

**TYPE N AND ON CARRIER REPEATERS — REPEATERED HIGH-FREQUENCY LINE  
PRELIMINARY TESTS  
MODIFICATION PROCEDURE FOR LIST 1 OF J98706 C, D, E, F,  
CA, DA, EA, FA, J, K ON REPEATERS**

Recent design changes have been made in the LL and HH subassemblies associated with type ON repeaters. Prior to the changes, two sets of ON repeaters were specified for ON systems: repeaters coded J98706 C, D, E, F were used only for cable applications while repeaters coded J98706 CA, DA, EA, FA, J and K were used only for radio applications. See PEL 6634 for further details.

With the changes, the use of the J98706 CA, DA, EA and FA "ON on Radio" repeaters has been extended for cable applications and the J98706 C, D, E and F repeaters have been rated "Manufacture Discontinued." Modification kits are available to change the existing J98706 CA, DA, EA, FA, J and K repeaters to the new arrangement and also to modify the existing J98706 C, D, E and F repeaters to be interchangeable with the corresponding J98706 CA, DA, EA and FA repeaters.

When the modification of existing repeaters is completed, the following units are interchangeable and may be used for both cable and radio application:

MODIFIED UNIT	INTERCHANGEABLE WITH
ED-92764-30, G4	ED-92846-30, G2
ED-92765-30, G4	ED-92860-30, G2
J98706 C-1, L1 & L2	J98706 CA-1, L2
J98706 D-1, L1 & L2	J98706 DA-1, L2
J98706 E-1, L1 & L2	J98706 EA-1, L2
J98706 F-1, L1 & L2	J98706 FA-1, L2

The purpose of this section is to give the procedure to modify the ON repeaters with the modification kits mentioned above.

**Note:** For field modification of the various units see Table I.

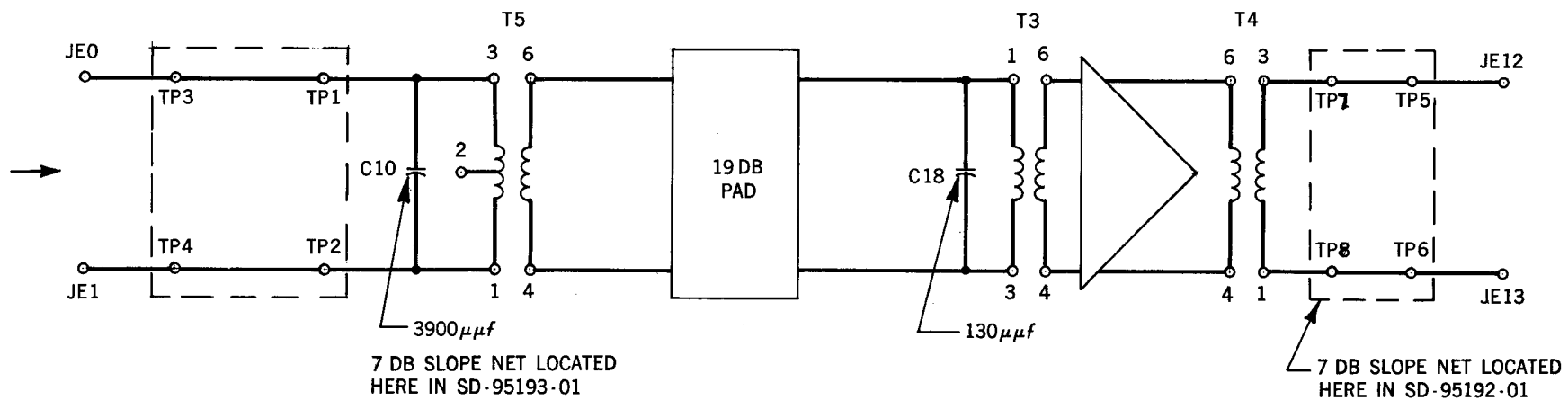
TABLE I

UNIT	STEPS OF PRACTICE TO FOLLOW	FIGS. THAT APPLY
ED-92764-30 LL, W-E Subassembly	1 through 5	1 through 5
ED-92765-30 LL, E-W Subassembly	1 through 5	5 through 9
ED-92846-30 LL, W-E Subassembly	6	2, 3 and 5
ED-92860-30 LL, E-W Subassembly	6	5, 7 and 8
ED-92844-30 HH, W-E Subassembly	7	10
ED-92845-30 HH, E-W Subassembly	7	10

