

Amateur Radio in the 1950s: Romance and Reality

by Ronald R. Thomas
6415 Chastain Dr. NE
Atlanta, GA 30342

In the 1950s, amateur radio or "ham radio" seemed almost magical. There was no Internet, long distance telephone calls were expensive, and international air travel was limited. People knew that Hams talked to each other all over the world, which was perceived as glamorous and exciting. They also knew that Hams often provided emergency communications during disasters and had played an important role in military communications during World War II.

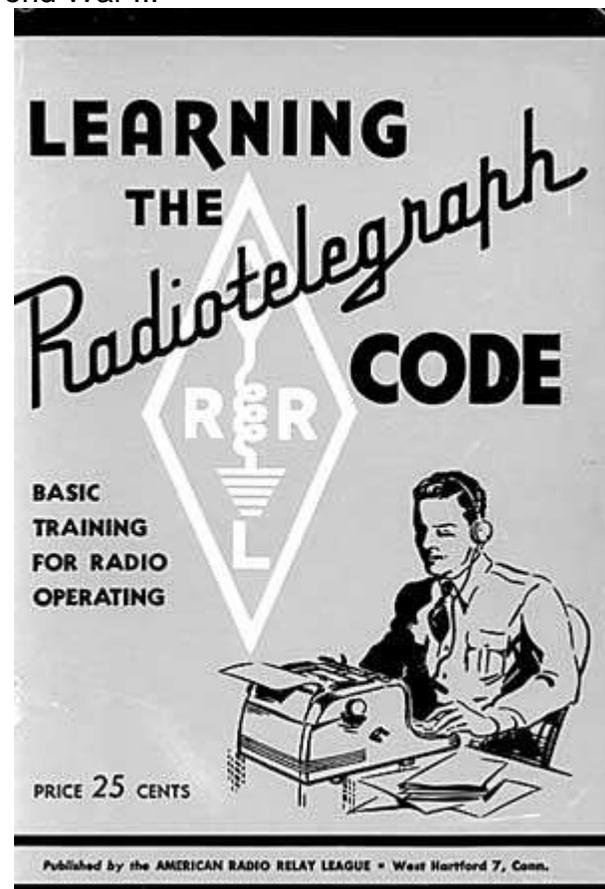
Most people were pleased to have a ham radio operator in their neighborhood. They were often even quite willing to allow a ham to run a long wire antenna across their backyard.

During that era, many home radios covered shortwave bands, which enabled people to listen to hams talking to each other. Some listeners decided to become hams themselves so that they could participate in this exciting hobby. Their first step would be to begin studying for a license.

Licensing

In the 1950s, the Federal Communications Commission (FCC) ruled supreme over the airwaves. The agency totally controlled radio broadcasting, commercial radio communications and, of course, amateur radio. Obtaining a ham radio license required passing Morse code receiving and sending tests and a stringent written exam.

Every aspiring radio amateur quickly acquired a copy of the American Relay League (ARRL) publications related to licensing. These included *How to Become a Radio Amateur*, *The Radio Amateur's License Manual*, and *Learning the Radiotelegraph Code*. The prospective applicant worked with these self-study aids and practiced Morse code until he or she felt ready to take the exam at an FCC office.



1951 edition of the ARRL's *Learning the Radiotelegraph Code*.

Larger cities, like Buffalo, Detroit, Boston and New York had FCC offices where amateur exams were given on a regular basis. In addition, FCC personnel gave examinations in other cities, like Cleveland and Pittsburgh, on a quarterly basis. Sitting for the examination often involved time away from work or school, and it sometimes required a long drive to an FCC examination location.

By the mid 1950s, the General class amateur radio license conferred operating privileges on many modes and bands. Higher license classes (Advanced or Extra), were required for voice privileges on some of the more crowded band segments. Later in the decade, General licensees were given full operating privileges. The license was issued for five years and was renewable.

Need!



Enjoy the profits now of this new field!

Nothing ELSE TO BUY

\$24.50

Heathkit FM & TELEVISION SWEEP GENERATOR KIT

The BASIC FM & TELEVISION SERVICE INSTRUMENT

Features

- 3 Tube Circuit.
- Covers 2 Mc. to 100 Mc.
- 110 T 60 25 transformer operated.
- Regulate either 2P or 4P.
- Variable sweep with 0 to approx. 10 Mc.
- Large calibrated dial.
- Variable phasing control.
- Sweep output for scope.
- No lead retuning necessary.
- Use one oscillator 2P tubes.

