



WE

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Paul A. Gorman, President H. S. Cody, Jr., Secretary & Treasurer

FHE COVER: During business hours Larry Rydiger is a field service coordinator for the WE Mountain-Northwestern Region, stationed at the regional headquarters near Deriver. Weekends (see page 2) he serves on the National Ski Patrol at the big new ski development at Vail Pass, high in the Colorado Rockies. Photograph by Brude McAllister.

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- Christos Razdaetzca

AT LEFF: Not war bit the power black-out brought this scene to New York Chy; the guardsman is directing traffic because stop lights were out. Milliom sought telephones in the strains and subways stopped dead at auch from through, for emergency generators are standard for telephone offices.

Western Electric

MANUFACTURING AND SUPPLY UNIT OF THE BELL SYSTEM



TOP OF THE NEWS

SCIENCE

Albuquerque, N.M. A device developed at WE's Engineering Research Center can concentrate infra-red energy in small work areas, reaching temperatures up to 5600 degrees Fahrenheit in seconds. It's currently being evaluated for use at Sandia Laboratory . . . Whippany, N.J. A method for finding out more about the surface of the moon has been developed by Bell Labs scientists Jacques Renau and James A. Collinson. Measurements of surface irregularities have been made by bouncing a laser beam off materials prepared in the laboratory and comparing these findings with measurements of microwave reflections from the moon's surface. Results check with the recent Ranger lunar probe photographs . . . Holmdel, N.J. A co-inventor of the transistor, William Shockley, has rejoined Bell Laboratories as executive consultant on applied research and development. The transistor was invented at the Labs in 1948 when he was supervisor of a solid state physics research group there.

FOR THE COMMUNITY

Kearny, N.J. A course to train "unemployables" in skills that will enable them to get and hold jobs in local industry is being given as a public service by WE's Kearny Works . . . New York, N.Y. More than half a million large and small items were donated this year as instruction and research aids to over 500 accredited American colleges and universities under the 38-year-old Western Electric College Gift Program . . . Los Angeles. New school-to-home teaching service developed by Pacific Tel. and provided by Los Angeles Distributing House enables teacher to instruct up to 20 handicapped students simultaneously over individual lines.

AROUND THE CIRCUIT

Washington, D.C. Ten per cent Federal tax on telephone calls drops to three per cent January 1... New York, N.Y. The 75th million Bell System telephone was put into service in late October, eight and a half years after the 50th million was installed in March, 1957. New total includes 776,000 gain for June, July and August—the largest increase ever recorded for that period. Long distance calling was also up—11 per cent over the same period last year... Flushing Meadows, N.Y. Final tally of the Bell System's World's Fair Exhibit showed almost 13 million visitors. This means that about one out of four of the more than 51 million people who visited the giant exposition toured the Bell Pavilion.



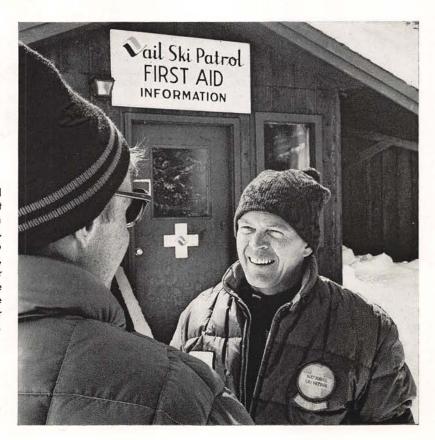
In the Colorado Rockies
a WE man is serving his
fellow skiers. He has time
left over for fun for
himself and his family.



SKI PATROL

Larry Rydiger's skis throw up a cloud of powder snow as he makes a turn, plunging down the mountain in a fast run at Vail Pass, Colorado. The big ski development is a three-hour drive from the WE Service Division Regional Center near Denver, where Larry works.

Larry is a member of the National Ski Patrol, a group of expert skiers with special training in safety and advanced first aid. During the winter he goes to Vail on weekends and holidays, has time for pleasure skiing after duty hours. He is shown at the patrol shack talking to George Kelly, a professional member of the ski patrol.







Larry Rydiger did a little skiing as a kid, but he didn't really get bitten by the bug until 1947, when he came home to Minnesota after his Navy service, and the big American ski boom was underway.

"It's not only the skiing itself," he explains. "It's the whole life that got me. You see such beautiful country; you meet such nice people."

One of the nice people he met (it was on a vacation trip to Sun Valley) became Elaine Rydiger. She and Larry, along with their three youngsters, are now living handy to some of the most gorgeous scenery and breathtaking ski runs in the Rocky Mountains, because Larry, after 18 years at WE's Minneapolis Distributing House, was transferred last year to the Mountain-Northwestern Region Headquarters, near Denver. He is a field service coordinator.

In Colorado, the Rydigers took to skiing at the big new development at Vail Pass where there's a network of lifts and slopes from beginner to expert. Go to the very top, point your skis down hill, and you have a fourand-a-half-mile run back to the lodge.

After Larry became known among



At the shack (top left), where he is on call in case of accident, Larry sips his coffee. The shack is at the top of the slope—it is quicker to bring the toboggan down than up.

A toboggan is used in place of a stretcher by the ski patrol. Here a possible fractured leg has been immobilized by a temporary splint and the patient is about to be taken down the slope to the aid station.

> the Vail skiers he was asked if he might be interested in serving as a member of the National Ski Patrol. Ski patrolers must be more than expert skiers; they must have physical endurance, tact in handling people, and other qualities. Of 22 candidates picked by Vail to take the National Ski Patrol's exhaustive, day-long series of tests, only 11 passed. Larry was one of them.

> To become a member of the patrol he took advanced first aid training, even training for the unlikely occurrence that the patrol might have to rescue victims caught in an avalanche. Patrol members continually cover the area to make sure some lone skier isn't lying injured and unnoticed, and to caution those who might be skiing in a way that might cause an accident. At the end of the day, the whole ski patrol sweeps the hill in a long line-quite a sight it is-to make sure everyone is off the mountain. Larry works with the ski patrol most winter weekends and holidays.

> What (except for free rides on the ski lift) does he get out of this service? He finds that easy to answer: "I like skiing and skiers, and I like to be able to help."



In front of the lodge at the Vail ski area (from left): Bobby Rydiger; his sister, Susie; his kid brother, Jon; his mother, Elaine; his father, Larry.

Larry and Elaine Rydiger met on a ski weekend and now they are raising three small skiers of their own. So the weekend trips to Vail are usually a Rydiger family outing.

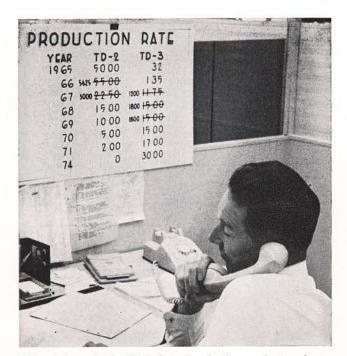


Here the four older Rydigers set out to ski together after Larry's tour of ski patrol duty. Last year, when these photographs were taken, little Jon, at 3 ½, was usually left in the Vail nursery, but this year he's beginning to join the family out on the hill.



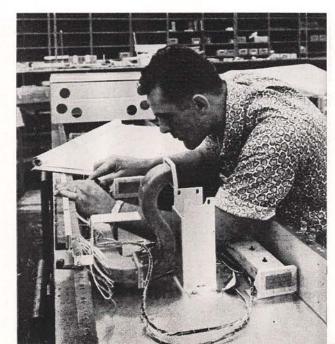


TD-2, the Bell System's present microwave equipment, is in full production at Kansas City, but it will decline with the TD-3 buildup.

