A	{ 17HP4 17HP4B 17KP4 17KP4A 17RP4 17RP4C 17DWP4*				

*Connect external connector to chassis.

*Remove ion trap.

Directly Interchangeable TV Picture Tubes—(Continued)

Tube Number	Replace with	Tube Number	Replace with	Tube Number	Replace with
19FP4	{ 19DP4* 19DP4A* 19GP4	20HP4	{ 20HP4A* 20HP4B 20HP4C 20HP4D* 20JP4* 20LP4* 20MP4*	21ALP4	{ 21ALP4A 21ALP4B 21ATP4 21ATP4A 21ATP4B 21BTP4 21CWP4 21BAP4* 21BNP4* 21CVP4*
19GP4	{ 19DP4 19DP4A				
19JP4 19XP4 19YP4	19EP4 19AVP4 19BTP4	20HP4A	{ 20HP4B* 20HP4D 20JP4 20LP4 20MP4	21ALP4	{ 21ALP4 21ALP4B 21ATP4 21ATP4A 21ATP4B 21BTP4 21CWP4 21BAP4* 21BNP4* 21CVP4*
19ZP4	{ 19AVP4 19BLP4 19XP4				
20CP4	{ 20CP4B 20CP4C 20DP4 20DP4B 20CP4A 20CP4D 20DP4A 20DP4C	20HP4B	{ 20HP4 20HP4A* 20HP4C 20HP4D* 20JP4* 20LP4* 20MP4*	21ALP4A	{ 21ALP4 21ALP4B 21ATP4 21ATP4A 21ATP4B 21BTP4 21CWP4 21BAP4* 21BNP4* 21CVP4*
	20CP4A				
20CP4B	{ 20CP4 20CP4C 20DP4 20DP4B 20CP4A* 20CP4D* 20DP4A* 20DP4C*	20HP4D	{ 20HP4A 20JP4 20LP4 20MP4	21AMP4	{ 21AMP4A 21ACP4 21ACP4A 21BSP4 21CUP4
	20CP4C				
20CP4C	{ 20CP4 20CP4B 20DP4 20DP4B 20CP4A* 20CP4D* 20DP4A* 20DP4C*	20LP4	{ 20HP4A 20HP4D 20JP4 20MP4	21AMP4	{ 21AMP4 21ACP4 21ACP4A 21BSP4 21CUP4
	20CP4D				
20DP4	{ 20CP4 20CP4C 20CP4A* 20DP4A*	20MP4	{ 20HP4A 20HP4D 20JP4 20LP4	21AMP4A	{ 21AMP4 21ACP4 21ACP4A 21BSP4 21CUP4
	20FP4				
20HP4	{ 20HP4A* 20HP4B 20HP4C 20HP4D* 20JP4* 20LP4* 20MP4*	21ACP4	{ 21ACP4A 21BSP4 21CUP4	21ANP4	{ 21ANP4A 21ALP4* 21ALP4A* 21ATP4* 21ATP4A* 21ATP4B* 21BAP4** 21BNP4** 21BTP4* 21CVP4** 21CWP4*
20HP4A	{ 20HP4B* 20HP4D 20JP4 20LP4 20MP4	21AFP4	{ 21BCP4** 21YP4* 21YP4A*	21ANP4	{ 21ANP4A 21ALP4* 21ALP4A* 21ATP4* 21ATP4A* 21ATP4B* 21BAP4** 21BNP4** 21BTP4* 21CVP4** 21CWP4*

*Connect external connector to chassis.

*Remove ion trap.

Directly Interchangeable TV Picture Tubes—(Continued)

