

NEWS BRIEFS

● **CANADIAN PACIFIC** will spend \$1.5 million to equip its mainline freight trains with radio. Furnished by Canadian General Electric and Canadian Motorola Electronics, the equipment will consist of 1,000 radios for freight trains and 50 wayside base stations. Locomotive radios and the base stations will have 25-watt sets. One-watt walkie-talkies will be carried on the locomotive and in cabooses.

● **CHESAPEAKE & OHIO** has received ICC approval to install a traffic control system between Charlottesville and Easton, Va., 38 miles.

● **CHICAGO TRANSIT AUTHORITY** provided rolling stock and a 2-mile segment of its Howard St. elevated for tests of WABCO's velocity control programmer. This vehicle-mounted electronic device was intensively use-tested for two weeks proving that it will automatically perform train running and stopping functions. The VCP equipment has been developed for the San Francisco Bay Area Rapid Transit Dis-

trict. VCP was developed jointly by WABCO's Melpar, Union Switch & Signal and Westinghouse Air Brake divisions.

● **ERIE-LACKAWANNA** has been permitted by Division 3 of the ICC to discontinue operation of an automatic train-stop system between Hornell and Port Jervis, N.Y., about 242 miles. Also, E-L can discontinue operation of an automatic cab-signal system between Binghamton, N.Y., and Scranton, Pa., about 57 miles.

● **JAPANESE NATIONAL RAILWAYS** has field tested train selection and axle counting equipments using radio-isotopes. Results of the train selection system tests "show that there is a good prospect of its realization," according to a JNR spokesman. In this system, radio-isotopes are installed on a train while geiger counters, pulse amplifiers and control relays are located at the wayside.

In the axle-counting system, radio-isotopes and a geiger counter are placed on both sides of a rail. Pass-

ing wheels interrupt the path of the radiation crossing atop the head of the rail. When the count-rate of geiger pulses was set at 800 cps, the system could detect cars running about 12.5 mph. At 1,000 cps, the system could detect cars running at 15.6 mph. During the tests no miscounting occurred with cars rolling down a hump.

● **LOUISVILLE & NASHVILLE** will install CTC between Winchester and DeCoursey, Ky., 88 miles. The project will include five single-track segments averaging about 8.5 miles long, and six double-track sections averaging about 7.5 miles in length. The remaining 40 miles of second main track and five miles of passing track will be removed. Also to be eliminated will be 16 second-track bridges.

● **NEW YORK CENTRAL** has received ICC approval to install a traffic control system between Bogota, N.J., and Selkirk, N.Y., 125 miles. Control will be from New York City. Included in the installation will be 16 controlled signals with associated "take siding" indicators, as well as other controlled signals, electric locks on hand-throw switches, etc.

● **PENNSYLVANIA** has received ICC approval to install a traffic control system between Bucyrus and Crestline, Ohio, 12 miles.

● **PULLMAN-STANDARD** division of Pullman Inc., has ordered four sets of continuous inductive train control and cab signals from General Railway Signal Co., for installation in push-pull passenger cars of the Chicago & North Western, to be operated in suburban service.

● **ROCK ISLAND** will be the recipient of a new \$15 million freight yard in the Chicago area, if the proposed RI-UP merger goes through. So reported a UP announcement concerning major projects planned by the UP.

● **SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT** will be using a microwave and two-way radio system in connection with the construction of its 75-mile rapid

(Please turn to page 24)

This Was News 50 and 25 Years Ago

The Signal Engineer, February 1915. Pennsylvania installs new electric interlocking at North Philadelphia, Pa., controlling 41 switches and 58 signals. Automatic blocks were shortened from an average of 4,088 to 3,052 ft to facilitate trains getting away from the area.—Grand Trunk replaces disc signals with AC automatic semaphores on the Victoria Jubilee bridge over the St. Lawrence river at Montreal.