STEP	PROCEDURE
1	<p>— <i>7 db Slope Network Minaplas Assembly</i> —</p> <p>(1) unsolder all G, G-W paired leads from tie points TP1 through TP8. These tie points are located in the minaplas assembly mounted at the rear of the unit.</p> <p>(2) remove and discard the minaplas assembly and retain the G, G-W paired leads for Steps 2 and 3.</p>
2	<p><i>19 db Pad</i> — the pad consists of three 145A type resistors designated R1 (2400 ohms), R2 (2400 ohms) and R3 (681 ohms). R1, R2 and R3 are located at the top of the tenite assembly mounted inside the unit.</p> <p>(1) unsolder the G, G-W paired leads between pad resistors R2 and R3 and terminals 4 and 6 of transformer T5. Remove and discard these leads.</p> <p>(2) unsolder the G, G-W leads from the straps associated with pad resistors R1 and R3. The other ends of these leads are connected to terminals 1 and 3 of transformer T3 and are retained for use in Step 4.</p>
3	<p><i>Method 1 — Adapter Plate P-43 D216 and Pad J98703B, L9 —</i></p> <p>(1) mount the adapter plate first and then mount the pad as shown in Figs. 2 and 3 or Figs. 7 and 8. If the pad is equipped with BL, BL-W and OR, OR-W leads, these should be unsoldered and discarded.</p> <p>(2) locate the G, G-W paired leads connected to terminals 0 and 1 of the JE or JW jack. Dress these leads along paths E and D shown in Fig. 5. Cut excess length and connect the G lead to R1 and the G-W lead to R4 of the pad.</p>

STEP	PROCEDURE															
	<p>(3) locate the G, G-W paired leads connected to terminals 3 and 1 of transformer T5. Dress these leads along paths B and D, cut off excess, and connect the G wire to R2 and the G-W wire to R5 of the pad.</p> <p>(4) unsolder capacitor C10 (3900 uuf) from terminals 3 and 1 of transformer T5 and replace with the 6800 uuf capacitor.</p>															
4	<p><b>Filters 167C (FL3) and 167D (FL4) —</b></p> <p>(1) mount and assemble the filters as shown in Figs. 2, 3 and 4 or Figs. 7, 8 and 9.</p> <p>(2) connect a G lead to terminal 6 and a G-W lead to terminal 4 of transformer T5. Dress these leads along paths B and C of Fig. 5 and connect the G lead to terminal 5 of FL3 and the G-W lead to terminal 7 of FL3.</p> <p>(3) strap terminal 6 of FL3 to terminal 5 of FL4 and terminal 7 of FL3 to terminal 7 of FL4.</p> <p>(4) locate the G, G-W paired leads connected to terminals 1 and 3 of transformer T3. Dress these leads along path F of Fig. 5 and connect the G lead to terminal 6 of FL4 and the G-W lead to terminal 7 of FL4. This completes the wiring of the filters.</p> <p>(5) unsolder capacitor C18 (130 uuf) from terminals 1 and 3 of transformer T3 and replace with the 200 uuf capacitor.</p> <p>(6) unsolder the G, G-W paired leads from terminals 12 and 13 of the JE or JW jack. Locate the G, G-W paired leads connected to terminals 3 and 1 of transformer T4. Dress these leads along paths A, C and E of Fig. 5 and connect the G lead to terminal 12 and the G-W lead to terminal 13 of the JE or JW jack.</p>															
5	<p>When Steps 1-4 are completed, the G1 or G2 stamping should be removed and replaced by G4 stamping; i.e., ED-92764-30, G4 or ED-92765-30, G4. For J98706 C, D, E, F, add L2 stamping on rear of assembly unit cover; i.e., J98706 C1, L1 &amp; L2.</p>															
6	<p><b>Method 2 — Adapter Plate P-43 D216 and Pad J98703B, L9 —</b></p> <p>(1) mount the adapter plate first and then mount the pad as shown on Figs. 2 and 3 or Figs. 7 and 8. If the pad is equipped with BL, BL-W and OR, OR-W leads, unsolder the OR, OR-W leads from the pad and discard.</p> <p>(2) unsolder the G, G-W paired leads from terminals 0 and 1 of the JE or JW jack. These leads are then connected to the pad with the G lead connected to R2 and the G-W lead connected to R5 of the pad. Dress the BL, BL-W paired leads of the pad along paths E and D of Fig. 5 and connect the BL lead to terminal 0 and the BL-W lead to terminal 1 of the JE or JW jack.</p> <p>(3) remove the G1 stamping and restamp the unit G2; i.e., ED-92846-30, G2 or ED-92860-30, G2.</p>															
7	<p><b>145A Type Resistor Changes</b></p> <p>(1) replace the following 145A type resistors located on the minaplas assembly as shown on Fig. 10.</p> <table><thead><tr><th>RESISTOR</th><th>FROM</th><th>TO</th></tr></thead><tbody><tr><td>R25</td><td>493 ohms</td><td>1070 ohms</td></tr><tr><td>R10</td><td>162 ohms</td><td>105 ohms</td></tr><tr><td>R9</td><td>162 ohms</td><td>100 ohms</td></tr><tr><td>R12</td><td>1270 ohms</td><td>806 ohms</td></tr></tbody></table> <p>(2) remove G1 stamping and restamp G2; i.e., ED-92844-30, G2 or ED-92845-30, G2.</p>	RESISTOR	FROM	TO	R25	493 ohms	1070 ohms	R10	162 ohms	105 ohms	R9	162 ohms	100 ohms	R12	1270 ohms	806 ohms
RESISTOR	FROM	TO														
R25	493 ohms	1070 ohms														
R10	162 ohms	105 ohms														
R9	162 ohms	100 ohms														
R12	1270 ohms	806 ohms														

