

**SEASON**  
**1937 - 1938**

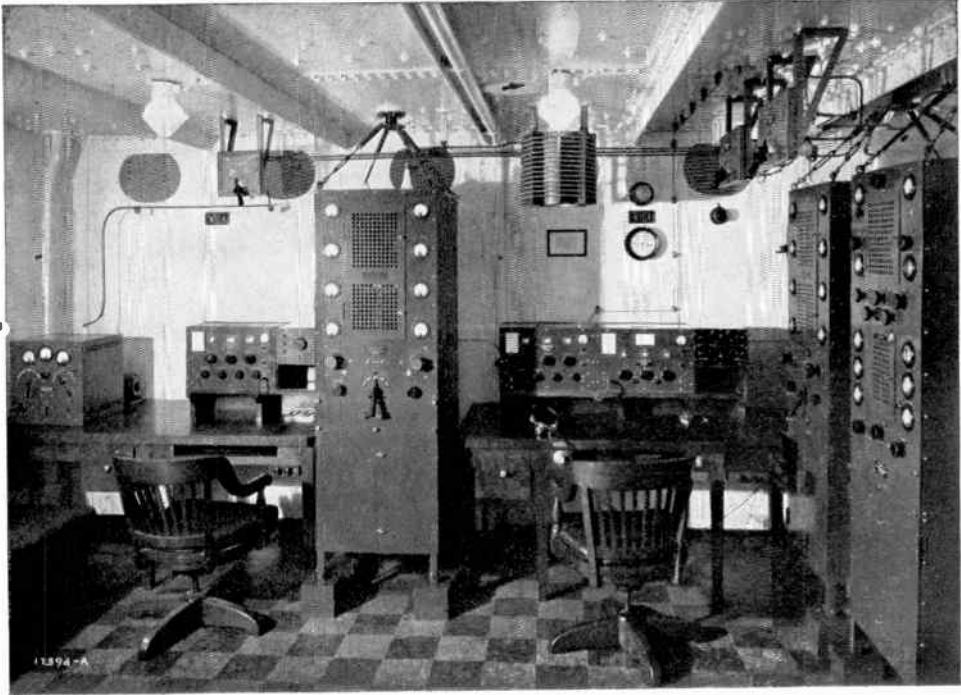
**Massachusetts Radio**

— and —

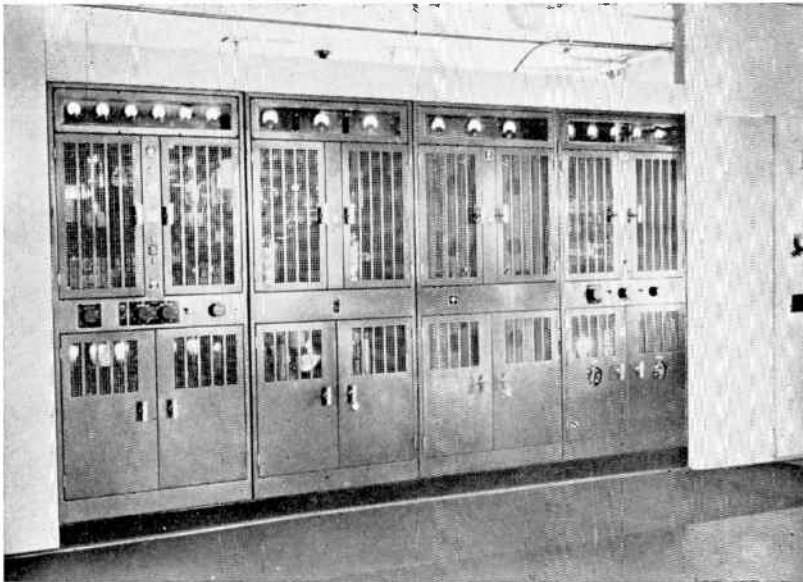
**Telegraph School, Inc.**

**18 BOYLSTON ST., BOSTON**

HANcock 8184



S.S. Manhattan, U. S. Lines, Installation by MacKay Radio Co. Leonard Pratt, Quincy, Mass. Radio Grad., Chief Operator. Over a hundred Mass. Radio men are on MacKay Ships.



*Photo by Linnell*

WNAC—5 KW Western Electric High Fidelity Transmitter at Squantum, Massachusetts

# MARCONI



*Guglielmo Marconi*  
*Presidente della Reale Accademia delle Scienze*  
*Senatore del Regno*

*many thanks + good wishes*

## In Memoriam

Marconi, the inventor of wireless, passed on this July leaving behind a system of communication that bears his name. As a young Italian he discovered in 1895 that electrical signals could be flashed from one place to another without the use of wires. Other scientists before him had produced the various individual component ideas used by Marconi but it remained for the young Italian to adapt the crude devices and assemble them into a working unit he called "wireless."

The world, and especially those actively connected with radio, turns today in gratitude to the memory of the man who tore down the barriers of distance and made all men neighbors.

The personal card of the inventor, Marconi, shown above, was sent to one of our graduates, Mr. Harry Cheetham, chief operator of the Somerville Police Radio station when the latter was confined to the Marine Hospital in Chelsea, Mass., during his recent illness.

In radio parlance "the end" of transmission is indicated by the signal SK (...-.) and while we all pay tribute to the passing of the man nevertheless the good that he has done, the real creative thoughts of the man still live on for the benefit of mankind.

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# THE STORY IN BRIEF

## Here Is the Story in Brief

Radio today offers the young man an excellent chance to prepare himself for a healthful profession which is not overcrowded. A profession where we have been able to maintain a 90% placement record during the past 7 years. Primarily we specialize in the training of young men to enable them to pass the U. S. Government examinations for the various types of radio operators licenses. **THESE LICENSES ARE REQUIRED BY LAW BEFORE YOU CAN OBTAIN THE REAL GOOD JOBS IN RADIO.** With the exception of radio service and repair work practically all positions of prominence require these licenses.

Our courses of instruction are held both day and evening. In either course you are prepared for (1) The Amateur License; (2) The second class Radiotelegraph License; (3) The first class radiotelephone license often referred to as the Broadcast license. In the **DAY CLASSES** you are given in addition a one months' practical course in **RADIO SERVICE** and **REPAIR** work and a one months' practical Laboratory course on various transmitters, broadcast speech equipment, storage battery and power supply equipment. All this preparation requires **NINE MONTHS'** instruction in the **DAY CLASSES**. Evenings, it requires **SIXTEEN** months and no instruction is given in radio service in the regular license course. This must be taken if desired in other classes held on other evenings. (Tuesdays and Thursdays.)

In either the **DAY** or **EVENING** classes we cater to and expect beginners. We run a **TWO MONTHS'** beginners course, or preparatory course, and these courses are followed by advanced courses of **SEVEN MONTHS** days, and **FOURTEEN MONTHS**, evenings. This makes a total of **NINE MONTHS** in the **DAY CLASS** and **SIXTEEN MONTHS** in the **EVENING CLASS**.

Code Instruction both sending and receiving and theory lectures are given daily. Hand sending is also taught. Traffic and the proper handling of all types of radiograms is explained. After training, the student is examined first by the School officials and then by the government radio inspectors, who give the examinations for all types of **RADIO OPERATORS' LICENSES**. There is no charge for these examinations and they are held every week. There is no waiting for an examination to be held as in civil service.

Tuition is reasonable and can be paid either weekly or monthly.

**THERE IS NO CONTRACT TO BE SIGNED FOR A COMPLETE COURSE. IN OTHER WORDS YOU ARE UNDER NO OBLIGATION FINANCIALLY OR OTHERWISE.**

New classes for beginners admitted every **EIGHT WEEKS**.

Employment conditions are best in **SEVEN YEARS**.

**NINETY PER CENT** of our licensed graduates, over 500 men, during the past **SEVEN YEARS** have been placed. **THIRTY-FIVE** licensed men were placed during **JULY-AUGUST-SEPTEMBER, 1936**.

**OVER 800** new second class radio operators will be needed within a year to fulfill the terms of the Safety of Life at Sea Convention requirements just ratified by the United States.



Location of Massachusetts Radio and Telegraph School, Inc.  
Cor. Washington and Boylston Sts., Boston, Massachusetts

**By G. R. ENTWISTLE**  
**President and Radio Director**

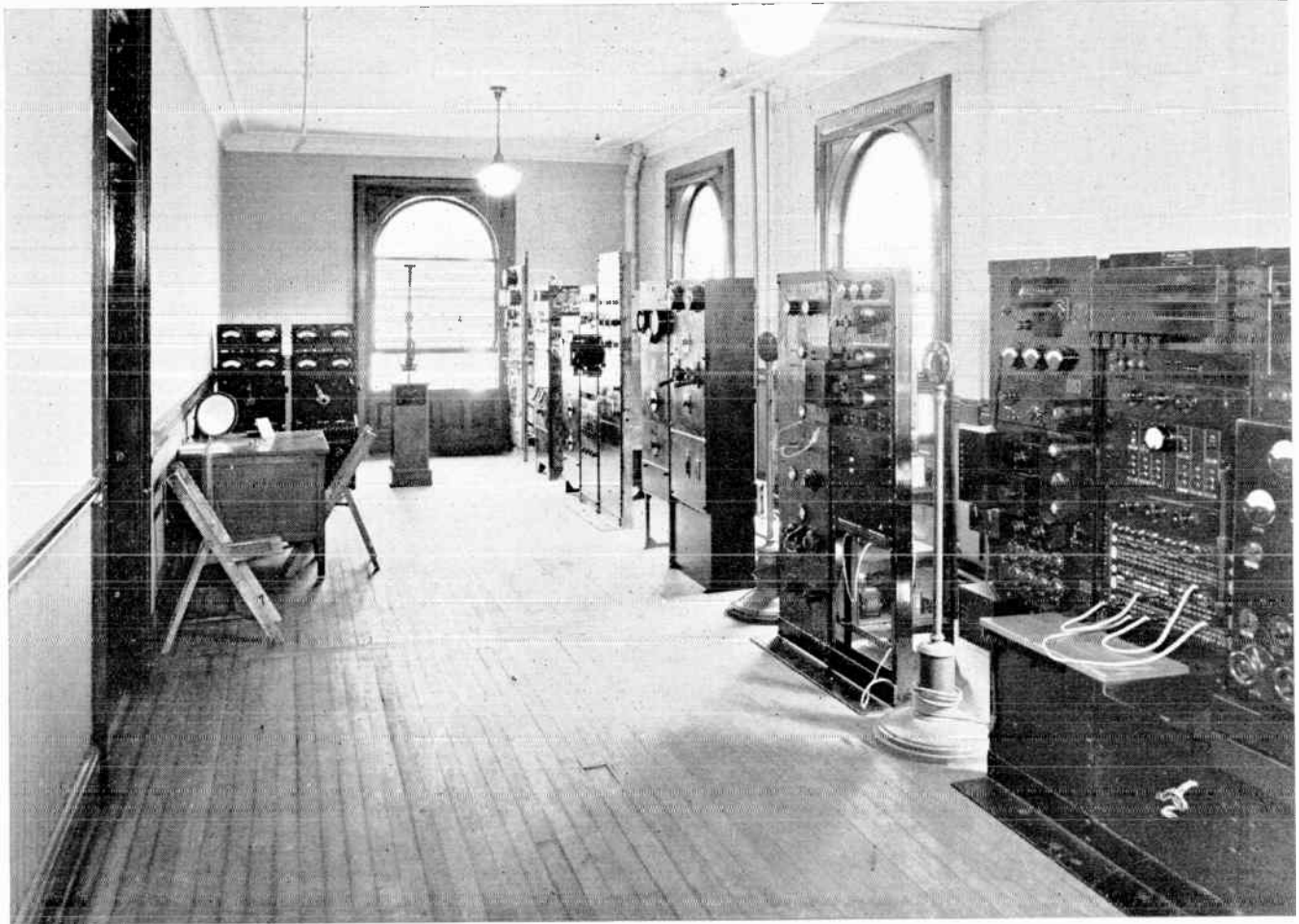
*To the Reader:—*

We are glad to send you one of our latest catalogues, which gives a general idea of what Radio offers and our proposition in brief. We feel that it reflects the ideals of the school. All sensationalism and exaggerated claims have been eliminated, as we do not appeal to this sort of student. If there are any special questions you wish answered, please do not hesitate to write for further information.

Devoted from the beginning wholly to training individuals for modern communication service, it has been entirely a natural development for the Massachusetts Radio and Telegraph School to become the leading Radio School in New England.

Established originally in 1899, as The Boston School of Telegraphy, this institution has kept well abreast of the times. In 1908, the first commercial wireless station in Boston, a De Forest receiving and transmitting set, was commissioned at this school.

Before you begin the study of Radio, it would be well to finish reading this catalog completely, as it contains the latest information available in Radio.



Main Radio Laboratory at Massachusetts Radio School. All this equipment is wired and running and used by the students under supervision of instructors.

# LEARN RADIO

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When you compare the present condition of the RADIO INDUSTRY with conditions generally prevailing throughout the country, some startling facts are brought to light.

Whereas several millions of Americans have no regular jobs, some estimates run as high as 10,000,000 American Federation of Labor report and the federal, state and local governments are caring for nearly 20,000,000 people it is assuring to find a profession that has not been as seriously effected by the troubled conditions of industry as a whole.

Not that RADIO has not had its unemployment conditions and still has some who are not as yet absorbed, but the industry certainly has done better than the country as a whole and at the present time is in a very healthy condition as far as employment is considered.

For Instance you can't get RADIO SERVICEMEN anywhere who can go right on a job and start working without a probation period to learn the "ropes." Even radio school graduates are scarce. There are no Mass. Radio Service graduates at this writing, August, 1937, who have not been placed and we could place many more if we had them. Some of the companies are trying to import men from other cities only to find that the same conditions of shortage exist in those cities as well and that the shortage of skilled radio men is nation-wide.

On November 7, 1936, the International Safety of Life at Sea Convention was ratified by this country after 7 years delay. Some 800 new second class radiotelegraph operators were needed to help fulfill the terms of the act. Since they could not be obtained and along with other reasons the steamship owners were given a year's extension of time to comply with the act. Imagine this and the radio ship operator is the oldest job of all in the entire profession. However, these ships will have to be equipped within a year and operators furnished.

Every American vessel over 1600 tons engaged in international trade, and every vessel over 5500 tons passenger and freight will have to have a continuous watch while at sea by competent radio operators holding suitable U. S. Government radio operators licenses. Every freighter over 5500 tons will have to have at least one radio operator on board. This law has been in effect for the past seven years in most of the other large nations of the world.

Recently a large Airways company was forced to start a school of its own to obtain radio operators of a type demanded by it.

