SPECIAL SERVICE LINES

PROTECTION AND TERMINATION

OF DC TELEGRAPH AND RADIO PROGRAM LOOPS

3. PROTECTION

3.01 Special electrical protection may be required to limit the current and voltage that the customer equipment can deliver to the telephone plant, or in some cases, to minimize the effect that a momentary disturbance in the telephone plant can have on the customer equipment.

TABLE A

	DC	AC (rms)
Maximum voltage* Conductor to conductor	135V(270V†)	50V(100V†)
Maximum voltage* Conductor to ground	135V	50V
Maximum current‡ Any conductor	0.35A	0.35A

* These values apply to continuous dc and ac (low-frequency sine wave) voltages and are measured at point of connection to telephone facilities.

† Permitted only if the voltage source is center tapped to ground.

‡ Use of multiple conductors to limit the current per conductor to this value is not desirable.

4. RADIO PROGRAM LOOP CONTINUITY INDICATOR

4.01 The radio program loop continuity indicator provides the serving test center (STC) with a simple means of testing, without the need for personnel at the customer location, to determine whether a radio program loop trouble condition is caused by the equipment or the conductor.

4.02 One basic radio program loop continuity indicator is available. This indicator is suitable for either COAM or TCM facilities.

5. DC TELEGRAPH LOOP CONTINUITY INDICATOR

5.01 The dc telegraph loop continuity indicator provides the STC with a simple means of testing, without the need for personnel at the customer location, to determine whether a dc telegraph loop trouble condition is caused by the equipment or the conductor.

5.02 Two basic dc telegraph loop continuity indicator circuits are available, one for loops arranged for neutral operation, and one for loops arranged for polar operation where ground is obtained from the central office. If ground is obtained at the customer location, the indicator cannot be used.

6. TERMINATION

RADIO PROGRAM LOOP TERMINATION

6.02 The radio program loop continuity indicator is mounted on the 42A connecting block used for terminating this type of circuit, see Fig. 1. The connecting block will be considered the line of demarcation between the Telephone Company and customer facilities. It will be identified as described in 6.05(d).

DC TELEGRAPH LOOP TERMINATION

6.03 For dc telegraph loops having Telephone Company maintained (TCM) equipment, the continuity indicator shall be mounted on the terminating connecting block and installed as close to the equipment as possible. This block will be considered the line of demarcation. The indicators for neutral and polar operation, as shown in Fig. 2 and 3 respectively, or Fig. 6 will be used for this type of facility.

6.04 For loops having COAM equipment, the terminating connecting block will be mounted at the location designated by the customer and will be considered the line of demarcation. The continuity indicator and terminating connecting block connections for neutral operation are shown in Fig. 4 and 6;

REQUIREMENTS

6.05 Observe the following requirements when making terminations:

(a) The Telephone Company line must not be connected directly to the customer equipment.

(b) Customer wiring must not be run into a cable terminal box.

(d) A white linen tag, or equivalent, must be attached at the final termination. This tag is used to identify the circuit for the customer work force.

(e) The 426F diode(s) used in the dc telegraph loop continuity indicator (Fig. 2, 3, 4, 5, and 6) must be connected, as shown, to ensure correct polarity.

(f) When used for mounting the continuity indicator parts, the 42A connecting block must use a plastic cover.

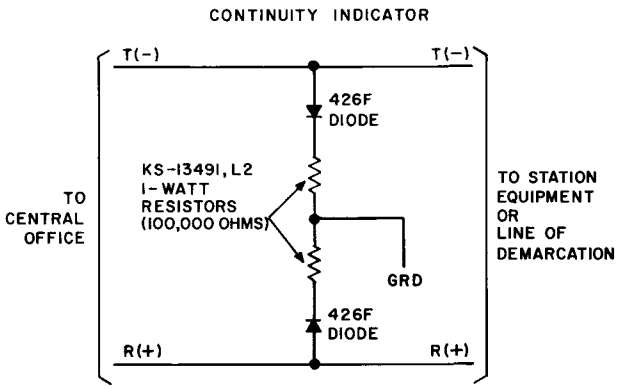


Fig. 6—DC Telegraph Loop Continuity Indicator (Alternate Method)

