



How I Built My Own Television Receiver

By **BILL NAGEL**

NOT very long ago, television was a complete mystery to me. But not only did I build a complete television receiver chassis—I had a lot of fun doing it. And I've learned so much in a practical way that I'm

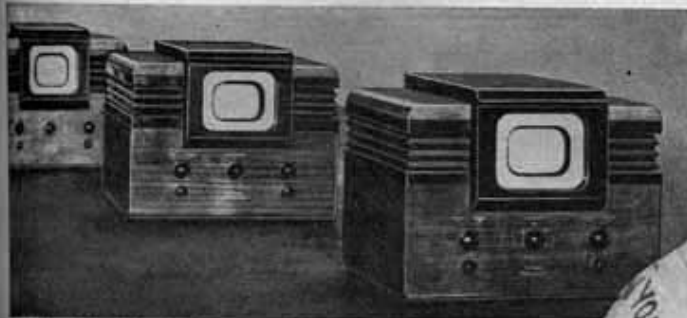
The two students with me here also built receivers. The picture shows us aligning our television sets.



well on the road to becoming an expert. In a few years from now I'll be able to "write my own ticket."

I always had a yen to get into television, even while I was still in the service. But I didn't know just how to go about it—until I heard about the N.Y.T.I. of N.J. I went there with my discharge papers, and they did the rest. They showed me how the Veterans Administration would pay up to \$500 a year against my total educational expenses, under the G. I. Bill of Rights. This meant that I had to pay very little out of my own pocket. It's a big break for veterans like myself—especially when you get subsistence allowances in addition. And part-time jobs are easy to get so you can earn extra money. I held a job all the time I was in school. Of course, all of the students here aren't veterans.

What bothered me at first, was that my mathematics was kind of rusty. It had been some years since I had got out of high school. I soon found that the school had brush-up courses in math and even had facilities for teaching radio math from the beginning to students who had never had the advantage of a high school education. I convinced them that I was sincere and enthusiastic and that I was technically inclined, and so I became a student. Then the fun began. You know, you just



Here is a line of RCA television receivers that I and my fellow students use for comparative test purposes at N.Y.T.I. of N.J. The very latest equipment in television is ours to inspect and study at the school.

can't build a television set right off the reel. I built seven radio sets and had to go through a total of 75 practical electronic experiments, before they would even let me start on a television receiver.

Then I began work in earnest. The instructors around here have plenty on the ball, and it was amazing how fast I progressed. I can't go into all the details here, but I turned out the swell television set you see in the photo. I look mighty proud of myself, don't I? I guess I am.

Boy, school was never like this. You should see the magnificent equipment. Finest in the world! There's a swell gang here—all interested in learning—all radio bugs. They come from all over, because practical television schools are hard to find, and the N.Y.T.I. of N.J. has a wonderful rep when it comes to television. You should see the image-orthicon television camera tube they have here at the school. Imagine a little tube that costs \$795! The school cooperates in every way—I don't believe that you can find better training anywhere.

Another thing I like about the N.Y.T.I. of N.J. (which stands for the New York Technical Institute of New Jersey) is the convenient location. It's right in the heart of America's electronic industry, (Newark, N. J.), only 19 minutes from New York City. It's close to everything. Big radio, television and electronics manufacturers are nearby—like RCA, General Electric, Western Electric, DuMont, and Edison. So are the big network stations like WJZ, WEAJ, WABC, and WOR. This means that the school is always right in touch with the latest developments in radio and television.

The conditions here are really ideal. They have thousands and thousands of dollars worth of the latest types

of equipment. In fact, I estimate that each student uses \$3,500 worth of experimental and test equipment. And there is a great deal of individual instruction. Classes are small and the instructors really know their business.

I am sure there are a lot of young fellows, particularly veterans, (I was discharged because of disability), who want to get into this field. I understand there are about 120 openings for new day students in the classes beginning this November and December. If you want to get the complete dope about the school, you can have a free bulletin, which illustrates and describes its facilities and equipment; it also tells the classes that may be attended, housing conditions, costs, hours, etc. There is no charge for this bulletin. Just drop a postcard and ask for Bulletin 111. Send your postcard or letter to the New York Technical Institute of New Jersey, 158 Market Street, Newark, N. J.

at home later on. Most of the classes are small, so you are sure of a lot of individual instruction, which is very important in learning the technical side of television.



