

MULTI-CHANNEL CARRIER TELEPHONE SYSTEMS

VACUUM TUBE REQUIREMENTS

1. GENERAL

1.01 This sheet is a wartime release to make certain changes in the test requirements for 310A, 311A, 328A or 329A vacuum tubes used in Types C, J, and K carrier telephone terminals and repeaters. The relaxation of testing limits given herein is necessary to care for a temporary shortage in the tube supply by enabling tubes now in operation to be retained in service for a longer period of time and also to make possible the use of tubes which have been removed because of failure to meet the former test requirements. Additional tubes will thus be provided for both maintenance replacement and additions where new tubes are not available.

1.02 Only the requirements which have been changed are given below. Other requirements remain the same as given in the section.

1.03 Tubes which do not meet the requirements in one socket should be tried in other sockets where the requirements are more lenient. Cases where this is particularly applicable are covered by notes in following tables.

Section E34.024-C2, C3, C4 Terminals Modified For 2B Pilot Channel Operation

Circuit	Type of Tube	*Max. % Activity
Trans. or Rec. Amp. 1	310A or 328A	25
Trans. or Rec. Amp. 2	311A or 329A	30
Regulating Amp. 1	310A or 328A	15

* Allowable Change in Space - Millivolts used in the section.

Section E34.030 - C5 Terminal

Circuit	Type of Tube	Max. % Activity
Mod. Osc. M1	310A or 328A	20
Dem. Osc. D1	310A or 328A	20
Dem. Amp. D2	310A or 328A	25
Trans. or Rec. Amp. 1	310A or 328A	25
Trans. or Rec. Amp. 2	311A or 329A	30
Regulating Amp. 1	310A or 328A	15

Section E34.530 - Type C Repeater

Circuit	Type of Tube	*Max. % Activity
Amp. 1	310A or 328A	25
Amp. 2	311A or 329A	30
Regulating Amp. 1	310A or 328A	15

* Allowable Change in Space - Millivolts used in the section.

Section E34.041 Special - Type J1 Terminal

Circuit	Type of Tube	Max. % Activity
Trans. Amp. 1,2	310A or 328A	25
Trans. Amp. 3,4,5,6	311A or 329A	35
Inter. Amp. 1,2	310A or 328A	25
Aux. Amp. 1,2	310A or 328A	25
Reg. Amp. 1,2	310A or 328A	20
Chan. Dem. Amp. 1,2	310A or 328A	25

Section E34.540 - J1 Repeater

Circuit	Type of Tube	Max. % Activity
Line Amp. 1,2	310A or 328A	25
Line Amp. 3,4,5,6	311A or 329A	35
Reg. Amp. 1,2	310A or 328A	20

Section E34.044 - Type J2 Terminal

Circuit	Type of Tube	Max. % Activity
Trans. Amp. 1,2	310A or 328A	25
Trans. Amp. 3,4,5,6	311A or 329A	35
Inter. Amp. 1,2	310A or 328A	25
Aux. Amp. 1,2	310A or 328A	25
Sup. Amp. 1,2	310A or 328A	25
E Ter. Reg. Amp. 1,2	310A or 328A	20
W Ter. Reg. Amp. F1, F2	310A or 328A	20
W Ter. Reg. Amp. S1, S2	310A or 328A	25
Pilot Amp. Rect. 1,2	310A or 328A	12
Chan. Dem. Amp. 1,2	310A or 328A	25

Section E34.543 - Type J2 Repeater

Circuit	Type of Tube	Max. % Activity
Line Amp. 1,2	310A or 328A	25
Line Amp. 3,4,5,6	311A or 329A	35
E-W Reg. Amp. F1, F2	310A or 328A	20
E-W Reg. Amp. S1, S2	310A or 328A	25
W-E Reg. Amp. 1,2	310A or 328A	20
Pilot Amp. Rect. 1,2	310A or 328A	12

WR-E34.024, WR-E34.530
 WR-E34.030, WR-E34.540
 WR-E34.041, WR-E34.543
 WR-E34.044, WR-E34.560
 WR-E34.061, WR-E34.561

Section E34.061 - Type K1 Channel and Group Equipment

Circuit	Type of Tube	Max. Grid Current in Micro-amps	Max. % Activity
Trans.Amp.1,2	310A	Note 1	25
Trans.Amp. 3	311A		35
Aux.Rec.Amp.1,2	310A	5.0	25
Chan.Dem.Amp.1,2	310A		25

Note 1. A tube in position 2 which fails to meet the present Max. Grid Current requirement given in the section may meet the requirements in other sockets and should be reused where possible.

Section E34.560 - Type K1 Line and Twist Amplifier

Circuit	Type of Tube	Max. Grid Current in Micro-amps	Max. % Activity
Line Amp. 1	310A	Note 1	25
Line Amp. 2	310A	5.0	25
Line Amp. 3	311A		35
Line Amp. 3			
Z Lead on Ter.No.10			
Grid Cur.Reading			
0-125 mv	311A		20
Line Amp. 3			
Z Lead on Ter.No.10			
Grid Cur.Reading			
126-375 mv	311A		25
Twist, Test, Aux.			
Switch Amp. 1,2	310A		25
Twist, Test, Aux.			
Switch Amp. 3	311A		35

Note 1. A tube in position 1 which fails to meet the present Max. Grid Current requirement given in the section may meet the requirements in other sockets and should be reused where possible.

Section E34.561 - Type K1 Deviation Regulator

Circuit	Type of Tube	Max. Grid Current in Micro-amps	Max. % Activity
Line Amp. 1	310A	Note 1	25
Line Amp. 2	310A	5.0	25
Line Amp. 3	311A		35
Line Amp. 3			
Z Lead on Ter.No.10			
Grid Cur.Reading			
0-125 mv	311A		20
Line Amp. 3			
Z Lead in Ter.No.10			
Grid Cur.Reading			
126-375 mv	311A		25
Twist, Test, Aux.			
Switch Amp.1,2	310A		25
Twist, Test, Aux.			
Switch Amp. 3	311A		35
Control 1	310A		10(Note 2)
Control 2,3,4	310A		25(Note 3)

Note 1. A tube in position 1 which fails to meet the present Max. Grid Current requirement given in the section may meet the requirements in other sockets and should be reused where possible.

Note 2. A tube in position 1 which fails to meet the Max. % Activity requirement given in this table may meet the requirements in other sockets and should be reused where possible.

Note 3. This requirement only applies if the space millivolt reading made at the time of the measurement is between 100 to 400 millivolts as covered in the section.