## PRESENT CIRCUIT



## MODIFIED CIRCUIT

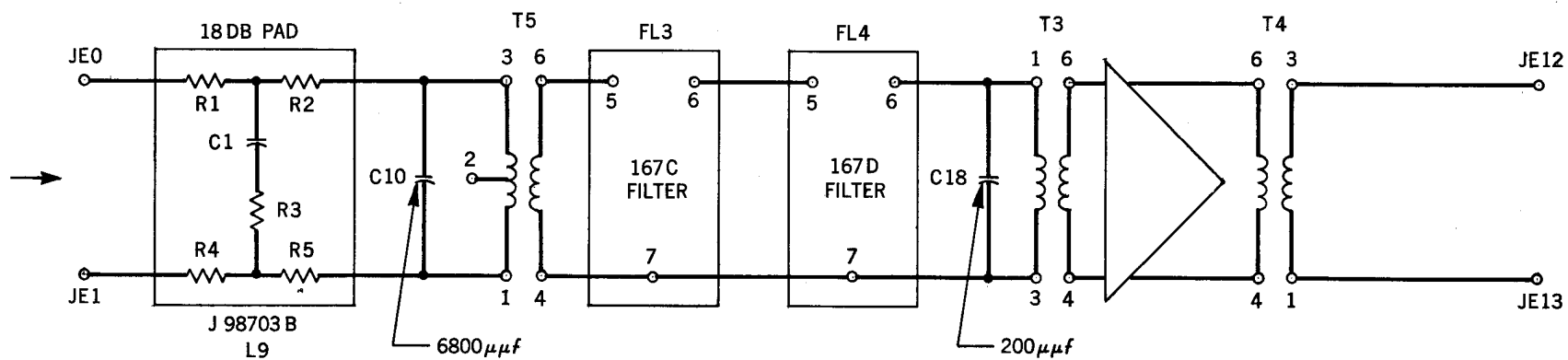


Fig. 1 -  
Low — Low  
West — East  
Subassembly  
of  
SD-95192-01 &  
SD-95193-01

