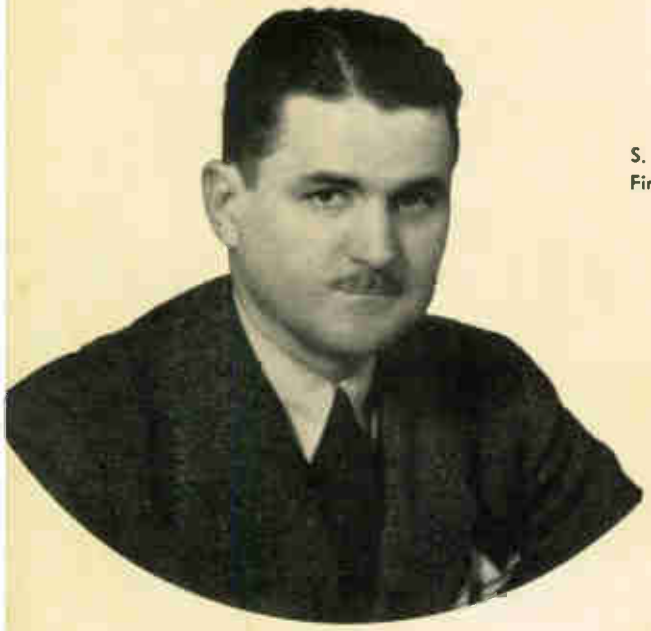
PICTURES ON THE AIR

FIRST NATIONAL TELEVISION • INC

KANSAS CITY, MO.

TRAINING DIVISION
29th, 30th, 31st Floors
Power & Light Building



S. Q. Noel, President,
First National Television, Inc.

Foreword

THE very first thing that you and I want to do is to become better acquainted so that we can talk to each other "straight from the shoulder." You sent for my booklet "Pictures On The Air," because *you wanted to make more money and because you rightly believed that Radio and Television offered you a genuine cash value future.*

BOTH the future and the money await you in the Radio-Television Industry, providing you get the kind of training that employers demand. That is exactly why I have invested thousands of dollars in the equipment for Government Licensed Television and Sound Broadcasting Stations . . . *so that you can get your hands on the controls and actually put Radio and Television programs on the air!*

AS a First National Graduate Engineer, you will have your First Class Radiotelephone License with an actual operating record endorsed on the reverse side. This will enable you to face your employer with confidence and go on the job with the satisfaction of knowing that you are fully qualified to handle the most responsible assignments. That is just one of the many reasons why First National Trained Technicians are so successful. What others have accomplished, you can accomplish!

AS President of this great broadcasting and training institution, I extend to you my personal assurance of sincere co-operation always.

S. Q. Noel

PICTURES ON THE AIR

YOUR CRYSTAL TOWER OF OPPORTUNITY

Where the Mysteries of Television Will Unfold Before Your Eyes

TELEV

THE MIRACLE

America

NEW PROGRESS IN TELEVISION

RCA to Spend Millions on Field Tests

Immediate construction of facilities for field demonstration of high definition television in the United States was announced by David Sarnoff, president of the Radio Corporation of America.

England

England Soon to Have Public Television

Television is expected to be in full swing in Great Britain within a year, says a report to the Louisville District Office of the Commerce Department. The Postmaster General has just authorized the British Broadcasting Corporation to make arrangements with the Baird Television Company and the Marconi E. M. T. Television Company for the provision of complete transmitting equipment.

France

FRENCH TELEVISION BROADCASTING NEAR

Georges Mandel, minister of posts and telegraphs, has announced that the French Government will install a television broadcasting station on the Eiffel Tower. This station will begin operating within six months on a 180 meter wave length.

Germany

TELEVISION TRUCKS GIVE DAILY EVENTS TO BERLIN PEOPLE

Television trucks are giving daily events by television to a growing number of spectators in Berlin, Germany. The television truck carries on its roof an ordinary film camera mounted on a hollow pillar as support. The film as it is exposed is run through this pillar to a dark room inside, and while still wet from delevoping is broadcast by television to theaters and booths throughout the city.

ISION

OF A CENTURY

Canada

CANADA FORGES AHEAD IN TELEVISION

According to the Engineering Index, the Peck Television Company of Canada has already completed its final tests, and is about to market its sets in the Dominion. The sets are about the size of an ordinary radio cabinet, having a screen near the top, in addition to the usual loud speaker.

Kansas City

Midwest's Pioneer Television Station in Spotlight

From backstage to spotlight, with a constant clamor for more frequent television broadcasts is the remarkable record of television broadcasting station W9XAL at Kansas City, Mo., owned and operated by First National Television, Inc. Broadcasting on a frequency of 2800 Kilocycles from an antenna more than 500 feet above the streets of Kansas City, W9XAL has "lookers in" scattered over the entire midwest.

Are YOU Ready?

One of the many reasons for W9XAL's great popularity. Snappy, well directed television programs, broadcast by Student Engineers.

PICTURES

FLASHING FROM

First National Student Engineers "on the job" in the modern control and transcription room of W9XAL and W9XBY.

A typical studio scene taken during the broadcast of "Television Varieties" over W9XAL and W9XBY.

The airlanes of the universe are literally saturated with radio waves of all frequencies that flash into space from broadcasting stations the world over. Cities, states and nations exchange news, entertainment and radio pictures across towering mountain ranges, vast oceans and desolate deserts in split seconds. Criminals seek safety in vain as radio waves relentlessly track them to their hiding places, while airplane pilots offer heartfelt thanks for the guiding hand of radio that brings them to a safe landing in storm or fog.

Amazing? Yes . . . beyond the most rabid prediction of Jules Verne. *But wait* . . . science has now added a still more unbelievable chapter to this thrilling story of progress. An achievement that will give birth to another great industry . . . that may create employment for hundreds of thousands of trained men without injury to a single industry that is already established.

TELEVISION

PICTURES ON THE AIR . . . waves of electrical energy that will transmit graphic picture stories to the four ends of the earth and entertain the eye as well as the ear. Television enthusiasm is rampant. World-wide interest has been kindled. And out of it all, certain institutions have received just recognition as THE centers of world-wide television progress. They include Broadcasting House in London, England, the Eiffel Tower in Paris, France, and the Marconi Laboratories in Italy. In the United States, we have the laboratories of Philo Farnsworth, the Bell Telephone Company, RCA . . . and The Crystal Tower of Opportunity at Kansas City, Missouri, home of First National Television, Inc., Pioneer Television broadcasters of the Middle West.

A VIRTUAL TELEVISION CITY

In the Power & Light Building—500 feet above the streets of Kansas City—a group of alert business-like young men open the door to and enter Studio A. Here an impressive array of mysterious-looking equipment meets the gaze of the curious onlookers who peer through the large glass opening in the Reception Foyer. A fantastic appearing television camera that looks as though it might have been transplanted from the planet Mars, is swung into position. Banks of photo-electric cells, suspended from an overhead track, slide into

TELEVISION *is Here!*

Television No Longer a Dream

University Professor Predicts Television Receivers Will Be as Common as Radio Receivers

The general public has long regarded Television as a fantastic dream. But according to Prof. James Webb, department of electrical engineering, University of Minnesota, Television will be an actual reality within the next few months.

"Television has been conquered by science," says Prof. Webb after a summer in eastern electrical laboratories. He further stated that television sets will be placed in many prominent public places. This will make it possible for thousands of people to actually witness television demonstrations and will result in a greatly increased demand for home television receivers.

ON THE AIR

THE CRYSTAL TOWER

place. Attractive, beautifully costumed young ladies appear on the studio stage just as a brilliant beam of light flashes from the lens of the camera. All is made ready for the "go" signal that will put "PICTURES ON THE AIR."

BEAUTY—ACTION—DRAMA

Suddenly the program director flashes the "go" signal. The studio lights are dimmed. The hum of good-natured conversation is silenced. But this silence is short-lived. You hear the snappy strains of a lively dance number and the rhythmic tapping of dainty toes. A cute little dancing girl presents a weird but beautiful picture . . . as she twinkles in and out of the light beam from the television camera. Sensitive photo-electric cells pick up the light reflections from the studio stage and transform them into weak electrical impulses. These are greatly amplified in the adjoining control room . . . and then flashed into space from the antenna that reaches to the very tip of the Crystal Tower.

PICTURES ON THE AIR . . . dancing, singing, orchestras, bands and dramatic sketches. Studio and control room present a bee-hive of activity. Artists . . . engineers . . . announcers . . . program directors . . . eager visitors . . . and the alert, business-like young men who man the controls. These same young men were once the eager visitors in the Reception Foyer "looking in." Today, they are on the inside of the Television industry "looking out"—and "up" to a brilliant and profitable future, placed within their reach by First National engineering training.

SUCCESS—FOR YOU

You too, can become a First National Student Engineer on the "inside looking out" and "up" to bigger and better pay days. First National's staff of expert radio-television engineers are here to help you win success, so that you too, may become an expert and enjoy the pleasures and comforts of life. A typical First National welcome awaits you in Kansas City . . . a warm, friendly greeting and a hearty handshake.

The world's most popular mouse as he appears on the screen of a Baird Television Receiver. A scene that may be duplicated in thousands of American homes.

Hollywood Looks Ahead

Billion Dollar Industry Ready for Television

TELEVISION STUDIOS BEING PLANNED!

Another studio action scene showing the camera in process of taking picture.

COURTESY FARNSWORTH TELEVISION LABORATORIES

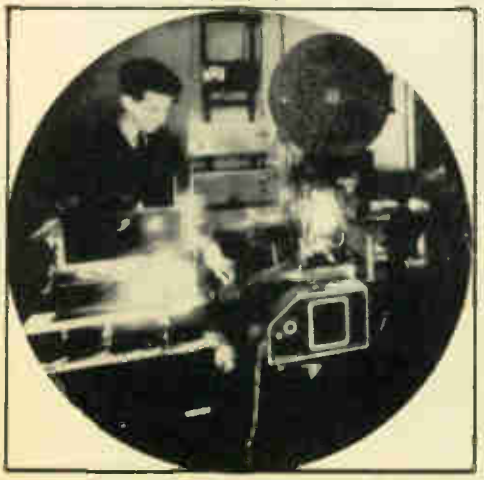
A Cathode Ray Television camera.

Hollywood will not be caught napping! With its billion-dollar investment, it is ever on the alert for the new. What Hollywood prepares for *today* is sure to be the colossal achievement *tomorrow*. *And Hollywood is preparing for Television!* Not half-heartedly, but in true Hollywood fashion—no expense is being spared. Even now in all contracts with movie stars, there is a specific clause providing for Television. Quietly, the scenery is being shifted back-stage, and before you realize it, Hollywood will go Television!

Likewise have broadcasting companies had their ears to the ground. Radio stars are now being groomed for Television. On all new talent, the added requirement of an attractive appearance is imposed. In fact, the radio and motion-picture industries are working hand in hand to insure the phenomenal success of this new innovation. And already, screen productions are being broadcast by Television!

MOVIE STARS TELEVISED BY W9XAL

Fortunately, Kansas City is the hub of coast-to-coast movie-star traffic. It is a terminal point for both planes and trains. Consequently, the constant parade of screen celebrities through Kansas City brings many of them to the studios of W9XAL. They drop in between planes or trains to appear on synchronized sight and sound programs—and the First National student-engineers do the job!



A combination movie talkie projector and television camera being used in the process of broadcasting pictures.

Spanish scene being televised in British television studio. The picture is taken on a film, which is developed and broadcast in less than one minute's time.

Now IS THE TIME FOR YOU TO LOOK AHEAD

What will Television mean to the world in years to come? The possibilities stagger the imagination. The New York World Telegram says: "Television today is an accomplishment. It is a mystery. It is a promise. It is an anomaly of good and evil portent. Television is going to alter strangely the ways of mice and men."

Experts think of Television as a means by which the farmer tomorrow may sit in a city office and see in a glass how his wheat crop, hundreds of miles away, is doing after a shower. Experts think of Television as showing tomorrow's home folks how the snow glitters at the North Pole, or how the sunset looks at the equator. On a day not far distant they believe home folks and school children will see history made in their Television receivers. They foresee Television theatres as successful as today's movietone theatres.

They believe a nation's business methods will be altered. Bankers will be able to identify signatures across a thousand miles of space. Producers will be able to show crops to buyers on the other side of the continent. New York buyers will sit in their New York offices and see the mannikins of Paris stroll in gowns not thirty minutes old. The policeman will scrutinize the image of the fugitive criminal on the dial of his motor car Television set. Automobile thievery will cease being a profession and crime in general will be greatly reduced, if not eradicated.

Airplane pilots lost in fog will be able to see landing fields clearly miles distant and bring their ships safely to ground. The prospective motor car customer in San Francisco will view the latest models of cars at the New York Auto Show. The housewife will sit in her home and see tempting foods prepared by famous chefs at the Chicago Food Exhibit. The family on the plains of North Dakota will gather round their Television receiving set and see football games in New York or California; or witness theatrical performances in London.

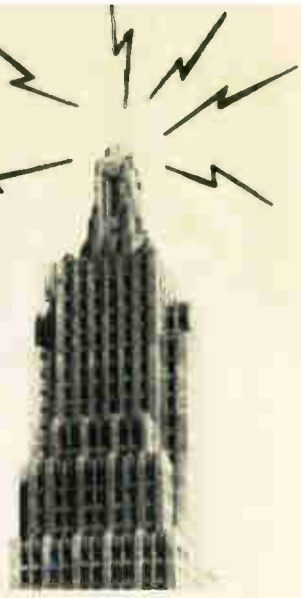
The "Electric Eye" of Television may be visualized as peering into every human activity of the future. Television will beyond question have a revolutionary effect upon Industry, Science, Education, Politics, the Opera and Drama, and every form of Business and Professional life. The man or woman who qualifies today as an expert in Television will command an enviable position in the world's events of tomorrow.

(Above) A television action scene during the process of transmission at the Farnsworth studios.

(Right) Tuning in a Television picture on a modern cathode-ray receiver.

(Below) Madge Evans, of motion picture fame, "looking ahead" in Television.

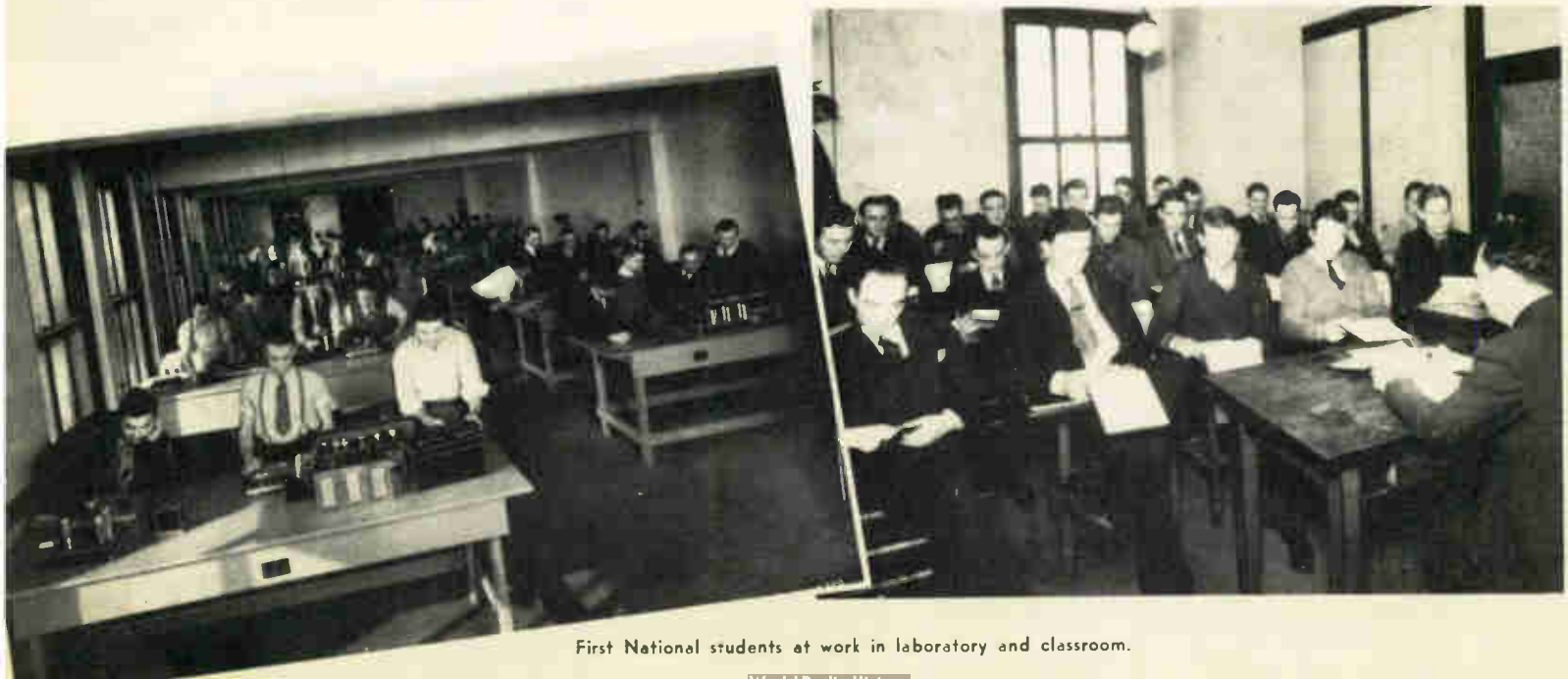
Learn TELEVISION
—THE RIGHT WAY—THE 1ST NAT'L WAY
"By Actual Experience"



Every step in First National's training is focused on its practical value in actual practice. Even the laboratory problems you learn to solve are not theoretical — they are actual cases which occur in the every-day operation of a licensed station. It may be a tube burning out in the midst of a presidential address. Or some other "bust" between the microphone and the antenna. Through this work, you gain an intimate knowledge of possible tragic mishaps. You know what to expect—what to do in an emergency and *how* to do it quickly and accurately! Which makes you a *topnotch* engineer in any station—with a premium on your services!