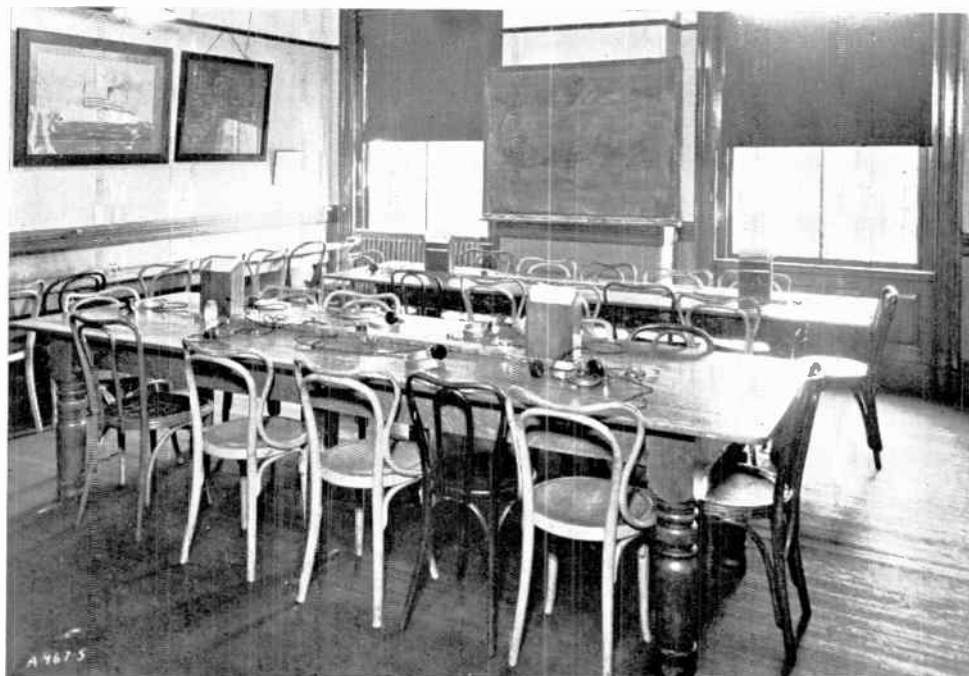
Pan American Airways is still in the market for A-1 radiomen who can meet their standards which incidently are about the most rigid in the industry.

Certainly the healthy demand for good men by the radio industry does not reflect the generally poor conditions of employment elsewhere. However things in general are improving and the country is at least finding itself and going forward.





Main Office, Room 508—18 Boylston Street, Boston.  
G. R. Entwistle, President, Gladys I. Hunt, Secretary and Registrar.



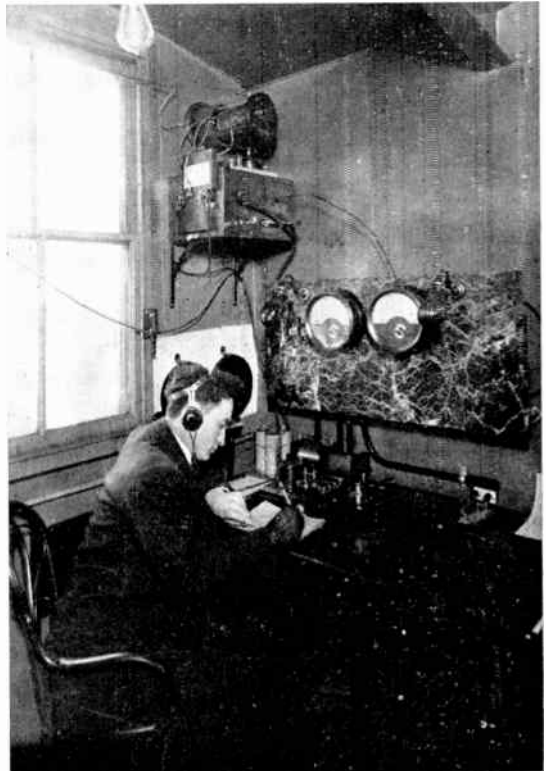
Advanced Code Test Room

## Labor, Statistics, Wages

There are about 45,000,000 workers in the country. About 35,000,000 are gainfully employed. Only 2,500,000 individuals pay income taxes, and the lowest income exempted from taxation is that of an unmarried person with a \$1000 yearly income. One of the large research institutions says there are 10,000,000 persons in this country with incomes under \$1000 a year, another 8,000,000 with incomes between \$1000 and \$1500 a year and about 6,000,000 persons with incomes between \$1500 and \$2000 a year.

Here is a grand total of 24,000,000 people with incomes of less than \$40 per week and many of them married.

After a few years experience and apprenticeship in any of the branches of the radio industry will bring at least \$40 a week and in many of them much more. Operators on Fish Trawlers get the equivalent of \$50 per week including their board and room. The United Fruit Company, The Ford Motor Co., The Standard Oil of New Jersey, and many others pay their Chief Operators around \$50 per week. Many of the Chief Operators at the medium sized broadcasting station receive well over \$50 per week. Live wire servicemen can earn this figure and over if they have a head for business principles and do not extend too much credit. Television will pay well as it will demand GOOD men. They will have to be above the average as these stations are really two stations in one, a sight broadcasting station and a sound broadcasting station. These jobs will pay well.

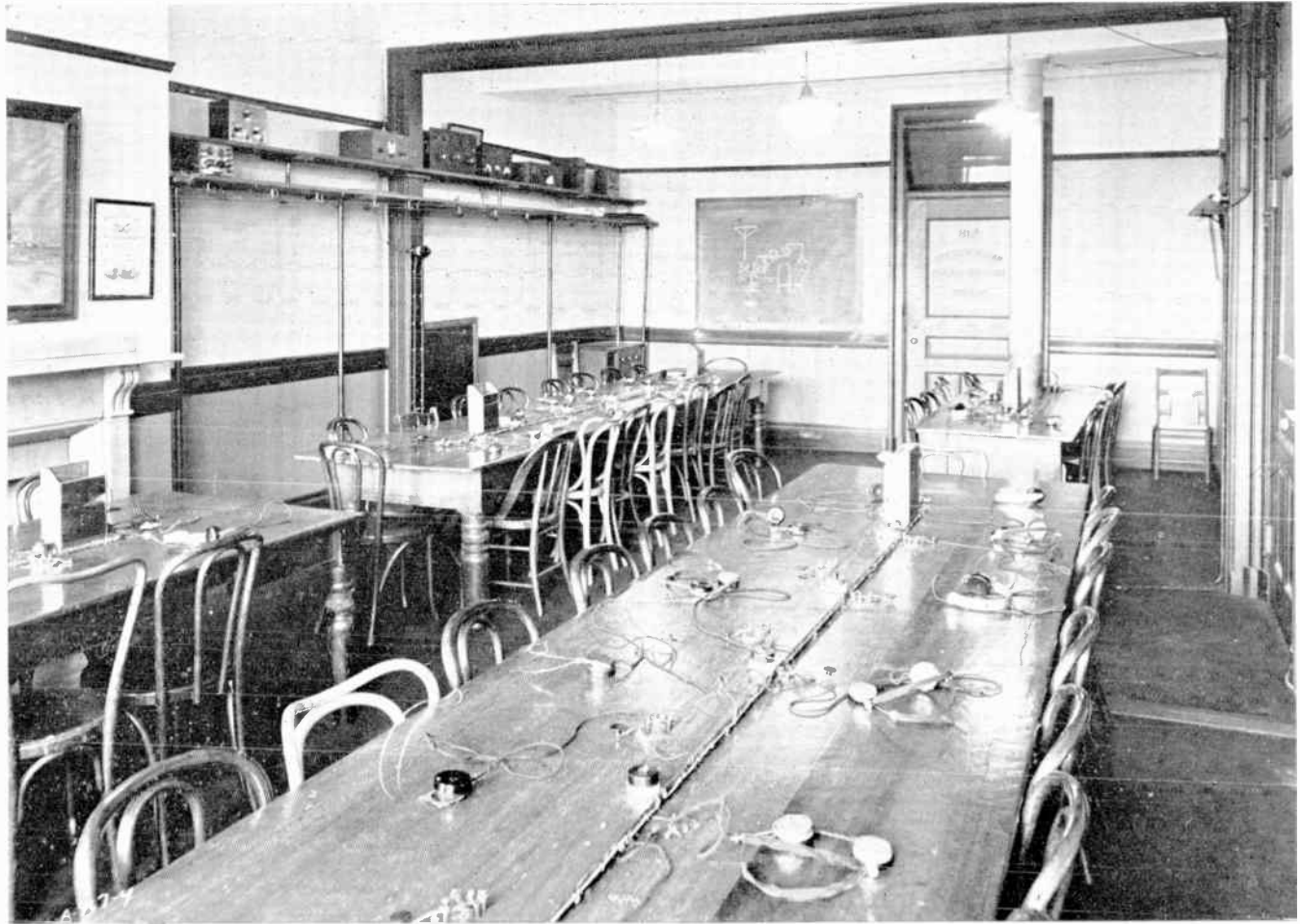


First N. E. Radio School "wireless" installation located at 18 Boylston St. in 1908

After a short course at a reasonable price you can prepare yourself to become a licensed radio operator and get into the radio industry which certainly has established itself as a permanent one and one with plenty of future.

## Experience Counts

This catalog has not been written by an advertising man who is paid to think up glittering phrases and catchy adjectives and superlatives without really having had experience in the matter written about. Rather it is written by a man who has had nearly 30 years radio background, most of which has been spent in the training of operators and placing them after graduation. One who has held a



Intermediate Code Room—Advanced Lecture Room.

license for over 25 years which is still in force and who has actually worked as radio operator on shipboard and at one of the country's first broadcasting stations Amrad WGL. He has seen the industry grow and has taken part in its growth and can also see its future possibilities. At Mass. Radio School you will be trained by men who have no other interests but their school work and who devote their entire time to such work.

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## RADIO OPERATOR'S SALARIES

The average pay for radio operators after graduation runs around \$25.00 per week. In some cases, such as on shipboard it is higher. Broadcasting, aviation, police radio, laboratory work will pay around this figure.

In case of shipping some salaries run \$35.00 per week and some as high as \$50.00 per week when you count in the board and room which is always free on shipboard.

The larger broadcast stations start men off at \$30—\$35—\$40 per week but you must be of the type to command it.

Pan American Airways start apprentices at \$100.00 per month and pays operators from \$125.00 to \$137.50 per month to start and all big operating companies run up as high as \$200.00 per month after a few years service for the real operators.

As in other fields your pay depends largely upon your efforts and ability.

Land stations pay from \$150.00 to \$200.00 per month.

Radio operators are paid well and wages are increasing and hours are becoming shorter.

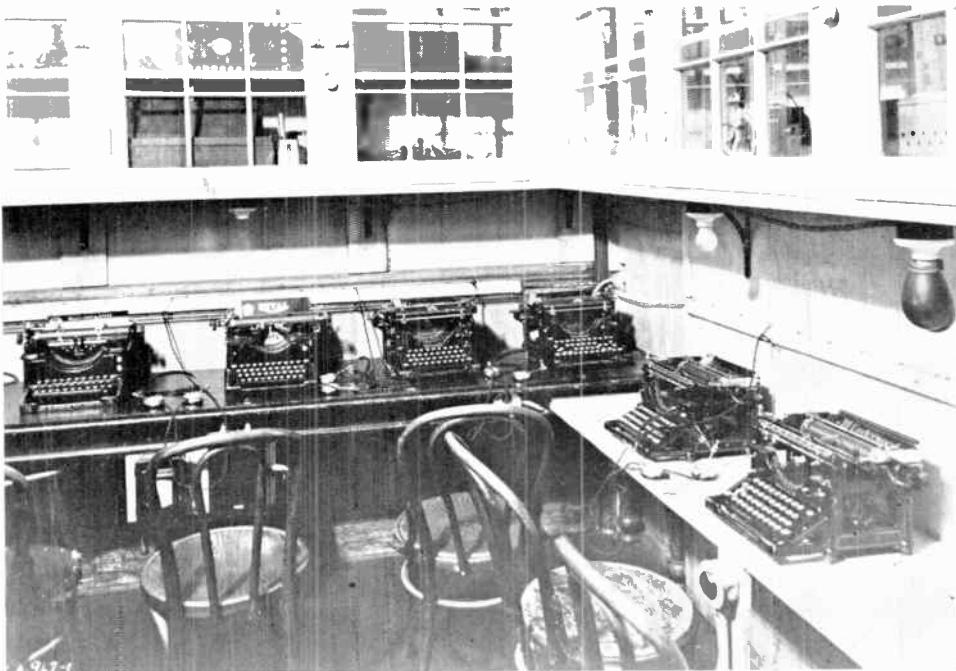




It is with pleasure we announce that  
**MR. THEODORE R. McELROY**  
holder of the  
**WORLD'S CHAMPIONSHIP IN RADIO RECEIVING**  
with a record of  
**69 Words per minute**  
and holder of a **First-Class Radio Operator's License**  
is a graduate of the  
**MASSACHUSETTS RADIO AND TELEGRAPH SCHOOL**

"Mac's" three brothers, Charlie, William and Paul also attended Massachusetts Radio School and all were successful in securing licenses and good positions. Charlie later graduated from Harvard and William holds a Captain's license and also is a Harvard Graduate. Paul is at the MacKay Radio Station at Southampton, Long Island. "Mac" is the inventor of the "Mackey" and an oscillator bearing his name as well as a photo-electric automatic sending machine used for code practice called the "Mac-Auto."

The "Mackey" is a popular key with both the Amateurs and the commercial operators. The U. S. Navy used 2000 of them recently and other Governments are interested, McElroy said.



Typewriter Room and Supply Room.

# TELEVISION

There seems to be considerable misunderstanding concerning TELEVISION in the minds of the radiopublic. We feel the public as well as the prospective radio student is entitled to know the facts relating to this latest child of RADIO. The student who plans to study radio wants to know where TELEVISION fits into the radio picture and just where he can profit by its arrival. Also when he can reasonably hope to see it used commercially.

First of all let it be truthfully said that TELEVISION is nearly ready for its commercial debut. In the laboratories it has made wonderful strides. The 441 line scanning has arrived and this is the ultimate goal hoped for. RCA and Farnsworth (Philco) have it. Columbia Broadcasting System which uses RCA equipment has it. Also the clarity of the pictures is remarkable, in fact excellent. Then what is holding TELEVISION back. Several factors, mostly from the commercial angle. Several of the larger cities have TELEVISION. New York has its RCA Empire State transmitter which furnishes a more or less regular program. Also its CBS station on top of the Chrysler Building (RCA system). Philadelphia has both RCA and the Philco station which is the Farnsworth system. The West Coast has its Don Lee System. Television has made rapid strides abroad notably in Germany, England, France and Italy where the various nations see important possibilities for its adaption to war, as well as commercial promotion.

When will TELEVISION be here commercially? The answer is soon. What is holding it back? The answer is several things. First of all the very nature of television is different than Broadcasting as we have all grown up with it. Any old crystal set purchased in 1921 will still bring in music of good quality regardless of the improvements made over the years. Television listeners or rather "lookers" must wait until each of the various *systems* are standardized according to rules and regulations set up by the Federal Radio Commission which is the Government regulating body for all radio activity. When you eventually purchase a receiver you want to be sure that you can pull in all the stations run by competing companies.

