

SNC Manufacturing Co., Inc.



Li'l Zapper

P31046

Instructions

Using a Noise Measuring Set

1. At the network interface, open the drop and connect the noise measuring set onto the tip and ring conductors on the telephone side of the network interface.
2. Dial the quiet termination (combined miliwatt and balance) and record the power influence (PI) (longitudinal) and circuit noise (CN) (metallic) readings.
3. If the circuit noise is within telephone company specifications, proceed to Step 5.



Figure 1: Lil Zapper

4. If the noise is not within telephone company specifications, the problem on the telephone cable must be corrected before proceeding. When the source of the longitudinal to metallic noise conversion on the telephone cable has been located and corrected, proceed with Step 5.
5. Remove the tip and ring conductors on the customer side of the network interface. Connect the LINE cord clips of the Lil Zapper to the telephone company side of the network interface. Connect the EQPT cord clips to the tip and ring conductors toward the customer's equipment. (If connected on a "66" block, remove the bridging clips). The yellow clip of the EQPT cord of the Lil Zapper must be connected to ground.
6. Go to a convenient testing location on the customer's equipment (the keyset, PBX console, station set, etc.) and place a call through the circuit treated with the Lil Zapper, using the method described in Step 2 to measure the CN. If circuit is quiet, the problem is on the customer side of the network interface. Reconnect the circuit when testing is complete.

Determining the Correct Mitigative Device

1. **CHOKE ONLY**
To determine if a longitudinal choke will solve the problem. DO NOT connect the yellow ground lead of the EQPT cord.
2. **SNIX**
Use the Lil Zapper in its normal configuration by connecting the yellow clip lead of the EQPT cord to ground.
3. **HARMONIC DRAIN ONLY**
Use the EQPT cord ONLY, and bridge the red and green clip leads to the tip and ring of the circuit under test - then connect the yellow clip lead to ground.

To Find the Approximate Location for an INT

1. At the customer's location with the problem, measure and record Power Influence (PI) and Circuit Noise (CN). Also make note of time of day and atmospheric conditions (hot, cold, rainy, etc.)
2. Next, use your noise measuring set to find a location that has between 70 and 75 dBrc of PI. For best results this location should be near a multi-grounded neutral (MGN) location.
3. At this location, open the pair in question and insert the Lil Zapper in series with the LINE cord toward the central office (CO), the EQPT cord toward the customer location and the Lil Zapper's yellow clip connected to the MGN conductor.
4. Measure the PI and CN again at the customer site. Reduced PI and CN readings indicate the Lil Zapper is located ahead of the "conversion" point in the circuit. (The conversion point is the point at which the PI is converted to metallic noise.) Moving the Lil Zapper to another location (in either direction) may produce more favorable results. If the PI goes down but the CN does not, then the PI has already been converted to metallic noise and the Lil Zapper will have to be moved, most likely toward the central office.

NOTE: The fundamental AC voltage should be measured with a digital multimeter. If the fundamental (60 Hz) Voltage is between 30 and 50 volts, the Lil Zapper might tend to saturate, making the reading meaningless. If this happens, it is advisable to use an SNC Humzapper to help find the solution.

DISCLAIMER

This method is only an approximation, as there are many different parameters governing the mitigative ability of the Lil Zapper. Treating one pair in a large cable (50+ pairs) can only give approximate results, but it is a beginning. To determine the absolute best location for an INT, more testing may be necessary. Refer to the SNC INT Application Notes, Part No. T0114, for more information.

Using Test Receiver at Customer Premises

1. At the network interface, bridge the test receiver (Butt-set) to the tip and ring conductors and dial the quiet termination (combined milliwatt and balance) if known. If the test line number is not known, "break" dial tone by dialing any digit with the exception of a 1 or a 0 and monitor the noise. Then remove the Butt-set.
2. At the network interface, connect the Lil Zapper in series to the circuit selected in Step 1. If the network interface is a "66" block remove the bridging clips.

3. Connect the LINE cord clips of the Lil Zapper to the telephone company side of the network interface. Then connect the EQPT cord clips of the Lil Zapper to the customer side of the network interface. The yellow conductor of the EQPT cord must be connected to ground.
4. From the customer's equipment (keyset, PBX console, station set, etc.) place a call through the circuit treated with the Lil Zapper, using the method described in Step 1, to monitor the circuit noise (CN). If the circuit is now quiet, the longitudinal to metallic noise conversion is on the customer side of the network interface.
5. If the CN is approximately the same level as in Step 1 - the trouble is located on the telephone company side of the network interface.

For further information or for technical support - call 800-558-3325
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