

# History of Amateur Radio Licensing

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Hi, this is Robert Cain, N4IXT. In this presentation we'll take a look at the history of amateur radio licensing in the United States.

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## About Robert

Robert C. Cain, MVP, MCTS  
Amateur Radio Operator since 1999  
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Microsoft Data Platform MVP since 2008  
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I've been an amateur radio operator since 1999, and currently hold an Amateur Extra class license. Professionally, I'm the owner of Arcane Training and Consulting, working as a trainer in the Microsoft IT space. Check out [arcanecode.com/info](http://arcanecode.com/info) for more information.

## The early days – 1901 to 1912

- No license required
- Operators picked their own call signs
- As range was typically around 100 miles with the tech of the time, this generally wasn't an issue
- As the technology got better, interference became more of an issue



In the very earliest days of radio, no license required in order to operate.

Operators simply pick their own callsign, when they even bothered with a callsign at all.

At the time, the range of an average radio was roughly 100 miles. Thus this wasn't that big of an issue, at least in the beginning.

As the technology got better though, interference started becoming more and more of an issue. So much so that the United States Navy went to Congress, demanding some type of action be taken in order to reduce interference.

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# Radio Act of 1912



Amateur Second Grade license, 1921

- Radio managed by the Department of Commerce
- Amateur First Grade
- Amateur Second Grade
- First Grade – Written test plus 5 wpm (changed to 10 in 1919)
- Second Grade – Self certified they could meet First Grade requirements but cannot make it to a test center (125 miles + from a test center)

The radio act of 1912 was passed, introducing the first attempt to organize the airwaves. The management of the radio spectrum was initially handled by the Department of Commerce. This image depicts an amateur radio operator license from 1921.

Initially, there were two license classes: Amateur First Grade, and Amateur Second Grade. To receive an Amateur First Grade license you had to go to a Department of Commerce office and take a written test, plus a five word per minute code test. In 1919 this was upgraded to 10 words per minute.

In the early 1900s travel was still difficult for many Americans. Unlike today, very few households owned a car. Even for those who did, the average national speed limit was 25 miles an hour. The Department of Commerce recognized that not everyone could simply hop in a car and drive down to Department of Commerce office

Thus, they created the Amateur Second Grade license. In order to qualify you had to live over 125 miles from a testing center. You would then simply self certify that you can meet the requirements for a first grade operator.

The operating privileges for both licenses was identical, and both expired in 5 years. The only difference was the manner in which they receive their license.

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## World War I – 1917 to 1919

- When US entered WWI, all licenses were suspended
- After the war ended in 1918, the Navy didn't want to let Amateurs back on the air
- It took an act of Congress in 1919 ordering the Secretary of the Navy to restore operating rights to amateurs



When World War I began in 1914, amateur radio operators in the United States were forbidden from communicating with countries at war, which pretty much meant all of Europe. Hams contented themselves with communicating with each other mostly in the US.

When the United States entered the war in 1917 all amateur radio licenses were suspended. Hams were ordered to take down their antennas and box up their radios.

Many amateur radio operators assisted in the war effort. They operated radios in the military, for the government stateside, or for various emergency services groups. All stateside operation was closely managed by the government

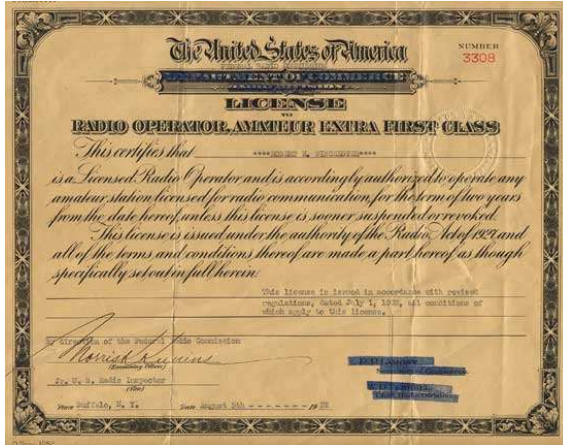
After the war ended in 1918 hams assumed they could get back on the air quickly. During the war control of the radio airwaves transferred to the Navy. The Sec. of the Navy made it quite clear he had no intention of returning those airwaves back to the amateur radio operators.