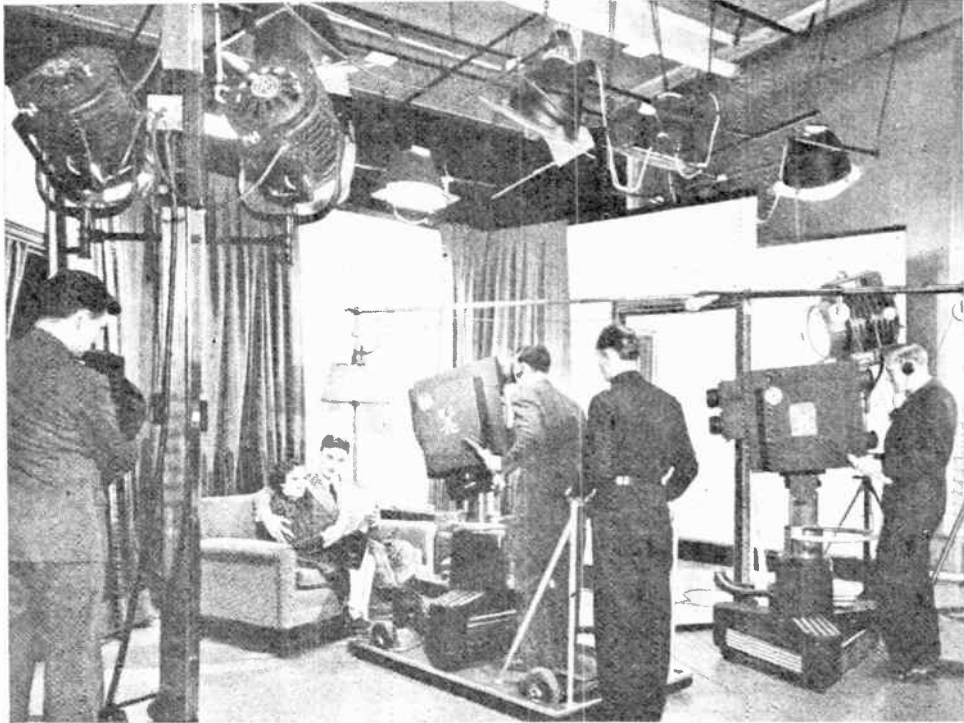
Another factor is the enormous cost of the TELEVISION transmitting stations which run around a half million dollars each. Also who is going to pay for the programs? Will you use more toothpaste than you do now if TELEVISION should start tomorrow? There are the chain programs which require a chain of stations. The ultra-short wave nature of the transmission of TELEVISION and the wide range of frequencies used does not lend itself well to chains. Of course all this will be corrected with time. Improvements will come as they did in radio-broadcasting. In any art the laboratories are always ahead of what the general public knows.

What about the types of men that TELEVISION will give employment to? First of all remember United States Law requires ALL operators at ALL radio transmitting stations to be LICENSED. This includes TELEVISION stations. Hence first of all if you expect to get into TELEVISION you must obtain a LICENSE. This requires training at an old time reliable radio school, not the fly by night type of school that is here today and gone tomorrow. Don't waste

time on radio courses that are being tried for the first time on you. The opportunities in TELEVISION will first come to those better than average radio operators NOW IN RADIO.

There seems to be a prevailing idea that TELEVISION is some new subject whereas it is just a branch of the radio tree. Therefore it is absolutely essential that the prospective television technicians be thoroughly familiar with the principles of radio.

Before you become a Television operator you should be a radio operator.



Television Studio showing how sight programs are telecast. The Iconoscope or "IKE" replaces the "MIKE" or microphone

Students should understand that all Applicants for any of the U. S. Government Radio Operator's Licenses must copy the code test in their own handwriting. Also, when taking the hand sending test they will not be permitted to use "Bugs" or automatic keys. Massachusetts Radio Students are trained with these ideas in mind from the start.

After they have developed their own individual hand sending style, students are permitted to practice with automatic keys after class hours. We also have available typewriters for practice in copying code directly on the typewriter or "Mill" as it is called.

## TELEVISION COMMENT

In the New York Times of August 1, 1937, radio leaders reveal plans and forecasts for the future. They see prosperity. They discuss the Television outlook. In order that the prospective student may not be swept off his feet by catchy ads from new Television Schools let us see what they say. Remember, these men are real LEADERS and know what they are talking about.

Dr. Alfred N. Goldsmith, formerly head of engineering for RCA says—  
 "Still on the horizon, but ever looming up more clearly stands commercial Television. The coming year will witness still further advances which may herald commercial television within the next few years."

E. F. McDonald, President of Zenith Radio Corporation—"Television is still a laggard. It is coming but is still a long way off for general use in the home."

A. T. Murray, President United American Bosch Corporation.—"To make Television really worth while to the average user means that all motor cars must have complete shielding on their ignition and generator sets, because a television receiver today located in a home perhaps 100 feet from the highway has the picture practically eliminated by 'static' every time a motor car goes by the home. It seems as though commercial television was still very definitely well in the future."

David Sarnoff, President, Radio Corporation of America (the foremost exponents of television in the country). "Television as a public service still lies in the world of tomorrow. Visitors to the exhibits of the New York Worlds Fair in 1939" (mark this—) "will be given the opportunity to witness a large scale public demonstration of the progress and possibilities of this fascinating new medium." Any prospective radio student who has special leanings toward television and who may be unduly influenced by some of the promises contained in the ads of new television schools should mark well the above remarks by leaders of the radio industry especially those of Mr. Sarnoff whose company is well in the lead in this country in television development.

Before you invest—investigate and this applies especially to Television.

Henry M. Lane, Radio Editor of the Boston Post, Graduate and formerly a professor in the communications department of the Massachusetts Institute of Technology, or what is popularly known as "MIT" and a leading authority on radio with over 30 years background has the following to say on television training in a recent article in the Sunday Post.

"Monthly, weekly and sometimes daily news of fresh advances in the art of television in the large laboratories in this country brings the general public to realize it is only a question of time before we will be 'looking in'."

To a group of young men it looks like the promise of a spectacular and profitable future. They vision the future demand for experts in the fields of servicing, manufacturing and operating television apparatus and they have begun to look around for the necessary training. Evidence of the demand for training in this new field is the manner in which "Television" schools are appearing.

Television is a specialized branch of communications. It is a unique combination of established practices. It is complex, and to have a thorough knowledge of it one must have a thorough grounding in electrical communications, vacuum tubes, and allied subjects. To gain this information the usual procedure would be to go to a technical school of college grade and devote four to five years in study of the most rigorous sort. This course requires a certain high standard of mental equipment and preparation on the part of the student.



Consider then the chap who suddenly decides to become a "Television" expert and who may or may not have the preparation or capacity to gain admission to a technical school of high standing. He is easy prey to the "ad" that will promise him a thorough training in six months to a year.

At best all the student can hope for is an elementary instruction. There is a great difference between instruction in the ELEMENTS of a subject and the FUNDAMENTALS of a subject. How can a Television school hope to accomplish in less than one year what the best technical schools cannot do in FOUR years?

Any good television school must cover essentially the same ground as that covered in a good RADIO SCHOOL. (This is what we have preached in our advertising for years.)

"As in every case it is the men who do the instructing that make the school. Equipment is important and a great aid to the student. It is however of secondary importance. There is no easy nor quick method of becoming a television expert."

Let the youth who is fascinated by the word television examine all of the possibilities and difficulties before diving into just any school.

The radio public and especially those young men interested in television can rest assured that the old time radio school will keep abreast of the times and give whatever Television instruction is necessary depending on the development of the art and the demands made by the trade. Always keep in mind that television is only a branch of the huge radio tree and not something apart and separate.

We at Massachusetts Radio promise to keep abreast of the times and no student entering our institution need fear of missing any kind of instruction necessary to keep him up to date and prepared for the demands to be made upon him after graduation.

---

**There is a bill before the State Legislature to license radio servicemen. If this passes, it will protect the well trained man who has spent time and money to properly prepare himself for this branch of the profession. Certain requirements will have to be met and the public will be protected from the "screw driver" mechanic. Radio is a complicated subject. The modern radio receiver with its ever increasing extra features requires the services of skilled technicians when something goes wrong inside. The RADIO SERVICE MAN of today MUST KNOW what he is doing or he will destroy the necessary electrical balance that makes the receiver work to its best advantage. TELEVISION receivers will be even more complicated and only the TRAINED MAN can hope to survive this new "sight" era that is now upon us.**

**Many otherwise good receiving sets have been rendered all but useless thru the carelessness and lack of skill and knowledge of the one who tried to fix them.**

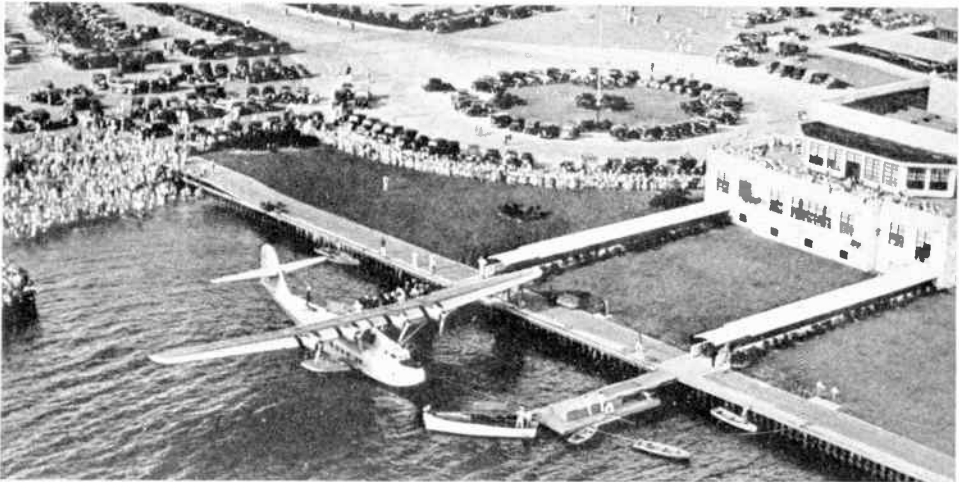
# AVIATION RADIO

## Pan American Airways

### PAN AMERICAN PLACEMENTS — 1936-1937

Only Radio School in United States with This Record

Walter Oesting	Somerville, Mass.	R. W. Edwards	Essex, Conn.
Arthur Peardon	Hyde Park, Mass.	Milton Eldred	Allston, Mass.
John Christiansen	Quincy, Mass.	Carl Mason	Westerly, R. I.
Harold Sweet	Marblehead, Mass.	Fred Coates, Jr.	West Medford, Mass.
George Schlingloff	Beach Haven, N. J.	Robert Taylor	Dorchester, Mass.
Robert Laurie	Hingham, Mass.	Thomas Buckley	Dorchester, Mass.
Waldron Kennison	Waterville, Maine	Charles Serak	Pontiac, Michigan
George Sprague	Quincy, Mass.	R. K. Stevens	Brockton, Mass.
Richard Gumb	Methuen, Mass.	Earl Martin	Oskaloosa, Iowa
Frank Buch	Boston, Mass.	Edward Ferriek	Auburndale, Mass.
Eugene Wilbur	Marlboro, Mass.	Paul Flynn	Worcester, Mass.
Arthur White	E. Boston, Mass.	Richard Cowden	Quincy, Mass.
Kenneth Jones	Needham, Mass.	Almon A. Gray	Blue Hills, Maine
	J. P. Lydon	Framingham, Mass.	



Main Base of Pan American Airways at Miami, Florida

Outstanding among the achievements at Mass. Radio School during the past year was the placing of 25 radio telegraph operators with Pan American Airways in the Eastern Division at Miami, Florida. These men whose names are listed above were selected out of 150 applicants.

Most of these men were apprentices who are to be given a period of training at the Company's base at Miami. Most all of them were green men just out of school but of the type desired by this company. Some of the placements were graduates of a few years' experience who were able to qualify as flight operators after a few weeks' preliminary training.

These men are flying the commercial passenger routes all over Central and South America. They are "flying down to Rio," Buenos Aires, Cuba, Nassau,

Bermuda, San Juan, Barranquilla, Jamaica and other Central American ports. Some of them are doing Maintenance work, installation work, assisting in the building of transmitters, the more experienced take an occasional relief flight over a short run and make themselves useful in general while they are learning the ropes.

Pan American Airways have entered upon a great period of expansion as everyone knows who reads the newspapers. Perhaps it is not as well known as it



J. Christiansen of Quincy  
with United Airlines, Virginia



Pan American Airways Clipper Ship

should be but this Company has not lost a ship in eight years of flying experience. This is largely due to the excellent communications service it has built up. Weather reports, storm warnings, position reports, radio compass bearings and inter-departmental communications are handled by radio in the dot and dash code. PAA flies a code operator on each of its larger ships. Ground stations are maintained at the various landing fields.

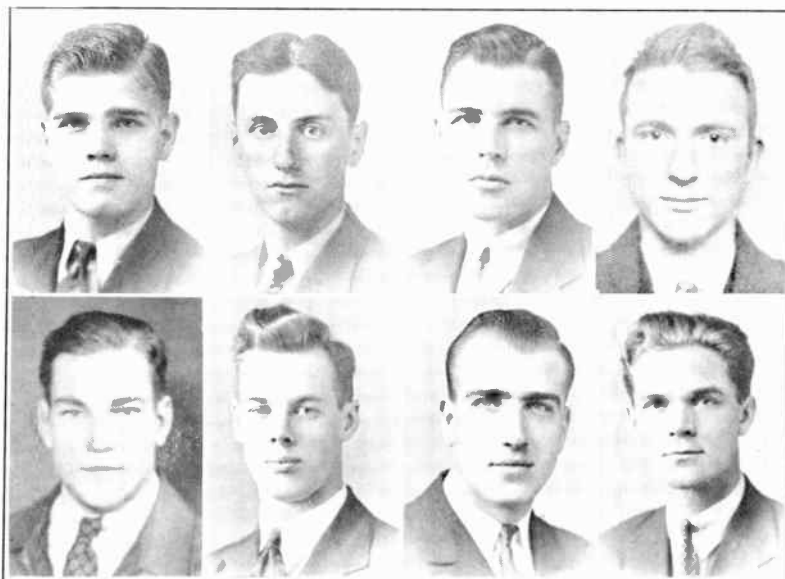
On the recent trans-atlantic flights, it is a significant fact that out of a crew of six, there were two radio operators, thus one-third of the entire personnel were radio men. This was also true in the case of the entire flying British boats coming this way.

It is readily seen that all the large Airways Companies are dependent on a communication service, most of them use radio and the most successful of all use the dot and dash code and fly a radio operator on board the plane. Eventually Congress may enact laws making such procedure compulsory.

Not only has the Mass. Radio School placed many of its graduates in the Miami Division but it also has the distinction of having one of its graduates, Almon A. Gray of Blue Hills, Maine, act as radio officer on the "China Clipper" of the Pacific Division. It also has a man at Port Washington, Long Island, Mr. Richard Cowden who is on the evening watch for the Atlantic Division.

The school is naturally proud of its records with this Company and has been given considerable time to the selection of men and is still on the lookout for men of the right type for future demands.