At the lowest cost possible, we give you our service FM and television receivers. The Heathkit sweep generator kit operates with oscilloscope and covers all necessary frequencies. A few pleasant hours assembling this kit puts our organization in position to share the profits of the FM and TV boom.

Every part supplied—gray crackle cabinet, two color calibrated panels, all metal parts punched, formed and plated. 3 tubes, complete detailed instructions for assembly and use. Shipping weight 5 lbs.

Deliveries start approximately September 1. Get your order in early.

Heath INTERPHONE 2-WAY CALL SYSTEM KIT

No need to stay home for lack of a help either. This Heath call system will watch the baby, telephone, etc. This unit will save miles of running between houses and barn, shop, tenant houses, etc.

A complete 110V 60 cycle transformer operated call system kit. Supplied with all parts for one master station and one remote unit. Regulates two wires between units—will operate up to 1/3 of a mile. Three tube circuit, metal cabinet, 4" PM speaker. Detailed instructions and pictorial diagrams make assembly easy. Single packages allow more than one remote to be used. Add postage for 3 lbs.



\$14.50

Heathkit 3 TUBE ALL-WAVE RADIO KIT

A 3 tube 120V 60 cycle AC transformer operated radio using plug in coil to cover 150 Kc. to 6,000 Kc. Covers broadcast, police, aircraft, amateur, marine and foreign broadcast. An excellent start in radio for boys or adults. Has been constructed successfully by 10 year old boys.

An excellent way to keep the family radio for adult programs. Boys will enjoy this for years and with practical knowledge using it. Every part supplied except speaker or headphones which are extra. All postage for 3 lbs.

Headphones (extra).....\$1.00
2" 2K Loudspeaker (extra).....\$1.95



\$8.75

Nothing ELSE TO BUY

Heathkit 5" OSCILLOSCOPE KIT

The best buy in test equipment today. All new parts by the best of manufacturers. Every part supplied including 500V and 5 other tubes, 120V 60 cycle power transformer supplies over 1100 Volts for 500V and 500V for amplifiers and sweep generator. Vertical and horizontal amplifiers using 600V tubes and a sweep generator covering 15 to 20,000 cycles using an 50k one triode. Oil filled condenser for long life. Gray crackle cabinet, also 8 1/2" x 11" high x 17" deep. Beautiful 2 color panel.

Order now and discover an entire new world of visual electronics. An oscilloscope provides almost endless sources of experimentation in radio, electronics, medicine and scientific research. Order now and save even more while while extremely low prices possible. Detailed instructions and photographs layout diagrams make assembly easy. Shipping weight 13 lbs. Express only.



\$39.50

Nothing ELSE TO BUY

TIPS & COMMENTS

This FLETS is being sent many thousands of customers as a sample copy—if you wish to be placed on the mailing list to receive it regularly let us know.

Heathkit Amplifier Owners—if you wish the new improved amplifier circuit, we will be happy to send it. Please enclose stamped self-addressed envelope.

Heathkit Signal Generator Owners—a new panel has been developed with more improved calibrations and improved construction an over 100 improvements—we will exchange panel at no charge if satisfied—please pack your panel so as to avoid damage—we also supply a new instruction manual with actual photographs of the assembly on request.

FLETS Mailing List. The Heath FLETS is mailed free to each customer for a period of six months. At present, all names are being removed if we have not received a communication or order since January 1, 1954. Your name will again be placed for six months on receipt of an order or request.

Early Heath Company kits featured simple electronics and test gear, including their famous oscilloscope. Ham equipment soon followed.

Passing the exam for a General class license was not easy. First, the applicant took a 13 word-per-minute Morse code receiving test. If that test was passed, a 13-wpm sending test followed. The applicant was allowed to take the written test only after he or she passed the sending and receiving tests.

The prospective ham who had passed the written test went home and waited until the mail brought the coveted license. Anyone who failed any portion of the examination had to wait 30 days before trying again. Many failed some part of the exam on the first attempt.

