

**TYPE N1 CARRIER TELEPHONE SYSTEM — TERMINAL EQUIPMENT  
PRELIMINARY TESTS — ELECTRON TUBE REPEATERED SYSTEMS  
ADJUSTMENT OF POWER SUPPLY AND SEALING CURRENT  
TO AN ADJACENT REPEATER**

This section is reissued to provide information required for J98703AT and AW bay installation.

When a local source of power is not available at an adjacent repeater, dc power can be supplied to it over the two cable pairs used for carrier transmission by means of simplex arrangements. The transmitting pair carries +130 volts and the receiving pair carries -130 volts to the repeater. When unsoldered cable splices are used, a small amount of dc may be applied to the cable pairs in a similar manner to seal the splices if power is not supplied to a repeater.

The purpose of this test is to show the strapping for the various options and to show the adjustment of the resistance in series with the power supplies to the values specified in order that the correct voltage will be supplied to the adjacent repeater.

This section is divided into six parts. Only the part applicable to a particular installation need be followed. The parts are:

- (A) No Power Supplied — J98703A Mounting
- (B) No Power Supplied — J98703AT, AW Bay
- (C) Sealing Current Only Supplied — J98703A Mounting
- (D) Sealing Current Only Supplied — J98703AT, AW Bay
- (E) Power Supplied to the Line — J98703A Mounting
- (F) Power Supplied to the Line — J98703AT, AW Bay

**APPARATUS:**

- 1 — KS-14510 Volt-Ohm-Milliammeter or equivalent (20,000 ohms per volt), (VOM)
- 2 — KS-13895 Plugs, unwired (connectors for test connections)
- 1 — W1Y Cord, or equivalent (for temporary strap)

STEP	PROCEDURE
	<b>(A) No Power Supplied — J98703A Mounting</b>
1	Remove the +130V REP and -130V REP fuses.
2	Loosen the top and bottom fasteners which hold the resistor subassembly. This is the covered subassembly just above the alarm lamps. Do not remove the cover. Pull the subassembly slightly out of the mounting and swing the top end forward and to the right to expose the terminal strip mounted behind it.

STEP	PROCEDURE
3	Provide option X by strapping terminals 58 to 60 and 26 to 27 on the terminal strip.
4	Replace the resistor subassembly and tighten the fasteners.
5	Place 72A (dummy) fuses in the +130V REP and -130V REP fuse holders.
<b>(B) No Power Supplied — J98703AT, AW Bay</b>	
1	Remove the +130V REP and -130V REP fuses.
2	Loosen the top and bottom fasteners which hold the miscellaneous terminal equipment panel. Pull the panel subassembly forward to expose standoff terminals E2 and E3.
3	Provide option X by strapping E2 to E3.
4	Replace the panel subassembly and tighten the fasteners.
5	Place 72A (dummy) fuses in the +130V REP and -130V REP fuse holders.
<b>(C) Sealing Current Only Supplied — J98703A Mounting</b>	
1	Remove the +130V REP and -130V REP fuses.
2	Loosen the top and bottom fasteners which hold the resistor subassembly. This is the covered subassembly just above the alarm lamps. Do not remove the cover. Pull the subassembly slightly out of the mounting and swing the top end forward and to the right to expose the terminal strip mounted behind it.
3	<p>Provide option N or P as required:</p> <p><i>Option N</i> is used when current is obtained from +130V battery: strap terminal 25 to 26 and connect the wire from resistor R40 to terminal 58.</p> <p><i>Option P</i> is used when current is obtained from -130V battery: strap terminal 57 to 58 and connect the wire from resistor R40 to terminal 26.</p>
4	Put the resistor subassembly back in place and tighten the fasteners.
5	Remove the cover of the resistor subassembly.
6	Set the slider on resistor R8 for minimum resistance (end nearest the mounting panel).
7	Remove the group connectors from J13, J14, J15 and J16.
8	Insert unwired KS-13895 plugs in J14 and J16.
9	Connect terminal 19 of each plug together.
10	Set the VOM to the 300V scale.
11	Connect the VOM to the equipment side of the +130V REP fuse holder and ground for <i>Option N</i> , or to the equipment side of the -130V REP fuse holder and ground for <i>Option P</i> . See figures.
12	<p>Set the VOM to ohms.</p> <p><b>Requirement:</b> 5700 to 6500 ohms.</p>