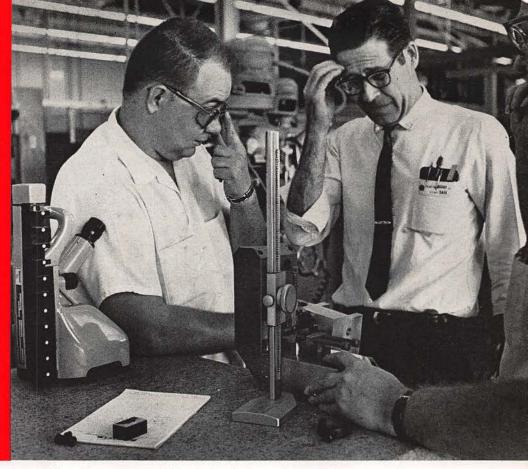


When he's not in the TD-3 shop, Ben Jordan, project engineer, is often on the phone to other locations which are making TD-3 parts. (When comparing figures in chart over desk remember that a TD-3 bay can handle double the traffic of a TD-2.) John Shaffran (right) works from blueprints as he fits a piece of microwave equipment into a TD-3 repeater bay.

TD-2 microwave is



PHASE



Jerry Malott, Dewey King and Bernie Ripple (I. to r.) puzzle how to get the required tolerances (1/10,000 of an inch) on a TD-3 part.

giving way to the new, transistorized TD-3

"As the summer follows spring" was the way one Kansas City engineer recently explained a huge sign in the shop area announcing: "TD-3, a new product for Kansas City Works."

Some engineers might phrase it less poetically, but all would agree that this new advance in communications was predictable and inevitable. TD-3, which is just in the start-up stages of manufacture, is a brand new transistorized version of TD-2—the backbone of present Long Lines microwave routes carrying telephone, television, and data communications across the country.

A logical outgrowth

Transistorized microwave, as the engineer indicated, was the logical outgrowth of its electron tube predecessor for a variety of reasons. One of the most important of these is increased capacity.

"It was inevitable that we develop transistorized microwave," said Ben Jordan, Kansas City Project Engineer, who has the complicated job of coordinating the start up of TD-3 manufacture. "TD-2 has been giving fine service since it was developed in 1949;" he said, "but technologies have changed in 16 years and so have the amount and variety of communications traffic that the Bell System serves.

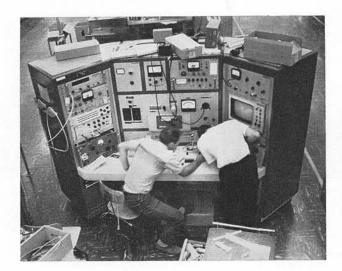
Unprecedented increases

"The increase has been unprecedented during that time in long distance calls, in the use of television, and in data communications." He points out that these, combined with the demand for such services by the government and others have really saturated many of our TD-2 routes.

Right now, production of TD-2 is at an all-time high to meet this growth in traffic. But TD-3, with



Section Chief Bob Davis brings up a problem at meeting with Bell Labs engineers from Merrimack Valley.



It takes a lot of special test equipment (left) to make sure that TD-3 will perform as expected during its field trial.

Engineering associate Harl Dunkin (below), makes a final adjustment to a piece of test equipment.





its solid-state circuitry, will be able to double present capacity without using a larger amount of equipment. For example, a single TD-2 route can carry 6000 messages over its ten channels, but TD-3, which will also have ten microwave channels per route, will be able to carry 12,000.

"Aside from quantity," Ben notes, "we can expect better quality and all-around higher reliability in long distance transmission now. The advantages of the new solid-state science have made possible much of this, but remember that we've also had 16 years of field experience and development studies since TD-2 was designed."

Precision tolerances

To get top reliability for the new equipment, parts are being produced by Kansas City's precision machine shop with tolerances of 1/1000 of an inch. Each part has its own serial number and control chart so that its entire history of manufacture can be reviewed as it is tested in the field.

Ben noted that "in the same way that we couldn't foretell in 1949 what our precise communications needs would be today, we can't predict now what communications will be like in another fifteen years. But we know that the one requirement—reliability—won't change."

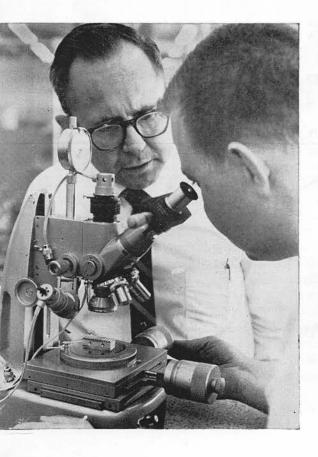
Thus this combination of experience and careful manufacturing techniques points to a bright future for solid-state microwave. Meanwhile, a lot of people at Kansas City and at other locations have their work cut out for them before TD-3 becomes a working part of the Bell System long distance network.

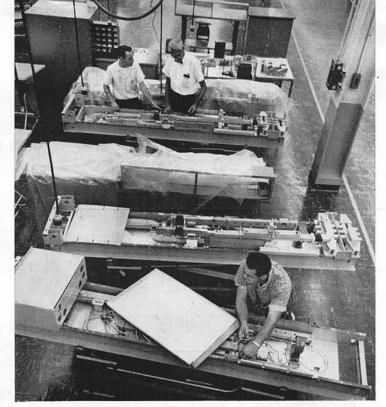
Special test gear

In any start-up operation, and particularly in one involving extensive solid-state circuitry, testing is critical. Right now there is about as much production test equipment as there is microwave equipment in Kansas City Works' TD-3 area. All of it has been designed specially for this job.

And production test equipment is just part of the testing program. Bell Labs engineers have also developed special equipment to make comparison studies of completed TD-3 bays in the shop with actual performance in the field.

"This is one, big, cooperative effort with everyone working toward the center" is how Ben put it.





TD-3 repeater bays are being put together on a custom job basis. Regular production will start after field trials.

Don Savage (left) and Jerry Malott use a powerful microscope in the precision machine shop to test a "waffle filter," a part of TD-3 wave guide.

"Because of the close interaction of parts in this highly sophisticated equipment, we don't work in sequence on a problem. We all work on it simultaneously." North Carolina is making all waveguide equipment, Laureldale is making traveling wave tube amplifiers and diodes, Allentown is supplying isolators, transistors and circulators, and Kearny is supplying power equipment. Merrimack Valley's Product Engineer Control Center (PECC) is responsible for the preparation of standards and drawings which are the guides for Manufacturing and Installation engineers. If a design change comes through from, say, the Bell Labs engineers at Merrimack Valley who designed the equipment, then that design change must be made known right away to everyone who is making related equipment so that they can make their changes accordingly.

40 due in April

And of course there is the schedule to contend with.

The first 40 repeater bays are expected to be installed by April in a new six station route being built by Long Lines from Alexander, Arkansas (just

south of Little Rock) to Arkabutla, Mississippi, below Memphis. Bell Labs, which has been part of the TD-3 team from the start, will test the route during the spring and summer, and will turn it over for Long Lines operation in the fall.

It's versatile

Probably one of TD-3's biggest advantages is its versatility. A feature of TD-3 is that it has been designed to be compatible with TD-2, so that the two systems can be mixed—thus permitting expansion of present routes with the new equipment. Its versatility is going to be tested in a route in Texas next fall. Right after the first 40 bays are completed, about 60 will be built for a 200-mile TD-2 route from Ennis, Texas (near Dallas) to Seguin, Texas (in the south of the state). If field tests of the mixing of two systems live up to expectations, the task of expanding microwave capacity will be done over a period of years—that's the most economical way—doubling the capacity of existing routes by piece-by-piece replacement of TD-2 with TD-3.