## Some of the 1937 Pan American Airways Placements



Top:—Serak, Taylor, Stevens, Wilbur

Bottom:—White, Dean, Buch, Eldred

We are greatly indebted to Mr. Henry L. Carroll, a former graduate, who is now Division Communication Superintendent, Eastern Division, who is in charge of the operators from Miami to Buenos Aires for his co-operation in placing the graduates.

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Placements in other Aviation companies follow:

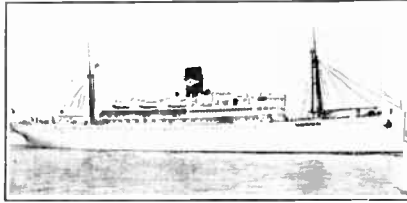
Keith Bullard, Chief Operator	American Airlines, Boston
Joseph Nutting, Assistant Operator	American Airlines, Boston
J. J. Smith, Control Operator	American Airlines, Newark, N. J.
Paul Houston	Eastern Airlines, Miami
W. Ni-kanen	Eastern Airlines, Miami
W. Clark	Eastern Airlines, Miami
Lt. Kaulback, Control Operator	Dept. of Commerce, Boston
Alvin Richards	Dept. of Commerce, Boston
George Gosnell	Dept. of Commerce, Albany
J. Christiansen	United Airlines, Virginia

# TROPICAL RADIO COMPANY

## (UNITED FRUIT CO.)

Throughout the past year we have had the greatest demand for men than at any time for seven years. Not only has Pan American Airways kept us on the jump for men of the right type but several other companies have increased their normal demands.

Among these were the United Fruit Co. who operate their own radio system called the TROPICAL RADIO COMPANY. Many Mass. Radio Graduates have been placed with them during the past year. They have been complying with the new safety of life at sea requirements recently enacted by Congress and which must be complied with by all American steamship companies by November,



United Fruit Company Steamer.

1937. Many of their ships now carry THREE LICENSED RADIO OPERATORS and they work under excellent conditions. The Tropical Radio Company has long enjoyed a high standing among the radio profession for the excellent treatment of its personnel and working conditions are even better today than ever before. Like Pan American Airways they too have rigid requirements for those who wish to join their service.

Our graduates have been employed by this company ever since we started in business years ago. They are found at many of their shore stations in Central America as well as at Hingham, Mass., and Miami, Florida, where excellent shore radio stations are maintained.

Among the successful graduates of the past year or two who have connected with Tropical Radio Company are:

<i>Name</i>	<i>City and State</i>	<i>Ship or Shore</i>
E. King	New Bedford, Mass.	SS Darien
D. Trop	No. Quincy, Mass.	SS Turialba
R. J. Clarke	Stonham, Mass.	United Fruit Co.
L. Smith	Bangor, Maine	SS Darien
E. Prescott	Newburyport, Mass.	SS La Perla
G. Stockbridge	Arlington, Mass.	SS La Perla
R. Cowden	No. Quincy, Mass.	SS Tuloa
C. Hills	Turin, N. Y.	SS San Jose
I. Leo	Yale, Iowa	SS Tela
H. Gleed	Lawrence, Kansas	Bluefields, Nicaragua

## FACTS ABOUT THE SCHOOL

The fact that Massachusetts Radio School has graduated over 550 licensed radio operators during the past 7 years and over 90% of these men, or some 500 licensed operators, were placed in good radio jobs during this time should interest any prospective radio student.

The fact we had over 300 active students in all classes in 1937.

The fact we placed 25 Men with Pan American Airways in one year alone.

The fact that ALL the leading companies hire our men continually over the years should prove our established position in the industry.

The fact that on October 28, 1936, five Massachusetts Radio men out of five who tried, passed the code and theory tests at the Custom House where the U. S. Government radio operators license examinations are held, shows that we are still upholding our standards of instruction and meeting with the usual success in these examinations. This 100% achievement is not uncommon with our graduates. One man Mr. E. Douglass of Ft. Johnson, N. Y., obtained 89.5% on his theory examination from the U. S. Government inspectors.

The fact that most of our licensed radiotelegraph graduates are now placed and the fact we cannot fill the increasing demand for our RADIO SERVICE and REPAIR graduates and the additional fact that there is another business BOOM in the making should dispel any fear of being able to find employment in the minds of prospective students.

Also the fact that for 5 weeks recently we had to refuse a large radio company radiotelegraph operators because there were none to be had should indicate the present and future trend in employment.

We have some unemployment but it is necessary to have several men available to pick from for each job that comes in.

Who wouldn't risk a 9 out of 10 chance of getting placed and with conditions generally improving to increase this placement opportunity, you should take serious thought now toward beginning your radio training at one of America's most successful radio schools.

These and many other facts should convince the prospective student that he should INVESTIGATE the records of this school before he invests his money.

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**Your Radio Director has visited all the RCA and Mackay Radio Transoceanic Transmitting Stations and receiving centers on Long Island, N. Y., and also the traffic terminals in New York City, as well as the Pan American Base at Port Washington, L. I., and Press Wireless, Little Neck, L. I.**

# POSITIONS AFTER GRADUATION

**500 Licensed Placed in 7 Years — 90% of Total —  
35 Placed in Recent Months — Demand  
Best in 7 Years.**



J. S. Dodge  
Chief Op. WNAC-WAAB

We listed so many placements of graduates in the last catalog it took eight pages and there are so many new ones to list that we have decided to take this out of the catalog and make a special bulletin at a later date.

Briefly: over FIVE HUNDRED licensed graduates have been placed in the past seven years. This is approximately NINETY PER CENT of our licensed graduates during this time. Some of the older graduates have let their licenses expire and some have gone into other fields of activity. We recently circularized the unplaced graduates and obtained very few replies from those who are actually available.

THIRTY-FIVE licensed graduates were placed from June to September, 1936. Twelve on shipboard, ten with Airways' Companies, seven broadcasting stations, three land stations, two took service work and one was a miscellaneous position. It is evident that shipping,

aviation and broadcasting lead on the present demand for men with radio service next.

Analyzing the five hundred placements in the past seven years, we find that marine radio took approximately 34%, broadcasting 24%, miscellaneous classes 16%, radio service and repair 12%, Police radio operators 7%, The various branches of the U. S. Government radio service such as the army, navy, coast guard and signal corps took about 5%. Aviation radio 5%, coast station operators 3%, point to point radio 1%.

Our graduates are found in all branches of radio and we thoroughly cover the New England states as well as other parts of the country in all the different types of radio stations.

Some stations have as many as thirteen of our graduates now employed.

We have the largest alumnae of any radio school in New England.

The demand for radio operators is today the best in seven years.

For the first time in seven years, recently, we were unable to supply radio-telegraph operators.

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**"The main value of a wage earner is his mind."** —*Calvin Coolidge.*

## Results Are Better Than Promises

The Following 35 Men Were Placed from June to September, 1936  
From Class of 1936.

<i>Govt. Exam. Percentage</i>	<i>Name</i>	<i>Address</i>	<i>Employment</i>
98.1	H. E. Kent	Boston	SS Ex Caliber
95.0	F. Kennedy	Cambridge	RCA, SS San Juan
92.5	W. Oesting	Somerville	Pan American Airways
87.5	P. Morrison	Bangor, Me.	RCA—Rocky Point
87.0	A. Peardon	Boston, Mass.	Pan American Airways
86.6	E. King	New Bedford	SS Darien—United Fruit Co.
84.5	R. Laurie	Hingham, Mass.	Pan American Airways
84.0	R. Sampson	Livermore Falls, Me.	RCA—SS San Bolivia
83.0	J. Christiansen	Quincy	Pan American Airways
82.6	M. Gelardi	Chelsea	WMEX, Boston
82.5	Capt. Tompkins	Cambridge	Schooner Wander Bird
79.2	L. Travers	Watertown	S/ F J. O'Hara
79.0	R. Rice	Concord	WNBC, New Britain, Conn.
—	K. Strong	Dorchester	WBZ, Boston
76.6	E. Hodgkins	Boston	Raytheon Mfg. Co.
75.5	L. Smith	Bangor, Me.	SS Darien—United Fruit Co.
75.4	H. Sweet	Marblehead	WHDH—MacKay Radio
—	T. Washburn	Hanover, N. H.	SS Algonquin National Geographic Expedition—Alaska

### From other Classes

<i>Govt. Exam. Percentage</i>	<i>Name</i>	<i>Address</i>	<i>Employment</i>
91.2	J. J. Canavan	Whitman, Mass.	Pan American Airways
89.2	G. Sprague	Quincy, Mass.	Pan American Airways
88.4	C. Taber	Lynn, Mass	U S. Coast Guard
88.0	R. Tocco	Boston, Mass.	MacKay—SS Algonquin
87.1	Wm. Novak	Westfield, Mass.	WMEX, Boston
86.5	N. Guertin	Waregan, Conn.	SS Gulf Belle
86.5	H. Mack	Newburyport, Mass.	WHEB, Portsmouth, N. H.
83.9	G. Schlingloff	Beachaven, N. J.	Pan American Airways
83.4	Wm. Robinson	Arlington, Mass.	WHEB, Portsmouth, N. H.
81.5	R. Gumb	Methuen, Mass.	Pan American Airways
81.1	D. Trop	No. Quincy, Mass.	United Fruit Co. SS Carrillo
80.5	J. G. Milne	Dorchester, Mass.	MacKay Radio
79.8	Gerald Hession	Medford, Mass.	SS Cities Service Empire
79.7	S. Harte	Charlestown, Mass.	MacKay Radio—SS Halo
75.0	H. Lockwood	Hyde Park, Mass.	Pan American Airways
—	E. E. York	Watertown, Mass.	SS Swiftflight Bartletts Radio Store Portland, Me.
—	W. Clark	Medway, Mass.	Eastern Airlines

Where else in New England could you duplicate such RESULTS?

Accomplishment is better than promises.

It does make a difference where you attend school.

Train at Massachusetts Radio for Proven Results.





New Home of WEEL at Medford, Massachusetts.

## W E E I — The Boston Edison Station Columbia's Friendly Voice

Above is shown WEEL's new modernistic building housing the latest type 5-kilowatt Western Electric high fidelity broadcast transmitter which is located in Medford near Wellington bridge. This is Columbia's friendly voice in Boston leased from the Boston Edison Company. Mr. Harold Fellows is Manager, Lewis Whitcomb, Asst. Manager, Arthur Eades, Program Director and Philip Baldwin, Chief Engineer and Ralph Cowie, Chief Operator.

WEEL is Boston's third station coming after WGI and WNAC.

Massachusetts Radio School is well represented at WEEL through its former instructor, Philip Baldwin, Ralph Mathewson, Norman Young, A. Teachman and H. Stevens.

The school has the original Western Electric transmitter that the Company installed in a truck and sent around greater Boston as the first portable mobile station. We also have a Western Electric speech rack which they recently replaced with other equipment which is used for instruction purposes.

Two former WEEL employees from the school have moved to other stations. One is Lloyd Sigmon who is Chief Engineer of KCMO, Kansas City, Missouri and three other stations. Another is Roger Ellis who is Chief at WWJ at Detroit, Michigan.

## W N A C ~ W A A B STUDIOS



Yankee and Colonial Network Headquarters of WNAC—WAAB

We have about a dozen graduates employed by the Shepard Broadcasting Co., owners of stations WNAC-WAAB located at Boston and Squantum, a part of Quincy. They are J. S. Dodge, Ingalls, Fregeau, Rich, Philbrook, Miller, T. Foster, B. Foster, Whitledge, J. Lawler, F. Lawler, Crennan, Wolf, W. Entwistle. At the control rooms in Boston these men operate the latest devices in studio equipment. As the key stations of two network chains they are experienced in all phases of the art of broadcasting technique. They are sent out on all kinds of special pickups and meet many celebrities, noted artists and performers. At the transmitter station in Squantum they work on the latest Western Electric broadcasting equipment. This includes a 5 KW high fidelity transmitter, a 1 KW Western Electric transmitter, a 7 meter short wave transmitter, a 5 meter ultra-short wave transmitter and another composite set. The latest type vertical antennae like the one shown on the cover is also used.

Stations WNAC-WAAB of the Colonial and Yankee networks are the key stations of two broadcasting chains covering New England. They are the outgrowths of the former Shepard Broadcasting Service of which John Shepard, 3rd, is President and the guiding genius. Mr. Shepard early saw the possibilities of radio broadcasting and devoted his every efforts to its development in this section.

R. L. Harlow is Vice President and General Manager and was formerly sponsor of the old Filene Radio Club of which the writer was President, and where many of us old timers received valuable information from Harold J. Power who can properly be called the father of broadcasting in this country. Professor Paul Demars is Technical Director, Irving B. Robinson is Chief Engineer. Jack Dodge, a Massachusetts Radio Graduate is Chief Operator of the Transmitting Stations at Squantum.

## Our Graduates In Local Broadcasting Stations

After a school has been established as long as Massachusetts Radio there is no need to deal in generalities and promises. Rather it is best to state facts and let the prospective student who is about to invest his money for a radio education judge for himself the merits of a school from its accomplishments.

There is no better place to do this than to look right in the schools "home town" and see how it fares with the local people who are on the spot and well able to know the merits of the various schools in the field.

Let us begin with stations WNAC and WAAB of the Colonial Network or what used to be called the Shepard System.

When we tell you there are THIRTEEN Massachusetts Radio Graduates at least NOW WORKING at these two stations alone it speaks more for us than generalities, more than promises. Some of these men have been employed there since the station was first started.

Take WEEL. At least FOUR graduates are employed at this Columbia Network Station, whose chief operator is a former Instructor at Massachusetts Radio.

The combined stations of WBZ and WBZA have FIVE graduates at least.

Then there is WMEX. Practically the entire crew of operators as well as the owners themselves are graduates of the school.

The same is true of WHDH where the owner and most of the operators studied here and received their licenses.

We have graduates at WORL and WCOP.

In other words we are represented at ALL the local stations with anywhere from one to THIRTEEN licensed graduates and you can't do much better than that.

Go along the waterfront and you will find the same story. For several years past 75 per cent of the radio operators on the Eastern Steamship fleet have come from Massachusetts Radio. This is the largest coastal fleet in the country serving an area from Halifax, Nova Scotia to Norfolk, Virginia. Some boats, such as the SS Acadia have three Massachusetts Radio graduates aboard this year.

Let us look at the radio operators union, the ARTA. The local manager and National Vice President Richard Golden as well as the majority of the members are Massachusetts Radio men.

Take the RCA COMMUNICATIONS CO which operates a point to point land radio service all over the country as well as TRANSOCEANIC circuits through Rocky Point, Long Island, What do we find here? The Manager J. F. Rigby and practically all of the operators either graduated from the school or have attended for special instruction.

Go down to Hingham, Mass., where the Tropical Radio Company, the radio communication system of the United Fruit Co., has a large shore station and you will find the school well represented both in operating personnel as well as in the maintenance end.

Travel down towards the Cape and look in at the world's largest marine shore station and what do we find? Out of twenty one licensed operators you will find at least SIX Massachusetts Radio graduates now employed and in active duty copying ship traffic from all parts of the globe. It is perhaps little known that these operators work the Dollar Line ships all the way around the world from Chatham, Mass.: Stations WIM—WCC.

