

THE HISTORY AND DEVELOPMENT OF THE

TELEPHONE SYSTEM

at the

UNIVERSITY OF MARYLAND

COLLEGE PARK, MD.

By

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Presented as a Requirement for

Initiation to

Maryland Beta Chapter

Tau Beta Pi Fraternity

January 15, 1932

SUMMARY

The history of the University of Maryland telephone system began in 1878 with the establishment of a line between the main college building and the B. & O. Station. In 1901 the first telephone exchange system serving the University of Maryland was installed in the drug store of Dr. Wells in Hyattsville. Several years later the University and residents connected with the University, installed a private line system which had a connection with the Hyattsville Exchange. When the Berwyn Exchange was opened in May, 1910, the University contracted for exchange service for its two "Plant A" lines and also rented several individual lines from that Exchange. In July, 1917, the "Plant A" line running through College Park was transferred to the College proper. Aside from surveys conducted by the Chesapeake and Potomac Telephone Company, relative to the amount of equipment and telephone traffic handled from the University, nothing of importance occurred in the history of the system until October, 1930, when the Board of Regents authorized the installation of the Private Branch Exchange which was completed in April 1, 1931. With the exception of minor details this installation represents the latest development of the telephone system at the University of Maryland.

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UNIVERSITY OF MARYLAND, COLLEGE PARK, MD.

EARLY HISTORY

Maryland, one of the original thirteen colonies from which the United States was formed, was first settled by Lord Baltimore in 1634. For the first 245 years of its existence as a colonial settlement and state, citizens used much the same method of communication that had existed for the previous centuries. Person-to-person communications for distances further than the human voice could carry were undreamed of. Messages were delivered by bearer, or, if of a personal nature, in person. This condition existed until about the middle of the nineteenth century. Then in 1844 the telegraph was put to practical use, the first message, "What hath God wrought" was transmitted between Baltimore and Washington, in May 24 of that year.

The next advance in communication was the telephone, which came into use in the state in 1878 with the establishment of a private line installed for the Maryland Agricultural College, now the University of Maryland. This was just two years after the telephone was invented by Dr. Alexander Graham Bell. This line, which connected the college buildings with the Baltimore and Ohio Railroad Station, was installed by the late George C. Maynard of Washington, general manager of the National Telephonic Exchange, predecessor of the Chesapeake and Potomac Telephone Company.

On December 1 of the same year a switchboard system was established in Washington and telephones serving the college were operated from this office. The first exchange in Maryland was placed in operation at Baltimore, January 1, 1879. Subsequently central offices were established in the larger cities and towns throughout the state. The central office at Cumberland was established February 8, 1881, and at Hagerstown, February 1, and Frederick, June 25, 1883. Telephone service at Annapolis was first installed in the Executive Mansion and in the State Comptroller's office in 1884, being operated from the Baltimore switchboard. On June 1, 1895, a fifty line capacity switchboard was installed. Telephone service at Hyattsville and vicinity was operated from Washington until December 28, 1901, when a switchboard system was placed in service.



Dr. A. H. Wells

OPERATION OF FIRST LOCAL EXCHANGE SYSTEM

Dr. Albert H. Wells, a Hyattsville druggist, has the credit for having the first telephone connected with an exchange in this community. This telephone was operated from the Washington central office and was in service about 1895. Before the installation of this telephone, however, Dr. J. Harris Rogers operated a private line system between Dr. Wells' drug store and the office of Dr. Rogers and his brother, James C. Rogers, in



Wells' Drug Store (1901)



Wells' Drug Store (1902)

Washington. In 1901 the telephone company started to work up interest in the establishment of a central office and Dr. Wells was instrumental in having the new system of communication installed in his store.

Early subscribers to the Hyattsville exchange included the president's office, Maryland Agricultural College, College Park. Others were: Dr. Charles A. Wells, Alfred H. Wells, R .M. Sylvester, Melrose

Seminary, George Tise, grocer, Joseph W. Aman, coal and wood, Duckett & Ford, real estate, Hyattsville, and the Palo Alto Hotel and the Pan Electric Restaurant of Bladensburg.

The switchboard was operated by J. D. Ervin and W. Hampton Hickey, clerks in Dr. Wells' drug store, which was then located at the corner of Maryland and Wells Avenues South, the operation of the telephone system being a side issue when the clerks were not busy at other duties. After the central offices had been in operation about six months, David Cumberland, a schoolboy, was employed to take care of the switchboard after school hours and on Saturdays and Sundays. The exchange was not in operation at night, according to Dr. Wells.

