POLE HEAD DIAGRAMS

The following information is designed to assist the reader in the interpretation and correction of pole head diagrams.

Part 1 Diagrams

Each diagram represents the disposition of the wires on the pole line as well as its location with respect to the track for the limits set up on the first line of the diagram. The principal reasons for a change in diagrams are changes in type or number of wires, size or number of crossarms and changes of pole spacing, class of poles, or change in ownership of wires. Generally if a foreign attachment is present and the attachment limits fall within the limits of a given diagram, the position of the wire or cable is shown on the diagram with an explanatory note as to the limits of the attachment.

The crossarms shown on the forms are standard ten foot, ten pin, arms. Crossarms shown on the forms may be altered so as to show arms with four, six, or eight pin positions by separating three, two, or one end pin positions on each end of the crossarm by a vertical line and by a slanted line which extends from the lower corner of the printed arm to the top of the drawn vertical line. (See the illustration)

Gains which are unoccupied are marked with a "V" on the center of the printed arm. Pin positions which are not in use have no special mark and are left blank.

Diagrams are always viewed looking away from Chicago in the direction of increasing mile posts. Pin positions number from left to right, and if the crossarm is other than a ten pin arm, the wire retains the position number it would have had if the arm were a ten pin arm. Therefore, the wire (A) in the illustration would be in the fourth pin position rather than in pin position number 2.

On some lines a gradual replacement of two crossarms with one ten pin crossarm is being made. As this change is completed for any given section as defined by the present set of diagrams, the corresponding diagram should also be changed. Typical examples of this type of replacement are to be found on the Chicago to Ishpeming Line north of Green Bay and on the Chicago to Rapid City Line in Minnesota and South Dakota. On the latter line blanks have been left opposite the diagrams in which changes will occur so that they may be easily recorded.

There are three types of pole head diagram paper available. These are the forms for the pole head diagrams with five gains, ten gains, and for a pole line with bracket fixtures only. The reference numbers for these forms are 3203A, 3203B, and 3203C respectively.

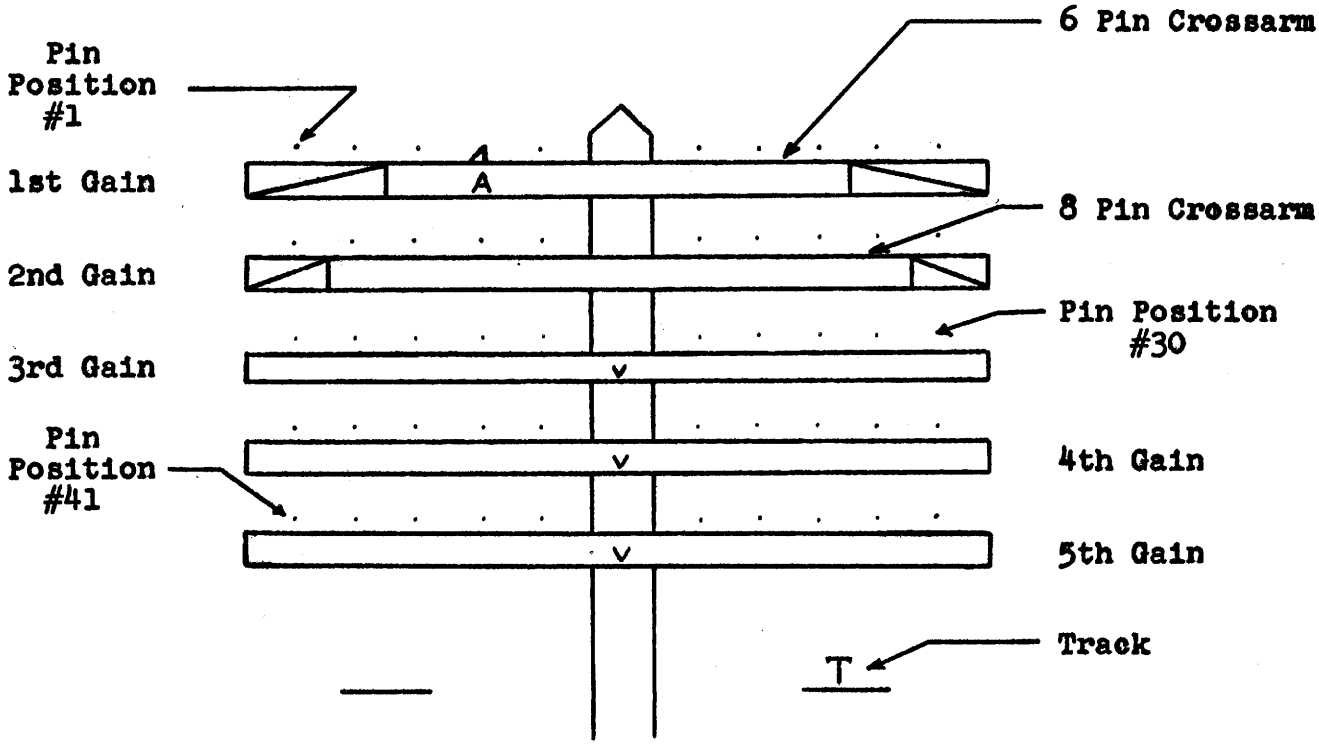
Part 2 Abbreviations

An attempt has been made to standardize the abbreviations used, but there are several cases in which more than one symbol is used to indicate the same thing. There are also several cases in which a letter or group of letters may indicate different things, but these are easily discernable because of their context or use in the diagram.