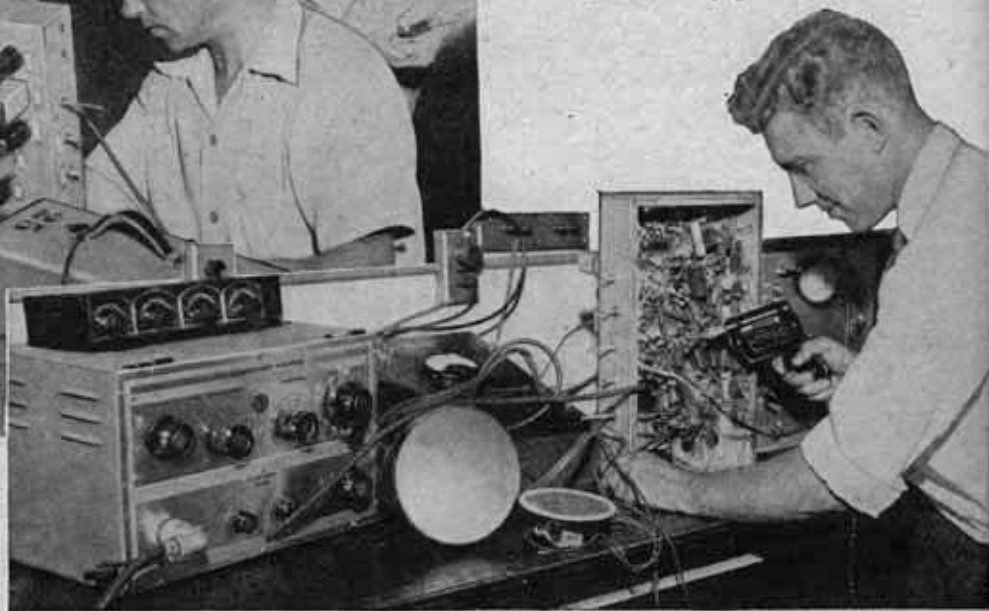
I want to learn about television transmitters also. Here you see one we have under construction. I hope to enroll for a special evening class on television transmitters.





Individual instruction is necessary in teaching television. Here, an instructor helps a student. Each student must build 7 radio sets before he is allowed to start on a television set.

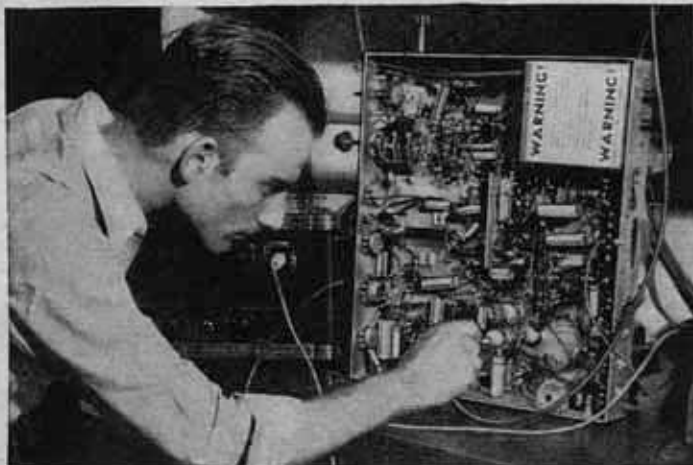
Expert Television Technician, Bob Cohen, using \$625.00 RCA Sweep Generator to check television set for engineering inaccuracies. It is expected that television test equipment will be reduced in cost as the television industry gets into its stride.