JOHN SCHRIK

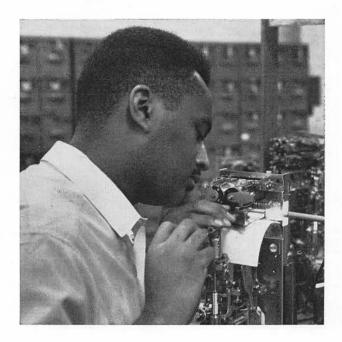
Training Got Me My Job

A Hawthorne program helping in the fight against unemployment

Santa's pack will be fatter this year when he visits Quentin Whitaker's three children.

Fifteen months ago Quentin was out of work and the number of shopping days until Christmas didn't matter as much as the number of days until his next unemployment compensation check was due. This year things are different. He has a job as a relay adjuster at WE's Hawthorne Works. His children have written letters to Santa, his wife has done her Christmas shopping and he has seen hard work pay off.

This change in the Whitaker's luck came about because Quentin happened into Hawthorne, looking for a job, just as the Works was beginning a program of hiring unemployed heads of households and teaching them needed skills. In that program twelve men were hired and trained for 20 weeks to



fill jobs as adjusters of relays used in telephone switching equipment.

Quentin Roosevelt Whitaker, Jr. was a high school graduate who had been honorably discharged from the Army. He returned to Chicago in 1961 to get a job and support his wife and child: "Everywhere I went they only needed men with experience. I wanted a job like I have here, but I had to settle for what I could get?"

He worked 12 hours a day, six days a week as a combination waiter-porter in a restaurant. After nine months of that routine, he was able to get a job in a warehouse working eight hours a day, five days a week. But he didn't earn enough to support his wife and two children. He finally decided the best thing to do was quit and spend full time hunting for a better job.

Hawthorne was near his home, so Quentin applied for work there. He was hired for the relay adjuster training program.

Supervisor Ray Rice says that since joining the Company Quentin has proven his ability to learn and his desire to do a good job. "He is a willing worker and has become very flexible," Ray added.

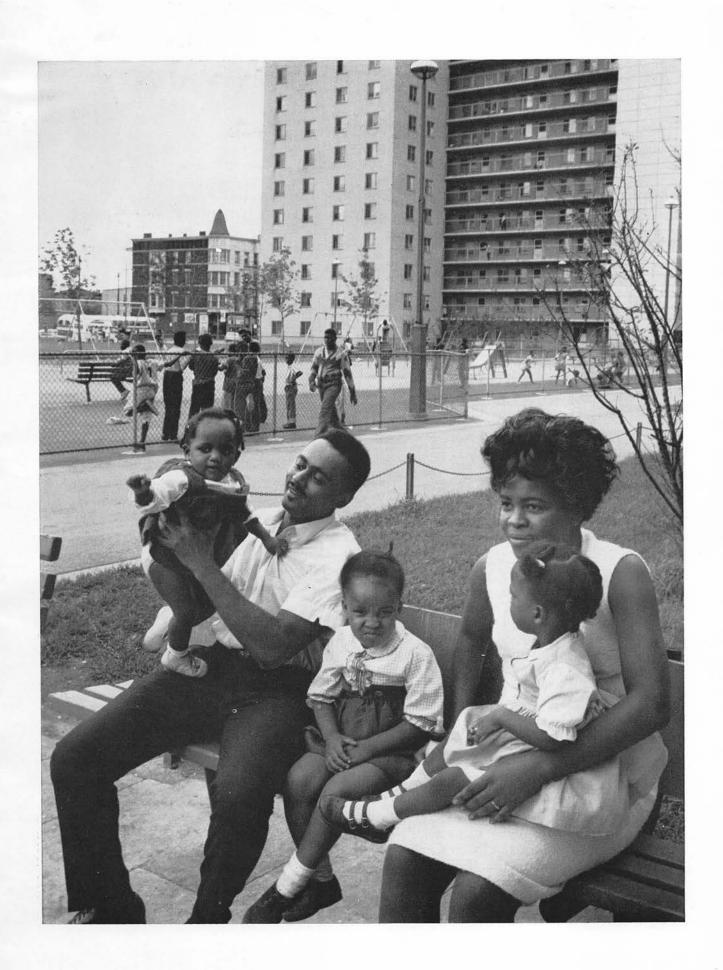
"I was one of the lucky ones," is the way Quentin likes to put it. In the past year, he has been able to move to better housing, to buy some new furniture, to enjoy his first paid vacation, to begin buying life insurance and to save a small amount each week.

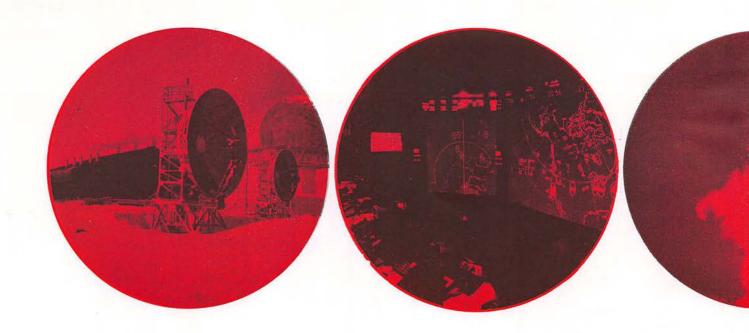
"Next year I might be able to buy a car and someday we'd like our own home. But most of all," he added, "I hope my children can get a better education than I did."

Quentin likes his job. "It keeps your mind turning all day. You can't sit there and go to sleep on it," he explained. "Other jobs I've worked on have had somebody over you all the time. Here, you know you got a job to do, and you do it. It gives you a feeling of responsibility."

"I like my job and the people who I work with," he said. "Next I'd like to join one of Hawthorne's evening school programs and maybe get an even better job here someday."

Quentin Whitaker (left) at work at Hawthorne and (right) with his wife, Mae, and (from left) Shiela, Carla and Nicola.





BACK-UP FOR

WE Helps Build New Communications For Sky Sentinels

A standby "instant communications" system, now being constructed across the nation to help guard against air attack, is the latest example of Western Electric's deep involvement in national defense.

The system is called Backup Interceptor Control: BUIC, for short. When completed, it will be a vast network of computer control centers capable of supplying split-second information on enemy air attack to battle staffs of the North American Air Defense Command (NORAD). BUIC backs up NORAD's Semi-Automatic Ground Environment (SAGE) communications system and would instantly take over if SAGE became inoperative.

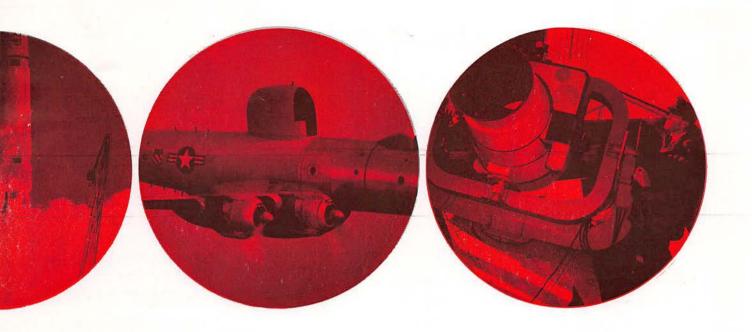
The Company is serving as manager and coordinator for construction of the nation-wide BUIC system. This involves writing step-by-step testing procedures, coordinating schedules, testing equipment and, ultimately, certifying that each site is ready for operation. About 150 Defense Activities employees in WE's Government Communications Projects group are working on BUIC. Key people on the job include Carl Hudson, Sam Hayes, Walt Grosselfinger, Charlie Bartlett and Tom Albee.