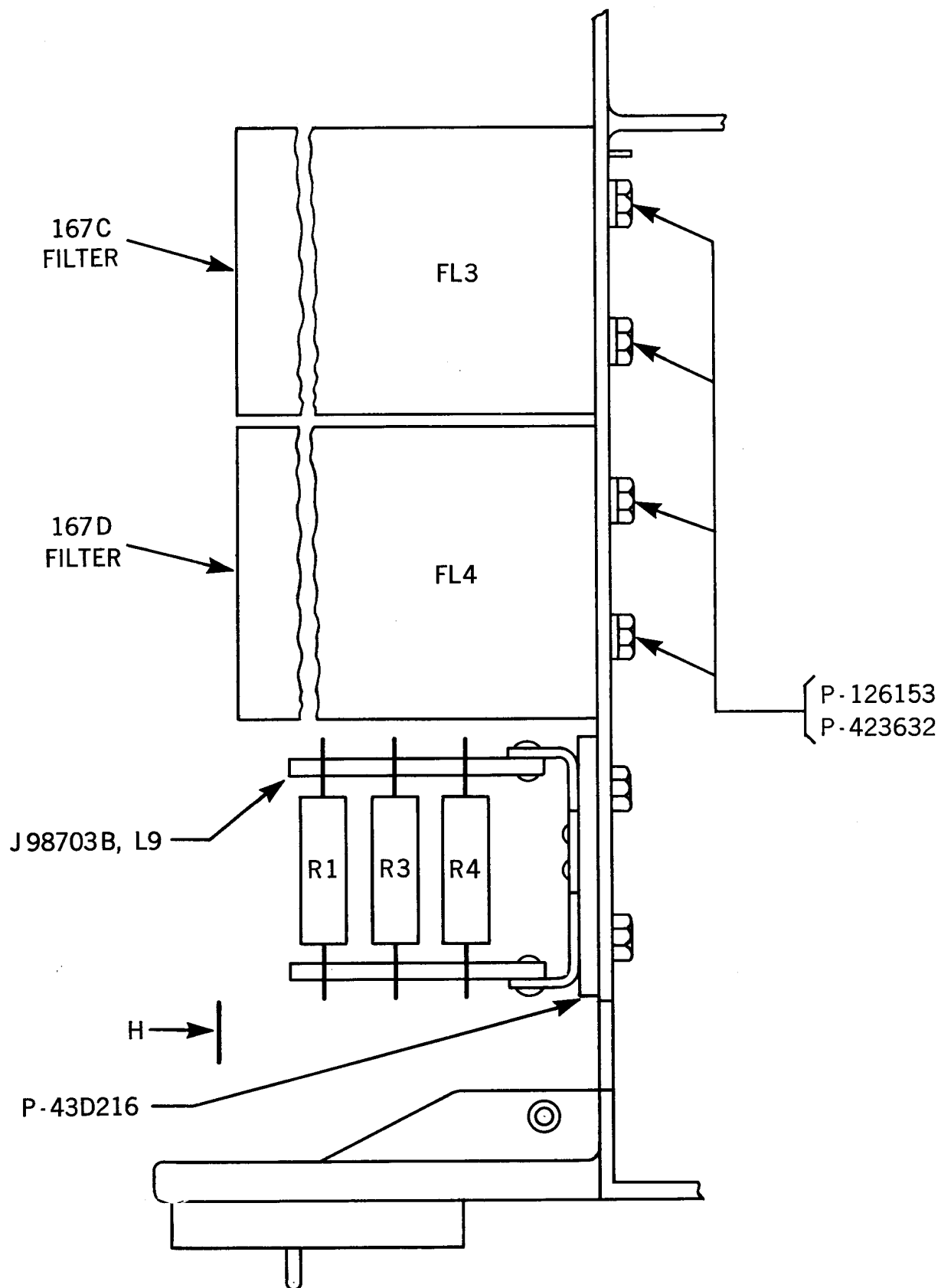


Fig. 2 - Part of L-L Subassembly per ED-92764-30 or ED-92846-30

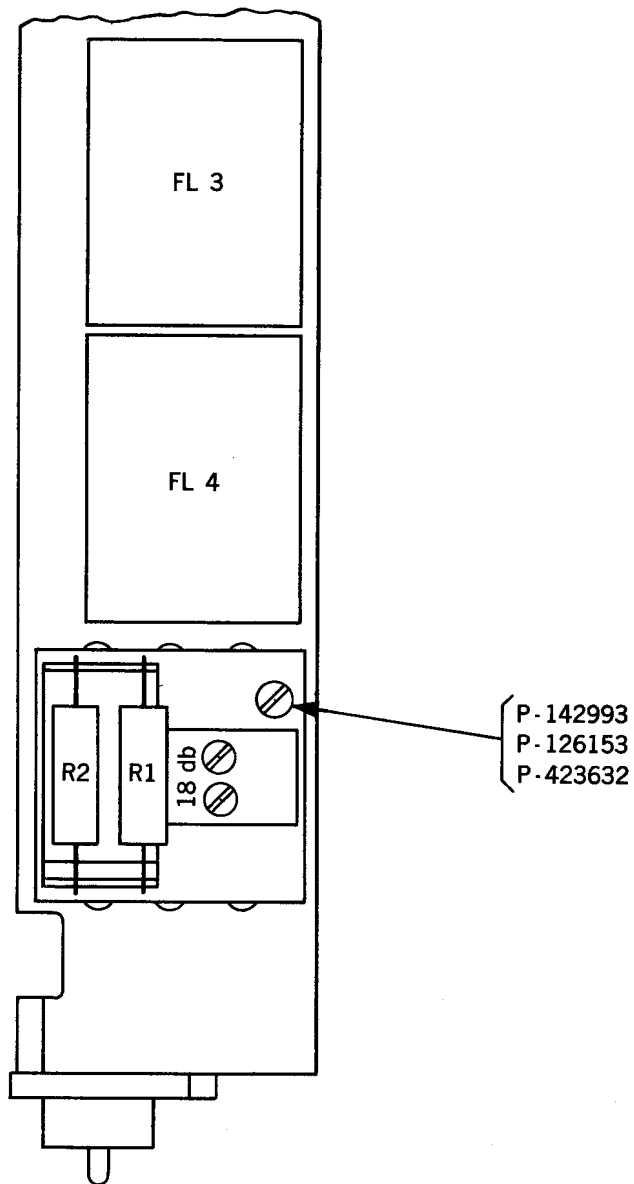


Fig. 3 - Part of L-L Subassembly  
