

AUTOMATIC TRAINS. "The railroad is an appealing subject for automatic control," R. G. Buck of General Railway Signal Co., reported to the Winter General Meeting of the American Institute of Electrical Engineers in New York. "With present centralized traffic control and signaling systems the train's route can be determined from a central office, and information as to the maximum permissible speed generated at or brought

to the wayside. Coded cab signaling can be used to transmit these 'commands' to the train through the rails.

"What remains is to build a device to make the decisions and take the actions of the engineman. One could build a device he thought would do the job, install it in a locomotive of a willing railroad; try it, and modify it until an acceptable model was produced. As an alternative, if an artificial train could be built in the labora-

tory which simulated the responses of a real train closely enough, individual ideas as well as the complete device could be tried on the simulated train at a considerable saving in development time and expense.

"Such a project has been undertaken at the General Railway Signal Co., with the simulation being based on a commercial electronic analog computer.

"It has been found that the analog computer can be used to simulate a railroad train accurately enough so that details of operation may be studied. Because railway car rolling characteristics vary widely, depending upon lubrication, temperature, humidity and rail condition, extremely accurate predictions of a train's performance cannot be made. It cannot even be matched empirically because the train will perform differently the next day. Useful results, however, can be obtained, in that the desirability of different types of throttle handling, or controls which sense acceleration, etc., can be determined."

Work is being done to better the accuracy of this simulation by taking into account slack action, train length, dynamic braking, and variation of brake shoe to wheel friction coefficients at different speeds.

AUTOMATION AND COMPUTER CONFERENCE of the AIEE Land Transportation Committee, formerly scheduled for May 18 and 19, will now be held June 6 and 7 at Cleveland, Ohio.

BALTIMORE & OHIO and **NICKEL PLATE** have received ICC approval to replace a mechanical interlocking with an automatic interlocking, at a double-track crossing of the B&O with a single track of the NKP at Holgate, Ohio.

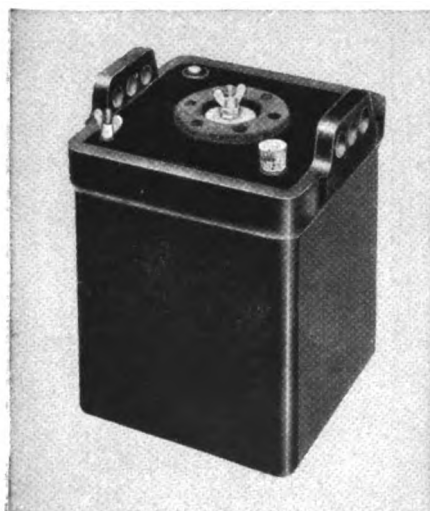
ATLANTIC COAST LINE and **SOUTHERN** have received ICC approval to remove an electric interlocking and arrange for automatic approach clearing of home signals on two tracks of the ACL and one track of the Southern, at a crossing of the roads at Selma, N. C.

NORFOLK & WESTERN has received ICC approval for installation and modification of traffic control, signal systems and interlockings, between Glen Lyn, Va., and Bluefield, W. Va., 23 miles. Part of the changes will include installation of traffic control on each of two tracks to provide for operation in either direction, in lieu of existing signal system arranged for one-direction operation on each track, for 11 miles near Blake, W. Va. Also in



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Germany—CARBONE A.G., Bonames, Frankfurt/Main, Germany

Italy—SOCIETA "PILE CARBONIO," via Rasori 20, Milan, Italy

Spain—CIPEL, Juan Bravo, Madrid, Spain

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sales representatives throughout the world

his area, three miles of a middle track will be removed.

LOUISVILLE & NASHVILLE. Board of directors has authorized expenditure of \$273,300 for installation of more two-way radios on its freight trains. The new equipment will be used on 26 diesel locomotive units and 40 cabooses. The purchase will also include 80 walkie-talkies for use at rakeside. When this installation is completed, all of the L&N's fast freight trains will be equipped with two-way radio communication, except those on the Cumberland Valley division in eastern Kentucky and a few branch lines.

