**TELEPHONE LINE ANALYZER**

**Simplified Instructions**

For more detailed explanations, see Operating Instructions

**RING TEST**
1. Connect unit and telephone as shown and hang up all telephone products on the line.
2. Set switch to LINE/RING position.
3. Have someone call your number.
4. Reading should be in RING OK area (needle will vibrate) during ringing.

**LOOP TEST**
1. Connect unit and telephone as shown and hang up all telephone products on the line.
2. Set switch to LOOP position.
3. Reading should be in the LOOP OK area.
4. Do not leave in LOOP position; calls can not be received and callers will get busy signal.

**TELEPHONE CORD TEST**
It is only necessary to perform this test if other tests indicate a good telephone line, telephone is still inoperative, and the telephone cord is detachable at both ends.
1. Connect telephone cord between wall jack and jack on Analyzer and plug analyzer's cord into telephone.
2. Set switch to LINE/RING position.
3. While observing the reading, bunch the cord up, squeeze it, and release it.
4. If there is no reading or the reading fluctuates, the cord is defective and must be replaced.
OPERATING INSTRUCTIONS

1. Disconnect telephone from wall jack and plug it into INPUT jack on front panel of analyzer.

2. With the analyzer's switch in the LINE/RING position, connect the plug from the analyzer into the modular wall jack. The analyzer can now monitor line conditions with the user's telephone operating. With the telephone hung up (on hook), the analyzer's meter will read the DC voltage that is present on the telephone line.

3. The meter should read in the LINE OK area. If it doesn't, first verify that all telephone devices on the line under test are hung up (on hook). If they are, unplug one device at a time and observe the meter. If unplugging a particular device causes the meter reading to increase, it is likely that the device is defective. A properly operating device causes negligible line loading when hung up. If new wiring has been installed, particularly by the do-it-yourselfer, it should be re-examined and possibly disconnected to verify that it is not loading or shorting the incoming line.

4. If the REVERSE POLARITY Indicator lights, it indicates that the telephone line polarity is reversed. This may be the cause of an operating problem if the telephone is polarity sensitive. All line tests can be made with either polarity (with the REVERSE POLARITY Indicator ON or OFF).

5. Once the acceptable line voltage reading is obtained, plug each telephone device (go off-hook) and observe the meter. The reading should drop to near zero deflection and return to the normal reading when hung up.

3. Before calling the telephone company, repeat the test several times at 15 minute intervals to determine if it is a temporary condition.

NOTE

Do not leave the analyzer connected to the telephone line with the LOOP test selected. This test simulates an off-hook condition. A party attempting to call you will get a busy signal.

TELEPHONE CORD TEST

With the analyzer and the telephone still connected as originally instructed (the telephone plugged into the jack on the analyzer, the analyzer plugged into the wall jack, and the switch on the analyzer in the LINE/RING position), the analyzer may indicate acceptable readings but the telephone may be inoperative. If so, the telephone cord (between the wall jack and the telephone) may be defective. This test can only be performed on telephone cords that are detachable at both ends.

1. If the telephone line cord is detachable, verify that both ends are properly seated in their sockets.

2. If the telephone is still inoperative, connect the telephone cord between the wall jack and the jack on the analyzer and plug the analyzer's cord into the telephone.

3. Select the LINE/RING test position on the analyzer and, bunched up, squeeze it and release it while checking for abrupt changes in the meter reading.

4. Move the cord up and down and back and forth near each plug and observe the meter.

5. If there is no reading or if the reading fluctuates during steps 3 and 4, the cord is defective and must be replaced.

RING TEST

If ring voltage is not in the RING OK area, check ring voltage at intervals. If total loading on exchange is heavy, ring voltage could be temporarily low. The telephone company's master ring source only has a certain amount of power available.

1. If line voltage appears OK, dial a ring-back number (if available) or have someone call you. When the telephone rings, the meter reading should increase into the RING OK area for the duration of the ring; the pointer will vibrate during ringing. Deflection should be at least 1/8th past the LINE TEST reading. This means that if during the LINE TEST the pointer was already in the RING OK area or very close, the needle should deflect an additional 1/8th or more toward the high end of the scale (measured along the line that separates the RING/LINE scale) during this test.

2. If the telephone does not ring but the meter reading increases into the RING OK area, the telephone's ringer circuit may be defective.

3. If the telephone does not ring and the meter reading is not in the RING OK area, it may be caused by having a large number of telephone products on the line. This may load the ringing signal to the point where it will not ring all the telephone products connected. To determine if this is the problem, add up the ringer equivalence numbers (R.E.N.) indicated on each telephone product. If the total is five or greater, you have exceeded the total ringer equivalence that the telephone company guarantees to ring.

4. Disconnect telephone products one at a time and repeat the RING TEST.

5. If only one telephone is plugged into the line and a low ring reading is observed, unplug the telephone from the analyzer's jack and check whether the ring voltage reading increases significantly. If there is a large increase in the reading, the ringer circuit of the telephone may be defective. If the increase is very small and the meter reading remains in the marginal area, there is a ring voltage problem. Before calling the telephone company, make sure that modifications performed by the user are not the cause of the problem.

NOTE

When the meter reading during this test is in the RING *?* area of the scale, the ringing signal is very close to the minimum voltage guaranteed by the telephone company. Not all telephones will ring in this situation.

LOOP TEST

This test verifies the condition of the telephone line from the central office to the telephone jack in the home.

1. If the "LINE TEST" and "RING TEST" produced low readings after performing all additional checks suggested, the telephone line itself may be the cause of the problem.

2. With all telephone products hung up (on hook), and the analyzer connected as originally instructed (the telephone plugged into the INPUT jack on the analyzer and the analyzer plugged into the wall jack), place the analyzer's switch in the LOOP position. If the meter reading is not in the LOOP OK area, once again, before calling the telephone company, check all telephone products by unplugging one at a time and observing the meter.

SCHEMATIC DIAGRAM AND PARTS LIST

[Diagram and parts list details]

Also use this address for technical inquiries.

B & K, 9402 Telephone Line Tester Schematic

Order replacement parts from B & K Precision Factory Service Department, 9402 Telephone Line Tester Schematic.

Order replacement parts from:

Also use this address for technical inquiries.

B & K Precision Factory Service Department

Chicago, Illinois 60653

Telephone (312) 889-1448

1. All resistors 1/4W, 5% unless otherwise specified.

2. All diodes, silicon, 400V.

3. All variable resistors, 5%.