
PICTURES
ON THE AIR
FIRST NATIONAL
TELEVISION · INC
KANSAS CITY. MO.
TRAINING DIVISION
29th, 30th, 31st Floors
Power & Light Building

1859

PICTURES ON THE AIR

YOUR CRYSTAL TOWER OF OPPORTUNITY

Where the Mysteries of Television Will Unfold Before Your Eyes

THOUSANDS OF JOBS

WHEN TELEVISION

TELEVISION BROADCASTING TOWERS MAY DOT THE COUNTRY LIKE OIL WELLS!

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.

ONLY TRAINED ENGINEERS CAN QUALIFY FOR THESE JOBS!

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!

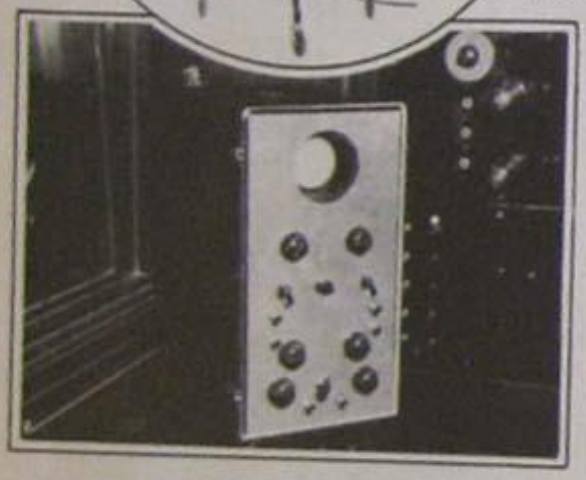
GET IN NOW!

BE COMPLETELY CHANGED BY TELEVISION

YOU ACTUALLY "PUT

AT ONE OF AMERICA'S

W9XAL SCANNER



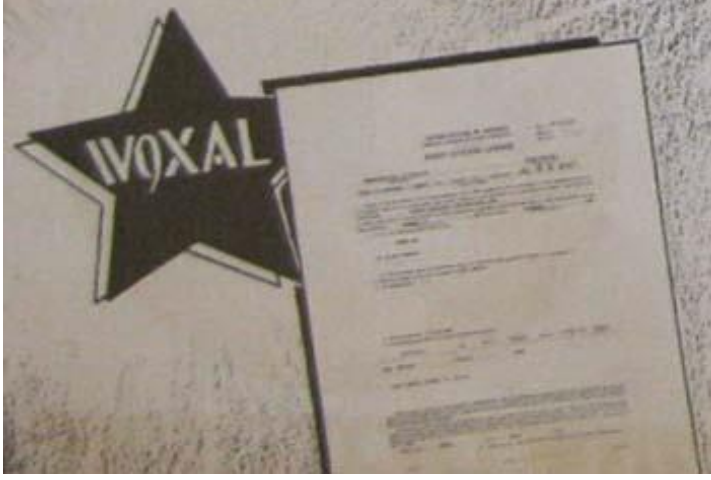
MONITOR RECEIVER

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.

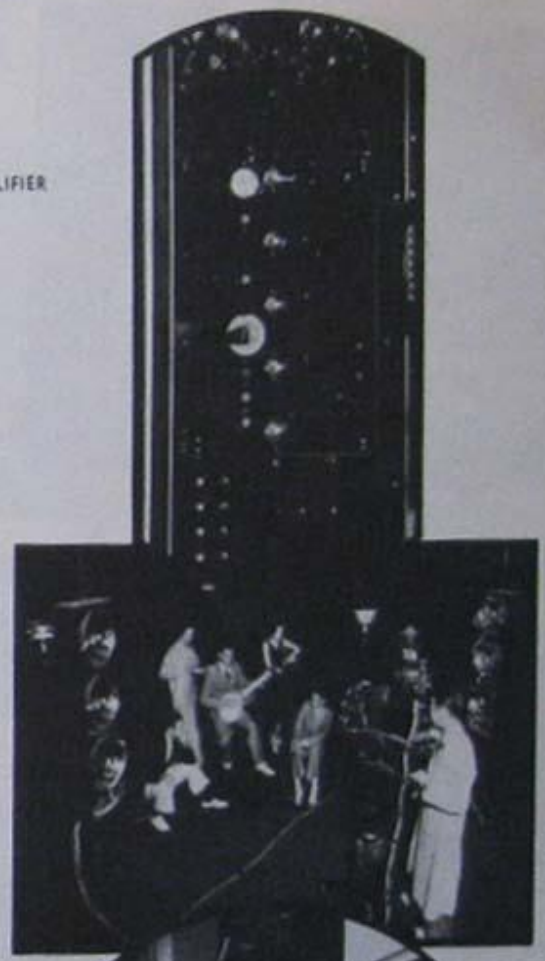
● MONITORING

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!

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.

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.

THEN YOU ACTUALLY DO IT . . .

IN THE STUDIO, LABORATORY, and at the Transmitters

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

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.

KENNETH ALEXANDER
Chief of Staff
Training Division

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

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

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 air lanes 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.

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

—*DISRAELI*