STEP	PROCEDURE
13	Replace the cover on the resistor subassembly.
14	Remove the KS-13895 plugs and replace the group connectors in J13, J14, J15 and J16.
15	Place a 70K (1/4 amp) fuse in the +130V or -130V REP fuse holder as required. Place a 72A (dummy) fuse in the other fuse holder.
	<p style="text-align: center;"><b>(D) Sealing Current Only Supplied — J98703AT, AW Bay</b></p> <p>1 Remove the +130V REP and -130V REP fuses.</p> <p>2 Loosen the top and bottom fasteners which hold the miscellaneous terminal equipment panel. Pull the panel subassembly forward to gain access to the resistors and standoff terminals E2 and E3.</p> <p>3 Provide option N or P as required:  <i>Option N</i> is used when current is obtained from +130V battery: strap the front end of R9 to E2 and the front end of R40 to E3.  <i>Option P</i> is used when current is obtained from -130V battery: strap the front end of R7 to E3 and the front end of R40 to E2.</p> <p>4 Set the slider on resistor R8 for minimum resistance (end nearest the mounting panel).</p> <p>5 Replace the panel subassembly and tighten the fasteners.</p> <p>6 Remove the group connectors from J13, J14, J15 and J16.</p> <p>7 Insert unwired KS-13895 plugs in J14 and J16.</p> <p>8 Connect terminal 19 of each plug together.</p> <p>9 Set the VOM to the 300V scale.</p> <p>10 Connect the VOM to the equipment side of the +130V REP fuse holder and ground for <i>Option N</i>, or the equipment side of the -130V REP fuse holder and ground for <i>Option P</i>. See figures.</p> <p>11 Set the VOM to ohms.  <b>Requirement:</b> 5700 to 6500 ohms.</p> <p>12 Remove the KS-13895 plugs and replace the group connectors in J13, J14, J15 and J16.</p> <p>13 Place a 70K (1/4 amp) fuse in the +130V or -130V REP fuse holder as required. Place a 72A (dummy) fuse in the other fuse holder.</p>
	<p style="text-align: center;"><b>(E) Power Supplied to the Line — J98703A Mounting</b></p> <p>1 Remove the +130V REP and -130V REP fuses.</p> <p>2 Loosen the top and bottom fasteners which hold the resistor subassembly. This is the covered subassembly just above the alarm lamps. Do not remove the cover. Pull the subassembly slightly out of the mounting and swing the top end forward and to the right to expose the terminal strip mounted behind it.</p>

STEP	PROCEDURE
3	Provide option Y by strapping terminal 25 to 26 and 57 to 58 on the terminal strip.
4	Put the resistor subassembly back in place and tighten the fasteners.
5	Remove the cover of the resistor subassembly.
6	Remove the group connectors from J13, J14, J15 and J16.
7	Insert unwired KS-13895 plugs in J14 and J16.
8	Connect terminal 19 of each plug together.
9	Set the VOM to the 300V scale.
10	Connect the VOM to the equipment side of the +130V REP and the -130V REP fuse holders. See figures.
11	Set the VOM to ohms.
12	Adjust the slider on resistor R8 to obtain the value of resistance specified on the circuit layout card. When the correct setting has been made, tighten the clamping screw and recheck the resistance reading.
13	Remove the KS-13895 plugs and replace the group connectors in J13, J14, J15 and J16.
14	Replace the cover on the resistor subassembly.
15	Place 70K (1/4 amp) fuses in the +130V REP and -130V REP fuse holders.
<b>(F) Power Supplied to the Line — J98703AT, AW Bay</b>	
1	Remove the +130V REP and -130V REP fuses.
2	Loosen the top and bottom fasteners which hold the miscellaneous terminal equipment panel. Pull the panel subassembly forward to gain access to the resistors and standoff terminals E2 and E3.
3	Provide option Y by strapping the front end of R9 to E2 and the front end of R7 to E3.
4	Remove the group connectors from J13, J14, J15 and J16.
5	Insert unwired KS-13895 plugs in J14 and J16.
6	Connect terminal 19 of each plug together.
7	Set the VOM to the 300V scale.
8	Connect the VOM to the equipment side of the +130V REP and -130V REP fuse holders. See figures.
9	Set the VOM to ohms.