Part of the BUIC job has already been completed and certified. The first site went into operation in September at Cape Cod, Mass., and the second opened at Palermo, N.J. in October. The entire system is scheduled to be completed in April of next year. Each site will interlock with another along U.S. coastal and territorial borders.

At the heart of each BUIC installation is a highspeed computer. By processing such data as radar

Air defense personnel at BUIC site (below) watch





DEFENSE

reports of approaching aircraft, weather conditions, flight plans of friendly aircraft, status of weapons, etc., the computer can solve, in thousandths of a second, complicated problems of identifying, intercepting and destroying enemy aircraft.

When an aircraft enters the area monitored by a BUIC site, it is detected by radar installations which automatically forward their findings to the BUIC computer. The computer visually projects the air-

consoles which display information on activity in the air.



craft's flight on five television-type consoles (shown below) and identifies it as friendly or hostile.

If the aircraft is identified as hostile, an intercept director on duty at the BUIC site alerts defense pilots or activates surface-to-air missiles. The computer continues to supply intercept information until the enemy aircraft is destroyed.

SAGE and BUIC form the backbone of the vast NORAD communications network which links together the detection, tracking and weapons systems -a network provided and maintained by the various telephone companies. Some components of these systems are represented above: at left is one of the Distant Early Warning (DEW) Line radar stations; next is the NORAD Combat Operations Center in Colorado Springs, Col., where a map of North America is projected on a wall screen; the middle picture shows the launching of a Thor missile which can destroy hostile satellites in space; next is one of the radar planes which fly off U.S. coast lines, and, at the right, is a camera capable of photographing space objects as small as a basketball 50,000 miles away: it is used to keep track of satellite traffic.

Western Electric led the industrial teams which built DEW line, SAGE and the communications for NORAD's ballistic Missile Early Warning System (BMEWS), and was the prime contractor for development and production of the Nike missile system which is part of NORAD's defense arsenal. And now, in the current BUIC project, the Company has again been called upon to apply its varied Bell System skills towards the strengthening of the country's security.



for your information

IT STARTS NEXT MONTH

Larger deductions will start coming out of your paycheck next month to pay for new Social Security benefits. For most of us the new benefits will mean at least a dollar a week less take-home pay in 1966; for a good many, the increased bite for the year will be more than \$100. And deductions from paychecks make up only half of the financing. The employer contribution —Western Electric Company, Inc.'s bill—must match the total deductions of all employees and the increase will run into several millions of dollars a year. (It's too early to make an exact prediction.)

Detailed information about the new Social Security benefits (Medicare is the one that has most frequently been in the headlines but there are other important new provisions, too) has been distributed

for all WE people in the booklet "Your New Medicare and Social Security Fact Sheet." A chart in the booklet makes it easy to compute what your old age, disability and survivors' benefits will be. (If you didn't receive your copy of the booklet, see your supervisor.) You can also get information directly from the Social Security Administration and further publications from the Government Printing Office in Washington.

Broad New Coverage

Generally, Medicare is a broad program of health insurance for people 65 and over. It consists of two parts: hospital insurance which, primarily, helps to pay the bills from the hospital, and medical insurance which helps pay for the doctor and some other services. (The second part, medical insurance, covers only those who elect to pay \$3 a month for it after they reach the age of 65.) Besides Medicare, the new benefits which go into effect in January include expansion of medical assistance to the indigent aged (Kerr-Mills program), increased funds for the child health care program, and a larger federal share in public assistance programs administered by the states. Also, cash benefits under Old-Age, Survivors' and Disability Insurance will be increased.

Still more changes will allow children who are full-time students to receive survivors' benefits until they are 21 (payments formerly stopped at 18); a widow will qualify for benefits at 60 instead of at 62, and several changes have been made in the handling of disability benefits.

In all, it is a sweeping expansion of Social Security, and the cost is to be paid by

increased withholdings. To each of us the new programs will have special areas of importance, depending on whether we are active or retired employees, depending on what dependents we may have and what our personal plans for providing for ourselves and our family may be. In some areas the effects of the new benefits are not entirely clear. In cases where these benefits may concern Western Electric programs the Company is keeping in close touch and will make known any findings to employees. Until such findings are available, employees are urged not to change any existing coverage.

New Rates, New Maximum

The higher deductions for the new benefits begin in 1966 and the amount will increase nine more times until 1987 when the maximum will be reached. While Social Security deductions have gone up several times in the past, the increases have been relatively small. The 1966 increase (0.6 per cent over 1965) is also small, but it is coupled with a second factor—an increase in the maximum withholdings base for any one year. In 1965, once you earned \$4800 deductions stopped for the rest of the year. The new maximum will be \$6600. This can mean that an employee whose deductions ended this year after, say, the second week in September may be paying next year during the entire twelve months; or, in a higher bracket, an employee whose payments used to end in August may keep paying next year through October. The two factors combined can mean substantial increases for large numbers of us in 1966.

Here are some examples of what this

all will mean in take-home pay. A woman earning \$80 a week is paying \$151 this year for Social Security; next year, she will pay \$176—a \$25 increase, or about 17 per cent more than in 1965.

For a family man earning \$2.82 an hour, \$4.09 a week was withheld this year until he had contributed \$174. Starting with his first check next year the bite goes to \$4.73 a week, all year, for a total of \$246.

A salaried worker earning \$7500 a year will be hit harder—a \$103 increase over 1965.

The following table gives you an idea of how your own take-home pay will be affected:

$\frac{Annual}{Wages}$	$Soc.\ Sec.\ Deduction$	
	<u> 1965 </u>	1966
\$3600	\$130.50	\$151.20
4000	145.00	168.00
4400	159.50	184.80
4800	174.00	201.60
5200	174.00	218.40
5600	174.00	235.20
6000	174.00	252.00
6600 or more	e=174.00	277.20

A still higher rate goes into effect in 1967—but this time it will be just a slight hike, only 0.2 per cent over 1966. (This means a maximum possible 1967 increase of \$13.20 over 1966.) The timetable moves the rate gradually up to 5.65 per cent by 1987 to a maximum possible withholding of \$373 a year.



How to watch a Football Game

Bell System Teamwork Plays Important Role On and Off the Field

Whenever an important event— a ball game, an election, a press conference—is reported to the public, the Bell System is in action behind the scenes. One such event is described in the following story adapted from an article by J. H. Cromwell in *The Transmitter*, the Chesapeake and Potomac Telephone Companies' magazine.

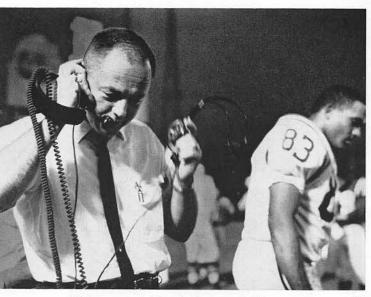
As football fever reaches its peak with championship contests and post season games all across the country, it seems to be a good time to take a look at how spectators are able to follow the action no matter where it takes place.

The answer can be found in the communications supplied by the Bell System. In fact, communications are so vital to this popular spectator sport it could be safely said that telephone people make up the third team at all major football events.

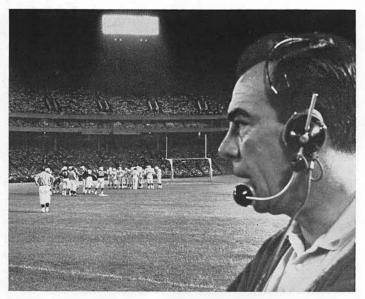
To learn about how to watch a football game (or who makes it possible) we take a look at the Bell System team in action. The place is Memorial Stadium in Baltimore. The team—as you might expect if you recognized the picture of quarterback Johnny Unitas at left—is the National Football League's Baltimore Colts, winners of the Western Division championship last season. The Colts team up with the Bell System communications squad to provide exciting entertainment for profootball fans.

