NEWS BRIEFS

● CINCINNATI SECTIONAL MEETING of the Communication and Signal Section, AAR, will be held on May 9 at the Netherland Hilton Hotel in Cincinnati, Ohio. While this group has previously considered only signal department subjects at its annual sessions, the meeting this year will be of interest to both communications and signal men.

● SOO LINE has placed a $50,000 order for train radio with Motorola. New base stations will be located at Shoreham Yard, Minneapolis, and Schiller Park Yard, Chicago. A total of 23 yard and terminal locomotives, nine cabooses and two automobiles will be equipped.

● ST. LOUIS-SAN FRANCISCO has an automatic vertical lift bridge over the Warrior River at Demopolis, Ala. This bridge, on a light-traffic line, is normally in the raised position, and lowers automatically on the approach of a train following a six-minute sounding of a warning siren. A photocell checks that there is no boat beneath the span before it descends.

● THREE PAPERS of particular interest to RSC readers will be delivered at the ASME-AIEE-EIC Annual Railroad Conference, April 9–10, 1962, at the Sheraton-King Edward Hotel in Toronto, Ont. "Some Problems Encountered in Design of Automatic Freight Train Controls" will be presented by R. G. McAndrew, General Railway Signal Co. P. B. Wilson, C. J. Hudson and C. Sankey, CN, will discuss "Simulation of Train Operations on a Digital Computer." "The Fundamentals of Infrared Hotbox Detection" will be the subject of a paper by Carl F. Simon, Jr., General Electric Co.

● RADIO communication (end-to-end) has gone into operation on all Canadian National passenger and freight trains running between Winnipeg and Toronto. The new installations represent an extension of radio communications already being used on trains operating between Winnipeg and the Pacific coast and Winnipeg and the Lakehead.

● FCC has amended rules in eight of its safety and special radio services (including railroad) to extend eligibility provisions to subsidiary corporations furnishing non-profit radio communication service to their parent corporations or "sister" subsidiaries, in cases where the party to be served is engaged in one or more of the activities which form basic eligibility in the service involved.

● REMOTE CONTROLS for a "locomotive" (winch on wheeled frame) to push loaded ore cars into a car dumper have been furnished to the Bethlehem Steel Company's plant at Bethlehem, Pa., by Union Switch & Signal. US&S also provided a 16-cylinder electro-pneumatic car retarder to control car movements on the loading side of the rotary dumper. The locomotive controls provide for six speeds in either direction, brakes on and off, and extension and retraction of the locomotive's side arm which is used to push the cars. The controls are transmitted to the locomotive inductively from a line wire.

● CONSTRUCTION projects proposed for 1962 include the following:

Santa Fe will install 660 additional miles of microwave communications between Amarillo, Texas, and Winslow, Ariz.; extend double-track traffic control signaling from Maine, Ariz., to Winslow and from C. A. Junction, Mo., to Congo; and install CTC between Mulvane, Kan., and Arkansas City.

Baltimore & Ohio will install traffic-control system between St. Joe, Ind., and Pine Junction at a cost of $2,670,000; and between Punxsutawney, Pa., and Ashford, N. Y., at a cost of $1,295,000.

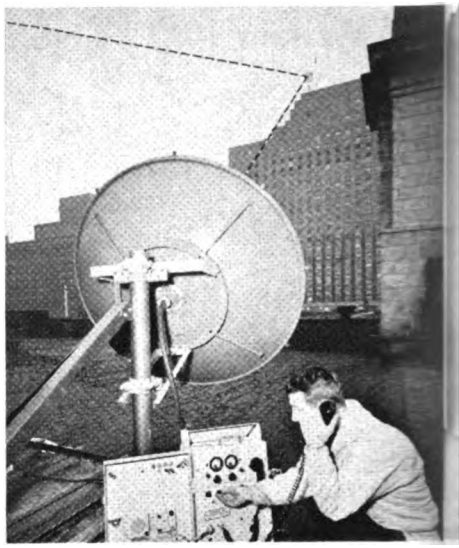
Gulf, Mobile & Ohio will install traffic-control system between Iles, Ill., and Athol, at a cost of $500,000.