When Dr. Wells relocated his drug store in 1902 at the corner of Maryland and Johnson Avenues, the telephone central office was moved along at the same time. In the new location the exchange was first installed on the ground floor next to the prescription department. Soon after the switchboard was operated at this location, arrangements were made to give twenty-four hour telephone service. As a result of this move, Mrs. John E. Lattimer became chief operator with Harry McCormick and Charles Fenwick as assistants.

Within a few months the company's records show that the number of telephones began to increase rapidly and it was necessary to relocate the switchboard in larger quarters in the second story of the drug store building. This larger and improved switchboard system required the services of six operators. The office was supervised by Miss Hazel Hanna. The operators included Misses Madeline Wiseman, Fanny Casey, Annie Lehman, and

Katie Wetzel. Allan Frost, Albert Hickey and George McCormick were the night operators.

The University of Maryland maintained this line until the opening of the Berwyn Exchange in May, 1910, when they severed connections with the Hyattsville Exchange until the installation of the P-B-X twenty years later.

ORIGIN OF THE TWO "PLANT A" LINES

A few years after the installation of the Hyattsville Exchange, the University authorized the installation of a private telephone system, which employed a three-point switching apparatus. This system consisted of one line which was operated by the University and ran through a number of the College buildings, and two others, which were extensions of the first and operated by the residents of College Park, who were connected with the University. The three-point switching apparatus was connected on the side of each receiver (shown in the following pictures) and each point was connected to one of the three parallel lines which were single iron conductors with a ground return. There were approximately 27 subscribers in the complete system, 9 on each line. Thus when not making a call the subscribers set their instruments on the point corresponding to the number of their line. Each station on each of the three lines had a different code signal, but when any call was made on any line, all subscribers connected at that time on that line heard the call signal. The various code signals were worked out on the basis of long and short rings. If some one person had a station on the University line and one on one of the residential lines, he was given the same call signal on both lines.



Telephone Set used on the University "Plant A" Lines

The installation of this system was started by members of the University and residential subscribers. But due to the lack of equipment to erect the large poles, the installation was turned over to the National Electric Supply Co., who previously had furnished the electrical material for the system, but who also were electrical contractors. Although the University supported the cost of the line which ran through the College proper, the subscribers of the residential lines had to pay for their extensions and their instruments. The latter, which are shown in the above diagrams, cost about \$10.00 each. This instrument, a National Electric Supply Co. product, was of the magneto type and contained the necessary

batteries in the set. These lines, according to Dr. McDonald, former Head of the Chemistry Department, had a method of connection with the Hyattsville Exchange.



The Berwyn Exchange

As a result of numerous complaints about the ringing of all calls on every instrument on the line, and the annoyance caused to subscribers, Prof. J. Hansom Mitchell, Head of the Mechanical Engineering Department, designed an automatic system, in which each party heard only his own call. With the authorization of President Patterson, Prof. Mitchell installed this system. The single station ringing was accomplished by a clicking system in the transmitter which operated in conjunction with a click selector in the

receiver. However, this system did not prove satisfactory and was removed a short time after installation.

The Berwyn Central Office from which the individual line telephones serving Maryland University were located, was placed in operation on May 14, 1910, by the Chesapeake and Potomac Telephone Company of Baltimore City. These individual stations had no connection with the two "Plant A" lines then established at the University, but were operated separately as four-party, two-party, and single party lines. With the installation of this exchange the University also contracted with the Telephone Company to obtain exchange service for these two lines at a definite rental. This meant that the operator also had a call number as did the rural line subscribers. The only change in the University telephone system in the following few years was the addition of individual line stations by the University and private individuals.

LATER DEVELOPMENTS

The idea of the installation of a centralized switchboard on the University of Maryland campus was first introduced in September, 1913, when at the request of the University officials the Western Electric Company of Philadelphia, Pa., gave an estimate for the installation of a common battery switchboard of 30 lines with six wall and eighteen desk telephone sets which not only offered a more centralized system but also served to eliminate the present magneto system which was used on both the "Two Plant A" lines and the individual lines to the Berwyn Exchange. However, the matter was dropped for a period of three years and it was not renewed until November 7, 1916, when Prof. M. Creese, Head of the Electrical Engineering Depart-

ment, proposed a system to the above company which included a central switchboard with 11 lines running to the various buildings on the campus and connecting 3 wall and 24 desk telephone sets. This suggestion was immediately taken up by the Western Electric Company of Philadelphia, Pa., who through Mr. George Walthers, Electrical Contractor of Baltimore, gave an estimate for the equipment and installation, which was considered by the University officials to be more than they could afford at that time.