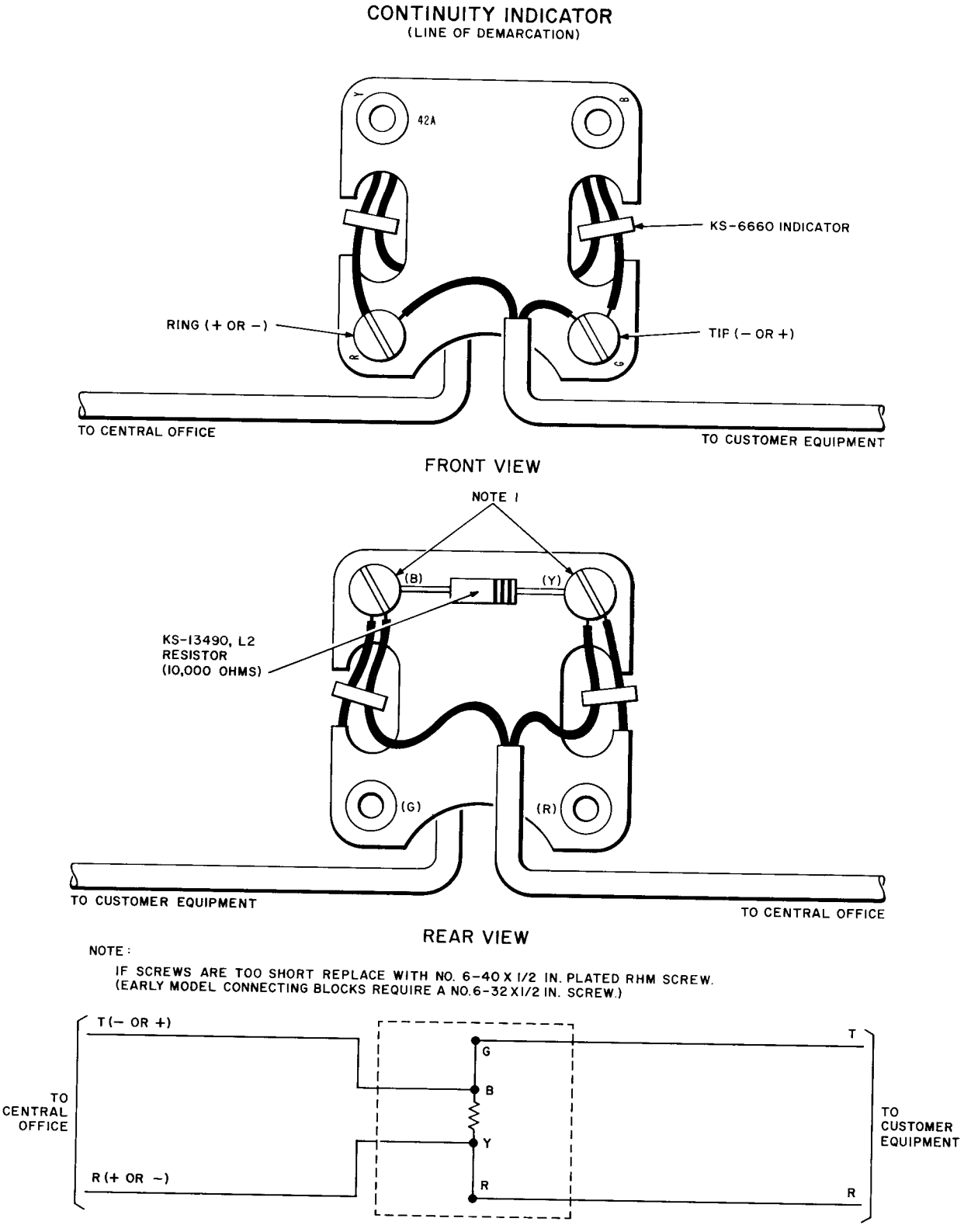
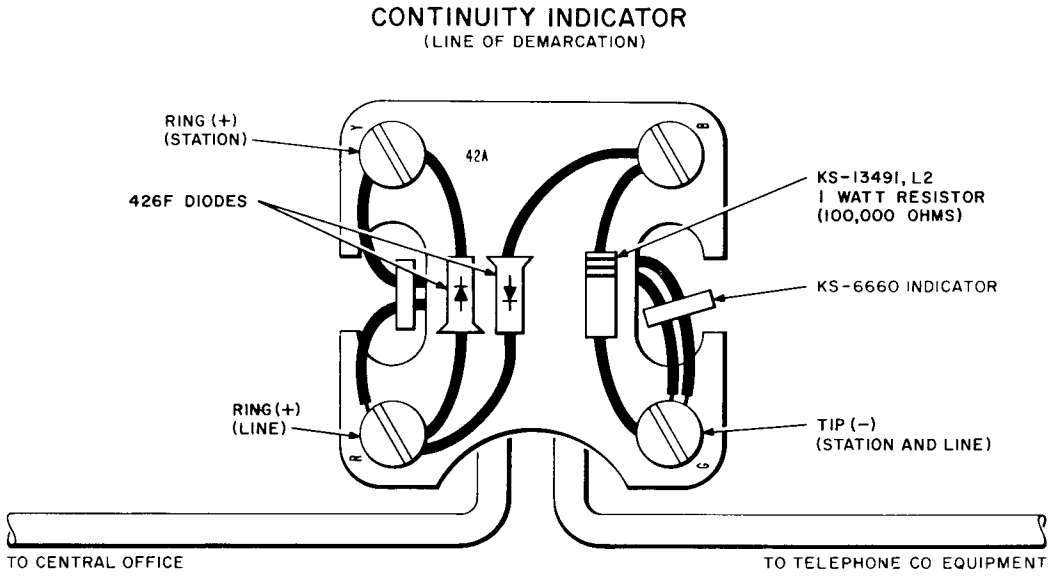