Northern Pacific will install CTC from Spokane, Wash., to Kootenai at a cost of $1,203,000.

Union Pacific will install a microwave system, including buildings, towers, site acquisitions and access roads between Laramie, Wyo., and Salt Lake City, Utah, at a cost of $537,000.

● KANSAS CITY SOUTHERN has received approval from the ICC to install a traffic control system between Decatur, Ark., and Ballard, Okla., 21 miles. This installation is in lieu of automatic block signaling on single track and will be controlled from a machine at Heavener, Okla.

● NEW YORK CENTRAL has received ICC approval to replace a manual interlocking with an automatic interlocking at two single tracks of its lines which cross at Shirley, Ind.



● CHICAGO & NORTH WESTERN is now testing its first microwave system, which links the road's general office in Chicago with West Chicago Ill., 30 miles. Connections are made into C&NW's classification yard at Proviso, Ill., 14 miles west of Chicago. Motorola transistorized MR-50 RF equipment and MC multiplexing will provide an initial system of 60 voice channels. The Chicago terminal is in the North Western's passenger station across the street from its general office. The microwave signal is beamed from the depot antenna to a passive reflector atop the office building, where it is reflected westward toward Proviso yard. The Proviso station provides for drop-out of circuits to the yard and repeating of through circuits to West Chicago, 16 miles further west.

Among the many tests being made prior to placing the microwave system in service, are checks on the alignment of antennas and reflectors as well as signal transmission and reception. Portable equipment (above) is used for some of the tests.

In addition to voice and data circuits, the microwave system will handle CTC controls and indications between a control machine in the C&NW's Chicago station and a 163-mile CTC installation that runs westward from West Chicago. C&NW is also studying plans for extension of this microwave system beyond West Chicago.

● A NEW FREIGHT CAR IDENTIFICATION system has been developed by International Business Machines Corp. Electrical contacts mounted on a stationary post along a railroad track brush against an identification unit mounted on a freight car's journal box lid. The identification unit consists of alternate layers of conductive and resistive material mounted on

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an insulator. The contacts brush against the conductor faces, each two adjacent contacts giving electrical access to one layer of resistive material. Each resistive layer has any one of ten ohmic values, so that a number of layers represents a decimal number unique to the railroad car carrying the identification unit. Recognition devices are housed in the stationary post for sensing the values of the resistive layers traversed by the contacts. Since each car carries a unique combination of resistive layers, the recognition indicates the decimal number identifying the passing railroad car.

● TRAIN-BUS WARNING system was recently tested in Canada. As a Canadian school bus neared an Alberta highway-railroad grade crossing, a red light on the dashboard in front of the bus driver started flashing at about the time that an approaching Canadian National train's whistle was heard. This public test of the warning system was witnessed by CN, Federal Transport Department and interested Canadian officials. When the engineer of the approaching train blew the whistle, a small radio transmitter on the locomotive sent a signal to a receiver in the school bus. Norman Shaw, the Calgary, Alta., inventor of the warning system, estimates that the transistorized receivers would cost $50, each, and $100 for each transmitter.

● CREWLESS TRAINS are planned for USSR's Moscow subway. TV cameras will be placed on the trains. Remote control of all trains will be from one dispatcher's office. The Moscow subway has an automatic train under test in which the motorman controls the doors and presses a button to start automatic operation. A computer takes over the controls for running the train. The Russians have also started automatic train tests on Moscow suburban electric trains.

● NEED RADIO SPACE. A proposal to provide more spectrum space for the mobile radiotelephone plan and private mobile radio has been advanced by FCC Commissioner Robert E. Lee. He proposed that portions of the "withdrawn" as well as the "unapplied for" television assignments in 50 areas of the country be made available to the non-broadcast services. "Only base stations would be authorized to transmit" . . . on the withdrawn VHF TV frequencies in land mobile use, Commissioner Lee declared, while "associated mobile un would be required to transmit on reg lar land mobile service frequencie This, he said, would provide "mo protection to TV stations now oper ing than is presently afforded by c channel TV stations."

