

Next meeting is April 27

Amateur Licenses in the USA

Brent Smith and Jim Price

Prior to 1900 radio was a laboratory curiosity, but by the turn of the century, Marconi and others demonstrated possibilities of serious long distance radio communication. It is estimated that there were over 10,000 "private stations" in operation by the 1910's. At that time, there was no license requirement, but a "certificate of proficiency" was available from the Navy. Call sign or other identification was optional, and self-assigned.

In the 1910's, in part due to the role of radio in the Titanic disaster, the Radio Act of 1912 was passed, with license requirements. Amateur radio was restricted to operation on 200 meters. "First Grade" licensees required in-person testing in radio laws and regulations, operational practice, and code at 5 WPM. "Second Grade" license required certification of the same proficiencies, in the form of a letter from applicants living too far away to reasonably travel to government testing locations. Call signs were self-assigned.

After the end of WWI in 1919, amateurs were back on the air by November, but with an increased code proficiency speed of 10 WPM. Amateur experiments with "short wave" communications (below 200 meters) proved that transatlantic communications were practical. By the 1920's over 1,000 licensed "Citizen Radio" service operators were on the air. With the advent of commercial broadcasting in 1922, amateur radio was discontinued briefly until 1923 when a new licensing structure was created. This included the addition of an "Extra First Grade" with 20 WPM code, 2 years operating experience and strong emphasis on theory of transmitter and receiver design. This new license class received additional operating frequencies, and qualified for government-assigned call signs (high prestige!). There were still numerous stations with self-assigned call signs around at that time, too.

Also in the 1920's, amateurs were assigned to the new high frequency bands of 160, 80, 40, 20, and 5 meters, on which spark was prohibited. The Radio Act of 1927 created the FCC and recognized the amateur service explicitly. Many amateur operating frequencies were lost, and international call sign prefixes were assigned. Again, the license structure was revised, and included "Amateur Class" (formerly First Grade), "Temporary" (formerly Second Grade); and also the "Extra First Class" (formerly Extra First Grade). In 1929, phone operation was permitted on the 20 meter amateur band.

The 1930's brought the Communications Act of 1934, and with it another ham licensing restructure into class A, B and C. All classes required 10 WPM code and a written exam. Class A was for operators with a year's experience; Class B, for new applicants who appeared in person; and Class C for those living 125 miles from a test location. Exams for Class C were given by a volunteer examiner of Class A or B. In 1936, the code speed requirement was increased to 13 WPM.

The 1940's saw WWII and a temporary suspension of amateur radio, but in the 1950's there was another restructuring of the amateur service into six classes requiring theory and code tests. They were Extra (new, 20 WPM), Advanced (former A, 13 WPM), General (former B), Conditional (former C, by mail), Technician (new, 5 WPM), Novice (new, 5 WPM). Technician was created for UHF/VHF experimentation only (not communications) above 220 MHz (later 6-meter was added in 1955). Attempts to add 2-meter privileges for Technicians met strong opposition from most hams and the ARRL. Novice was 75 watts, crystal-controlled, non-renewable one year CW only except phone on 2 meters.

By the mid-50's there were so many hams that the K, WA, WB, and other calls series were opened up. In 1958, the "CB" license class was added. Later the license for CB class was dropped, and licensed amateurs lost 11-meter privileges. By the end of the 1950's, Technicians acquired 2-meter phone privileges, but the FCC strongly restated the premise that the Technician class was for "experimentation, not communication."

The 1960's brought "incentive licensing" in which each class had different testing requirements and privileges. Novices lost 2-meter phone and Advance/Extra subbands were created. Two-meter FM really took off, and

Technicians got more 2-meter privileges. By the late 70's, Technicians got all privileges over 30 MHz, and the Novice became renewable. WARC added the 30, 17, and 12 meter bands in 1979, which were phased in during the 1980's.

Also, in the 1980's, Novices and Technicians got 10 meter phone privileges, as well as other 220 and 1296 MHz. In 1989 ARRL endorsed a no-code license, and by 1991 the "no-code technician" class was established.

So here we are. (For more details see www.hudson-loop.org/timeline.html and www.joates.demon.co.uk/megs/N0HFF/c33.htm -- there are some good Marconi sites with early history, too).

Yakkey-Dee-Yak from Dave, W4YDY

One thing that has me mystified is the constant rhetoric about Amateur Radio not attracting enough new people. I read that the ranks are decreasing, hamfest attendance is down and ham radio stores are losing money. I don't know about stores but the other numbers do not add up.