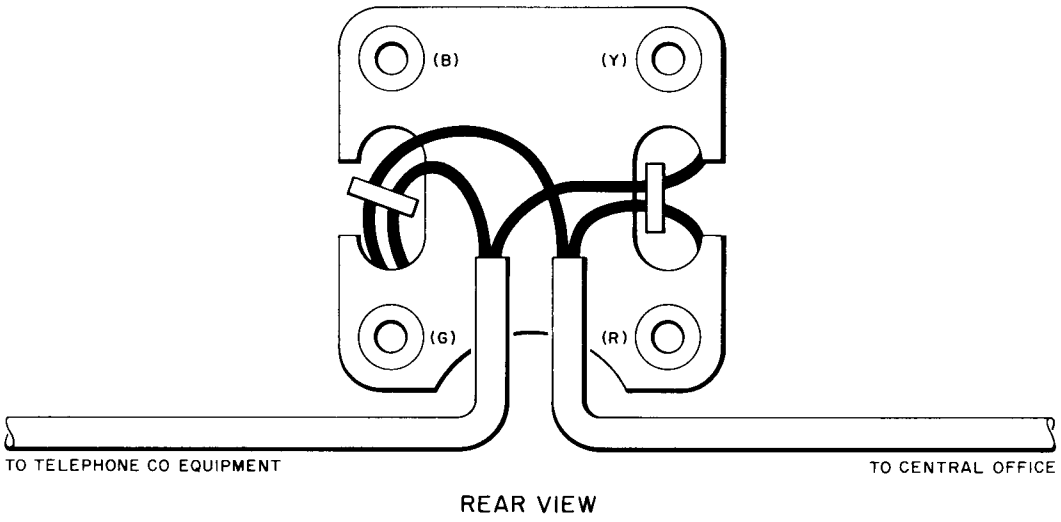