CANADIAN PACIFIC has ordered CTC equipment from Union Switch & Signal to be installed on 84 miles of single track between Moose Jaw and Indian Head, Sask. This installation will permit removal of 74 miles of second main track. Control of the territory will be from an addition to an existing control machine at Moose Jaw.

DENVER & RIO GRANDE WESTERN has received ICC approval to install a traffic control system on single main track, in lieu of automatic block signaling, between Salida and Kobe, Colo., 47 miles.

OREGON TRUNK RY. has authorized installation of 18,700 ft of slide detector fence by company forces, at an estimated cost of \$106,450.

DENVER & RIO GRANDE WESTERN has placed in service a 5,300-mile high-speed private wire telegraph network leased from Western Union, to speed flow of messages between off-line traffic offices and system headquarters in Denver. Two circuits radiating east and west from Denver are equipped with electronic selectors which enable any two stations to communicate independently. Equipment also permits transmittal of messages to any desired group of stations or to all offices simultaneously. System is equipped with printers capable of receiving messages at a rate of 3,600 words per hour.

TERMINAL RAILROAD ASSN. OF ST. LOUIS will install automatic gates and flashers to replace manual gates and watchmen at seven street crossings, at a cost of \$200,000. The project is scheduled for completion this year.

HOTBOX DETECTOR radios exact locations of overheated journals



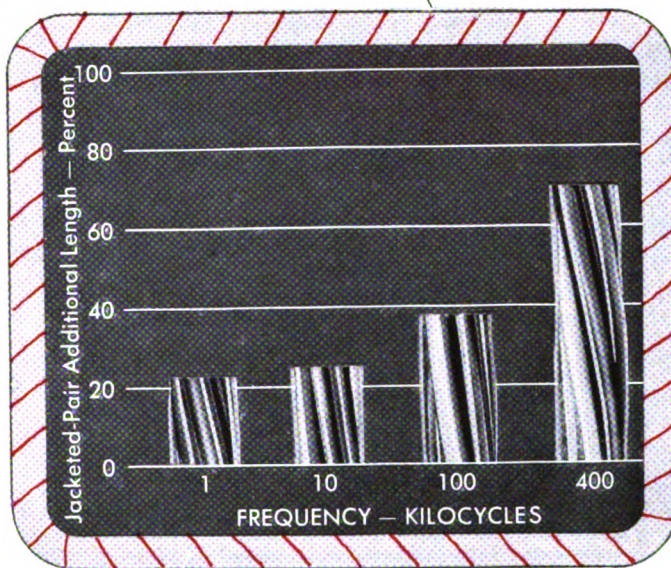
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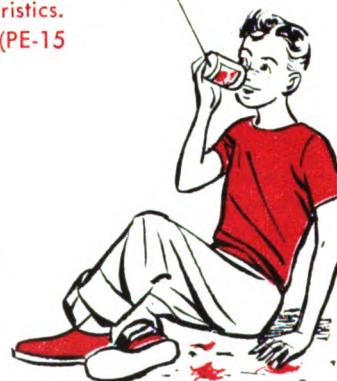
WB

JACKETED-PAIR DISTRIBUTION WIRE



Additional length of line permitted for transmission loss based on wet weather characteristics. Jacketed-Pair vs Standard Construction (PE-15 March 1960)

Jacketed-pair Distribution Wire exhibits substantially lower loss during heavy rain and will, therefore, allow a longer line for an equal transmission loss. At one kilocycle this improvement permits a 22% longer line.