In the laboratory, you also study the many component parts of a radio receiver or television transmitter. You assemble them under the guidance of our competent engineer-instructors. After they have been made to function as a single unit, you wire one unit up with several other units and make them function together. As you progress, more and more of these units are added until you are operating a complete receiver or high fidelity transmitter. Your work is then checked by testing instruments for perfect operation as a single unit.

When you have correctly solved these problems, you are then ready for actual experience. You are assigned to advanced supervision of radio and television transmitters and take your place at the transmitter panels while real, genuine broadcasting is in full swing. During your shift, you check a dozen or more instruments at regular intervals and record the information in the official station log. Sounds interesting, doesn't it? And it is . . . in fact, your stay at First National is so chock full of interesting and novel experiences, you won't want to leave at graduation time.



First National students at work in laboratory and classroom.

"LEARN IT ON THE JOB"

IS JERRY TAYLOR'S CREED

The affable dean and chief engineer of the First National faculty, Jerry Taylor, is a *practical* man—he was formerly technical advisor to the Federal Radio Commission. Small wonder, then, that his philosophy should be, "To learn to do a thing right, you must really DO IT!" And Jerry means just that—at First National, you train under the same conditions and with the same equipment that you will find ON THE JOB. We fully realize from the start that your success after graduation depended upon the "on-the-job" experience you gained during your training period.

WE HAD FAITH IN A NEW IDEA

This "on-the-job" training idea has naturally been a rather expensive one for us. The almost unlimited scope of the radio-television field made it necessary for us to provide for a large number of special departments. And each department had to be equipped with its own special machinery . . . modern to the minute. This has involved huge expenditures. But we have faith in this idea. We know that you and other ambitious young men, in order to make good, must leave First National with a *complete, practical* training. So that you could truthfully say that you "learned on the job" and not . . . "just in the class room."

OUR ON-THE-JOB TRAINING SYSTEM

has more than justified itself. It has introduced a new note into technical instruction. And our ever-increasing enrollment has amply rewarded our pioneering efforts. First National graduates, the country over, are *making good* in a big way. Employers are enthusiastic about the First National training system . . . and unreservedly express their intention of *always* hiring First National graduates. They have found that these men are trained *on the job to fit the job!* And that's the kind of training you can expect at First National!

YOU'LL LIKE "JERRY"—*He recognizes the value of friendship*

WE TELL YOU "HOW"

IN CLASSROOM

K. R. ALEXANDER
Chief Instructor, in charge of Television Receivers and electronics.

Your training at First National starts from scratch—no previous experience in radio or television is necessary. You begin, quite naturally, in the classroom where you are thoroughly grounded in all the fundamentals of both radio and television. You receive your basic training in electricity . . . . . the foundation of all radio-television instruction. Then you take up the underlying principles of radio. Starting with the simpler receiving circuits, you advance to the circuits of associated equipment necessary to operate an AC receiver. You are instructed, too, in radio servicing.

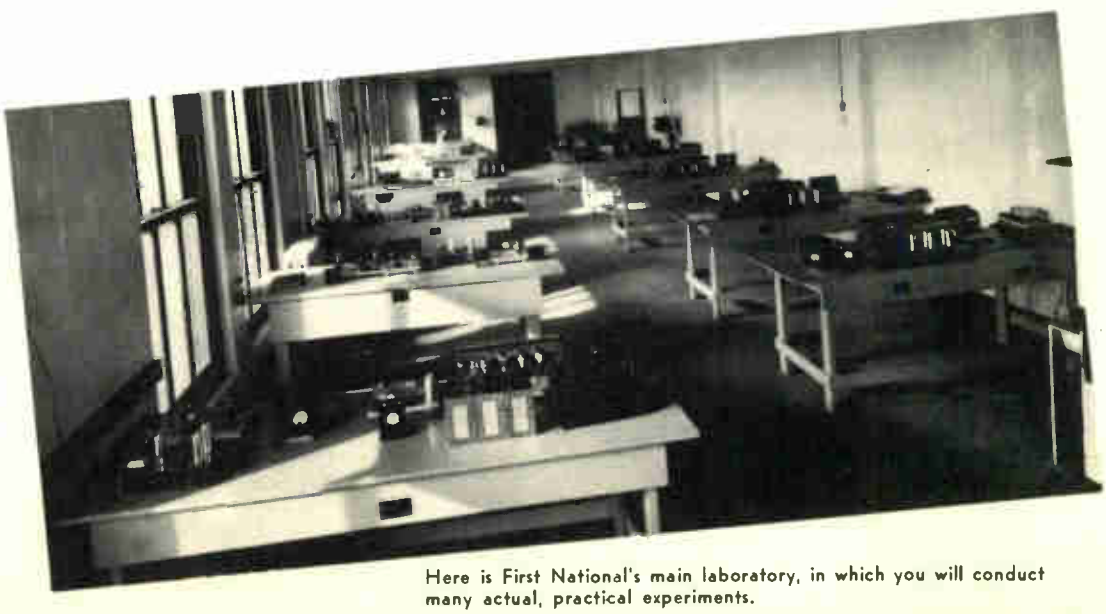
Next comes the radio transmitter—with concentrated instructions in those phases required for a Government radio-operator license. The study of the fundamental transmitter circuits includes all associated equipment such as motors, generators, storage batteries, etc. You learn how to adjust, operate and maintain commercial transmitters. Three different sized transmitters—from the simpler type to the most complicated—are minutely covered. This gives you a working knowledge of over 90% of the radio transmitters in use today.

You are now ready for your federal examination as a first class radio-telephone operator. Immediately upon receipt of your Government license, you are assigned to actual duty in the operation of our radio and television equipment. At the same time, you begin your study of television.

The first step in television is complete instruction in the fundamental laws of Physics—all-important basis for any training in engineering. Then you study the science of scanning. Special emphasis is placed on this phase of your instruction because it is the foundation of television. Your intimate knowledge of this science makes you thoroughly efficient in any branch of television regardless of what trend it may take in the future. The principles of the special amplifiers and transmitters are revealed and you even design amplifiers yourself. You also learn about the cathode ray tube and the photoelectric cell. The latter, particularly, has many potential uses outside of television and you are thoroughly informed about these major possibilities.

C. L. FOSTER
Chief Instructor, in charge of Radio Receivers Group.

MERLE BROWN
Chief Instructor, in charge of Radio Transmitter Group.



Here is First National's main laboratory, in which you will conduct many actual, practical experiments.

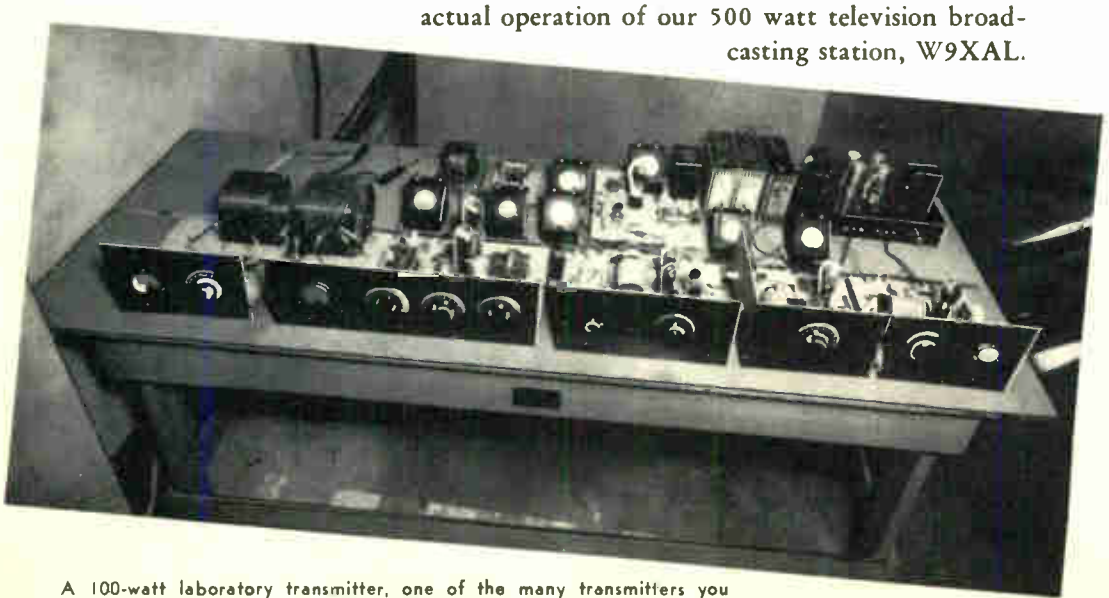
THEN YOU ACTUALLY DO IT . . .

IN THE STUDIO, LABORATORY, and at the Transmitters

From the classroom, you graduate to the laboratory—in keeping with First National's "on-the-job" training. You conduct actual experiments which translate into practice the theories which you learned in the class room. For instance, in the laboratory, you build all of the fundamental receiving circuits, measure the constants of vacuum tubes and transformers, repair and align factory-made receivers, etc.

During the course in radio transmitters, you build not less than ten different types of transmitters ranging in power from 10 to 100 watts. You learn to operate, adjust and maintain each type. You are also made familiar with the many causes of trouble in a radio transmitter circuit and how to overcome them. In the meantime, you learn to operate our own laboratory transmitter as a part of your practical experience for the federal license examination.

In the television laboratory, you set up photoelectric cell circuits, measuring their operating characteristics. You work on amplifiers and transmitters, becoming highly efficient in their operation, adjustment and maintenance. Finally, you learn all about the cathode ray tube, its intricate operation and its associated equipment. Here again, you are given additional experience in the actual operation of our 500 watt television broadcasting station, W9XAL.



A 100-watt laboratory transmitter, one of the many transmitters you will construct in the laboratories of First National.

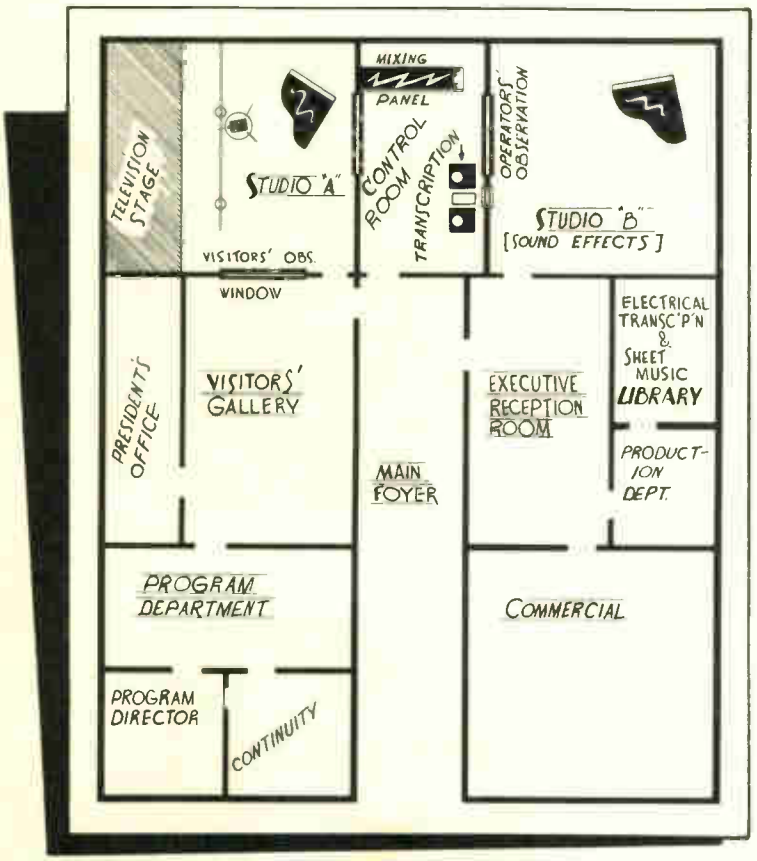
C. E. SALZER
Chief Operations Engineer of W9XBY. In charge of Radio Law Instruction.

MAURICE HORRELL
Chief Engineer, in charge of Television Research and Development.

EVERETT DILLARD
Consulting Engineer, and member of Advisory Board. In charge of Mathematics instsuction.

EVERY PHASE OF

WILL BE RE

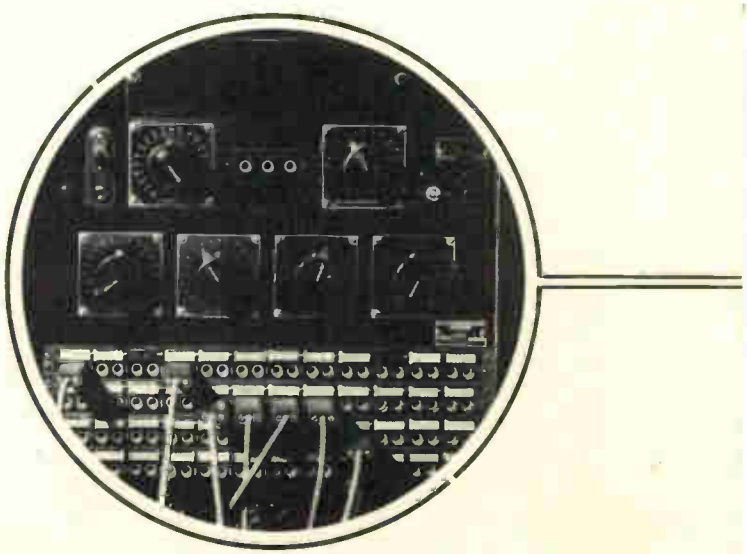


AMONG the many outstanding advantages of First National Television, Inc., is the splendid location atop one of the tallest skyscrapers in the midwest. Television broadcasting stations MUST be located in the highest available point to arrive at the fullest of efficiency in transmission of television pictures. The Empire State Building in New York (the world's tallest building) houses a very powerful television transmitter in its tower, because this extreme height is advantageous. Likewise First National is located in one of the tallest buildings in the midwestern states. No expense has been spared, no possible opportunity has been overlooked to place First National Television, Inc., among the leading television stations in the nation.

Not a *single* phase of broadcasting is overlooked in your First National Training. The intricate and complicated processes involved in putting a program on the air are all brought to you . . . clearly, carefully, and through a simple method that makes it easy. Your experience here will enable you to operate *any* type of equipment efficiently.

The radio operator is truly the unseen hero of the vast broadcasting industry. And his workshop—the control room—is the nerve-center of the radio station. Upon his efficiency and alertness depends the enjoyment of millions of listeners. Your First National training places you in this key position. In the control room, you route the programs. The proper studio must be connected with the correct transmitter. Or, perhaps, the program is to be relayed to the chain system. Whatever the set-up, it's up to you to properly adjust the volume output level. Different voices and instruments require a variation of volume for proper transmission. And with a telephone wire to the transmitter, which is usually the case, certain factors must be taken into consideration. For instance, when extra loud passages are played by an orchestra, you must instantaneously reduce the volume level. Likewise, extremely soft passages require a volume increase. This procedure is known as "riding gain."

Another interesting phase of your activity is the broadcasting of phonograph records or electrical tran-



The Nerve Center, or control point of all W9XBY programs.

BROADCASTING

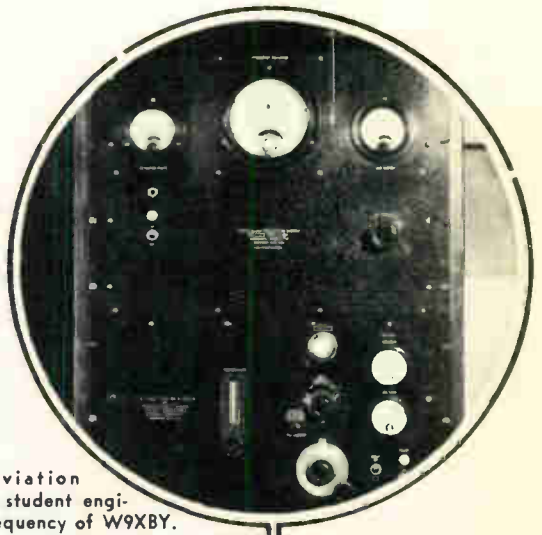
VEALED TO YOU

scriptions. The latter are somewhat similar to the regular records except that they are prepared exclusively for broadcasting purposes. Special transcription equipment, with which you are familiarized during your training, is necessary to put on programs of this nature. Your job is to make these "canned" programs sound as nearly like a studio program as possible.

Your work also includes an intimate knowledge of the transmitter equipment. Your program may leave the control room just the way it should for perfect transmission and yet not reach the listener properly—due to error or inefficient operation on the part of the transmitter men. This equipment must therefore be constantly checked against valuable time-consuming breakdowns or imperfect quality transmission.

