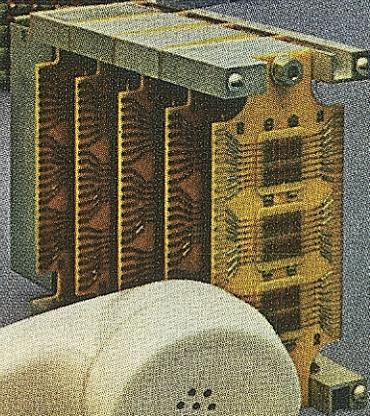
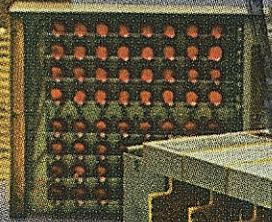
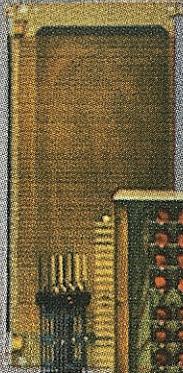


Annual Report 1964

Soc
HE
8846
A51



American Telephone and Telegraph Company



ON THE COVER

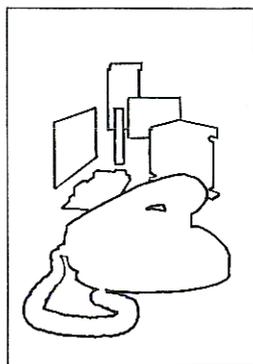
Behind the telephone are the six main types of equipment used in the Bell System's first electronic central office in regular commercial service. This will go into operation in Succasunna, N. J., in 1965.

Each unit shown is used in quantity and each, in turn, contains many components—all told there are more than 450,000 components in the Succasunna office. What cannot be pictured is the "program" that governs their working together.

The narrow device in the center keeps continuous electronic watch, so to speak, over customers' lines. In front of this is one of the transistorized electronic logic networks that operate the system in accordance with customers' commands.

To the left and rear are magnetic memory devices. One contains, and the other "reads out," information needed to complete calls. Next, continuing clockwise, is an array of the switches that make connections as the logic circuits direct; and last is another memory device that temporarily keeps track of successive steps in the handling of each call.

Electronic central offices have a vast capacity to store information and they operate in millionths of a second. Hence they can do more work in less time and provide extraordinarily versatile service with maximum economy. Year by year, numbers of Bell System exchanges will be changed to electronic operation, so that all-electronic service may be accomplished in orderly fashion during the decades ahead. Western Electric is now building up production of electronic switching apparatus. Bell Telephone Laboratories has pioneered electronic switching technology and will continue to improve it.



ANNUAL MEETING OF SHARE OWNERS

The eightieth annual meeting of the share owners will be held at 2 p.m., April 21, 1965, at Convention Hall, 34th Street and Convention Avenue, Philadelphia, Pennsylvania.

Annual Report 1964

CONTENTS

Board of Directors	2
Officers	3
Condensed Report	4
Report Text	6
Regulation and Earnings	8
Service Developments	10
Research	16
Western Electric Results	17
Electronic Switching	19
Defense Activities	20
The Human Effort	21
Share Owners	23
Bell System Map and Statistics	25
Report of Public Accountants	26
Bell System Companies	27
Balance Sheets	28
Income Statements	30
Notes to Financial Statements	32

This report reviews the work of American Telephone and Telegraph Company and its associated companies in the Bell System (listed on page 27). The companies provide service in all states except Alaska and Hawaii, and Bell System lines connect with other telephone systems in this country and throughout the world. Annual reports of all the Bell telephone companies, and of Western Electric Company, manufacturing and supply unit of the Bell System, are available on request, and share owners who are blind may obtain the A. T. & T. report in braille or on talking records. Kindly address requests to the Secretary.

AMERICAN TELEPHONE AND TELEGRAPH COMPANY
195 Broadway, New York, N. Y. 10007 Telephone: 212 393-9800

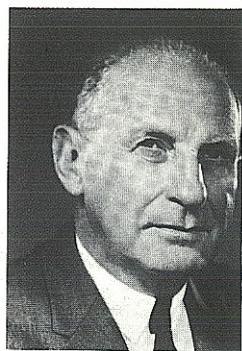
The company maintains stock transfer offices at the address above and also at 185 Franklin St., Boston, Mass. 02107; 212 West Washington St., Chicago, Ill. 60606; and 140 New Montgomery St., San Francisco, Cal. 94105.



WILLIAM M. BATTEN
Chairman of the Board
J. C. Penney Company

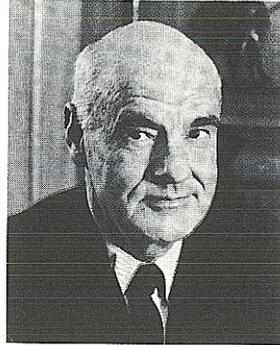


LOYD D. BRACE
Chairman of the Board
The First National Bank
of Boston



JAMES E. DINGMAN
Vice Chairman of the Board

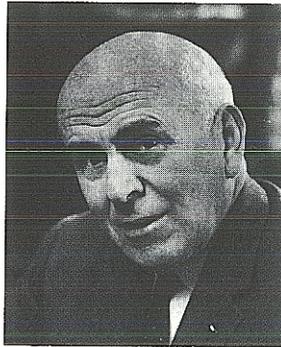
**BOARD OF
DIRECTORS**



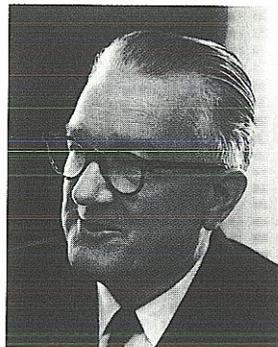
J. VICTOR HERD
Chairman of the Boards
The Continental
Insurance Companies



WILLIAM A. HEWITT
Chairman, Deere & Company



JOHN J. MCCLOY
Partner,
Milbank, Tweed,
Hadley & McCloy



EUGENE J. McNEELY
Retired President
of the Company



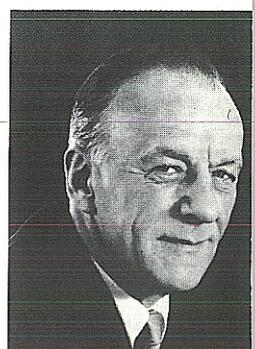
J. IRWIN MILLER
Chairman of the Board
Cummins Engine
Company, Inc.



MONROE J. RATHBONE
Chairman,
Standard Oil Company
(New Jersey)



H. I. ROMNES
President

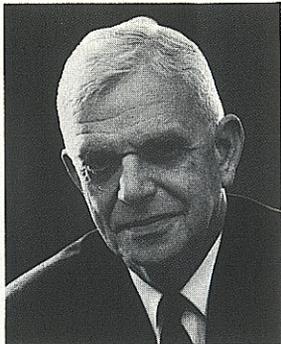


GEORGE F. SMITH
Consultant,
retired President
Johnson & Johnson

OFFICERS



EDWARD B. HANIFY
Partner, Ropes & Gray



HENRY T. HEALD
President,
The Ford Foundation



FREDERICK R. KAPPEL
Chairman of the Board



JAMES R. KILLIAN, JR.
Chairman of the Corporation
Massachusetts Institute
of Technology



WILLIAM B. MURPHY
President,
Campbell Soup Company



THOMAS F. PATTON
Chairman and President
Republic Steel Corporation



JAY TAYLOR
Owner,
Taylor Cattle Company



WILLIAM WHITE
President, The Delaware
and Hudson Company
and Chairman, Erie-Lackawanna
Railroad Company

CHAIRMAN OF THE BOARD

Frederick R. Kappel

PRESIDENT

H. I. Romnes

VICE CHAIRMAN OF THE BOARD

James E. Dingman

EXECUTIVE VICE PRESIDENTS

Frederick R. Eckley

Cornelius W. Owens

VICE PRESIDENTS

George L. Best

James W. Cook

Horace P. Moulton

Edward B. Crosland

Gordon N. Thayer

Walter K. MacAdam

Prescott C. Mabon

Lloyd S. Miller

Richard R. Hough

Lowell F. Wingert

Hubert L. Kertz

Robert M. Wachob

Benjamin H. Oliver, Jr.

Angus S. Alston

VICE PRESIDENT AND COMPTROLLER

Alexander L. Stott

VICE PRESIDENT AND TREASURER

John J. Scanlon

VICE PRESIDENT AND SECRETARY

Charles E. Wampler

Bell System Financial Summary

1964

Condensed Report

GROWTH

1964 was a year of many-sided growth. Earnings of \$3.24 per A. T. & T. share were 6.9 per cent above 1963.* The quarterly dividend was raised 11 per cent, from 45 to 50 cents a share, effective April 1. Telephones increased 3,425,000, about 5 per cent, and long distance conversations almost 10 per cent. Bell System revenues were up almost 8 per cent over 1963, net income applicable to A. T. & T. stock 12 per cent, the average number of shares about 5 per cent, and the number of share owners nearly 19 per cent. The rate of return on total capital was just slightly above 1963 results.

FINANCING

More than \$1.2 billion was obtained from the offering of additional stock to share owners last spring. Also, during the year the number of owners increased from 2,251,000 to 2,674,000. We are sure the dividend increase and two-for-one stock split made effective in 1964 were important to these results. Additional capital was obtained through employee purchases of

shares under the employees' stock plan, and from sale of two debt issues by subsidiary companies. Total new financing was \$1,786,000,000, a record high for any year.

CONSTRUCTION

Construction expenditures were \$3½ billion, 12 per cent above the previous high in 1963. Bell System employees rose to 761,611, an increase of 28,473. Wage rates were again raised in keeping with general community wage levels.