FCC Examiner Jay A. Kyle forma certified to the Commission the hea ing record in the investigation of t railroad - telephone interconnecti case (RSC, June 1960, p. 31). Th action, according to informed sourc might lead to an early decision by t FCC, especially since AT&T and t railroads had filed a petition requesti termination of the case, because th had agreed upon tariff modificatio (RSC, June 1961, p. 30).

● ILLINOIS CENTRAL will spe $2,300,000 to modernize its hum classification yard at East St. Lou Ill. The program is scheduled for cor pletion next November.

● BOSTON & MAINE has order equipment from General Railway Si nal Co. for installation of CTC b tween Hoosac Tunnel, Mass., ar Johnsonville, N. Y., 40 miles. The co trol machine will be at Greenfiel Mass.

● FLORIDA EAST COAST has o dered equipment from General Ra way Signal Co. for installation of CT between Edgewater Junction ar Frontenac, Fla., 50 miles. The contr center will be located at New Smyr Beach. GRS "Rolkode" will be us for the high-speed control of the r mote field locations.

● NEW YORK CENTRAL has o dered equipment from General Ra way Signal Co. for installation of miles of CTC on the Hudson divisi between Peekskill and Barrytow N. Y. The control machine will be l cated in New York City. Transist carrier equipment will be used for 35-mile carrier link to the convert location in Croton, N. Y.

● DELAWARE & HUDSON ar New York Central have received a proval from the ICC to replace a ma ual interlocking with an automatic i terlocking at a crossing of two trac of the NYC with one track of t D&H at Voorheesville, N. Y.

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● NORTHERN PACIFIC has ordered equipment from General Railway Signal Co. for installation of an NX route control machine in the passenger station at Tacoma, Wash. The immediate station area will be handled by direct-wire control; two areas in approach to the station will be remotely controlled.

● READING has ordered equipment from General Railway Signal Co. for the remote control of interlockings at Phoenixville and Kalb, Pa. A type K coding system will control the interlockings from a control machine to be installed at Norristown Junction, Pa.

● SOUTHERN PACIFIC has begun construction of a 102-mile section of CTC between Fresno and Bakersfield, Calif. Eleven 1.6-mile sidings are included. Work will begin at Bakersfield and proceed northward, with the first segment going into service in May. Upon completion of the project in August, all single-tracked sections between Mojave and Fresno will be under CTC.

● MISSOURI PACIFIC and St. Louis-San Francisco have received ICC approval to install an automatic interlocking to replace a manual interlocking, at the Hoxie, Ark., crossing of the two roads.

● SANTA FE has received approval from the ICC to install a traffic control system on approximately 26 miles of double track between C.A. Junction and Congo, Mo. Included will be the elimination of one interlocking and modifications of three others, with all controls being from a machine at Shopton, Iowa. Also included will be modifications of an existing automatic train stop system.

● BURLINGTON and Nickel Plate have received ICC approval to replace a mechanical plant with an automatic interlocking at a crossing of the two roads at Sorento, Ill., involving single-track lines.

● NORTHERN PACIFIC has received ICC approval to replace semaphore automatic block signals with colorlight automatics on about 18 miles of line between Perham and Lake Park, Minn.

● GULF MOBILE & OHIO and Chicago, Burlington & Quincy have received ICC approval to replace a mechanical interlocking with remote control, to be operated from a machine at Bloomington, Ill., on a sin track crossing of the CB&Q with t tracks of the GM&O at Girard, Ill.

● ATLANTIC COAST LINE received ICC approval to install traffic control system between Mi and South Pembroke, N. C., 37 mi

● PENNSYLVANIA has receiv ICC approval to install traffic cont system on one main track, in lieu automatic block signaling on t tracks, between Bayard and Fairho Ohio, 14 miles.

● SOUTHERN PACIFIC, in mc ernizing the Sacramento, Calif., yar will construct a new yardmaste tower that will be equipped with lou speaker and radio communications instant contact.

● ILLINOIS CENTRAL has ceived ICC approval to install a tr fic control system on single track lieu of automatic block signaling b tween Freeport and Lena, Ill., miles.

● FCC annual report, just issued the year ending June 30, 1961, co ments on two railroad radio service a tions as follows:

"Of importance to this service w the rule change which provides th certain station transmitter measu ments be made only once each ye rather than every six months. Co pliance with the former requireme was often difficult for the larger ra roads which operate over vast are This relaxation was possible becau of technical improvements in the st bility of radio equipment.