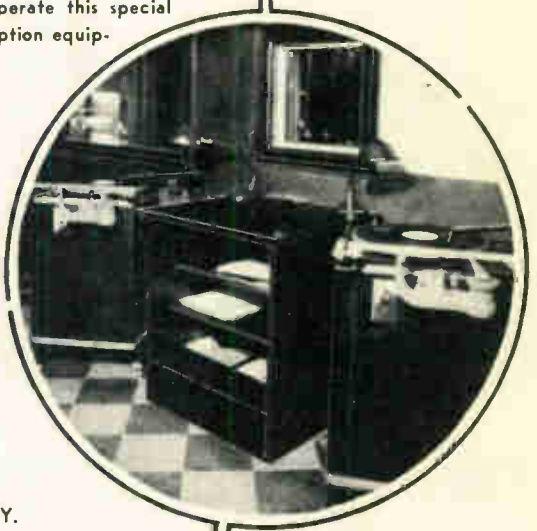
As the operator, it is also your responsibility to watch the frequency on which you are broadcasting. The U. S. Federal Communications Commission requires that this frequency vary not more than 50 cycles per second. With a special deviation meter, you must check this variation at regular intervals. Should it exceed 50 cycles, then you go into action immediately making the necessary adjustments to correct the situation.

Sounds like you must be *highly trained* to be a good operator, doesn't it? Well, that's exactly what First National does for you!

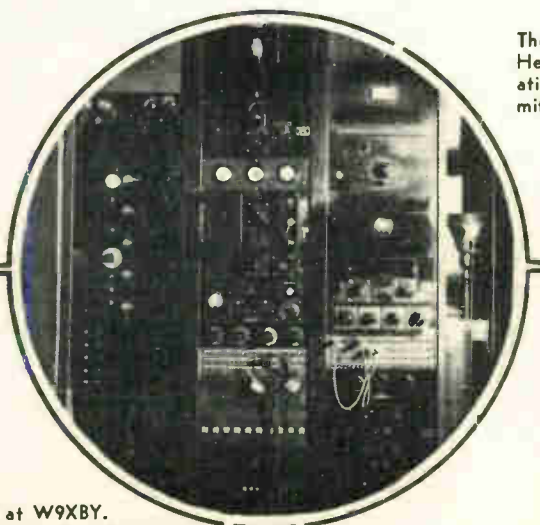


The Frequency Deviation Meter — by which student engineers check the frequency of W9XBY.

You'll learn to operate this special electrical transcription equipment.



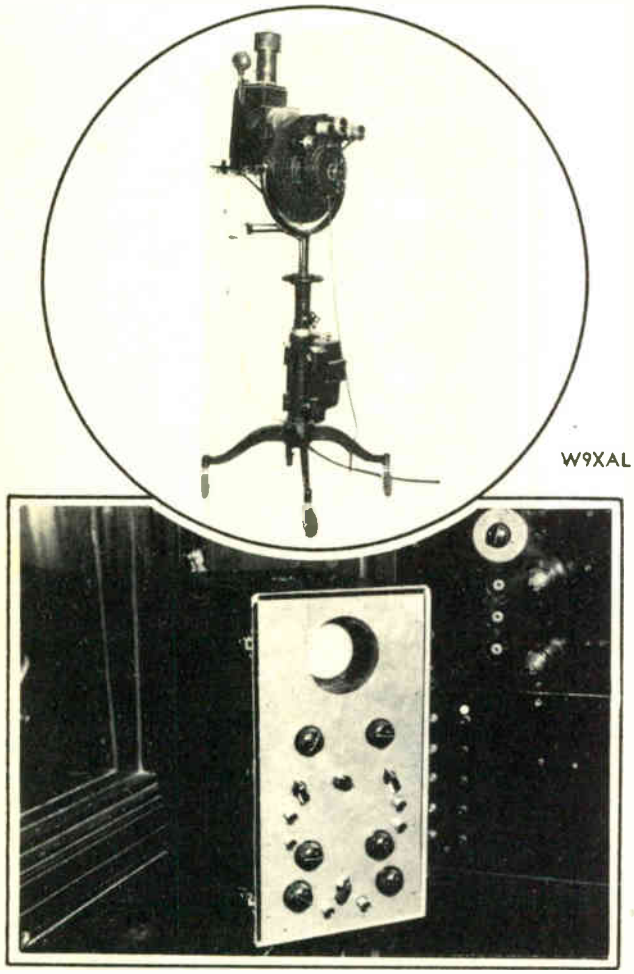
The Main Transmitter Room at W9XBY. Here you will watch and record the operation of this ultra-modern 1000-watt transmitter.



Control Panel at W9XBY. You learn to route all sight and sound programs in and out through this complex equipment.

YOU ACTUALLY "PUT

AT ONE OF AMERICA'S



W9XAL SCANNER

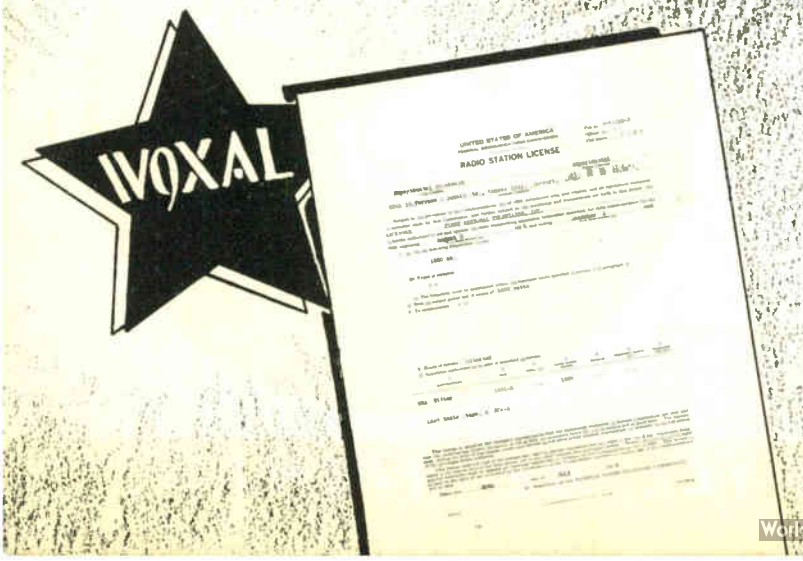
MONITOR RECEIVER

Words cannot express the full meaning of putting "pictures on the air." To the laymen, it is a mystery! Just imagine the thrill you will get stationed at the controls of the television camera directing that mystic beam of light—playing an all-important part in the production of a synchronized sight and sound program! You have this treat in store for you at First National—with one of the most modern television stations in the country at your disposal.

THE SCANNER

You first learn to operate W9XAL'S television scanner, known as the television camera. Working hand in hand with this camera is a bank of photoelectric cells. You gradually learn to place both camera and cells in such relation to each other as to produce a sharp, clear picture. As you become more efficient,

GOVERNMENT-LICENSED TELEVISION "EXPERIMENT" STATION W9XAL



First National's television station—W9XAL—is licensed by the Federal Government to operate on three different frequencies. It has been granted a 100-kilocycle channel between 2750 and 2850 kilocycles with a maximum power of 500 watts. In the ultra-high frequencies, W9XAL is assigned to two additional channels: 42 to 56 megacycles and 60 to 86 megacycles, with a power of 150 watts. The transmitters are located in the Crystal Tower of the Power and Light Building—the tallest in the state of Missouri.

PICTURES ON THE AIR"

PIONEER TELEVISION STUDIOS

you can diffuse or dim the picture if this effect is wanted. The scanner is undergoing rapid changes but the fundamental principles underlying its operation remain the same. Like any camera, it must be accurately focused—and with the aid of a special amplifier, its volume is definitely controllable.

MONITORING

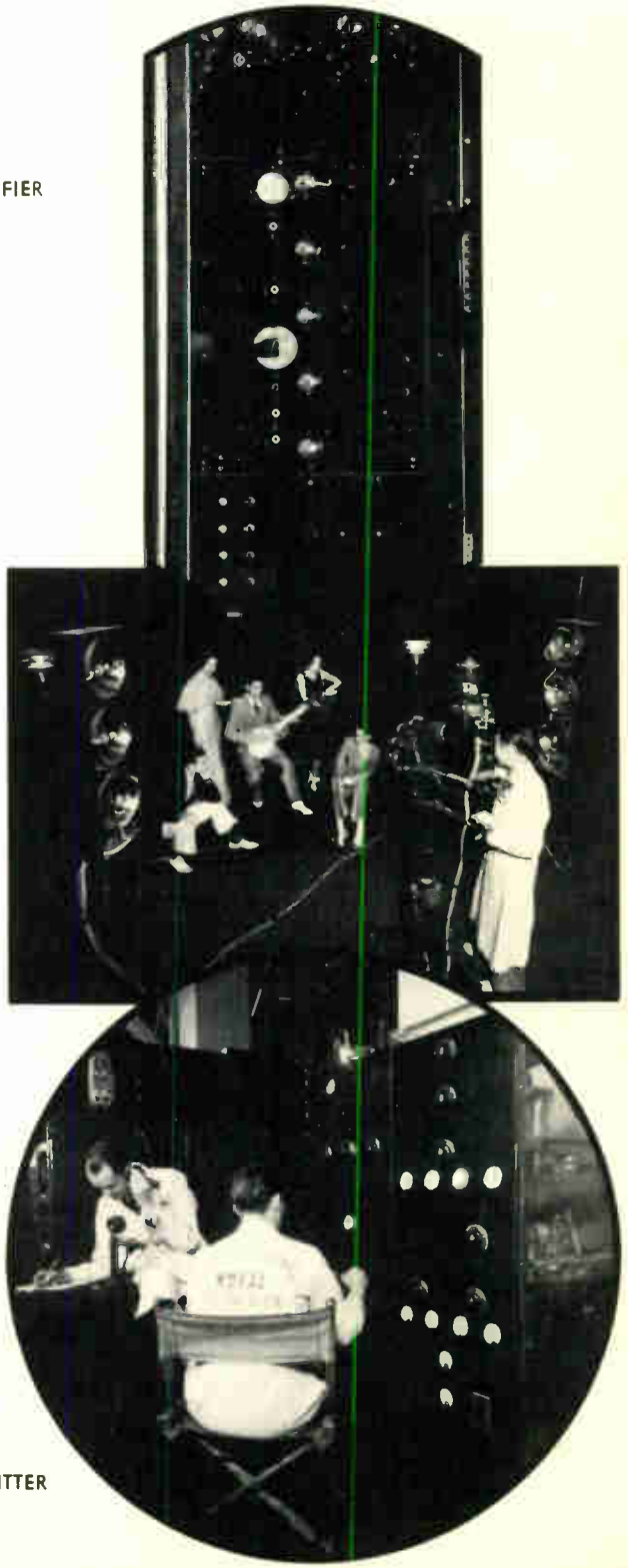
A cathode ray tube is used in "monitoring" the picture from studio to transmitter through the control room. This permits you to carefully check the picture before it is put on the air—highly important in television broadcasting because not a *single quality* of the original studio pick-up must be lost!

THE TRANSMITTER

The transmitter used at W9XAL was built and is now operated by First National students. It is extremely interesting and you will enjoy immensely the satisfaction of mastering its operation, adjustment and maintenance. It is highly complicated and must be constantly checked for perfect operation—for on its proper functioning depends the quality of the picture in the home.

These are but a portion of the many mysteries of television you will solve. There's the studio pick-up . . . you are in the control room with the main amplifier and controls. The various-colored lights on the control panel flash! That is the signal and you put the television program on the air!

W9XAL AMPLIFIER



W9XAL TRANSMITTER

THE REWARDS WILL BE RICH!

THE THRILL OF BROADCASTING

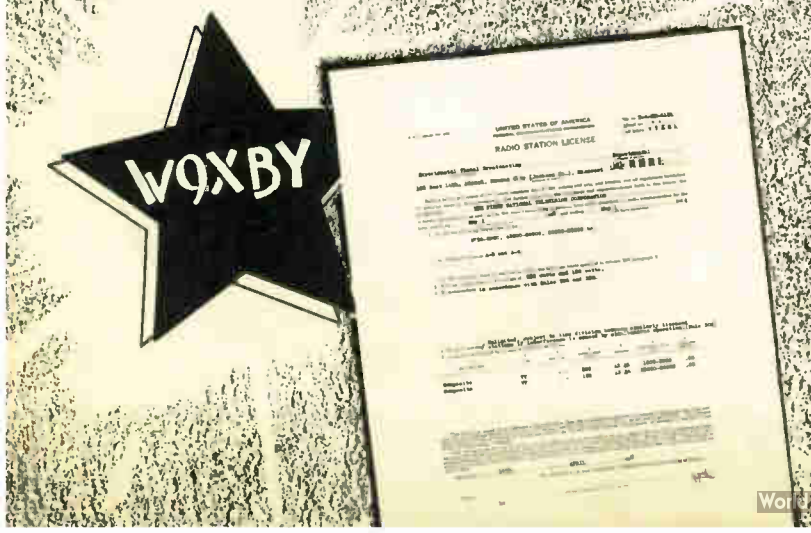
SYNCHRONIZED SIGHT and SOUND PROGRAMS AWAITS YOU AT THE CRYSTAL TOWER

"Lights! Action!" — and another synchronized program is on the Air!

Micro-fun Program, a daily feeture over W9XBY.

First National's training does not end with high-fidelity broadcasting or television. *It goes a step further*—the broadcasting of *synchronized* sight and sound programs. Your mastery of this highly-complicated procedure places you in an enviable position as a licensed operator. You learn *through actual practice* the routine of operating First National's high-fidelity radio station W9XBY which is on the air approximately 19 hours a day. You work with the program department, announcers, technicians, artists, etc. Then you combine this training with that you have received in television. In the control room, you route the television picture to one transmitter, the sound program to another—and *synchronize* them so that they reach receiving sets as one *complete* unit! The television program goes on the air over W9XAL, the sound program over W9XBY. In other words, at First National you receive the coveted advantage of gaining practical experience in the operation of each type station—and you acquire the rare ability of synchronizing both!

GOVERNMENT LICENSED HIGH-FIDELITY STATION W9XBY



First National's high-fidelity broadcasting station—W9XBY—is licensed by the Federal Government to operate on the frequency of 1530 kilocycles with a power of 1,000 watts. The broadcasting channel extends from 1520 kilocycles to 1540 kilocycles, a band width of 20 kilocycles. *The usual broadcasting station is allowed only* 10 *kilocycles and the reason that the* 20 *kilocycle band is allowed W9XBY is to accommodate high-fidelity broadcasts.* The studios are located in the Crystal Tower of the Power and Light Building; the transmitter is located approximately eight miles south.

PERSONAL ATTENTION AWAITS YOU ON ARRIVAL

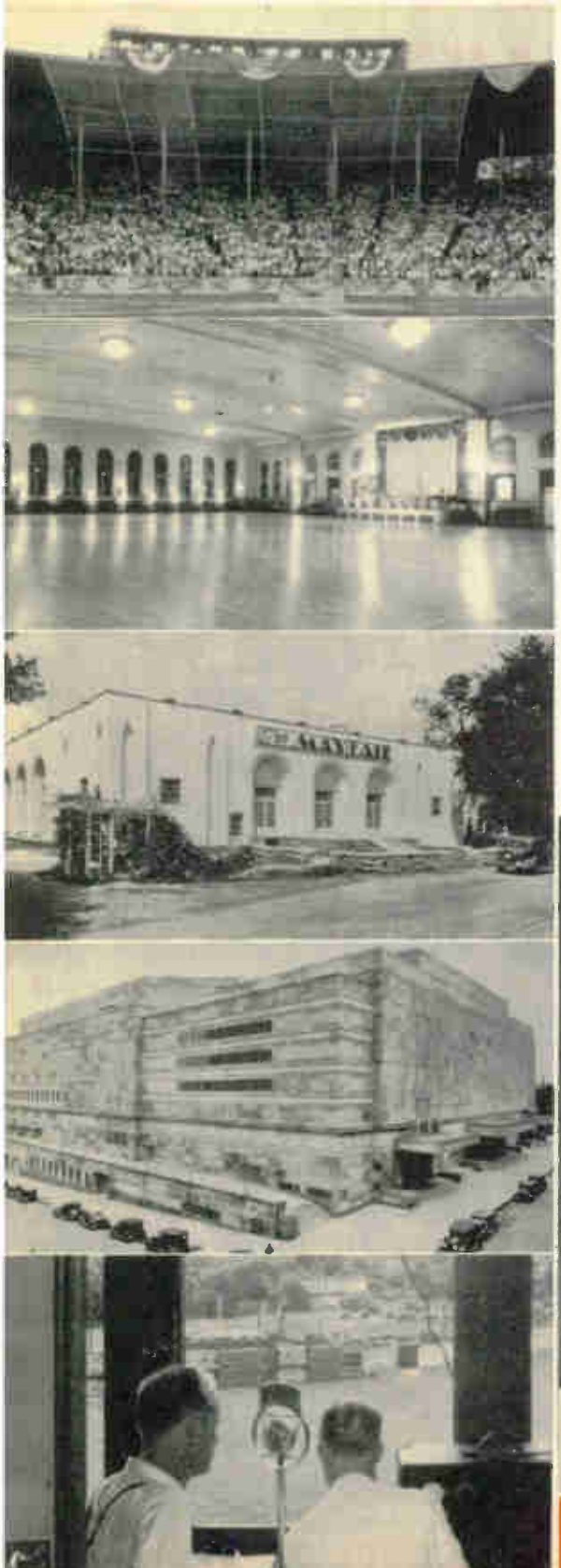
Once you definitely make up your mind to enroll at First National, our smoothly-oiled machinery is set in motion to pleasantly work out any problems which you may have. The services of our registrar, Carlton W. Griffin, are at your disposal. He is a man thoroughly seasoned not only in the technical training which you will receive but also in the administration of schools of this nature. For four years, he occupied a similar position with the Curtiss Wright Flying Service of New York and Kansas City. Prior to that, he was Traffic Manager for Colonial Western Airways, Buffalo and Rochester, New York.