TAXES

Taxes on operations reached an all-time high of \$2,382,809,000. This was equal to \$33.92 per telephone and \$4.49 per share of A. T. & T. stock. In addition, customers paid \$818,000,000 in Federal excise taxes. Taking these amounts together, taxes on Bell System service aggregated almost 5 per cent more than in 1963, notwithstanding the 1964 reduction in the Federal corporate income tax rate from 52 to 50 per cent. Indications are that the public regards telephone excise taxes as particularly objectionable and we have again expressed to Congress our strong belief that they should be removed.

**All information regarding A. T. & T. shares, earnings, and dividends per share is in terms of the new shares following the two-for-one stock split effective at the close of business May 28, 1964.*

	1964	1963
Operating Revenues and Other Income	\$10,566,948,000	\$9,776,539,000
Operating Expenses	\$6,125,738,000	\$5,611,856,000
Taxes	\$2,382,809,000	\$2,302,006,000
Interest Deductions	\$347,778,000	\$335,319,000
Net Income	\$1,710,623,000	\$1,527,358,000
Applicable to Minority Interests	\$52,017,000	\$47,841,000
Applicable to A. T. & T. Stock	\$1,658,606,000	\$1,479,517,000
NET INCOME PER A. T. & T. Share	\$3.24*	\$3.03*

*Based on 512,047,000 average shares outstanding in 1964 and 488,203,000 in 1963.

SERVICE IMPROVEMENT

The new, optional *Touch-Tone*[®] service, using push-buttons instead of dials, was introduced in some 200 localities with excellent results. Direct Distance Dialing service was further expanded and improved. We are working diligently to reach higher levels of performance in our installation and repair service—in coin telephone service—in all business dealings with customers. The success of the business depends on our customers' good opinion of their experience with us, and our constant goal is to render service that is first-rate by **their** standards, as well as our own.

EQUIPMENT MANUFACTURE

Western Electric in June announced price reductions of \$44 million, on an annual basis, on its manufactures for the Bell System. The company is fast building up manufacture of electronic switching equipment, which requires mass production to unprecedented standards of reliability. The progress being achieved would not be possible without close and constant collaboration between the telephone companies, the manufacturer, and the developer, Bell Telephone Laboratories.

®Registered mark

INTERSTATE RATES

In November, following discussions with the Federal Communications Commission, we agreed to interstate long distance rate reductions, the greater part of which became effective February 1, 1965. The Commission has assured us that this action does not establish a ceiling for future earnings. We expect growth in the economy, and operating efficiencies, will renew the upward trend of profits on this business.

OVERSEAS SERVICE

In June the Company purchased 2,895,750 shares of common stock of Communications Satellite Corporation (COMSAT) as authorized by the F.C.C., at the offering price of \$20 per share. Three representatives of the Company serve on COMSAT's Board of Directors of fifteen. If, as we hope, COMSAT is ready to provide satisfactory satellite circuits when they are needed in the future, and at reasonable cost, we plan to use such circuits to supplement ocean cables in providing overseas telephone service. In 1964, new telephone cables were placed in service between Hawaii-Japan, California-Hawaii (a second cable), Guam-Philippines, and Florida-St. Thomas, V.I.

REPORT TO THE SHARE OWNERS

As the preceding pages tell, 1964 was a successful year financially; a year also of exceptional growth in service.

It was a year of unprecedented construction to meet the nation's current and oncoming communication needs.

It was a year when hurricanes battered the South—floods spread destruction in Washington, Oregon, and California—and Bell System people again went all out to maintain vital communications and restore normal service.

It was a year when our first electronic central office designed for regular commercial operation was brought to the threshold of use.

It was a year when we placed in service the final leg of a coast-to-coast, blast-resistant underground cable system that can handle 9,300 conversations at a time. This gives increased assurance that essential cross-country communications will be maintained under the most difficult conditions.

Many other developments of 1964 will, we think, interest the share owners and encourage them too. First, however, we shall discuss the general situation of the business with respect to revenues, taxes and profits; and the broad outlook ahead in the light of demands for ser-

vice, regulatory attitudes, and changing technology.

To begin with, there is no doubt that the country wants more and more of what we have to sell. The rate of growth may vary, but communications are increasingly needed, the arts of communicating continue to improve, and the service costs less than it used to in relation to the incomes of most people. So, as the country grows, our business will surely grow with it; and it should be said also that dynamic communication services themselves make an important contribution to the nation's economic growth.

How? By saving costs and saving time. By helping individuals and organizations function more efficiently. The Bell System is constantly studying the communication needs of other businesses, large and small, and we are intent on providing services that will be increasingly valuable to Americans in every walk of life. We believe these efforts have been fruitful and we are confident that new and improving services can contribute even more to the country's economic progress in the future, provided regulation allows us to maintain good earnings (and does not penalize the striving for



SERVICE REPRESENTATIVE

The girl in the telephone business office represents the company to the customer and so we call her "service representative," or "service rep" for short. The Bell companies are giving particular attention to the selection and training of service representatives so that individual needs will be met promptly and courteously whenever customers call or visit a telephone business office.



STORMS HIT HARD IN '64

It was a year of storms and floods — the worst since 1960. Bell System people converged on the stricken areas in the South and Pacific Northwest. When hurricanes struck Florida and Louisiana, help came from as far away as Illinois. Western Electric provided mountains of supplies. Once again the value of Bell System organization was clear — also the importance of financial strength, for the cost exceeded \$10 million.

efficiency that is so important in producing profits); and provided also that the nationwide drive for higher wages every year does not generate renewed inflation.

Regulation and Earnings

With reduction of the corporate income tax rate from 52 to 50 per cent in 1964, and to 48 per cent in 1965, the Bell companies announced that if the regulatory commissions would allow them to put their tax savings to work in the business, they would increase construction and other expenditures that make communication services more useful and more wanted, increase employment, and help to achieve the economic stimulation the tax cut was aimed at.

In most states, although not in all of them, the commissions have given thoughtful consideration to this view. While numerous rate adjustments have been made, the Bell System has been able to finance additional construction and service improvement programs, and we have succeeded in maintaining an average return on investment just a shade better than in 1963 notwithstanding higher employment costs.

The significance of the lowering of the Federal corporate income tax rate, modest as the reduction is, ought not to

be forgotten. Its stated purpose is to give business a better profit opportunity and thereby encourage capital investment, which is a prime necessity for economic growth. Most regulatory commissions, as we have indicated, take a thoughtful and constructive view. A few, however, have a restrictive attitude that seems decidedly inconsistent with government efforts to stimulate the economy.

In California, for example, where earnings have long been low, the commission last spring ordered the Pacific Telephone and Telegraph Company to reduce rates and to refund certain amounts earned in the previous two years. Pacific Telephone is contesting this order in court.

Earnings on interstate long distance business showed an upward trend in 1964. The Federal Communications Commission keeps these earnings under continuous surveillance, and following an extensive review, the Bell System companies agreed to institute certain rate reductions early in 1965. As a result, since February 1 the maximum rate for a three-minute interstate station-to-station call anywhere in the continental United States has been only \$1 all day Sunday and after 8 p.m. on other days, and \$1.50 all day Saturday and from 6 to 8 p.m. on other weekdays. Rates have also



been reduced between the mainland and Hawaii. These new rates represent a reduction in charges of \$75 million a year, and other reductions totaling \$25 million annually will be placed in effect about April 1.

Successful Cost-Cutting

Historically, telephone technology has been particularly successful in reducing the costs of long-haul service. Fifty years ago, when transcontinental service was inaugurated, the rate for a three-minute New York-San Francisco call was \$20.70. Since then there have been 21 reductions in interstate rates, and since 1940 alone the effect has been to save the public, at the current level of use, more than \$790,000,000 annually. The present reductions, therefore, are the latest in a long series. We hope they will further popularize long distance services, and also move many calls into the weekends and other hours when the lines are less crowded.

While the cuts in long-haul charges through the years have been dramatic, we have worked just as hard to hold down the price of basic local service; and as personal income levels have risen, the cost of having a telephone has become a much smaller part of the average

family budget. Clearly the gain of 3,425,000 telephones in 1964 reflects a scale of prices that the public finds attractive. Twenty-five years ago the average factory worker in the United States needed to work over five and a half hours to pay for his home telephone for a month. Today he has to work only a little over two hours to pay this bill and the number of other telephones he can reach without toll charges is far greater.

Nowadays, in addition, the telephone user finds many optional service conveniences available at moderate cost—extension telephones, *Princess*® phones with lighted dials, and many others. In fact, in millions of households today, service that includes these conveniences costs less in relation to income than the single home telephone of a generation ago. At the same time, the basic service has come within the economic reach of more and more people, so that more than four out of five households now have telephones compared with less than two out of five households 25 years ago.

We shall continue to urge that the best assurance of telephone progress—of progressively better service at moderate price—will come from telephone earnings that are reasonably comparable with the earnings of nonregulated companies.



COMMUNICATIONS FOR CANDIDATES

Installing service in advance of one of the national political conventions of 1964. The conventions, the campaign, and the reporting of election results all required extensive communication services and these were provided promptly and completely.

We continue to urge also that both taxing and regulatory authorities should allow depreciation charges that recognize the lower purchasing power of today's dollar. Although in recent years the decline in the dollar's value has slowed considerably, much of the total investment in industry was made when each dollar was worth much more. Hence depreciation allowances limited to the number of dollars originally invested cannot recover the true cost of the investment being consumed. In our judgment the tax law should permit recovery, through depreciation, of the full purchasing power of each dollar invested.

