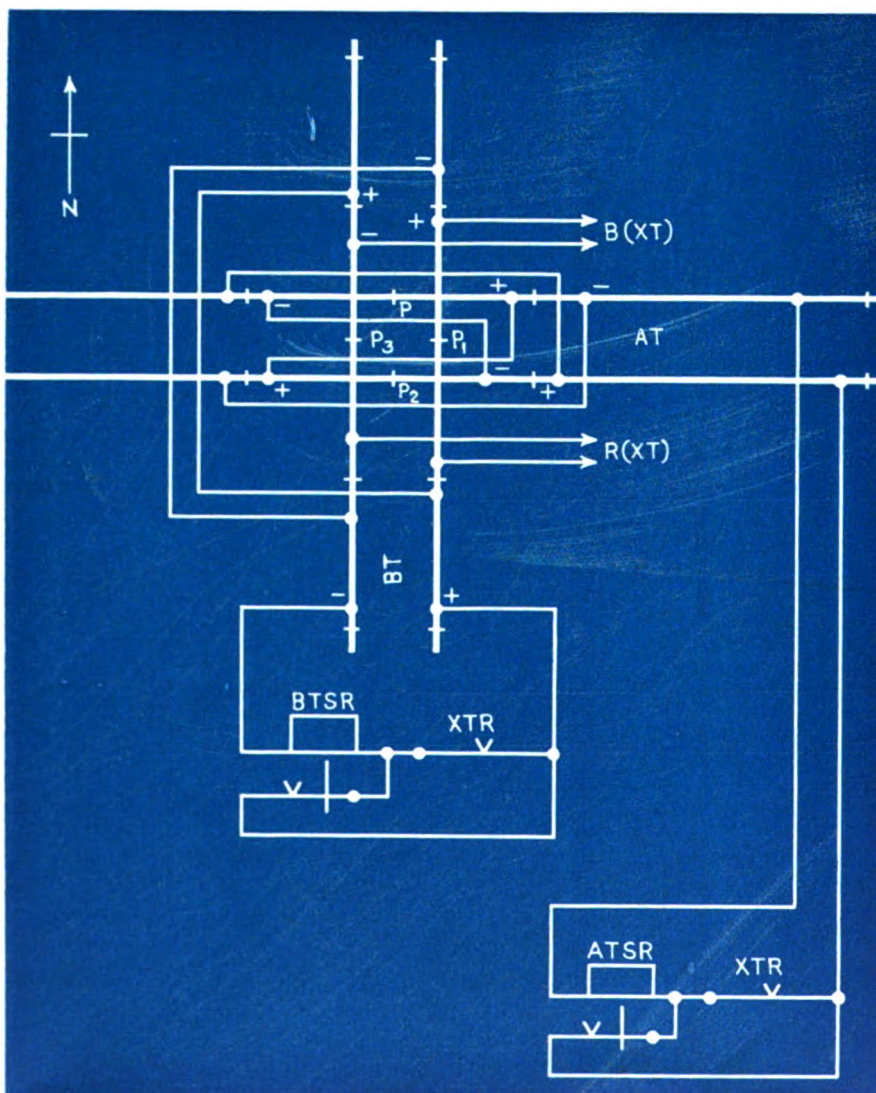


Above: D&RGW snow shields. Below: Staggered polarities for long dead sections



three wire hooks. The two hooks in the upper part of the shield fit the bezel ring cap screw spacings. The hook at the bottom includes a coil spring to give tension to hold the shield tightly against the face of the cover glass.

When snowfall is wet and sticky, it may accumulate on the top of the shield and on the portion of the cover glass not covered by the open end of the shield, but no snow adheres to sloping under surface of the shield. Therefore, the color aspect goes out through the section of tube and this sloping surface of transparent plastic. These shields are in service on searchlight signals on masts 14 to 15 ft high. No shields have been applied on bridge signals. No phantom indication has been experienced, even with foreign light directed to the signal.

On colorlight signals we use a metal shield (see plan). This shield has practically eliminated snow interference on colorlight signals.

## Long Dead Sections

*What are you doing to overcome the effects of the increasingly longer dead sections created by latest design of new crossing frogs with long wing rails, especially in view of the added problems being created by reduced wheel bases not only on locomotives but Adapto cars, and the like. Bear in mind that trap circuits of the conventional design, at least, cannot identify occupancy of the end unit of a cut which has been dropped off within such dead section.*

### Staggered Polarities

By V. J. DOUGHERTY  
Signal Inspector System  
Southern Pacific  
Stockton, Calif.

Construction and design of crossing frogs to permit installation of insulated joints at points, P, P-1, P-2 and P-3, would permit use of circuits similar to those in the drawing, at a minimum of cost, with complete protection provided. All polarities being staggered, breakdown protection is provided on insulated joints. Train operating on East-West railroad does not affect BTSR, and hence does not interfere with automatic block circuits on North-South railroad.

Conversely, operation on North-South railroad does not interfere with East-West block signaling.