Fig. 1—Radio Program Loop Continuity Indicator





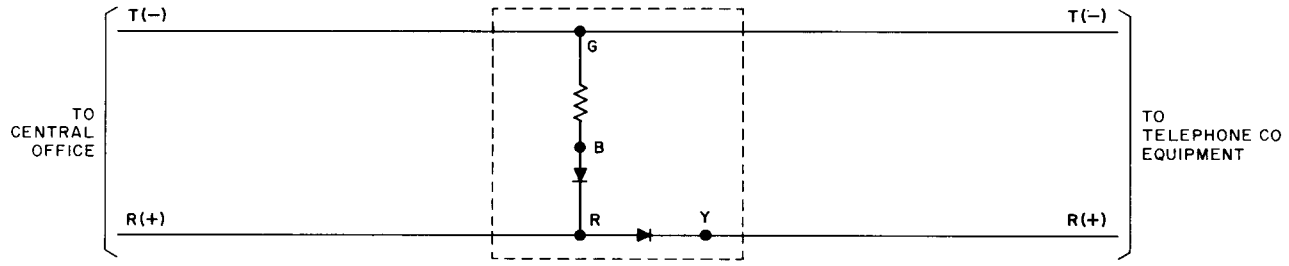
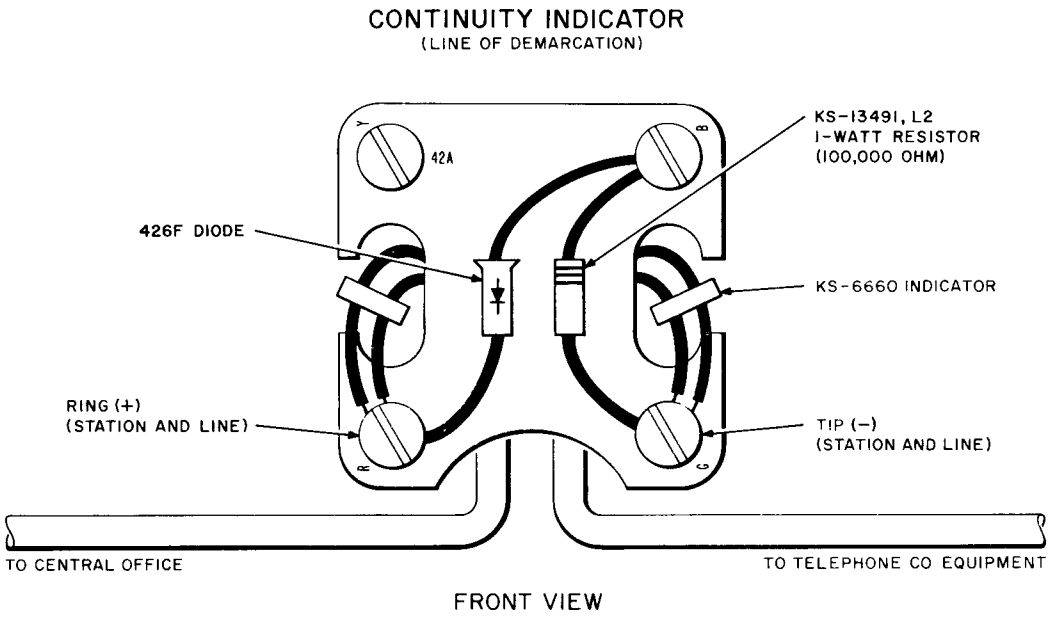
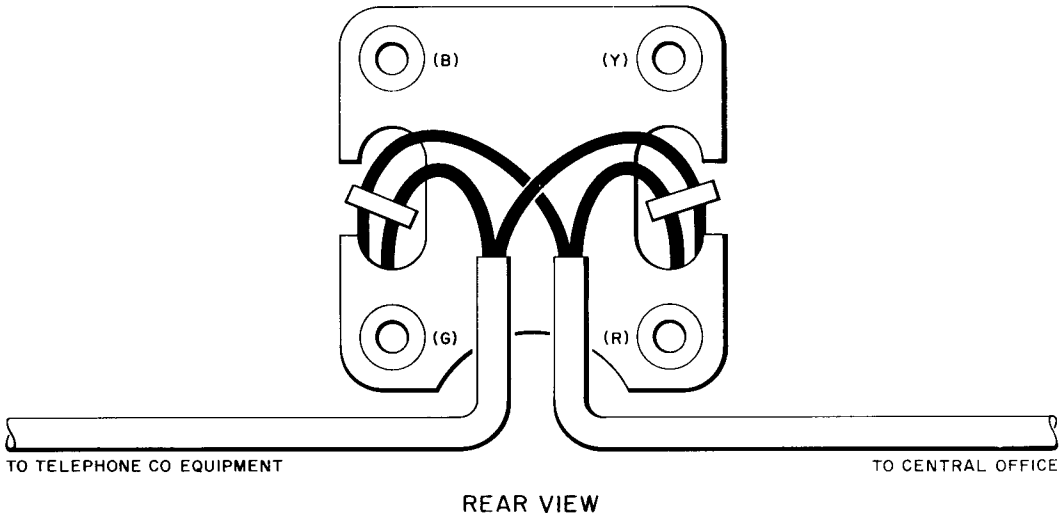


