

**BALTIMORE & OHIO'S** "pushbutton" yard at Cumberland, Md., may be in operation by year's end. The yard was 35 per cent completed when the recession caused a temporary halt in construction. B&O President Howard E. Simpson says the road is "hopeful" of bringing the yard into service with the expenditure of \$3.5 to \$4 million this year, on top of the \$6 million that has already gone into its construction.

**PENNSYLVANIA** is changing position-light signals to have home signals display two red lights in a horizontal row for the Stop aspect. Heretofore these signals displayed three amber lights in a horizontal row. Reason for the change: better visibility.

**CANADIAN NATIONAL** has ordered CTC equipment from Union Switch & Signal - Division of WAB Co. to be installed on approximately 132 miles between Hornepayne and Nakina, Ont. A TCC console to control this installation will be located at Hornepayne.

**DELAWARE & HUDSON** will install two hot box detecting devices at a cost of \$49,000. The devices will be located one on each side of its Oneonta, N.Y., yard. The detector installed in advance of the yard will be used to assist car inspectors in checking journal boxes

on incoming trains, by detecting those with abnormal temperatures. These will be attended to at Oneonta. The other device will be located on the same track 20 miles on the opposite side of the yard and will be used to detect boxes which have started to run hot after leaving the yard and which will have to be set out.

**ILLNOIS CENTRAL and WABASH** have received permission from the ICC for the removal of the interlocking machine at a crossing of the two roads at Lodge, Ill. The interlocking facilities are to be remotely controlled from the dispatcher's office at Decatur, Ill., on the Wabash. Home signals on the IC are to have automatic approach clearing.

**NORFOLK SOUTHERN** has applied to the ICC for permission to modify an interlocking at Wilson, N.C., at a crossing of the NS with the Atlantic Coast Line. Mechanical interlocking facilities on the Norfolk Southern are to be removed and new controlled home signals and the power operated derail will be installed and remotely controlled from the traffic control machine on the ACL at Rocky Mount, N.C.

**NORFOLK & WESTERN** has applied for ICC approval to install CTC system for either direction operation on one main track, in place of automatic block-signal system on double track, for approximately 12 miles between Omega and Chillicothe, Ohio. Also, for permission to install CTC for either direction operation on two main tracks, in place of automatic block-signal system on this double track, for approximately 3 miles; modification of automatic block-signal system on double track at ends of these sections; and modifications of Renick and Chillicothe interlockings. All between Omega and Chillicothe.

**FREIGHT CAR IDENTIFICATION**, using small radioactive sources attached to freight cars, is now under development. Employing varying patterns of small radioactive sources, a freight car carrying these patterns would pass over a wayside sensor unit. This unit, actuated by the radioactive pattern, would pass a signal to an amplifier and decoding system, and thence to a readout device. The car initial and number could be shown on an illuminated indicator panel, or as a punched paper tape, punched card or a train consist list. The identifying information may also be converted for printing tele-

graph or radio transmission to remote locations.

Developed by U.S. Radium Corp. and Electronic Associates, Ltd., the system can be used to identify freight cars traveling at low speeds, as well as speeds up to 100 mph. The radioactive sources can be permanently mounted on the cars or locomotives, or mounted in a removable assembly, permitting the identifying marks to be changed. Advantages of the system claimed by U.S. Radium, are that the radioactive source requires no power, and operation is independent of light or darkness and impervious to weathering elements, such as temperature, rain, snow and sleet.

**TV IMAGE STORING**, which may have applications in freight car checking work, is a possibility with the use of a kiloline storage tube made by Raytheon Manufacturing Co. The kiloline tube is capable of storing images for immediate or leisure play-back. Thus it would be possible that freight car numbers and initials viewed by a trackside camera TV system, could be played back for a yard clerk. When playing back, the freight car numbers, appearing stationary, could easily be read off. One possible advantage of such a system is that the train would not have to be slowed down to a speed at which the clerk could read the num-

### WANTED

Electrical Engineering graduate for position of assistant engineer in signal department of mid-west railroad. Railroad experience preferred, but not essential. In reply state educational background, experience and salary expected. Box 559, Railway Signaling & Communications, 79 West Monroe St., Chicago 3, Ill.