Railway Signaling, February 1940. Missouri Pacific installs No. 20 turnouts with spring switches and signals at ends of "running" passing tracks over two major divides in the Ozark mountains. The new arrangement of tracks, switches and signals permits a passenger train to take siding from 8 to 12 min. more quickly and a freight train from 10 to 15 min. more quickly than previously when hand-throw switch stands

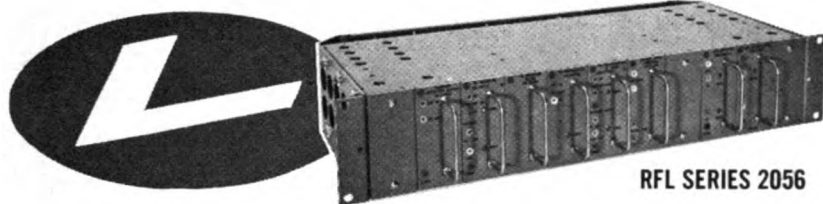
were in service.—New York, Ontario & Western installs CTC on 8.6 miles of single track between ends of double track. System uses direct wire operation with only four line wires. A feature is that two switches and two signals are controlled over one wire and common.—Alton installs gates and flashers at seven crossings in Lincoln, Ill. Traffic totals 29 trains daily with maximum permissible speeds of 75 mph for passenger trains and 45 mph for freight trains. Special speed timing circuits and switch cut-outs were installed. Five highway crossings were blocked off.—Norfolk & Western replaces semaphores on 81 miles of double track with position-light signals controlled by coded-track circuits without line circuits; cab signaling also can be operated from the new track circuits. New signals are spaced to provide longer braking distances.

RS&C



High Speed Data Set

All Solid State Unit designed for the Transmission of Data Codes at Speeds up to 2000 bits per second over a Standard Voice Grade Communication Facility.



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Check these Features

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- Non synchronous system, therefore will operate at any speed up to 2000 bits per second.
- Designed for operation on microwave voice channels or wire line circuits.
- Transmitter includes transistorized gating circuit for turning off signal in party line applications.
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- Output circuitry is available to transmit three state or return to neuter codes.
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- Input and output circuitry is available to operate equipment compatible with EIA RS-232A interface standards.
- Modular design is utilized to increase system flexibility and speed up maintenance procedures.
- Receiver utilizes silicon transistors and tantalum capacitors for stability and reliability.
- All controls and test points essential to system operation and adjustment are included and are front panel mounted.

NEWS BRIEFS

(Continued from page 10)

transit system. After the system is in operation, the microwave will be used for data and control system transmissions.

- SIGNALMEN will receive a pay raise according to a letter of understanding recently signed by representatives of the Brotherhood of Railroad Signalmen and railroads represented by the Eastern, Western and Southeastern Carriers' Conference Committees. The letter extended for a period of two years the agreement reached last May 1. Signalmen, signal maintainers and all others such as mechanics received or will receive a 10 cents an hour increase effective January first of 1964, 1965 and 1966. Assistant maintainers, helpers and others of not such high skill received or will receive 6 cents an hour increase for the above-mentioned dates.

- SOUTHERN has received ICC approval to install traffic control on 4 miles of line and construct a new Woodlawn Jct., interlocking.

- UNION PACIFIC has received ICC approval to install an NX interlocking at Omaha, Neb.

- UNION SWITCH & SIGNAL division of WABCO has ordered a DDP-116 digital computer from Computer Control Co., Inc., to be used as the central control element of an automatic classification yard system to be installed on the Southern Pacific at Eugene, Ore.

- WESTERN UNION TELEGRAPH CO., and Canadian National Telecommunications-Canadian Pacific will link their microwave systems via a 32-mile section between New Oregon, N.Y., and Port Colborne, Ont. Initial capacity of the link will be 600 two-way voice channels.

Railroad Personnel

- CANADIAN NATIONAL-CANADIAN PACIFIC TELECOMMUNICATIONS: James C. S. McDaniel is appointed general sales manager and Norman J. Taylor is appointed
(Please turn to page 26)



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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Radio Frequency
LABORATORIES, INC.
Boonton, New Jersey, U. S. A.
EST. 1922

This is Maurie Kebby's Wastebasket



There's been some talk that Maurie Kebby throws away more good ideas each day than most of us come up with in a lifetime.

It's just not true! If they said "a couple of weeks" or a "month" we could probably go along with it—and so could you.

