

**TYPE N AND ON CARRIER REPEATERS — REPEATERED HIGH-FREQUENCY LINE
TRANSISTORIZED REPEATER POINTS
METHOD OF SWITCHING TRANSISTORIZED REPEATERS WITH THE J98703BD
REPEATER SWITCHING SET**

This section is reissued to add information on the -48 volt repeater and the test power jack wiring.

The substitution of an alternate repeater for a working unit may be done without interruption to service by the use of the J98703BD repeater switching set. If the repeater is to be removed from its jack for test or replacement, the switching set with an alternate repeater is patched to the repeater switching jack. A key on the switching set provides means for switching back and forth between regular and alternate repeaters. It is important that the steps be executed in the sequence outlined to avoid interrupting service. Hits on systems with SAGE or telegraph transmissions may be reduced by using the *specified* cords from the switching set to the repeater switching jacks and *by following the sequence outlined for plugging the cords into the switching jacks.*

The J98703MB, List 1 and 2 low-high repeater (arranged for -48 volt powering) is *not* suitable for switching set use. *A List 1 repeater must be used.*

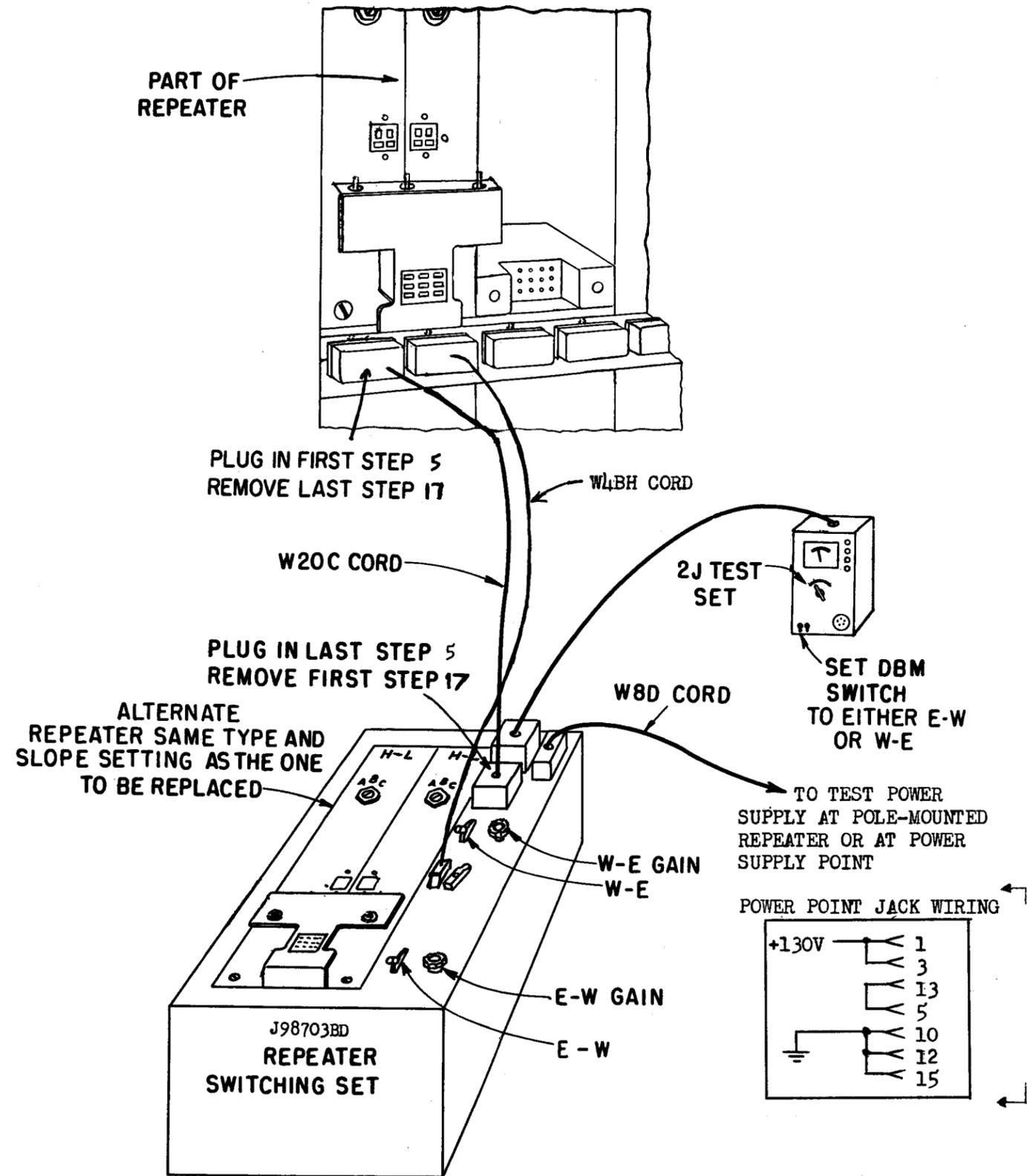
The TEST POWER jack at power supply points must be wired according to drawing ES97207-01 to prevent blowing the +130 volt fuse. A sketch of this wiring is included on page 2.