Go Northward to Rockland, Maine and you will find one half the crew at the Mackay Radio Marine station there are from 18 Boylston Street.

Lest we travel too far from Boston let us come back and look at the Police Radio situation.

We trained ALL the Arlington Police radio operators. All the Quincy Police operators. all the Brookline men, most of the Cambridge men, some from Fitchburg, Everett, Hull, New Bedford, Revere, Salem, Brockton. WE have graduates at the Metropolitan Park Police Radio headquarters as well as at the Boston Police headquarters on Berkeley Street. The school is well represented in the State Police Radio system at all their stations. In fact to make a long story short you will have a hard time finding a radio station where the school is not represented.

These facts should be considered by the serious minded student who contemplates the study of radio before he enrolls at any radio school.

We take enough interest in our graduates to find out what they are doing AFTER they graduate as well as assist them in finding placements when they have completed their course of instruction with us.

We keep active records of these placements and will be glad to show them to prospective students. Considerable time is devoted to our placement bureau and Massachusetts Radio is proud of the fact that it can make the claim of placing more graduates than all other Boston schools combined. WE have recently placed graduates of other schools when our own were not available. Some of these men were surprised to find that we were interested in our men AFTER graduation. The truth is that the Radio Director has spent about as much time with the graduates this past year as he has with the active students. With an alumni as large as ours, with classes running over 300 students a year it takes considerable time to help place the men. Large Companies employing Licensed operators know we are in touch with the cream of the crop and are constantly calling on us for operators. Perhaps it is little known that for a five week period around January and February, 1937, we could not supply men to Pan American Airways nor the Tropical Radio Company as the demand for operators was so great.

You have a right to expect employment assistance from your radio school and Massachusetts Radio School has always had the reputation of placing its graduates, as well as getting them by at the Custom House. This is a good reputation to have and we expect to live up to it.

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**The trend to legislate shorter hours of employment in the industry of the country will further increase the demand for more licensed radio operators. This together with the demand for longer hours on the "air" by some of the limited time stations all helps to increase the demand for men—trained men who hold licenses.**

## OUTSTANDING ALUMNI

Outstanding among our alumni are the following men who now hold down key positions in the radio industry. T. R. McElroy, world's fastest radio telegrapher at 69 words per minute and inventor of the "*Mac key*."

Henry L. Carroll, Division Communication Superintendent, Eastern Division, Pan American Airways, Miami, Florida. Almon A. Gray of Blue Hill, Maine radio officer of the Pan American Airways "China Clipper." Alfred Esten, Pan American-Grace Airways located at Lima, Peru. John J. Smith, formerly radio officer of the S. S. Leviathan and now attached at the control station at the Newark Airport, Newark, N. J. John Morse radio engineer at WOR, L. Bamberger, Newark, N. J. H. Short, RCA Transoceanic radio station, New Brunswick, New Jersey. Clayton Donaldson station KYW, Westinghouse, Philadelphia, Pa. Cyrus Knowlton, station WLW, the Crosley 500-kilowatt station, Cincinnati, Ohio. Irving Weston, radio inspector for Federal Communications Commission, Chicago. E. M. Howland, radio operator of Vincent Astor yacht, Nourmahaul, that carries President Roosevelt on his frequent vacations. R. G. Matheson owner of station WHDH. Alfred Pote, owner of station WMEX. Captain Warwick Tompkins of the Schooner Wander Bird. William Turner, Boston & Maine Airways. Jack Dodge, chief operator WNAC-WAAB, Shepard Broadcasting System. R. H. Hammond, chief operator station WHDH. C. S. Perkins, manager New England Division, Electrical Research Products Company (Western Electric Company). Jonathan Eldredge, chief operator, marine radio station of MacKay Radio Company, Southampton, L. I. John S. Carter who like McElroy also copied 69 words per minute at the Brockton Fair contest now with RCA Communications, Inc., Boston. J. F. Rigby, Manager RCA Communications, Inc., Boston. Harry Chatham, chief operator Somerville Police. Sgt. John Duffy, chief operator, Quincy police. Sgt. James J. Greene, chief operator Brookline police. Richard Golden, vice president American Radio Telegraphers' Association in charge of the New England Division. Harlan W. Powers, American Telephone and Telegraph Company, transatlantic telephone station, Lawrenceville, N. J. Lt. Kaulback, Department of Commerce Airways, East Boston, Mass. Keith Bullard chief operator, American Airways Boston Airport. Stanley Wade, Tropical Radio Telegraph Company, Hingham. Richard Upham, Radio Marine Corporation, Chatham, Mass. George Broster, Tropical Radio Company, Hingham, Mass. Francis Doane, Radiomarine Corporation. Chatham, Mass. William Jordan, Pathe News, Rome, Italy. Claude Marquis, chief operator WLNH, Laconia, N. H. Lloyd Sigmon, chief engineer, KCMO, Kansas City, Missouri. G. Knightly, chief operator WHEB, Portsmouth, N. H. L. Pratt, chief operator S/S Manhattan, U. S. Lines. John H. Shebe, president Shebe Air Lines. Richard Cowden, Pan American Airways, Port Washington, N. Y.



J. F. Smith

**Massachusetts Radio School has the largest and most successful alumni in New England. There is not a branch of Radio where its graduates do not occupy outstanding positions.**

## Police Radio Station Operators

Quincy—Sergeant John Duffy.  
 Brookline—Sergeant Greene and Patrolman Charlton.  
 Fitchburg—Sandstrom.  
 Somerville—Cheerham, Chief operator, Tegginis, McGinnis.  
 Arlington—Robinson, Woodbury, Zwink, Seanlon, Riley, Sullivan.  
 New Bedford—Ruggles.  
 Detroit, Michigan—Sellon.  
 Boston—  
 Cambridge—Falvey  
 Massachusetts State Police:  
     Northampton—Blackie.  
 Bridgewater—J. O'Brien.  
     Framingham—L. Luke.  
 Metropolitan District Commission Police—Aron—Cummings.  
 Medford Police—Bears and Murray

## Land Station Placements

<i>Name</i>	<i>Residence</i>	<i>Station</i>
Broster, George	Providence, R. I.	WBF, United Fruit Co.
Wade, Stanley	Brockton, Mass.	WBF, United Fruit Co.
Beakes, Paul	Hingham, Mass.	WAX, United Fruit Co.
Clarke, Willard	Medway, Mass.	WVO, U. S. Army
Coleman, Charlton	Milton, Mass.	WSE, MacKay Radio Co.
Leo, Ivan	Yale, Iowa	WBF, Tropical Radio Co.
Gleed, Herbert J.	Lawrence, Kansas	WBF, Tropical Radio Co.
Hall, William	Thomaston, Maine	WAG, MacKay Radio Co.
McElroy, Howard	Somerville, Mass.	WSE, MacKay Radio Co.
Moore, Bruce	Westover, Penn.	WAR, U. S. Army
Morrison, H. L.	Bangor, Maine	RCA, Rocky Point, L. I.
Short, H.	New Brunswick, N. J.	WH—WEL RCA
Doane, Francis	Chatham, Mass.	WIM—WCC RCA
MacIntosh, Gordon	Malden, Mass.	WIM—WCC RCA
Upham, Richard	Chatham, Mass.	WIM—WCC RCA
Bears, Edwin	Chatham, Mass.	WIM—WCC RCA
Stedman, Ralph	Brockton, Mass.	WIM—WCC RCA
Fairchild, Hollis	Marthas Vineyard, Mass.	WIM—WCC RCA

Massachusetts Radio Graduates are found in all branches of Radio and with all the leading Radio Companies in New England as well as in other parts of the country. Our men are also found in various parts of South America, Cuba, Canada, Africa, India and many other countries. As operators on shipboard they sail the seven seas and there is not a port of any size in the world they have not seen. They have been on land, at sea, and in the air and under the water. The School is well known all over the United States since its graduates have been an example of what we try to do here. Massachusetts Radio School has the confidence of the leading Radio officials which has come thru satisfactory service rendered by our alumni.

# What Some of the Graduates Are Doing

## Shore Stations

RADIO MARINE STATION WIN—WCC, Chatham, Mass. DOANE, MacIntosh, Upham, Fairchild, Stedman.

RCA Communications Company—109 Congress St., Boston. J. F. Rigby (manager). Carter, Murphy, Butterworth, Loyal, Goddard, Forbes, Ewins.

American Radio Telegrapher's Association—Boston. Richard Golden, Vice-President.

## Broadcasting

Visit these stations and ask about our School.

WHBB, Portsmouth, N. H.—Granite State Broadcasting Company, Knightly, Stevens, Sprague, Eilwell, MacNamara, Robinson, Mack.

WMEX, Northern Broadcasting Company—Boston. Alfred Pote (manager). Wm. Pote (sales manager). Kaplan, Memishian, Prescott, Gelardi, Novak.

WTAG, Worcester Telegram Gazette.—Anderson, Deveraux, Godfrey, Doyle.

WORC, Worcester, Mass.—Gruzin, Hale, Flynn.

WORL, World Broadcasting Company, Boston, Mass.—Aldrich.

WEEI, Edison Electric Illuminating Company, Boston.—Young, Matheson, Teachman, Stevens.

WLLH, Lowell, Mass. Merrimac Broadcasting Company.—McNamara.

WFEA, Manchester, N. H.—Chandler.

WNAC-WAAB, The Shepard Broadcasting Company, Boston Jack Dodge (chief operator), Ingalls, Fregeau, Miller, Fentross, Entwistle, Rich, Wolf, Whitledge, T. Foster, B. Foster.

WCAU, Philadelphia, Penn.—Katan.

WBSO, Wellesley.—Tom Foster.

WBZ, WBZA—Westinghouse, Boston and Springfield. Strong, Lawlor, Vassal, T. Lawlor, Ingraham.

KYB, Westinghouse, Philadelphia.—Donaldson.

WIXAL, World Wide Broadcasting Company, Boston.—Hineckley.

Bethlehem Shipbuilding Company, Quincy.—Bears, Monroe.

WOR, Banberger, Newark, N. J.—John Morse.

WLW, Crosley, Cincinnati, Ohio.—Cyrus Knowlton.

WBF, Tropical Radio (United Fruit Company) Hingham, Mass.—Cameron, Wade, Broster, Leo, Glead.

WSED, American Airways, East Boston, Mass.—Keith Bullard (chief operator), Joseph Nutting.

WSX, Department of Commerce Airways, East Boston.—Lt. Kaulbach, Alvin Richards.

WCOP, Boston, Mass.—Houldson, Hale.

WNBC, New Britain, Conn.—Rice.

WHDH, Boston.—Matheson Broadcasting Corporation—R. G. Matheson (manager), Hammond, Sweet, Luke, Kozlowski.

KFTO, Lubbock, Texas.—Toddman.

WCSH, The Eastland, Portland, Maine.—Arthur Leavitt, Kenneth Cushing, George Rodeck.

## DEVELOPMENT OF RADIO



Portland Head Light

Some idea of the development and growth of the radio industry and its future can be drawn from the following remarks by David Sarnoff, President of the Radio Corporation of America to the Federal Communications Commission at one of their hearings in Washington recently.

In 1920 the United States had direct cable connection with only two European nations, a few countries in South America and one in the Orient. Today our country is linked by nine public service radio companies to more than sixty nations in direct radio communication. More than 5,000,000 paid messages are handled yearly by these companies. This development of American Radio Communications has sliced \$100,000,000 from the bills of the International Telegraph users here and abroad.

Until the advent of radio, no communication service could cover the oceans—seven-eighths of the world's surface. In 1902 there was only one American Merchant ship equipped with radio—the SS Philadelphia. Today some 2500 American ships have Radiotelegraph equipment. Radio direction finders guide vessels at sea. A facsimile service providing weather maps to ships at sea is now being introduced.

Broadcasting has made even more dramatic strides. When the Harding-Cox election returns were broadcast in 1920, only a few hundred radio amateurs listened in. Today 23,000,000 homes in our country, more than 70%

of the total, are equipped with radio receivers and 3,000,000 American automobiles, more than 10% of all registered motor cars are radio equipped. If all receiving sets were tuned to the same program, 90 million persons, approximately three-quarters of our population could listen at the same time to a single voice. The United States and its territorial possessions have 623 broadcasting stations. Affiliated with the two major net works are 196 broadcasting stations. Of these 22 are owned and managed by the net work companies. The rest are independently owned and operated.

Not only do the American listeners enjoy the finest broadcast programs in the world without paying licensed fees, but they are buying the finest radio receivers at the lowest prices. No wonder we spend a billion hours a week listening to the radio.

During 1935, it is estimated that the people of United States spent \$700,000,000 on radio. True a figure which demonstrates the magnitude of the industry and its importance to the prosperity of the nation.

To show how important radio is to other industries, the owners of radio sets spent \$150,000,000 last year for electric power to operate their sets—almost twice the amount which the broadcast companies received for broadcasting the programs which these listeners heard. In the same year the radio industry consumed 1,000,000 miles of wire in the manufacture of its apparatus. And the world's largest wireless broadcasting company, the NBC, was at the same time the largest customer of the world's greatest wire organization, the American Telegraph and Telephone Company. The annual telephone bill of the NBC for wire service includes \$3,000,000.

Probably the most striking figure in all the columns of radio statistics is that estimate of the American public has invested more than \$3,000,000,000 in broadcast receiving apparatus. This is more than ten times the investment in broadcasting stations and radio manufacturing plants.



## Companies Employing Our Graduates

Some of the larger radio companies with whom Massachusetts Radio Graduates have found Employment are:

Radio Corporation of America, Radiomarine Corporation of America, RCA Communications Co., RCA Radiotron Co., RCA Victor Co.; Tropical Radio Co.; United Fruit Co., Mackay Radio Co., Eastern Steamship Co., United States Lines, Pan American Airways, Eastern Air Transport Co., Caldwell Wright Airport, Department of Commerce Airways Savannah Line, Mystic Steamship Co., Lukenback Lines, American Hawaiian Lines, Bay State Fisheries Co., Portland Trawling Co.; Raytheon Co., General Radio Co., The National Co., Sprague Electric Co., Westinghouse Electric and Mfg. Co., General Electric, Cruft Laboratory (Harvard University), Submarine Signaling Co., American Tel. & Tel. Co., New England Tel. & Tel. Co., The Gamewell Co., Waltham Watch Co., Bethlehem Shipbuilding Co., Merchants & Miners S.S. Co., Matson Navigation Co., Panama Pacific Steamship Co., American Radio Telegraphers Association, National Broadcasting Co., Columbia Broadcasting System, The Yankee Network, Don Lee Studios, Mascot Studios, Pathe News, Electrical Research Products Co., Western Electric Co., American Airlines, National Geographic Magazine, Cities Service Refining Co., Press Wireless Co., Standard Oil Co., Sears Roebuck Co., General Railway Signal Co., Shortwave and Television Corpn., Massachusetts Institute of Technology, Canadian National Railways.

## RECEIVING EQUIPMENT



Commercial Receiving Room and Testing Apparatus.