Actually, all we really know is that when Maurie and his engineers come up with an idea that's a "keeper" it's an industry breakthrough. For example, Kebby's latest creation—the new all-solid-state KMC-21—is a truly remarkable microwave terminal indeed. It lowers initial investment, operating costs, and maintenance while providing more than 300-channel capacity in a package which can be completely independent of power lines.

Kebby engineers—and the advanced products they develop—make Kebby Microwave the company to remember when you are:

1. Considering a new microwave installation;
2. Upgrading existing communications systems;
3. Or when you must cut costs, reduce maintenance, improve channel capacity.

May we send you a few Kebby Microwave ideas—the "keepers," of course. Write:

kmc KEBBY MICROWAVE CORPORATION
535 Old County Rd., San Carlos, Calif., (415) 593-1616 TWX 415-594-8893

NEWS BRIEFS

(Continued from page 24)

assistant general sales manager of the joint CN-CP communications venture. Both men will be headquartered in Toronto.

● **CANADIAN PACIFIC:** Douglas H. Walkington, appointed assistant engineer of signals, Montreal (RS&C Dec. 1964, page 10), was born Nov. 9, 1931 in Toronto, Ont. A graduate of McGill university (B.E., 1953), he joined CP during summer vacations and upon graduation was appointed a signal draftsman at Montreal. After two years, Mr. Walkington was appointed an assistant engineer, and transferred in this capacity to Toronto in 1957. In 1961 he was appointed regional signal engineer at Toronto, his most recent position prior to his appointment as assistant engineer of signals at Montreal.

George C. Gunning, regional signal engineer at Winnipeg has been transferred to Toronto, succeeding Mr. Walkington. Mr. Gunning was born in Chalk River, Ont., June 22, 1911. He joined CP in 1927 as a laborer in the signal department. He advanced through various positions, among them signal maintainer at Trois Rivieres, Que., in 1940. Following three years military service, Mr. Gunning was appointed signal inspector in 1946. Two years later he was promoted to assistant signal supervisor at Montreal. In 1959, he was appointed assistant signal engineer at Montreal. Two years later he was transferred to Winnipeg in the same capacity, and a few months later promoted to regional signal engineer there.

● **CLINCHFIELD:** James W. Hager appointed engineer-signals and communications succeeding W. E. Prince, Jr., resigned.

● **KANSAS CITY SOUTHERN:** C. F. Grundy, signal engineer, has retired. He was born in King City, Mo., Sept. 16, 1894. Following graduation from a special course at the University of Missouri, Mr. Grundy joined the Bell Telephone Co. In 1918, he joined the Kansas City Terminal as an assistant signalman. He advanced through various posi-



D. H. Walkington



George C. Gunning

tions to become signal draftsman. In 1926, Mr. Grundy joined the KCS as a signal draftsman, and three years later was promoted to signal engineer.

● CHICAGO & WESTERN INDIANA: Clark E. Swartz has been appointed assistant supervisor-signals and electrical with headquarters at 47th St., Chicago.

● RICHMOND, FREDERICKSBURG & POTOMAC: W. E. Prince, Jr., has been appointed engineer signals and communications, with headquarters at Richmond, Va.

Supply Trade News



A. W. Frank



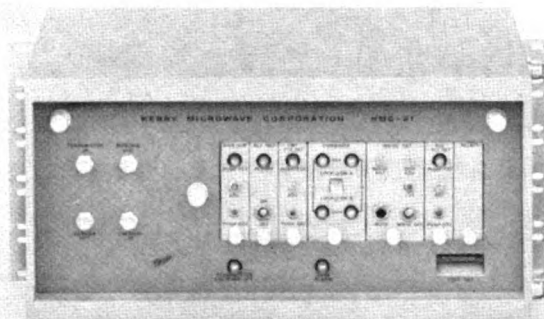
James D. Greer

● COPPERWELD STEEL CO.: A new \$1 million research facility at Glassport, Pa., consists of chemical and metallurgical laboratories plus equipment to test finished products.