Having set aside the switchboard proposition, the University set out to repair the local University equipment. Early in 1917 the Berwyn 27-line, which ran along the back road, was reconditioned, using doubled paired wire instead of a single iron conductor mounted on Pierce brackets, placing this line in fairly good condition. However, the 19-line, which ran down through the residential section of College Park, was in a much worse condition than the 27-line had been. The poles on this line were in poor condition as also were the conductors. The owners of the line, who were all in some way connected with the University, then inquired of the Potomac Power Company of Washington and the American Telephone and Telegraph Company, the rental cost for the use of their poles, instead of replacing the old ones. The former approved the use of their poles at \$1.00 per pole per annum, while the latter approved theirs at 25c per pole per annum. A survey was then conducted by members of the electrical engineering department to determine the cost of repairing the present line. With this information the owners compiled the following comparison:

EACH TELEPHONE TO COST ON TEN YEAR BASIS

Using C. & P. Poles.	Using Own Poles.	C. & P. System.
First Cost.	First Cost.	Annual Rate 4-Party Line.
Thirty (30), \$3.00 per yr.	60 @ \$6.00 per yr.	(Each party hears only his own rings)
Rental, \$9.00 per yr.	60 @ \$6.00 per yr.	
Maintenance, \$2.00 per yr.	60 @ \$3.00 per yr.	
<hr/> \$14.00 per yr. <hr/>	<hr/> \$15.00 per yr. <hr/>	<hr/> \$18.00 per yr. <hr/>

It may also be noted that with the C. & P. System the Telephone Company furnishes all telephones and keeps them in order.

With this data a meeting of the owners was held early in June, 1917, and it was the unanimous opinion for them to give up the present system July 1st and for each to contract privately with the Chesapeake and Potomac Telephone Company for a 4-party line system.

President Pearson acting in accordance with this decision, ordered that the 19-line, which had been under discussion, should be transferred to operate on the University proper as did the 27-line, which operation was to start July 1st, 1917. This order was carried out and the following is the directory of this two-line system.

BERWYN LINE 27 — H. J. Patterson, Agent.

MARYLAND AGRICULTURAL EXPERIMENT STATION

Director's Office	H. J. Patterson	27 F 11
Farm Superintendent	E. H. Brinkley	27 F 12
Horticultural Department	Thos. H. White	27 F 13
Agronomy Department	J. E. Metzger	27 F 4
Biological Laboratory	— — —	27 F 21
Poultry Department	Roy E. Waite	27 F 22
Soil Laboratory	A. G. McCall	27 F 2

BERWYN LINE 19 — H. T. Harrison, Agent.

MARYLAND STATE COLLEGE OF AGRICULTURE.

State Chemist's Office	H. B. McDonnell	19 F 2
Library	(Miss) L. E. Conner.....	19 F 11
Horticultural Department	E. F. Stoddard	19 F 3
Engineering Department	Thos. H. Taliaferro	19 F 5
Science Hall	— —	19 F 12
Central Power Plant	V. L. Lake	19 F 4
Matron	(Mrs.) M .T. Moore	19 F 13

With the organization of the Signal Corp Officers' Training School, in the summer of 1917, at the University of Maryland, slight changes were brought about in the system. For some reason, of which the author cannot ascertain, the Berwyn 19-line was changed to the Berwyn 49 line and the number Berwyn 19 was given to the Radio Training School line which operated only one station. However, with the closing of the school in the fall of 1918 the Berwyn 19 line was discontinued.

From this time, aside from the addition of individual lines to the Berwyn Exchange, there was little change in the University telephone system. However, in February, 1924, the Chesapeake and Potomac Telephone Company of Baltimore renewed their efforts to install a Private Branch Exchange at the University of Maryland and made a study of the conditions of the telephone system on the campus, finding that the College had the following telephone equipment:

SEPARATE LINES FROM BERWYN EXCHANGE-

Agricultural Building had 14 stations for business and 1 public telephone.

(6 were 4-party lines, remainder were single party lines.)

Chemistry Building had 1 line with 1 extension.

Morill Hall had 6 stations.

Sylvester Hall had 2 business stations and 1 public station.

Experiment Station had 3 stations (4-party lines).

Southern Immigration Commission Office in Agricultural Building had
1 station.

UNIVERSITY OWNED TWO "PLANT A" LINES—

One in Horticultural Building — Berwyn 27 — 6 stations.

One in Engineering Building — Berwyn 49 — 6 stations.

