# TYPE 187 TELEPHONE SET
# TWO-WIRE TO FOUR-WIRE MODIFICATION

## 1. GENERAL

1.01 This section provides procedures for converting the Type 187 Telephone Set for two-wire to four-wire service.

1.02 This section is reissued to incorporate a two-wire to four-wire modification for any individual pickup line. Marginal arrows are used to identify the new material. Remove the previous issue of this section from the binder or microfiche file and replace it with this issue.

## 2. MODIFICATIONS

### Two-Wire to Four-Wire for Three Lines

2.01 The following material is required to make the conversion:

(a) D-284081-B18 resistor (20,000 ohms, 2 watt).
(b) D-68741-DC capacitor (2μF, 100 Vdc).
(c) D-51033-A receiver capsule.

2.02 Modify the telephone set for two-wire to four-wire service as follows (Figure 1):

(a) Move the blue hookswitch lead from terminal board terminal L2 to terminal board terminal 12.
(b) Move the green hookswitch lead from transmission network terminal 13 to terminal board terminal 11.
(c) Remove the yellow strap between terminal board terminal 10 and transmission network terminal 4.
(d) Remove the black strap between terminal board terminal 11 and transmission network terminal 23.
(e) Add the resistor between terminal board terminal 11 and terminal board terminal 12.
(f) Add the capacitor between terminal board terminal 10 and terminal board terminal 12.
(g) Move the red-blue line cord lead from terminal board terminal 7 to terminal board terminal 12.
(h) Move the brown-green line cord lead from terminal board terminal S to terminal board terminal 11.
(i) Replace the receive capsule (D-51030-A) with the high impedance receiver capsule (D-51033-A).

2.03 This modification sets up all three lines for four-wire service since the receiver leads remain on terminal board terminal 10 and 11.

### Two-Wire to Four-Wire for One Line

2.04 To provide two-wire to four-wire service on any one of the three available pickup keys, an H-888578-1 modification kit is used. This kit consists of a small enclosed relay (FW) and hardware. This kit is used with an external 24-Vdc power supply (Figure 2). A dial or Touch Calling Unit (TCU) version Type 187 telephone set can be modified to provide two-wire to four-wire service. When operated the FW relay transfers the handset receiver connection from the two-wire network to separate pairs. The busy lamp contacts of the pickup selected for four-wire operation are used to operate the FW relay when it is connected to the telephone set. The external power supply provides voltage to the FW relay and to light the busy lamp.

2.05 To modify the telephone set for two-wire to four-wire service, refer to Figure 2 and proceed as follows:

(a) Remove the yellow receiver lead from terminal board terminal 11 and connect it to terminal 9 of terminal block 2.
(b) Remove the black receiver lead from terminal board terminal 10 and connect it to terminal 10 of terminal block 2.
(c) Connect one of the white FW relay leads to terminal 1 of terminal block 2; connect the other white FW relay lead to one of the following lamp lead terminals:
    (1) If the first pickup key is used, use terminal 6.
    (2) If the second pickup key is used, use terminal 5.
    (3) If the third pickup key is used, use terminal 4.
(d) Connect the yellow FW relay leads to terminals 6 and 9 of terminal block 2.
(e) Connect the red FW relay leads to terminals 7 and 8 of terminal block 2.
(f) Connect the blue FW relay leads to terminals 10 and 11 of the terminal board.
(g) Mount the FW relay on the right leg of the dial or TCU mounting bracket by using the lockwasher and hex nut provided in the kit.

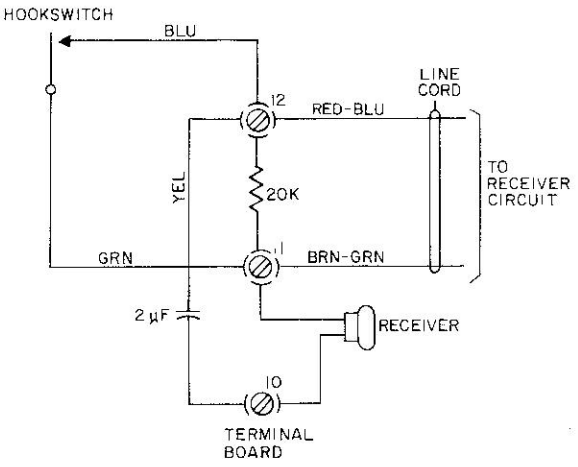


Figure 1. Modification for Two-Wire to Four-Wire Service (Three Lines).