The intent to cut Federal excise taxes is being widely discussed in Washington. We think the excise tax on telephone service, which last year came to nearly \$12 per telephone, should be repealed. Again in 1964 we testified to this effect before the House Ways and Means Committee. This is a tax on an essential service. It bears heavily on lower income groups. Repeal would immediately reduce the telephone bills of all users.

Good Progress in Service

Last year saw further steps forward in service. The proportion of residence customers who have individual lines

(rather than party lines) rose above 70 per cent. More than 1,300,000 residence extension telephones were added. Again in numerous communities we enlarged local calling areas so that people could talk to more people without toll charges. Transmission quality or "hearability" moved closer to the goal of making each conversation as easy as talking face to face.

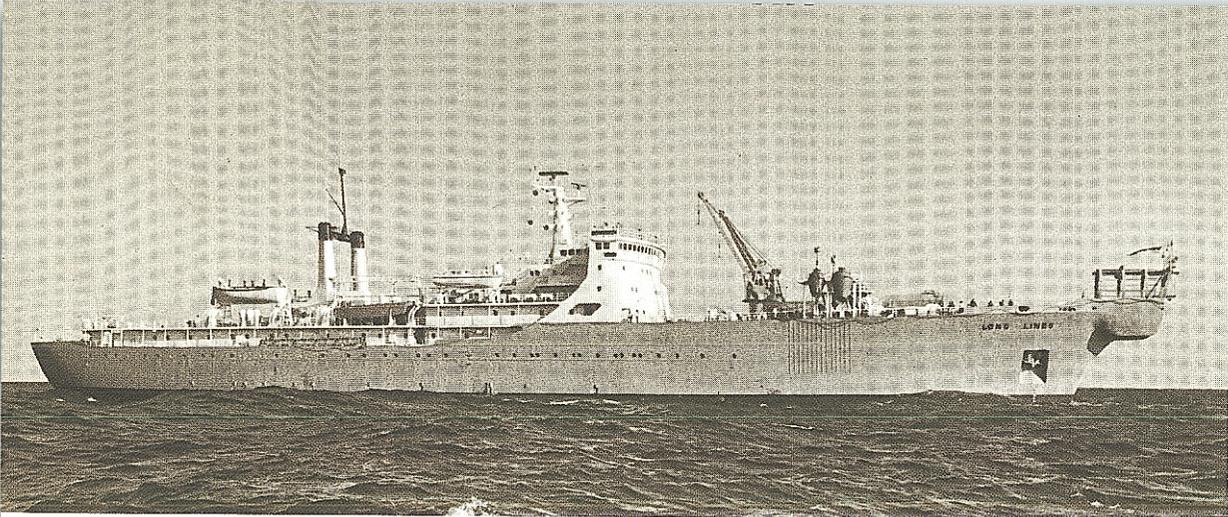
Two new developments further illustrate our constant striving for economy and reliability of service. A new form of aerial cable, with telephone wires and supporting strand all sealed in a single jacket, can be economically installed and is highly storm-proof. Also, we have completed trials of a new system that will maintain higher pressures of dry air within cables, keep moisture out more effectively, and so provide greater assurance of trouble-free service.

Touch-Tone service looks like a smash hit. This service enables the user to call by pressing buttons instead of dialing, and cuts the usual dialing time in half. *Touch-Tone* service was offered in 1964 (at moderate extra cost) in some 200 localities where about five per cent of our customers are located. Indications are that nearly one out of ten wants this optional service within a year from the



TOUCH-TONE® SERVICE IN 200 LOCALITIES

Installer has placed this wall-mounted Touch-Tone telephone just where the lady wants it. Sets are available in different styles and colors, and there is only a single moderate Touch-Tone charge per month covering all telephones in the house.



time it is offered. To provide the service we must modify the local central office equipment. In 1965 we expect to modify offices that serve another ten per cent of our customers, and by 1970 we hope to offer *Touch-Tone* service to 80 per cent of all Bell telephone users.

This service will also have another important capability. After a call is set up, one may then press the keys or buttons to send information to a computer, or query the computer, which can send back a recorded answer. This will be a simple, swift way to record transactions, order supplies, transfer funds to pay bills, and so on. We expect that in some places, *Touch-Tone* telephones may be used in this manner as early as 1966.

In Boston, Cleveland, New York, and Springfield, Mo., many telephone operators are now using new electronic consoles to assist customers who dial person-to-person or "collect" long distance calls, long distance calls from coin telephones, credit card calls, and other calls that require some operator assistance. In the next 15 to 20 years such consoles will probably replace all present long distance switchboards. They permit much faster, more efficient service—and provide very pleasant working conditions for the operators as well.

Business organizations are now using nearly 19,000 lines over which they can place long distance calls at monthly rates, instead of each call being charged separately. The F.C.C. has had this Wide Area Telephone Service (WATS) under investigation but the Common Carrier Bureau of the Commission recently recommended that the investigation end and the rates for the service remain in effect, subject to informal study. We say three cheers for this recommendation.

In 1961 we introduced another new service, called Telpak, to meet the need of many concerns (and government as well) to send bulk communications between fixed points. Already our Telpak customers are using the equivalent of 17 million miles of voice channels. A recent decision of the F.C.C., however, would rule out important parts of this offering. We are certain that such service is useful and even vital to many users and we shall continue to make every effort to meet their needs.

Data Communications

New developments are continuing to broaden the usefulness of data communications. We have successfully tried out several devices for transmitting electrocardiograms, including one that a

CABLE SHIP "LONG LINES" AT SEA

Our cable ship Long Lines in 1964 laid 10,400 nautical miles of ocean cable, far more than any cable ship has ever done before in a single year. At the right, the ship is about to pick up the buoyed end of a cable coming from the Florida shore, 4 miles away. With this spliced to the cable on board, the Long Lines then proceeded to lay a 1,200-mile span to St. Thomas, Virgin Islands.



doctor can connect to any home telephone to send a tracing of his patient's heartbeats to a medical center for immediate diagnosis. Another new device introduced in 1964 will place calls automatically—so that a data processing center, for example, can connect itself to business machines at other locations and they can send in their information (also automatically). Another new equipment transmits meter readings of highway traffic, river levels, weather conditions, and many other kinds of information. A book on the role of data communications in business information systems is being prepared and will soon be made available to colleges that give courses in this field.

As our technical abilities grow we are stepping up efforts to make communication services more useful to handicapped people. Many unique arrangements have been devised to meet the needs of disabled men and women. Amplifying equipment, special bells, lights and other signaling devices, school-to-home service for bedridden students, and an electronic artificial larynx are all generally available. We are also studying possible modifications of telephone instruments so that, for example, a deaf person might be able to feel in his fingers let-

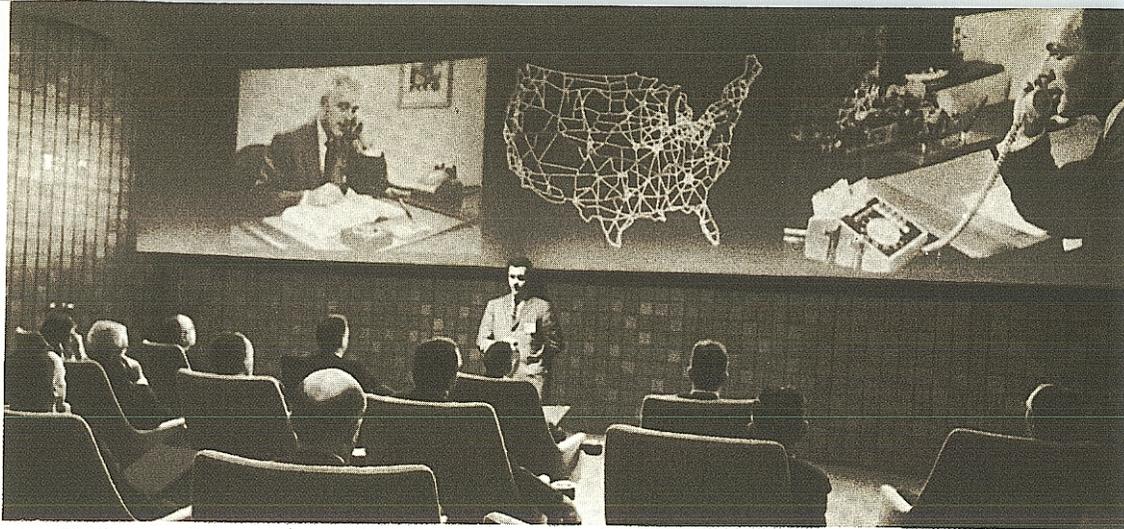
ters or words transmitted to him in code, or see them reproduced in front of him.

Picturephone* service, first demonstrated in 1964 at the New York World's Fair, was also offered for public use in June between three attended centers in New York, Washington, and Chicago. The service attracted much attention and we believe it has great potential usefulness, although its cost at present is a problem. The next phase is to conduct technical and market trials to guide decision on a broader service offering.

Both industry and government have fast-growing needs for large communication networks. In 1964 we provided new "switched networks," so-called, for several customers. The interconnecting lines are reserved for the exclusive use of each customer, but calls are switched through equipment that all use in common. The largest system of this kind, the Federal Telecommunication System, links 750,000 telephones that serve the Government in more than 400 cities. This was completed last summer, a year ahead of schedule.

By 1970 there may be as many as 50 big networks like these providing data as well as voice communications. The use of computers and other business

*Service mark



machines to centralize management control of far-flung operations requires great versatility in these systems, and electronic switching techniques will play an important part in their development.

