

**P1 CARRIER TELEPHONE SYSTEM**  
**ADJUSTMENTS AND MAINTENANCE**  
**CENTRAL OFFICE TERMINAL TESTS — RECEIVING**

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**1.00 INTRODUCTION**

**1.01** This section specifies adjustments and tests required to prepare the receiving portion of a central office terminal for service. It also specifies tests required to locate trouble which has been isolated to this portion of a terminal by the trouble locating procedures summarized in Section 363-101-509.

**1.02** To adjust a terminal, perform each adjustment in the order listed.

**1.03** To locate a trouble in the receiving portion of a central office terminal, perform all the steps in the order given. When requirements cannot be met, follow the procedure specified in Section 363-101-509.

**1.04** Preparations made for each test or adjustment will remain in effect until the end of the section (Receiving) unless otherwise specified.

**2.00 ADJUSTMENT E — REGULATOR**

**2.01** On test set, turn SEND switch to MOD CARR position.

**2.02** Turn CARR OSC RANGE switch to position that covers the frequency of the receiving filter on board C1. This frequency is shown on the bottom of board C1.

**2.03** Turn CARR OSC FREQ knob until the KC dial indicates the frequency of the receiving filter on board C1.

**2.04** Turn DET SENS-db switch to 0 position.

**2.05** Operate and hold CAL OSC key.

**2.06** Turn CARR OSC OUTPUT knob to obtain reading of 0 on DECIBEL meter.

**2.07** Release CAL OSC key.

**2.08** Turn AUDIO OSC FREQ switch to 1000~ position.

**2.09** Turn DET SENS-db switch to -20 position.

**2.10** Operate and hold B and CAL OSC keys.

**2.11** Turn AUDIO OSC OUTPUT knob to obtain a reading of -6 on DECIBEL meter.

**2.12** Release B and CAL OSC keys.

**2.13** Repeat 2.04 through 2.12 until both requirements are maintained without readjustment.

**2.14** Turn REC switch to DET HI-IMP position.

**2.15** Leave DET SENS-db switch on -20 position.

**2.16** Turn left-hand ATTENUATOR switch to 20 position and right-hand ATTENUATOR switch to 7 position.

**2.17** Connect send cord from SEND jack on test set to CARR test point on board A; white to CARR, two black leads to yellow dot.

**2.18** Connect receive cord from REC jack on test set to REC test point on board A; red to REC, black to yellow dot.

**2.19** DECIBEL meter should read as follows:  
12 to 48 kc: Between  $-6.5$  and  $-9.0$ .  
60 to 96 kc: Between  $-6.5$  and  $-10.0$ .

**Note:** If a lower reading than required is measured (to left of  $-9.0$ ), replace board C1. If DECIBEL meter reads higher than required (to right of  $-6.5$ ), check for a faulty C1 or D board by replacing each in turn until requirement can be met.

**2.20** Turn DET SENS-db switch to  $+10$  position.

**2.21** Remove receive cord from terminal.

**2.22** Connect receive cord from REC jack on test set to IN test points on board F; red to left, black to right.

**2.23** On board D, turn REC potentiometer to obtain a reading of  $-3$  on DECIBEL meter. If reading cannot be obtained, replace board D and repeat Adjustment E.

**2.24** Turn right-hand ATTENUATOR to 0 position.

**2.25** DECIBEL meter should read between  $-1$  and  $-3$ . If requirement cannot be met, replace board D and repeat Adjustment E.

**2.26** Turn left-hand ATTENUATOR to 30 position and right-hand ATTENUATOR to 2 position.

**2.27** DECIBEL meter should read between  $-2.5$  and  $-4$ . If requirement cannot be met, replace board D and repeat Adjustment E.

**2.28** Turn right-hand ATTENUATOR to 10 position.

**2.29** DECIBEL meter should read between  $-8$  and  $-12$ . If requirement cannot be met, replace board D and repeat Adjustment E.

### **3.00 ADJUSTMENT F—EXPANDOR**

**3.01** Remove 600-ohm resistor from across VF test points on board A.

**3.02** Remove receive cord from IN test points on board F and connect to VF test points on board A; red to left, black to right.

**3.03** On test set, turn REC switch to BAL 600 $\Omega$  VF position.

**3.04** Turn DET SENS-db switch to 0 position.

**3.05** Turn left-hand ATTENUATOR to 20 position and right-hand ATTENUATOR to 7 position.

**3.06** On board F, adjust EXP potentiometer to obtain a reading of  $-5$  on DECIBEL meter. If reading cannot be obtained, refer to Section 363-101-509.

**3.07** Remove receive cord from terminal.

### **4.00 TEST G—SUPERVISORY**

**4.01** On test set, turn DET SENS-db switch to  $+20$  position.

**4.02** Turn REC switch to DET HI-IMP position.

**4.03** Connect the receive cord from REC jack on test set to SUPV test point on board D; red → to right, black to yellow dot.

**4.04** DECIBEL meter should read between  $-11$  and  $-7$ . If requirement cannot be met, replace board D and repeat Adjustments E, F, and Test G.

- 4.05 On KS-14510 meter, turn selector to OHMS  $\times 1$  position, short test leads together, and turn OHMS ADJ knob to read 0 ohms on OHMS scale.
- 4.06 Connect KS-14510 meter to TST test points on board J.
- 4.07 The KS-14510 meter should read 0 ohms on the OHMS scale.
- 4.08 On the test set, operate and hold the A key. (This removes carrier power from the send cord and is necessary to permit the *K101* or *DL* relay to release.)
- 4.09 Turn left-hand ATTENUATOR to 30 position and right-hand ATTENUATOR to 8 position.
- 4.10 Release the A key.
- 4.11 The KS-14510 meter should read 0 ohms on the OHMS scale.

**Note:** This is an indication that the *K101* or *DL* relay has operated. If requirement cannot be met, replace *K101* or *DL* relay and repeat 4.07 through 4.11. If requirement still cannot be met, refer to Section 363-101-509.

- 4.12 Remove send cord from terminal.
- 4.13 Connect 600-ohm resistor across CARR and yellow dot test points on board A.
- 4.14 If the KS-14510 meter needle falls back, indicating that the *K101* or *DL* relay has released, proceed to 4.15. If needle does not fall back, proceed as in Section 363-101-509.
- 4.15 Disconnect KS-14510 meter. Disconnect receive cord and remove 600-ohm resistor from CARR and yellow dot test points on board A.

**Note:** If no further tests or adjustments are to be made, refer to Section 363-101-507.