per  
ED-92764-30 or ED-92846-30

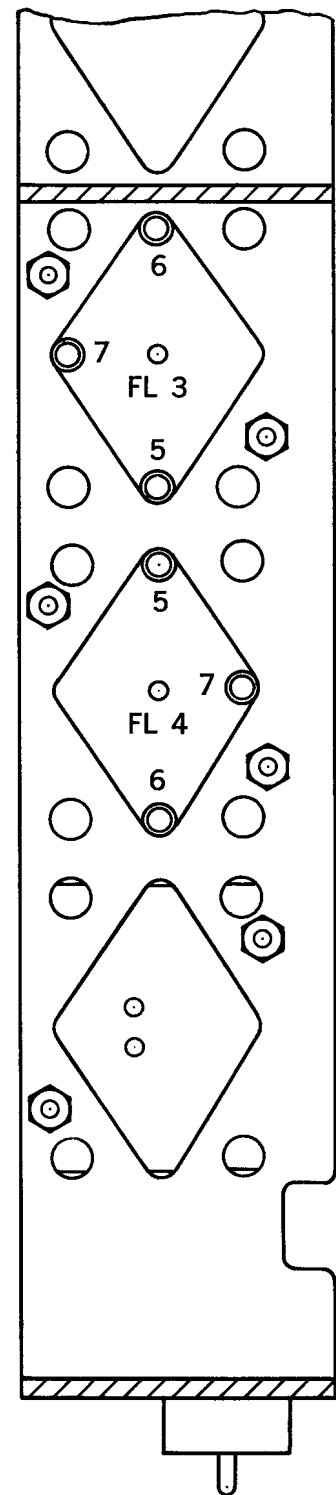
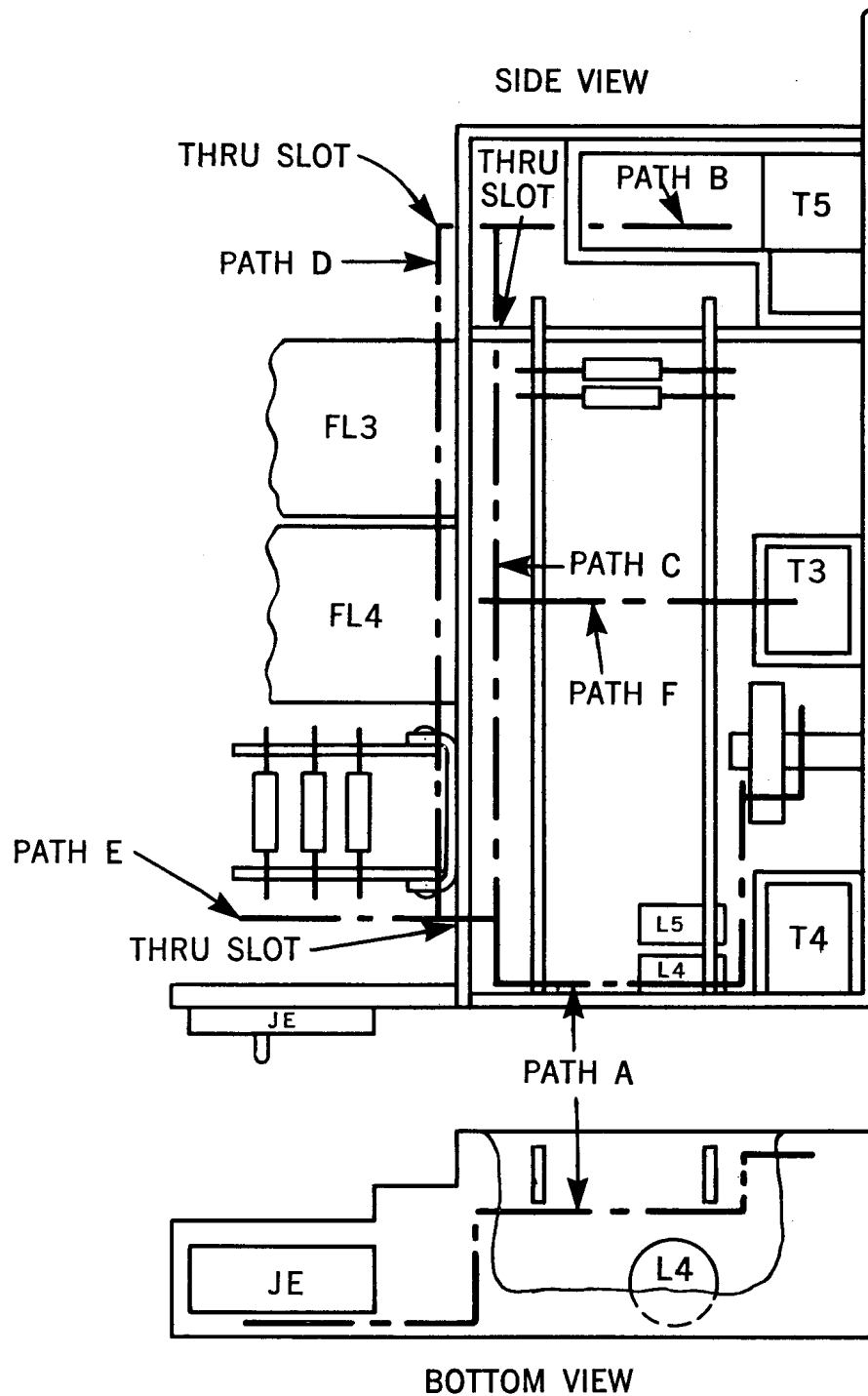
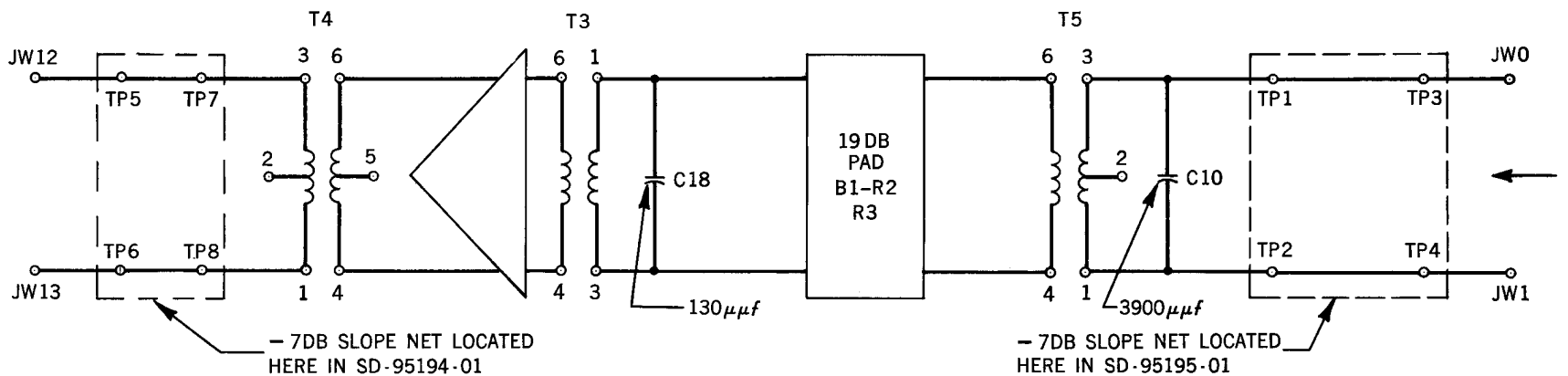