Voice and Non-Voice Services

Here perhaps is an appropriate place to comment on the relationship between voice and so-called "record" communications. As indicated above, business and government need complete service that may include voice, pictures, and data. Also, distinctions between voice and record are becoming less and less clear-cut—for example, one might interrogate a computer by pressing the keys of a *Touch-Tone* telephone, and get a "voice" answer. In fact, all forms of information may be changed into pulses, then sent over a line, and reconstituted at the distant end. A system now under study at Bell Laboratories offers a good illustration. This sends 200 million pulses a second and can carry a mixture of TV, *Picturephone* signals, telephone conversations, and computer data.

Yet Western Union has proposed to the Federal Communications Commission that the telephone companies be limited to providing voice services only, and that the right to supply non-voice or combina-

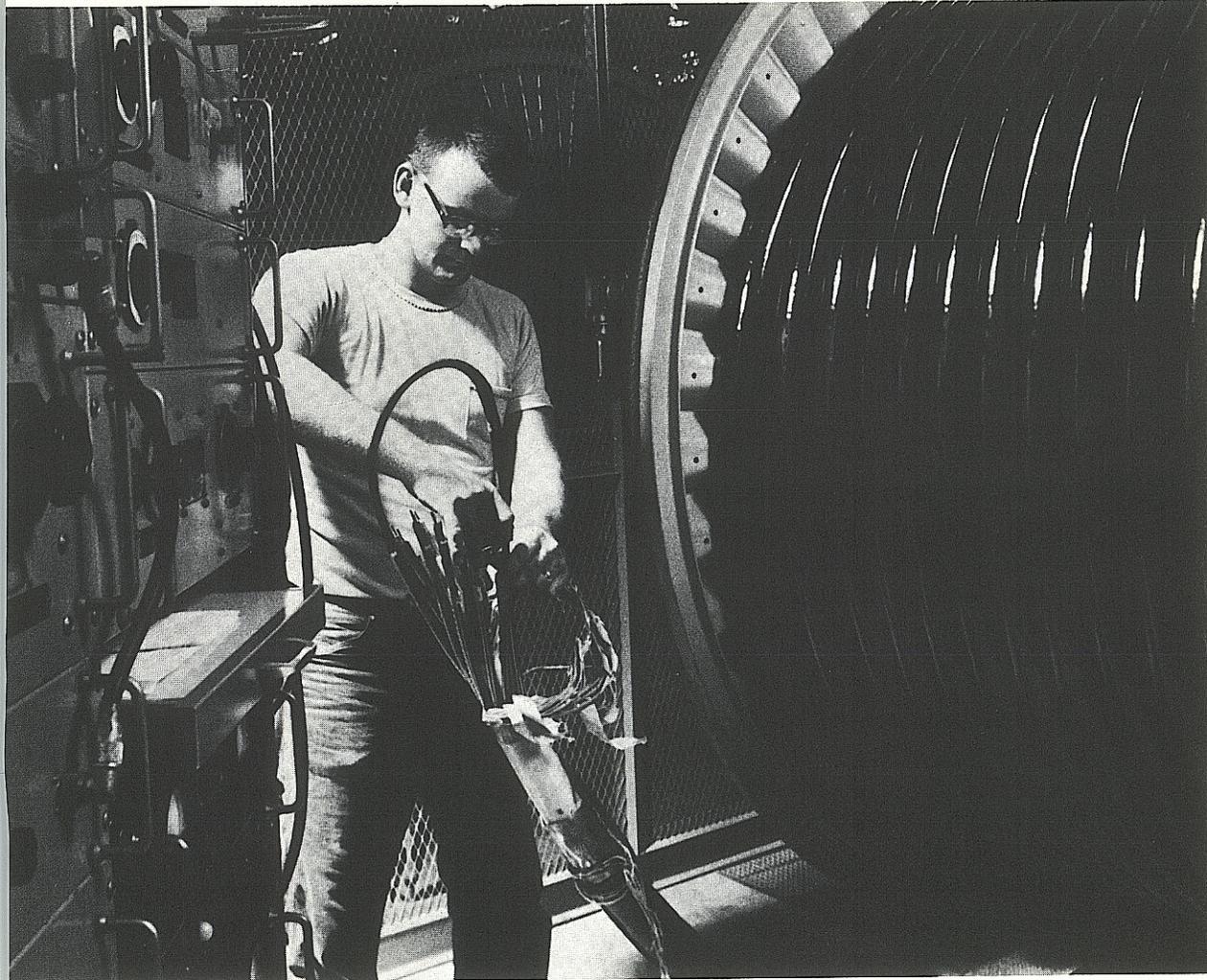
tion voice and non-voice services should be conferred on Western Union alone. This incredible suggestion is technically unsound, economically wrong, and contrary to the interests of communications users and the public in general.

In response to a request by the F.C.C., we are continuing discussions with Western Union as to its possible acquisition of Bell System teletypewriter exchange (TWX) service. However, we are not seeking to sell this part of our business and we are discussing the matter only because of the possibility that it might be shown to be in the broad public interest for Western Union to combine twx with its message telegram business. Also, we have been assured by the F.C.C. that the Commission will not construe such discussions as in any manner showing our acquiescence in, or approval of, any suggestion for separation of voice from non-voice communication in the domestic communications field; and we have further stated, to both Western Union and the Commission, that the conditions of any possible sale of twx can only be such as will protect the interests of our customers, employees, and share owners.

The pace of change in communications technology strongly emphasizes the fallacy of trying to manage progress by

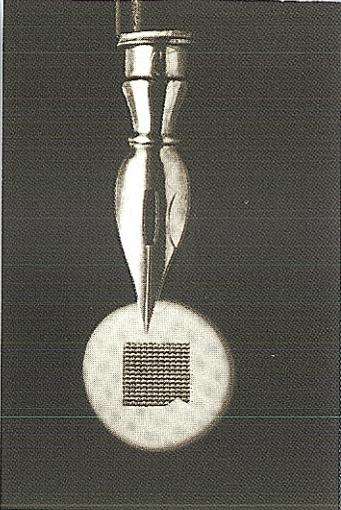
COMMUNICATIONS SEMINARS

Business leaders from all over the country are attending Bell System seminars in Chicago, where discussions center around the increasing role of communications in electronic data processing and business information systems. An equally important aspect of this subject is the training of our own people to serve as expert communications consultants, able to analyze the operations of our customers and recommend the communication services best suited to their needs.



THIS IS "CO-AX TWENTY"

Testing electrical characteristics of new 20-pipe coaxial cable made by Western Electric. Such cable can carry almost 17,000 conversations simultaneously. Now under development is a new transistorized system which, when applied to cables like this, will increase their capacity to some 32,000 simultaneous conversations.



"INTEGRATED" CIRCUITS

Circuits like these developed at Bell Laboratories may be widely used in telephone service. On the man's thumb is one kind now being considered for use in a business telephone system. The pen at far left points to a slice of silicon that contains nearly 150 circuits; each is equivalent to four transistors and five other components, and is complete with metallic interconnections.

walling it in. Our field is communications and we mean to stick to that, but to fragmentize the field artificially and set up arbitrary fences would be harmful rather than helpful to the public interest. Electronic switching, described in this report, is only one of the big steps into a wide, wide future; there are many other important developments as well.

Significant Research

Currently at Bell Laboratories, for example, scientists and engineers have made significant progress in laser research. They are learning to use gas (not glass) lenses to guide coherent light beams through a pipe, along which some day great numbers of communications might travel. They have devised new sources (both solids and gases) of continuous laser action. They have locked laser waves together to produce light beams exactly in step—modulated laser waves as radio waves are modulated—and sent television signals experimentally along a path of light.

Work at the Laboratories is also yielding new, more efficient magnetic memories that will doubtless supersede those being used in the first electronic switching systems. So-called "integrated" circuits (see pictures above) promise lower

costs and better performance in switching apparatus, in certain telephone and data sets, and in future transmission systems.

Other important new developments are referred to elsewhere in this report. This constant stream of new ideas helps to keep the whole organization alert and operates effectively against any tendencies to stand still.

A point of special interest is the expanding role of electronic data processing in research and development as well as in operations. Bell scientists and mathematicians have created new computer languages, so that more problems can be solved and answers obtained in the most useful form—including, for example, pictorial form. Today the designer of, say, a switching system, can actually see the performance of a tentative system, make changes, and quickly learn their effect. And in the day-to-day conduct of our business, electronic data processing is now employed in many, many ways.

Development engineers can transmit design information to Western Electric Company more rapidly and economically than ever before, and Western Electric itself has been able to improve materially its engineering and production meth-

COMPUTER PROGRAMMERS

A Bell Laboratories instructor discusses problem with employee-students taking three-year graduate-level course in computer program design and related fields. Study program is coordinated with work assignments for some 180 participating employees, including 60 women. More than 500 women are now engaged in technical work at Bell Laboratories.



ods. Electronic data processing has led to new operating procedures that improve performance of the long distance network under overload conditions, as on Christmas Day. We are using computers to help spot the best locations for new central offices; to help lay out the long distance network and also the networks of local telephone cables in growing communities; and to calculate the most economical coin telephone collection schedules.

Of increasing importance also, we are sure, will be the use of computer techniques to help determine the most practical services and combinations of services we can offer as the possibilities multiply; and what blend of services will give each large user of communications the biggest value for his money.

Western Electric Results

Western Electric sales in 1964 were \$3,118,000,000, an increase of \$285,000,000 over 1963. Sales to the Bell companies were \$2,558,000,000, or \$280,000,000 more than in 1963. Most of the balance was in sales to the Government. Western Electric earnings were \$152,771,000 compared with \$140,484,000 in the previous year.

