

ARRL The national association for Amateur Radio® CENTENNIAL

Advancing the Art and Science of Radio—Since 1914

TIMELINE



 1831 Faraday demonstrates that electricity and magnetism are related.



1838 Morse develops his code.

1866 Loomis transmits a signal 18 miles between two kite antennas – "wireless telegraphy".

1898 Miller publishes an article on how to build your own spark gap transmitter.

1884 "The Telegraphist" calls bad code senders "hams".



1899 Marconi sends a radio signal across the English Channel.



1900 Fessenden transmits avoice signal over radio for one mile.

1909 Junior Wireless Club formed in NYC – will become the Radio Club of America.



1906 DeForest invents the Audion (triode).





1886 Hertz proves Maxwell's theory.



1898 Tesla and others are experimenting.



1901 Marconi sends a radio signal across the Atlantic.



1906 Fessenden sendsChristmas greetings to ships at sea via radio.

1830-1900

1900-1910

1904 Fleming invents the first vacuum tube

for electronics.





1918 Armstrong invents the superheterodyne.

1917 The first transcontinental message relay is accomplished in January.



(0)) 1917 In April, 6000 licensed amateurs shut down as America enters WWI and 4000 of them enlist.

((O)) 1918 Legislation was introduced to give the Navy permanent control.

((a)) 1919 In September, Amateur Radio gets back on the air.

1913 Midwest storm isolates large areas – Univ of Michigan and Ohio State radio clubs save lives.

1915 The first edition of *QST*, the journal of the ARRL, is published privately by Maxim and Tuska.



1917 First mention of a Wouff-Hong and Rettysnitch – "devices to insure good operating practices".



1918 In November, ARRL resumed operations and launched "the Blue Card Campaign," to get back on the air.

(©) 1917 Amateur Radio is suspended for the war. US Navy takes control of all radio use "for the duration of the war".



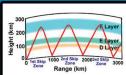
1919 Amateur Frank Conrad 8XK plays music over the radio and commercial broadcasting is born.

1910-1915

 1921 Maxim sends message from 1AW to California and gets a reply in 6.5 minutes via relay.

 1921 Second Transatlantic test is successful. American amateur signals were heard in Scotland.

1921 US Department of Commerce admits it cannot control growing Amateur Radio ranks and asks the ARRL for help. • 1923 First two-way transatlantic contact.



1925 Hams are discovering the magic of HF propagation and that frequencies with these shorter wavelengths do very interesting things. Intercontinental contacts flourish. J Reinartz writes about his "skip theory" in QST.





publishes its first
Amateur Radio
Handbook. It
becomes a world
standard reference.

1927 The International Radiotelegraph Convention defines "amateur" and establishes international amateur frequency allocations. Call sign prefixes are allocated by country (e.g. 9UA becomes W9UA).

1922 Amateurs are prohibited from broadcasting to the public at large and a new commercial broadcasting license is required.

1923 By this time sparkgap radio is disappearing and amateurs are using vacuum tubes and CW.

1923 Second National Radio Conference – hams are able to operate anywhere within specified bands – not isolated channels or frequencies.



1925 The International Amateur Radio Union (IARU) is formed in Paris.



1927 The Federal Radio Commission is formed.

 1928 ARRL holds its first contest, the 1928 International Relay Party.

1920-1925

◆ 1930-1938 Between 1930 and 1938 there were a great many instances in which radio amateurs saved lives and property.

● 1933 Federal Radio Commission starts to require all license candidates to appear in person for testing.



1934 The 1934 Communications Act establishes the Federal Communications Commission, replacing FRC.

1936 There are about 42,000 hams in the USA.

begin for amateurs in 1937 DXCC program begins and is destined to become ARRL's most popular award.

1939 WW2 restrictions

other countries.



(O) 1940 US amateurs prohibited from talking to other countries due to war.

> Following Pearl Harbor, all Amateur Radio action is suspended.

1946 Hams get most of their privileges back plus 5 and 2.5 meters are swapped for the 2 and 6 meter bands.

> ◆ 1947 The Atlantic City Conference - addition of the 15m band.