● THOMAS A. EDISON INDUSTRIES, Primary Battery Division: Walter E. Olson, because of ill health and at his request, has relinquished the duties of general sales manager and has been appointed manager of sales engineering, succeeding A. W. Frank, who has been appointed assistant sales manager. Both men will be headquartered at Bloomfield, N.J. James D. Greer, service manager at St. Louis, Mo., has been promoted to field engineer, with the same headquarters.

(Please turn to page 28)

This is Kebby's 2 kmc Terminal



The KMC-21 is an entirely new class of equipment which changes all the cost parameters of microwave communications.

The KMC-21 is a complete microwave transmitter-receiver which provides one full watt RF output yet requires only 15 watts of primary power. Allows never-before freedom in site selection.

And because the KMC-21 is a totally solid-state device, reliability is remarkably improved while maintenance is minimized.

What's more, unique linear modulation technique reduces intermodulation distortion and noise, permits more channels (over 300) with acceptable performance than is possible with other all-solid-state equipment. In fact, limitation on channel capacity is not in the equipment—which can handle 600 channels or more—but in current frequency allocations. Video capability available soon.

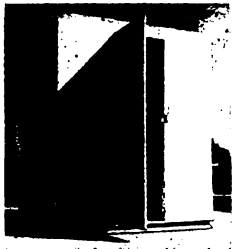
Optional tunnel diode RF preamplifier permits smaller, less costly antennas—allows longer, more economical hops—or provides greater fade margins—because receiver noise figure, including diplexer loss, is reduced to 6 db or less.

For new KMC-21 brochure write:

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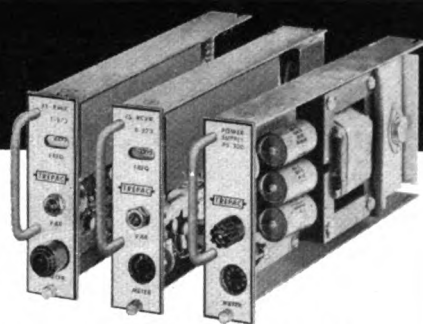
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The TREPAC DATATONE System, a complete line of "off the shelf" modular tone equipment, provides an economical means of expanding existing or new control and communications networks. Multi-channel control and/or teletype, with or without voice communications, may be operated over a single communications link.

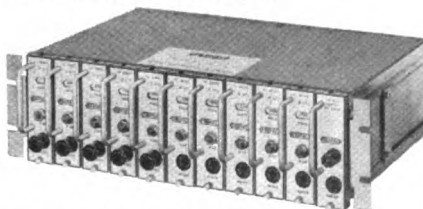
"Building block" design permitting budget controlled growth capability as well as compatibility with existing equipment, permits the design engineer the freedom necessary to develop a communications system tailored to his individual needs.

Both AM and FSK transmitters and receivers, power supplies, loop D.C. supplies, regenerative repeaters, and two-way D.C. repeaters, telemetering adapters, diversity combiners, and an extensive filter line are available from stock.

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inexperienced personnel. This, together with plug-in frequency determining elements and single type plug-in transistors, permit a realistic approach to the maintenance problem.

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SOLID STATE ELECTRONICS for TELECOMMUNICATIONS

NEWS BRIEFS

(Continued from page 27)



Walter E. Olson



John W. Porter

Mr. Olson was born in Orange, N.J., Feb. 8, 1913. After completing extension courses at Rutgers university, he joined the Primary Battery Division in Sept. 1931, as an assembler. Six years later he was promoted to service engineer at Chicago. In 1949, Mr. Olson was appointed sales engineer at Bloomfield and later became district manager. In 1961, he was advanced to general sales manager.