This is where we owe a great debt of gratitude to the Amateur Radio Relay League. This group began a letter writing campaign, as well as generating a public outcry to have the frequencies restored. In addition, they began a lobbying campaign in Congress.

As a result, in 1919 Congress passed an act ordering the secretary of the Navy to restore all operating rights to amateurs immediately.

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## 1923 – Amateur Extra First Grade



Amateur Extra First Class, 1932

- Hold a First Grade license for 2 or more years
- Written test
- 20 wpm code test
- Provided CW privileges to wavelengths longer than 200 meters
- Discontinued in 1927 when interest shifted to shorter waves than 200 meters

For a brief time there was an interest in operating on wavelengths longer than 200 meters. Existing licenses did not allow operating on these frequencies. Thus, in 1923 the Department of Commerce created a new license to allow people to operate on frequencies above 200 meters.

But what to call it? Since the top-level class at the time was Amateur First Grade, to go up from that you had to get extra first-class. Thus it was officially named Amateur Extra First-Class.

This is where the title of Amateur Extra that many of us have on our licenses today originated. On the slide you can see an example of an Amateur Extra First Grade license from 1932.

In order to have qualified for an Amateur Extra First Grade license, the applicant must have held an Amateur First Grade license for two or more years. They must have passed a written test, as well as 20 word per minute code test.

This new license provided Morse code privileges to wavelengths longer than 200 meters. Very quickly though interest shifted to wavelengths shorter than 200 meters. In 1926 only six of these licenses were issued. Thus new licenses were discontinued in 1927, although



existing license holders could still renew them.

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## Radio Act of 1927

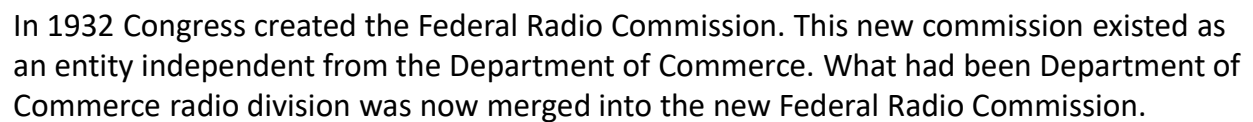
- Authority over radio was placed in the Federal Radio Division under the Department of Commerce
- Amateur First Grade renamed to Amateur Class
- Amateur Second Grade renamed to Temporary Amateur
- Temporary Amateur expired in 1 year, and after 1932 could not be renewed

The next change to amateur radio occurred with the radio act of 1927. This act created a new federal radio division, which now had authority over the radio spectrum. The new radio division was still managed by the Department of Commerce.

As part of this act, Amateur First Grade was renamed to simply Amateur Class. Amateur Second-Grade was renamed to Temporary Amateur. The Temporary Amateur license now expired in one year, and after 1932 could not be renewed.

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- FRC was created in 1932
- Merged with the Department of Commerce Federal Radio Division



Although it's a little hard to see, you'll note that somebody has marked out Department of Commerce Radio Division title with blue ink, and above it typed in the words Federal Radio Division.

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## Federal Radio Commission - 1933



- In 1933 the FRC created new license classes, A, B, and C
- Amateur Extra First Grade became class A
- Amateur became B, New B's had exams given at an FRC office
- Class C was for people who lived more than 125 miles from an FRC office, exam was given by Class A and B hams operating as examiners
- Temporary Amateur had to retest

In 1933 the new Federal Radio Commission created three new license classes, A, B and C.

Anyone who had held an Amateur Extra First Grade license automatically became a class A license.

Amateur operators were given a class B license. To get a new class B license, an applicant had to go to a Federal Radio Commission office and take the exam.

Class C licenses were for people who lived more than 125 miles from a FRC office. These exams were given by existing amateur radio operators who held either a class A or a class B license. Here you can see the initial genesis of the volunteer examiner program.

Because the Temporary Amateur licenses had expired in 1932, anyone who had held that license simply had to retest.

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## Federal Radio Commission - 1933

- All three required code tests (10 wpm until 1936, when it became 13 wpm)
- Class A – Exclusive Phone on 20 and 75 meters. Required one year of previous experience plus written test.
- Class B and C – No phone privileges, but otherwise the same permissions
- Previously radio operator and radio station licenses were two different licenses, at this point they became the same license

All three licenses required code tests. Initially this was set at 10 words per minute. In 1936 it was boosted to 13 words per minute.