Not only will he be happy to assist you in your technical training but you may feel free to consult him regarding all the other arrangements which are necessary in coming to Kansas City. If you are anticipating financial problems in connection with your tuition, Mr. Griffin will endeavor to work out a term payment plan which will meet your own situation.

You will also want his assistance in locating here in Kansas City a proper place to live while you are in training. Mr. Griffin has all this information at his finger tips and both he and his staff will be only too glad to help you. It is also Mr. Griffin's conviction that training here must be adequately balanced by suitable athletic and social activities. With this in mind, he has complete supervision over events of this nature and his staff is always at your service in making the necessary arrangements.

We want you to feel free to write Mr. Griffin regarding any problems which may come up in your mind. Those we have mentioned are but a few. Regardless of what the problem is, we know you will enjoy Mr. Griffin's friendly advice and help.

YOU WILL BE IN ACTION BROADCASTS AND REMOTE

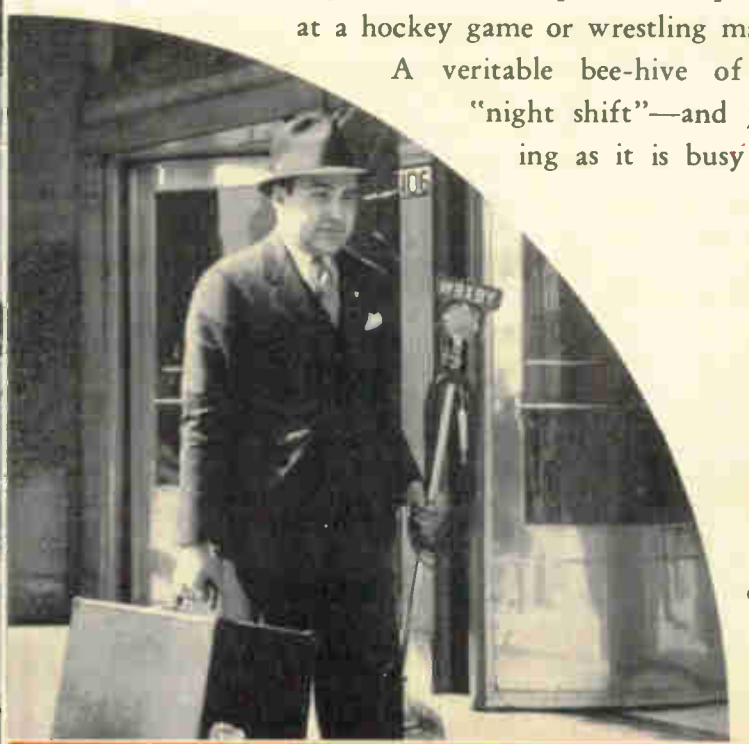


THE ROMANCE OF THE NIGHT SHIFT

The "main show" around any broadcasting station starts after 6 P. M., when the largest audience listens in. And, quite naturally, the most interesting and entertaining features go on the air at that time. Known as the "night shift," it is by far the most fascinating period of operation.

Artists, musicians, actors . . . start an unending parade to the studios. In one studio, an actual program is on the air. In others, acts are being rehearsed, polished up and perfected. Or, perhaps, an advertising client is listening to a program proposed for his sponsorship. The programs from the various studios are "piped in" through the control room and routed out to an office or audition room. Engineers are busy plugging circuits in and out. As the peak of activity nears, the call board begins to buzz. Remote control engineers are calling in to check telephone lines prior to a hook-up at a hockey game or wrestling match, etc.

A veritable bee-hive of activity — this "night shift"—and just as interesting as it is busy!



Going on the assignment.

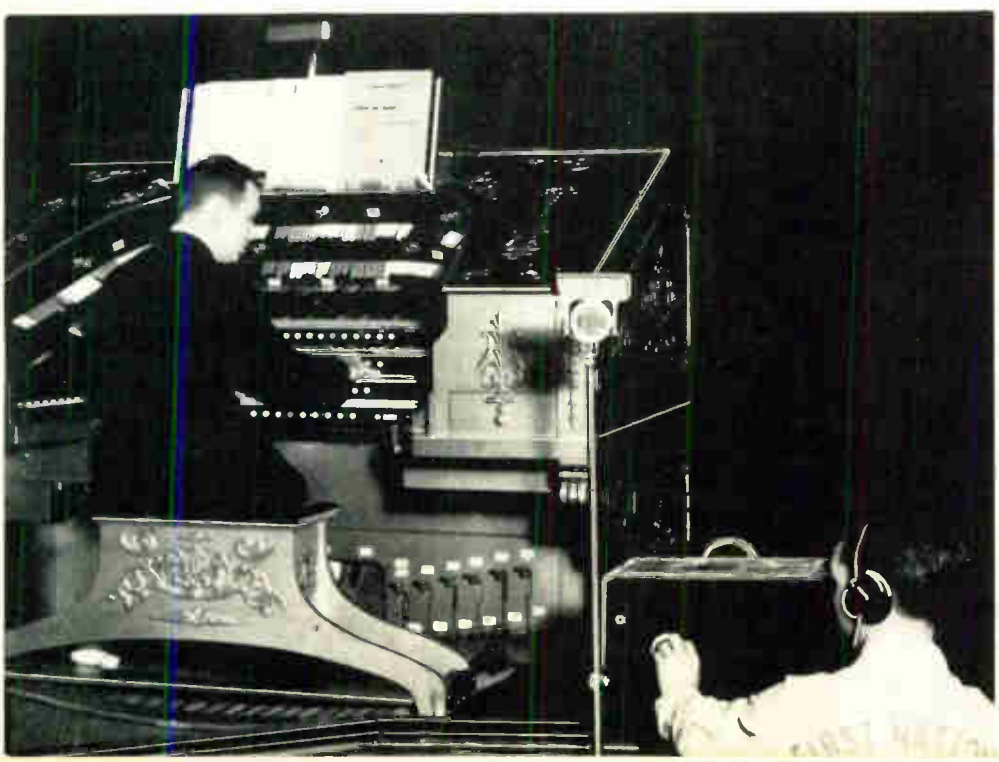
DEMAND THE BEST! THATS

DURING COMMERCIAL CONTROL PROGRAMS

THE THRILL OF REMOTE CONTROL BROADCASTS

Even more glamorous than the night shift at the studio will be your remote control assignments—hockey games, wrestling matches, baseball games, basketball—unlimited opportunities for action and excitement, because W9XBY is the Midwest's leading sports station. As a student-engineer, you accompany the announcer. You meet personally his many friends among the sports celebrities. You arrange and supervise the technical portion of the broadcast. One day will find you in a colorful college town covering a football game. You will meet the stars, the prominent guests, the officials. The following evening, you will be in one of our outstanding hotels or night clubs supervising the pick-up of a world-famous orchestra or floor show. When big news events occur, you will be one of the first on the scene to broadcast first-hand information to the listening world. Truly, training at First National is a *rare* and *interesting* privilege!

Here the remote engineer is making a pickup from the mighty Robert Morton organ at Loew's Midland Theatre.



- **ACTION** A 35 yard pass! Completed! He's away—Boy! Oh Boy! —over for a touchdown tying the score—You're there at the controls and glad of it.
- **LIFE** The big airliner circles the field — Lands — Taxies up to the terminal building—Out steps a notable to be interviewed over your microphone!
- **PEP** The leader strikes up a smash hit number and out struts a singing team—Up to the mike—Then your job begins—It's fun to work!
- **ROMANCE** A New York or Hollywood Orchestra in the city for a one-night stand—you meet the leader whose band you've heard for the past two years—Your mike is part of his act!
- **SPORT** Here's the toe in—the windup—the pitch—and—it's a strike! He swings at it—retiring the side. You play a big part here!
- **MUSIC** The gigantic pipe organ or the philharmonic orchestra —Every remote is different and calls for wide knowledge and technique.
- **CELEBRITIES** Next stop, Convention Hall or Municipal Auditorium, where the Honorable Senator is preparing to address an immense throng.

WHAT YOU GET AT FNTI

SID SAYS: "Every one of my Experience on Big Time B

TEN STAR TRAINING

1. **W9XAL**—You actually get to put "pictures on the air" over First National's government-licensed station W9XAL, operating at 500 watts on 2800 kilocycles and at 150 watts on 42-56 megacycles and 60-86 megacycles. Pictures are regularly broadcast *every day*.

2. **CAMERA ACTION**—The thrill of really operating the television camera is yours. You are assigned, in regular shifts, to this wonderful equipment. You "shoot" studio talent while broadcasting is in progress. Sight and sound programs are *synchronized* daily.

3. **W9XBY**—This ultra-modern high-fidelity transmitter, operating 19 hours daily on a double-width channel, enables you to obtain *genuine, practical* experience. Student-engineers operate it day and night—and fill regular assignments, living in the transmitter house while on duty.

4. **CONTROL ROOM**—The most interesting of all assignments. You will enjoy "riding gain" on all programs, fading in one studio as you fade out another, and then on a split-second signal, "leaving the studio" for a remote control pick-up. *It's action every minute.*

THE FASCINATION OF MINGLING WITH RADIO STARS, ANNOUNCERS, WRITERS AND ENGINEERS WILL BE YOURS!

Buddy Rogers, who has many friends in Kansas City, visits W9XAL.

The tremendous public interest in television is *astounding*. It is comparable only to the early interest in aviation—even today, every airport in the country is still crowded on Sundays by a curious mass. And so it is with our studios atop the colossal Power and Light Building in Kansas City. A veritable radio city in itself—combining both television and high-fidelity broadcasting. Hundreds of visitors daily are constantly streaming in—not from Kansas City alone, but from this entire southwestern territory. Regularly-conducted sight-seeing trips through our studios and laboratories are always in progress.

As a consequence, we never know a dull moment—and your lot will be the same when you join us. Well-known radio and movie stars are always visiting us to see for the first time just how synchronized sight and sound are produced. And they invariably welcome the opportunity of appearing on our programs. Hardly a day passes but some nationally-known person is appearing before our television camera having his or her picture "put on the air" for the first time. And these apparently thrill-proof stars of the radio, screen or stage inevitably break down and permit their curious enthusiasm to bubble over just like a kid. Imagine your sensations at the television camera when one of these public figures is *televised for the first time!*

It is quite natural that public figures should be intensely interested in and curious about television. For the first time in history, the dynamic forcefulness of one's personality can be transmitted to an unseen audience. The gestures and facial expression accompanying one's speech can now be conveyed to others through synchronized sight and sound! In other words, every appearance before the microphone is now truly a "personal appearance." And it stimulates the same public interest as an "in person" appearance on the stage!

Therefore, in your routine duties at First National as a student engineer, you will come in close personal contact with people you *could not ordinarily meet*. Stage and screen stars, galore! But, in addition, scientists, inventors, renowned engineers, mathematicians, physicists, business men . . . in fact, people in all walks of life from the top on down. Can you dare venture a guess as to what *one single friendship* with an important personage may mean to your future progress and niche in life?

Truly, opportunity awaits you at First National in many more ways than you suspect.

Ted Weems and his Boys broadcast over W9XBY.

Ted Fiorita does his turn before the mike and scanner.

Lita Grey Chaplin is "televised" at W9XAL for the first time.

Roscoe Ates performs before the magic eye at W9XAL.

Art Jarrett strums his guitar in a synchronized sight and sound broadcast.

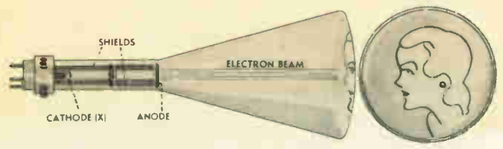
Group of Hollywood Stars passing through Kansas City come to W9XAL studios for their first time on Television.

A Spirit of Friendship Awaits You!

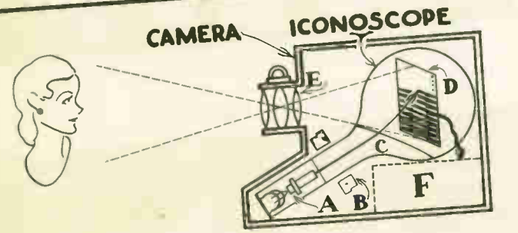
Everett Dillard, Radio Engineer, says Television is the Modern Miracle.

YOU WILL SOLVE THE CATHODE AND OTHER

Student Engineers gets Real Broadcasting Equipment!"

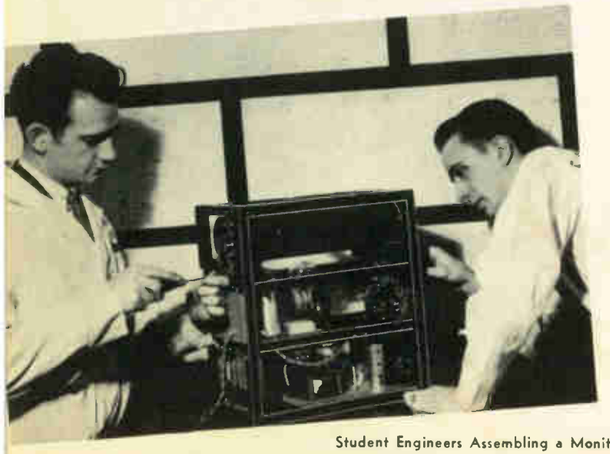


THE CATHODE RAY TUBE . . . HEART OF THE MODERN TELEVISION RECEIVER!



FIRST NATIONAL TELEVISION, Inc.

A ● ELECTRON GUN
B ● DEFLECTOR COILS
C ● ANODE
D ● SIGNAL PLATE
E ● LENS SYSTEM
F ● 1ST AMPLIFIER



Student Engineers Assembling a Monitor Receiver.

• TUBES IN INDUSTRY

Even if there were no such thing as Television, you could demand a comfortable income through an intimate knowledge of cathode ray tubes, photo-electric cells or the lowly vacuum tubes. There is some practical application for these tubes in virtually every industry. And their use is growing by leaps and bounds—limited only by the scarcity of competent engineers suitably trained in their application, adjustment and maintenance.

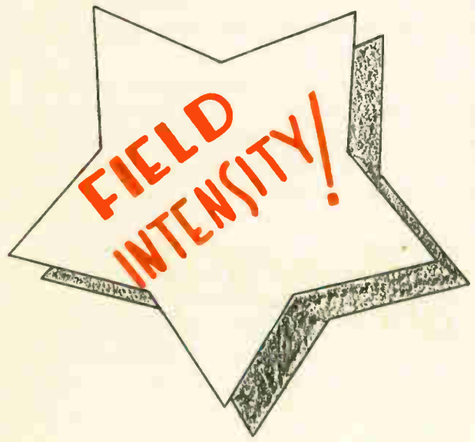
• THE CATHODE RAY TUBE

The cathode ray tube is not a new invention—but its successful adaptation to practical uses has been most recent. In fact, its use with Television has come about within the last few months. Until its adaptation, television was in a very crude and unfinished stage of development. The *old scanning device employed at first did not permit* a clear-cut sharp picture now possible with the cathode ray tube. The detail in the present-day television picture is practically unlimited because of the ease with which the small stream of electrons is controlled. The cathode ray tube has made possible practical television because it has brought about the transmission of a picture faithful enough for entertainment value.

5. **EXPERIMENTAL LABS**—Here's a paradise, *all yours to work with*: hundreds of transformers, tubes, meters, motors, monitors, modulators, crystals, condensers, convertors, chokes. coils, resistors, inductances, sockets, panels, generators, batteries, power packs, amplifiers, speakers, headphones, etc.

6. **THEORY**—Fundamentally important in training for television. Yet presented in the class room in such an interesting manner that you hardly know you are studying. The instructors are all *real radio engineers* who have had a world of experience "on the job" . . . and made *money* at it, too! Their valuable experience becomes *yours* in the class room.

7. **REMOTE CONTROL**—There is always a remote control pickup in progress at W9XBY. And as a student-engineer, you make the rounds—baseball, hockey, wrestling and boxing bouts, church services, airport arrivals and departures, conventions, night clubs, dance orchestras, etc.



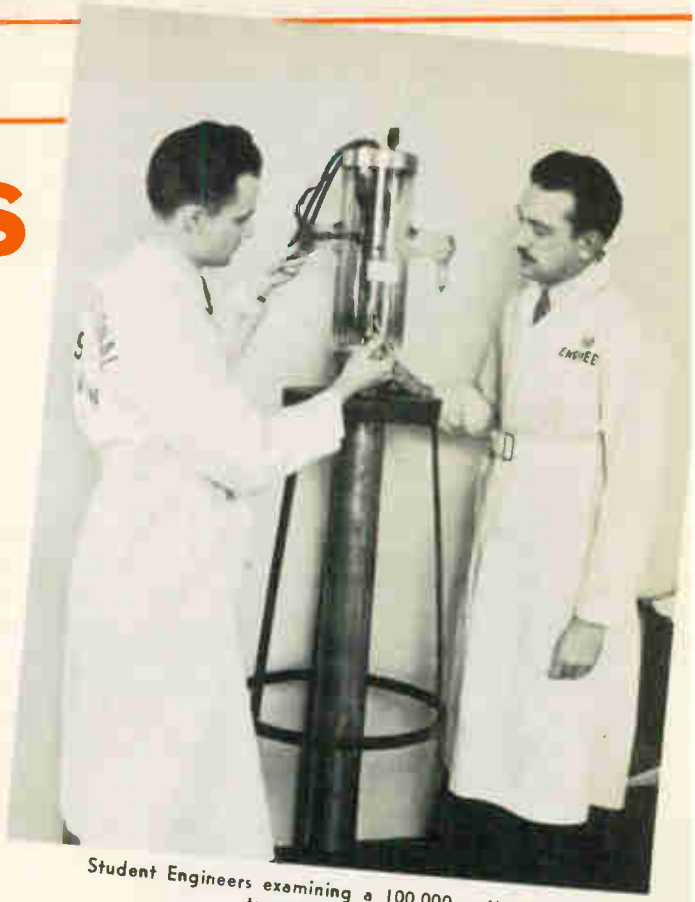
8. **FIELD INTENSITY**—A specially-constructed motor car completely fitted up with a field intensity meter and supplemental equipment is maintained by First National for its student-engineers. You are instructed in measuring not only the field strength of W9XBY but other stations as well. This car with a squad of students is *out in the field every day.*

9. **ANTENNA DESIGN**—The study and design of antennae is a most vital factor in radio engineering today. With our vertical radiator and reflectors, many experiments in *directional* broadcasting are conducted almost daily. The directional antenna is the last word in radio broadcasting and many stations will adopt it within the near future.