# Radio Activity and Employment Falls Under Three Main Classifications:

- (1) RADIO ON LAND
- (2) RADIO IN THE AIR
- (3) RADIO AT SEA

Under Land Radio we find such Sub-Divisions as: Broadcasting, Television, Talking Movies, Public Address Systems, Press Wireless, Transoceanic Telegraph Service, Radio Sales, Radio Service, Manufacturing, Radio Schools, Radio Inspectors (Dept. of Commerce), Research Laboratories, Forestry Service, Aircraft Beacons (Dept. of Commerce), Aircraft Landing Fields, Amateur Experimental, U. S. Signal Corps., (M. V. M.), U. S. Army Facsimile Photo Service, Coast Guard and Naval Shore Stations, Commercial Shore Stations, Fire and Police Stations and Trains.

## Land Radio

Radio on Land is by far the biggest field in the industry. There are more opportunities at the present time and will be in the future than in any other phase of the radio industry. Ten years ago the average radio man secured employment on a ship and to him this was the extent of his activity. However, now things have changed and shipping is only a very small fraction of the entire possibilities of the licensed radio operator.

Radiophone Broadcasting alone requires more licensed operators than the radio personnel of the entire American Merchant Marine. Some big broadcasting stations employ as many as thirty radio operators. Over 4,000 licensed operators are required by 711 broadcasting stations for pick up work, in the control rooms and at the transmitters.

Television which is so closely related to what we know as radiophone broadcasting requires even more men per station than the sound broadcasting. Each television station is really two broadcasting stations, one for sound and one for sight. While there are fewer television stations than broadcasting stations owing to technical limitations yet more and more men will be required for television.

The radio service and sales end of the radio business is really the largest phase of radio activity. The thousands of dealers and jobbers and the ten of thousands of radio stores require the services of skilled radio technicians who although they are not required by law to have a license yet, must know the theory of radio fully. Many of the best radio servicemen today are old time radio

operators who know the art from A to Z. These men have not limited themselves to one occupation in radio but are able to shift around and take their pick of the best available positions according to business conditions.

Anyone taking our regular day or evening radio instruction for a commercial license will receive sufficient information to permit them to do radio service work. However for those who desire instruction on radio service work alone we run a special radio service course.

The average person probably does not realize there are over 1,000 airplanes equipped with radio apparatus flying around the country today. These aircraft stations require licensed radio operators.

However by far the biggest field in Aircraft Radio is at the landing fields. Both the U. S. Government and the private radio companies maintain the most up-to-date radio communication service at hundreds of landing fields scattered all over the country. Radio Beacons guide these air ships the same as Light Houses guide sea-going vessels. Communication both by code and radio phone is absolutely necessary in maintaining a passenger carrying airplane service. *The day is not far off when Congress will pass a law requiring Radio on all aircraft carrying over five passengers.*

Radio was not first required on sea going ships but after several major disasters public opinion spoke and Congress was forced to take action. The same will happen with aviation. This field of radio is destined to grow into one of the largest in the industry.

Today we have over eighty transoceanic radio circuits going all over the world. You can send a message to Buenos Aires and get an answer back in two or three minutes. This shows how the modern radio long distance service has developed. About half the traffic going across the Atlantic is now going by radio. Then there is the Facsimile Photo Service that sends still pictures by radio. This phase of the game will develop rapidly in the near future.

Another phase of radio communication industry that is showing great signs of activity is the Police Department radio in the various cities and states throughout the country. Such stations are springing up with great rapidity and it is only a matter of time before all the large cities over 50,000 people will be having its own police radio system. On the coast line at all harbors where fire boats are required we find such vessels being equipped with radio apparatus. Railroad Trains are now equipped on the Canadian National Railways so that the passengers can talk by radio phone while the train is in motion. On many of the Railroad systems, operators are employed to tune in programs and maintain a high quality of program in each of the cars on the train. The program is picked up by the operator and sent through an amplifying and public address system with a speaker in each car.

Radio Manufacturing both of receiving sets, tubes and allied apparatus require the services of thousands of skilled radio technicians and junior engineers. Radio Schools, some having staffs of 10 to 15 instructors, are always confronted with the problem of new personnel.



William Hall  
Station W A G

# MARINE RADIO

Ten years ago the average licensed commercial operator was limited to a position as radio operator on shipboard and a few other minor activities. Today things have greatly changed. While Marine radio is still one of the big branches of the industry it has been surpassed by many other departments of the game notably radiophone broadcasting and radio service and sales. At one time the talking movies closely approached it as a field for employment. Today there is one airship radio-equipped for every three seagoing vessels.

However the lure of the sea and the desire for travel render this branch of radio still in the forefront. The position of radio operator on board passenger ships, tankers, freighters, colliers, fishing trawlers and tugs is a very desirable one.

Many operators are attracted to the Lighthouse service of the Department of Commerce and others secure positions on palatial yachts. The U. S. Coast Guard attracts many marine radio operators and a few select the U. S. Navy for a post graduate course after securing their license.



Eastern Steamship Liner Acadia

Then there are the fire and police boats as well as the pilot boats used in the Harbors of various coastal cities. The coast and Geodetic Survey has a fleet of ships that are engaged in surveying the coast lines of the country, each carrying three operators.

The marine end of Radio has finally come into its own after 3 slow years. More pay, shorter hours and more men is the story today. Practically all the old timers are now absorbed. This means more NEW men.

Congress has approved the recommendation of the committee on safety of life at sea recently held in London which requires by law the use of radio as compulsory on all American ships over 1600 tons the same as has been required in the British Merchant Marine for many years. This will serve to increase the demand for Marine Radio Operators.

The act improves the existing radio laws as follows: All ships engaged in international voyages over 1,600 tons must have radio. Continuous watch on passenger vessels, continuous watch on cargo vessels over 5,500 tons. Vessels from 3,000 to 5,500 must have at least an eight-hour watch a day. It is estimated that this will require equipping 1,500 additional vessels with radio in this country.

Another phase of Marine Radio that is becoming popular is the Radio Telephone Operator. All the big ships now have radio telephone service as well as radio telegraphic service. The Leviathan carried five radiophone operators at one time. These men are hired by the American Tel. & Tel. Co. who control this work on shipboard. This field of radio will become more and more popular on small craft as time goes on.

## RADIO SERVICE CLASS

One of the largest fields in radio is the Radio Service and Repair division. There are thousands and thousands of radio service and repair men either in business for themselves or working for others all over the country. This type of work appeals to a certain type of student, however, we find about 20 to 25% of the licensed graduates become interested in this field and select it as their choice of employment. We wish to make it clear at the start that a license is not required to do service work.

At the present writing there is an acute shortage of radio service men of any kind. For several months past the good service men were hard to get but today even the beginner from the radio schools who is out of work is hard to find. This is true all over the country. We have never known such a shortage of radio service men since broadcasting started in 1921.

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<p><b>RADIO SERVICE and REPAIR COURSE</b> <b>Tuesday and Thursday Evenings, 7 to 9 P.M.</b></p>
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Tuition \$10.00 per month, \$2.50 per week

Length of Course—TWELVE MONTHS

**New Classes every Two Months**

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With 23 million radio receiving sets in use and being constantly replaced by newer models and with some homes having three or four receivers scattered through the various rooms, it is easy to see why there is a good future for the radio service man. Millions and millions of tubes are manufactured each year and add to the output sales of the radio service man.

Some students use radio service as a part-time business in connection with automotive or electrical lines of employment. Some devote their entire time to it and are able to build up a good following after a few years' effort. Radio manufacturers and jobbers employ testers, service men, inspectors, junior engineers and pay well for such work. The automobile industry has recently added to the radio service man's possibilities and today over 3,000,000 cars have radio receivers installed in them. The police departments of various cities and towns need radio service men to repair the police radios installed in the prowl cars. Aviation companies need service men to install, repair and maintain the radio equipment on the thousands of planes radio-equipped. Public address and loud speaker systems require the attention of service men when they refuse to function.

Television is actually poking its head around the corner and will offer many good jobs for the service man. These 29 tube and 7 control receivers are complicated and special training will be required to enable the repair man to find and fix the trouble.



Main Radio Service and Repair Laboratory.

Our Radio Service Department is in charge of an old-time radio man, Mr. Albert C. W. Saunders who is daily engaged in the Radio Service business by which he earns his living, thus he can transfer to the student actual methods and ways to repair receivers of latest design and tell them how to conduct their business in a successful manner.

Mr. Saunders has his own radio shop in Medford and has been with us for over six years. He formerly ran a school of his own in Boston. He is also Editor and Chief of the R. T. G. News, published monthly by the Radiotechnicians Guild, a local organization of service men who meet monthly to promote the welfare of their craft. Mr. Saunders was also an operator on Marconi's yacht the Electra. He held a state teacher's certificate and has taught in the public schools.

Mr. Saunders is assisted by Mr. Chapman of the Gilchrist Co., Mr. Cabral of the Hub Chevrolet Co., and additional instructors as the classes warrant.

The Radio Service Course is held evenings only. Lecture work is given which is supplemented by practical demonstrations. Actual trouble shooting is conducted under the personal supervision of Mr. Saunders. The class is held on Tuesday and Thursday evenings from 7 to 9 P. M. and is completed in twelve months. A diploma is issued after passing the final examination of the school. New classes are started every eight weeks.

In the day school a one-month practical service course is included in regular nine-month course of instruction preparing the student for his government licenses. In this way the day student receives an all-around radio education and is able upon graduation to accept any kind of radio employment. No matter

what branch of radio the graduate selects after receiving his license, a knowledge of radio service and repair is helpful as all radio receivers and transmitters need attention now and then. It is expected that all radio operators should be able to maintain their equipment in proper running condition and keep it "on the air," until the home port is reached.

An outline of the course will be furnished upon request and prospective students are invited to visit the school and inspect our equipment.

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## Officers and Staff of the Massachusetts Radio and Telegraph School, Inc.

G. R. ENTWISTLE

President and Radio Director. Supervisor of Hand Sending.

R. F. TROP

Treasurer and Radio Service Director. Supervisor of Code reception.

C. A. KELLEHER

Chief Radio Theory Instructor and Superintendent of Evening Commercial operator's school—Supervisor of Theory instruction.

GLADYS I. HUNT

Secretary and Registrar.

E. L. DESLAURIERS

Chief Code instructor, evening school. Traffic Supervisor.

F. C. W. LAZENBY

Assistant Theory instructor, traffic supervisor. Specialist on talking movies.

G. BROSTER

Code Instructor, and traffic supervisor.

F. G. GRIMM

Code and Traffic Instructor, evening school.

G. K. MACVANE, B. S.

Superintendent of Radio Engineering Department, also Commercial Radio Theory instructor.

A. C. W. SAUNDERS

Superintendent Radio Service and Repair instruction, evenings—Chief Radio Technician of Service Department and theory instructor.

F. CHAPMAN

Assistant theory instructor Radio Service and Repair school.

B. PIERCE

Code Instructor.

J. CABRAL

Laboratory Assistant Radio Service Class.

## Officers at Mass. Radio School



Top (left) G. R. ENTWISTLE, President

Bottom (left) C. A. KELLEHER  
Supt. Evening School

Top (right) R. E. TROP, Treasurer

Bottom (right) GLADYS I. HUNT,  
Secretary





E. L. DESLAURIERS  
G. BROSTER  
A. C. W. SAUNDERS

F. J. GRIMM

F. C. W. LAZENBY  
G. MacVANE  
F. CHAPMAN

## FACULTY

Instruction is, in the last analysis, what really makes a school. Books, class rooms and apparatus are but the tools with which the work is done. Whatever an institution may be—lower school, high school, or college, it is only as strong as its faculty. It is in the faculty primarily that the MASSACHUSETTS RADIO & TELEGRAPH SCHOOL has accomplished its record-breaking results. Two-thirds of its present faculty have been employed for the past eight years continuously. Two men have taught for 19 years, one for 14 years.

All courses of instruction in Radio are under the direction of Mr. G. R. Entwistle, one who has been identified with the progress of Radio as a science since wireless communication was an experiment. Mr. Entwistle began his work in Radio while he was still in the lower schools. Receiving his electrical engineering training at Tufts College, Mr. Entwistle was early in charge of the commercial testing laboratories of the American Radio and Research Corporation. For eight years, Mr. Entwistle served as wireless operator on shipboard and has, during the last twenty years, sailed 100,000 miles on twenty-one different vessels going to all parts of the world. He has been connected since 1919 with various citizen wireless activities as N. E. Division Manager of the American Radio Relay League. Mr. Entwistle is constantly in touch with the newest developments in Radio and draws from his personal acquaintances with the dominating men of the Radio world intimacy with every phase of Radio equalled by but few men in the country. He recently completed 3 years' service as Radio Editor of the Boston Herald-Traveler. He is also an Associate member of the Institute of Radio Engineers and a Fellow of the Radio Club of America. He is also a member of the Veteran Wireless Operators' Association of New York.

**MR. ENTWISTLE HAS BEEN TRAINING MEN FOR COMMERCIAL OPERATOR'S EXAMINATIONS CONTINUALLY FOR TWENTY-FIVE YEARS. WHERE ELSE CAN YOU OBTAIN SUCH EXPERIENCE?**

Associated with Mr. Entwistle is former Lieutenant R. F. Trop, U. S. N. R. E., a practical operator with thirty years' experience. As assistant District Communication officer during the last war Mr. Trop was in entire charge of all naval Radio in the New England District. Acquiring his comprehensive knowledge of electricity in the U. S. Naval Electrical School of Brooklyn, N. Y., of which he is a graduate, Mr. Trop has an exceptionally valuable experience, having among other things served as Installing Engineer for the Wireless Specialty Apparatus Company for five years. Mr. Trop is a recognized authority on the teaching of code and is in charge of advanced code instruction in the day classes. He is a member of Veteran Wireless Operators' Association, holding honorary scroll.

At important points in the course, the MASSACHUSETTS RADIO and TELEGRAPH SCHOOL, on account of its standing is favored by lectures on particular subjects by practical experts of pre-eminent standing and reputation in the outside Radio world,—a decided advantage in the study of so scientific a subject.

F. C. W. LAZENBY—Mr. Lazenby has had considerable experience in Radio and has taught in several Boston Schools. He was formerly an engineer at the Radio Central High Powered Transmitter at Rocky Point, L. I. He has served as Marine operator for the Radio Marine Corporation, also as operator at Broadcast Station WIBX. Before joining the faculty of this school he was with the RCA Photophone Co., Inc., serving as engineer. He has also seen service with Stone & Webster Co. of Boston. Mr. Lazenby completed courses in Electrical Engineering in Theory and Practice at Hawley Engineering Institute and Lowell Institute. Lazenby is an assistant theory instructor as well as a good code man, holder of commercial and amateur licenses.



Police Radio Prowl Car

C. A. KELLEHER—Mr. Kelleher is the oldest employee of the school in point of years of service. Coming to us as a student from North Abington, he quickly mastered the mysteries of radio and early showed qualities of leadership that made him stand out from the rest of his class. Even before he had completed the work at the school he was employed as an assistant instructor. Gradually he worked his way up to become chief theory instructor, a position he has held for many years.