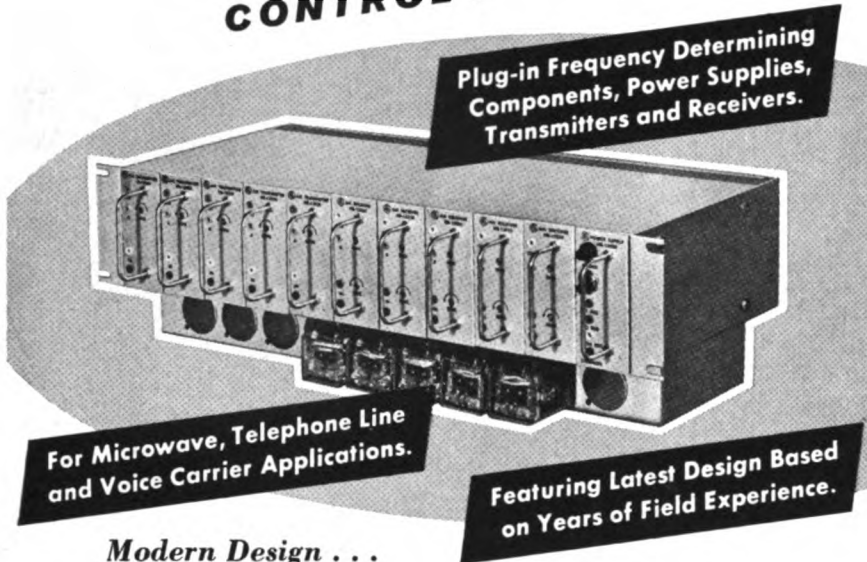


Write for full details shown in our new Bulletin T-6.



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for **TELEMETERING and**
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**10 Transmitters or Receivers
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The 2056 Series of Audio tones features modern design utilizing plug-in card construction and provides equipment at a very minimum in cost with a maximum number of channels in a given space. For example, 10 AM transmitters or receivers and a common power supply are mounted in a single 3½ x 19" frame. Each channel is conveniently terminated with a terminal strip at the rear of the frame. Output relays are mounted on a bracket attached underneath the main chassis frame, each relay being located directly under its respective channel.

The channel frequency determining components are also of the plug-in type and are mounted directly on the channel plug-in assembly in AM units, and adjacent to plug-in assemblies on FS units. This type of design, of course, keeps spare parts requirements to a minimum, since all plug-in cards are common to all frequencies.

The 2056 Series of AM tones were designed to meet low speed tone signalling and control requirements when low noise lines and inherently low noise communication circuits as provided by microwave and voice carrier equipments are available for transmission.

The 2056 Series of FS tones are used when ultimate reliability and high speed keying is required. They can be used in circuits which are inherently noisy and which are subject to fading conditions.

The FS tones are available with either TWO or THREE frequency outputs. The former being employed in normal signalling and control circuits, whereas the latter is used in two-function single channel applications such as RAISE-OFF-LOWER, FORWARD-OFF-REVERSE.

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SEND FOR TECH. DATA — For additional information, including application data, write or phone DE 4-3100. Demonstrations available by local representatives.

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NEWS BRIEFS *continued*

to the train crew as they pass a detector located at Riceboro, Ga., on the Seaboard Air Line. Simultaneously the information is sent via telephone line 33 miles north to the train dispatcher at Savannah. Detection of a hotbox also causes a red indication lamp to be lighted on a relay housing adjacent to the detector. The Seaboard plans to install 22 automatic hotbox detectors throughout its system this year.

SEABOARD AIR LINE has begun installation of CTC between Greenwood, S. C., and Monroe, N. C., 118 miles. Control will be from a machine at Atlanta, Ga., 154 miles from Greenwood.

ATLANTIC COAST LINE has received ICC approval to install a traffic control system in lieu of automatic block signaling on double track between Contentnea and Talbotts, N. C., 70 miles, in connection with the removal of portions of one main track of the present double main track in this territory.

NORFOLK & WESTERN has received approval from the ICC for modification of traffic control system between Singer, Va., and Kellysville, W. Va., 72 miles, and between Radford and Walton, Va., two miles; all in connection with removal of certain sections of main, middle and spur tracks.

Railroad Personnel

CANADIAN NATIONAL. Eric P. Stephenson, system project engineer at Montreal, has been appointed manager of the Maritime area at Moncton, N.B. Before becoming project engineer in 1958, Mr. Stephenson was system signal engineer.