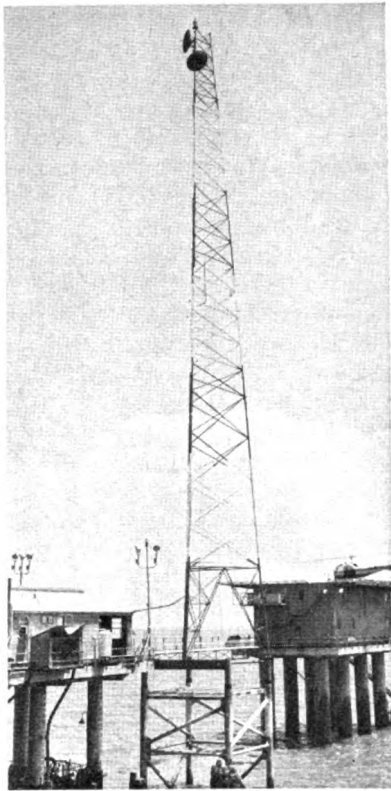
Mr. Frank was born in Freeland, Pa., on Aug. 30, 1923. Following military service he was employed by Standard Oil Co., (New Jersey). In 1949, he joined the Lehigh Valley as a draftsman in the signal department, later advancing to assistant circuit designer. He joined Edison as a service engineer in 1954 at Bloomfield. Later he was advanced to district manager and eastern regional manager. In 1963, Mr. Frank was promoted to manager of sales engineering.

Mr. Greer was born in Marshfield, Mo., on July 1, 1927. Following military service, he joined the St. Louis-San Francisco as a signal helper. After serving in several positions, he was promoted to signal test foreman. In September 1961, he joined Edison as a service engineer in St. Louis.

• **ELECTRONIC COMMUNICATIONS EQUIPMENT** Division of Western Industries: **Robert M. Peters**, vice-president sales, has been appointed general manager, succeeding **Theodore H. Cole**, retired.

• **GENERAL SIGNAL CORP.:** **John W. Porter**, executive vice-president, GRS, has been appointed president of GRS International, a new company. He will continue his pres-

(Please turn to page 34)



ROHN TOWERS "STAND UP" to Hurricane Hilda!

A series of ROHN micro-wave towers, used on Shell Oil Company offshore platforms near the Louisiana coast, took on the full fury of "Hurricane Hilda" and withstood the test!

Designed for 50 pound windload per square foot, these towers stood up to winds known to have been well in excess of this.

For towers proved in design, engineering and construction, specify ROHN. Complete tower, lighting kit, microwave reflector, and tower accessory catalogs and specifications available on request. Representatives world-wide.

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"World's Largest EXCLUSIVE Manufacturer of Towers; designers, engineers and installers of complete communication tower systems."

NEWS BRIEFS

(Continued from page 28)

ent affiliation with GRS. GRS International will coordinate operations of the network of GRS affiliates and licensees in Argentina, Brazil, the Netherlands, Italy, Mexico, Spain and England.

Mr. Porter was born in Grantham, Lincolnshire, England, on Apr. 10, 1913. After graduation from Regent St. Polytechnic with an EE degree, Mr. Porter joined the signal department of the London Passenger Transport Board as a technical assistant. In 1938 he joined Siemens & General Electric Railway Signal Co. Following military service during World War II in the Royal Corps of Signals, Mr. Porter was appointed signal engineer of the New Zealand Government railways in 1946. Joining GRS he was appointed export manager in 1951, general sales manager in 1955, and vice-president sales in 1958. In 1961, Mr. Porter was appointed executive vice-president of GRS.

● **GENERAL ELECTRIC CO.:** Robert B. Curry has been appointed manager of division planning, information processing, Industrial Electronics division. Prior to joining GE, Mr. Curry was vice-president, staff, Southern, who was instrumental in the establishment of the railroad's real-time computer complex.