As chief theory instructor he has made an enviable record for the school, as can be observed from the high marks given its students at the Custom House, where the examinations for commercial licenses are held.

Whereas the passing mark for this license is 75%, it can be seen from records contained elsewhere in the catalog that many of the students make over 80%. Mr. Hunter, who made the perfect mark of 95%, is one of Mr. Kelleher's theory pupils.

"Kel" is also superintendent of the Evening Commercial Radio Classes, coming directly under the Radio Director. In this capacity he has also made good and has won the respect of all his students for his excellent lectures and masterly black-board illustrations and his ability to maintain discipline.

Mr. Kelleher was also assistant Radio Editor of the *Boston Traveler* for three years. He conducted the Question and Answers column.

Mr. Kelleher has done considerable Radio Engineering, consultation work for many radio firms in New England who have brought their various problems to him for solution. He is also an associate member of the Institute of Radio Engineers.

A. C. W. SAUNDERS—Mr. Saunders was formerly personal radio operator to the father of radio, Senator Wm. Marconi, on board his radio yacht, "Electra," where he served for about three years. He also took part in many of the tests conducted on board this floating laboratory. Mr. Saunders was a Lieutenant in the Navy during the war and has also seen service on the American Merchant Marine.

Mr. Saunders quickly shifted his attention to the radio service field with the advent of broadcasting in 1921 and has been actively connected with this branch of radio ever since. He has been manager of the radio service department of many large companies and is at present in business for himself and daily performs the kind of work he teaches his students at the school—that of being successful radio service men. Mr. Saunders is active in organizing the local Radio Service Men's Guild, which meets monthly at the Hotel Lenox. He is also Editor-in-Chief of the R. T. G. News and has done considerable consultation work.

E. L. DESLAURIERS—Chief Code instructor evenings at Massachusetts Radio School for past ten years.

In 1927, appointed chief operator of Army Amateurs in joint Army and Navy maneuvers at Fort Adams, Newport, Rhode Island. Active in special broadcasts of code on the air over WBZA. Knowledge of International Code for past ten years, holding both amateur and commercial licenses. Operator of WASN in their earlier broadcasts. Successfully completed courses at M. I. T., in theory and operation of modern receiving and transmitting equipment. He has had power plant experience also.

FREDERICK J. GRIMM—Frederick J. Grimm came to us from the RCA Communications Co., Inc., with a varied communications career. He spent 12 years with the Commercial Cable Co. as operator and branch manager. A year was spent with the Western Union Telegraph Co. in the Traffic Department.

Mr. Grimm served as Lieutenant in the U. S. Army Signal Corps for two years, one of which was spent in the United States, organizing a battalion radio and telegraph school at Camp Devens with several hundred students. One year was spent in France and Germany in charge of construction maintenance and operation of communication system in active area. He also served eight years with the Radio Corporation of America as operator at Radio Central and branches in New York and Boston. In the latter city he served as N. E. District Commercial representative.

F. CHAPMAN—Mr. F. Chapman is assistant to Mr. Saunders in the radio Service and Repair division of the School. He is President of the Radio Technicians Guild of Massachusetts, an organization of prominent Servicemen founded by Mr. Saunders, and the leading one in New England.

He has been in radio service for seven years and the past two years has been Service Manager for the Gilchrist Co. of Boston, one of the large department stores.

Mr. Chapman is a graduate of the Massachusetts Radio School in the service department, and brings back to our students the benefit of his daily experience in Radio Servicing.

GEORGE S. BROSTER—George S. Broster, a Massachusetts Radio graduate has had experience on shipboard and at shore stations. He has served as radio operator on about 15 ships for the United Fruit Co. and also for the RCA. After leaving the school he went on a Bay State Fishing Trawler, the winter months were not so good. Then he went on a mongrel tanker, on a foreign cruise which was great fun but poor chow. He has been six years with the Tropical Radio Co. (United Fruit Co). Five months of the second year with TRT he went to WBF their shore station at Hingham. One trip he arrived at 9 A. M. on one ship and sailed at noon on another. (Do your own laundry or keep the soup off your shirtfront.) He left TRT for nine months for some broadcasting experience at WJAR, Providence but later returned to the Fruit Co. Took a flying trip on a sugar boat—try it sometime he says. Subs are sissies in comparison. Was assigned to WBF (Hingham) again for vacation relief and has been there ever since.

Mr. Broster is helpful in giving actual traffic problems he encounters daily in his work to the students.

GORDON K. MACVANE—Gordon K. MacVane started his Radio work in 1923. He studied the theory of Radio, and built several types of receiving sets.

During 1929-30 he did part-time Radio service work for himself.

In the fall of 1931 he entered Massachusetts Radio and Telegraph School, enrolling in the full day course of Radio Telegraphy.

At the same time he studied evening courses in the Franklin Union in Mathematics and Science and also a short evening course at M. I. T. (University Extension), in Navigation.



"Calling Newark"

## MASSACHUSETTS RADIO SCHOOL

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Upon graduation from Massachusetts Radio School in 1932, he returned to Portland, Maine, where he was actively engaged in Radio Service and experimental Radio Research work in his own Laboratory.

In 1933 Mr. MacVane returned to Boston, and took additional courses at Massachusetts Radio School, and studied Metalography at Franklin Union.

Upon the completion of these courses, in the spring of 1934 he entered Tri-State College in Angola, Indiana. Here he studied advanced Mathematics, Chemistry and Physics, and specialized in Theoretical Music. He received his Bachelor's Degree in Music in 1935 from this college. During the summer he studied Radio Engineering and Chemistry at Indiana Technical College, Fort Wayne, Indiana.

He returned to Portland, Maine, and taught Mathematics, Physics, Chemistry, and Radio Engineering, for a year and a half at The Portland Radio Institute, Portland, Maine. He also did research work in Radio.

Mr. MacVane is a member of the United States Power Squadron, and also of the Institute of Radio Service Men.

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George Kaplan, Chief Engineer at WMEX and has hired many other Massachusetts Radio graduates.

Kenneth Bridgeham's radio experience includes marine service on the SS George Washington, Boston to New York. He also worked at WNAC and WQK, Radio Central, Riverhead, L. I. He is now at Station WMCA with "Sink" Eliot.

George Gosnell made eight trips around the world on the SS President Hayes of the Dollar Line. He is now with the Department of Commerce Airways in Albany, New York.

Ed Kenney is with the Pan American Airways with his school mate, Fisher.

J. C. Shattuck is Assistant Division Superintendent of Communications at Christobal, for P. A. A.

Harry Lewis was on the SS Garfield of the Dollar Line. Lewis comes from Braintree.

Larry Cummings of Boston, formerly at "MIT" was with the Electrical Research Products in the talking movie division.

Nelson Lawson formerly of WHDH is at WABI, Bangor, Maine.

Francis Keyo was assigned to the steam Trawler Gemma. He also had a West Coast ship.

Roger Ellis formerly with WMAF, WEEL, WTAG is now at WWJ at Detroit, Michigan. Ellis comes from Wollaston, Mass.

Bill Johnson of Milton one of the old timers of the school has been at the Broad Street Station of RCA Communications for three years.

James Moulton of Section Base No. 18 U. S. C. G. at Woods Hole was in recently. He hails from Providence.

Al North is with Sears Roebuck Co., Portland, Maine. Another one of our graduates working in Portland is E. E. York, who is with Bartlett's Radio Store in charge of Public Address Systems.

W. W. Smith of Framingham, Massachusetts, was at the Control room of Station WEAJ, one of the key stations of the NBC.

Paul H. Beakes of Brookline formerly with the Tropical Radio Company is now with the Eastern Airlines, Miami, Florida. Beakes was also at WNAC and WHDH and the Tropical Radio Shore Stations, WAX, Miami, Florida.

Hollis Fairchild formerly an instructor at the RCA School in Baltimore, is now at the Radio-marine Station of the RCA at Chatham, Mass.

Joseph Hinckley formerly with the Christian Science Monitor news gathering station is now at W I X A L the World-wide broadcasting station at Brookline Avenue, Boston.

## EQUIPMENT

The School is located conveniently in a well kept building at the corner of Boylston and Washington Streets in downtown Boston handy to all means of transportation.

We occupy FIVE large rooms and are well up in the building where it is cool and light. Quick passenger elevator service is always available. New chairs and telephone receivers have been added this past year and new glass enclosed cabinets to store our smaller equipment where it can be seen at all times but protected.

New benches have been added in the radio service and repair department and all in all Massachusetts Radio School is as well equipped physically as it has ever been during its many years of existence.

A new room was recently added and converted into the finest radio laboratory in New England. All our large transmitter racks, both broadcasting and commercial as well as the broadcast speech racks, storage battery panels, spark transmitters, commercial rack type receivers have been moved into this room and are grouped into departments. Needless to say all this equipment is wired and in working order. Before when it was scattered in the various rooms it was too easy for the students to twist the knobs and dials and get it out of adjustment. Now the students are taken in small groups under the supervision



General Laboratory and Lecture Room.

of the instructors and given a chance to tune and adjust it themselves. Students at Massachusetts Radio School have plenty of radio equipment to be trained with and have plenty of chance to use it under the guidance of an instructor who will make demonstrations and then allow the student to duplicate his performance. Space does not permit us to list all our equipment. We are including pictures of the various rooms which shows what we have to offer in the line of equipment and any prospective student can see for himself by these pictures or better still by a visit to the school that Massachusetts Radio School is very well equipped. Definitely planned apparatus work is a regular part of the course. After each section of instruction demonstrations will be given on the subject covered.

Our rooms are of good size and can accommodate good sized classes. Code classes are split up into proper speeds in the various rooms and theory lectures are divided into beginners, intermediate and advanced groups.

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## STUDENT COMES FROM AUSTRALIA

— 12,000 MILES TO LEARN RADIO —



G. H. B. Gray.

Another record at Massachusetts Radio the past season was the enrollment of George H. B. Gray, 18 Henry Street, Ascot, N. E. 2, Brisbane, Queensland, Australia who came 12,000 miles to study radio and finally selected Massachusetts Radio after traveling all over the United States.

As an amateur in Australia, VK4JP, and with his friend, VK4JX, he has been working American amateurs for several years. They invited him over saying they would give him a good time and they have he says. Gray has been visiting radio stations, clubs, conventions and is having a radio picnic and says he wished he had come sooner. Since he has been here he has contacted many Massachusetts Radio Graduates whom he said spoke very highly of the school. Through Ralph Pierce, W1AXA of Lynn, Gray communicates with his folks "down under" in Australia. He attended Southport School for five years and spent three years at Nudgee College at home. We are glad to welcome Mr. Gray to our country and also to our school. He is a fine chap.

## CLASSES — RATES — HOURS — TIME

COMMERCIAL OPERATOR'S LICENSE COURSES					Radio Telegraph Radio Telephone
CLASS	LENGTH	TUITION	HOURS INSTRUCTION PER WEEK	PREPARES FOR	CLASSES HELD
DAY CLASS	9 Months	\$25.00 Monthly \$6.25 Weekly	20	*A - B - C - D - E	Mondays to Fridays inclusive 9 A.M. to 1 P.M.
EVENING CLASS	16 Months	\$12.00 Monthly \$3.00 Weekly	6	*A - B - C - E	Mondays - Wednesdays and Fridays 7 P.M. to 9 P.M.
RADIO SERVICE COURSE					
EVENING CLASS	12 Months	\$10.00 Monthly \$2.50 Weekly	4	*F	Tuesdays and Thursdays 7 P.M. to 9 P.M.

**\*REMARKS:—**

A — Radio Telephone — 1st Class License  
 B — Radio Telegraph — 2nd Class License.  
 C — Amateur — Class B License.

D — Includes 1 Month Practical Service Course.  
 E — Includes Practical Laboratory Course.  
 F — Radio Service Instruction Only.



# Classes, Hours and Sessions

## OPERATOR'S LICENSE COURSES

### Day Class

Day classes for beginners consist of a two months elementary or foundation period plus a seven months advanced period. New beginners classes are started every two months.

In the beginners class there are two periods of theory and two periods of code work, and a hand-sending period, daily.

After two months preparatory work in both code and theory, the student can copy fifteen words per minute, plain language and he has received a grounding in electricity, magnetism, electrical circuits, and radio phenomena and fundamental principles. He is then graduated into a seven-month advanced class where his code and theory work is continued. The code work is made more and more difficult and embraces all kinds of commercial practice and also thoroughly prepares the student for any code tests given by the U. S. Government examiners.

The theory work is now of an advanced nature and takes two periods daily. One period is given over to radio telephone and the regular wire telephone practice and the other period is given over to the regular radio telegraph theory. In this manner, Massachusetts Radio students receive proper training for either radio telephone examinations or radio telegraph examinations or both at the same time.

It is common knowledge everywhere in radio circles that no better theory instruction can be obtained anywhere in New England than at Massachusetts Radio School—ask any man in radio—he knows.

While the regular instruction from the teachers terminates at 1 P. M. daily the class rooms are open until 3 P. M. which permits the student ample time to practice on code work or to transfer his theory notes to his permanent note book while waiting for the train.

After three months attendance in the day school or six months evenings, the student is then ready for his amateur examination.

A one month practical radio laboratory course and a one month practical radio service and repair course are included in the Day course. It also includes a Television course.

### Evening Class

Evening school instruction is patterned after the day school plan and differs only in the hours of study and the length of time necessary to complete the course.

As in the day class, the beginners evening class consists of a two months elementary or preparatory period which is followed by a 14-month intermediate and advanced period. New beginners classes are started every two months.

The classes in the evening school are held from 7 to 9 P. M. (Monday, Wednesday and Friday.) Class Rooms open at 6:30 P. M.

We try in every way to make it possible to receive instruction, no matter how your hours of attendance may be limited.

On the reverse side of the enclosed application blank will be found the different courses offered by the school, the length of time to complete each one, and the cost of tuition. Our tuition rates are reasonable and the terms of payment have been made most convenient. We have made it possible for the students to pay their tuition weekly although monthly payments are more economical as every three months an extra week comes into the accounting. There is no binding complete course contract to sign. You are obligated only weekly or monthly. Tuition is as follows.

### License Courses

DAY CLASS, Nine months—Tuition \$25.00 per month, or \$6.25 per week.

Evening Class, Sixteen months, Tuition \$12.00 per month, or \$3.00 per week.

**See Rate Schedule on Page 46.**

There are no "lab" fees or entrance fees. Only one book is required for each course.

The management reserves the right to change its courses of instruction at such times as are necessary to conform to changes in the United States Government examination.

All students are required to conform with the rules and regulations of the school.

There is no rebate of unused tuition, but credit will be given for unused tuition for future instruction.



Amateur 50 Watt, 80 Meter Station

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Richard Hillferty, formerly with the New York Times shortwave radio Station WHD is now with Press Wireless at Little Neck, New York. Another one of our graduates, Walter Knight is with him.