The Bell System team arrives at the stadium hours before the opening kickoff to set up and check out the portable telephone and other communications equipment used on the field. The equipment is actually stored at the stadium but is packed away between games to protect the equipment and the customer (the Colts). If the equipment were left on the field it

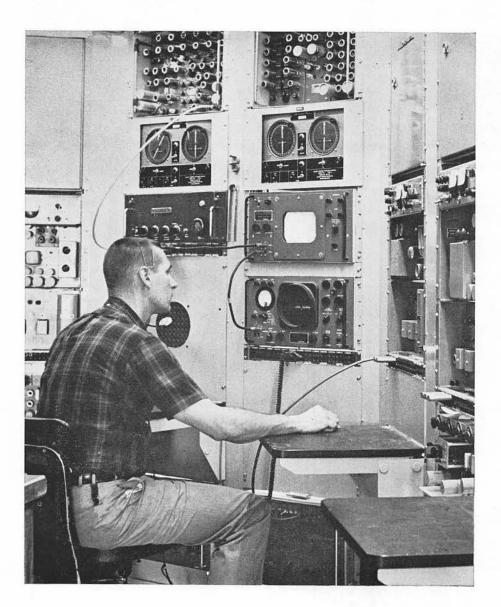
Johnny Unitas, Baltimore Colts' quarterback, gets report from scout stationed in the press box in the stands.



Bill Arnsparger, defensive line coach, discusses strategy with scouts watching the action high in the stadium.



Don Bruchey, an announcer for station WMAR-TV, gets close to the play on the field during broadcast.



could be used by anyone to make a personal telephone call.

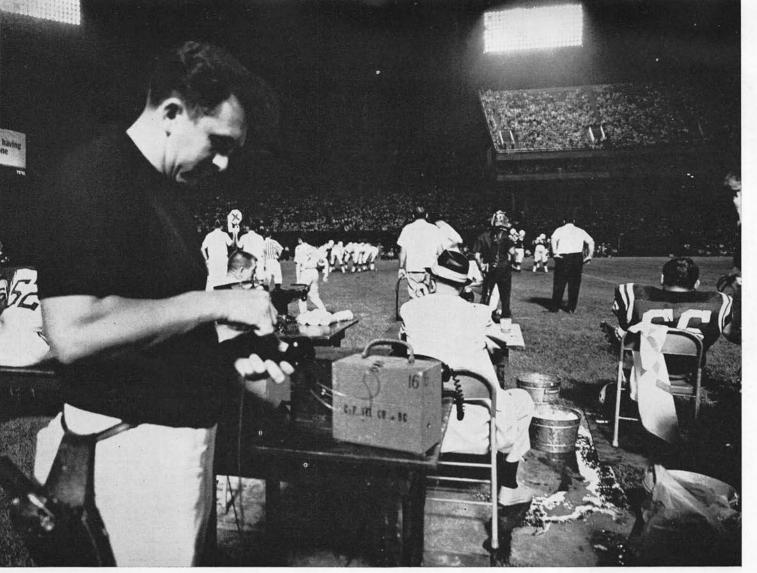
Telephone cable, headsets, portable switchboards and other gear are connected and put into operation. The Bell System team members on the field working with the equipment are mostly installers of the Chesapeake and Potomac Telephone Company of Maryland. A representative of the C&P marketing department is also usually on hand to assure that the football team management is entirely satisfied.

Western Electric plays its familiar role as manufacturer and supplier of equipment. Some of the cable, as a matter of fact, was made locally at the Company's Baltimore Works.

Part of the equipment is used for communications within the stadium. A private line system connects the spotters in the press box with the coaches and players down on the field.

From their vantage point, spotters can detect weaknesses in the performance of the Colts' players and the opposition's players. Their advice helps the Colts strengthen their weak points and exploit those of the opposition. Another set of spotters works with the broadcasters, spotting the player who made the tackle or recovered the fumble.

Testman Walt Schwartz monitors microwave signals as they are beamed from the stadium to downtown Baltimore.

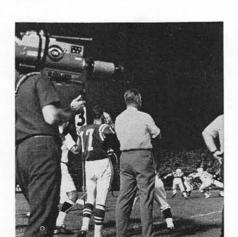


Frank Metzdorf, C&P installer-repairman, makes a check of communications facilities while game is in progress.

Much of the equipment is used by radio and television stations that broadcast the game. In addition to facilities in the press box and on the field for communications within the stadium, the stations require transmission circuits. For radio broadcasts, circuits are furnished to station WCBM in Baltimore and various out-of-town stations.

For televised games, sound and picture circuits are furnished to station WMAR-TV in Baltimore. Television signals are carried from the stadium to the station by regular telephone cable facilities or by microwave. The microwave signals are beamed from the roof of the stadium to the 34th floor tower of the Maryland National Bank Building. There the signals are monitored, processed and transmitted

Cameraman from television station WMAR-TV uses portable camera to get a close-up shot of the action on the field. to the equipment room of the Maryland Company headquarters building. From the telephone building the signals are then sent to station WMARTV. If the game has been scheduled for network broadcasting, the signals are also sent to the AT&T equipment room at the Maryland Company headquarters building. Here's where personnel from the Long Lines Department of AT&T do their part on the Bell System team. They set up the network transmission for the Columbia Broadcasting System.



There are also permanent telephone facilities at the stadium. The ticket office has direct lines to the Colt's administrative office in the city where the owner, manager, coach and staff members have their business offices. There are also 42 pay telephones at the stadium for the convenience of the spectators.

Once the temporary communication facilities have been installed, testmen check the transmission signal to assure transmission quality.

After the game is over and the stadium has been emptied of spectators, the Bell System team is still at work packing away the equipment until the next game.

The activity at Memorial Stadium is repeated again and again at football games and other sporting events across the country as Bell System employees supply the needed communications. And no matter who is playing you'll find the Bell System team is on the ball.



Local papers, radio and TV are telling the Western Electric story

It must have been a surprise for families in Shadeland Village, Ind., as they were sitting in their rec rooms watching TV, when suddenly they saw one of their neighbors appear in a television commercial.

The same feeling must have been shared by folks in Allentown, Pa. as they walked to their front doors, picked up their evening papers, settled into their reading chairs and saw three of their neighbors in a Western Electric newspaper advertisement.

Slightly different situations will be repeated regularly in every community where Western Electric has a major location; special efforts are being

Around

made to help millions of people to know their neighbors at Western Electric a little better.

Local newspaper ads, television commercials and radio announcements—in addition to national magazines—are being used to describe the jobs being done by WE people for the Bell System and to acknowledge the contributions they are making to their local communities.

To help tell this story, people like Peggy Warren of the Indianapolis Works and Harold Lamken, Bob Walsh and Charley Perkins of Allentown are often being asked to step into the public spotlight.

Peggy, one of 44 employees who recently earned their high school diplomas at the Works, was featured in a television commercial during an hour long show which Western Electric sponsored, describing Indiana highway safety problems and solutions.

"Participating in the in-plant high school program was an extremely satisfying, wonderful experience and having it mentioned on television was an added thrill," she said. "People at work kidded me and asked when I was going to Hollywood and my sons said some of their school friends had seen me on TV. One of my husband's friends said he couldn't believe his eyes. He said he looked at the screen and suddenly there I was."