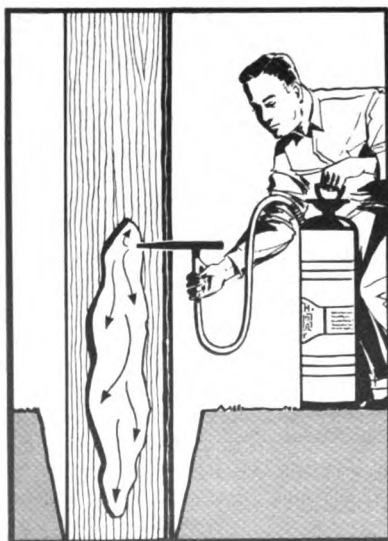
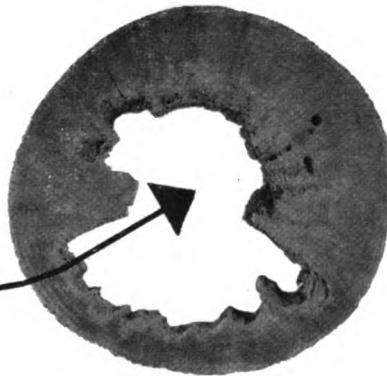
● **GENERAL RAILWAY SIGNAL CO.:** S. M. Latone has been appointed a sales representative at New York. A graduate of the Rochester Institute of Technology in 1954, he served as an application engineer in the contract and application engineering department from 1955 to 1962. In the latter year, he was appointed a contract engineering assistant in the export department, the position he held until his recent appointment.

● **KERITE CO.,** president Arthur H. Smith, in an interview with *Railway Purchases & Stores*, says that he believes railroad automation to be in its infancy. "I think more and more electronic equipment is going to be used in the future." The nation's railway supply companies already are preparing for this chal-

(Please turn to page 36)

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Experienced Osmose field crews are experts at locating internal voids caused by decay or insects. When located in time, injections of special preservatives or insecticides can save a pole from becoming a costly "reject". Osmose gets to the heart of the trouble, every time. Write for further information.

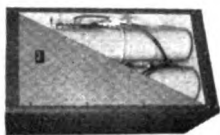
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DUPLEXER WITH ONLY 0.5 Mc SEPARATION

Now... dual simplex or full duplex operation is possible with high isolation between transmitter and receiver in the crowded VHF band. Sinclair's F-150-4ER duplexer combines low initial cost with high quality construction for years of trouble-free base station or locomotive use.



This new low-cost, low-silhouette, Model 221A train antenna is engineered for trouble-free, two-way transmission and reception even in locations where buildings, bridges and tunnels generally cause interference. It is designed for the 158-164 Mc range with a power rating of 200 watts... is made from rust-resistant anodized aluminum... and meets all AAR specifications. Easily bolted to any flat surface, the Sinclair Train Antenna is rugged enough for use as a mechanic's "handle" when climbing on the engine. The Model 221A is furnished complete to any color specifications at no extra cost.

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SINCLAIR'S VHF TRAIN ANTENNA
IS ONLY
6 1/4" HIGH!**



NEWS BRIEFS

(Continued from page 34)

lenge, he said. "Most of the supply companies that I know about are fully equipped to serve the coming electronically-operated railroads. I don't think anyone is asleep."

On standardization, Mr. Smith had this to say: "It all depends on your definition of the word 'standardization.' Standardization as it's generally understood—properly applied—is fine. Certain things can be standardized. But standardization, along the lines of some people's thoughts, really means 'socialization.' When you start socializing business, you are getting along toward the end of the line. You don't give the manufacturers reason to want to design something new. Why should they? If a manufacturer is going to maintain an elaborate research plant (and it costs money to do that), why should he want to continue that if you're going to have total standardization?"

"I think this is part of a cycle we're going through today. We'll go along with this 'standardization' for a while, and it'll fall of its own weight, becomes it will become obnoxious. It's really happening right now. Many folks are saying, 'What's the use of our spending thousands of dollars in research when we're expected immediately to turn it over to everybody else and say, 'Here, you are—you go ahead and make it.' Maybe that's a kindly thing to do, but it's not a practical thing."

● **MOORE ASSOCIATES:** Paul H. Stone has been appointed manager of marketing, succeeding James B. Bullock, who resigned. Formerly with Sierra Electronic Corp., Mr. Stone has been with Moore for five years serving as administrative manager.

● **RADIATION INC.,** has purchased the supervisory control product line of North Electric Co., under the trade names of Paricode and Locotrol. A new industrial control division of Radiation is being formed to market the control line. A wholly owned subsidiary, Radiation Service Co., will provide installation and field maintenance for the newly acquired supervisory controls.

