

Hello All,

As always, please send any questions about the reading assignment directly to me at 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/telephony-101/>.

Please read the first part of Chapter 14 on standard rotary dial telephones, on pages 86-91. Although there is nothing difficult in this chapter, there are a lot of telephones to cover so we will take this chapter in two parts.

The early post-war period was a time when we watched the Bell Telephone Hour with Donald Voorhees (Sunday nights I believe) on our early black-and-white TVs, and the Bell Labs was at its peak. War-time technical developments were scooped up to update the residential telephone. Most of the improvements were evolutionary changes, however: smaller condensers, similar yet better transmitters and receivers, a similar circuit in a new package, and a new ringer with lower tones that old people could hear better.

Only the tip of an innovation iceberg showed up in the post-war rotary-dial phones. Two solid-state devices appeared in the circuit of the early 500-type phone: a thermister and a varistor. The first had a resistance that depended on temperature and the second had a resistance that depended on current (or equivalently voltage). These will be discussed further when we get to the circuits in Chapter 19. But the real innovation came with the Nobel-prize-winning invention of the transistor at Bell Labs. This little device was used to revolutionize the way we dial phones – from rotary to tone dialing (next part of Chapter 14).

Henry Dreyfuss was still in command of exterior design and worked closely with Bell Labs engineers during this period. Also, during this period the Bell System shared its patents with its competitors, and residential telephones thus converged on the Bell design as standard – with the exception of the Automatic Electric phones that morphed into similar, but not identical designs.

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

Hello Again,

A reader wants to see a picture of the inside of a WE No. 425 network, and I have put such a picture in the Telephony 101 notes in the TCI Library (see file 14a at <http://www.telephonecollectors.info/telephony-101/>).

This is a network I took apart many years ago to measure coil properties, so the coil has been removed from the space behind the other stuff at the lower left and mounted on a piece of scrap wood for the measurements. You can see the 8 leads of the 4 coil sections – leads I soldered to copper wires for the measurements. This coil and circuit will be discussed in Chapter 19.

Still mounted on the plastic top plate (upside-down in the picture) are the 4 condensers (in a rectangular stack), the 2 varistors (round silver things), and the resistors (only one is visible in this view). You can see shiny gunk on a lot of this (some has darkened in the can), and this is the silicone compound. If you take one of these networks apart yourself, wear examination gloves because the silicone stuff does not come off with common solvents.

Ralph