Fig. 4 - Part of L-L Subassembly  
per  
ED-92764-30 or ED-92846-30



**Fig. 5 – Repeater Subassembly Wiring Path**

PRESENT CIRCUIT



MODIFIED CIRCUIT

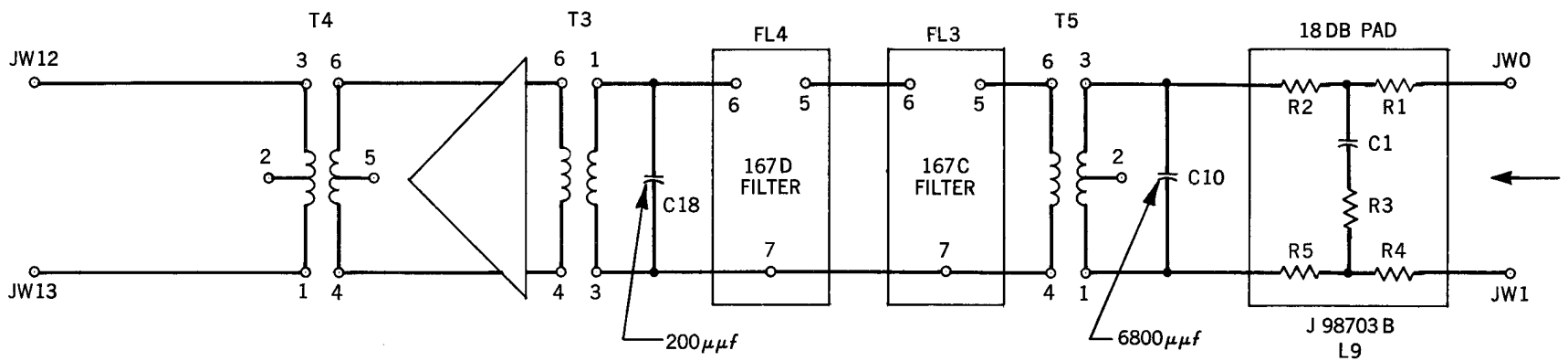


Fig. 6 —  
Low — Low  
East — West  
Subassembly  
of  
SD-95194-01 &  
SD-95195-01