(Please turn to page 39)



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NEWS BRIEFS

(Continued from page 36)



Paul H. Stone



Charles W. Henricks

● **STROMBERG-CARLSON CORP.**, is the name of a newly formed company which results from the merger of Stromberg-Carlson division of General Dynamics and United States Instrument Corp. **Dause L. Bibby**, president of the S-C division of GD will be president of the new corporation. **William A. Rockwood**, USI president, will be vice-president marketing and administration. **John L. Lombardo** will be vice-president engineering and manufacturing. GD will retain 88½% of the common stock of the new company.

● **SUPERIOR CABLE CORP.**, has opened a new wire and cable plant at Brownwood, Texas. The new 60,000 sq ft plant will produce wire and cable to serve customers in the southwestern and west coast areas.

Obituaries

● **H. L. STANTON** former assistant chief engineer-signals, Pennsylvania, who retired in 1950 as superintendent, telegraph and signals, eastern region, died Jan. 15.

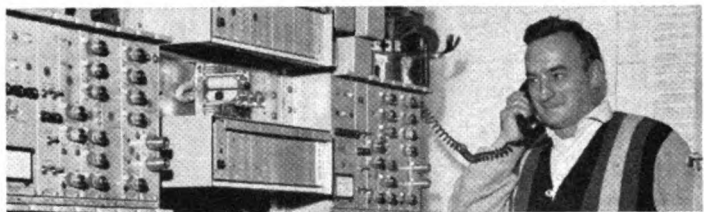
● **CHARLES W. HENRICKS** vice-president railway sales, Union Switch & Signal division of WABCO, died Jan. 15, 1965. Mr. Henricks was born in La Place, Ill., on July 19, 1901. He joined the Pennsylvania as a signal helper in 1922, and subsequently rose through various positions to supervisor telegraph and signals in 1934. He joined US&S as a sales engineer in 1945, was appointed a district manager in 1954, and was promoted to general sales manager four years later. In May, 1958, Mr. Henricks was appointed vice-president railway sales.

PROJECT REPORT: L & N RAILROAD

Lynch Communication System Proves Its Reliability In CTC Operation

Over a year ago L & N installed a Lynch B770 Data Tone Transmission System connecting their stations in Mobile and Georgiana, Alabama. Installed over existing facilities, the B770 is the backbone of the communication system for their CTC on this major division of L & N's line.

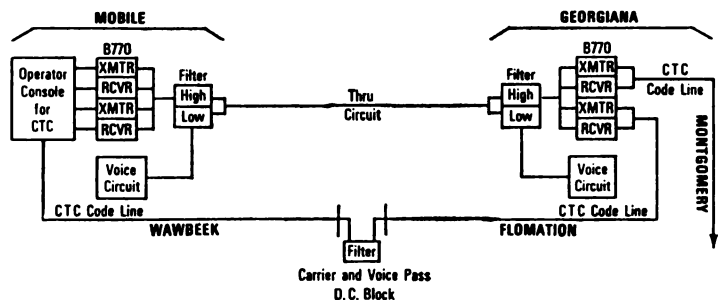
The system is in continuous operation and allows one CTC operator at Mobile to control all train traffic from Montgomery to Mobile from one terminal. Duplicate Lynch B770 equipment is in stand-by, should an equipment failure occur. To date, however, failure rate is zero, attesting to the high reliability of Lynch's solid state design.



Mr. Paul Rabuzzi, L & N Communication Supervisor, demonstrates the Lynch B770 in use at the line's new Mobile, Alabama, terminal. Other equipment shown includes Lynch B500 "O" type carrier system.

The Lynch B770 is a completely transistorized, frequency shift, narrow band communication system. It is designed specifically for reliable and economical transmission of digital data, control and telegraph information at rates of up to 300 bauds (bits-per-second). Railroad communication supervisors like the flexibility the B770 offers... up to 89 simultaneous data channels for transmission over microwave, cable or open wire. To avoid using up valuable voice channels, 64 of the B770's channels are above 3400 cycles and may be applied directly to the microwave baseband.

L & N's B770 installation (diagrammed below) is just one of the many kinds of jobs the B770 can do for you. Let's talk about them.



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Complete carrier and microwave communication systems for transmission of voice, data and control information over microwave, cable and open wire line.

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