Electronic switching equipment must

be manufactured in volume to unprecedented standards of reliability. The objective for an electronic central office is that the equipment will be inoperative not more than 15 minutes in 10 years. So far as we know there is no comparable standard anywhere in the world today. To turn out the equipment economically and with good speed, mass production methods must be developed; but, at the same time, there can be no loss of precision in the most delicate manufacturing operations. We are fortunate that we can rely on the close, continuous cooperation of Western Electric and Bell Laboratories, our own manufacturing and research and development organizations, for only with their teamwork and dedication to Bell System service goals can we expect to accomplish in the years ahead the progress we envision.

Western Electric's own Engineering Research Center has continued to pioneer new manufacturing processes. The company's service division has further strengthened its liaison with the telephone companies and also with Bell Laboratories design groups. Manufacturing cost reductions in 1964, and economies in purchasing and transportation, resulted in annual savings of more than

(Continued on page 20)

GOOD SENSE, GOOD ENGINEERING, AND GOOD CITIZENSHIP

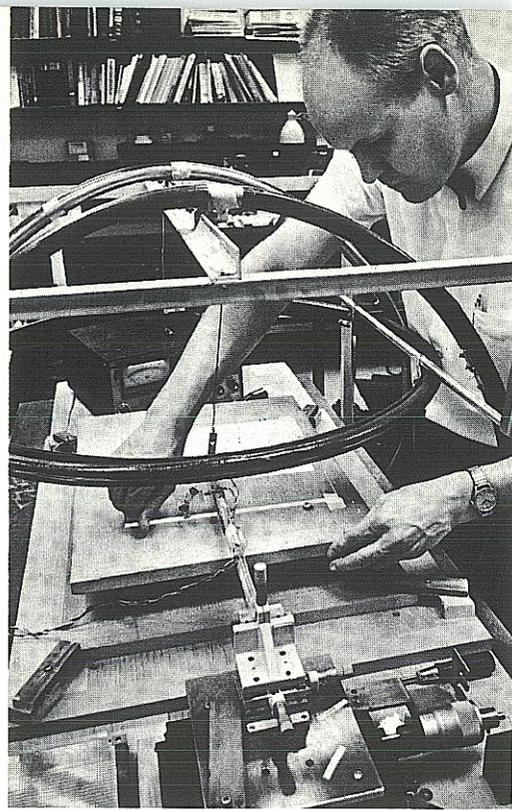
These all contribute to making the Hawthorne Works, near Chicago, Western Electric's oldest manufacturing center, a major factor in future production of electronic switching equipment.

Hawthorne was established in 1905. It now employs some 16,000 people. Many have long service and a great many are skilled in making dial central office equipment. With the onset of electronic switching, however, demand for equipment of the kind long built at Hawthorne will decline.

So a decision had to be made. Could this older plant be made comparable in efficiency to Western Electric's newer manufacturing locations—so that Hawthorne experience and skills could be well employed—jobs provided without uprooting people—and the well-being of the community maintained?

Western Electric said yes. In the last five years it has invested more than \$30 million to assure that Hawthorne will continue as an efficient, fully competitive manufacturing center. It will produce about half of the electronic switching equipment that the Bell System will need each year.

From this decision also flowed another—to locate Bell Laboratories' electronic switching development center nearby. Close association between development and manufacturing people is essential to the orderly introduction of new products, and so the Laboratories group will be at Naperville, not far from Hawthorne. This is a natural consequence of a program that will assure the continued effective employment of a large plant investment and a loyal and efficient work force.



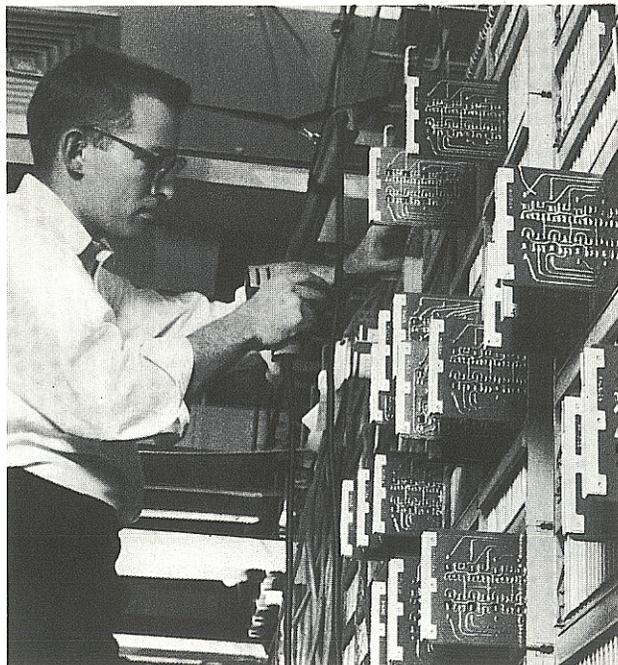
Magnetic memory unit, in which the "program" of electronic central office will be stored, undergoes laboratory test.

TEAMWORK FOR PROGRESS

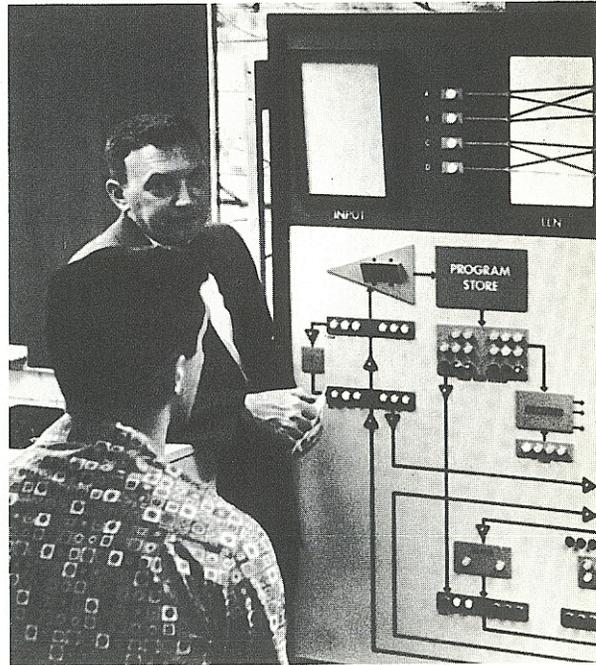
The close cooperation of designers, makers, installers and operating people is essential to the introduction of electronic switching.



Memory devices in production at Western Electric factory in Columbus, Ohio.



Installer at work on section of office where panels have been pulled out to show transistorized "logic" circuits.



Bell Laboratories conducts training school for men who will install and maintain electronic switching equipment.



STUDENT FROM ISRAEL

At an Ohio switchboard, the chief supervisor of telephone operators in Israel studies our operating methods. The Bell System in cooperation with the Federal Communications Commission, the Agency for International Development, and the United Nations, last year provided telecommunications training to some 314 visitors from 34 foreign countries.

\$50 million. The continuing drive for increased efficiency has been of first importance in offsetting higher employment and other costs, so that last summer Western was able to announce price reductions of \$44 million annually, at the then prevailing volume of business, on products it manufactured for the Bell System.

Western Electric Company in 1964 paid out \$1,300,000,000 to some 40,000 suppliers of goods and services in 4,000 cities and towns all over the United States; and to speak here on behalf of all the Bell companies, we wish to acknowledge again, with great appreciation, the fine job done for us by our suppliers, contractors and subcontractors.

Defense Needs Come First

The Bell System is dedicated to the principle that in communications, defense of the nation comes first. Again last year, much of what we did and how we did it was a direct reflection of this principle. The new transcontinental underground cable system, for example, has been built to withstand intense blast. Another such cable, to run from Massachusetts to the Middle West, is already being engineered. Working with the Defense Communications Agency, Western

Electric, Bell Laboratories and the telephone companies are all participating in development and construction of an automatic communication network that will serve, first, a number of military commands in the United States, and later all our military forces throughout the world. The telephone companies in the United States are providing their part of the network as required, and Western Electric and Bell Laboratories are assisting the Defense Communications Agency to engineer the worldwide system so that many special service features can be provided with greatest reliability under all conditions.

Western and the Laboratories have also continued development of the Nike-X missile defense system for the Army. Other 1964 projects included work for the Navy on missile systems and anti-submarine warfare; assistance to the Air Force in improving communications for air defense; and, at the request of the State Department, aid to the governments of Nigeria and Thailand in establishing communication systems.

During the last several years, more than 190 space vehicles have been successfully launched from the Cape Kennedy and Vandenberg Space Centers under the precise guidance of equip-

A BETTER MOBILE SERVICE

A new, much improved mobile service provides all features of regular telephone service. Users can dial directly over the nationwide network and the need for "push-to-talk" operation has been eliminated. This improved service for motor vehicles is already available in a few places and it will be extended as rapidly as possible.



ment designed by Bell Laboratories and built by Western Electric.

In June the Atomic Energy Commission and Western Electric signed a contract for continuing until 1969 operation of the Commission's two ordnance laboratories by Sandia Corporation, a subsidiary of Western. Sandia Corporation has had this responsibility since 1949. Bellcomm, Inc., which is owned jointly by A.T.&T. and Western and was formed in 1962 at the request of the National Aeronautics and Space Administration, continued to provide systems engineering support for the space agency's programs for manned flight.

The Human Effort

The Bell System is many people working with and for other people. This report has stressed several onrushing technical developments such as electronic switching, electronic data processing, and the like. It is worth noting, however, that the people in the business most closely identified with computer programming are the first to emphasize that what comes out of a data processing machine will never be any better than what people put into it. And so it is throughout the whole business.

So we shall close, as we have in some

other years, with a few comments on the human effort.