10. **OPERATOR LICENSE**—Special courses in your First National training make it very possible for you to pass the government examination for a first-class radio-telephone operator's license. You take this exam as a routine at First National which gives you your government "ticket" to a job as operator on *any* commercial broadcasting station.

MYSTERIES OF THE RAY TUBE

ELECTRON TUBES



Student Engineers examining a 100,000 watt radio transmitter tube.

• CATHODE RAY TUBE CIRCUITS

The cathode ray tube is, within itself, comparatively simple. However, the associated circuits, with which it must operate, are quite complicated. The voltages used are much higher than employed in ordinary radio receivers. The synchronizing and control circuits are also much more complicated. The operation of the cathode-ray television receiver does not, of course, require the services of any one specially trained. A layman can operate it. But only a *highly-trained* engineer can install, adjust or maintain it. Your ability along these lines will place you in demand not solely in the television industry but in many others which are now and which will in the future employ the cathode ray tube and associated circuits. Today there is *one place* to secure this *complete, thorough* knowledge and experience—and that is in the laboratories at First National.

• PHOTOELECTRIC CELLS

As mentioned before, the photoelectric cells are the pick-up device or camera used in television broadcasting. Here, too, their application in other industries is unlimited. And that is why the study of these cells is not confined to television during your First National training. You are first instructed in the principles of their operation. Then you are taken into the laboratory to learn their practical applications, including television. You *actually use these cells* in the various circuits with which they are employed. You will find this particular phase of your training *unusually* intriguing.

One of the largest types of Cathode Ray tubes.

DIRECTIONAL BROADCASTING

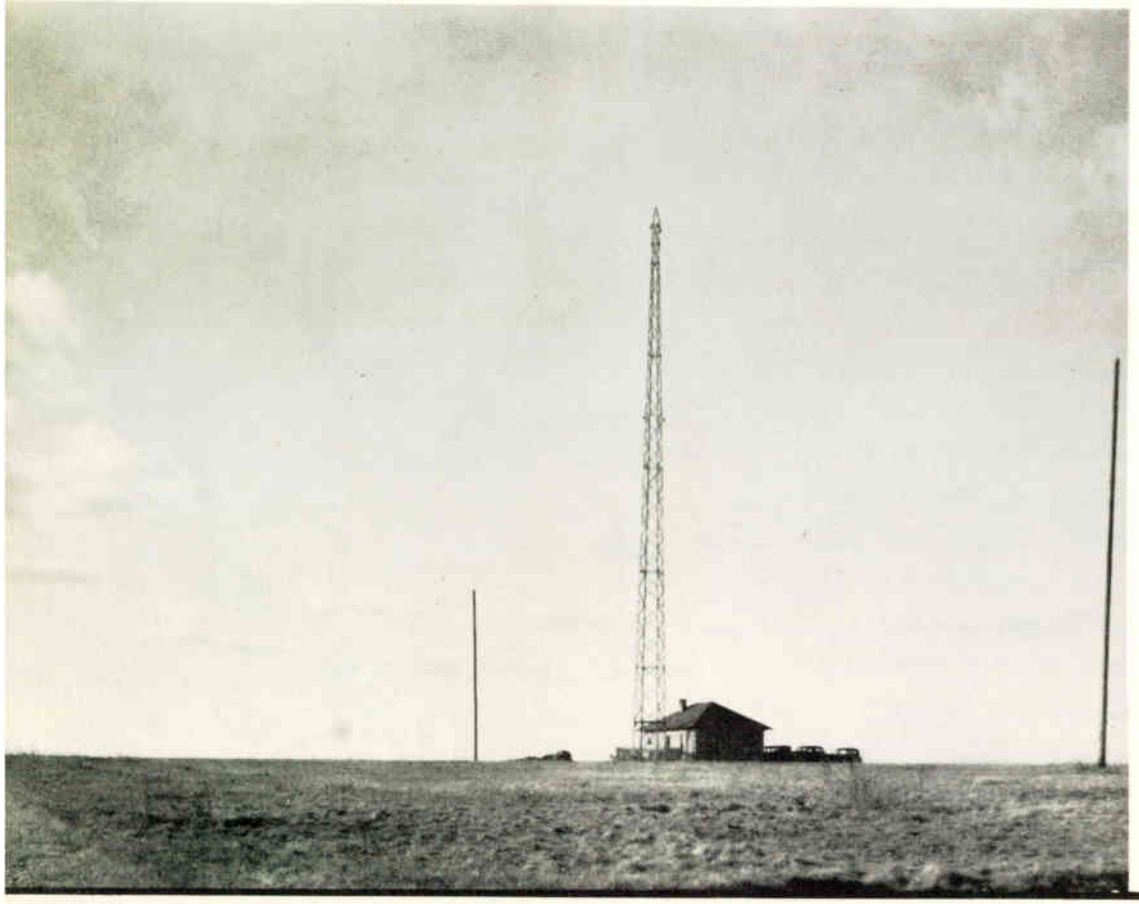
AN IMPORTANT PART OF YOUR TRAINING

The radio transmitter of Station WOR, New York City, is located mid-way along the coast line between New York and Philadelphia. This unusual distance from the studio is, of course, made necessary by the heavily-populated districts around New York. This station formerly used the ordinary antenna system which you have, no doubt, observed many times near where you live. But with such an antenna, over one-third of the radio energy went out over the ocean and was, therefore, wasted. The other two-thirds covered the populated districts of New York and Philadelphia as intended.

Today, however, this type of transmitter is rapidly disappearing—because of the recent perfection of so-called *directional broadcasting*. This new antenna permits Station WOR to direct 50% of its energy toward New York and 50% toward Philadelphia *without wasting any of its* 50,000 *watts of power*. At First National, you become acquainted with *this new development* in power transmission.

The advantages of directional broadcasting are apparent in the above illustration. In the United States, there are some six hundred broadcasting stations and approximately one hundred different channels on which to operate—in other words, six stations for each available channel. Consequently, thousand-watt stations on the same channel must operate at one thousand miles apart if interference is avoided. This is impossible because of the great number of stations and small number of broadcasting channels. Therefore, directional antenna systems are employed. Through their use, the major portion of energy can be directed where it will do the most good or serve the greatest number of people. The energy is likewise cut off or reduced in the unwanted districts. This is also true when another station on the same channel is fairly close. Energy in that particular district is practically cut off.

Such a system is naturally quite intricate. It makes necessary special tower arrangements and coupling circuits to the transmitter. However, the special course of study on directional broadcasting at First National brings all this needed information to you in an *easy, understandable manner*. Model antennae, fed by local power transmitters, are actually constructed in the laboratory. And you, yourself, determine their effectiveness and efficiency.



Since First National constantly carries on a program of experimental work in antenna design and efficiency, it is not only advisable, but necessary that considerable equipment be maintained for this work. An integral part of the equipment is pictured at the left, showing the vertical radiator antenna, the transmitter building, and the reflector system used by W9XBY.

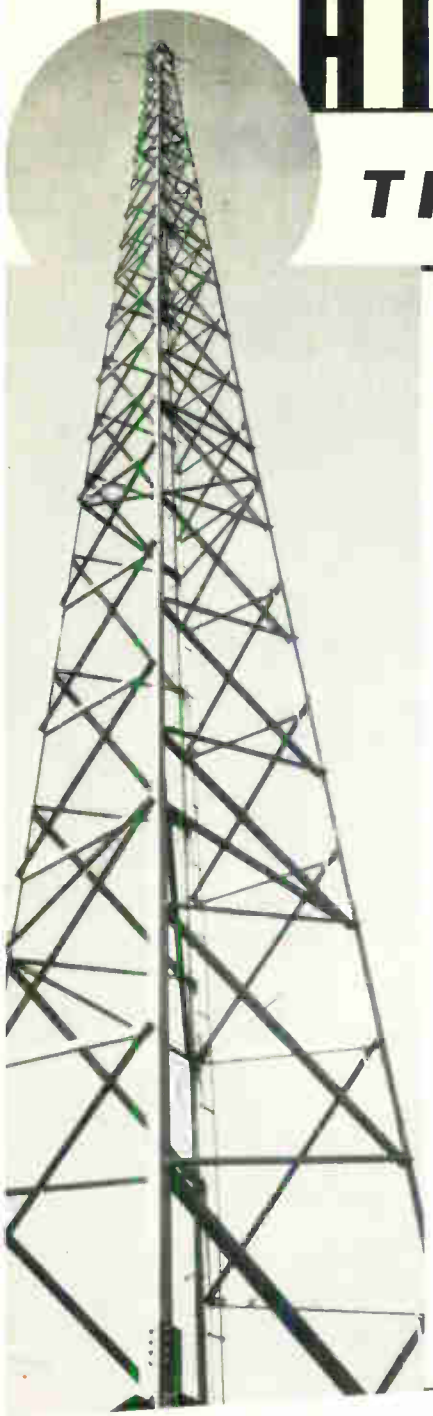
Various experiments are performed. For instance the study of the effects of changing the height of each reflector, and the study of the effects of cutting reflectors in and out.

The system is very flexible, and so designed that any one, or a combination of any two or three reflectors may be used simultaneously. With this equipment you will learn how to concentrate a beam of transmission to the best possible advantage.

THE COMPLETENESS OF YOUR TRAINING IS AMAZING!

HIGH FIDELITY . . .

THE LATEST TREND IN RADIO!



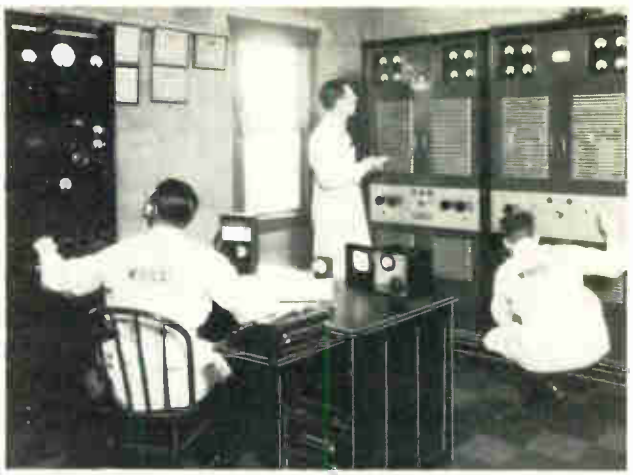
W9XBY

1000 WATTS

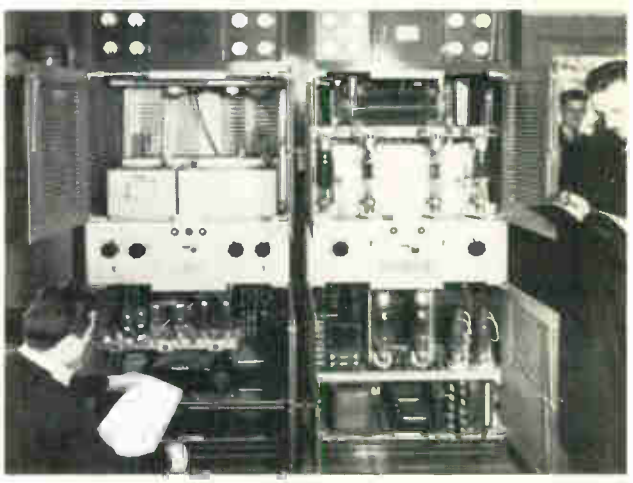
First National's radio station W9XBY is a model high-fidelity station. Its construction incorporates every known development in sound transmission. All of the equipment and associated telephone lines were specially designed to give the listener a much wider range of audible sounds than was ever before possible. It operates on a 20 kilocycle, double-width channel at 1530 kilocycles.

HIGH-FIDELITY REPRODUCES LIFE-LIKE VOICE AND MUSIC

The perfection of high-fidelity broadcasting now makes it possible to transmit a radio program over the air just like it sounds in the studio. It is amazingly life-like and real. Whether you are a true music lover or a casual listener, the increased quality and superiority of high-fidelity reception is immediately apparent to you. Listeners who have become accustomed to high-fidelity transmission and reception find it difficult to enjoy old-style, ordinary broadcasting.



Student Engineers checking W9XBY's transmitter to maintain High-Fidelity broadcast.



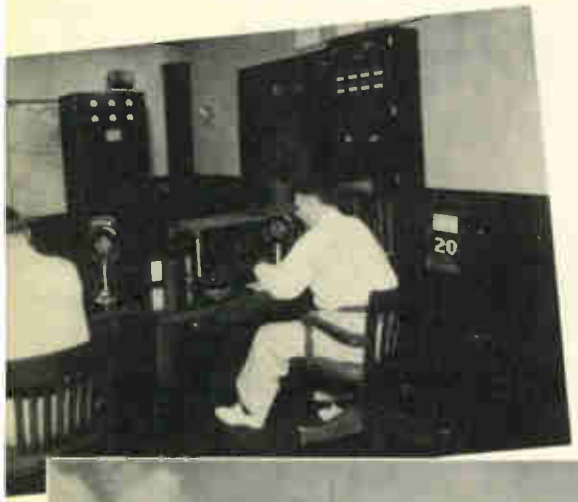
Powerful oversize tubes assure the life-like quality for which W9XBY is famous.

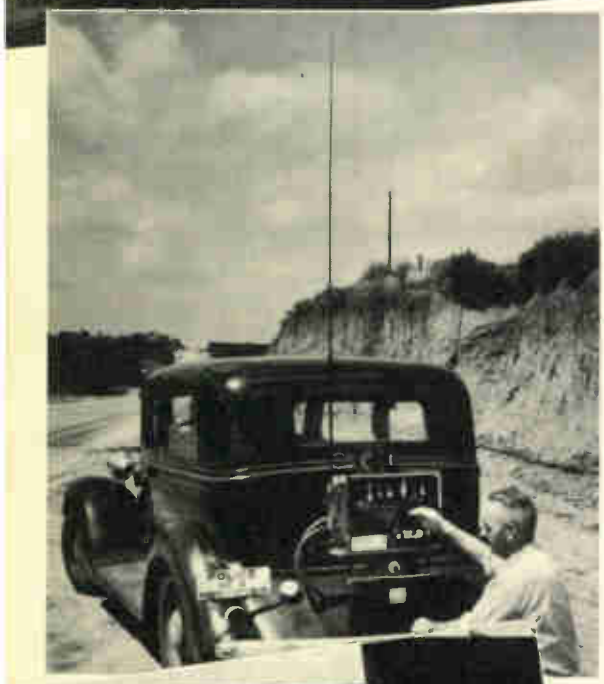
Personal instruction in maintaining high-fidelity equipment at W9XBY.

Here is the Blaw-Knox Vertical Radiator Tower used at W9XBY. Instead of using the old style antenna system, where the antenna is hung between two steel towers, W9XBY uses the modern system of transmission. Here the tower is insulated from earth and the tower itself serves as the radiating antenna. This type of antenna produces a signal strength for our 1,000 watt station equal to that of a 1500 watt station using the old type of antenna system.

YOU WILL CONCENTRATE AND OPERATION OF

CRIME DE





CRIMINALS FEAR THE RADIO

The fastest method of communication known to man—radio—has proved to be the best friend of law and order. Before its advent, it was a long, slow, tedious and often unsuccessful process to catch up with criminals. Today, both local and federal police departments are using the radio to run down the law-breaker.

The criminal of today knows that just as quickly as his crime is discovered, radios in hundreds of police cars and stations will be receiving the report. The flash "calling all cars" has become a by-word. Alert officers close in on the surrounding territories making escape practically impossible. The outlaw is trapped before he further injures society.

A great service to crime detection—*but what does it mean to you?* Simply this: practically every town and city with over 20,000 population has already installed, or is now constructing, or considering the construction of a radio station. Just remember, *each and every one* of these stations must be manned by *skilled operators and technicians.* Radio crime-detection is just *another* rapidly-growing industry where First National graduates are finding quick placement. And it is just in its infancy. Can you imagine a more exciting or adventurous vocation than always being on the job working hand-in-hand with police and federal officials?

(Top) The Dispatcher's office is the nerve center of the police radio station.

(Center) One of Kansas City, Kansas, two-way equipped radio patrol cars.

(Left) "CALLING ALL CARS." A vivid illustration of radio's service to the municipality. The map shows the locations of all patrol cars throughout the city.

OPPORTUNITIES IN THIS NEW

ON THE STUDY RADIO USE IN TECTION

TELEVISION TO BE A BIG FACTOR IN CATCHING CRIMINALS

And it won't be long before television will further augment officers of the law in eliminating crime. It doesn't take much stretch of your imagination to visualize the photograph of a public enemy being flashed from coast to coast by means of Television. A description of the criminal in question will not be necessary—the officer will need only to glance at the picture flashed upon his television receiver. He will have a more vivid description in an instant than he could receive through thousands of words. So with your First National training, you are equipped not only for the radio field of today but the *television field of tomorrow* in crime-detection.