### WANTED

Engineering opportunity for EE or ME graduate with relay experience, with lessor in airway and railway traffic control field. Medium sized firm, excellent technical organization and facilities, including a highly integrated, well-diversified manufacturing plant. We invite your letter or resume, with particular interest in your background in relay design, development and manufacture. Entering salary commensurate with experience. Broad benefits program includes profit sharing plan, pension plan, group insurance, tuition refund program, etc. Write to:  
J. E. Freehafer, Chief Engineer  
General Railway Signal Company  
P. O. Box 600, Rochester 2, N.Y.

## Standard Signal Generator...

# NEW

Model 560-FM  
Price - \$640.00



### for mobile communications . . .

- Frequency ranges 25-54, 140-175, 400-470, 890-960 Mc.
- Fine tuning control shifts carrier  $\pm 8$  Kc.
- Peak deviation to  $\pm 16$  Kc. read directly on meter.
- Residual FM less than 100 cycles at 460 Mc.
- Output 0.1 to 100,000 microvolts accurate  $\pm 10\%$  across 50 ohm termination.
- Excellent stability.
- Modulation by 1000 cycle internal or by external source.

Laboratory Standards  WRITE FOR BULLETIN  
**MEASUREMENTS**  
A McGraw-Edison Division  
BOONTON, NEW JERSEY

bers. It need only be slowed to a speed at which the TV camera could record the initials and numbers.

NEW YORK CENTRAL and PENNSYLVANIA have received approval from the ICC for replacement of a manually operated interlocking with an automatic interlocking at the Centerburg, Ohio, crossing of the two railroads.

ILLINOIS CENTRAL and GULF, MOBILE & OHIO have received ICC approval to install an automatic interlocking at the Rives, Tenn., crossing of the two roads. The manually operated interlocking is to be removed.

SOUTHERN PACIFIC has received ICC approval to install CTC, in lieu of automatic block signaling, on single track between Lordsburg and Anapra, N.M., 140 miles.

SOUTHERN PACIFIC has received ICC approval for the installation of CTC, in lieu of automatic block signaling, on single track between Corporal and Logan, Calif., 6.7 miles. The control machine will be located at San Francisco.

BALTIMORE & OHIO has received ICC approval for the installation of a traffic control system for operation in

both directions, on one main track between Halethorpe and Point of Rocks, Md., 59 miles. Control will be from Camden Station, in Baltimore. The CTC is in lieu of automatic block signaling on two main tracks, signaled for one direction operation. Also included in this project is the modification of automatic block signaling on two main tracks, to provide ABS protection in either direction on both tracks, between Point of Rocks and Harpers Ferry, W. Va., 13 miles.

#### Current Publications

SPIR-O-LINE semi-flexible aluminum coaxial cable and Spir-O-Lok connectors are described in Catalog 591, available from Prodelin Inc. The cable and connectors, together with all related transmission components, are covered in the catalog, with complete performance data graphs and charts, specifications, installation instructions, and ordering and shipping information. Prodelin Inc., Dept. R-8, 307 Bergen Ave., Kearny, N.J.

CARRIER AND RADIO Articles Selected from the Lenkurt Demodulator is the title of a new book published by Lenkurt Electric Co. The 32 articles in the book appeared originally in Lenkurt's technical magazine, The Demodulator, and many are from back issues

which are no longer available. The opening chapter contains seven articles on equipment measuring and testing techniques, with explanations of units and discussion of terms sometimes confused. The next chapter covers open-wire and cable facilities, including transmission line characteristics and applications, line treatment and line equipment. Another chapter discusses telegraphic and digital data transmission. The final chapter is devoted to microwave radio transmission including propagation characteristics of microwaves, engineering considerations for radio routes and operation of certain basic high-frequency components. 208 pages, illustrated and indexed. Price \$2.50. Lenkurt Electric Co., Dept. RSC, 1101 County Road, San Carlos, Calif.

RAILROAD SIGNAL MATERIALS is the title of a 20-page catalog, No. 1395-S, available from Ohio Brass Co. Included are descriptions, instructions for installing, and ordering information for three types of signal bonds—Copperhead, Hammerhead and Spearhead. The remainder of the catalog describes miscellaneous bonding supplies, insulators and hardware for signal and communication circuits. Ohio Brass Co., Dept. RSC, Mansfield, Ohio.