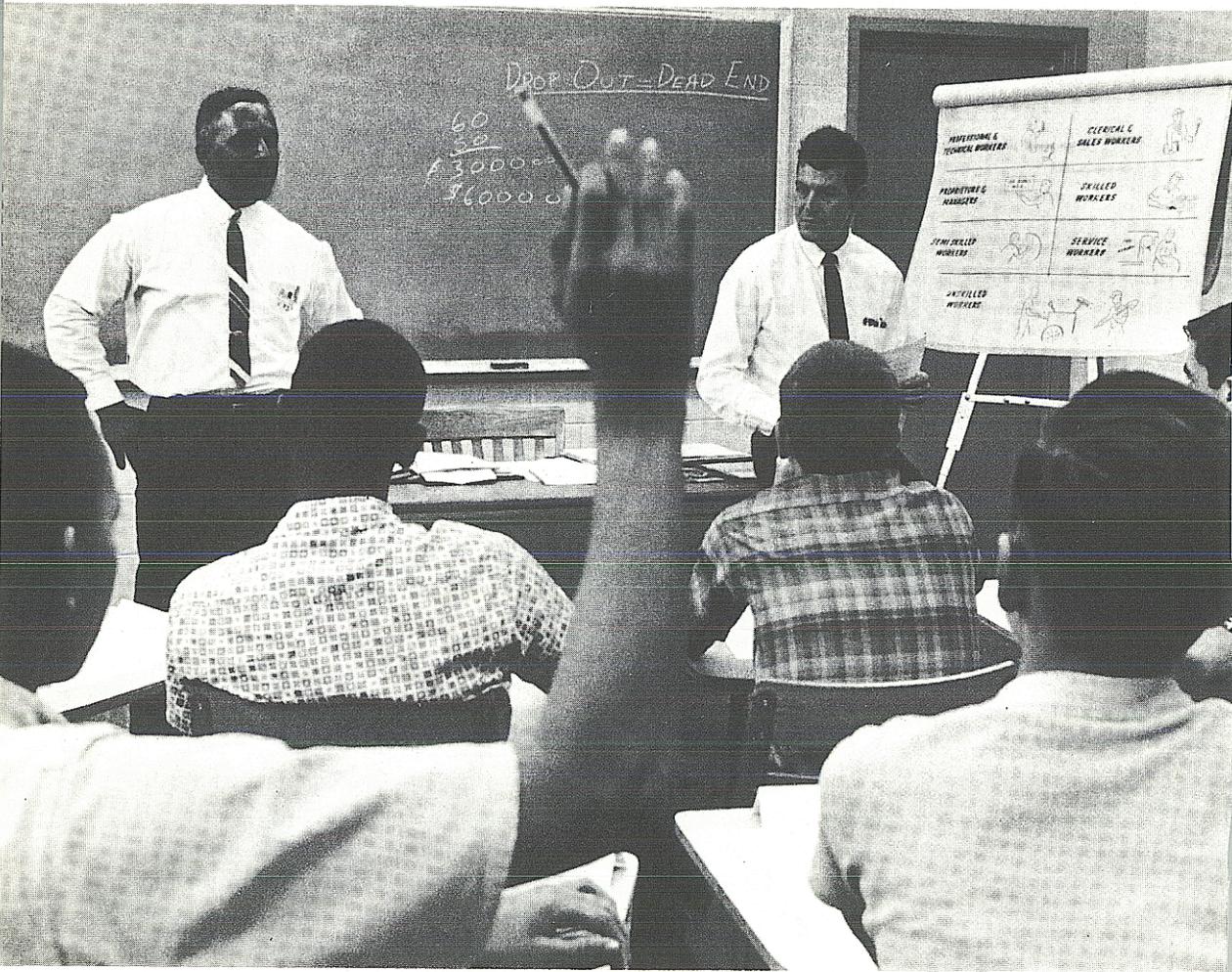
Our safety record in the Bell System has kept us for many years a leader in industrial safety. But we are far from satisfied. All accidents are bad and we still have accidents that should never have occurred. We are putting further effort, therefore, into accident prevention—driving accidents, other accidents, accidents off the job as well as on. One aspect of this effort is a "Car-Wise" program that has proved very popular with women employees. They participate on a voluntary basis and 10,000 have already graduated from the course.

We are working earnestly to assure that everywhere in the business, opportunity is extended to men and women solely on merit and not according to color, religion or national origin. Last year the Bell companies hired many members of all minority groups for professional positions, as potential managers, and for vocational assignments. Our college recruiting teams visited nearly 450 colleges and universities, including numerous predominantly Negro institutions, in search of exceptionally able graduates. We also increased our recruiting at junior colleges and technical institutes.

There is increasing evidence of the

WE WERE POPULAR AT THE FAIR

More than 6,100,000 people visited the Bell System pavilion at the New York World's Fair in 1964. They enjoyed being there and we enjoyed having them. Our staff was composed entirely of telephone employees and they did a job that was widely praised. We expect our 1965 exhibits will be even better and we hope you will come.



TALKS TO HIGH SCHOOL STUDENTS

Bell System people in many communities are visiting high schools, at the schools' request, to outline job requirements in our business and counsel students not to be "drop-outs." One Bell company has also produced a film, "The Winners", in cooperation with the Urban League, civic groups, and 32 business concerns. This stresses the importance of graduating from high school.



success of a training procedure we began about five years ago, of giving potential managers very considerable responsibility right at the start of their careers. Ability or the lack of it is quickly demonstrated, and among able people the challenge of immediate responsibility greatly stimulates individual growth.

The service motive, the will to do well, the desire to come up with the best possible personal job—these are the foundations for whatever success this business may have. Last year 26 employees received Vail Medal Awards for noteworthy service in emergencies. And in the important work of every day, hundreds of thousands of Bell System men and women put forth their best efforts with integrity and skill and perseverance. The Telephone Pioneers of America, composed of people who have served in the telephone industry 21 years or more, are now some 238,000 strong. The Pioneers carry on many programs of community service; and importantly, their fellowship and shared experience of the telephone tradition contribute much to the vitality of the business.

Many More Share Owners

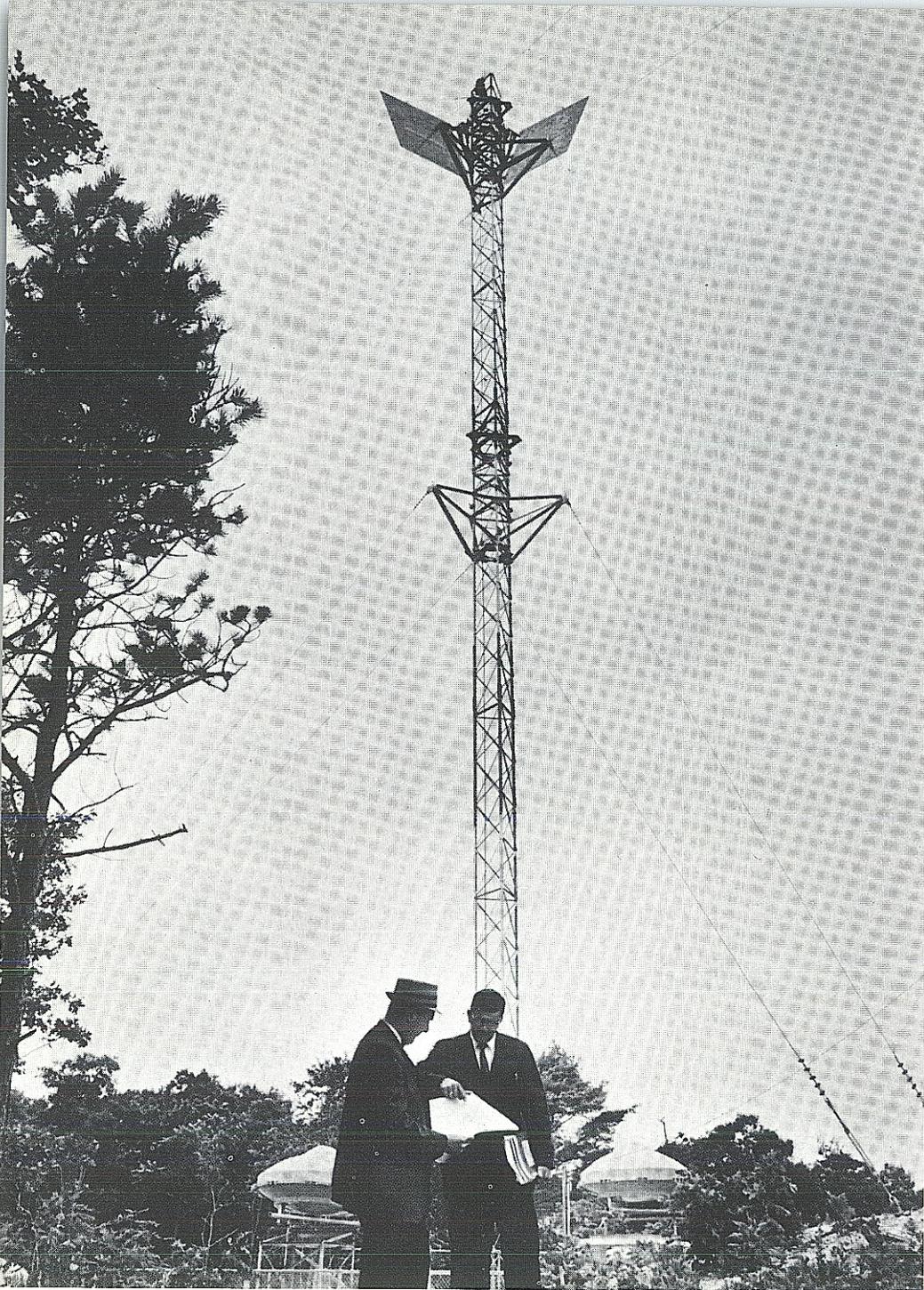
Another group of people who are identified with the Bell System increased in numbers last year more than at any time in the past.