A class A license granted exclusive phone privileges on 20 and 75 meters. The license required one year of previous experience plus a written exam.

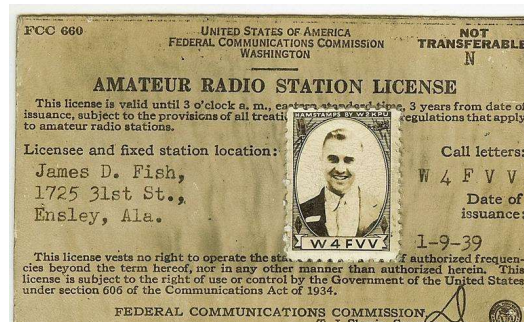
For class B and C, there were also written tests. They had no phone privileges, but otherwise had the same permissions as a class A license.

At this point another change took place. Previously radio operator and radio station licenses were two different licenses. At this point they became the same license, just as it is today.

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## Federal Communications Commission - 1934

- In 1934 the Federal Radio Commission became the FCC we know today
- No other changes to licensing occurred at this time



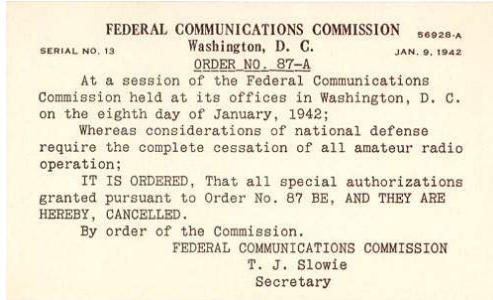
<https://www.qrz.com/db/K4KFT>

In 1934 the Federal Radio Commission was renamed the Federal Communications Commission. As far as the amateur radio community was concerned, there were no other changes that occurred as a result of the new name.

On this slide is an example of an FCC issued license from 1939.

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## World War II



- All licenses were **cancelled** at the start of World War II
- Many hams served in civilian roles in civil defense operation
- Many more joined the armed forces as radio operators
- After war FCC began to reissue licenses
- Some changes to frequency permissions occurred at this time

At the outbreak of World War II, the FCC officially canceled all amateur radio licenses, as you can see from the official notice on the left.

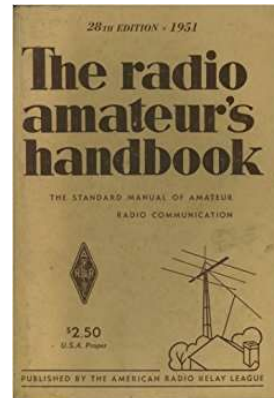
Many amateur radio operators served in civilian roles for various civil defense organizations. Additionally, many joined the Armed Forces serving as radio operators. It is estimated that more than half the licensed radio operators volunteered to serve in some capacity during the war.

After the war ended, the FCC quickly began to reissue licenses. Although no changes occurred to the A/B/C license structure, as a result of postwar negotiations between countries, some changes to the pre-war frequency permissions did occur at this time.

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## The Great Shake Up - 1951

- The previous A, B, and C were retired
- Replaced by Novice, Technician, General, Conditional, Advanced, and Amateur Extra
- Licenses were issued for a 5 year period (except Novice)



The next great shakeup occurred in 1951. The previous license classes of A, B, and C were retired.

These were replaced by new classes, many of which would sound familiar today. Novice, technician, general, conditional, advanced, and amateur extra.

With the exception of novice, licenses were issued for a period of five years. Novices held an expiration date of one year.

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## Novice - 1951

FCC Form 650 Rev. June 1955 UNITED STATES OF AMERICA  
STATION CALL SIGN KN5LAD FEDERAL COMMUNICATIONS COMMISSION  
WASHINGTON, D. C. AMATEUR RADIO LICENSE  
Fixed transmitter location: (and remote control position when authorized)  
6-25-58 N10  
SAME AS BELOW  
Licensee and P. O. Address:  
JIM C. PICKETT  
511 NORTH MAIN AVENUE  
SAND SPRINGS, OKLA.  
(This license issued subject to conditions shown on reverse side)  
Operator Privileges: NOVICE Issuing Officer: C.B. Plummer Effective Date: 6-25-59  
Class: NOVICE  
SEE UPPER RIGHT CORNER FOR EXPIRATION DATE  
NOT TRANSFERABLE  
Card May Be Trimmed On Border Line  
Countersigned: Jim C. Pickett  
License

- 5 WPM + Novice Written Test
- License valid for 1 year (later in 1964 extended to 2 years, then in 1978 extended to same 5 years as other licenses)
- 75 watts max power
- CW on 80, 40, 15, Code and Voice on 145-147 MHz

The novice license required a five word per minute code test plus a written test. Initially the license was valid for one year.

