TIP AND RING IDENTIFICATION
COMMON BATTERY EXCHANGE LINES

1. GENERAL

1.01 This section covers a method for identifying the tip and ring sides of common battery exchange lines by means of an electrical test with the hand test set.

1.02 The method outlined herein assumes that the line is continuous to the line circuit at the central office and that the line is normal. Therefore, in testing toward the central office the circuit conditions for the various types of common battery exchange lines should be in accordance with the following table:

Type of Line	Circuit Condition Toward Central Office	
	Tip Side	Ring Side
(a) All lines except those listed in (b), (c) and (d) of this table.	Ground	Battery
(b) Lines to No. 8 Switchboards	Battery	Ground
(c) Manual Prepayment Coin Collector Lines	Battery	Open
(d) Panel Dial Prepayment Coin Collector Lines arranged for coin first operation and also lines to dial P.B.X.'s except 750-A P.B.X.'s, and 700-C and 710-C P.B.X.'s without auxiliary long trunk circuit equipment. (Lines to 750-A P.B.X.'s test the same as (a) above. Lines to 700-C and 710-C P.B.X.'s without auxiliary long trunk circuit equipment test the same as (c) above.)	Open	Battery

1.03 Where the tip and ring sides of a pair are found reversed, reverse the wires at the feeder terminal or line

wire side of protector or connecting block in order not to affect the scheme of wiring at the station. The tip, ring and signaling ground wires should have the following tracers:

Type of Wire	Tip	Ring	Signaling Ground Wire
Inside Wire	Green	Red	Yellow
Duct Wire	Plain	Single Tracer	Double Tracer
Bridle Wire	Plain	Single Tracer	Double Tracer

2. METHOD

2.01 To determine which side is the tip or ring of a line, place one clip of hand test set on ground and connect the other clip alternately to each side of the line. The battery side gives a louder click in the receiver. In some localities, however, it may be necessary to get a ring on the ring side, or on party lines to get the line up on test, because of difficulty in distinguishing tip from ring due to heavy ground potential. In testing dial lines, the battery side when grounded through hand test set will test battery followed immediately by dial tone.

2.02 In obtaining ground for test do not place clips of hand test set on cable sheathing, lest a hole be made in sheathing through which moisture will enter cable. Obtain ground at a terminal, from some point on grounded metal framework or from ground strip or post where provided.

2.03 If ground is not convenient at individual or non-selective party line stations, test for tip and ring as follows:

(a) See that red and black ringer leads are connected in accordance with standard instructions covering line and ringer connections.

(b) Remove tension on biasing spring by turning biasing spring stud in a counter-clockwise direction with a 129-B tool until there is perceptible slack in the biasing spring cord.

(c) Connect one side of line to L_1 and the other side to C if a set with one condenser or K if a set with two condensers. If armature is pulled toward biasing spring side, ring side of line is connected to L_1. If armature is pulled away from biasing spring side, the tip side of line is connected to L_1. (In areas having the negative side of central office battery grounded, armature pull is reversed with the same line connection.)