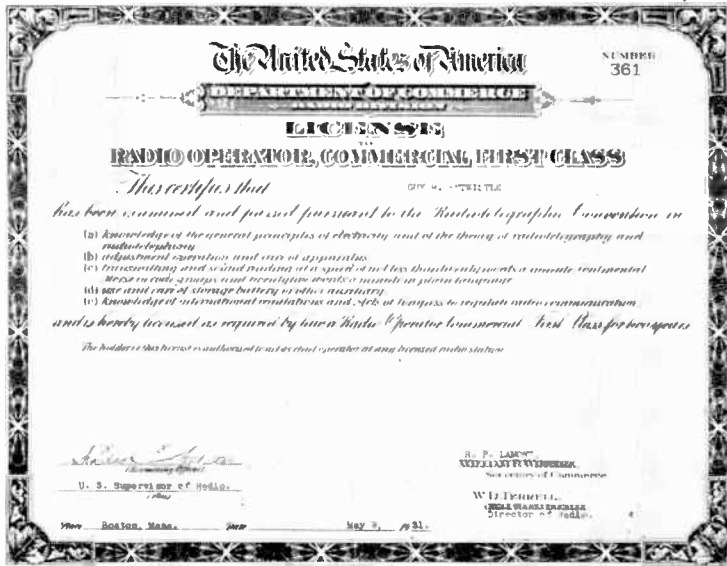
William Hall formerly with the United Fruit Company on one of the banana boats is now located at MacKay Radio station, WAG at Rockland, Maine.

Anton Swartz is with the MacKay Radio station at Sayville, L. I.

Gordon MacIntosh formerly at Colonel Green's station WMAF is now at the Radiomarine shore station WIM-WCC at Chatham, Mass.

Mark MacAdam formerly chief radio engineer for the Commonwealth of Massachusetts state police at Framingham WMP is now with the Ware Radio Company of Brockton. MacAdam helped to install the radio apparatus on the Airplane carrier U. S. S. Lexington, while employed at the Fore River Shipbuilding Company, Quincy, Mass. MacAdam is also active in amateur radio circles and is one of the officials of the South Shore radio clubs.

James Godfrey formerly of WLOE and WORC has been at Station WTAG, Worcester, for several years.



This license has been renewed and is still in force.

## The Radio Operator's License

*A Ticket and Passport to All Parts of the World  
 Its Necessity—How We Could Help You Get It*

There are many types of licenses given by the U. S. Government after passing the proper examination. Briefly, they may be divided into Radiotelegraph licenses and Radiotelephone licenses. Our courses of instruction lead to either one or both as the student may elect. We advise training for both, as then a student is equipped to take any kind of work upon graduation after he has secured his license. Of course, some students will want to prepare for just one kind of a license for special reasons of their own. Our courses permit this also.

A table of requirements for the various licenses is printed elsewhere in this catalog. See page 52.

Before any one can enter upon professional Radio work, he is required by the Government to prove his ability and is awarded, if qualified, a Commercial Operator's License. This license places an operator in good standing, qualifies him as expert, and allows him to operate any kind of a set at any time and any place on land or sea or in the air.

The main object at Massachusetts Radio School is to prepare our students to pass the U. S. Government Examinations for the various Radio Operators Licenses.

# DIPLOMA

On completing the course and passing the schools final examinations and meeting the schools requirements as to Code Reception, Hand Sending and Theory each student is granted a diploma.



On October 29, 1936, FIVE Massachusetts Radio graduates went to the Custom House for their U. S. Government examinations for radio operator's license. ALL FIVE PASSED. Another typical Massachusetts Radio achievement. No Special instruction. Just the regular course given to ALL students.

They are:

E. Douglas, Ft. Johnson, N. Y.	89.5%
F. Caldwell, St. Johnsbury, Vt.	87.6%
R. Pinney, Rockville, Conn.	86.2%
P. Heath, Townsend Hill, Mass.	79.1%
R. Clarke, Stoneham, Mass.	75.0%

These are all telegraph licenses involving code tests both sending and receiving.

Yes, it does make a difference where you attend school!

## Student Life at "Massachusetts"

### *Location of School—Advantages of Boston*

The MASSACHUSETTS RADIO and TELEGRAPH SCHOOL is located at 18 Boylston Street, corner Washington Street, Boston, Mass., ten minutes' walk from the South Station, the terminus of the N. Y., N. H. & H. R. R., seven minutes' walk from the Park Street Subway Station of the Boston Elevated R. R.; and ten minutes' ride from the North Station of the Boston & Maine Railroad. Boylston Station Exit is directly opposite this school.

Because it is the cultural center of the United States, Boston offers probably the greatest educational opportunities of any city in the country. Students of our school have special privileges at the Boston Public Library, and are right in the midst of an unequalled number of public and semi-public institutions of extreme cultural value. Boston is, of course, a place of great historic interest. Incidentally Boston is the home of many Radio manufacturing plants where our students may have access to valuable sources of study. Students who live within fifty miles of Boston will find ample facilities for commuting at low cost. Railroads issue to students under twenty-one years of age Students' Monthly Commutation Tickets, which reduce the fare greatly—as for example—one student who comes from a town outside of Fall River commutes at the cost of 42 cents per day for the round trip. Apply to your local railroad station for students' railroad ticket application, which when signed by an officer of this school, after your enrollment blank is sent in, entitles you to the reduced fare.

Room and board near the school may be obtained at reasonable rates, \$9 to \$11 per week. Suitable rooms may be had from \$2.50 to \$5 and board from \$7 up. Frequently two students room together, cutting down expenses. We are always glad to help our students find suitable places in which to live, and really prefer to know that they are well cared for in this respect.

Opportunities for employment while attending school are open for many students. We try in every possible way to help students under our care find employment.

Our student body is drawn from considerable territory. The students in our recent classes came from all over the world—Egypt, British Columbia, Porto Rico, Canada, Philippine Islands, and in the United States they came from Canal Zone, Louisiana, Iowa, Nebraska, Oklahoma, Tennessee, Vermont, Michigan, Connecticut, Ohio, New York, Rhode Island, Kansas, Maine, New Hampshire and Massachusetts. This year we enrolled a chap from Brisbane, Australia.

Naturally groups of students enjoy many pleasant times together in sports and attending entertainments in and about the city.

Many out of town students find work in the chain restaurants in return for which they receive all necessary meals. Some also receive pay in addition. Other students have found work running elevators, as night telephone operators, gas station attendants, salesmen, and in other part time lines.

## U. S. Government Exams

The following table gives full particulars on the

Kind of License	Speed required on		Theory Passing Mark	Examination Day	Experience necessary to sit for Examination
	Mixed Code	Plain Language			
Commercial First Class	20	25	75%	Thursday	12 Months on 2nd Class.
*Commercial Second Class	16	20	75%	"	None
Commercial Third Class		15	75%	"	"
Broadcast †First Class	(No Government code)		75%	Any Day	"
Broadcast Second Class	test given, but code ability necessary to		75%	"	"
Broadcast Third Class	secure employment in most cases.)		75%	"	"
‡Amateur, Class B	13	13	75%	Any day but Thursday	None

\* The Commercial Second Class license is the highest grade license that can be obtained without previous commercial operating experience.

† The Broadcast First Class license is the one advised in this group.

‡ Day students are prepared for this license after three months instruction.

## Examination Data

Radio Telegraph 2nd Class Commercial License			Radio Telephone 1st Class Broadcast License	
Number of Questions	Points Credit on Exam.	Subject Head	Points Credit on Exam.	Number of Questions
1	10%	Diagram (1)	10%	1
10	20	Transmitters (2)	30	15
10	20	Receivers	10	5
5	10	Power panels and Motors and Generators, and Rectifiers (2)	10	5
5	10	Storage Batteries	10	5
5	10	Elementary Electricity	10	5
10	20	U.S. and International Laws. (2)	20	10
46	100%	75% is passing	100%	46

(1) A different diagram is required for each exam. An M O P A Transmitter is required for radiotelegraph examination and a complete and modern broadcast transmitter diagram is required for the broadcast or radiotelephone examination.

(2) In case Broadcast examination is taken, the questions will relate to broadcast apparatus.

(3) 75% is passing mark on all licenses.

August, 1937

TO THE READER:--

There is strong demand for LICENSED RADIO OPERATORS for the first time in seven years. We produce more licensed operators than ALL the other New England Radio Schools combined but still this is not enough. You have been presented the FACTS. You have been THINKING about it. But this is not enough. YOU MUST TAKE ACTION. You must DO SOMETHING ABOUT IT. Here is THE CHANCE you have been waiting for. Some will do nothing -- as usual -- and say they never had a chance. Others -- the type we want and can place with the large companies that employ our graduates, TAKE ACTION and START TRAINING.

The thoughtful student who investigates and weighs sincere advertising and facts as against ballyhoo and wild claims will enroll at MASS. RADIO SCHOOL and prepare himself for an excellent career in RADIO as did over 500 successful graduates in the past seven years. If these men could have confidence in RADIO during a depression why should you hesitate NOW when a BOOM is in the making and there is actually a SHORTAGE of high-class licensed radio operators.

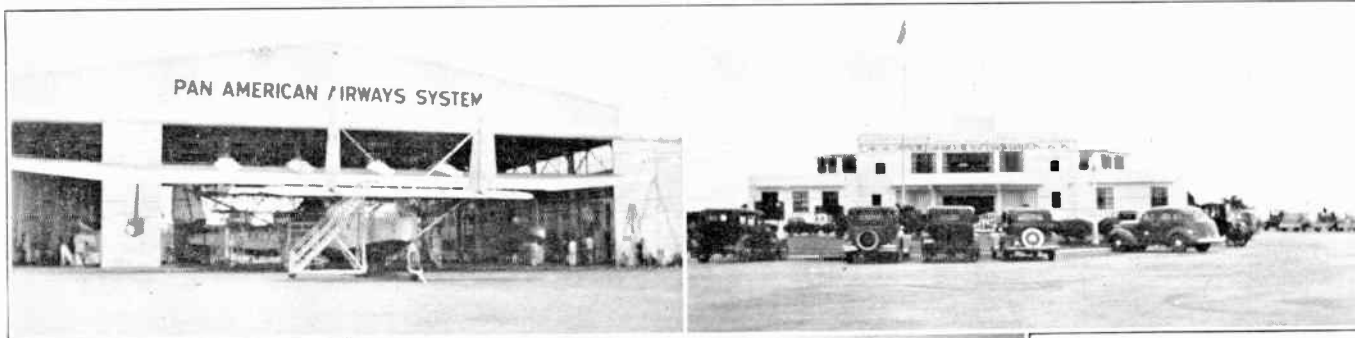
Pan American Airways, the United Fruit Company, Mackay Radio, Radio Corporation of America (RCA), and many others are continually in need of men and today they cannot find radio telegraph operators enough of the right type to meet their demands and more and more men will constantly be needed for the rapidly expanding RADIO PROFESSION.

Again we ask -- WHAT ARE YOU GOING TO DO ABOUT IT?

Yours for a LICENSE,

MASSACHUSETTS RADIO & TELEGRAPH SCHOOL, INC.

G. R. ENTWISTLE, President.





# MASSACHUSETTS RADIO AND TELEGRAPH SCHOOL

INCORPORATED

18 BOYLSTON STREET, COR. WASHINGTON

GUY R. ENTWISTLE, PRES.  
RADIO DIRECTOR

BOSTON, 11, MASS.

R. F. TROP, TREAS.  
TELEGRAPH DIRECTOR

TELEPHONE HANCOCK 8184

Season 1937 - 1938.

Dear Radio Friend:

Kindly accept our latest catalog with our compliments. Please read it thoroughly as it contains many FACTS you should know about the radio profession. It is not filled with promises but accomplishments. It is revised each year and written by a man with 28 years experience in the training of radio operators and is built around the questions asked by prospective students.

Briefly here is the story: Our main object is to prepare students for their examinations for the various U. S. Government radio operator's licenses. For instance in our day radio classes in nine months' time, we prepare you for the following: (1) Amateur, class "B" license; (2) second-class commercial radio telegraph license; (3) First-class broadcast license; (4) practical radio laboratory course including actual experience on working equipment under the supervision of the instructor; (5) practical one-month radio service and repair course which includes actual trouble shooting and analyzer work and tube checking and television. The day course is held Monday to Friday inclusive, 9 a. m. to 1 p. m.

All this above instruction is given in NINE MONTHS' TIME and makes an all-around radio man of you. This instruction prepares you to take any radio job available as far as school training is concerned.

In the evening license classes, the same instruction is given as in the day school classes but a longer time is required to complete the courses. Also, the LICENSE course and the Radio Service courses are given by separate departments. The license course takes about SIXTEEN months in the evening classes which are held Monday, Wednesday and Friday evenings from 7 p. m. to 9 p. m.

The same kind of instruction is given in both the DAY and EVENING classes and lead to the same objective, namely, the U. S. Government radio operator's licenses but there are twenty hours per week's instruction given in the DAY class against six hours per week's instruction in the EVENING classes.

The next beginners classes in radio operating - day or evening are offered January 17 - May 9 and September 12. Beginners are admitted to all classes from the starting date to within two or three weeks thereafter. After this time, it is advisable to wait until the starting of a new class.

Radio Service and Repair classes are held Tuesday and Thursday (evenings only) from 7 p. m. to 9 p. m. The course takes twelve months to complete. Starting dates of these classes are January 18, May 10 and September 13.

Tuition rates are printed on the reverse side of the application blank. Briefly, they are as follows: Day classes, \$25.00 per month, (September 13 to October 13), \$6.25 per week (September 13 to September 20.) Evenings classes \$12.00 per month or \$3.00 per week (7 calendar days.) Evening class (Radio Service) \$10.00 per month or \$2.50 weekly. To facilitate bookkeeping, tuition can only be accepted in weekly or monthly units or multiples thereof.

Here are some of the highlights of the school. Ownership management: Both owners who have been in radio over 30 years teach in the class rooms. Same management for over 20 years. Same main faculty 15 years. Over 300 satisfied students in actual attendance at one time in 1937. Five large class rooms well-equipped. Twelve instructors. RCA and Western Electric equipment.

Over 500 licensed graduates placed during the past seven years. Most of our graduates are placed, both radio operators and radio service graduates. Oldest, largest and best-equipped radio school in New England. Remember, over 38 years a communication school and in the same location, 18 Boylston Street, Boston. Our Radio Director has had over 28 years continuous service in the training of radio operators and today still holds his radio operator's license which has been in force during the past 26 years without a break.

At the present writing we also have a greater enrollment than all other New England radio schools combined.

It would be difficult to find a station of any kind in New England that does not today employ from one to twelve of our graduates. Ninety per cent of our last year's day class passed their U. S. Government examinations for radio operator's license.

Twenty-five men were placed with the Pan American Airways alone last year.

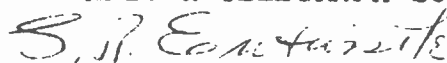
The outstanding success of Mass. Radio School during the past twenty years should be conclusive proof of our ability to train you for the radio profession. We would be pleased to answer your questions or better still, come in and investigate the school. Visit our new laboratory, the largest in New England.

The demand for men is the best in seven years and is increasing.

Enroll now for next beginners class.

Very truly yours,

MASSACHUSETTS RADIO & TELEGRAPH SCHOOL, INC



G. R. Entwistle  
President

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