"A proposal (docket 14042), adopted, would permit railroad u until October 31, 1963, of lower pow (3 watts or less input) transmitte that do not meet the frequency devi tion requirements now generally a plicable. Many of these low pow units are used extensively in yard a terminal operations, but cannot modified readily to meet frequen deviation requirements. This equi ment is presently being operated und a temporary waiver of the rules. T proposed change would avoid maki obsolete a large number of transmitte of this type."

Concerning Telpak (providing f volume private line rates), WA (wide area telephone service), a WADS (wide area data service), t Commission had this to say:

"Telpak is purportedly a priva line service for volume customers usi telephone, telegraph, data and oth types of communication. . . . The Co mission entered into an investigati

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of the lawfulness of the Telpak tariff.

"The WATS tariff makes available limited (measured time) and unlimited (full time) interstate calling within specified areas at flat monthly rates. A WATS subscriber is furnished a special access line over which he can originate interstate station-to-station calls to from one to six zones. The monthly rates vary with the number of zones to which a customer desires the service. The Commission instituted an investigation into the lawfulness of WATS charges, regulations, and classifications, and hearings are still in progress.

"It is contemplated that when WADS is offered some time in 1962, it will form the data and teletypewriter complement to WATS with such similar features as six zones and flat rates for either limited or unlimited service. WADS cannot be offered to the general public until the present teletypewriter exchange service (TWX), with which it will interconnect, is converted to dial operation.

"As far as the customers are concerned, WATS and WADS indicate a move toward nationwide flat rates. In the past, only local rates have had this characteristic. . . . Telpak threatens to divert customers from Western Union's record private line services and WADS will be in direct competition with Western Union's Telex (teleprinter exchange) service, as well as its private line services. All three tariffs seem to show a desire on the part of AT&T to meet what it considers the competitive threat from the private microwave industry triggered by the Commission's decision on frequencies above 890 mc (docket 11866) which, briefly, made microwave radio available to private communication systems."

Railroad Personnel

V. P. Shepardson

Joseph R. Sterling

● RICHMOND, FREDERICKSBURG & POTOMAC. **V. P. Shepardson,** engineer signals and communications, has been advanced to assistant chief engineer—signals and communications. He began signal work in 1923 at the Washington Terminal. He was associated with the Florida East Coast, Union Switch & Signal, and Tennessee Coal & Iron Co. before joining the RF&P in 1945. He attended North Carolina State University and Iowa State University.

● SOUTHERN. **Joseph R. Sterling,** communications engineer at Washington, D. C., has been appointed superintendent communications at Chattanooga, Tenn., succeeding **Alfred H. Johnson,** retired. **Robert T. Rivers,** general supervisor communications at Chattanooga, has been transferred to Washington to succeed Mr. Sterling. **R. A. Howell,** assistant communications engineer at Chattanooga, has been named general supervisor communications there. Mr. Sterling was born in Evanston, Ill., December 23, 1906. He entered the service of the Southern in 1927 as a telephone maintainer and in 1936 was promoted to general foreman. After serving in the Military Railway Service from 1942 to 1946 he returned to the Southern as supervisor communications, and in 1951 became communications engineer at Washington.

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D. S. Bowles

Dale R. McNemar

● SANTA FE. **D. S. Bowles** has been promoted to communications engineer at Los Angeles. **R. B. Page** has succeeded him as communications foreman there, and **J. A. Mansker, Jr.,** has succeeded Mr. Page as equipment supervisor in the Chicago office. As reported in the January issue of RS&C, **Dale R. McNemar** has been appointed assistant to the superintendent of communications, at Chicago.

● SOO LINE. **James H. Tone** has been appointed communication and signal engineer at Minneapolis, succeeding **B. F. Mason,** superintendent of communications, who has retired. Mr. Tone was born at Bemidji, Minn., November 4, 1922, and was graduated from the University of Minnesota with a B.S. degree in electrical engineering. He was employed in the signal department of the Soo Line from March 1949 to November 1951, when he left to become quality analysis liaison engineer for Minneapolis-Honeywell Regulator Co. In 1956 he returned to the Soo Line as assistant superintendent communications. In January 1961 he became integrated data processing collaborator and in December 1961 was appointed to his present position.