THEY BUILT THEIR OWN

MANY veteran students are now attending N.Y.T.I. of N.J. under the generous provisions of the G.I. Bill of Rights, which allows any approved school of the veteran's choice to charge the Veterans Administration up to \$500 a school year against the educational expenses of qualified veteran students. Full-time students, with dependents, are also

Student Walter E. Stevens, making engineering checks with \$395.00 United States Television Sweep Generator. The school is lavishly equipped with the most advanced types of test equipment.

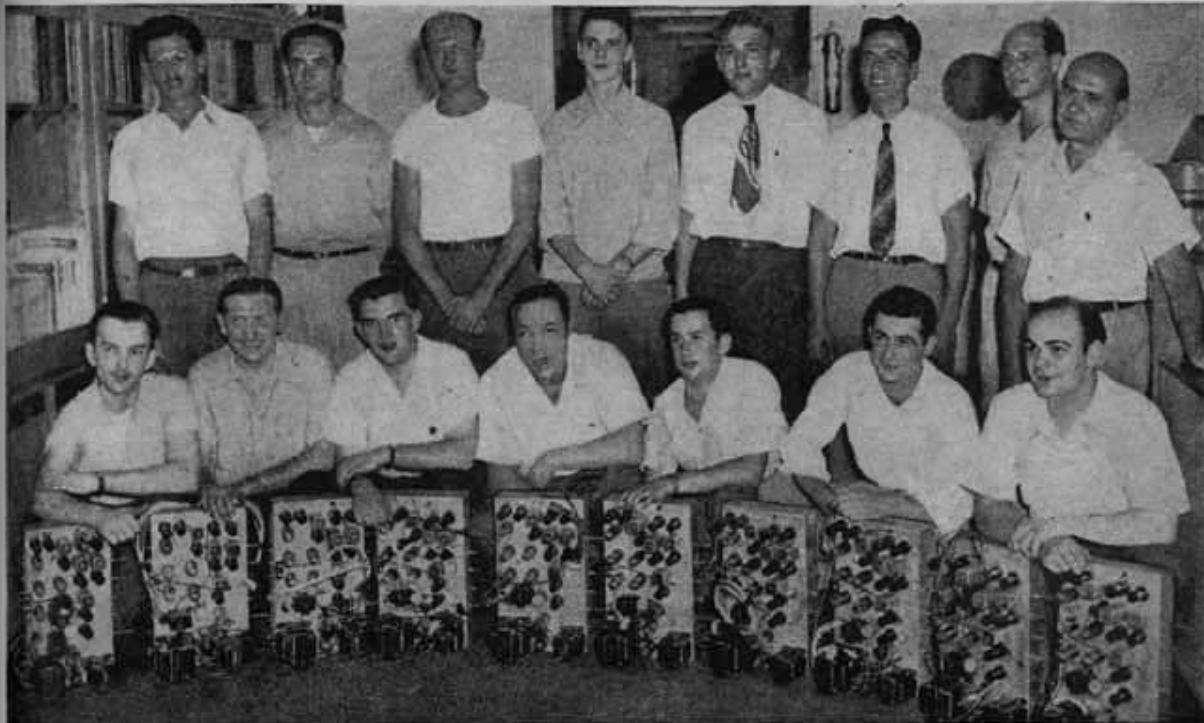


paid a subsistence allowance of \$90 monthly by the VA, and those without dependents, \$65. Many students hold part-time jobs, thus augmenting their monthly subsistence payments. However, you do not have to be a veteran to be accepted as a student.

A considerable number of out-of-state students attend the school because of its excellent, practical type of radio and television courses, so difficult to get anywhere else in the world today. Living quarters are obtainable by single students, but married students report considerable difficulty in finding quarters for their families.

Students at N.Y.T.I. of N.J. particularly like the way the school puts into practice what it teaches. You actually build a television receiver. You also build as many as 7 radio receivers of different types. Class study and laboratory study, in the proper combination, increase interest—and your hands get as smart as your head. With only average ability you can learn radio servicing in 8 months. In only 4 more months, you can know television receiver servicing. You can take even more advanced engineering-type courses if you wish. And throughout all your laboratory work you are using the finest and latest laboratory equipment available.