Fig. 2—DC Telegraph Loop Continuity Indicator—TCM Equipment, Neutral Operation (For Alternate Method See Fig. 6)





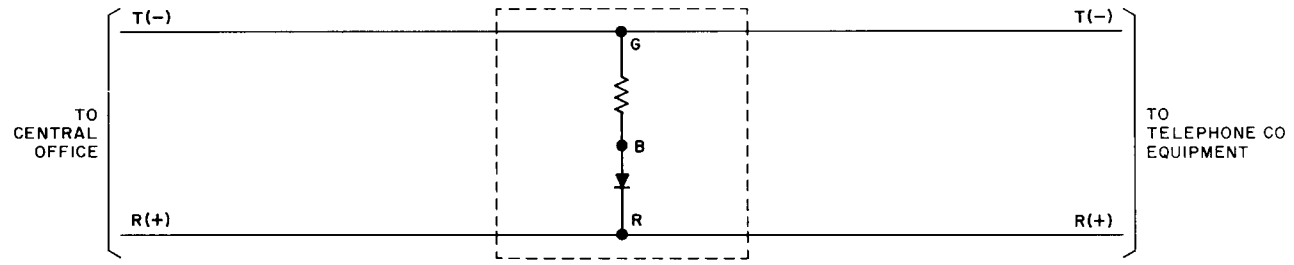
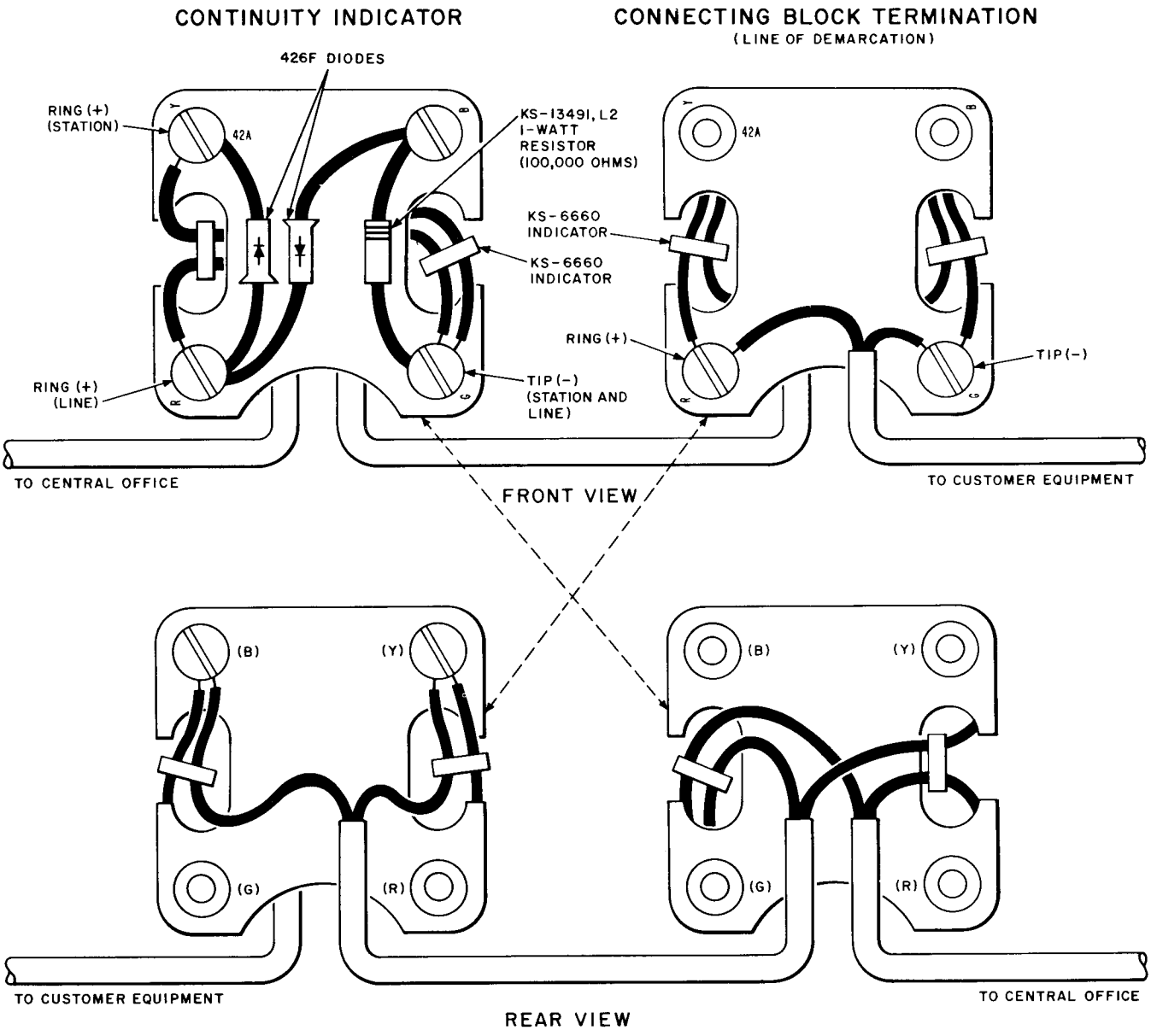


