

# Federal Communication Commission

## Amateur Radio Licensing in the United States



Federal Communications Commission (FCC) Seal

In the United States, Amateur Radio Service licensing is governed by the [Federal Communications Commission \(FCC\)](#). Licenses to operate an Amateur Radio Station for personal use is granted to individuals of any age, free of charge, once they demonstrate an understanding of both pertinent FCC regulations and knowledge of radio station operation.

Operator licenses are divided into different classes, each of which correlate to an increasing degree of skill and knowledge. [Over the years, the details of the classes have changed significantly, leading to the current system of three classes.](#)

## History of FCC's Amateur Radio Service Licensing

### Formation and early history

[Established in the early 1900s, regulation of Amateur Radio Service was a result of the U.S. Navy's concern about interference to its stations and its desire to be able to order Amateur Radio Stations off the air in the event of war.](#) Prior to the Radio Act of 1912 Pioneer

Amateur Radio Operators made up their own call signs, sometimes using their initials. The **Radio Act of 1912** authorized the **Secretary of the Department of Commerce and Labor** to license Amateur Radio Stations. All licensees were given a call sign consisting of a number followed by two letters. The **Radio Act of 1927** replaced the Act of 1912 and licensing was done by the newly formed **Federal Radio Commission (FRC)**. The **Radio Act of 1934** replaced the Act of 1927 and licensing was done by the newly formed **Federal Communications Commission (FCC)** which replaced the FRC. The FCC's licensing of Amateur Radio Experimenters and Operators has evolved considerably over the century since its inception. **Initially there were three classes of licenses, Class "A", Class "B" and Class "C".**

## 1951 licensing structure decision

In 1951, the FCC moved to convert the existing **'three alphabetic letter'** licenses classes, **Class 'A', Class 'B' and Class 'C'** into **'six named classes'**, named **Novice, Technician, General, Conditional, Advanced, and Amateur Extra**. Each license class required two exams, one on theory and one on telegraphy (International Morse code), and each license was valid for five years.

- The **Novice** class was created by the 1951 decision to be the entry-level license. **It remained the primary entry license for 39 years, until the Morse code requirement was eliminated for Technician licenses in 1990.** It granted limited privileges with Morse Code only, with limited transmitting power on just a few HF bands. To qualify for a Novice license, a candidate would have to pass a 5 word-per-minute (WPM) Morse code test (send and receive) and a 25- (later 30-) question multiple-choice test. **The Novice Class license was valid for two years (one year active and one year grace period), as it was intended only as an entry level; within those two years, the Novice was expected to move up to General (or Conditional).** In 1978 after 27 years as a non-renewable 'up-or-out' license the Novice changed into a renewable license with the same five year validity as other classes.
- The **Technician** license was awarded to Novices who passed an additional theory test, known as *Element 3*, but who had not passed the 13 wpm Morse code element.

Technicians were granted all General Class privileges above 50MHz and kept their Novice privileges on HF. The class was created in the 1951 structure decision.

- The **General** class originally conveyed full privileges on all ham bands, having passed the *Element 3* theory exam and 13 WPM Morse code test. Former **Class B operators were assigned this license following the 1951 structure decision.**
- The **Conditional** license class was created when and former **Class C operators were reassigned to this group. In 1978 after 27 years all Conditional Class licenses became General Class.**

Conditional was a special case license. Prior to 1984, the FCC administered all license exams except those for Novice class. Hams who were unable to travel to their nearest FCC Field Office could have the test proctored by two hams with General (or higher) licenses, who would send the completed exam to the FCC for grading. Successful examinees were given Conditional licenses, which brought the same privileges as the General class. The FCC retained the right to require Conditional licensees to come in to an FCC office for retesting. **The current Volunteer Examiner program evolved from the Conditional exam procedure.**

- The **Advanced** class was earned after the General Class through passing the *Element 4A* theory exam. Former **Class A operators were assigned this license following the 1951 structure decision.**
- The **Amateur Extra** class was a new highest-level class created in the 1951 decision, and was reached by passing both the *Element 4B* theory exam and a 20 WPM Morse code test.