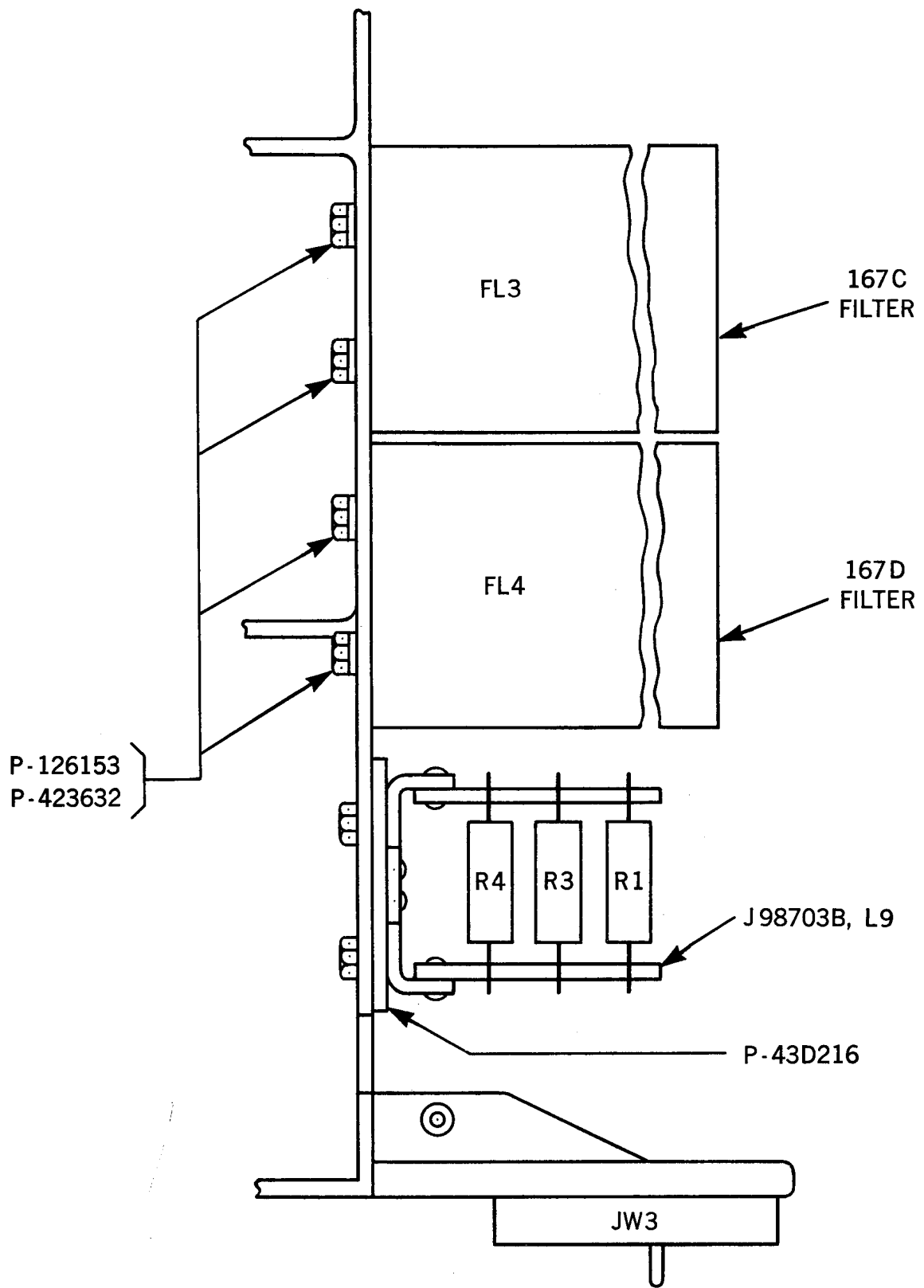


Fig. 7 – Part of Subassembly per ED-92765-30 or ED-92860-30

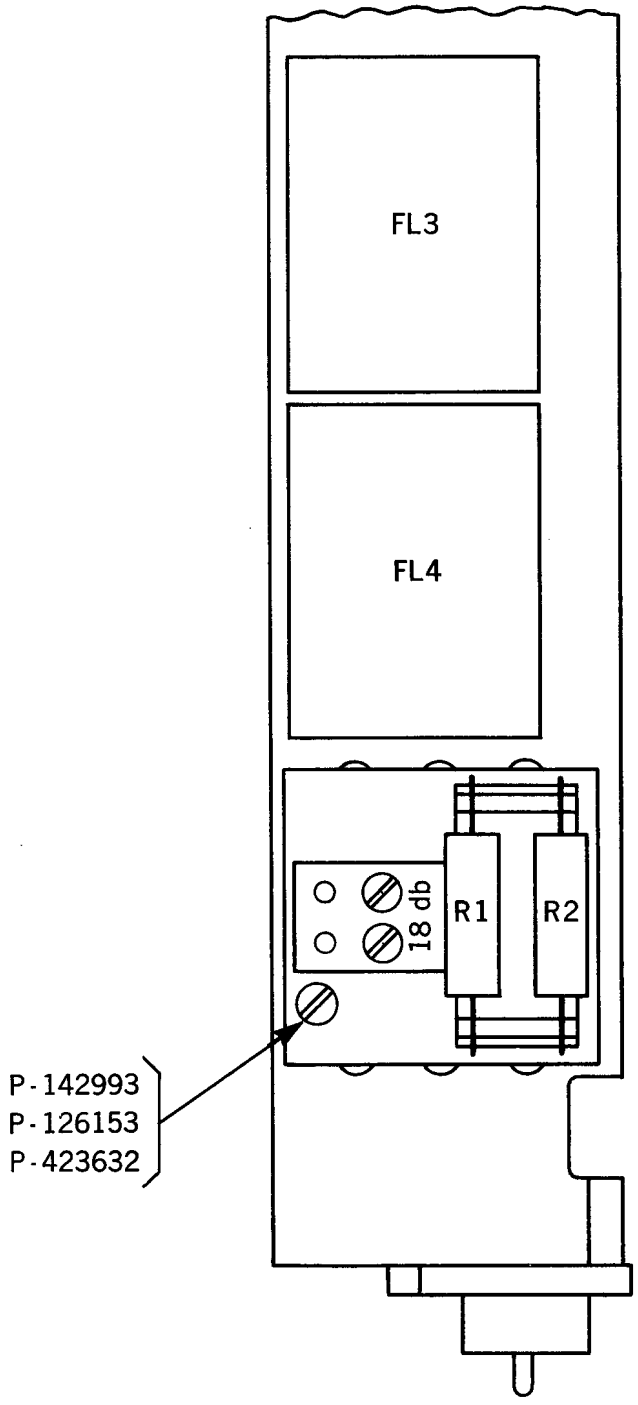


Fig. 8 - Part of L-L Subassembly  
per  
ED-92765-30 or ED-92860-30

