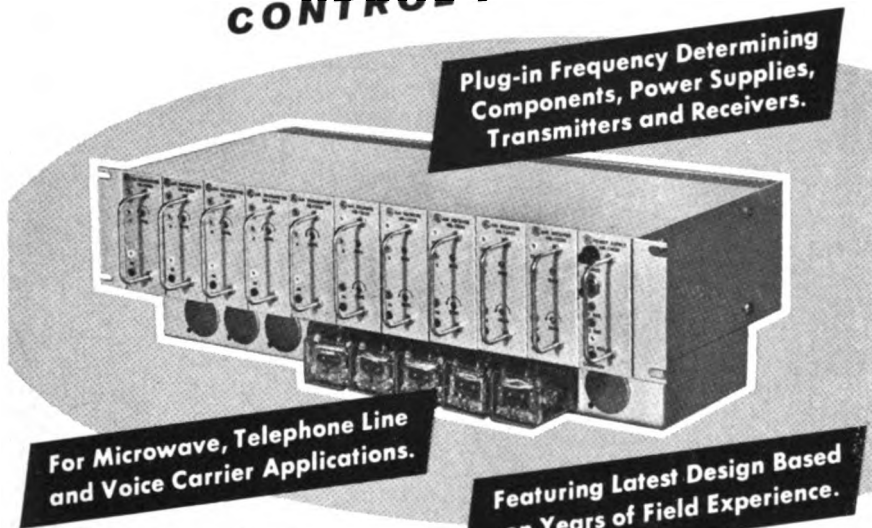


Newest RFL  
Transistorized Series 2056

# AM and FS Tones

for **TELEMETERING and CONTROL APPLICATIONS**



Modern Design . . .

**10 Transmitters or Receivers and Power Supply in One Single Frame.**

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.

**RFL REPRESENTATIVES:**

- ILL., MINN., IOWA, IND., WISC.  
W. L. Cunningham, Elmhurst, Ill.
- TEXAS, ARK., LA., OKLA.  
Datatrol Co., Dallas, Texas
- ALA., TENN., VA., N.C., S.C., GA.  
Dickerson Eng., Jacksonville, Fla.
- CALIFORNIA  
Luscombe Engr., Pasadena, Calif.
- ORE., WASH.  
Hawthorne Electronics, Seattle, Wash.
- CANADA  
Microwave Sys., Scarborough, Ont.
- FOREIGN  
Telesco International, New York

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



## News Briefs

FCC EXAMINER JAY A. KYLE has granted an indefinite postponement of the deadline for filing proposed findings and conclusion in the telephone interconnection hearing. The deadline had been Oct. 24. The railroads and AT&T informed the FCC that the negotiations, looking toward a settlement of the case on the AT&T tariff, are continuing and expressed optimism that they will be successful.

RADIO COMMUNICATION in connection with train operations is coming in for special attention from a new committee of the Railway Labor Executives' Association. RLEA Chairman George E. Leighty says the committee will be concerned with safety and craft-jurisdiction phases of this development in train communications. He also says that dispatchers are supposed to be in charge of train movements, but that railroad officers sometimes direct movements by phone. R. C. Coutts, president of the American Train Dispatchers Association, is chairman of the committee.

ALABAMA GREAT SOUTHERN; CINCINNATI, NEW ORLEANS & TEXAS PACIFIC; GEORGIA SOUTHERN & FLORIDA, and NEW ORLEANS & NORTHEASTERN have received relief from the requirements of Section 136.602 of the ICC's RS&I, to the extent that they are permitted to install dragging equipment detectors without being interconnected with automatic block signal system at certain locations, provided the system of transmitting information concerning actuation of the dragging equipment detector device by a train to a central record center, and of advising the crew of the train actuating the device, that an abnormal or dangerous condition exists by radio, as outlined in the application, is installed and maintained. The number of dragging equipment detectors to be installed, as indicated in the ICC order are: AGS—9; CNO&TP—11; GS&F—6; and NO&NE—3. (See also RS&C, Oct. 1960, page 56).