STEP	PROCEDURE
10	Adjust the slider on resistor R8 to obtain the value of resistance specified on the circuit layout card. When the correct setting has been made, tighten the clamping screw and recheck the resistance reading.  <i>Note:</i> It may be necessary to loosen the bolt holding R8 and rotate R8 clockwise to gain access to the slider clamping screw. Position the lugs on R8 to point to the 10 o'clock position.
11	Replace the panel subassembly and tighten the fasteners.
12	Remove the KS-13895 plugs and replace the group connectors in J13, J14, J15 and J16.
13	Place 70K (1/4 amp) fuses in the +130V REP and -130V REP fuse holders.

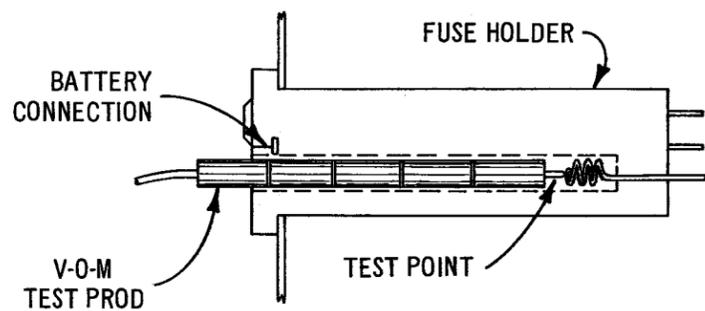


Fig. 3 - Fuse Holder Test Point

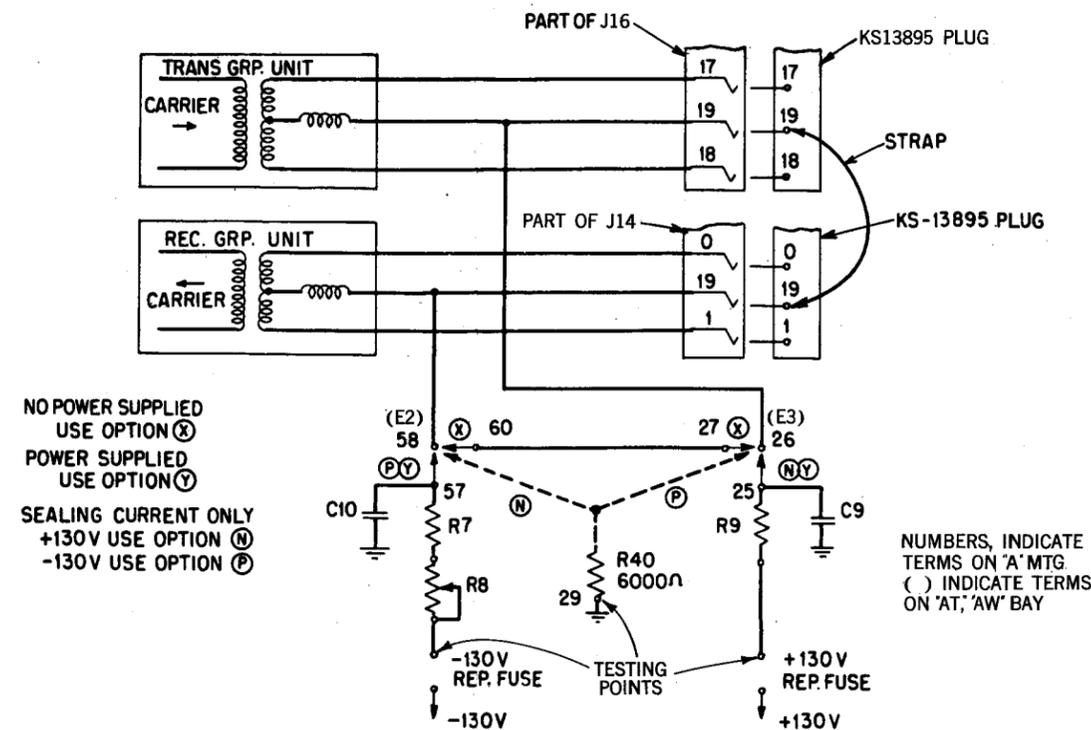


Fig. 1 - Terminal Power Supply Arrangements

CAUTION:  
EXERCISE EXTREME CARE NOT TO  
CROSS OR GROUND ANY LIVE  
TERMINALS.

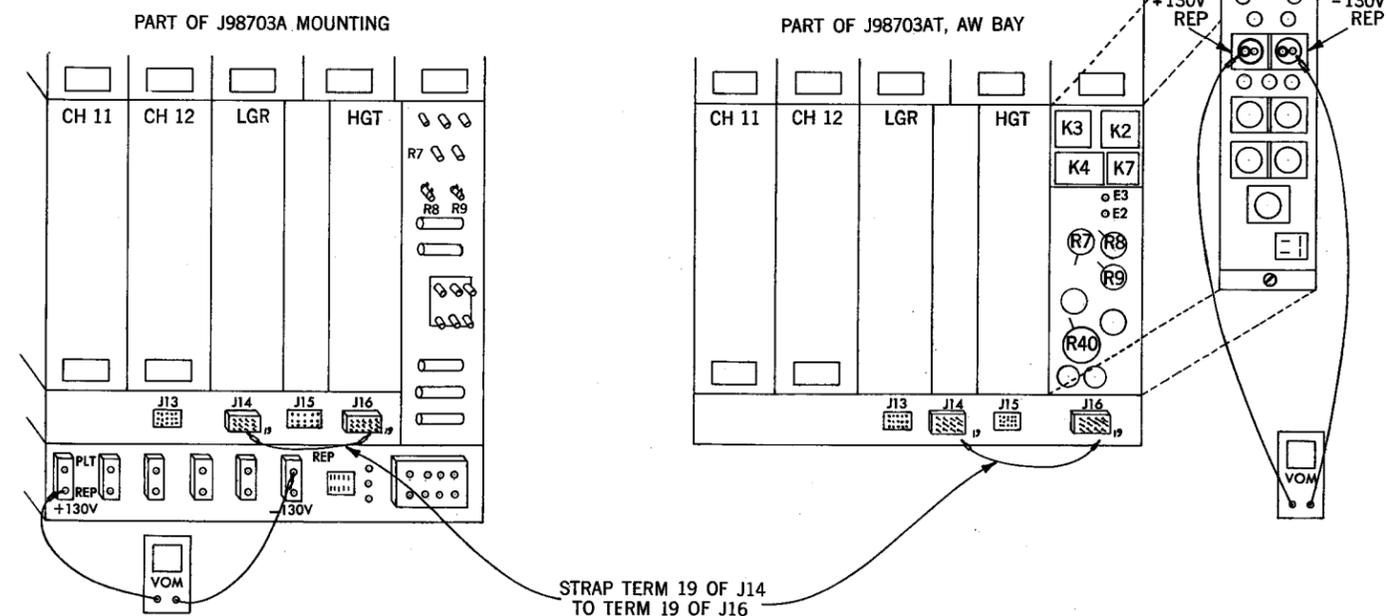


Fig. 2 - Adjustment of Power Supply to Adjacent Repeater

Fig. 1, 2, and 3