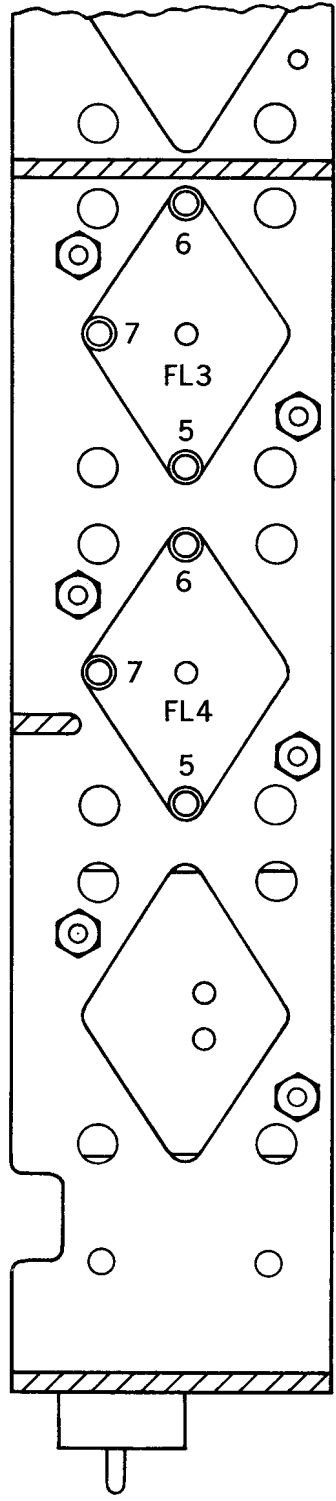


Fig. 9 - Part of L-L Subassembly  
per  
ED-92765-30 or ED-92860-30

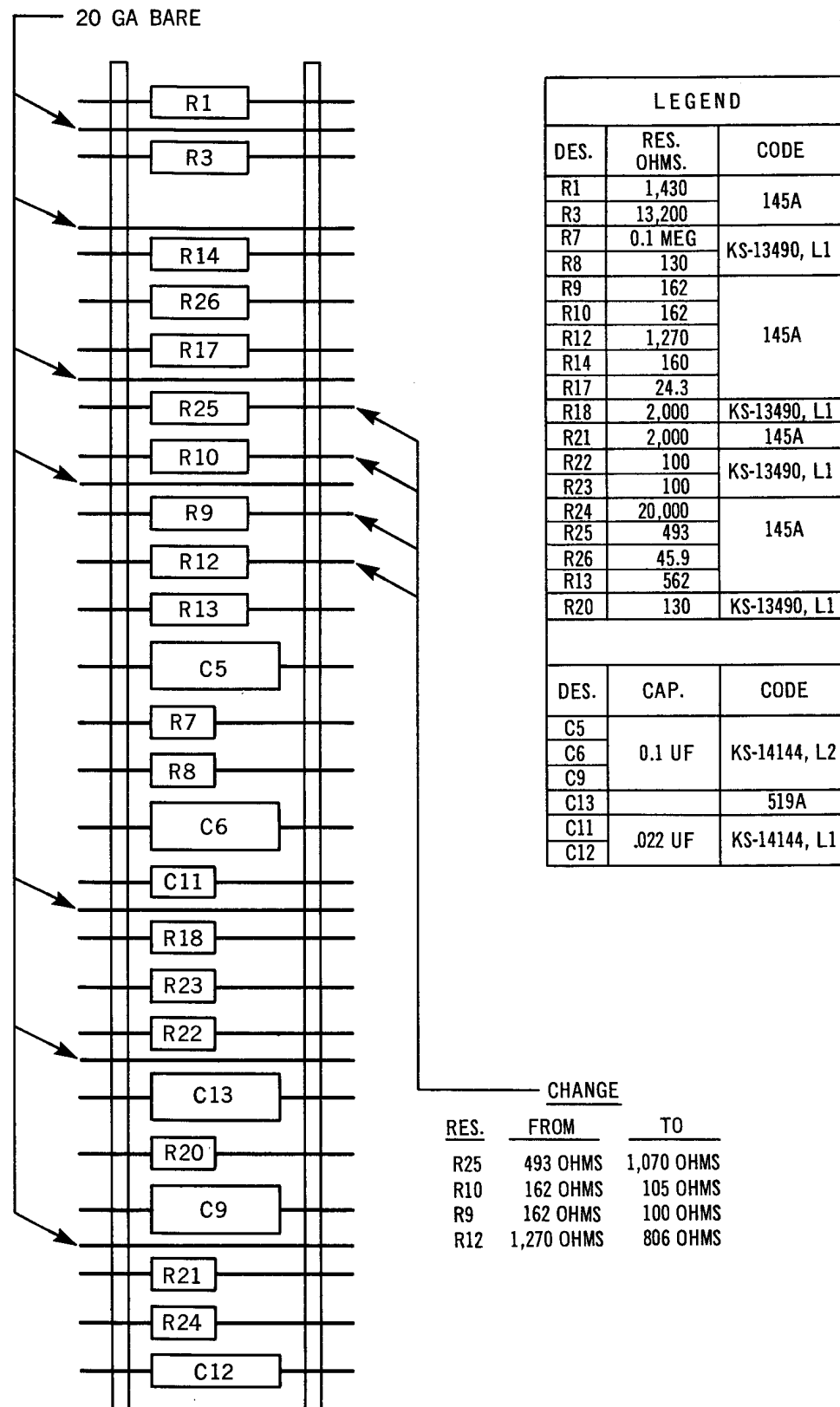


Fig. 10 – Minaplas Assembly for H-H Repeater Subassembly