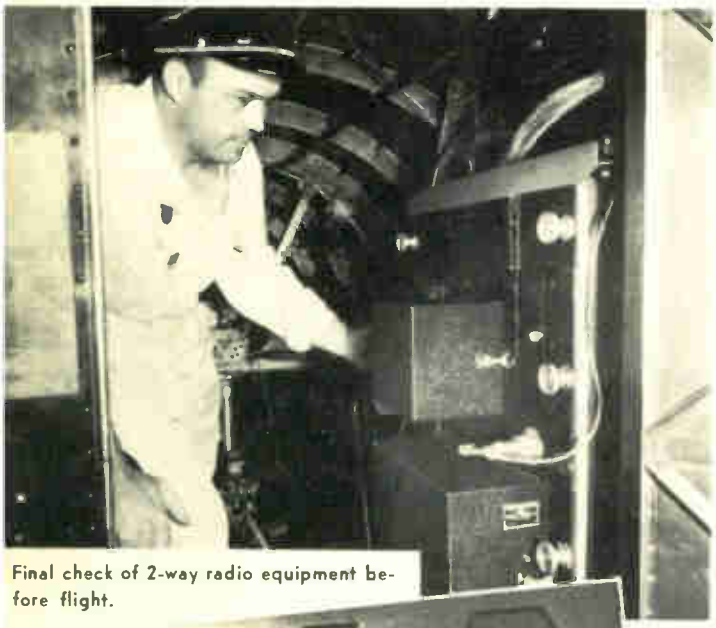
The patrol car's radio equipment must not fail! Checking is necessary after every cruise.

Note the location of the telephone switch-board to the Dispatcher's panel and the patrol car map. Incoming calls are flashed over the air in a split second's time.

FIELD ARE UNLIMITED!

FIRST NATIONAL GRADS

An Open Door in This Fas



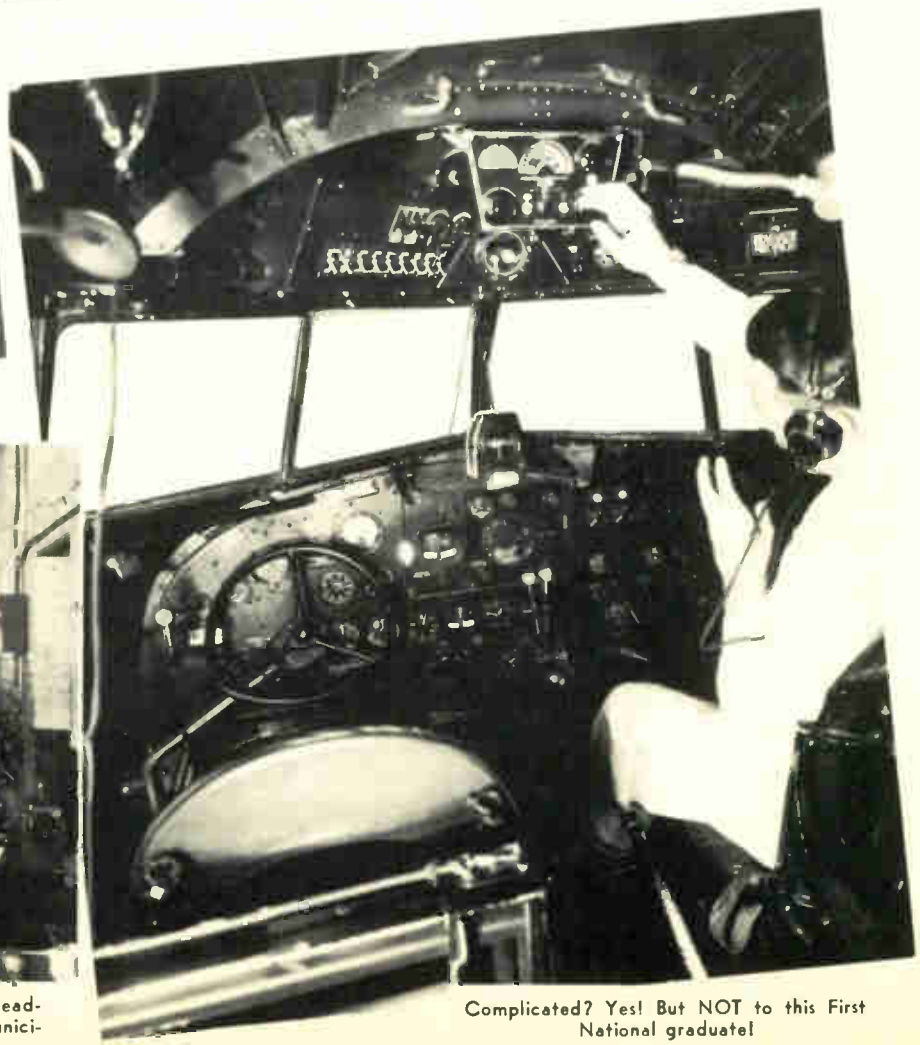
Final check of 2-way radio equipment before flight.

Another unlimited world of activity for the trained engineer in radio and television is aviation—and its possibilities for you are exceeded only by its intense fascination. Radio is fast becoming the most important factor in the field of aviation today. The two are practically inseparable—because it was only after the practical adaptation of radio to aviation that aviation became commercially successful.

It wouldn't be safe to operate present-day commercial airlines without the two-way short wave radio. This is the pilot's only connection with the rest of the world. Through it, he secures his position reports and his weather forecasts. He also receives his instructions from his dispatcher. In case of trouble, he can immediately relay instructions in reports to his associates on the ground to meet all emergencies. It was the two-way radio

Two more First National graduates who have chosen Aviation Radio.

Radio division of TWA operation headquarters located at Kansas City Municipal Airport.



Complicated? Yes! But NOT to this First National graduate!

MAKE GOOD IN AVIATION

cinating Field Awaits YOU

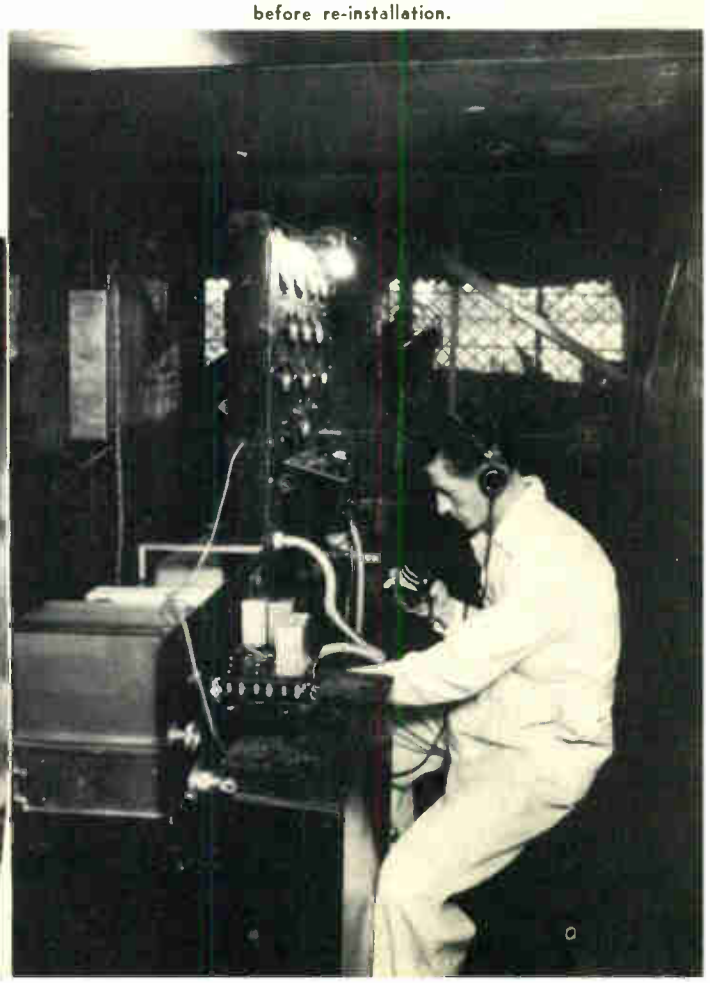
primarily that made aviation travel absolutely safe in the eyes of a skeptical public.

This dependence of aviation on radio makes the radio jobs in aviation highly responsible ones. Upon the man operating the radio from the ground is entrusted the lives of all passengers and pilots. The extensive use of radio on each and every plane, and in all ground stations, opens an extensive field for installations, maintenance and servicing. In aeronautics, technical knowledge has always been highly respected and demanded. Likewise, the radio engineers are treated with the greatest respect and courtesy by those in aviation.

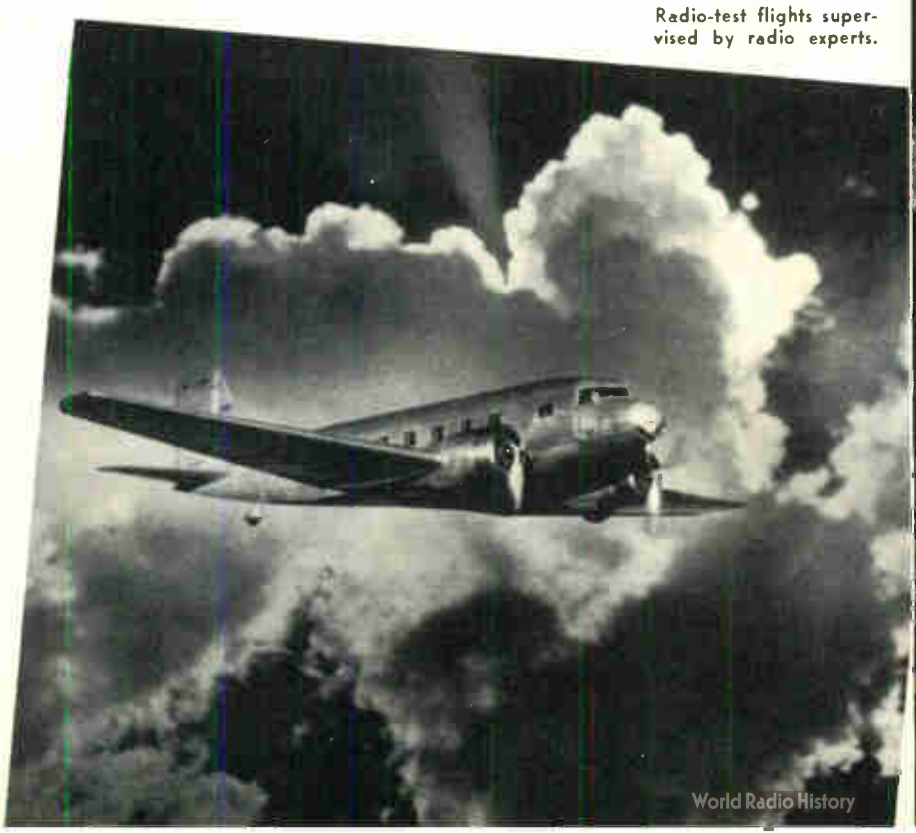
Your decision to enter First National training doesn't mean that you have limited your choice of a life's work. Perhaps you have many times wanted to get into aviation. As you can readily see, engineering training in radio and television provides a most profitable means of getting into aviation—and on the inside. During your course, if you make known your definite desire to enter the aeronautical branch of radio, you can devote a great deal of your time to the study of transmitting and receiving equipment designed for aeronautical use. This is *only one* of the many unusual features which makes First National training unique—*and practical*.

"Their Destination Assured"—through efficiency of highly trained radio experts.

All equipment must be carefully checked in this shielded test room before re-installation.



Radio-test flights supervised by radio experts.



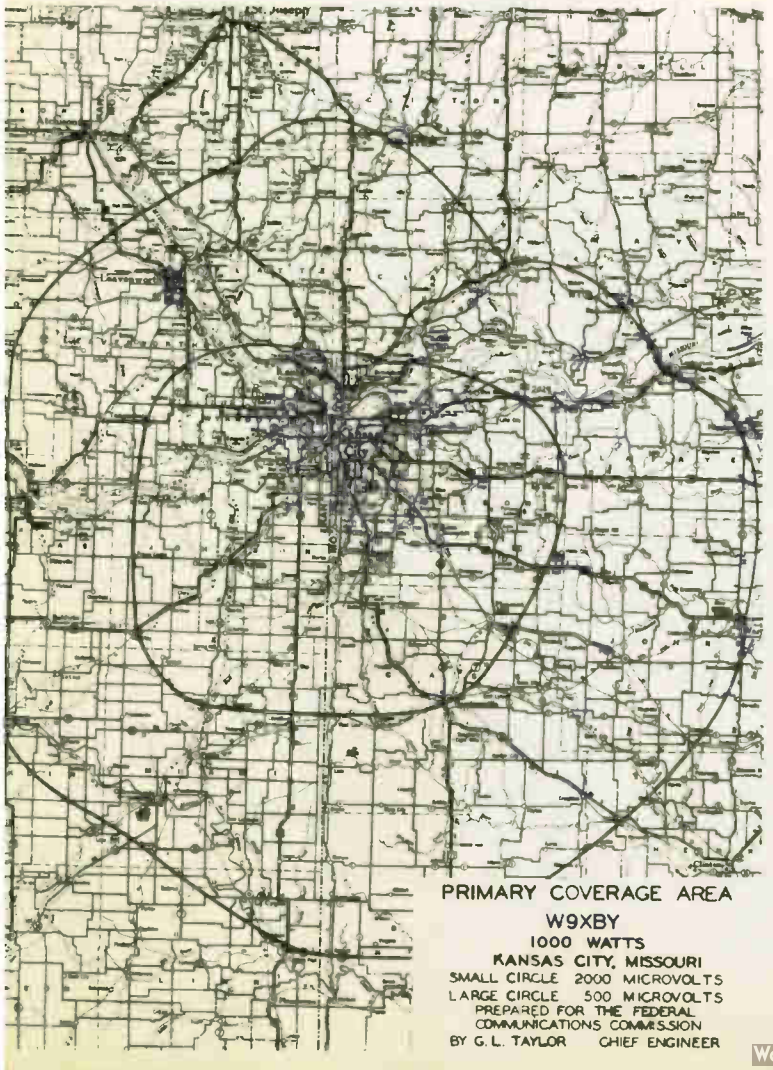
FIELD EXPERIENCE ON INTENSITY SURVEYS!

Students operating the field intensity equipment as a part of their studies at First National.

The popularity of a radio station is determined by two factors: the entertainment value of its programs and the clearness and strength with which they reach the listening audience. The first factor is controlled, of course, by the program director and staff of artists. The *second factor is your responsibility*. To prepare you for this, First National provides an advanced course in the study of Field Intensity—or in simple words, the methods of measuring the power of the station in the field.

To obtain revenue-producing sponsors for its programs, a radio station *must know* what area it reaches clearly and without interference. This information must come from you as a member of the technical staff. And you will know how to get it because at First National, you become thoroughly acquainted with the field-intensity meter. This meter measures the power of the station. It is mounted on a special truck incorporating all additional equipment necessary for its operation. You are assigned to the truck and cover the territory in all directions from W9XBY. Readings on the meter are made from one to one hundred miles apart. These results are then accurately tabulated. Expensive equipment? Yes—but like many other investments which First National makes in you, it pays for itself by turning out *money-making radio engineers*.

For your information, the strength of a station need not be as great in rural communities as in metropolitan districts. In the latter, there is much noise and outside interference. It is overcome by increasing the field intensity in that area.



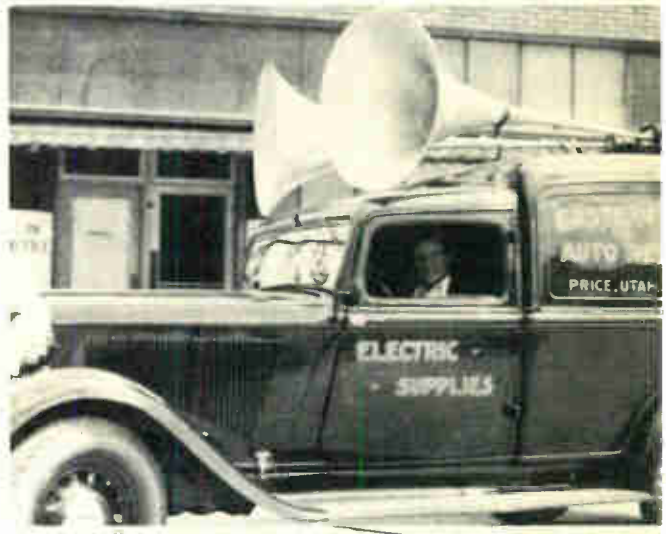
Here is a field intensity map showing the signal coverage of W9XBY.

A close-up view of the RCA-Victor Field Intensity Meter used by students of First National in plotting the field intensity of W9XBY.