A or Ae.---------- Aerial, refers to cable
Batt or B -------- Battery wire
Blk -------------- Block wire
Br --------------- Branch line
Br --------------- Bridge
BW --------------- Short form of BWG
C or Ca ---------- Cable
C or Clk --------- Clock wire. These wires are generally owned by the Western Union.
CP --------------- Cable post or cable pole
CTC -------------- Centralized traffic control.
Cu --------------- Copper
Cu - Fe ---------- Copper limits
D ---------------- Dead, i.e., not in use. Also described by the word IDLE.
DS or Disp ------- Dispatcher
E ---------------- East
FA --------------- Fire alarm
Fe --------------- Iron
Fe - Cu ---------- Iron limits
Gnd -------------- Ground
ML --------------- Main line
MP --------------- Mile post
N ---------------- North
OWT -------------- Open wire terminal
PL --------------- Pole line, refers mostly to cable.
RH or Rnd Hse ---- Round house
S or Sig --------- Signal Wire
S ---------------- South
S/L -------------- State line. S is generally superimposed on L to designate a state line.
SX --------------- Simplexed circuit
T ---------------- Telephone circuit

Part 2 Abbreviations

T or Term -------- Terminal
T ---------- Track side
T ---------- Type, refers to cable
Tk Xing ---------- Track crossing
TPR or PTR ------- Teleprinter circuit
TWP or TwPr ------ Twisted pair
UG ---------- Underground
V ---------- Vacant, refers to unoccupied gain
WU ---------- Western Union Company
Xover ---------- Crossover
Yd Ofc ---------- Yard Office


Pin
Position
#1
1st Gain
2nd Gain
3rd Gain
Pin
Position
#41
6 Pin Crossarm
8 Pin Crossarm
Pin Position
#30
4th Gain
5th Gain
Track
A
T

In order to save space, long groups of words are abbreviated with the above symbols. Common examples are:

EUGT ---------- East Underground Terminal
AePLCa ---------- Aerial Pole Line Cable

Part 3 Pole Classifications

All classes of poles have been changed from alphabetical to numerical classifications.

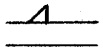
Class AA	Class 2
Class A	Class 3
Class B	Class 4
Class C	Class 5
Class D	Class 6
Class E	Class 7
Class F and others are	Class 7

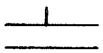
Types of Poles

EC	Eastern Cedar
WC	Western Cedar
ECTT	Eastern Cedar, creosoted
CYP	Creosoted Yellow Pine

Part 4 Types of Wire

The three types of wire most generally used are those shown below with the appropriate symbols for each type.

 Number 9 Copper Line Wire

 Number 8 Iron Line Wire

 Number 10 Copperweld Line Wire

Copper and copperweld wires are AWG and iron wires are BWG. Wire sizes not commonly used are indicated with the number of the wire size below the wire marker. Most of the iron wires which deviate from the standard size of 8 BWG are to be found on the Chicago to Omaha Line. The gauge of foreign wire attachments is shown on some of the diagrams, but it is not essential information as the railway is interested in the locations and number of attachments.

Insulated or weatherproofed wire is indicated as shown below with a dash under the wire marker.

Twisted pair are shown with an X over the wire marker.

A straight line connecting two markers means that the wires are a carrier, dispatcher, loop, or phone circuit; these circuits may or may not be transposed. In some cases, loops may not be joined by such a connection, but are indicated with the word LOOP.

Part 5 Miscellaneous Material

Numbers in brackets, when two numbers are applied to the same wire, refer to a previous numbering and are included only for reference.

Signal wires and crossarms are always C&NW owned unless they are foreign attachments and these are always noted. In some cases only the crossarm is shown and the number of wires or their position is not shown. In other cases the number of wires and their limits are shown by a note. For an example of the latter cases see the St. Paul to Sioux City Line on the CStPM&O.

All foreign attachments should be indicated with a note as to their number and limits. See main line diagrams on the C&NW.

Distances are given in the closest 0.01 of a mile assuming uniform spacing of the poles and based on the number of spans.

Cable specifications are those of the Western Union Company.

March 1, 1960