● WESTERN PACIFIC. **James C. Cotter,** assistant to superintendent of communications, at San Francisco, has retired.

● CENTRAL OF GEORGIA. **V. L. Cosey,** supervisor communications and signals at Macon, Ga., has been appointed to the new position of assistant superintendent of communications and signals, with the same headquarters.

● ATLANTIC COAST LINE. **Robert D. Liggett,** field signal engineer at Jacksonville, Fla., has been appointed signal engineer there. Mr. Liggett was born at Des Moines, Iowa, June 6, 1925, and was graduated from Purdue University in 1945 with a B.S. degree in electrical engineering. He was employed as a service enginee with Union Switch & Signal Divisio from 1946 to 1951, when he entere the employ of the ACL as traffic con trol engineer. He was promoted to fiel signal engineer in 1959.

● NEW YORK CENTRAL. **Edwar Hakola,** signal supervisor at Colum bus, Ohio, has retired.

Current Publications

For further information about publi cations reveiwed below, please circl "CP" number on Reader Service carc page 42.

● MICROWAVE. A 32-page catalo of microwave instrumentation deal with the generation, transmission an measurement of microwave phenom ena. The contents of this catalog hav been arranged by frequency range The first few pages briefly review th basic microwave measurements, an photographs of typical equipment set ups for these measurements appea throughout the catalog. *Hewlett-Pack ard Co. CP1*

● SILICON RECTIFIERS. A new 44-page, two-color catalog describe standard silicon power rectifiers an rectifier stacks. These rectifiers ar used in battery chargers, electroni circuitry, railway signaling and simi lar services for railroad applications *Fansteel Metallurgical Corp. CP2*

● DETECTOR AND RECTIFIE CIRCUITS is a Photofact publica tion in a Basic Electronics Series. Th book uses red, green and blue arrow superimposed on circuit diagrams t vividly portray the various current Topics covered include half and ful wave rectifiers, diode detectors, gri leak detectors, discriminators, an ratio detector circuits. Cat. No. BED-1 $2.95. *Howard W. Sams & Co. CP*

● "RADIO-ELECTRONIC Maste Catalog," 1962 (26th) edition, is no available from electronic parts distrib utors. A list of such distributors i available from the publisher. *Unite Catalog Publishers, Inc. CP4*

● A SOUND SLIDE FILM, "Fron Hooks to Climbers" has been pro duced by the Bureau of Safety in co operation with Mathias Klein & Son The picture is in color, lasting 22 min utes and it covers the history of climb ers—how they are manufactured their use and care, proper sharpenin and proper climbing techniques. Th film and transcription may be pur chased from the Bureau of Safety

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20 North Wacker Drive, Chicago, or the film may be borrowed, without charge, from *Mathias Klein & Sons, Inc. CP5*

● VACUUM TUBE CIRCUITS for the Electronic Experimeter, by J. M. Sienkiewicz, is a 176-page hard cover book providing 50 basic vacuum tube circuits for the experimenter wishing to start from a proven circuit. Diode, triode and multielement tubes are explained, and a chapter gives circuit construction hints. $4.95. *Ziff-Davis Publishing Co. CP6*

● "BASIC RADIO" is a six-volume, paperback set of well illustrated manuals. The course starts with basic electricity and proceeds through electron tube circuits, AM and FM transmitters and receivers, with a volume devoted to transistors. The volumes sell individually from $1.90 to $2.70 each, with the whole set available for $13.85, somewhat less than the total price of the books purchased individually. *No. 197, John F. Rider. CP7*

● OSCILLOSCOPES. "Using the Oscilloscope in Industrial Electronics" provides specialized information on the use of the oscilloscope in testing and maintaining various industrial electronic services. The first part presents a general discussion of the instrument, followed by chapters on its application in testing such devices as thyratrons, saturable reactors, magnetic amplifiers, ignition systems, and transistorized controls. There is also a chapter on oscilloscope maintenance. Catalog No. OSM-1, 256 pages, $4.95. *Howard W. Sams & Co. CP8*