1933 ARRL holds its first national Field Day!



▶ 1935 Armstrong defines FM transmissions.

1935-1937 ARRL creates the **Amateur Radio Emergency** Service (ARES®).



1938 ARRL station W1AW is built after W1MK was destroyed by 1936 floods.

36 ARRL's station W1MK. located at Brainard Field outside of Hartford was well known. It was destroyed in a flood.

1941 Critical shortage of radio tubes causes the military to call upon ARRL and request them from hams.

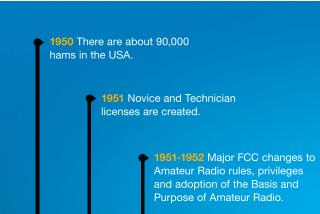


1945 Limited use of Amateur Radio is permitted again.

> Large supplies of war surplus equipment fuels Amateur Radio improvisation and VHF/UHF exploration.

in the USA, over 25,000 enlist while others work on radar, etc.

1930-1940



 1955 By this time commercial gear has overtaken the use of "homebrew" rigs.

1956 There are about 140.000 hams in the US.

1957 The International Geophysical Year – ARRL receives contract for propagation studies.



1963 ARRL moves into new headquarters building at 225 Main Street in Newington, CT.

1979 Packet radio ◆
systems are
developed.

ARRL promotes SSB as the preferred phone mode.



1957 Hams are among the first to hear Sputnik – the first artificial, earth-orbiting satellite.



1963-1967 Incentive Licensing Debate.

 1961 OSCAR-1, the first Amateur Radio Satellite is launched. Barry Goldwater, K7UGA, promotes ham radio.

1970 Major advances in the use of FM radio, especially in portables and the use of 2 meters and repeaters.

1950-1960



1988 CRRL, the Canadian Radio Relay League, becomes autonomous.

1985 The FCC's PRB-1
policy helps amateurs
get zoning permission
for antennas.

(o) 1996 "Little LEO" satellite spectrum threat to VHF/UHF bands from commercial low earth satellites.



1996 The ARISS organization is formed, Amateur Radio on the International Space Station, with ARRL as a major partner.

 2000 The FCC reduces Amateur Radio licenses to three classes – Technician, General and Extra.

> 2002 Advances in computers are embraced by hams and lead to the development of hybrid systems such as Echolink (2002) and SDR, Software Defined Radios.



(a) 2005 Hurricane Katrina – "When all else failed, ham radio worked!"

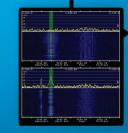


• 1984 Phone bands expanded.

1984 FCC delegates license testing to Volunteer Examiner Coordinators.

1991 FCC creates the "No Code Technician" license.

1987 Novice and Technician licensees get 10m SSB phone privileges.



1998 PSK-31 Amateurs develop highly efficient PSK-31 HF digital mode.

volunteers react and respond quickly to the 9-11 attacks when many other systems failed due to collapse of antennas atop World Trade Building towers.



2003 Logbook of the World inaugurated providing online awards tracking and confirmations.

2007 FCC eliminates the requirement for Morse code proficiency in testing but actual CW use increases on the bands.

(o) 2004 BPL Threat – in Broadband over Power Lines promoted by FCC despite documented interference issues.

1980-2000

 2012 US licenses exceed 700,000 – ARRL memberships exceed 160,000.

> 2012 Congress mandates that FCC study impediments to Amateur Radio emergency uses, including a focus on CC&R restrictions.



ARRL Launches the
Second Century Campaign.





 2012 ARRL publishes the first digital edition of QST.

Where do we go from here?

We continue to promote and advance the art, science and enjoyment of Amateur Radio.

By being an ARRL member you not only reflect the commitment and enthusiasm of American hams, but also provide leadership as the voice of Amateur Radio in the USA.

ARRL members have been there:

- to defend our spectrum
- to help teach new hams
- to encourage your enjoyment with contests and activities
- to encourage community service and promote Amateur Radio in the media
- to advocate for hams in regulatory actions
- to share the joy of creating new things, learning new things and realizing, "Hey, I can do that!"

.... and we're just getting started.



www.arrl.org