## Current license classes

Amateur radio licenses in the United States are issued and renewed without charge, although the private individuals who administer the examinations may recoup their expenses by charging a fee. Licenses currently remain valid for 10 years from the date of issuance.

- The entry-level license, known as **Technician Class**, is awarded after an applicant successfully completes a 35-question multiple choice written examination. The license grants full operating privileges on all amateur bands above 50 MHz and limited privileges in portions of the high frequency (HF) bands.
- The next level, known as **General Class**, requires passing the 35-question Technician Class theory exam, plus an additional 35-question General Class multiple-choice theory exam. General class licensees are granted privileges on portions of all amateur bands, and have access to over 83% of all amateur HF bandwidth, however the DX windows on most bands are not included.
- The top US license class is **Amateur Extra Class**. This license requires passing the 35-question Technician Class theory exam, the 35-question General Class theory exam and an additional 50-question Amateur Extra Class multiple-choice theory exam.  
**Those with Amateur Extra Class licenses are granted all privileges on all US amateur bands.**

## Grandfathered license classes

The current FCC classifications of licensing were not always the way they are currently and in fact have evolved considerably since the program's inception. **When the FCC made the most recent changes it allowed certain existing operator classes to remain under a grandfather clause. These licenses would no longer be issued to new applicants, but existing licenses may be modified or renewed indefinitely.**

- The **Novice Class** operator license was for persons who had passed a 5 word per minute (wpm) Morse code examination and a basic theory exam. Privileges originally included four bands in the HF range (3-30 MHz), one band in the VHF range (30-300 MHz), and one band in the UHF range (300-3,000 MHz). This class was deprecated by the restructuring in 2000. Novice operators gained Morse code only privileges in the entire Morse code and data only segments of the General class portions of 80, 40 and 15 meters in 2007 just prior to the end of the Morse code requirement. It was eliminated by the restructuring in 2000.

- The **Advanced Class** operator license, whose privileges included 275 kHz of additional spectrum in the HF bands. It was eliminated by the restructuring in 2000.

## Volunteer examiners

Since 1984, US candidates wishing to become amateur radio licensees have appeared before volunteer examiners, or "VEs" who themselves are amateur radio licensees. Prior to 1984, many Novice exams were administered by volunteers, but all other exams were taken at FCC offices. Some of the exam times were not always convenient to candidates, so a few exceptions were allowed in cases where candidates were physically unable to get to the field offices (such as the Conditional license, elsewhere in this article). The FCC currently recognizes 14 Volunteer Examiner Coordinators, organizations that "coordinate the efforts of Volunteer Examiners (VEs) in preparing and administering amateur service operator license examinations."

## Incentive licensing

In 1964, the FCC and the American Radio Relay League (ARRL) developed a program known as "Incentive Licensing", which rearranged the HF spectrum privileges.

**First Step (1964) – General / Conditional Classes lost HF privileges.**

**The first step of incentive licensing reduced the General / Conditional and Advanced portions of the HF bands** , with the spectrum reassigned to those in the Advanced and Amateur Extra classes. It was hoped that these special portions of the radio spectrum would provide an incentive for hams to increase their knowledge and skills, creating a larger pool of experts to lead the Space Age. The opposite happened, this was because of the discontent which arose in the existing General Class & Advanced Class Operators, who were upset that they were now required to upgrade their licenses, to regain the former HF frequency privileges they once had which were reduced.

## Second Step (1987) – Novices & Technicians Gained HF Voice Privileges

Prior to 1987, the only difference between the requirements for Technician and General licenses was the Morse telegraphy test, which was five words per minute (wpm) for Technician and 13 wpm for General. The written test, then called element 3, was the same for both classes.

**In 1987 the second step of incentive licensing** had a number of changes. Among them, **element 3 was split into two new exams**, element 3A, which covered VHF theory and 3B, which covered HF theory. **Element 3A became a requirement for the Technician class and element 3B became a requirement for General.** Both classes also required candidates to have passed Novice element 2 theory exam.