● "ABC's of ULTRASONICS" starts with an explanation of ultrasonics and proceeds through its application, uses, and FCC regulations involved. Photofact publication No. ULT-1, 96 pages, *$1.95. Howard W. Sams & Co. CP9*

● "TRANSISTOR SUBSTITUTION HANDBOOK" lists 8,800 direct transistor substitutions and U.S. substitutes for Japanese types. Other data includes the manufacturer of each type, whether NPN or PNP type, and basing diagrams. Photofact publication No. SSH-2, 112 pages, $1.50. *Howard W. Sams & Co. CP10*

Supply Trade News

● AUTOMATIC ELECTRIC SALES CORP. **Robert B. Liepold** has been elected vice-president and general manager.

● INTERNATIONAL CAR DIVISION of Morrison-International Corp. has moved to 835 Englewood Ave., Buffalo 23, N. Y., from 2485 Walden Ave.

● SIMPLEX WIRE & CABLE CO. **Herman C. Joos,** manager of the north central region, with headquarters in Detroit, has retired.

● GENERAL ELECTRIC CO. **William Torbick** has been appointed West Coast regional sales manager for two-way radio equipment, with office in Redwood City, Calif. He was previously regional two-way radio manager in Columbus, Ohio.

● GENERAL RAILWAY SIGNAL CO. As reported in the January issue of RS&C, **Nathan R. Owen** has been named chairman of the board of directors. Mr. Owen is a general partner in J. H. Whitney & Co., New York, a private investment company, and until his election to board chairman, was chairman of the GRS executive committee.

Nathan R. Owen

Robert C. Archibald

● LINK DIVISION of General Precision, Inc. **Robert C. Archibald** has joined the industrial sales staff as transportation specialist. He will be responsible for sales of Tracer inductive identification and control systems in the northeastern states, with headquarters in the New York area.

● THE RAILS CO. Has moved its Chicago district sales office from 5 East Van Buren St. to 80 East Jackson Blvd.

Obituaries

● HIRAM M. BUCK, who retired in 1955 as president of Railroad Materials Corp., New York, and eastern representative of Western Railroad Supply Co., died January 21.

● JAMES W. RAMEY, 55, circuit design engineer of Union Switch & Signal Division of WABCo., died at his home in Pittsburgh, Pa., January 4.

● ROBERT E. TROUT, 87, retired vice-president and general sales manager of the Primary Battery Division of Thomas A. Edison Industries, died January 11, at St. Petersburg, Fla. Mr. Trout's entire business career was spent in the railway signal field. He was signal engineer of the St. Louis-San Francisco from 1902 to 1919, when he joined the Primary Battery Division of Thomas A. Edison, Inc. He retired in 1946. Mr. Trout was a past president of the former Railway Signal Association and during his career also served as chairman of the Signal Appliance Association.

This Was News 50 and 25 Years Ago

The Signal Engineer, February 1912. "Tell tales" hung over a highway from an arm operated by a semaphore mechanism indicate to motorists that a train is approaching. When the arm is horizontal the tell tales strike the head and shoulders of a man driving a horse and wagon. This installation on the Denver, Laramie & Northwestern also includes an audible signal and light indication.—Block Signal and Train Control Board, in its fourth annual report to the ICC, recommends creation of an organization with the powers to investigate and inspect as well as administer regulations governing construction, maintenance and operation of interstate railroads, so far as concerns the safety of railroad travel and employment.

Railway Signaling, February 1937. Automatic interlocking on the Rock Island at Hampton, Iowa, replaces a 32-level electric plant, which controlled crossings with the CGW and M&StL. When a train shunts an approach track circuit, a stick relay is picked up, this relay being held up by a circuit completed through a mercury time-element relay which is set to operate in two minutes. This special time control, in addition to regular home signal clearing controls, was considered necessary because of gas-electric light-weight trains using the plant which occasionally gave intermittent shunting.—Underground wires and cables at Cincinnati Union Station went through January floods without damage. The Ohio River flood crested 79.99 ft at Cincinnati, breaking an 1884 record.