Allentown's Harold Lamken, Bob Walsh and

Charley Perkins attracted attention in their home towns last month when WE newspaper advertisements in the Allentown-Bethlehem area described the community service work these three Telephone Pioneers were doing for a local hospital.

"The hospital loved the publicity," Harold said. "They hoped that by advertising what we were doing to help, others would be encouraged to help too. Our families were proud of us and we hope everyone who saw our ad learned a little about our Company and the kind of people who work here."

The spotlight shared briefly by Peggy and the three Allentown men has already picked out scores of other employees. Hundreds more are, figuratively, waiting in the wings for their cue to go before the public in other ads.

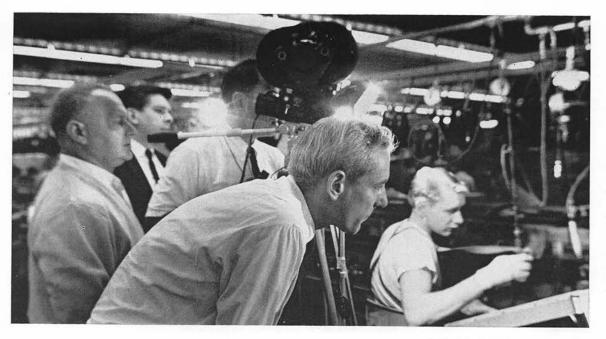
Scripts have been written, lights have been moved into position and camera crews have been grinding away. Excitement continues to grow. It will expand as television, radio, newspaper and magazine ads carry the story of Western Electric and its employees to millions of people in more than 40 locations in 1966.

Why all the fuss? Why is so much being done to earn the public's good will? President Paul A. Gorman explained the reason why when he addressed the General Assembly of the Telephone Pioneers of America in September. He said, "... In a vacuum of no information or incorrect information about us, the public sees us at best as a bland and neutral entity ... And since any business depends for its long-term survival on public understanding, the importance of winning that understanding cannot be overestimated ... winning public understanding of the things we do and the way we do them is the basic objective of our public relations and public affairs programs."

Western Electric has realized the value of gaining public understanding for generations but few people realize WE has been an innovator in the field of advertising. Fifty-seven years ago, when the Company also sold electric fans, WE placed an ad in a national magazine to become the first electrical manufacturer to attempt to sell its product to the public through the pages of a national periodical.

Twelve years later, in 1920, WE became the first manufacturing firm to sponsor a series of "institutional" ads. This type of advertising had no merchandise to sell, but sought to gain the public's understanding, respect and good will. The Company's present advertising is a direct descendent of that history-making series.

WE ads have tried to increase public knowledge about the Company and to improve public understanding of the contributions WE has made to reli-



On location, TV crew shoots commercial for WE-sponsored program. From left: Ed Kogan, of WE's ad agency, Cunningham & Walsh; Jim Hammond, WE advertising; Bob Katzeff and Frank Barrett, WE photo staff.

At The Milwaukee Journal, where WE House Manager Harry Waetjen (right) was seeing about an ad, he was taken on tour of the press room. In center is the paper's advertising sales manager, Norman Saukerson.

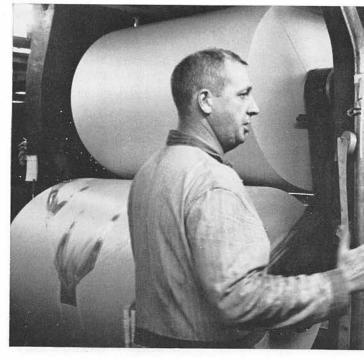
able telephone service, not as a separate entity but as an integral and vital part of the Bell System.

For years the theme of Western Electric's essential role in the Bell System has been explained in the Company's national advertising campaign through the pages of *Life*, *Look*, the *Saturday Evening Post* and other leading magazines. The same theme has also been emphasized in commercials on the Bell Telephone Hour and other national Bell System radio and TV shows.

Tests of public knowledge of WE in 1963, however, indicated room for improvement.

Bob Fingerhut, WE advertising manager, explained that independent public attitude surveys in 1963 showed 30 per cent of the adult U. S. population knew what Western Electric's job was. Half of that group understood we are a vital member of the Bell System. The studies also proved that people who read magazines we advertise in have a much higher level of knowledge and understanding about our Company. Indications were our advertising and public relations programs had contributed significantly to the public's knowledge of the Company but Bob added: "The question we had to ask was whether our base was broad enough. Was public understanding high enough to give us the kind of public support we should enjoy? We decided to try to raise the indices of public knowledge?"

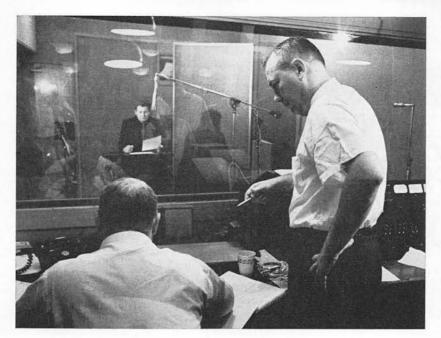
WE's advertising group and the Company's ad agency, Cunningham and Walsh, studied the problem and developed the community advertising pro-



gram as an extension of the national campaign. By the Fall of 1963 Western Electric began using two local advertising media. A total of six ads were run in newspapers serving the Merrimack Valley and Indianapolis Works. Ten local television programs were sponsored in Kansas City, Oklahoma City and Omaha. In 1964, the program was expanded to include ads in 15 newspapers in five cities. Six TV programs were sponsored in each of eight cities. Further expansion continued last year.

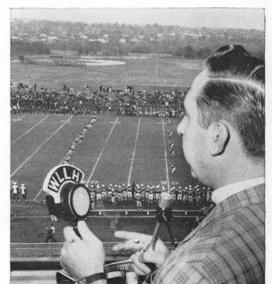
The television shows were community-oriented, public service programs. The same type of programming will continue this year and next. The newspaper advertisements began utilizing a unique format this year. Each ad occupies a half page and stresses the national advertising message and in-

At recording studio, Ed Kogan (seated) of ad agency, and WE's Bill Harper supervise as announcer Gordon Hammett cuts sound track for TV commercial. Still later the music background is mixed in.





Radio coverage of local high school football games was sponsored this fall by Western Electric's Merrimack Valley Works. In the press box here, as Lawrence High is about to kick off, is announcer Joe Rayball of Station WLLH.



cludes two columns of material about activities or people at the respective WE locations. This format will be followed in 1966 too.

"Next year we will sponsor local TV programs in 10 Western Electric communities, but the program will undergo major changes and expansion in the area of newspaper advertising," Mr. Fingerhut said.

The newspaper ads will run in more than 30 cities where the Company has operations. Also, three locations—Indianapolis, Baltimore and Merrimack Valley—have sponsored local radio broadcasts.

In addition to the advertising programs, other aspects of the Company's public relations and public affairs programs have been broadened since the 1963 study. Through increased participation in civic and charitable affairs, by helping to improve news

coverage of WE people and happenings, and in many other ways the Company has tried to become better known in its communities.

The results are encouraging. Last June, Elmo Roper Associates—the same organization which prepared the 1963 studies—tested public reaction in key cities. The percentage of those interviewed in Atlanta who were aware that Western Electric has a facility in that city rose 15%. In Kansas City there was a 14% gain in the number of people who said WE is "public spirited." Similar gains were shown in the percentage who said WE has "excellent products" and the Company is "a good place to work." In Omaha, 61% of the people expressed general approval of the Company's tie with the Bell System. (That is 30% higher than was indicated in the 1963 study.)

In short, it seems clear that the better our neighbors get to know us, the better they like us.