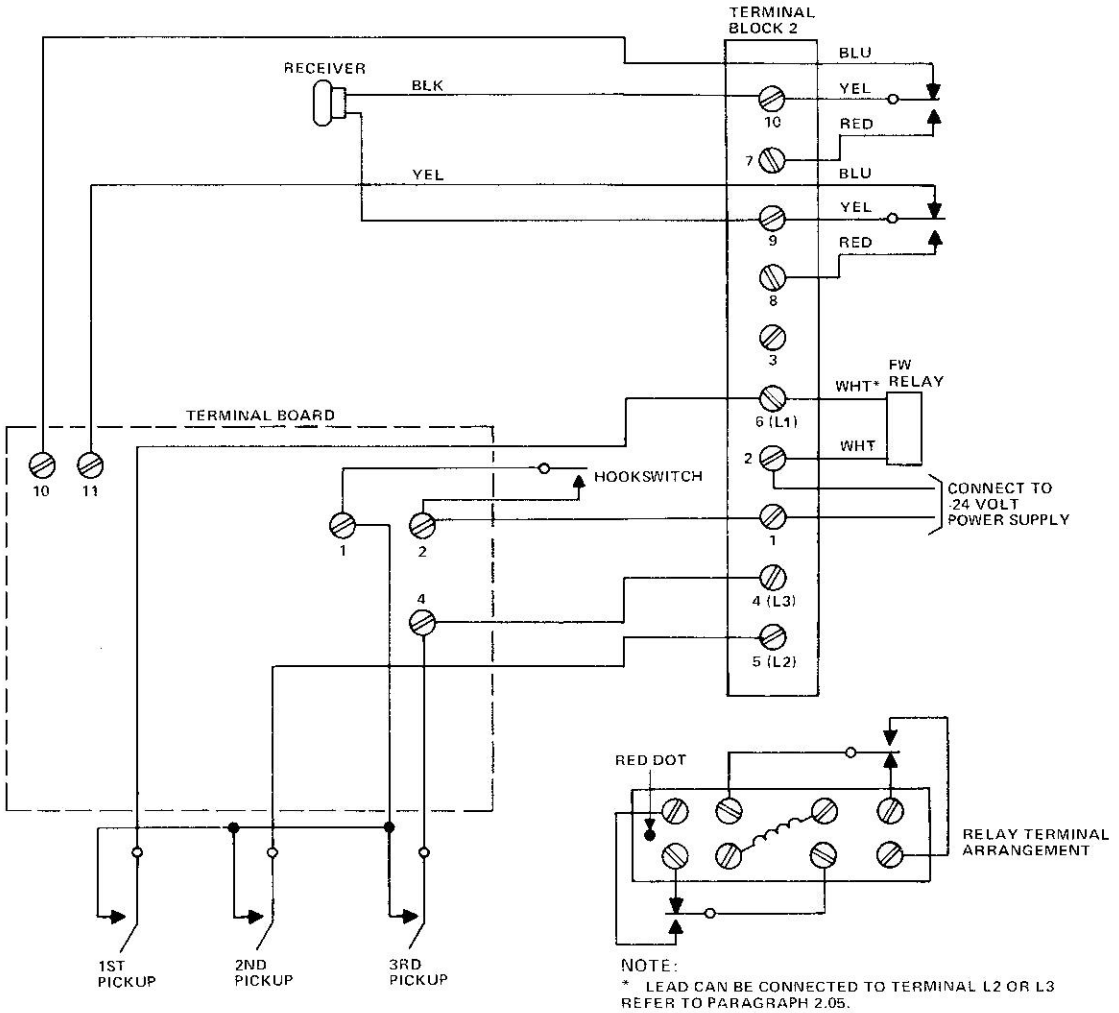


Figure 2. Modification for Two-Wire to Four-Wire Service (One Line).