

TROLLEY COMMUNICATIONS



AND

A LARGE ELECTRIC TRAIN LAYOUT ?

The Electric Trolley system, started in the late 1800's, later known as the Northern Ohio Traction and Light (N.O.T. & L) provided public transportation from Cleveland to Uhrichsville passing through towns Uhrichsville, New Philadelphia, Dover, Strasburg, Justus, Navarre, Massillon, Canton, Akron, Cuyahoga Falls, Bedford, Macedonia, Northfield, and Cleveland and other smaller towns along the way. N.O.T & L was a merger of many smaller trolley companies from the late 1800's to the early 1900's. The N.O.T. & L system is described in detail in a well written book titled [The N.O.T. & L Story](#) by authors [James M. Blower and Robert S. Korach](#). Quotes used in this article are from [The N. O. T. & L Story](#) book.

Early communications used on the railroad was telegraphy; however the trolley system used a newer technology for the era described in the following paragraphs from the [N.O.T. & L Story](#), pages 12 and 13.

Quote "The importance of the AB&C line (Akron, Bedford, & Cleveland) to the soon-to-be-developed interurban industry cannot be emphasized too much. In the legal field they established the *right of eminent domain*. In the mechanical field they were of great assistance to the development of the air compressor. Their demand for A.C. transmission equipment greatly speeded up the research in this line and they helped to establish the substation system for electric railway use.

Another AB&C innovation was the use of telephone dispatching for controlling train movements. It had been evident that the steam road method of using the telegraph agent would not work as there were very few towns where business would justify agency stations. Since they were fundamentally a passenger line with no high revenue freight, the AB&C resolved to try out the telephone, then still in its infancy. The system evolved was to have the train crews contact the dispatcher, rather than the other way around.

The pattern established was to proceed on timetable rights unless altered by train orders due to slowness, extra trains, or other reasons. The orders were picked up at Silver Lake Junction or by telephone at the various sidings or other key points. Conductors would call in to obtain the orders. The whole process was a radical innovation and the government became so interested in the project that they built a large brick telephone testing station along the line a few miles north of Silver Lake

Junction. The building unfortunately burned down a few years later and its facility was only partly re-instituted in the Ohio Bell Telephone Building in Cuyahoga Falls.

The center of the communications system was located at the Dispatcher's office, originally located in the middle of the Silver Lake Junction Wye. As there was no extensive public telephone system, the AB&C maintained its own. It was divided into six circuits and was composed of regular circuit phones, supplemented by jacks every half mile for plug-in phones which automatically rang the Dispatcher. Even though the line was shut down from 2:00 AM to 4:00 AM daily, the Dispatcher still had to handle 70 scheduled trains daily in the territory between Silver Lake Junction (Akron) and Miles Avenue (Cleveland)." Unquote. AB&C was merged into the N.O.T.&L.



While Amateur Radio mostly uses radio frequency to communicate, there are many times throughout history that the telephone lines were or are in use. Examples include: the phone patch either through HF bands or repeater auto-



patch. Telephone lines were used on repeaters in the 1960's and the 1970's to connect remote repeater sites between receiver and transmitter. The internet today can be used to connect a computer to a remote HF transceiver even in another state. It is interesting to note that the two forms of communications used by the steam roads and the trolleys, telegraph and telephone system, played a part in the future of amateur radio.

The book mentioned that, on June 9, 1930 there was a big breakup of the N.O.T. & L system and the start of the Ohio Edison System (Power Only). In the local area the company is now called First Energy. The history of power generation and conversion to 600 volts DC used on the N.O.T. & L. system is described in the book. Shown are maps of the routes of the areas served. The trolley systems disappeared from the area in the 1940's. Electric bus transportation temporarily used the overhead wires, which was later abandoned.



Back to part of the Title, A Large Electric Train Layout ?

Sure enough, due to the massive amount of electric lines, known as catenary wires, (very long extension cords) running above the trolley tracks, and the fact that the trolleys used electric motors. A slightly..... Large layout that may not fit around the Christmas tree. However, there are scale models available. The many possibilities for modeling of Trolleys include the use of the overhead wires (low voltage 12 volt DC version). You may even wish to design a scale version of the original telephone communications, maybe using the kitchen as the central office and ask the dispatcher to provide nutrients while keeping the trolleys running on schedule. *Let me know if this works!*

With reference to the Trolley picture above, did you notice that many of the new automobiles have that little Trolley pole on the rear of the roof? Do you suppose that may eventually grow into an electric car? History can repeat itself !