No high-school diplomas are required. Every



An Advanced Class in Television at N.Y.T.I. of N.J., famous television school, and the 17-tube television sets they built. Students at this school have been building television sets as part of their courses since 1939, when television programs were first broadcast regularly. School officials found

that this practical method of instruction is productive of very satisfactory results. Each student may build a set and keep it to use in his own home laboratory, if he chooses to. The school is located in the heart of the radio, television, electronics industry.

TELEVISION RECEIVERS!

student must have at least a grammar-school education, however. And the school requires that a student be earnest, sincere and technically inclined. Students without proper mathematical backgrounds are taught the radio and television mathematics they need.

You probably have been wondering what N.Y.T.I. of N.J. means. It stands for the New York Technical Institute of New Jersey, a resident school located in Newark, N. J., just across the river from New York City (Only 20 minutes from Broadway by subway or train). The school is located in the heart of America's great radio and electronics industry. Such leading television, radio and electronics manufacturers as Western Electric, Du Mont, Federal and Edison are nearby. Newark also is near Radio Stations WJZ, WEAJ, WABC and WOR; each a leader in broadcasts going on networks all over the country. This means that the school offers numerous advantages, as it is in touch with the most recent developments in radio and television. This also means that qualified radio and television engineers are available to the school for teaching purposes.

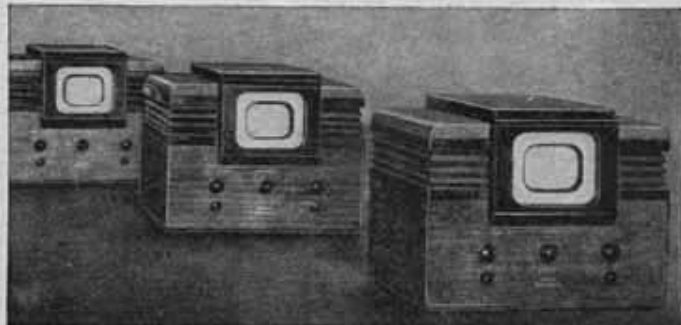
During the war N.Y.T.I. of N.J. was approved for the training of enlisted Signal Corps personnel by the U. S. Army. When the war ended the enrollment increased even more, be-

October, 1946

cause of the influx of veterans desirous of getting practical television training. At the present time, there are 120 openings for new students for the classes beginning in October and November 1946.

The school issues a special Bulletin, Numbered 110, which illustrates and describes its facilities and equipment and shows students using its varied laboratory equipment. Bulletin 110 also describes classes that may be attended, housing conditions, costs, hours, etc. To get complete information write for Bulletin 110 (for which no charge is made) to the New York Technical Institute of New Jersey, 158 Market St., Newark, N. J.

A line of RCA television receivers used for comparative test purposes at N.Y.T.I. of N.J.



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NOW YOU can BUILD a TELEVISION

To stimulate its radio and television training program, the New York Technical Institute of New Jersey is offering men interested in television this unusual opportunity.



Instructor demonstrating rare Schmitt Optical System, used in big picture, projection type, television receivers. This famous television school's location in the heart of the television industry, helps it to get such scarce scientific equipment. At N.Y.T.I. of N.J. all types of television receivers are available for student study.

IF you are unable to leave home to go to a resident school, N.Y.T.I. of N.J. can supply you with parts to build a television chassis in your own home. You will be supplied with the same instructions and directions with which the school's resident students are equipped, when they reach the stage in their training that calls for television set construction. If you already have a sound radio background, with experience in building radio receivers, you will be surprised to find how much you can learn about television by building this set.