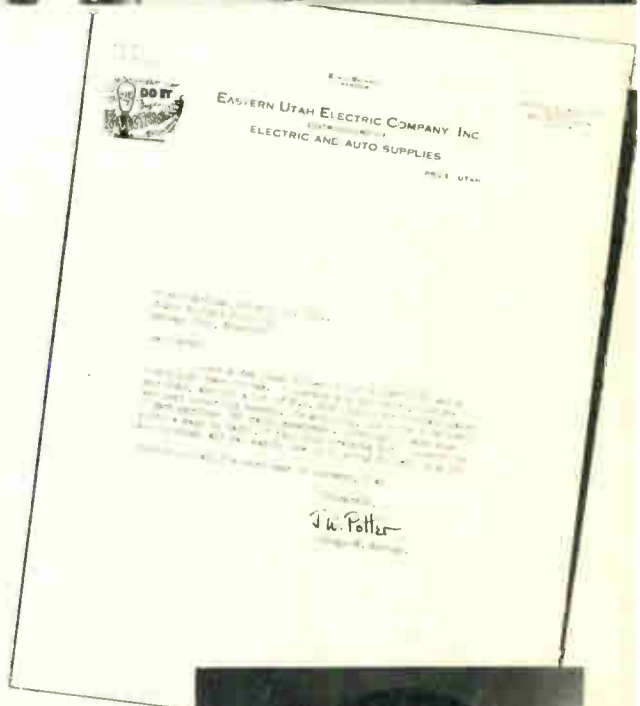
OPERATION AND MAINTENANCE OF PUBLIC ADDRESS SYSTEMS!

Hardly a present-day auditorium, theatre, night-club or banquet room is without its public address system. And practically every convention or public gathering of any consequence employs portable address systems when permanent ones have not already been installed.

To the outsider, a public address system appears very simple. But its construction and operation is exceedingly involved—and *only a trained radio engineer* can operate it *successfully*. At First National, you get that necessary training right along with your regular courses.



Graduate Engineer, J. W. Potter, now of Price, Utah. He found profit and success in the P. A. branch of radio!



A complete "P. A." system includes a microphone to pick up the voice or music, and a pre-amplifier to adjust the volume level output of the "mike." Where a series of loud speakers are utilized, high-powered amplifiers are necessary. You learn how to place the loud speakers in relation to the microphone. You become conversant with the different types of loud speakers used for indoor or outdoor service. You are also able to set up a system for the amplification of voices only or for both voices and music.

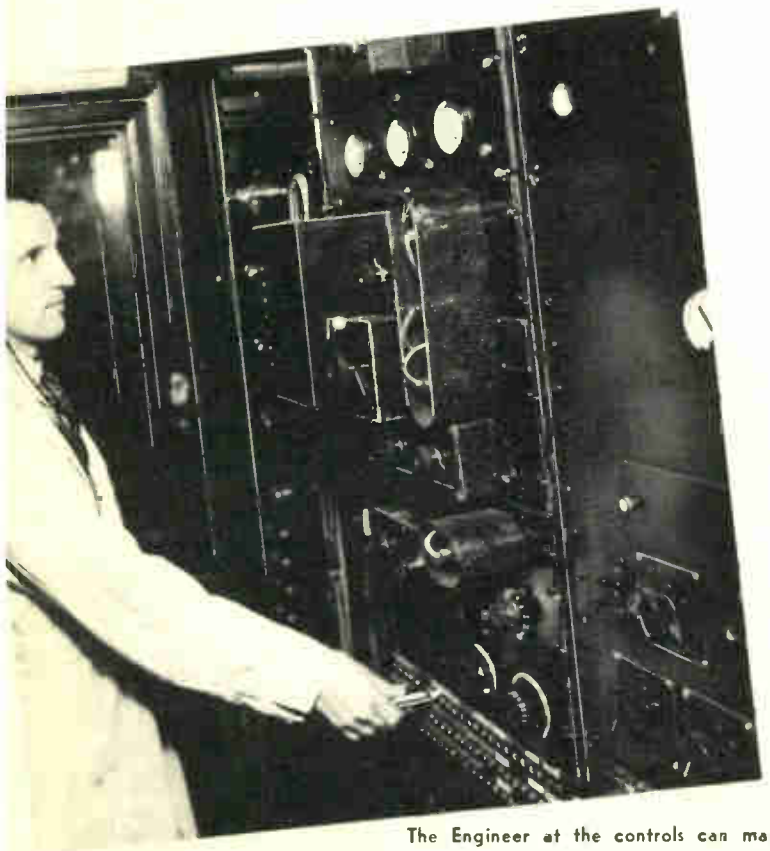
First National places at your disposal its own portable outdoor equipment as well as indoor equipment. You set it up and learn how to efficiently operate it under all conditions. You get not only the theoretical principles behind its design and functioning, but *actual experience* in "running" it during genuine pickups. And again, your training presents an open door to the future so far as these possibilities are concerned.

Lester Holmes, Chief Engineer at KIUL, who started out in 1934 as a P. A. Engineer.

RADIO ENGINEERS IN THE MAKING

"If it is worth while doing at all, it is worth doing well!" And that certainly goes double when you are preparing for a career in engineering. As in all other professions, there is no place here for the partially-trained man. He either "*knows his stuff*" or he doesn't. First National has realized this from the very start. And First National's training courses have been so designed as to incorporate every known subject or study that has any relation whatever to radio and television.

When you graduate at First National, you are COMPLETELY equipped—with the *information* you must have and the *experience* you need. You are a first-class radio-television engineer. This has been made possible only through many years research and planning by First National's outstanding staff of *seasoned* radio engineers. No expense has been spared in the classroom or the laboratory. And you'll find learning at First National comparatively easy because you *learn by doing*.



The Engineer at the controls can make or break the artist.

WE SHOW YOU HOW TO "SELL"

YOU WILL BE AN EXPERT IN SERVICE AND REPAIR OF RADIO RECEIVERS

Servicing and repairing of radio receivers has developed into a MONEY-MAKING business for many First National graduates. Although this phase of our course represents but a small portion of your training for a radio-television engineer, it is THOROUGH and COMPLETE. And every graduate who has gone into it, has made an outstanding success of it. The reason is simple. There are many hundreds of radio service men in the field. But thoroughly-trained radio service engineers are indeed rare. This practically eliminates competition for you. It permits you to get MORE THAN YOUR SHARE of the big money to be made in this field. At First National, you get a complete engineering background for radio servicing which puts you in the lead RIGHT AT THE START.

Everyday servicing problems are stressed during the first section of your training.

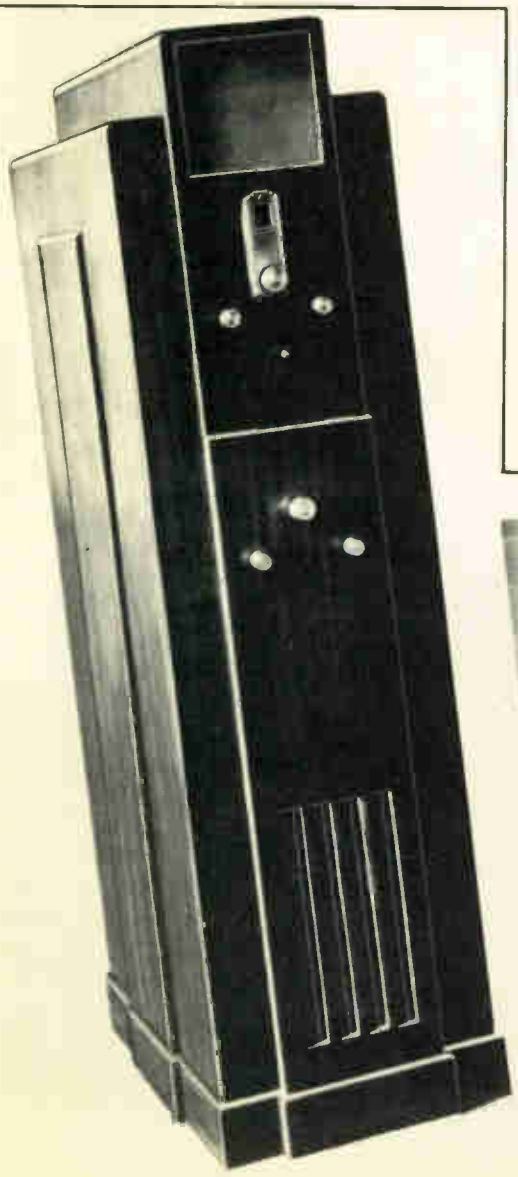
First National's training has established Neil Anderson in the servicing business.

AS WELL AS SERVICE!

YOU WILL BECOME AN SERVICE AND REPAIR

Another very interesting phase of your First National training is television reception. The television receiver appears very much like an ordinary radio receiver except that a screen is provided on which the pictures are received. The signal comes from the television transmitter through the ether just like sound. It is picked up by an ordinary antenna, amplified and fed into the television receiver.

The earlier types of receivers used the mechanical scanning disc. The newer type, however, employs the cathode ray tube which transmits a clear, sharp picture, faithfully reproducing the pick-up in the studio.



THE OLD • • • • • • • • • •

One of the earlier types of Combination television and radio receiving sets. The cabinet contains a radio set and loud speaker for sound, a receiver for picking up the television signal, and the scanning disc and neon crater lamp which projects the scanned light on the screen, forming the picture.

A midget Television receiver for pictures only. This set was adapted from what was originally a radio (voice) receiver.

Television is broadcast on a separate wavelength, or frequency, than the voice, so when you hear them "coming in" together from a single studio but over separate transmitters and wavelengths, you may know that it is a "Synchronized Sight and Sound" Broadcast.

An "old-timer" television set being mounted in a cabinet. Note the disc, with a small lens mounted in each aperature.

EXPERT IN THE OF TELEVISION RECEIVERS!

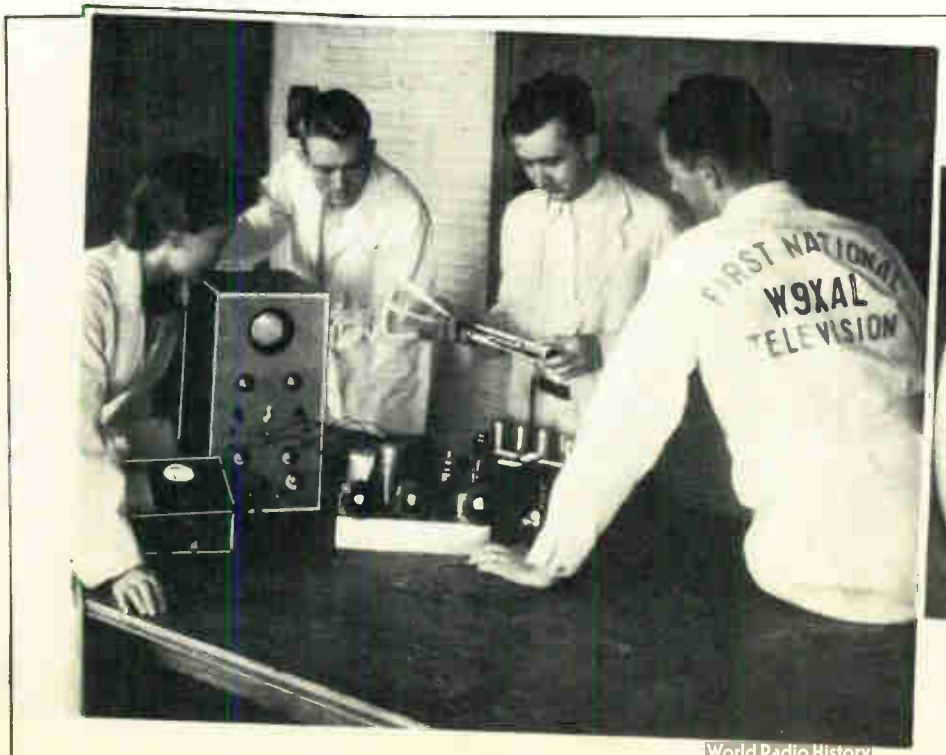
At First National, your study of television reception begins by the use of the scanning disc. After you have mastered this, you are led into the complexities of the electron gun—the heart of the cathode ray television receiver. In other words, you are trained to know the operation of *both types* of receivers—another indication of the *thoroughness* and *completeness* of First National training.

• • • • • AND THE NEW

The modern Television Receiver, equipped to pick up not only television broadcast, but to pick up voice on either standard bands or on ultra-short wave channels as well. You may readily see the Cathode Ray tube as it is mounted in the cabinet.

The Cathode Ray tube, with picture appearing on the wide mouth of the tube, is the "eye" of the more recent type of television receiver.

An oscillograph. Utilizing the Cathode Ray tube, it is the fore-runner of the Cathode Ray television receiver.



THOUSANDS OF JOBS

WHEN TELEVISION

TELEVISION BROADCASTING TOWERS MAY DOT THE COUNTRY LIKE OIL WELLS!

ONLY TRAINED ENGINEERS CAN QUALIFY FOR THESE JOBS!

In 1922, when the radio industry was in its infancy, it represented a total investment of $60,000,000.00. In 1929, only seven years later, it had grown to an industrial giant with an investment of over $800,000,000.00. Today, it is even greater!

There is every reason to predict that television will grow in the same proportions—if not more rapidly than did radio. This can mean but one thing; a much greater opportunity for big-moneyed positions in the next few years, along with rapid advancement. Industrial expansion necessarily carries with it a corresponding increase in personnel and salaries—a properly-trained radio and television engineer has a more promising future right now than a beginner in any other profession.

In this respect, the man trained for television is in a much better position than was the radio engineer of ten years ago. Television has many more ramifications than did radio and the use of its principles in hundreds of other industries has just begun. It has practically no limitations. There will be demands made

OUR EVERYDAY LIVES WILL

WILL BE CREATED

SWEEPS THE WORLD!

HUNDREDS OF THOUSANDS OF RECEIVERS MAY BE MANUFACTURED AND SOLD!

by correlated industries for designing engineers, operating engineers, installation engineers, sound engineers, general technicians, inspectors, etc.

Pictures on this page will give you a small idea of the many practical applications to which you can put your television training. No matter how wild a guess we might make as to the future of a government licensed radio and television engineer, it will probably prove to have been a conservative one five years from now. Why place your entire future in a highly-competitive, untrained field when it is so easy for you to become a highly-trained technical man in a field where the demand is great.

$4,000,000,000 SPENT ON RADIO IN PAST 12 YEARS

$1,000,000,000 TO BE SPENT ON TELEVISION IN NEXT 10 YEARS

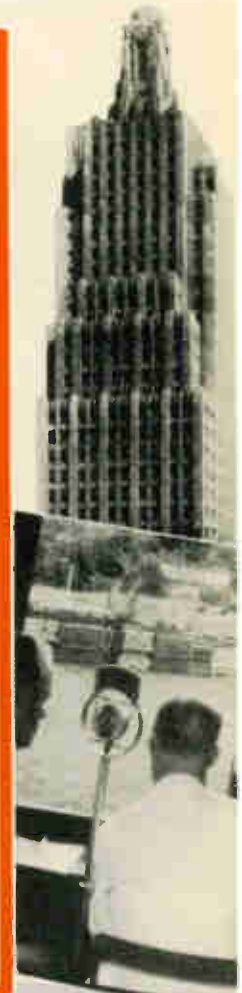
22,000,000 RADIO SETS IN AMERICAN HOMES

THERE ARE MORE THAN 600 BROADCASTING STATIONS

THERE MAY BE MORE THAN 10,000 TELEVISION STATIONS

MILLIONS ALREADY SPENT ON TELEVISION—AND THIS IS JUST THE BEGINNING!

GET IN NOW!



BE COMPLETELY CHANGED BY TELEVISION

"Ted" Malone says:

NATIONALLY KNOWN CBS COMMENTATOR

"THE OPPORTUNITIES IN THE FIELD OF TELEVISION ARE TRULY AMAZING"

Ted Malone CBS

BETWEEN THE BOOKENDS
Radio's Most Intimate Program

Mr. S. Q. Noel, President
First National Television, Inc.
Power & Light Building
Kansas City, Missouri

Dear Sid:

This morning when I opened my newspaper the word "Television" almost jumped out of the front page. Closer examination revealed some great news....news that speaks well for your courage and foresight.

Evidently your pioneering days in television are over, for this news release gave definite proof that greatly enlarged and perfected television service would be released to the public within a very few months.

As you know, I have sort of grown up with the radio industry. Looking back over the interesting years of my experience, I could not help but make a comparison of the days when crystal receivers were all the rage, and today, when we are about to witness another great advance in the science of broadcasting.

Radio enjoyed a modest start.....a gradual growth over a period of years. But television presents an entirely different picture. The public is keenly alert to the entertaining possibilities of this new science, consequently the immediate demand for both service and receivers should be enormous.

And this brings up a very perplexing question. Sid, where will the industry get the trained television technicians?