In 1964 this was extended to two years. In 1978, this period was extended to five years, the same as the other licenses.

Novices were limited to 75 watts maximum power. They had Morse code privileges on 80, 40, and 15 meters. They received both code and voice privileges on the 145 to 147 megahertz band.

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## Technician - 1951

- 5 WPM + General (element 3) Written Exam
  - General Class permissions in 50 MHz
  - Voice/Code 145-147
  - All rights above 220 MHz
- 
- Until the late 60's, a ham could hold two licenses, both the Tech and Novice, and have two different call signs

The technician class required a five word per minute code test. In addition they took the general class written exam.

This granted them the same permissions as a general class in the 50 megahertz band. They also received both voice and code privileges in the 145 to 147 megahertz band. Finally, they had all rights above 220 megahertz.

Interestingly, until the late 1960s, a ham radio operator actually hold two licenses. They could hold both the technician and the novice, and have two different call signs.

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## General - 1951

- 13 WPM + General (element 3) Written Test
- Full privileges on all bands
- Class B operators became Generals

The general class required a 13 word per minute code test as well as a written test. This granted them full privileges on all bands.

All class B operators became generals.

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## Conditional - 1951

- Class C operators became Conditional
- 13 WPM + General (element 3) Written Test, administered by General or higher
- Distance from FCC office reduced to 75 miles
- Full privileges on all bands
- Marked the unofficial beginning of VE's



All class C operators were granted the conditional license. New class C applicants also took a 13 word per minute code test plus the general exam, however the test was administered by another general class or higher ham radio operator instead of going to the FCC office.

In addition the FCC reduced the distance requirement from 125 to 75 miles. While travel was easier in 1951 than it had been in 1921, it could still be problematic. Most families only owned a single vehicle, and with the exception of large cities most of the population was still fairly spread out.

A conditional license granted full privileges on all bands. In addition this marked the unofficial beginning of the volunteer examiners.

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## Advanced - 1951

- Class A operators were placed into the Advanced class
- Advanced licenses were not issued from 51-67, only way to become an advanced was to migrate from Class A
- Post 1967, Advanced (element 4A) Written Test
- Full privileges on all bands

Class A operators were placed into the advanced class. New advanced licenses were not issued from 1951 to 1967. The only way to get an advanced license was to have been migrated from a class A.

After 1967, an operator could upgrade from general to advanced by taking a written test.

The advanced license granted full privileges on all bands.

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## Amateur Extra - 1951

- 20 wpm + Amateur Extra (element 4B) written exam
- Full privileges on all bands

To become an amateur extra, a 20 word per minute code test was required, plus a written exam.

Amateur extras had full privileges on all bands.

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## Incentive Licensing - 1964

- Prior to 1964, General, Conditional, Advanced, and Amateur Extra all had the exact same rights on all bands
- Advanced and Amateur Extra were essentially “bragging rights”
- FCC created Incentive Licensing to encourage hams to evolve their skills to the higher classes
- Required removal of some privileges from General and Advanced (who understandably weren’t happy about it)

The next big change to amateur radio occurred in 1964 with the move to incentive licensing. Prior to 1964 general, conditional, advanced, and amateur extra all had the exact same rights on all the bands.

The advanced and amateur extra licenses were essentially nothing more than bragging rights. As a result, the majority of hams stopped once they got either their general or conditional license.

The FCC wanted to encourage hams to evolve their skills to the higher class levels. Thus the move to incentive licensing.

This did require the removal of some privileges from the general, conditional, and advanced classes who understandably weren't happy about.

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## Conditional - 1967

- In 1967, the FCC migrated all Conditional licenses to General upon renewal, effectively removing this as a license class by 1971.

By 1967 the FCC decided the requirement to take your exam at an FCC office was no longer an impediment to getting your license. Thus they retired the conditional license, and upon renewal an existing conditional license holder became a general.