BALTIMORE & OHIO has put in service at Cumberland, Md., a new 33-track classification yard for the handling of westbound freight traffic. In  
*(Continued on page 48)*

**NEWS BRIEFS**

(Continued from page 46)

addition to automatic switching and retarder controls, the yard has an extensive communication system consisting of talk-back and paging speakers, walkie-talkies, and two-way radios on yard engines.

CANADIAN NATIONAL dedicated its new retarder classification yard at Moncton, N. B., on November 2. The new \$15 million yard features GRS Class-Matic retarder controls and automatic switching. Its 40 class

tracks are capable of classifying up to 3,500 cars daily.

CHICAGO & EASTERN ILLINOIS has received ICC approval to install a traffic control system on one remaining track, to be controlled from Danville, Ill., to provide for operation by signal indication in either direction, in lieu of existing automatic block signals arranged for current of traffic, on two main tracks between Danville and Woodland Jct., Ill., about 40 miles; and modifications of existing traffic control on two main tracks so as to provide for traffic con-

trol operation on one remaining track between Woodland Jct. and Watseka Ill., about 5 miles.

LOUISVILLE & NASHVILLE Directors have authorized installation of CTC on a 95-mile segment of main line between Athens, Ga., and the freight classification yard at Boyles, an estimated cost of \$1,800,000. A present this section is double track and is controlled by automatic block signals. About 71 miles of the second mainline will be removed and the remainder converted to passing sidings at about 15-mile intervals. Each of the sidings will accommodate over 20 freight cars.

NEW YORK CENTRAL recently dedicated its new electronic retarder classification yard at Indianapolis, Ind. This Big Four yard has 55 class track with 2,270-car capacity. The \$14 million yard has GRS Class-Matic retarder and automatic switching controls.

NORFOLK & WESTERN has ordered wayside signaling equipment from Union Switch & Signal—Division of WAB Co. to begin installation of CTC on 199 miles of track between Abilene, Va., and Princeton, W. Va. This is part of a modernization program on this territory which was acquired in the consolidation of the Virginian into the N&W.


PENNSYLVANIA, according to newspaper reports, is looking for site for microwave stations in the Pittsburgh area and in the mountains of western Pennsylvania.

QUEBEC CARTIER MINING CO. has ordered CTC equipment from Union Switch & Signal Construction Co. for installation on a new 193-mile single-track railroad, from Lake Jeanine to Port Cartier, Que. The new facility will have a terminal yard at each end of the line and six intermediate passing sidings. Control will be from a 9-ft traffic control center in the terminal office at Port Cartier.

**Trade Publications**

COMMERCIAL GLASSES. A 16 page booklet, B-83 (Rev.), which details properties of 32 commercial glasses, is a revised edition of Corning Glass Works' publication, "Properties of Selected Commercial Glasses." It contains information on several new glasses as well as new sections on thermal expansion and optical properties. The booklet also covers thermal stress, heat transmission, electrical properties.

(Continued on page 51)



# THROUGHOUT THE WORLD

CIPEL—LE CARBONE

*air depolarized*

## AD SALAMMONIAC DRY CELLS


*save users* **LABOR • TIME • MONEY**

**LIGHT WEIGHT**


**HIGH CAPACITY**

**LONG LIFE**

Designed for  
**Telephone & Telegraph Service**  
featuring  
**Extremely Long Shelf Life**




**AD 526 TM  
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(#6 size)  
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**150 amp. hr.**

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 Belgium—LE CARBONE S.A.B., 124 Bd. du Jubilee, Brussels, Belgium  
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 Canada—CIPEL (CANADA) LIMITED—Valleyfield, Quebec, Canada  
 England—LE CARBONE (GREAT BRITAIN) LTD.—Portslade, England  
 France—CIPEL, Argenteuil (S&O) France  
 Germany—CARBONE A.G., Bonames, Frankfurt/Main, Germany  
 Italy—SOCIETA "PILE CARBONIO," via Rasori 20, Milan, Italy  
 Spain—CIPEL, Juan Bravo, Madrid, Spain  
 Sweden—SVENSKA A.B. LE CARBONE, Sundbyberg, Sweden  
 U.S.A.—THE CARBONE CORPORATION, Boonton, N. J.