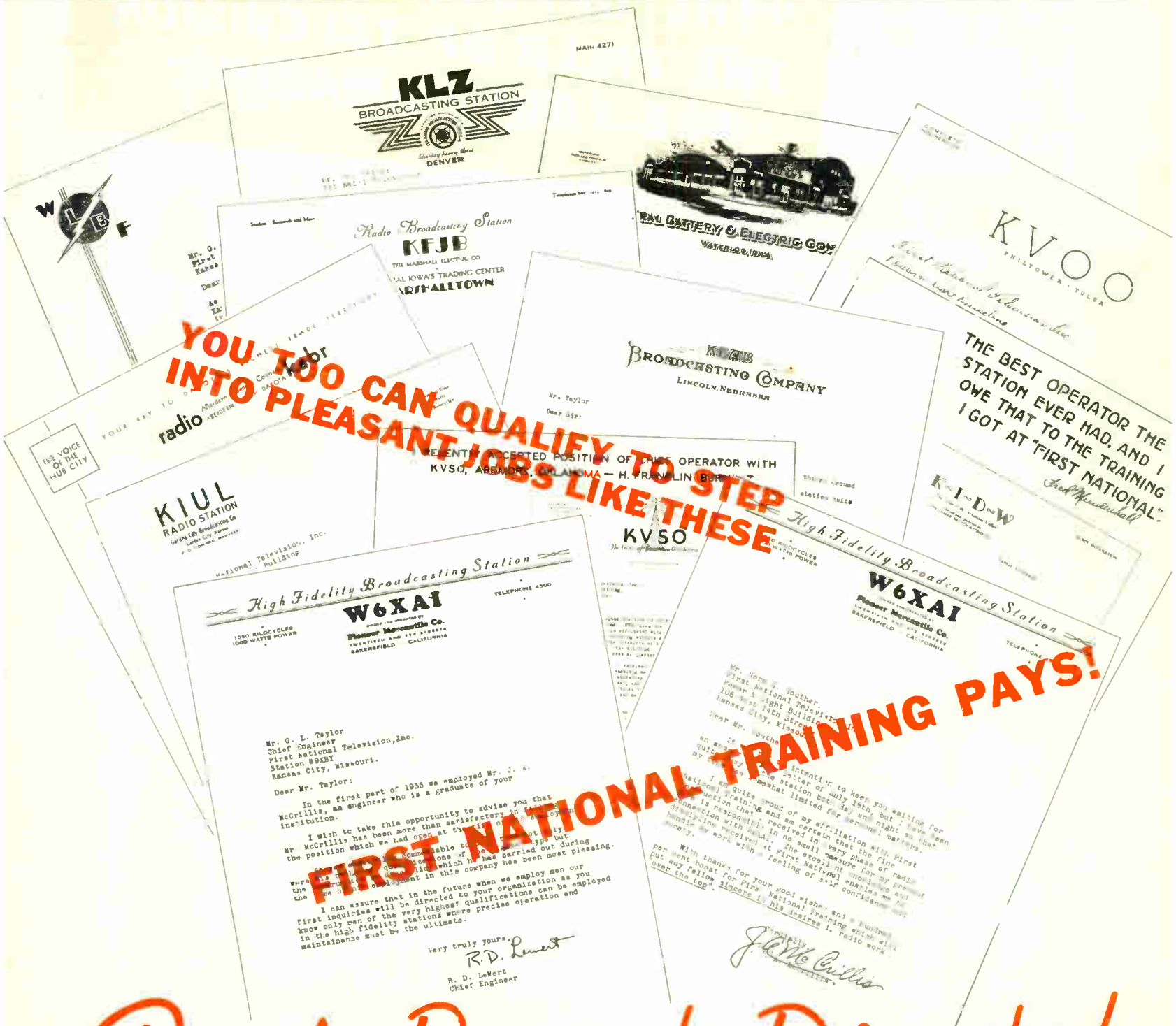
I know that you foresaw this possible shortage of television technicians, and I want to take this opportunity to congratulate you upon the fine work you are doing. The completeness of your training division and the personal interest that you take in your student-engineers is certainly worthy of most favorable comment.

With best wishes for your future success, I am

Sincerely,

Ted Malone

"WE GOT OUR TRAINING IN THE CRYSTAL TOWER AND NOW WE'RE ON THE JOB"



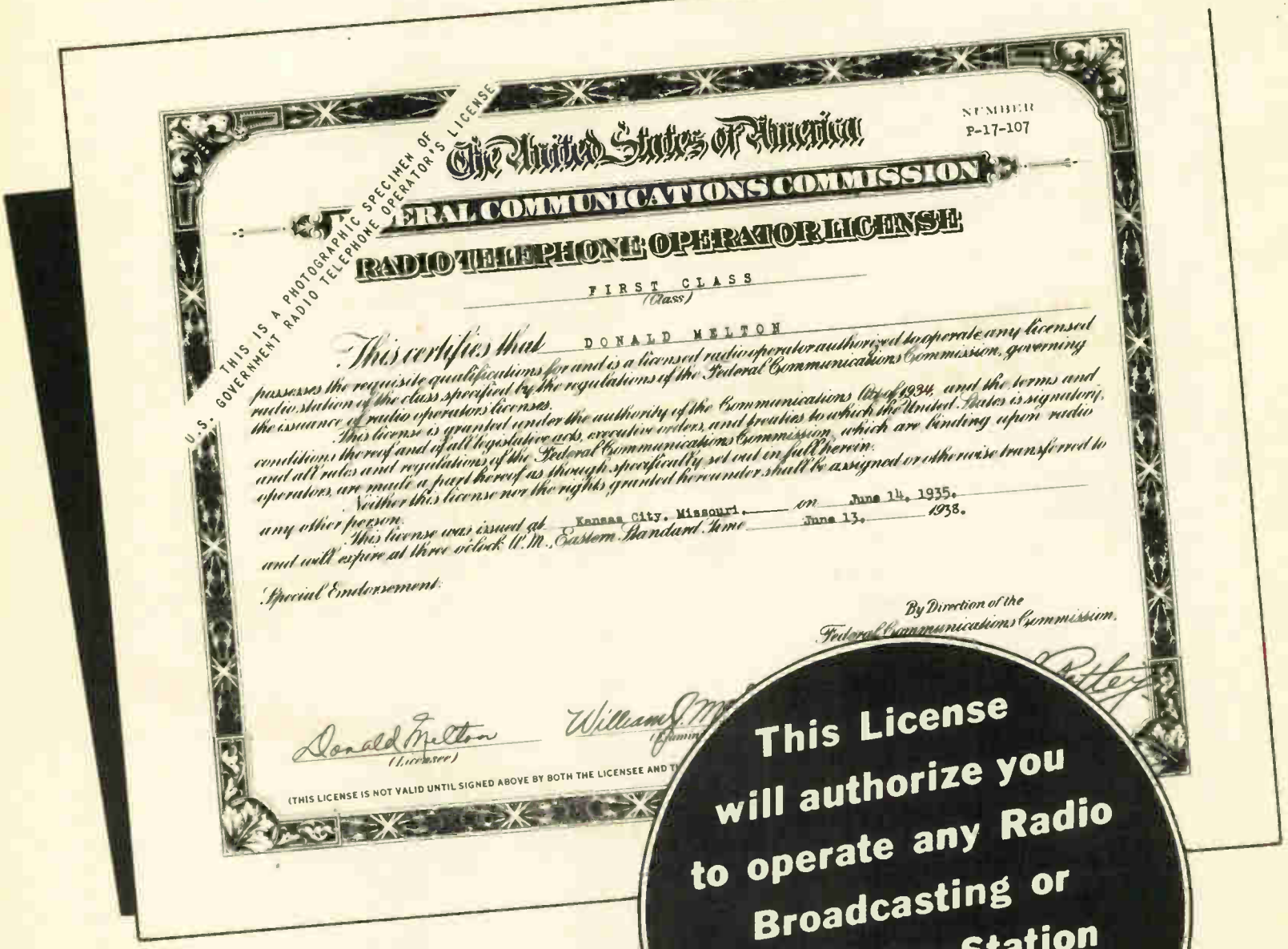
YOU TOO CAN QUALIFY TO STEP INTO PLEASANT JOBS LIKE THESE

FIRST NATIONAL TRAINING PAYS!

Proof Beyond Dispute!

—AND HERE'S THE TICKET THAT CAREER—A BIG CASH INCOME

IT'S A RADIO-TELEPHONE

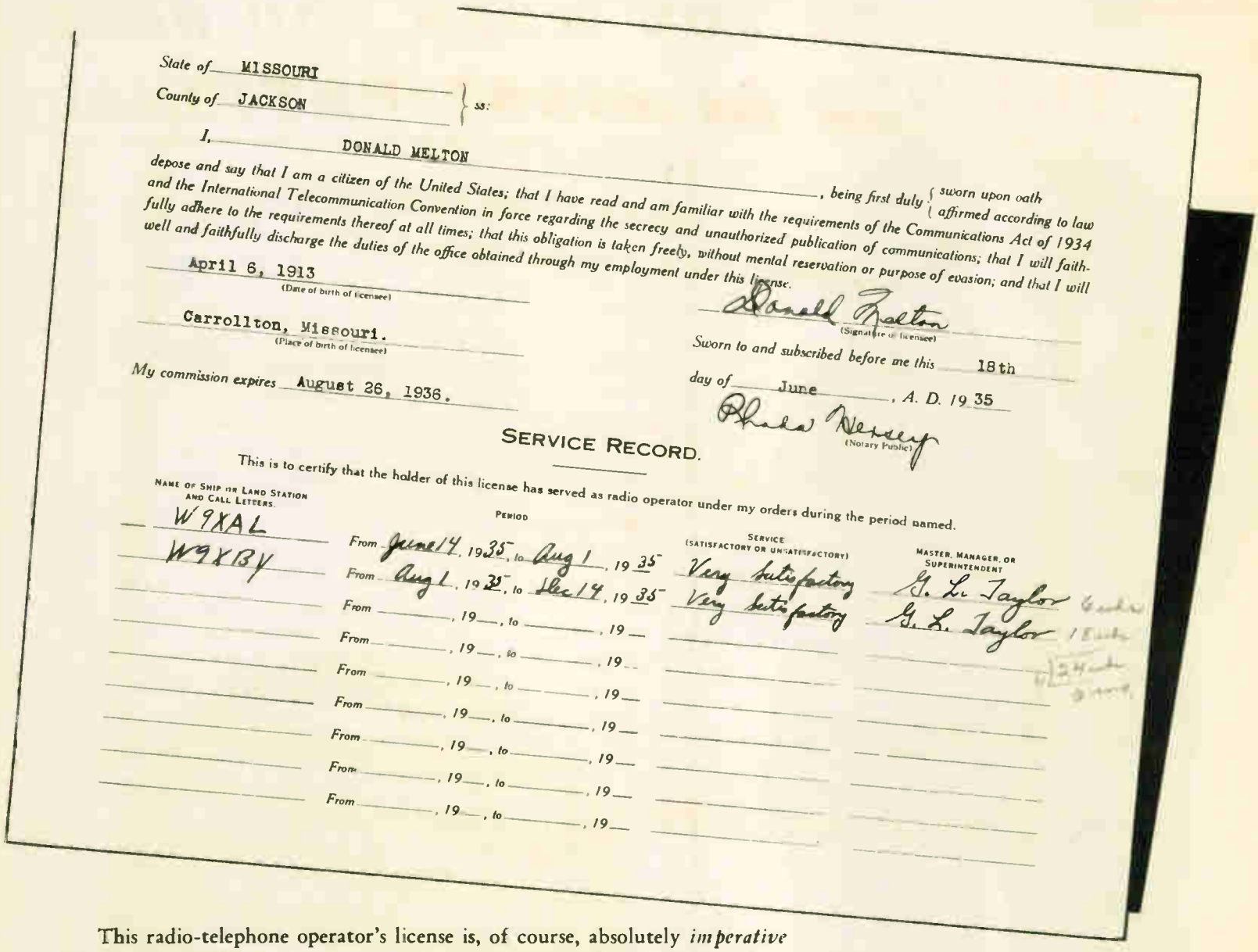


This License will authorize you to operate any Radio Broadcasting or Television Station in the entire U.S.A.

The advantages of a technical or professional training are many. But most important is the fact your *competition is automatically limited*. No one can practice medicine until he first obtains his medical degree. No one can practice law until he obtains his degree and passes the bar. Likewise, before one is permitted to operate a licensed radio-television station, he must first pass the government examination and secure his license as a radio-telephone operator. This is your *passport to success* in the radio industry.

CAN BRING YOU A BRILLIANT —AN ASSURED FUTURE!

LICENSE—"FIRST CLASS"



State of MISSOURI

County of JACKSON } ss:

I, DONALD MELTON, being first duly { sworn upon oath / affirmed according to law depose and say that I am a citizen of the United States; that I have read and am familiar with the requirements of the Communications Act of 1934 and the International Telecommunication Convention in force regarding the secrecy and unauthorized publication of communications; that I will faithfully adhere to the requirements thereof at all times; that this obligation is taken freely, without mental reservation or purpose of evasion; and that I will well and faithfully discharge the duties of the office obtained through my employment under this license.

April 6, 1913
(Date of birth of licensee)

Carrollton, Missouri.
(Place of birth of licensee)

Donald Melton
(Signature of licensee)

Sworn to and subscribed before me this 18th day of June, A. D. 1935

Rhoda Hersey
(Notary Public)

My commission expires August 26, 1936.

SERVICE RECORD.

This is to certify that the holder of this license has served as radio operator under my orders during the period named.

Name of Ship or Land Station and Call Letters.	Period	Service (Satisfactory or Unsatisfactory)	Master, Manager, or Superintendent
W9XAL	From June 14, 1935, to Aug 1, 1935	Very Satisfactory	G. L. Taylor
W9XBY	From Aug 1, 1935, to Dec 14, 1935	Very Satisfactory	G. L. Taylor
	From ____, 19__, to ____, 19__		
	From ____, 19__, to ____, 19__		
	From ____, 19__, to ____, 19__		
	From ____, 19__, to ____, 19__		
	From ____, 19__, to ____, 19__		
	From ____, 19__, to ____, 19__		
	From ____, 19__, to ____, 19__		

This radio-telephone operator's license is, of course, absolutely *imperative* in the radio field. However, it is not enough in itself. On the reverse side, there is space for your *actual experience record*. The License without a service record would mean very little to the average employer—they want men who are not only trained but who are experienced as well. Here again, First National training anticipates your problems after graduation. We not only qualify you for your government license but we give you *actual, practical experience* in the operation of our 1000-watt RCA high-fidelity radio station and our 500-watt government licensed television station. This experience is shown in your service record on the back of your license certificate. You leave First National thoroughly qualified and thoroughly experienced.

YOU CANNOT AFFORD TO OPPORTUNITY THAT IS NOW

Look AT THE GENUINE CASH OPPORTUNITIES OPEN TO YOU WHEN YOU HAVE TRAINED AT FIRST NATIONAL

A WIDE OPEN FIELD

The wide range of opportunities automatically unlocked for a graduate of First National practically assures you of a *highly-profitable career*. And every day brings more and more new fields in which your experience can be advantageously applied. Present-day radio stations are constantly enlarging their facilities and, of course, their staff of engineers. Recent government regulations are making it possible for a large number of new stations to be installed. Each station must be manned by a competent technical staff. The use of electrical transcriptions is growing by leaps and bounds. Advertising Agencies and recording studios are now requiring the services of radio engineers for the proper production and transmission of these records. The photo-electric cell alone has hundreds of applications in a wide industrial field. It is by far one of the most potential, far-reaching by-products of television. The tremendous opportunities here alone cannot even be anticipated. Requests are constantly coming to us for trained operators. Radio station W9XBY is a member of the National Association of Broadcasters which places us in *intimate contact* with *station managers and owners* throughout the country. They quite naturally *come to us* for graduates who have not only government licenses but a complete working knowledge of television and ultra short-wave transmitters. They are on the look-out for men who are *trained not only for the present but for the future*—and that means television.

Thanks to Your Employment Dept.

PASS UP THE GOLDEN KNOCKING AT YOUR DOOR!

YOU WILL GET GENUINE EMPLOYMENT ASSISTANCE FOR LIFE!

Our close friendship and continued contact with our own graduates is the source of our greatest pleasure. We keep an accurate file on every one who leaves our school. We keep in touch with him at regular intervals. He knows we are at his service in finding a place for him or in *securing a better position* than the one he may be holding. We also keep in touch with the radio and associated industries in an effort to thoroughly post employers regarding our graduates.

A WORD ABOUT JOB GUARANTEES

We cannot guarantee to secure you a position. You realize that would be an *impossible* task. And even if we did make such a statement, we know you would not believe it. It is, however, our honest opinion, based on years of observation, that the man who is *conscientious* about his own time, *diligent* in his work and ambitious will have little trouble finding a job when he graduates. We do *everything in our power* to assist him. But you must agree that our success in this effort depends largely upon the *man himself*.

YOU MUST ACT NOW

Just thinking about these *wonderful opportunities* in radio and television will not make them come true. *You must act immediately*. The chance of your life-time is before you *right now*. Each day you delay you are postponing that moment when you step out of our school as a licensed, experienced radio-television expert. At the present time, there are very few such men in the industry. The longer you put off entering this training, the more trained experts you will find in the field when you finally get there. Your greatest opportunity lies in *quick action*. Decide today to enroll . . . while others are only thinking about it. The facts presented in this booklet are convincingly true. Act today. You won't make money by putting it off.

MORE CONVINCING PROOF WRITTEN BY FIRST NATIONAL GRADUATES

. . . and thanks to the actual operating experience I got on W9XAL and W9XBY. I am now employed as Chief Operator of High Fidelity broadcasting station W6XAI.

Cordially,

J C. McCrillus,
Chief Operator W6XAI

Thanks to First National Engineering training I am now employed as operator at station WLBF. Needless to say I feel that I owe you a debt of gratitude for getting me this job.

Sincerely yours,

Clark B. Smith,
Operator WLBF

I am now employed as Chief Operator of High Fidelity station KVSO and am happy to say that the wonderful training I received at First National has made it possible for me to handle the responsibilities of my new position.

H. Franklin Burnett,
Chief Operator KVSO

I passed my Government exam. Got my first class Radio-telephone license and now have a job with Oklahoma's largest broadcasting station, KVOO, which operates on a power of 25,000 watts. It sure was a lucky break for me when I took your training.

Gillette Ownby,
Radio Station KVOO

"I'm on my Way At Last" — H. F. Burnett

THE SECRET OF SUCCESS IN LIFE IS FOR A MAN TO BE READY FOR HIS OPPORTUNITY WHEN IT COMES

—DISRAELI

LITHOGRAPHED IN U S A