In October, 1926, Mr. C. T. Clagett, Division Manager of the Chesapeake and Potomac Telephone Company, informed President Pearson of the numerous complaints of customers regarding the telephone system at the University of Maryland, citing one case in particular. The Vice President of a Boston Manufacturing Concern had, in attempting to communicate with a professor at the University, made four different calls through the Berwyn Exchange, on four different lines in order to reach him. He later sent a complaint to Mr. Clagett who relayed it to the University president, adding that it was not only a reflection on the University but also on the telephone company of that district.

The Chesapeake and Potomac Company then conducted an investigation, which revealed that on three consecutive normal days, December 16, 17, 18, of 1926, the number of calls through the Berwyn Exchange between stations on the campus were 506, 410 and 491, respectively.

With this information, Mr. Clagett later in December of that year, renewed his attack on the University system and contrasted the above

conditions to the successful operation of Private Branch Exchanges at Catholic University, Georgetown University and George Washington University of Washington, D. C.

It was estimated, by the C. & P. Company, that over a period of two months, starting on December, 1926, that the number of toll calls over said period of two months was 520 to Hyattsville and 1676 to Washington from the University of Maryland through the Berwyn Exchange. Since the installation of a P-B-X would eliminate the 5c toll to Hyattsville and reduce the Washington toll from 10c to 5c, the saving involved was of considerable importance.

Reminding the University of the above incident and of these two surveys, Mr. Clagett proposed two plans, both involving a Private Branch Exchange and differing only in the number of Hyattsville and Berwyn Trunks. Despite Mr. Clagett's efforts, President Pearson refused the offer on the grounds of high cost.

The telephone system in August, 1928, had grown to the point, where the University of Maryland had 25 lines running from the Berwyn Exchange to 61 stations on the University grounds.

In June, 1929 the Berwyn 62-line was replaced by a 7-line, 3-trunk monitor box, which was placed in the Agricultural Building and was operated by one of the secretaries of the office. The box resembled a small P-B-X with seven lines running to the several field houses of the Agricultural Department on the campus.

An event which later affected the College Telephone Systems was the cut over of the Hyattsville Exchange to the present district headquarters building and telephone plant (shown in accompanying picture) on March, 29, 1930.

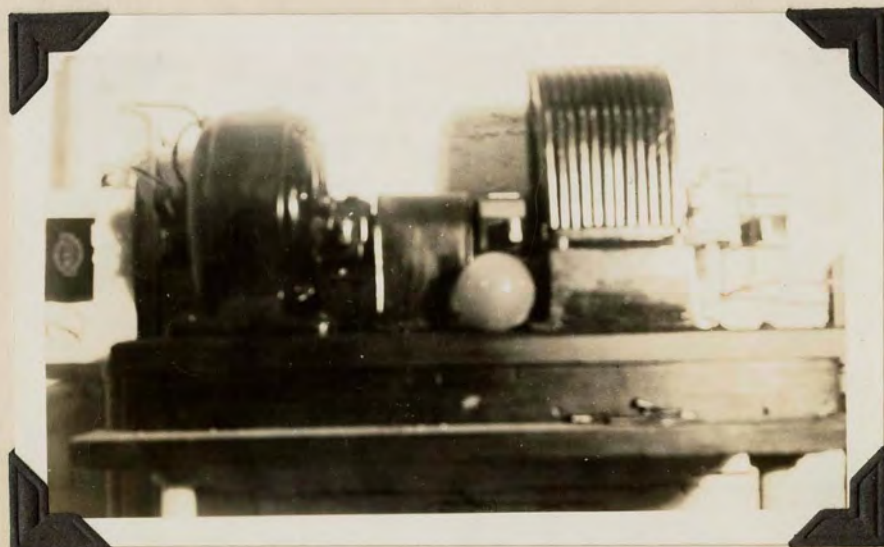


District Headquarters and Telephone Plant at Hyattsville

INSTALLATION OF THE PRIVATE BRANCH EXCHANGE

The installation of central telephone exchange at the University of Maryland was authorized at the meeting of the Board of Regents on October 9, 1930. The contract called for an 80-line cord Private Branch Exchange with 58 line stations and 20 extension stations, totaling 78 instruments.

