

Hello All,

As always, please send any questions about the reading assignment directly to me at [oldtimetelephones@goeaston.net](mailto:oldtimetelephones@goeaston.net). I will bundle questions if necessary, repeat the questions, and give answers in an e-mail to the TCI List Server before moving on to the next reading assignment. This way everyone will benefit from these questions and answers. By sending questions directly to me, we will avoid unnecessary clutter on the List Server. Previous reading assignments, notes, questions, and answers are available in the TCI Library at <http://www.telephonecollectors.info/index.php/telephony101> (this is a new URL, but the old one will eventually get you there).

Please read the rest of Chapter 19 starting near the bottom of page 174.

Here you will see how different versions of the touchtone dial are hooked up (No.25 with 7 wires, No. 35 with 8 wires, and No. 72 with 9 wires) with different networks (No. 425, No. 4228, and No. 4293). All of these dials use the same basic oscillator circuit, and all of these networks use the same basic AST circuit, so you can connect any of the dials with any of the networks.

Trimline phones also used the same basic AST circuit, although they tinkered with the circuit a little, mostly to save space. You can see in Figs. 19-19, 19-20, and 19-21 that the flow of the circuit is exactly the same as in the original network circuit. Coil properties changed very little in the various networks and in the Trimlines, until you get to the end of the line for Western Electric – the Trimline telephone with LED dial lights. For this phone, WE wound an extra section of the primary winding (now 5 windings in all!) which was used in a transmitter bypass loop to get dc battery current for the LEDs from the line without significantly degrading transmitter performance. This is very similar to the trick discussed earlier for putting a local battery in a common-battery phone, but in this case they used part of the induction coil rather than a separate retardation coil. Really clever!

Kellogg and Stromberg-Carlson were using standard Western Electric designs by this time, but again Automatic Electric did not follow suit. Nevertheless, AE used the same basic WE network circuit and just hooked it up differently in their own potted network or printed circuit board. Early versions of AE Type 80 and 90 phones used a manually adjusted variable resistor as this phone's equalizer, but later versions incorporated varistors.

A final version of AE's circuit appeared on a little circuit board in AE Styleline phones. This circuit board was removable, and many of these boards have shown up in collectors' hands and used as implants in early desk sets. All of the AE wiring diagrams, including this "mini" network (also called a GTE mini-network), are shown near the end of Chapter 19.

If there are any questions about the current reading assignment, we will deal with the questions before moving on to the next reading assignment.

Ralph