This is you, the share owners of A. T. & T. At the end of 1964 there were 2,674,000 of you, an increase of 423,000 in a single year. We appreciate more than we can say the confidence such growth implies. At the same time it increases even further our sense of obligation to conduct the business well. As telephone managers continue their visits with many of you each year, we hope new owners as well as those of long standing will give us their views and comments; and to each of you we pledge our continuing utmost efforts to make and keep the Bell System a business that all can be proud of.

For the Board of Directors,

FEBRUARY 17, 1965

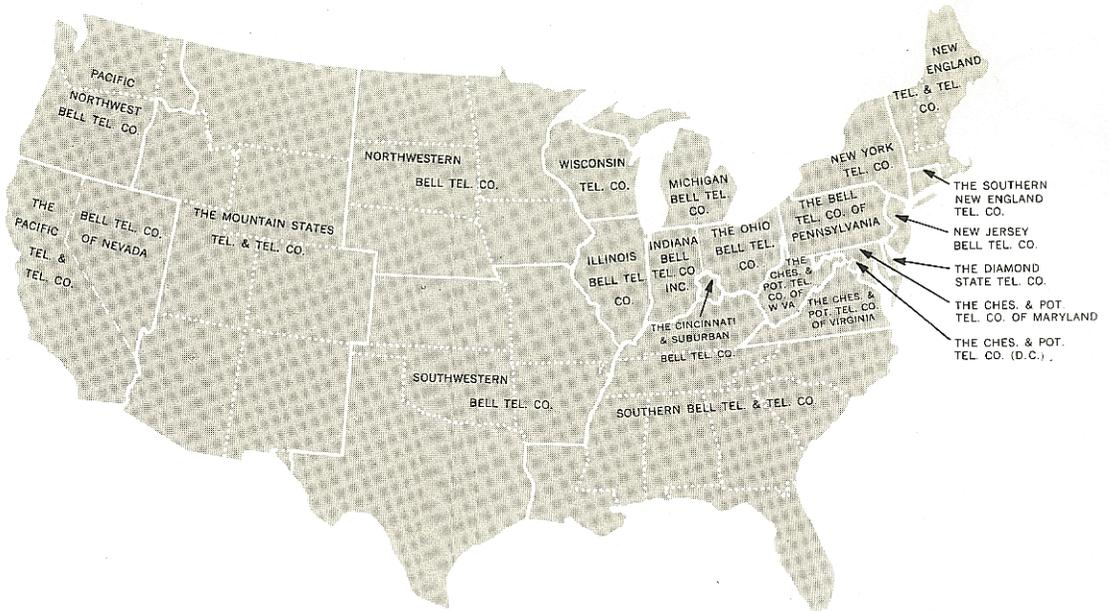
CHAIRMAN OF THE BOARD



NEW, ECONOMICAL MICROWAVE RADIO SYSTEMS

New systems like these can carry as many as 2,400 telephone circuits, or color TV, up to 250 miles. These systems are largely transistorized and operate from storage batteries so that any power interruptions would not affect service. Thus reliability is increased. Other microwave systems for heavy trunk routes can now carry some 17,000 telephone circuits and this capacity will be much increased in the next couple of years.

The Bell Telephone System



The Bell telephone companies serve generally the areas shown. In nearly all areas other telephone companies operate and connect with Bell System lines. Some significant Bell System figures are as follows:

	1964	1963	1960	1950
Telephones	72,043,823	68,639,837	60,735,073	35,343,440
Per Cent Equipped for Direct Distance Dialing ...	84%	79%	48%	None
Average Daily Conversations#				
Local	249,776,000	239,795,000	209,950,000	136,186,000
Long Distance	12,305,000	11,240,000	9,143,000	4,596,000
Overseas Conversations (Total for Year)	6,377,000	5,290,000	3,713,000	1,000,000
Net Telephone Plant*	\$25,594,735	\$23,672,643	\$18,825,273	\$ 7,275,277
Operating Revenues*	\$10,305,993	\$ 9,568,961	\$ 7,920,454	\$ 3,261,528
Construction Expenditures* ..	\$ 3,518,896	\$ 3,135,949	\$ 2,658,381	\$ 891,000
Operating Taxes*	\$ 2,382,809	\$ 2,302,006	\$ 1,847,702	\$ 499,451
Employees				
Telephone Companies	589,667	571,366	580,405	523,251
Western Electric	157,626	147,210	143,352	73,458
Bell Telephone Laboratories	14,318	14,562	12,009	5,757
Total Wages*	\$ 5,022,527	\$ 4,705,846	\$ 4,174,500	\$ 2,007,216
A. T. & T. Share Owners	2,674,141	2,251,065	1,911,484	985,583

On basis of present classification between local and long distance.

* Thousands of dollars.

Financial Statements

THE BELL SYSTEM CONSOLIDATED FINANCIAL STATEMENTS on the following pages consolidate the accounts of American Telephone and Telegraph Company and its principal telephone subsidiaries (listed on page 27). These companies maintain their accounts in accordance with the Uniform System of Accounts prescribed for telephone companies by the Federal Communications Commission.

For the companies consolidated, all significant intercompany items are excluded from these statements. Investment in subsidiaries not consolidated as stated in the Balance Sheets includes the proportionate interest in the net assets of such subsidiaries, and the proportionate interest in their earnings is included in the Income Statements.

Western Electric Company, the principal subsidiary not consolidated, manufactures most of the telephone equipment and apparatus used by the companies consolidated and sells to them materials and supplies procured from others. Contracts with the telephone companies provide that Western's prices to them shall be as low as to its most favored customers for like materials and services under comparable conditions. Items purchased from Western by the telephone companies are entered in their accounts at cost to them, which includes the return realized by Western on its investment devoted to this business.

A. L. STOTT

Vice President and Comptroller

Report of Independent Certified Public Accountants

TO THE SHARE OWNERS OF AMERICAN TELEPHONE AND TELEGRAPH COMPANY:

We have examined the consolidated balance sheet of American Telephone and Telegraph Company and its principal telephone subsidiaries as of December 31, 1964 and the related income statement and statement of retained earnings for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and included such tests of the accounting records of each of the companies consolidated and such other auditing procedures as we considered necessary in the circumstances. We previously examined and reported upon the consolidated statements of the Company and its principal telephone subsidiaries for the year 1963. We did not examine the consolidated financial statements of the Company's principal nonconsolidated subsidiary, Western Electric Company, Incorporated and Subsidiaries, which statements were examined by other independent accountants whose report thereon has been furnished to us. Our opinion expressed herein is based upon our examinations and upon the aforementioned report of other accountants.

In our opinion, the consolidated financial statements (pages 26 to 32) present fairly the consolidated position at December 31, 1964 and 1963 and the consolidated results of operations for the years then ended of American Telephone and Telegraph Company and its principal telephone subsidiaries, in conformity with generally accepted accounting principles applied on a consistent basis.

New York, N. Y., February 17, 1965

LYBRAND, ROSS BROS. & MONTGOMERY

Bell System Companies

COMPANIES INCLUDED
IN CONSOLIDATED STATEMENTS

December 31, 1964

AMERICAN TELEPHONE AND TELEGRAPH COMPANY

PRINCIPAL TELEPHONE SUBSIDIARIES	Capital Stocks Owned by A.T.&T. Co.		Advances from
	% Owned	Equity (a)	A.T.&T. Co. (a)
New England Tel. & Tel. Co.	69.3	\$ 541,573	\$ 88,500
New York Tel. Co.	100.0	2,003,252
New Jersey Bell Tel. Co.	100.0	781,851	49,500
Bell Tel. Co. of Pennsylvania	100.0	836,014	33,500
Diamond State Tel. Co.	100.0	54,723	9,425
Chesapeake & Potomac Tel. Co.	100.0	136,210	41,100
Chesapeake & Potomac Tel. Co. of Maryland ...	100.0	330,599	65,500
Chesapeake & Potomac Tel. Co. of Virginia ...	100.0	371,195	44,100
Chesapeake & Potomac Tel. Co. of West Virginia	100.0	140,936	5,900
Southern Bell Tel. & Tel. Co.	100.0	2,016,260	107,600
Ohio Bell Tel. Co.	100.0	681,685	64,000
Michigan Bell Tel. Co.	100.0	586,941	27,400
Indiana Bell Tel. Co., Inc.	100.0	288,389	9,150
Wisconsin Tel. Co.	100.0	298,371	13,200
Illinois Bell Tel. Co.	99.3	1,055,527	50,700
Northwestern Bell Tel. Co.	100.0	680,346	16,400
Southwestern Bell Tel. Co.	100.0	1,950,850	100,000
Mountain States Tel. & Tel. Co.	86.7	654,313	73,900
Pacific Northwest Bell Tel. Co.	89.1	385,929	35,100
Pacific Tel. & Tel. Co.	89.6	1,777,353	202,000
Bell Tel. Co. of Nevada (b)
Total		<u>\$15,572,317</u>	<u>\$1,036,975</u>
SUBSIDIARIES NOT CONSOLIDATED			
Bell Telephone Laboratories, Inc. (c) 50.0		\$ 40,000
Western Electric Co., Inc. 99.8		1,404,302
195 Broadway Corporation 100.0		29,051	\$ 3,725
Other (d)		50,900	5,562
Total		<u>\$ 1,524,253</u>	<u>\$ 9,287</u>
OTHER COMPANIES			
		Cost (a)	
Southern New England Tel. Co. 18.4		\$ 41,587
Cincinnati & Suburban Bell Tel. Co. 28.4		21,065	\$ 6,100
Bell Tel. Co. of Canada 2.6		18,855
Total		<u>\$ 81,507</u>	<u>\$ 6,100</u>

(a) Thousands of dollars.