Tube Number	Replace with	Tube Number	Replace with	Tube Number	Replace with																																														
21ANP4A	{ 21ANP4 21ALP4* 21ALP4A* 21ALP4B* 21ATP4* 21ATP4A* 21ATP4B* 21BAP4** 21BNP4** 21BTP4* 21CVP4** 21CWP4*	21ATP4B	{ 21ATP4A 21ALP4A 21ALP4B 21BTP4 21CWP4 21BAP4* 21BNP4* 21CVP4*	21BNP4	{ 21BAP4 21CVP4																																														
						21AQP4	{ 21AQP4A 21ACP4* 21ACP4A* 21AMP4* 21AMP4A* 21BSP4* 21CUP4*	21AUP4	{ 21AUP4A 21AUP4B 21AVP4 21AVP4A 21AVP4B 21BDP4*	21BSP4	{ 21ACP4 21ACP4A 21CUP4																																								
												21AQP4A	{ 21AQP4 21ACP4* 21ACP4A* 21AMP4* 21AMP4A* 21BSP4A* 21CUP4*	21AUP4A	{ 21AUP4 21AUP4B 21AVP4 21AVP4A 21AVP4B 21BDP4*	21BTP4	{ 21BAP4* 21ALP4B 21BNP4* 21ATP4A 21CVP4*																																		
																		21ARP4 21ARP4A	21ARP4A 21ARP4	21AVP4	{ 21AVP4A 21AVP4B 21AUP4 21AUP4A 21AUP4B 21BDP4*	21CBP4	{ 21CBP4A 21CBP4B 21DQP4 21DRP4 21FLP4																												
																								21ASP4	{ 21AYP4* 21XP4* 21XP4A*	21AUP4B	{ 21AUP4 21AUP4A 21AUP4B 21BDP4*	21CBP4A	{ 21CBP4B 21DRP4 21FLP4																						
																														21ATP4	{ 21ATP4A 21ATP4B 21ALP4 21ALP4A 21ALP4B 21BTP4 21CWP4 21BAP4* 21BNP4* 21CVP4*	21AVP4A	{ 21AVP4 21AVP4B 21AUP4 21AUP4A 21AUP4B 21BDP4*	21CDP4A 21CEP4 21CGP4 21CKP4	21CDP4 21CEP4A 21CHP4* 21CBP4A																
																																				21ATP4A	{ 21ATP4B 21ALP4B 21BTP4 21BAP4* 21BNP4* 21CVP4*	21AYP4	{ 21AYP4 21XP4 21XP4A	21CMP4	{ 21DNP4 21CBP4A* 21CBP4B* 21DRP4* 21FLP4*										
																																										21BAP4	{ 21BNP4 21CVP4	21BAP4	{ 21BNP4 21CVP4	21CUP4	{ 21ACP4 21ACP4A 21BSP4				
																																																21ATP4B	{ 21ATP4B 21ALP4B 21BTP4 21BAP4* 21BNP4* 21CVP4*	21CWP4	{ 21ALP4A 21ALP4B 21ATP4 21ATP4A 21BTP4 21BAP4* 21BNP4* 21CVP4*

*Connect external connector to chassis.

*Remove ion trap.

Directly Interchangeable TV Picture Tubes—(Continued)

Tube Number	Replace with	Tube Number	Replace with	Tube Number	Replace with
21CXP4	21DSP4	21XP4A	{ 21XP4 21AYP4	23BEP4	23BSP4
21CZP4	{ 21DAP4* 21DEP4* 21DEP4A*	21YP4	21YP4A	23BGP4	23BHP4
21DAP4	{ 21DEP4 21DEP4A	21YP4A	21YP4	23BHP4	23BGP4
21DEP4	{ 21DEP4A 21DAP4	21ZP4	{ 21ZP4A* 21ZP4B* 21AWP4*	23BKP4	{ 23ANP4 23ATP4 23BLP4
21DFP4	{ 21CEP4 21CEP4A	21ZP4A	{ 21ZP4B 21AWP4	23BLP4	{ 23ANP4 23ATP4 23BKP4
21DLP4	21DQP4	21ZP4B	{ 21ZP4A 21AWP4	23BMP4	{ 23BDP4 23BTP4 23YP4
21DRP4	{ 21CBP4A 21CBP4B 21FLP4	22AP4	22AP4A	23BNP4	{ 23CBP4 23CP4 23CP4A 23GP4 23SP4
21DSP4	21CXP4	22AP4A	22AP4	23BP4	23BAP4
21ELP4	21DJP4	23ACP4	23TP4	23BQP4	23CBP4
21EP4	{ 21EP4A 21EP4B	23AFP4	{ 23BTP4 23BVP4	23BRP4	{ 23BYP4 23CSP4 23RP4
21EP4A	21EP4B	23AHP4	{ 23AUP4 23CZP4	23BSP4	23BEP4
21EP4B	21EP4A	23ANP4	{ 23ATP4 23BKP4 23BLP4	23BVP4	23AFP4
21FJP22	21FKP22	23ASP4	23AUP4	23BYP4	23CSP4
21FKP22	21FJP22	23ATP4	{ 23ANP4 23BKP4 23BLP4	23BQP4	23BQP4
21FLP4	{ 21CBP4A 21CBP4B 21DRP4	23AUP4	23CZP4	23CP4	{ 23CP4A 23BNP4
21FP4	{ 21FP4A 21FP4C 21KP4 21KP4A	23AVP4	{ 23BNP4 23CP4 23CP4A 23GP4	23CSP4	23BYP4
21FP4A	{ 21FP4C 21KP4A	23AWP4	23BJP4	23CUP4	23DP4
21FP4C	{ 21FP4A 21KP4A	23AYP4	{ 23BEP4 23BSP4 23SP4	23CUP4	23AUP4
21JP4	21JP4A	23BAP4	23BP4	23FP4	23FP4A
21JP4A	21JP4	23BCP4	23CMP4	23GP4	{ 23AVP4 23BNP4 23CP4 23CP4A
21KP4	21KP4A*	23BDP4	{ 23BMP4 23BTP4 23YP4	23HP4	{ 23AVP4 23BNP4 23CP4 23CP4A 23GP4
21WP4	21WP4A			23KP4	23KP4A
21WP4A	21WP4				
21XP4	{ 21XP4A 21AYP4				