TELEPHONE SUPPLY CATALOG, No. 89, has been published by Suttle Equipment Co., as a buying guide for independent telephone men. It contains current price information for a complete line of parts and materials used in telephone service. Suttle Equipment Corp., Dept. RSC, Lawrenceville, Ill.

"A STUDY OF THE EFFECTS of Corona on Polyethylene," presented before the 1958 AIEE Summer General Meeting, has been made available in booklet form. The indexed booklet describes in detail the tests that were performed and the resulting effects of such items as mechanical stress, humidity, and nitrogen atmosphere upon the life of polyethylene insulation for cables. A supplementary report describes further research since the original presentation before the AIEE. E. I. du Pont de Nemours & Co., Dept. RSC, Wilmington 98, Del.

RAILROAD CROSSBUCKS AND SIGNS is the title of an 8-page pamphlet giving complete availabilities, engineering information and installation data for all aluminum extruded crossbucks, roadway signs, station identification signs, mounting posts, etc. Kaiser Aluminum & Chemical Sales, Inc., Dept. NR-31, 919 N. Michigan Ave., Chicago 11, Ill.

TRANSISTOR INTERCHANGEABILITY GUIDE is a self-mailer

# TELEGRAPH SIGNAL ANALYZER

## MR. WIRE CHIEF

Are you having telegraph transmission problems? Solve them with the TOWACO ANALYZER. It will handle any speed, code, and operating current in your office.

This versatile instrument provides all the features required in present-day telegraph transmission measuring of teleprinter signals. Designed by telegraph people for use by telegraph people in central offices or at subscriber stations.

Provides instantaneous and simultaneous BIAS and END DISTORTION of each pulse or holds up PEAK DISTORTION indication to facilitate measurement when distortion varies. Accuracy 2% distortion.

The 2½", 0-50% distortion scale is printed on a 3" cathode-ray tube—wide viewing angle—no parallax. Relatively inexperienced personnel use TSA-2 with little training.



# TOWACO ELECTRONICS

PINE BROOK RD.

TOWACO, N.J.

DEerfield 4-4443

which opens to a 19-in. by 25-in. wall chart and provides Raytheon equivalents for over 200 EIA registered transistor types. Included are typical applications, outline drawings and heat radiator requirements. **Raytheon Manufacturing Co., Distributor Products Division, Industrial Products Dept. RSC, 55 Chapel St., Newton 58, Mass.**

**PUBLIC ADDRESS SPEAKERS** and components are covered in an 8-page Product Catalog issued by University Loudspeakers, Inc., containing illustrations and specifications for its new and current equipment. Main categories include trumpets, paging and talk-back, submergence-proof speakers, super power projectors, portable soundcasting systems, etc. **University Loudspeakers, Inc., Dept. RSC, 80 S. Kensico Ave., White Plains, N.Y.**

**FILING EQUIPMENT** to hold plans, blueprints, maps, drawings and other large sheets, is the subject of a new catalog of the Plan Hold Corporation. Cabinets or racks are available for holding circuit plans without being folded. They also have roll files which can be used to hold drawings and plans in a rolled condition. **Catalog 4-59, Plan Hold Corp., Dept. RSC, 5204 Chakemco St., South Gate, Calif.**

**MICROWAVE SYSTEMS** (2,000 mc) made by General Electric, are described in a new series of bulletins. Terminal stations, multiplex repeaters and junctions which serve as the "doors" through which information comes into and departs from the microwave carrier, are described. **Bulletin ECM-72, General Electric Co., Communications Products Dept. RSC, Lynchburg, Va.**

**RCA RECEIVING TUBE MANUAL** has been revised, expanded and brought up to date with RC-19 issue. 625 receiving tubes and 95 picture tubes (including color) are included, with basic tube theory, applications and typical circuits. Copies of the manual may be obtained from local RCA tube distributors, or by sending 75 cents to the following address: **Commercial Engineering, Dept. RSC, Electron Tube Division, Radio Corporation of America, Harrison, N.J.**