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## The New Technician - 1990

- Removed the Morse code requirement
- The first license since the licensing requirements began to not require a Morse code test
- All modes and bands above 50 MHz
- Passing of any code test granted the Novice HF privileges.
- FCC started labeling these as Tech Plus in 1994

The next change to amateur licensing did not occur for 23 years. The technician license was revamped in 1990. The biggest change was the removal of the Morse code requirement. This is the very first license since licensing began in 1912 to not require a Morse code test.

A technician was granted all modes and bands above 50 megahertz. In addition, if the technician passed any code test they were granted the same HF privileges a novice had.

This did cause some confusion, as if a technician was operating in the novice bands there was no easy way to verify that they had indeed passed their code test. In 1994 the FCC started labeling these as technician plus in order to reduce confusion.

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## Restructuring - 2000

- Reduced number of license classes to 3, Tech, General, Extra
- Advanced, Tech Plus, and Novice could still be renewed but not issued
- Only one Morse code test required, 5 wpm, to get General
- Allowed Advanced class to be able to give General exams
- Pre 1987 Techs could become General just by filling out paperwork
- Novice licenses, current or expired, could be used as credit toward the 5 wpm requirement

Fast forward a decade to the restructuring of the year 2000. The FCC reduced the number of license classes to three: tech, general, and extra.

Existing advanced, tech plus, and novice licenses could still be renewed, but were not being issued. Additionally only one Morse code test was now required. To get a general class an applicant only needed to take a five word per minute code test.

The restructuring also allowed for an advanced class to be able to administer a general class exam.

Prior to 1987 a technician needed to take a general exam plus the five word per minute code test. Thus any pre-1987 technician could now become a general class just by filling out some paperwork

Novice licenses, whether current or expired, could be used as credit toward the five word per minute requirement.

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## The End of Morse Code? - 2006



- 2003 – The ITU (International Telecommunications Union) removed the requirement to demonstrate Morse code proficiency in order to operate on frequencies below 30 MHz
- 2006 – The FCC dropped the Morse code test from the list of requirements, became effective February 23, 2007
- On that date all Technicians became Tech Plus automatically
- Despite cries this would kill Morse code, it still remains a popular mode

In 2006 the FCC made their next big change, an event many operators called the end of Morse code.

In the year 2003 the International Telecommunications Union removed the requirement to demonstrate Morse code proficiency in order to operate on frequencies that were below 30 megahertz. The ITU is the organization that sets rules for radio operation between countries.

In 2006 the FCC dropped the Morse code test requirement, becoming effective on February 23, 2007. On that date all technicians became tech plus automatically.

Despite cries at the time this would kill Morse code, it still remains a popular mode today.

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## Today

- Three License Classes can be issued
  - Technician
  - General
  - Amateur Extra
- Existing licenses can be renewed
  - Novice
  - Advanced
- All licenses only require a written exam, no more code testing

This brings us up to the present day. Only three license classes are currently being issued: technician, general, and amateur extra.

Existing novice or advanced licenses can be renewed.

Finally, all licenses only require a written exam. There is no more Morse code testing required.

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## Resources

- History of Amateur Radio
  - [https://en.wikipedia.org/wiki/History\\_of\\_amateur\\_radio](https://en.wikipedia.org/wiki/History_of_amateur_radio)
- Amateur Radio Licensing: A Seven-Decade Overview
  - QST March 1985 (Members Only)
  - [http://www.arrl.org/files/file/protected/Group/Members/Technology/tis/info/pdf/QST\\_Mar\\_1985\\_p47-48.pdf](http://www.arrl.org/files/file/protected/Group/Members/Technology/tis/info/pdf/QST_Mar_1985_p47-48.pdf)
- Amateur Radio and World War II
  - QST August 1995
  - <http://www.arrl.org/files/file/protected/Group/Members/Technology/tis/info/pdf/9508040.pdf>
- ARRL Ham Radio History
  - <http://www.arrl.org/ham-radio-history>
- Older License Examples
  - [http://uv201.com/Photo%20Pages/8bny\\_licenses.htm](http://uv201.com/Photo%20Pages/8bny_licenses.htm)

On this slide I have provided links to some of the resources that were used in building this presentation.

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- Questions?
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This presentation can be found on my github site, you'll find links to it plus other training materials on my information page: <http://arcanecode.com/info>.