Fig. 3—DC Telegraph Loop Continuity Indicator—TCM Equipment, Polar Operation (For Alterate Method See Fig. 6)



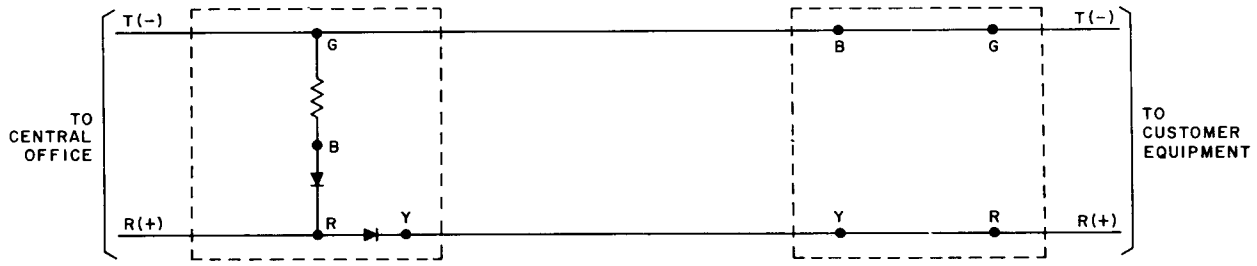


Fig. 4—DC Telegraph Loop Continuity Indicator—COAM Equipment, Neutral Operation (For Alternate Method See Fig. 6)