ROBERT P. CAREY

Scrambles, Sausages & Suppliers



The suppliers who visited the Minneapolis Distributing House were guests of Manager Mike Northrup for scrambled eggs and other breakfast fixings before they began their tour of the house. Suppliers were guests during first two days of weeklong Open House.



WE's Mike Northrup (center) talks to suppliers Robert Kjorsvig (right) and Richard Sappa, about a piece part they supply to the Company. An idea suggested by the visit may result in a money-saving modification of the part. A neighborly breakfast at the Minneapolis House began a visit for representatives of some 200 local companies who sell to Western Electric.

WE guide Evelyn Freeman explains how employee modifies signal frequency unit; smiles are because employee is also her daughter, Kathy Heller.



Booklet distributed at Open House tells about the Company and the Bell System. This supplier did some breakfast reading.



Never before had the Company gathered so many of its suppliers together to show them how Western Electric operates and how suppliers fit into the picture.

Minneapolis House Manager Mike Northrup and his staff were hosts to representatives of more than 200 companies which sell materials, piece parts, products or services to Western Electric. In all, they represented almost a third of the suppliers in the North and South Dakota and Minnesota area that sold the Company a total of \$16,500,000's worth of goods and services last year.

The suppliers were the special guests during the first two days of a week-long Open House. After breakfasting on scrambled eggs, sausage and coffee they were shown through the shop and warehouse areas, saw informational displays and watched WE people at work.

Mike Northrup welcomed them. "We have excellent facilities here, but they're not worth a nickel without the people who run them," he said. "I'm proud of our people. They—and you—help make possible the world's best telephone system."

One immediate result of the visit was that two young business men named Richard Sappa and Robert Kjorsvig made what may be an important discovery for their company and for Western Electric. During the tour they saw, for the first time, how a piece part they supply is used, and they came up with an idea as to how that product might be modified to reduce WE's production costs. They and the Company are currently considering the suggestion. If it proves successful it may mean considerable savings for Western Electric and increased orders for the small firm they head in Minneapolis, Prestige Products.

The Open House wasn't all business. There were visits, during the week, by civic and service organizations, business leaders and others. Neighbors who lived nearby received personal invitations. Lt. Gov. Keith and Mayor Naftalin attended.

The final two nights were reserved for the House's 475 employees, their families and friends. Attendance for those nights totaled 1400, as employees showed their guests how they help the Northwestern Bell Telephone Company do its job.

Old-Kashioned Christmas Call (a new look)



Old Fashioned Chiristmas Call (the old look)

New or old, cranked or dialed, the warmth of a Christmas telephone call remains the same—but phones and fashions haven't. For a little Christmas fun, WE magazine posed (preceding page) an up-to-date young lady, Janet Dabrowski of Headquarters, with a replica of an old-fashioned phone. The cards with Christmas callers on this page are authentic reminders of a past era.















A Christmas greeting from 'the old country' can still be heard at Allentown



CAISTOS AAZDAETCHA!





Arriving at Betty and Ted's home for Christmas Eve are Helen Telepchak, Karen (center) and Kathy.

Pennsylvania was founded on the principle of religious liberty and from its earliest days has been the home of men and women of many faiths and cultures. Among them have been Eastern Europeans who worshipped at Orthodox churches in the old country and who brought their faith and traditions with them.

Christmas, for these people, falls not on December 25 but on January 7. (The reason has its roots in early church history. The Orthodox church date is based on the Julian Calendar of Roman times which was in effect until the 16th century; the December 25 observance comes from the modern Gregorian calendar that was adopted under Pope Gregory.)

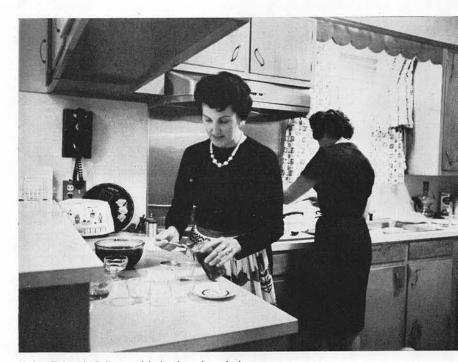
Instead of "Merry Christmas" the Orthodox Christians say "Christos Razhdaetcya," Russian for "Christ is born." The reply is "Slavite Eho"—"Glorify Him." (The spelling here is phonetic, as must be any rendering of Russian into our alphabet, and the lettering of the title at left is merely phonetics with a Russian look—not the real Russian alphabet which would be totally unpronounceable to the English reader.)

The "old country" seems farther away nowadays, as the older generations give way to Americanized children and grandchildren, and the old Orthodox customs are not observed as widely as they once were. But there are still many thousands of Pennsylvania families who still say Christos Razhdaetcya and who join together for the traditional 12-course dinner that begins when the first star starts to shine on the evening of January 6, their Christmas Eve.

There are estimated to be 25,000 Orthodox Christians in Pennsylvania's Lehigh Valley, including several who are employed at Western Electric's Allentown Works. Among this latter group are Betty and Ted Fedora, and WE magazine's photographer



Karen (who was six when this picture was taken last year) and Kathy, then eight, are the godchildren as well as the nieces of Betty and Ted Fedora.



Helen Telepchak (in rear) helps her sister-in-law, Betty Fedora, to prepare the traditional 12-course dinner served by Orthodox Christians on Christmas Eve.

visited them last Christmas Eve. Betty's parents came from the Ukraine, Ted's from Galicia.

On the job at the big electronics plant, Betty and Ted seem far removed from the ways of the old world. He is a layout operator in miniature diodes and she tests transistors. Nevertheless they cherish the faith into which they were born, and are members of the Russian Orthodox Church in nearby Bethlehem.

"Both of us were brought up in the coal country, up in the mountains," Ted explained. "There were a

On Orthodox Christmas Eve, January 6, Betty and Ted are anointed by the Rev. Adam Krell after the service at the Russian Orthodox Church.



Ted Fedora cuts the traditional round loaf of bread served at the Christmas meal. Around the table, from left, are Kathy, Helen Telepchak, Ted, Karen and Betty.



Kathy Telepchak dips a piece of bread into honey. Each of the 12 courses of the ritualistic dinner have special meaning to members of the Eastern Orthodox church.

good many Orthodox families in those communities then, and the January 7 Christmas and the carolling and all that goes with it have meant a lot to us for as long as we can remember."

Although they were both brought up in the "coal country," and not very far from each other, they didn't meet until after Ted had moved away. Betty came from Nesquehoning, Pa. (Some of Pennsylvania's towns are as hard to spell as its Christmas greetings) and Ted lived nearby in Lansford. He left home to serve in the Army, and then, upon his return, got a job in the WE Works which was just opening in Allentown, and found himself quarters in a local rooming house. On weekends he often visited his parents in Lansford and on one of these weekends at a wedding reception he met a girl from Nesquehoning. Soon afterward they were married. That was 15 years ago, and for all but the first few months of their married years Betty has also been working at Western Electric.

On January 6 last year, the Fedoras were joined—as they had been on many Christmas Eves before—by Betty's sister, Helen Telepchak, her husband and their two daughters, Kathy, who is nine, and six-year-old Karen.

When the Telepchaks arrived, after the greetings were over, Helen joined Betty in the kitchen to help prepare the 12-course dinner. It is a fast day in the church ritual sense of the word—not a sumptuous repast—but nonetheless the dinner takes a lot of preparation, some of which Betty had begun days before.

There was honey and garlic to start the meal; honey symbolic of the sweetness in Christ's life, garlic for the bitterness. No meat was included because it was a fast day, but instead there was cabbage, potatoes, mushroom soup, fish and peas. There were unusual Eastern dishes, like pirohi, which is dough stuffed with cabbage or other filling. And there was the traditional round loaf of bread, the paplonock that is broken at the start of the meal.