APPARATUS:

- 1 — J98703BD Repeater Switching Set
- 1 — W20C Cord (6-foot cord for connecting switching set to switching jack of repeater)
- 1 — W4BH Cord (6-foot cord for connecting switching set to switching jack of repeater)
- 1 — W8D Cord (6-foot cord for connecting power to the switching set)
- 1 — 2J Repeater Test Set (J94002J)
- 1 — Alternate Repeater, of the same type as the one to be replaced, with the 20,000-ohm resistor R19 in place of the thermistor (not a -48 volt low-high repeater)

STEP	PROCEDURE
1	Determine the type of repeater to be replaced and insert an alternate repeater of the same type in the switching set with the 20,000-ohm resistor R19 in place of the thermistor.
2	Set the SLOPE control of the alternate repeater the same as the regular repeater.
3	Check that both switching keys on the switching set are in REG position and turn the W-E GAIN and E-W GAIN potentiometers maximum counterclockwise.
4	Connect the BAT jack to the test power supply on repeater frame using the W8D cord. <i>Note: Make sure the TEST POWER jack at power supply points is wired according to the attached sketch.</i>

STEP	PROCEDURE
5	Remove the connector from the J2 jack of the repeater to be switched. Plug the <i>W20C cord</i> into the J2 jack <i>before</i> plugging into the REG REP jack of the switching set.
6	Remove the connector from the J3 switching jack which is color coded yellow. Plug the <i>W4BH cord</i> into the J3 jack before plugging into the REG REP jack of the switching set.
7	Connect the 2J test set to the TEST jack of the switching set.
8	Operate the rotary switch of the J98703BD set to W-E REG and observe reading on the 2J test set and then operate the switch to W-E ALT and adjust the W-E GAIN potentiometer to obtain the same reading on the 2J test set.
9	Operate the rotary switch of the J98703BD set to E-W REG and observe reading on the 2J test set and then operate the switch to E-W ALT and adjust the E-W GAIN potentiometer to obtain the same reading on the 2J test set.
10	Operate the W-E and E-W keys to ALT. The regular repeater may now be removed without interrupting service.
11	To restore the repeater to service replace the repeater or a similar unit in its mounting.
12	After allowing about 10 minutes for the output to stabilize, measure the output of the regular repeater by setting the rotary switch to E-W REG and W-E REG.
13	Requirements: H-L Repeater $+3.0 \pm 2.0$ dbm L-H Repeater $+12.0 \pm 2.0$ dbm
14	The readings on the 2J test set should be within approximately 0.25 db of each other when the rotary switch is set on E-W REG and E-W ALT, or W-E REG and W-E ALT.
15	If after about 10 minutes the readings do not agree repeat Steps 8 and 9.
16	Operate the W-E and E-W keys to REG.
17	The W4BH cord and the W20C cord should be removed as follows to reduce hits on systems with SAGE or telegraph transmissions. Remove the plug of the W4BH cord from the switching set <i>before</i> removing the one from the repeater switching jack. Replace the repeater connector in the switching jack J3.
18	Remove the plug of the W20C cord from the switching set <i>before</i> removing the one from the repeater switching jack. Replace the repeater connector in the switching jack J2.
19	Disconnect the power cord from test power supply jack.



SWITCHING REPEATERS