**SECONDARY CLASS lightning arresters** and protective gaps are the subject of a revised bulletin, LA6, available from Line Material Industries. It describes design and operating features, with diagrams of typical applications, for types S3 and L secondary class arresters and protective gaps. **Line Material Industries, McGraw-Edison Co., Dept. RSC, Milwaukee 1, Wis.**

## Railroad Personnel

**R. H. BOYD** has been appointed engineer communications and signals on the staff of the chief engineer of the Pennsylvania at Philadelphia; **H. RAPPAPORT**, has been promoted to engineer communications, and **J. L. SMITH** to assistant engineer communications. Mr. Boyd was formerly engineer communications and Mr. Rappaport assistant engineer communications there. **W. C. McCONNELL, JR.**, engineer communications and signals of the Southwestern region at Indianapolis, has been transferred to the Philadelphia region. **F. M. McNAMAR**, has been appointed supervisor communications and signals and **J. V. PLUTO** office engineer, communications and signals at Columbus, Ohio. Mr. McNamar succeeded **J. A. EARLY**, who has been transferred to Pittsburgh. **D. G. SHIELDS**, assistant supervisor, communications and signals at Terre Haute, Ind., transferred to Pittsburgh. **R. H. NEELY** appointed inspector communications there.

**WARREN L. WALEEN** has been appointed chief engineer, Minneapolis & St. Louis. He was engineer signals and communications, being appointed to that position in June, 1956. He was graduated from the University of Minnesota in 1939 with degrees in electrical engineering and business administration. Later he was employed as assistant signal engineer for the Northern Pacific prior to joining the M&STL. **R. L. PEDERSEN**, supervisor S&C, has been named Mr. Waleen's successor.



Warren L. Waleen



John R. Morrill

## Supply Trade News

**JOHN R. MORRILL** has been elected president of Hubbard & Co., succeeding **CHARLES H. DYSON**, who will remain on the company's board of directors. Mr. Morrill was previously general manager of the Evansville Division of Bendix Westinghouse Automotive Air Brake Co.

**ROBERT B. WOLF**, district sales manager for Sigma Instruments, Inc., in the Middle Atlantic states, has been appointed sales manager at the company's headquarters in South Braintree, Mass. **FRANK C. BURRIDGE** has

been named district sales manager for New England and eastern Canada.

**GRAYBAR ELECTRIC CO.** has been appointed national distributor by **CHESTER CABLE CO.** for the sale of wire and cable.

**OLIVER J. GREENWAY** has been appointed general manager of Communication Accessories Co., Lee's Summit, Mo., a subsidiary of Collins Radio Co. He was previously with Westinghouse Electric Co. **JOHN HAERLE** has been named manager of Collins Texas regional sales, at Dallas.

**HOLMES D. McLENDON** has joined Kellogg Switchboard & Supply Co., Chicago, as sales manager of commercial products.

**TAYLOR FIBRE CO.** has moved its Chicago sales office to 5320 W. Lawrence Ave., Chicago 30, Ill. New telephone number is AVenue 3-6474. The TWX number, CG 2712, remains the same.

**GENERAL ELECTRIC CO.** has established a single organization to tie together several related product lines with technologies to serve the communications needs of the railroad market. **HARRISON VAN AKEN** is general manager of the expanded organization, known as the General Electric Communications Products Department, at Lynchburg, Va. The new department is a consolidation of GE's former technical products and communications products organizations. Equipment to be made for the railroad market includes power-line carrier units, microwave, closed circuit television and two-way radio.

**EC EQUIPMENT INC.**, is the new name for Electronic Communication Equipment Co., Chicago manufacturer of railroad communications equipment, including amplifiers and loudspeaker systems.

**KENT J. WORTHEN** has been appointed manager of product planning for point-to-point communication of General Electric's Communication Products Department at Lynchburg, Va. He will be responsible for long range market and product development guidance for power line carrier, microwave relay and terminal communication products. Previously Mr. Worthen was product planning manager for G-E microwave equipment.

**A. S. GARCIA**, treasurer of Secode Corp., has been elected president, succeeding **ERIC COGILL**, retired. **ISAACK HERMAN**, general manager, elected executive vice-president.