(b) Wholly-owned subsidiary of Pacific Tel. & Tel. Co. (Equity—\$70,109,000).

(c) Remainder owned by Western Electric Company.

(d) Includes investments of principal telephone subsidiaries.

BELL SYSTEM

American Telephone and Telegraph Company

ASSETS

	(Thousands of Dollars)	
	December 31, 1964	December 31, 1963
TELEPHONE PLANT AND OTHER INVESTMENTS		
Telephone Plant (land, buildings and equipment)—at cost		
In service	\$31,741,900	\$29,329,488
Under construction	776,773	711,706
Other (principally held for future use)	25,160	23,075
	<u>32,543,833</u>	<u>30,064,269</u>
Less: Depreciation reserve	6,949,098	6,391,626
	<u>25,594,735</u>	<u>23,672,643</u>
Other Investments		
Investment in subsidiaries not consolidated (a)	1,533,540	1,456,346
Other (b)	168,190	123,037
	<u>27,296,465</u>	<u>25,252,026</u>
 CURRENT ASSETS		
Cash and temporary cash investments	1,971,918	1,499,929
Receivables—less reserve for uncollectibles	1,244,378	1,167,643
Material and supplies	123,420	105,159
	<u>3,339,716</u>	<u>2,772,731</u>
 PREPAYMENTS AND DEFERRED CHARGES		
Prepayments (principally directory expenses and taxes) ..	162,428	152,096
Deferred charges	107,686	97,887
	<u>270,114</u>	<u>249,983</u>
Total Assets	<u><u>\$30,906,295</u></u>	<u><u>\$28,274,740</u></u>

For notes, see page 32

BALANCE SHEETS

and its Principal Telephone Subsidiaries Consolidated

LIABILITIES

	(Thousands of Dollars)	
	December 31, 1964	December 31, 1963
EQUITY		
American Telephone and Telegraph Company		
Common stock—par value (\$16 $\frac{2}{3}$ per share)	\$8,706,545	\$8,157,658
<i>Authorized 600,000,000 shares; outstanding at December 31, 1964, 522,392,709 shares.</i>		
Common stock installments (c)	348,924	375,083
Premium on common stock	4,448,882	3,341,873
Retained earnings—see page 31	5,107,881	4,469,694
	<u>18,612,232</u>	<u>16,344,308</u>
 Minority Interests in Subsidiaries Consolidated	 597,196	 585,788
	<u>19,209,428</u>	<u>16,930,096</u>
 FUNDED DEBT (d)	 8,725,000	 8,578,618
 CURRENT LIABILITIES		
Notes payable	102,000	92,000
Accounts payable	850,029	785,715
Advance billing and customers' deposits	262,020	246,522
Dividends payable	262,861	221,979
Taxes accrued	1,149,801	1,181,600
Interest accrued	97,749	93,812
	<u>2,724,460</u>	<u>2,621,628</u>
 DEFERRED CREDITS		
Unamortized investment credit	202,179	103,441
Other	45,228	40,957
	<u>247,407</u>	<u>144,398</u>
 Total Liabilities	 <u>\$30,906,295</u>	 <u>\$28,274,740</u>

BELL SYSTEM

American Telephone and Telegraph Company

	(Thousands of Dollars)	
	Year 1964	Year 1963
OPERATING REVENUES		
Local service	\$5,633,732	\$5,389,702
Toll service	4,205,484	3,737,146
Miscellaneous	511,441	485,703
<i>Principally from directory advertising.</i>		
Less: Provision for uncollectibles	44,664	43,590
Total Operating Revenues	<u>10,305,993</u>	<u>9,568,961</u>
OPERATING EXPENSES		
Maintenance	1,785,158	1,635,502
Depreciation	1,469,423	1,332,146
<i>Representing approximately 5.0% of average investment in depreciable plant in 1964 and 4.9% in 1963.</i>		
Traffic	935,776	893,344
<i>Costs, principally operators' wages, incurred in the handling of messages.</i>		
Marketing and Commercial	838,138	791,257
<i>Sales expense, advertising, cost of directories, and costs incurred in business relations with customers.</i>		
Accounting	347,024	330,687
Research and fundamental development (e)	69,070	66,794
Provision for pensions and other employee benefits	440,046	322,852
Other operating expenses	371,227	340,710
Less: Expenses charged construction	130,124	101,436
Total Operating Expenses	<u>6,125,738</u>	<u>5,611,856</u>
Net Operating Revenues	<u>4,180,255</u>	<u>3,957,105</u>
OPERATING TAXES		
Federal income	1,447,704	1,425,126
State, local and social security	935,105	876,880
Total Operating Taxes	<u>2,382,809</u>	<u>2,302,006</u>
Operating Income (carried forward)	<u>\$1,797,446</u>	<u>\$1,655,099</u>

For notes, see page 32

INCOME STATEMENTS

and its Principal Telephone Subsidiaries Consolidated

	(Thousands of Dollars)	
	Year 1964	Year 1963
Operating Income (brought forward)	\$1,797,446	\$1,655,099
OTHER INCOME (f)	260,955	207,578
Total Income before Interest Charges	<u>2,058,401</u>	<u>1,862,677</u>
INTEREST CHARGES		
Interest on funded debt	331,799	319,803
Other interest	15,979	15,516
Net Income	<u>1,710,623</u>	<u>1,527,358</u>
NET INCOME APPLICABLE TO MINORITY INTERESTS	52,017	47,841
Net Income Applicable to A. T. & T. Co. Stock	<u>\$1,658,606</u>	<u>\$1,479,517</u>
CONSOLIDATED EARNINGS PER SHARE	<u>\$3.24</u>	<u>\$3.03</u>
<i>Based on average A. T. & T. Co. shares outstanding in terms of new shares after 2 for 1 split—512,047,000 in 1964 and 488,203,000 in 1963.</i>		

Statements of Consolidated Retained Earnings Applicable to American Telephone and Telegraph Company Stock

	(Thousands of Dollars)	
	Year 1964	Year 1963
BALANCE AT BEGINNING OF PERIOD	\$4,469,694	\$3,872,323
ADDITIONS:		
Net income applicable to A. T. & T. Co. stock	1,658,606	1,479,517
Miscellaneous—net	3,676	—
DEDUCTIONS:		
Dividends on A. T. & T. Co. stock	1,024,095	878,765
Miscellaneous—net	—	3,381
BALANCE AT END OF PERIOD	<u>\$5,107,881</u>	<u>\$4,469,694</u>

Notes to Bell System Financial Statements

(a) Comprises at December 31, 1964, and December 31, 1963, respectively, \$866,714,000 and \$860,127,000 representing cost of investments in subsidiaries not consolidated, and \$666,826,000 and \$596,219,000 representing proportionate interest in the net assets of these subsidiaries in excess of such costs.

(b) At December 31, 1964, comprises investments at cost in: associated telephone companies, \$87,607,000 (see page 27); Communications Satellite Corporation, \$57,915,000; other, \$22,668,000.

(c) Installment payments and interest applicable to shares under elections to purchase by employees of the Company and its subsidiaries under the Employees' Stock Plan approved by stockholders in 1958. The Plan provides that an employee may cancel his election to purchase in whole or in part at any time and receive a refund which may be taken in cash or applied to the purchase of shares. A total of 72,000,000 shares may be issued under the Plan. At December 31, 1964, 44,593,000 shares had been purchased and installment payments were being made on 15,103,000 shares.

(d) At December 31, 1964, comprises \$143,000,000 maturing from 1968 to 1970, \$1,335,000,000 from 1971 to 1980 and \$7,247,000,000 thereafter.

(e) Principally cost of work carried on for American Telephone and Telegraph Company by Bell Telephone Laboratories. In addition, Western Electric Company incurs costs for development work.

(f) Includes American Telephone and Telegraph Company's proportionate interest (over 99%) in earnings of Western Electric Company and its subsidiaries amounting to \$152,507,000 in 1964 and \$140,230,000 in 1963 of which \$81,381,000 in 1964 and \$72,656,000 in 1963 was received by the Company in dividends. Also includes \$36,573,000 in 1964 and \$31,172,000 in 1963 for interest charged construction.

The investment credit authorized by the Revenue Act of 1962 is being amortized by credits to operating income over the service life of the plant giving rise thereto.

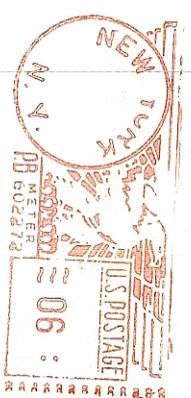
The Company and its subsidiaries make regular actuarially determined payments to trust funds which are irrevocably devoted to service pension and death benefit purposes. The funds are not a part of the assets of the companies and therefore are not reflected in the balance sheets.



BURIED BLAST-RESISTANT CABLE

Building the new transcontinental underground cable system "hardened" against blast, construction men walked and dug their way for 4,000 miles from East to West. The system includes 900 intermediate repeater (amplifying) stations and 9 large communications centers—all of them buried deep in the earth.

AMERICAN TELEPHONE AND TELEGRAPH COMPANY
195 Broadway, New York, N. Y. 10007



MRS. N. NELSON A-1
FLORIDA STATE UNIVERSITY LIBRARY
SERIALS DEPARTMENT
TALLAHASSEE, FLORIDA