Checking of interlocking home signal controls through ATSR and BTSR provides complete protection for any conceivable move. The maximum of broken-rail protection is also provided on the frog.

### Stagger Insulated Joints

By C. H. JOHNSON  
Office Engineer  
St. Louis-San Francisco  
Springfield, Mo.

At locations where the angle of the crossing will permit, we reduce the dead section by staggering the insulated joints, letting one side of the track circuit feed through the crossing frog. Where the angle of the crossing will not permit this arrangement, we use conventional trap circuits.

## Voice Recording

*Do you record conversations of dispatchers, yardmasters, and interlocking levermen with train or engine crews and other railroad men, in the performance of their duties? In your opinion, what are the advantages or disadvantages of this practice? Please explain fully.*

### GN Does for Dispatcher

By ALLEN H. FOX  
Engineer Communications  
Great Northern  
St. Paul, Minn.

We have a tape recorder, Sound Scribe, at the Willmar, Minn., dispatcher's office. This machine is used in the CTC section where train crews, section forces, CTC maintainers, etc., call in for track lineup. These conversations are all recorded, the tape record held for a one-week period in case something went wrong after the lineup. In every case where a disagreement came up the error was definitely pin-pointed. Recording of business on the telephone circuits also tends to keep conversations on a business basis and talk of personal nature is reduced to a minimum.

### Not on Pennsylvania

By J. I. KIRSCH  
System Engineer  
Communications and Signals  
Pennsylvania  
Philadelphia, Pa.

On the Pennsylvania we have never found this practice to be necessary. Conversations which are vital to the movement of trains,

such as train orders and other instructions bearing directly on those movements, are backed up by written records or notations, making recordings of conversations unnecessary. We have no reason for making recordings of conversations on matters of less importance.

### SP Does Not

By A. E. DE MATTEI  
Superintendent of Communications  
Southern Pacific  
San Francisco, Calif.

We do not, on the Southern Pacific, record conversations of dispatchers, yardmaster, and interlocking levermen with train or engine crews and other railroad men in the performance of their duties.

## Automobile Radio

*For two-way radio in automobiles, what are the advantages of having the complete unit (radio set, controls, mike and speaker) mounted under the dashboard, as compared with having the radio set in the trunk compartment and the speaker, controls and mike only on the dash?*

### Handset and Speaker on Dash

By RAYMOND G. ZVARA  
Assistant Communications Engineer  
Erie Railroad  
Cleveland, Ohio

With the installation of the 12-volt battery in the modern automobile and the resulting elimination of the once objectionable "copper loss" due to long cable leads, we find that there is no advantage to be gained in crowding the passenger space of an automobile by placing a bulky radio under the dashboard. As a matter of fact, at a recent training class held by a manufacturer of mobile radio equipment, it was recommended the power cable included in the installation kit be left long, to provide a "copper loss" for protection of the radio equipment from over-voltages produced by the automobile's generator system.

In addition, a trunk-mounted radio is easier to service and is less susceptible to tampering than a radio crowded between the front seat and the firewall. All mobile radios used in automobiles owned by the Erie are trunk-mounted, with the speaker, mike and control unit mounted neatly on the dashboard.

(More Answers on Page 52)

## TELEPHONE AND TELEGRAPH EQUIPMENT

Radio Engineering Products is currently producing a number of types of equipment, electrically and mechanically interchangeable with standard Bell System apparatus.

### CARRIER-TELEPHONE EQUIPMENT

C5 Carrier-Telephone Terminal (J68756). A kit for adding a fourth toll-grade channel to existing C systems is available. • C1 Carrier-Telephone Repeater (J68757) • 121A C Carrier Line Filter • H Carrier Line Filter (X66217C).

### CARRIER-TELEGRAPH EQUIPMENT

40C1 Carrier-Telegraph Channel Terminal (J70047C) • 140A1 Carrier Supply (J70036A1, etc.) • 40AC1 Carrier-Telegraph Terminal.

### VOICE-FREQUENCY EQUIPMENT

V1 Telephone Repeater (J68368F) • Power Supply (J68638A1) • V1 Amplifiers (J68635E2 and J68635A2) • V3 Amplifier (J68649A) • V-F Ringers (J68602, etc.) • Four Wire Terminating Set (J68625G1) • 1C Volume Limiter (J68736C).

### D-C TELEGRAPH EQUIPMENT

16B1 Telegraph Repeater (J70037B) • 10E1 Telegraph Repeater (J70021A) • 128B2 Teletypewriter Subscriber Set (J70027A).

### TEST EQUIPMENT

2A TcII Test Unit (X63699A) • 12B, 13A, 30A (J64030A) and 32A (J64032A) Transmission Measuring Sets • 111A2 Relay Test Panel (J66118E) • 118C2 Telegraph Transmission Measuring Set (J70069K) • 163A2 Test Unit (J70045B) • 163C1 Test Unit (J70045D).

### COMPONENTS AND ACCESSORIES

255A and 209FG Polar Relays • Repeating and Retard Coils, several types • 184, 185, 230A and 230B Jack Mountings.

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