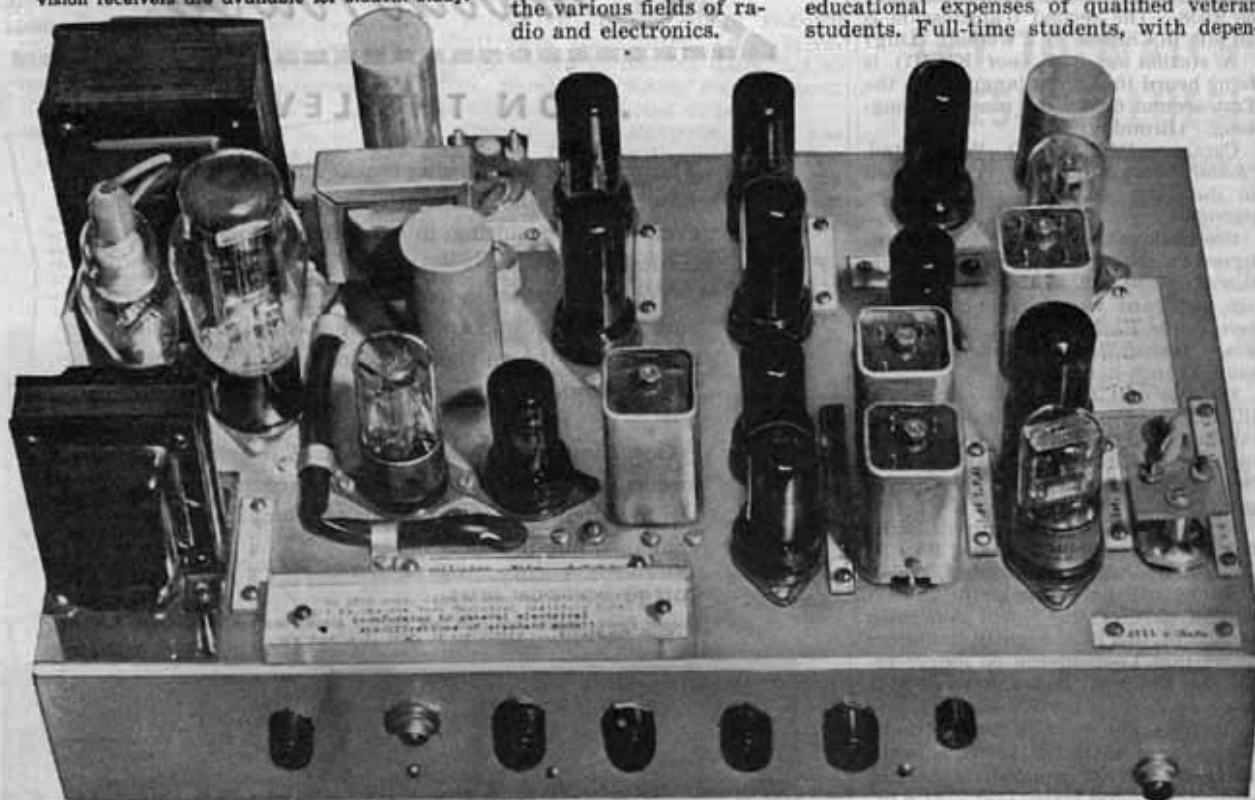
N.Y.T.I. of N.J. is one of America's leading resident schools for men seeking dependable, thorough, up-to-the-minute training in the various fields of radio and electronics.

A School Particularly Suited to War Veterans

The schooling offered by N.Y.T.I. of N.J. is particularly useful to War Veterans who recognize the high-earning possibilities of technical training in radio and television and are willing to tackle the class and laboratory work offered, regardless of their previous education.

No high-school diplomas are needed for entrance. But N.Y.T.I. of N.J. requires that a student be earnest, sincere and radio-minded. Students without proper mathematical backgrounds are taught the radio and television mathematics they need. Several students with only grammar school educations have successfully completed advanced technical television courses.

Many veteran students are now attending N.Y.T.I. of N.J. under the generous provisions of the G.I. Bill of Rights, which allows any approved school of the veteran's choice to charge the Veterans Administration up to \$500 a school year against the educational expenses of qualified veteran students. Full-time students, with depen-



You can build a direct viewing television chassis similar to the one pictured above, either in your own home or in the magnificently equipped shops and laboratories of this famous television

school, located square in the HEART of America's television manufacturing and broadcasting industry. Mail the coupon at the right to get full details.