The system was to include three Hyattsville Trunks and two Berwyn Trunks,



Source of Ringing Power for the Berwyn Trunks

with special equipment to give ringing power for calls to the Berwyn Exchange which, unlike the Hyattsville Exchange, still employs the magneto system of ringing instead of the common battery system. This equipment is a small motor-magneto generator set (shown in the above picture) which motor has 1-10 h.p. rating while the generator has a 15-watt rating. The installation proceeded under the direction of H. L. Crisp, superintendent of grounds, in a small room on the first floor of the library. The P-B-X



University of Maryland Library—Location of P-B-X

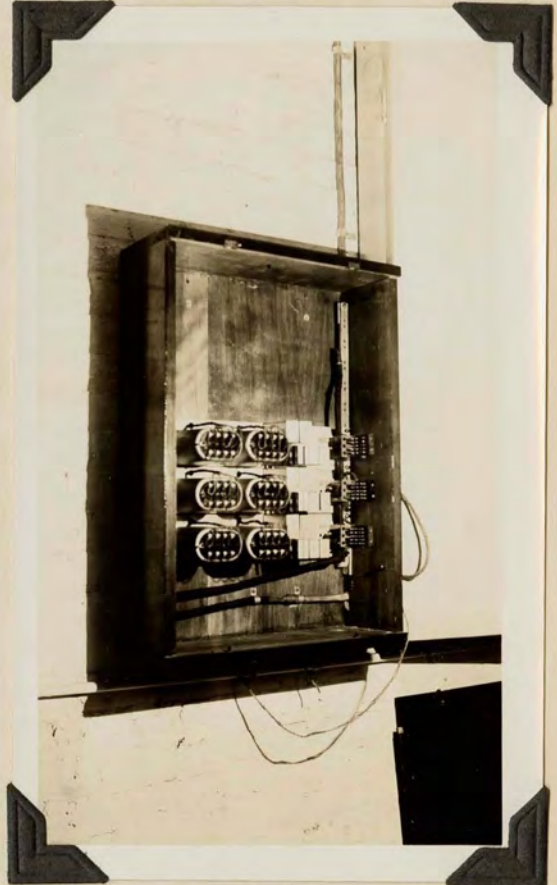
switchboard, with the accompanying equipment, the condenser board, distributing frames and fuse panel (all shown in the pictures) was placed in operation April 1, 1931.



Private Branch Exchange Switchboard



Distributing Frames and Fuse Panel



Condenser Panel

Minor changes made in 1931 were the addition of two Hyattsville Trunks and the addition of ringing equipment at two stations for night service to Berwyn.

The rates per month, in December, 1931, according to Miss Johnson, secretary to H. L. Crisp, were as follows:

	Per Month
Switchboard and Operators Set.....	\$12.00
Rental in Hyattsville Trunks	7.13
Mileage Charge, Hyattsville Trunks.....	3.00
Rental in Berwyn Trunks	5.63
Mileage Charge, Berwyn Trunks	0.75
Special Battery Equipment	2.00
Rate per Individual Station	1.00
Mileage Charge (1/4 mile) Individual Station	0.75
Extensions on Switchboard Stations	1.00

TOTAL..... \$33.26

It might be interesting at this time to note the amount of telephone traffic handled by the F-B-X. An investigation, conducted by Mrs. Merickel, head operator of the switchboard, shows that in five normal days, December 8, 9, 10, 11 and 12, 1931, that more than twice the number of calls were completed through the Berwyn Exchange than through the Hyattsville Exchange, despite the fact that the latter had five trunks to the two trunks of the former. The result of the summary was:

NO. OF CALLS			
		Berwyn	Hyattsville
December	8	90	46
"	9	78	35
"	10	64	26
"	11	67	36
"	12	65	25
	Total	<u>364</u>	<u>168</u>

In comparison to those who utilized the first line constructed at the Maryland College, which only had two stations, telephone users at the University of Maryland may now converse with about 92% of the 35,700,000 telephones in the world. So rapidly has telephone communication been extended during the past few years that the service is now available to about 40 countries.

BIBLIOGRAPHY

University of Maryland Officials:

Dr. ^{K.P.}Patterson, former President and Dean of Agriculture.

Dr. H. ^BJ. ^{well}McDonald, Prof. of Chemistry

~~Dr. L. Y~~ Hodgins, Electrical Engineering Department.

Prof. H. L. Crisp, Superintendent of Grounds.

Miss ^{B.W.}Johnson, Secretary to Prof. H. L. Crisp.

Chesapeake and Potomac Officials:

Mr. Oliver Martin, Editor of the "Transmitter."

Mr. Frank Little, Head of Baltimore Commercial Division.

Mr. E. F. Hill, Information Department, Washington.

Mr. Banner, Manager of Hyattsville Exchange.

Dr. Alfred H. Wells.

~~Dr. Hampton Hickey.~~

Hyattsville "Independent", April 3, 1931; February 17, 1927.

"The Diamondback", October 21, 1930.