PENNSYLVANIA. Lawrence E. Light, inspector, communications and signals at Williamsport, Pa., promoted to assistant supervisor, communications and signals at Lewistown, Pa.

CENTRAL OF GEORGIA. G. C. Chester has been appointed communication engineer, at Macon, Ga., succeeding J. H. Walton, resigned.

Current Publications

LINE COUPLING NETWORK. The type F1125 unit is an economical line filter set used to separate the voice frequency circuit from carrier telephone and telegraph circuits operating in the 12-65 kc range. It has a frequency crossover of 4.5 kc. Lynch

Carrier Systems Inc., Dept. RSC, 695 Bryant St., San Francisco 7, Calif.

EDUCATIONAL BOOKS. Recent publications of possible educational value to signal and communications men are: Alternating Current Electricity, # 200-10; Basic Transistors, # 262; Semiconductors and Transistors, # 166-25 (a more advanced treatment than # 262); Basic Mathematics, # 268-1; and An Introduction to Electrotechnology, # 277 (AC and DC at college level). John F. Rider Publisher, Inc., Dept. RSC, 116 West 14th St., New York 11, N.Y.

RADIO INTERFERENCE. Problems explored and solutions suggested. Howard W. Sams & Co., Dept., RSC, Indianapolis 6, Ind.

Supply Trade News



Frank A. Scott



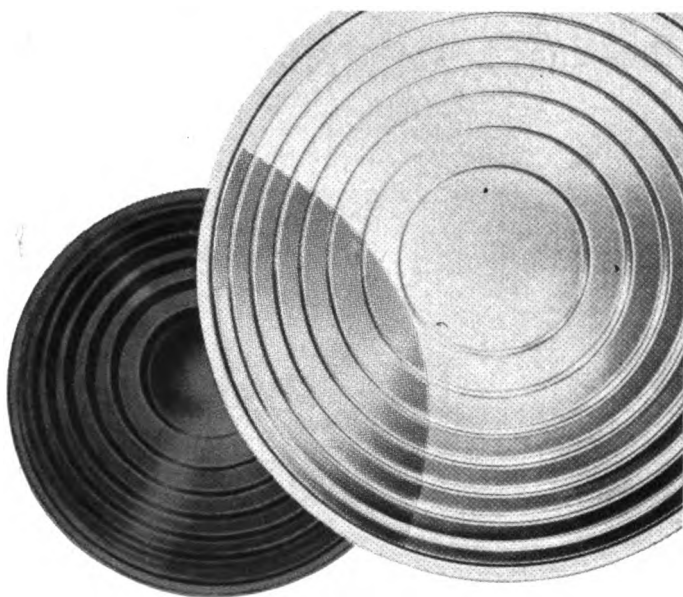
Edward F. Galvin

GENERAL RAILWAY SIGNAL CO. As reported in RS&C, January 1961, page 44, Frank A. Scott, formerly with the Maine Central, has joined GRS as a sales engineer at the New York office. Mr. Scott began with the Maine Central as a signalman's helper in 1938. He was promoted successively to maintainer, leading signalman, signal test man, assistant signal supervisor, inspector of signal construction, and signal supervisor, the position he held at the time he joined GRS.

SIMPLEX WIRE & CABLE CO. Edward F. Galvin has been appointed manager of field sales in the company's marketing division. Mr. Galvin was manager of railroad sales for Simplex from 1945 to 1957, and since then has been New England district manager.