**Other changes , later called the "Novice Enhancement," granted Novices and Technician classes limited voice privileges on the 10-meter HF band.** Novices were also granted voice privileges on portions of the then-220-MHz (since changed to 222 MHz) and 1240 MHz bands using limited power. **For the first time, Novices and Technicians were able to operate in voice modes on HF. It was hoped that this would prompt more hams to move up to General, once they had a chance to sample HF without a Morse key.**

## Third Step (1991) – Technician License changed to license without Morse Code requirement commonly called “No Code Technician”. The Original Technician Licensees with morse code became “Technician Plus”.

**The third step of incentive licensing In 1991**, was when the FCC released their Report and Order on Docket 90-55 in late 1990. **Beginning on 14 February 1991, demonstration of proficiency in Morse code telegraphy was removed from the Technician license requirements creating a “No-Code Technician Class”.** Because International Telecommunication Union (ITU) regulations still required proficiency in Morse telegraphy for operation below 30 MHz, the **new “No-Code Technicians” were allowed all modes and bands above 50 MHz.** If a No-Code Technician passed any of the contemporary Morse tests, they gained access to the so-called Novice HF privileges, essentially "upgrading" to what a Technician once had before the new rules went into effect. Because of change **the old Technician class** which was now a

sixth class which had no name until the FCC started calling them "Technician Plus" in 1994. eventually surpassing the number of Novice class license holders.

#### **Fourth Step (1999) – Reduction in the number operator license classes and number of telegraphy exams**

**The fourth step of incentive licensing In 1999** was when the FCC moved to simplify the Amateur Radio Service operator license structure, streamline the number of examination elements, and reduce the emphasis on telegraphy. The change was titled a restructuring, and the new rules became effective on 15 April 2000.

A reduction of the number of operator license classes from six to three. The Advanced Class, Technician Plus Class, and Novice Class licenses were deemed redundant and would no longer be issued; however, existing licensees would retain their operating privileges and be allowed to renew their licenses.

A reduction of the number of telegraphy examination elements from three to one. Both the 20 words-per-minute (WPM) and 13 WPM Morse code tests were removed in favor of a standardized 5 WPM as the sole Morse code requirement for both the General and Extra Class licenses. With the removal of the high-speed Morse code tests, physician certification waivers were no longer accepted.

A reduction of the number of written examination elements from five to three.

Authorization of Advanced Class amateur radio operators to prepare and administer examinations for the General Class license.

Elimination of station licenses for the Radio Amateur Civil Emergency Service (RACES).

With the rule simplification, all pre-1987 Technician operators were now qualified to become General class operators, having already passed both the theory and code exams now required for the higher class. All that was necessary was to apply for the General license. The restructuring also enabled a pre-1987 Technician operator to become an Extra operator

simply by passing the element 4 theory examination. Additionally, an expired or unexpired Novice class license could be used as credit toward the 5 WPM Morse code examination when upgrading.

With the change, Technicians who could pass the 5 WPM Morse code examination were given the same HF-band privileges as the Technician Plus class, although the FCC's callsign database no longer distinguished between those Technician licensees possessing HF privileges and those who did not.

### **Fifth Step (2007) – End of Morse code requirement**

In 2003, the International Telecommunication Union (ITU) ratified changes to the *Radio Regulations* to allow each country to determine whether it would require a person seeking an amateur radio operator license to demonstrate the ability to send and receive Morse code.

**The effect of this revision was to eliminate the international requirement that a person demonstrate Morse code proficiency in order to qualify for an amateur radio operator license with transmitting privileges on frequencies below 30 MHz.**

**With this change of international rules, the FCC announced on 15 December 2006 The fifth step of incentive licensing, that it intended to adopt rule changes which would eliminate the Morse code requirement for amateur operator licenses.** Shortly thereafter, the effective date of the new rules was announced as **23 February 2007**. **After that date, the FCC immediately granted the former Technician Plus privileges to all Technician Class operators, consolidating the class into a single set of rules.**

Following the change in requirements, the ARRL reported a significant increase in the number of applications for licensing.

## **Call signs**

Each operator is assigned a **call sign** which is used to identify the operator during transmissions. Amateur operator and club call signs in the US take the format of one or two letters (the prefix), then a numeral (the call district), and finally between one and three letters (the suffix). The number of letters used in the call sign is determined by the operator's license class and the availability of letter combinations. The format of the callsign is often abbreviated

as *X-by-X* where a number in place of the X indicates the quantity of letters, separated by a single digit of the call district.