Also, in that era, the FCC introduced a Novice class license. It was a one-year, non-renewable, license that offered limited Morse

code operating privileges on special Novice shortwave frequencies plus voice privileges on two meters. The Novice class license required only a five-wpm code test and a very basic written exam. Also introduced was a Technician class license that had only a five-wpm code test, but required the same level of written exam

given for the General class license. This license was good for five years, could be renewed, and provided operating privileges only on the very high frequency Ham bands, where there was relatively limited activity.

Ham Equipment

Once a new ham had obtained a license, he set about acquiring the necessary equipment to assemble his station. In the 1950s, most hams operated primarily on the shortwave (3 to 30 MHz) amateur bands and used separate receivers and transmitters. Hams usually bought a commercially built receiver from companies like Hallicrafters and National Radio and, quite often, built their own transmitters.

A wide variety of receivers was available ranging in price from \$50 for a Hallicrafters S-38 to \$359 for a National HRO-50. The selection of commercially built ham transmitters was somewhat more limited. A popular commercially built ham transmitter was the Viking Ranger offered by the E. F. Johnson Company for \$293. It had an input power of 75 watts using CW and 65 watts using AM phone. It also had a built in variable frequency oscillator. A variety of low-powered, low-priced, crystal-controlled, CW rigs--tailored for the limited Novice operating privileges --were also on the market.

Hams desiring to build a transmitter would find a construction article in a magazine or the ARRL *Radio Amateur's Handbook*. Then they would search for the necessary parts, do the metal work on the chassis and cabinet, and solder in all the components and wiring. Unfortunately, no matter how good the final product, the builder had created a transmitter that had little resale value.

Those who wanted equipment with a commercial look yet wished to do their own building might shop for a transmitter kit. Companies like E. F. Johnson offered their equipment in kit form at a significant cost savings. For example, a \$293 Viking Ranger transmitter sold for \$215 in kit form.

The builder would receive a pre-drilled chassis, pre-painted cabinet, and all of the necessary components. He would then do all of the assembly, working from what was usually a very sketchy construction manual. It would have been a real challenge for a beginning ham to assemble one of those kits. It was a job for those with advanced skills.

The Heath Company

<p>NEW HALLICRAFTERS Model S-38</p> 	<p>HALLICRAFTERS Model S-40A</p> 
<p>★ 500 KC to 32.4 MC Continuous Coverage ★ Electrical Band-Spread ★ Built-In FM Dynamic Speaker</p> <p>This new Hallicrafters Model S-38 is the finest receiver value ever offered in the low price field. The unusually fine styling makes this an ideal receiver for use in any room in the home. In addition its super-sensitivity makes it an excellent receiver for commercial voice service. Four bands are covered: 540 to 1,600 KC; 1,650 to 5,500 KC; 4,750 to 15,000 KC; and 12,000 to 32,400 KC. The main dial is calibrated in megacycles. All controls are clearly marked and include the following: Noise Limiter, Band Switch, BFO, BFO Pitch, Speaker/Phone Switch and Bandstop Switch. Headphone jacks and antenna terminals are provided at the rear of the cabinet. Steel cabinet is finished in satin gray, and the speaker grill on the cabinet top is of stainless steel. 1 1/2 watts of audio output is available which is more than ample for all receiver requirements. Electrical handoperated dial permits separation of stations for communication or station logging purposes. Tubes required: 12SK7 Converter, 12SK7 IF Amplifier, 12SQ7 BFO, Automatic Noise Limiter, 12SQ7 2nd Detector AVC, 6AT7 Audio Amplifier, 30L6GT 2nd Audio Amplifier and a 312ZGT rectifier. Operates on 105-120 volts, 60-60 cycles AC or 105-120 volt DC. May be used on 220-250 volt AC or DC with the 220 volt line cord converter listed below. Receiver includes built-in FM dynamic speaker. Overall size: 12 1/4" wide, 7 1/4" high, 8 1/4" deep. Wt. 14 lbs.</p> <p>C2183—Model S-38 Receiver, with tubes. \$47.50</p> <p>Your Cost..... C5245—220 Volt Line Cord Converter. Your Cost..... \$1.41</p>	<p>The first of Hallicrafters post-war communications receivers in this sensational new model with the finest performance ever produced in the popular price field. A completely new conception of receiver beauty and styling is incorporated in this receiver. The top of the cabinet is provided with the maximum in ventilation by use of a multitude of tiny openings. Controls are clearly identified and the normal positions are marked in red for standard hand-crank reception. Features never before available in a receiver in this price class are included. Of particular note is the use of the RF section consisting of permanently adjusted "trimmer-set" inductances, identical with those in the most expensive Hallicrafters receivers. Excellent signal-to-noise ratio and high sensitivity are assured by the use of a 6SK7 pentagrid converter. Many other outstanding features are: automatic noise limiter, temperature compensated HF oscillator, beat frequency oscillator, separate RF and AF gain controls, three position tone control, separate electrical handoperated with inertly fly-wheel tuning. The overall frequency range from 550 to 44,000 kilocycles are covered in four bands: 550 to 1,750 KC; 1,750 to 5,500 KC; 5,500 to 15,000 KC; and 15,000 to 44,000 KC. Tube vision main tuning dial is accurately calibrated in megacycles. Pitch of BFO can be adjusted from the front panel. Special socket for external power supply. 2 1/2 watts maximum audio output. Socket provided for connection of optional Model "RM-90A" 3" speaker. Nine tubes: 6SK7 RF amp.; 6SA7 converter; 6SK7 1st IF; 6SK7 2nd IF; 6SQ7 2nd detector and 1st audio amp.; 6J9G 2nd audio amp.; 6AT7 AVC and noise limiter; 6J9G BFO; 60 rectifier; 60 cycle AC; 12 1/4" x 7 1/4" x 8 1/4".</p> <p>C2184—S-40-A For operation on 110V/60 AC. \$89.50</p> <p>C2185—S-40A Universal Model for use on 110/220 volts, 25 to 60 cycle AC..... \$94.50</p> <p>C2186—S-40 (External "S" meter). Your Cost..... \$5.00</p>