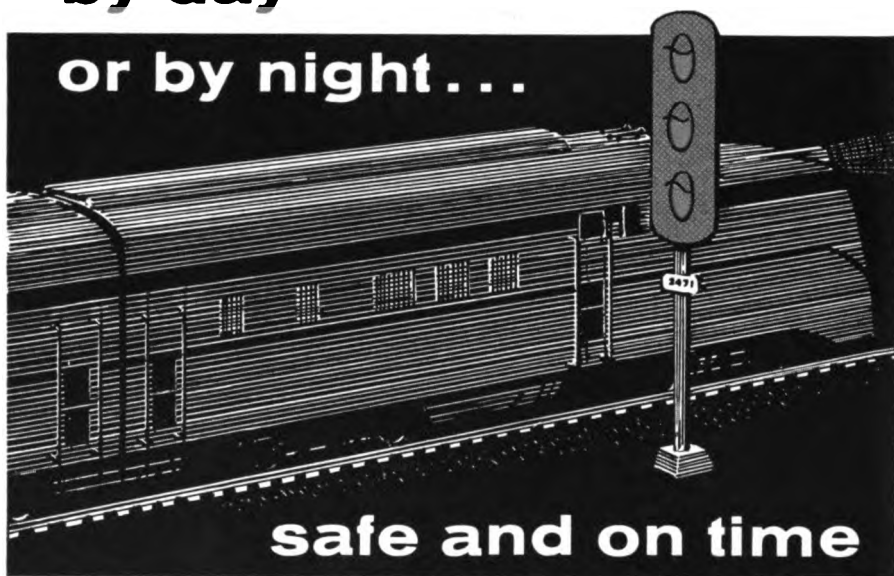
STEWART-WARNER CORP. Has made arrangements with Dictaphone Corp. and Western Union Telegraph Co. to lease or sell its "Data-fax" electronic facsimile equipment.

AUTOMATIC ELECTRIC SALES CORP. Robert A. Eiser has been named a staff engineer in the newly created systems sales department for



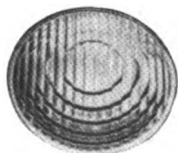
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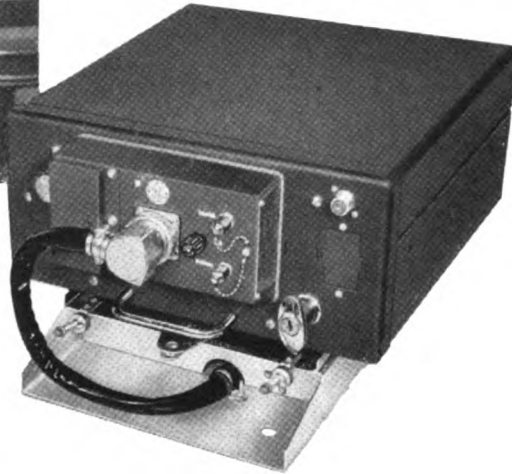
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NEWS BRIEFS *continued*

the industrial products division. He will be concerned with application and sales engineering in the data transmission field. **Howard N. Inwood** has been transferred to the new department and will continue to serve as director of railway and petroleum industry sales.

SIMMONS-BOARDMAN PUBLISHING CORP. **Robert F. Lask** formerly with Industrial Publications Inc., has joined Simmons-Boardman publisher of Railway Signaling & Communications, as director of circulation.

Obituary



R. A. Hendrie



Harold L. Folley

R. A. HENDRIE, 71, retired general superintendent of communications of the Missouri Pacific, died March 8 in the Missouri Pacific Hospital, St. Louis. Mr. Hendrie was born in Bevier, Ky., February 4, 1890. He entered railroad service in 1906 as a telegraph operator on the Louisville & Nashville. From 1909 to 1928 he was employed on the Missouri-Kansas-Texas, successively as telegraph operator, wire chief, telegraph inspector and telephone engineer. In 1928 he became telegraph and telephone engineer of the MP, being promoted to assistant superintendent of telegraph in 1939 and to general superintendent of communications in 1951. Mr. Hendrie was a past-chairman of the Communications Section, AAR. He retired in February 1960.

HAROLD L. FOLLEY, 55, signal engineer for Western Railroad Supply Co., Division of Western Industries, Inc., died January 24 in Berwyn, Ill., after a brief illness. Mr. Folley was engineer telephone, telegraph and signals of the Chicago & Illinois Midland before becoming signal engineer for Western Railroad Supply Co. early in 1959.

EARL G. GOODLETT, Jr., assistant supervisor of signals of the Norfolk & Western at Bluefield, W. Va., died February 14.

RAILWAY SIGNALING and COMMUNICATIONS