*sales representatives throughout the world*

## NEWS BRIEFS

(Continued from page 48)

ties, corrosion resistance and viscosity data. Several charts and graphs are included, including a temperature chart for converting Fahrenheit degrees to Centigrade degrees and Centigrade to Fahrenheit. **Corning Glass Works, Dept. RSC, Corning, N.Y.**

**CONVERSION FACTORS.** A Wall Chart of Conversion Factors, which contains many conversions that are difficult to locate in reference manuals, is available from **Precision Equipment Co., Dept. RSC, 4401 North Ravenswood Ave., Chicago 40, Ill.**

**CUSTOM-PRODUCED GLASS.** A 20-page brochure, Bulletin 760, "This is Kopp Glass," describes how special glass products are designed and produced with the proper combination of properties to meet specific application requirements. Special sections deal with developing glass compositions for individual applications; controlling and combining the properties of glass; engineering products with specific characteristics such as accurate and uniform colors, the right distribution of light, high physical strength and thermal shock resistance; custom-production techniques, finishing operations, testing and inspection. **Kopp Glass, Inc., Dept. RSC, Swissvale, Pa.**

**DIAZO MATERIALS.** A six-page brochure, "New Ozafax Products," explains the features and advantages of a new line of semi-dry diazo materials for both engineering drafting room and general office copying. The new product line is interchangeable with present moist developing diazo materials. The brochure discusses paper printing speeds and weights, and the benefits of Ozalid's new Super rapid X speed papers. **Ozalid Division, General Aniline & Film Corp., Dept. RSC, 65 Corliss Lane, Johnson City, N. Y.**

**MICROPHONES AND ELECTRONIC COMPONENTS.** A 28-page catalog, #60A, describes more than 30 microphone models, plus microphone accessories, high-fidelity components, magnetic recording heads, and replacement phono cartridges. **Shure Brothers, Inc., Dept. RSC, 222 Hartrey Ave., Evanston, Ill.**

**REPLACEMENT CHART PAPER.** A new 14-page catalog of replacement strip chart lists replace-

(Continued on page 52)

# Safety in the night . . . .



## Kopp Signal Lenses

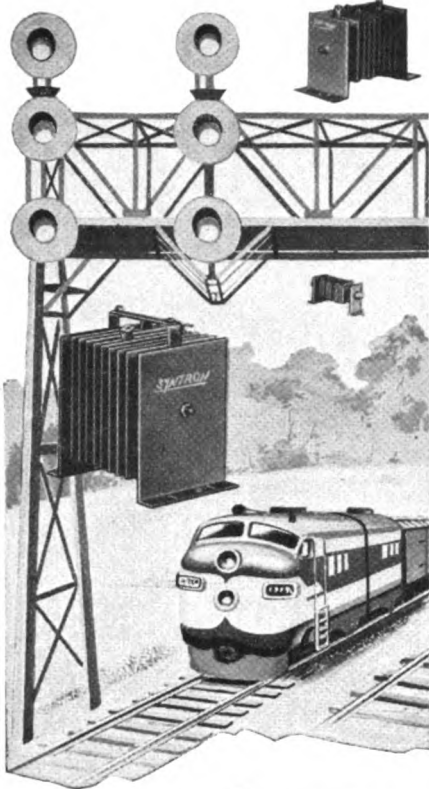
*help provide today's fast,  
efficient signal transmission*

For over 50 years, Kopp has designed and custom-produced a wide variety of signal lenses, roundels and lantern globes. They're tough, won't warp . . . stand up to physical and thermal shock . . . have accurate, lasting colors that won't fade . . . are designed with exact beam control and dimensional uniformity . . . meet all A.A.R. standards. Available through leading manufacturers of lamps, lanterns and signaling equipment.



**Kopp Glass**  
Swissvale, Pennsylvania **INC.**

# Reliable Performance



## SYNTRON SELENIUM RECTIFIER STACKS

—chosen by major railway signal and communication manufacturers because of their reliable performance.

SYNTRON Rectifier Engineers are ready to assist you with your rectification problems.

Write for information and specifications

**SYNTRON RECTIFIER DIVISION**

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Sales Engineers in: New York, Chicago, Los Angeles and Canada. Canadian Manufacturing Plant: Syntron (Canada) Ltd., Stoney Creek, Ontario. Export Representative: Dage Corporation, 2192 E. 44th Street, New York, N. Y. Sales Engineering Representative: Robert O. Whitesell and Associates, 6620 East Washington Street, Indianapolis 15, Indiana. Offices in Cleveland, Dayton and Cincinnati.