Advertisement

SET RIGHT in YOUR OWN HOME!

dents, are also paid a subsistence allowance of \$90 monthly by the VA, and those without dependents, \$65. Many students hold part-time jobs, thus augmenting their monthly subsistence payments. However, you do not have to be a veteran to be accepted as a student.

A considerable number of out-of-state students attend the school because of its excellent, practical type of radio and television courses, so difficult to get anywhere else in the world today. Living quarters are obtainable by single students.

You Put Into Practice Everything You Learn

Students at N.Y.T.I. of N.J. particularly like the way the school puts into practice what it teaches. You may actually build a 17-tube television chassis. You also help build as many as 7 radio receivers of different types, a total of 75 electronic educational devices. Class study and laboratory study, in the proper combination, increase interest—and your hands get as smart as your head. With only average ability you should learn radio servicing in 8 months. In only 4 more months, you can know television receiver servicing. You can take even more advanced engineering-type courses if you wish. And throughout all your laboratory work you are using the finest and latest equipment available.

A 17-tube, commercial-type, television chassis may be built by all resident students of television, and may be kept as their own property, if they choose.

Located in the Heart of the Electronic Industry

The New York Technical Institute of New Jersey is in Newark, N. J., just across the river from New York City (only 20 minutes from Broadway by subway or train). The school is located in the heart of America's great radio and electronics industry. Such leading television, radio and electronics manufacturers as R.C.A., Western Electric, Du Mont, Federal and Edison are nearby. Newark also is near Radio Stations WJZ, WEAJ, WABC and WOR; each a leader in broadcasts going on networks all over the country. This means that the school offers numerous advantages, as it is in touch with the most recent developments in radio and television.

Highly qualified television and radio instructors are here in abundance. Equipment is easier to get. Television students are offered exceptional advantages in this great electronic center.

Send For Special Bulletin 112—FREE

The school issues a special Bulletin, Numbered 112, which illustrates and describes its truly exceptional facilities and equipment. Bulletin 112 also describes classes that may be attended, housing conditions, costs, hours, etc. If you are interested in Television—you will want to read this bulletin. You can have it free, merely by mailing the coupon at right.

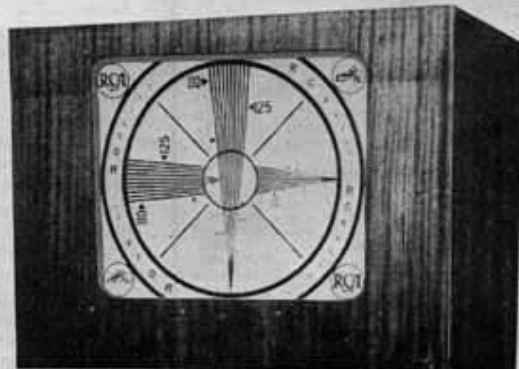
The school will also be happy to send you complete information about the television kits and directions which are now available to you if you desire to build your own television chassis at home.

To get information about building a television chassis in your own home or to get Bulletin 112, describing our famous resident school in Newark—just fill out the coupon at right and mail it NOW to: *New York Technical Institute of New Jersey, 158 Market Street, Newark, N. J.*



Instructor demonstrating theory of light in connection with study of optical systems used in projection type television receivers. This is just another one of the pieces of equipment which the New York Technical Institute of N.J. has available for resident student instruction.

Big picture television (16" x 21 1/4") in the flesh at N.Y.T.I. of N.J. When it comes to television receivers, N.Y.T.I. of N.J. has it! All types of television receivers are available for student use and instruction at the school.



Standard laboratory type test pattern used for determining picture perfection in all types of television transmitters and receivers. (You can see it at N.Y.T.I. of N.J.)

New York Technical Institute of New Jersey
158 Market Street, Newark, New Jersey

- Check here if you wish to receive Bulletin 112 describing the resident school of the New York Technical Institute of New Jersey located in Newark, N. J.—including its facilities, equipment, courses offered, costs, hours, etc.
- Check here if you wish information about building a television chassis in your own home.
- Check here if you are a War Veteran.

Name _____ Age _____

Address _____

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(if any)

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