The S-38 (left) and S-40, low-end receivers of the Hallicrafters line, were popular entry-level sets for new amateurs.

changed the world of electronic kits, including ham radio kits, with their "Heathkit" line. Heath's great success was due in large part to the world-class assembly manual supplied with every kit. Those manuals made it possible even for beginners to successfully assemble a Heathkit.

The Heathkit DX-100 transmitter was extremely popular in the 1950s. It had an input power of 120 watts on CW and 100 watts on AM phone and had a built-in VFO. It sold for \$190 in kit form. Heathkits were often less expensive than other kits, because Heath frequently used new, military surplus parts and bought many other components in large quantities at discount prices.

All of the equipment in that era used vacuum tubes, and the glow from those tubes was a sight never to be forgotten. Unfortunately, the equipment was large and heavy. A Heathkit DX-100 transmitter weighed 107 pounds and a National HRO-50 receiver weighed 84 pounds. Today, such a radio is often referred to (sometimes fondly, sometimes sarcastically) as a "boat anchor."

The final ingredient for getting on the air was the installation of an antenna. Wire antennas were widely used on all of the shortwave Ham bands. Also, some Hams used beam antennas on the higher frequency Ham bands.

On the Air at Last!

Every ham remembers his or her first on-the-air contact. It truly seemed like a magical moment to talk to someone via radio. The conversations included station equipment, occupations, the weather, and other non-controversial topics. In that era, hams did not talk about religion, politics, or anything that might be the least bit offensive. Nevertheless, the conversations were enjoyable.

As the QSL cards confirming contacts began to accumulate, they were proudly displayed for the admiration of friends, visitors, and neighbors. It was hard for someone to not be impressed when seeing the colorful cards from faraway places.

End of an Era

As the 1950s progressed, amateur radio began to change significantly. For example, vacuum tubes were replaced by transistors; AM phone was replaced by single sideband; separate transmitters and receivers became transceivers; and Hallicrafters, National, and Heath disappeared. Society changed also, and the ham radio operator no longer seemed to be a glamorous figure.

However, hams have always changed with the times. By the 1960s and 1970s, they accepted SSB, began using repeaters on the VHF Ham bands, and learned how to integrate computers into amateur radio. Nevertheless, those who first experienced ham radio in the 1950s will always remember the magic and romance of that era.