At the appearance of the first evening star the family, after a prayer, sat down to the table. After the meal they went to St. Nicholas Russian Orthodox Church for a special Christmas Eve service. There, as they gathered with old friends from miles around, the greeting and response was heard over and over again: "Christos Razhdaetcya—Slavite Eho."

Betty and Ted both sing in the choir of St. Nicholas Church in Bethlem, Pa., which is next door to Allentown. Bethlehem, for its customs, lights and music, prides itself as "The Christmas City." On Christmas and on the following day the St. Nicholas choir visits the families of the congregation, singing Christmas carols extolling the birth of Christ and songs wishing the members of the families many years of health and happiness. Each household has a table spread with Christimas delicacies for the carolers.

briefs & sidelights



The trains on display

Hand of Authority

Take a close look at the picture at the bottom of this page.

What's bugging the little boy in the center is that hand which is protecting the big (Western Electric made) Call Director® telephone on the desk. There is one other clue as to what's going on here; the medal on the lapel of the man in the background.

That man and the little boy's father had made space history as the Gemini twins, Astronauts Conrad and Cooper, and had been called to the White House for a ceremony. Things got dull and Tommy Conrad saw all those buttons . . .

You guessed it. The hand that stopped Tommy's fun—who knows, maybe he'd have been the first eight-year-old in history to call a Cabinet meeting—belongs to the President of the United States.

He Shares His Hobby

People come for miles around, during the holiday season, to see Edward Ritthamel's annual Christmas model railroad display. A Hawthorne Works employee, he has been a railroad buff for more than 30 years. He started putting up the collection in the living room each year, and now it almost fills the place. There were twelve sets of tracks on view last year, when this picture was taken. That's chief engineer Ritthamel in the rear, with his sons Edward Jr. and Raymond.

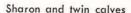
Still Going Round

Echo I, the delight of satellitewatchers, is still in orbit, a balloon as big as an apartment house hurtling round and round the globe.

Scientifically, Echo has lost the novelty and usefulness it had five years ago when it ushered in the era of space communications by bouncing a broadcast by President Eisenhower from coast to coast. Then it was a smooth, silvery plastic sphere; today it is wrinkled and riddled by micro-meteorites.

But it's still up there, confounding early experts who predicted it would be through within a year or two. It will be several years, at least, before the gradually shrinking orbits swing low enough for the 100-foot balloon to burn up in the earth's atmosphere.

Meanwhile, skywatchers who look up the data on the big satellite's time and direction (it's still listed under "visible Satellites" in the *New York Times*) can still see Echo sweeping through the heavens.





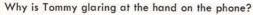
Fairest at the Fair

There was a song writer who asked: How can you keep 'em down on the farm after they've seen Paree? We've got an answer for him. A few more pictures like this one (above) and the population shift will be shifting back to the farm again.

So before you start to pack we'd better explain that Sharon Belanger isn't really a farm girl; she works in the multiple-wound and spool coil department at WE's Merrimack Valley Works. She was admiring these newborn twin calves at an annual New England event, the Topsfield Country Fair.

Cuties and Cake

Pretty Barbara Remenciak, Hawthorne Works' beauty queen, took the cake at a get-acquainted luncheon given by the folks at the Illinois Bell







Hawthorne Works' beauty queen goes to a party

Telephone Company. The queen and her attendants were treated to a royal tour of one of the company's central offices and a business office. The purpose was to let both telephone and Western Electric people get a better idea of what their Bell System "cousins" were doing in Illinois.

The lovely guests were a big hit and their hosts gallantly agreed at the luncheon that the cake couldn't hold a candle to Barbara.

Change the y to i

Sharp-eved readers of last month's issue have called our attention to a suspected spelling error on the back cover which carried a Thanksgiving picture credited to the Plimoth Plantation.

No error. The organization which has reconstructed the colony at Cape Cod has taken the historic spelling used by the first settlers themselves. So, don't blame us, put ye blame on ye olde-tyme Pylgrims.

Believe It or Not

Call Don Breininger a liar and he just beams with a smile as broad as a Pennsylvania Dutch barn door. Don, an employee at the Allentown Works, is the biggest liar in the Lehigh Valley. He won this coveted title at the eighth annual Pennsylvania Dutch Tall Stories Contest.

Spinning his yarns in "Plain Folk" dialect, Don topped all other tall stories with accounts of his family's fishing and hunting exploits. Seems

Don is the second from left



his sister caught three mackerel which were so large they fed the family for two summers and three winters. And he once shot 39 wildcats with the same bullet which kept ricochetting back into the rifle.

Don says he also won the title last year and was the first man to win two years in a row.

We're checking on that. So good he tells stories he could make us a fool out.

Look what Dave pulled up



Somebody Drop an Anchor?

Dave Norman, of the Buffalo Plant, was snorkeling along the Niagara River when he floated across this treasure: a 7-foot, 1,500 pound iron anchor. Following the natural instincts of a scuba diver, he wrestled the prize ashore with the help of other divers.

Don has been unable, so far, to determine where the anchor came from. Other discoveries include champagne and liquor bottles with the contents intact and a 10-foot cannon.

Editor: Robert C. Boardman Managing Editor: Robert P. Carey

Feature Editor: Roy Morser Contributing Editor: Edward H. Spencer

Art Editor: Henry Hoyer

Design: Tom McQuillen Photography: Morris Gordon Production: Ernest J. Dougherty

Editorial Assistant: Mary McNair

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Pages 2-5, Bruce McAllister; pp. 7-11 Leonard Stern; pp. 12-13, NORAD; pp. 16-19, The Transmitter; p. 20, D. L. Thomas; pp. 22-23, top left, Bob Perry; top right, Harold Resnick; cen-ter, Leonard Stern; right, Jim Chasse; p. 24, Leonard Stern; p. 25, Bernie Aumuller; pp. 28-30, Bernie Aumuller; p. 31, top, Chicago Daily News; bot-tom, Washington Evening Star; right, Jim Chasse; p. 30, top, Illinois Bell Jim Chasse; p. 30, top, Illinois Bell News; right, Tonawire News; bottom, Allentown Call-Chronicle; Back Cover, D. L. Thomas.

WESTERN ELECTRIC COMPANY, INC. 195 Broadway, New York 10007

48 HOURS LATER IT WAS HANDLING TELEPHONE CALLS.

The tornadoes that swept across five Midwestern states on a Sunday afternoon last April left a trail of chaos. Among the wreckage was Bell telephone equipment that served thousands of people. The community dial office in Russiaville, Indiana, for example, was almost totally destroyed.

Almost before the winds had died down, Bell System teams were at work restoring communications to the hard-hit regions. Western Electric installers worked around the clock with Bell telephone company emergency crews. Equipment was flown in from as far away as the West Coast. Temporary phone service in Russiaville and throughout the devastated areas was restored within hours.

Permanent reconstruction was under way within a few days.

Such teamwork comes naturally to Western Electric people. It's our normal way of operating as the manufacturing unit of the Bell System. Has been, since 1882. It is just such teamwork that has built the unified nationwide Bell System communications network.

Western Electric works closely with the people at Bell Telephone Laboratories, designers of much of the equipment we make. And we work as closely with the Bell telephone companies, furnishing and installing central office equipment. This is one of the reasons the Bell System is able to bring you the finest telephone service on earth.







SEASON FOR SHARING

Sharing the joys of Christmas extends beyond family and friends for many WE people. At just about every WE location the holiday is observed with gift collections and parties for the underprivileged such as this annual affair given by employees of the Washington Distributing House for children at the Central Union Mission in Washington, D.C.