Currently there are 13 geographically based regions. There were 9 original call districts, also known as *radio inspection districts*. The 10th district (with numeral 0) was split from the 9th district. Three additional regions cover Alaska, the Caribbean (including Puerto Rico), and the Pacific (including Hawaii).

### Amateur Radio Call signs in the United States

	<b>Class</b>	<b>Size</b>	<b>Format</b>	<b>Letters</b>	<b>Example</b>
<b>Group A</b>	Amateur Extra Class	Four characters	1-by-2	K, N, or W plus two letters	<b>W1AW</b>
			2-by-1	AA-AL, KA-KZ, NA-NZ, or WA-WZ plus one letter	<b>AB0C</b>
			2-by-2	AA-AL plus two letters	<b>AB2MH</b>
<b>Group B</b>	Advanced Class	Five characters	2-by-2	KA-KZ, NA-NZ, or WA-WZ plus two letters	<b>NZ9WA</b>
<b>Group C</b>	Technician or General Classes	Five characters	1-by-3	K, N, or W plus three letters	<b>K9DOG</b>
			2-by-2 (location specific)	KL, NL, or WL; NP or WP; KH, NH, or WH, plus two letters	<b>KL5CD</b>
<b>Group D</b>	Novice, Club, and Military Recreations Stations; and sequentially to Technician or	Six characters	2-by-3 (Novice or Club)	KA-KZ, WA-WZ plus three letters	<b>KA2DOG</b>

General	2-by-3 (Sequential)	KA-KZ plus three letters	<b>KN0WCW</b>
<i>Source: FCC Callsign information</i>			

The call district assignments are as follows:

<b>District Numeral</b>		<b>States and Territories</b>
1	1	ME, NH, MA, RI, CT, VT
2	2	NY, NJ
3	3	PA, DE, MD
4	4	KY, VA, TN, NC, AL, GA, SC, FL
5	5	NM, TX, OK, AR, LA, MS
6	6	CA
7	7	WA, OR, ID, MT, WY, NV, UT, AZ
8	8	MI, OH, WV
9	9	WI, IL, IN
10	0	ND, SD, NE, KS, CO, MN, IA, MO
11	L0 - L9	AK

12	P1 - P5	Caribbean: Navassa Island (P1), U.S. Virgin Islands (P2), Puerto Rico (P3, P4), Desecheo Island (P5)
13	H0 - H9	Hawaii and Pacific: Baker or Howland Island (H1), Guam (H2), Johnston Island (H3), Midway Island (H4), Palmyra Island or Jarvis Island (H5), Kingman Reef (H5K), Hawaii (H6, H7), Kure Island (H7K), American Samoa (H8), Wake, Wilkes or Peale Island (H9), Commonwealth of Northern Mariana Islands (H0)

## Sequentially assigned call signs

During the processing of a new license application, a call sign is selected from the available list sequentially using the sequential call sign system. This system is based on the alphabetized regional-group list for the licensee's operator class and mailing address. As of 2007, the sequential system for Group C is assigning 2-by-3 formats beginning with the letter K

## Vanity callsigns

The FCC offers amateur licensees the opportunity to request a specific call sign for a primary station and for a club station. The format of the call sign is limited to the same "group" or higher, meaning a Technician Class operator can select an available callsign from Group C (e.g. a 1x3) or Group D (e.g. a 2x3), but not from Group A or B (e.g. a 1x2). **RACES and military recreation stations are not eligible for a vanity call sign.**

## Special event 1x1 callsigns

The FCC allows the use of special event "1x1" callsigns to denote special occasions such as a club's anniversary, a historic event or even a DX-pedition. As an example, the callsign "N8S" was used for the April 2007 DXpedition to Swains Island in American Samoa. These callsigns start with the letters K, N or W, followed by a single numeral from 0 to 9 then followed by a single letter from A through W, Y or Z. The letter X is not allowed. There are 750 such callsigns available. Each callsign may be used for 15 days from its issue. The callsigns are coordinated through the National Council of Volunteer Examination

Coordinators (NCVEC). Additionally, each station using the special 1x1 call must transmit its assigned call at least once every hour.