*Connect external connector to chassis.

*Remove ion trap.

Directly Interchangeable TV Picture Tubes—(Continued)

Tube Number	Replace with	Tube Number	Replace with	Tube Number	Replace with
23MP4	{ 23MP4A 23FP4 23FP4A	24AP4	{ 24AP4A 24AP4B	24TP4	{ 24ADP4 24CP4 24CP4A 24VP4 24VP4A
23MP4A	23FP4A	24AP4A	{ 24AP4 24AP4B	24VP4	{ 24VP4A 24ADP4
23RP4	{ 23BRP4 23BYP4 23CSP4	24AP4B	{ 24AP4 24AP4A	24VP4A	{ 24VP4 24ADP4
23SP4	{ 23AYP4 23BEP4 23BSP4	24CP4	{ 24CP4A 24ADP4 24QP4 24TP4 24VP4 24VP4A	24XP4	{ 24ADP4* 24CP4* 24CP4A* 24TP4* 24VP4* 24VP4A*
23UP4	{ 23BQP4 23CBP4	24CP4A	{ 24CP4 24ADP4 24TP4 24VP4 24VP4A	24YP4	{ 24AEP4* 24ANP4 24DP4 24DP4A 24ZP4*
23WP4	{ 23MP4 23MP4A	24DP4	{ 24DP4A 24ANP4 24YP4 24AEP4* 24ZP4*	24ZP4	24EP4
23XP4	{ 23BDP4 23BMP4 23BTP4 23YP4	24DP4A	{ 24DP4 24ANP4 24YP4 24AEP4* 24ZP4*	27EP4	{ 27GP4 27RP4*
23YP4	{ 23BDP4 23BMP4 23BTP4	24QP4	{ 24ADP4 24CP4 24CP4A 24TP4 24VP4 24VP4A	27GP4	{ 27EP4 27RP4*
24ADP4	{ 24VP4 24VP4A			27NP4	27RP4
24AEP4	24AUP4			27SP4	27UP4
24AHP4	24ALP4			27UP4	27SP4
24AJP4	24ATP4			27VP4	27XP4
24ALP4	24AHP4				
24ANP4	24AUP4*				

*Connect external connector to chassis.

*Remove ion trap.

Greek Alphabet Designations

Name	Capital	Lower Case	Commonly used to designate	Name	Capital	Lower Case	Commonly used to designate
Alpha	Α	α	Angles. Area. Coefficients	Nu	Ν	ν	Reluctivity
Beta	Β	β	Angles. Flux density. Coefficients	Xi	Ξ	ξ	Co-ordinates
Gamma	Γ	γ	Conductivity. Specific gravity	Omicron	Ο	ο
Delta	Δ	δ	Variation. Density	Pi	Π	π	3.1416 (Ratio of circumference to diameter)
Epsilon	Ε	ε	Base of natural logarithms	Rho	Ρ	ρ	Resistivity
Zeta	Ζ	ζ	Impedance. Coefficients. Coordinates	Sigma	Σ	σ	Sign of summation
Eta	Η	η	Hysteresis coefficient. Efficiency	Tau	Τ	τ	Time constant. Time phase displacement
Theta	Θ	θ	Temperature. Phase angle	Upsilon	Υ	υ
Iota	Ι	ι	Unit vector.	Phi	Φ	φ	Magnetic flux. Angles
Kappa	Κ	κ	Dielectric constant. Susceptibility	Chi	Χ	χ	Electric susceptibility. Angles
Lambda	Λ	λ	Wave length	Psi	Ψ	ψ	Dielectric flux. Phase difference
Mu	Μ	μ	Micro. Amplification factor. Permeability	Omega	Ω	ω	Capital, ohms. Lower case, angular velocity