### NEWS BRIEFS

(Continued from page 51)

ment charts for all makes and models of recorders, with cross references to recorder manufacturers' model numbers. **Judson Bigelow Sales Division, Techni-Rite Electronics, Inc., P. O. Box 3575-F, Providence 10, R. I.**

**VOLTAGE REGULATORS.** Catalog 4-265 provides complete specification data for 2,020 standard magnetic voltage regulator models and offers vital information as a guide in selecting and using regulators in dc power supply design. Convenient selection of desired electrical and physical characteristics from the broad new line are shown in the catalog's large, fold-out chart. **Raytheon Co., Power Supply & Voltage Regulator Operations, Dept. RSC, Keeler Ave., South Norwalk, Conn.**

#### Railroad Personnel

**CANADIAN PACIFIC.** **Harold G. Montgomery** has been appointed assistant superintendent communications at Toronto, Ont., and **Donald J. Fisher** inspector of communications at Winnipeg, Man., succeeding Mr. Montgomery.

**CENTRAL OF GEORGIA.** **W. M. Whitehurst**, signal engineer, has been appointed superintendent of communications and signals. **D. R. House**, assistant signal engineer, has been promoted to signal engineer and **J. H. Walton**, assistant superintendent communications, to superintendent communications. All have headquarters at Macon, Ga.

**ERIE-LACKAWANNA.** **Frank Youngwerth**, general superintendent communications and signals of the Erie, has been appointed to head the communications and signal department of the merged railroad.

**LOUISVILLE & NASHVILLE.** **H. C. Tillery**, wire chief, has been appointed to the newly created position of supervisor of the communications center at Louisville.

**MILWAUKEE ROAD.** **W. C. Kelly**, assistant to relay office supervisor—system, has been appointed relay office supervisor—system, succeeding **F. T. Ross**, retired.

**TEXAS & PACIFIC.** The position of superintendent of communications has been abolished and matters pertaining to communications have been placed under the jurisdiction of the engineering department.

### Supply Trade News

**AMERICAN BRAKE SHOE CO.** **Robert L. Carmichael**, district sales manager for the Railroad Products Division at Houston, Texas, has been named New York district sales manager for the division.

**CHESTER CABLE CORP.** **Benjamin Levinson**, formerly associate with The Okonite Co., has been appointed chief engineer of Chester Cable, and **Henry S. Loeber**, formerly with Hudson Wire Co., has been named sales manager.

**CONTINENTAL - DIAMOND FIBRE CORP.** **John F. Rushmore** has been appointed manager, sales administration, at Newark, Del. **Charles A. Trusk**, sales representative, has been transferred to the company's New York district from Boston.

**GENERAL ELECTRIC CO.** **Ray Topper** has been named product sales manager for industrial and military tubes produced by the Receiving Tube Department, at Owensboro, Ky.

**MOTOROLA, INC.** **Richard G. Jones**, microwave sales manager for 11 western states at Burlingame, Calif., has been promoted to manager of microwave marketing, at Chicago. His successor is **Delbert G. Larson**, former Motorola microwave sales representative in the Pacific Northwest. **Robert L. Koehler** has been added to the staff at Burlingame as a microwave specialist.

**PHILCO CORP.** **Edward C. Buurma** has been appointed northwest regional manager of the Government and Industrial Group, with headquarters at Palo Alto, Calif.

#### Obituary

**R. E. CLARK**, supervisor of signal construction, Chesapeake & Ohio, at Huntington, W. Va., died recently. Other members of the Signal Section, AAR, who have died within the last year and not previously reported in RS&C, are as follows: **F. J. ACKERMAN**, retired chief engineer, Kansas City Terminal; **G. C. GODSHALL**, office engineer, communications and signals, Pennsylvania, at Cleveland; and **S. B. RINGGOLD**, chief engineer, Mississippi Central.

**MORRIS J. FOX**, 82, sales representative, Carbone Corp., at Lincoln, Neb., died Oct. 10. Upon his retirement from the Burlington Lines in 1948 he was signal engineer, Lines West.