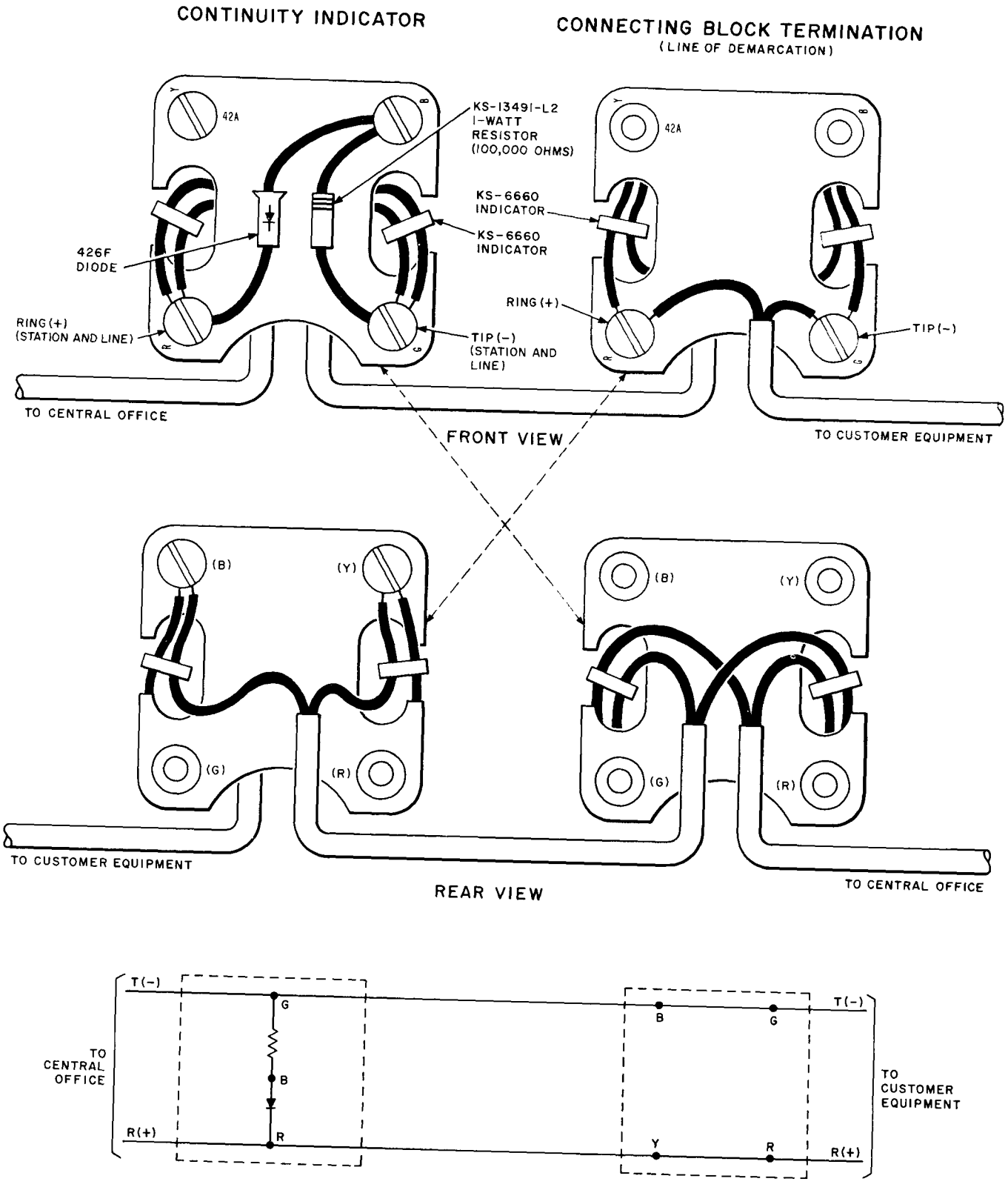


Fig. 5—DC Telegraph Loop Continuity Indicator—COAM Equipment, Polar Operation (For Alternate Method See Fig. 6)