When I got my license, there were about 100,000 hams and a large hamfest was almost a thousand in attendance. The small ones had 50 to 100 with a picnic and no prizes. It was just a small flea market with hams meeting for an eyeball and selling their used gear out of the car trunk. I have some pictures of an **annual** picnic at Raleigh's Pullen Park circa 1956 and the whole crowd posed for pictures. There were almost 50 people there including families. There must have been at least 35 hams at the park with some traveling more than 100 miles. I remember going to several of those "hamfests" in Raleigh, Rocky Mount, Morehead City and several other places. The only hamfest I can remember in the early 1950's that offered prizes was at the Charlotte National Guard Armory. I think there were several hundred in attendance but it could have topped one thousand. I went to a Shelby hamfest in 1954 and there were less than a hundred in attendance. We were in a parking lot next to US Highway 74 around the cars. That was 46 years ago. The Shelby hamfest everyone goes to now will be what is called the 44th annual hamfest. Last year's attendance was more than 15,000 and that's an increase of more than 1500 percent for a large hamfest! The small hamfest will now have several hundred or more in attendance and prizes are always offered.

As far as the number of licensed Amateur Radio operators, in the early 50's, there were about 100,000 licensed. Now there are more than 700,000, an increase of more than 700 percent. The population of the United States has increased about 100 percent during that time. It sure looks like the Amateur Radio population has increased more than seven times faster. And some say Amateur Radio is dying.

With the new license regulations, time will have to tell if it helps with a sharp jump in licensed hams. The biggest effect will be the large number of upgrades from presently licensed hams. The ARRL Executive Vice President states that there were the least failures in Novice and Extra exams. For one, the Novice is supposed to be the easiest exam and the ones that take the Extras have done it because they expected to pass the 20 WPM code test and put a lot of study in it. Everyone says that the present Advanced exam is harder than the Extra. If that is true, it looks as though that the proper questions have not been written for the Extra or maybe the Advanced. With the new regulations, one has to only take a total of 130 questions for the Extra license. The present route for the Extra is 185 questions. Also, the word is out that the questions for the new exams are about the same with Advanced and Extra being combined. So the persons starting out in Amateur Radio will have a CW exam that is 75 percent slower and they will have 30 percent less questions to get to the Amateur Extra!

I can understand the excitement of others that have a chance to upgrade. If I had a lower class license or was just starting in Amateur radio, I would be very happy for the opportunity. I am also happy that some of my relatives will soon upgrade and I will be able to talk with them on any HF band instead of the Tech Plus bands.

Is Amateur Radio really dying? I don't think so. But if it does, I don't think it will be because of numbers. It would be because of operators flaunting the regulations and turning it into a giant CB band! Hopefully the FCC can keep it under control and put an end to the malicious interference and profanity. It used to be that one could have their family come in and listen but there are some that think that no one is listening except the person they are talking with. Do they talk or have they talked that way in front of their family and children? I think not.

Printed in the Brightleaf Amateur Radio Club, Greenville, NC Ham Chatter, March 2000 (<http://www.qsl.net/w4amc>)

Ham Radio Statistics: Techs Grow - Most Other Slide

And as we enter a restructured Amateur Radio service its a good time to look at some statistics. First the good news. The number of code free Technician class hams being license holders continues to grow. Based on a comparison census from April of 1998, the number of No Code Techs has increased by another 21,000. That's over 10%.

Now the bad news. All other license classes -- except the Extra -- are on a rather rapid decline with many hams just not bothering to renew their licenses. The biggest loss is in the Novice class where there are 11,000 fewer license holders than just two years ago.

And as we go to air, there are 34,323 hams in the F-C-C database whose licenses have expired within the past two years. Their grace period has just about run out and there is no sign of interest in any of them renewing. In the simplest terms, when these licenses get written out of the F-C-C records, 5% of the currently licensed hams will be gone. Put another way, as we enter the time of a restructured United States Amateur Radio service, we are already 5% behind. (W5YI Report)

An Invitation to the Members and Friends of CARC

Mike Lewis

The date for ARRL Field Day is June 24 and 25. Preparation should start immediately to ensure a successful event filled with fun and QSOs. We will simulate an actual emergency situation by employing electrical generators for power and WIRE antennas. Its very doubtful that during an actual emergency, we would be able to obtain a tower on wheels for antennas.

The Field Day Coordinator will be Mike Lewis, WA4KE and the Technical Coordinator will be Jack Davis, WA4OOD. We are looking for volunteers to be responsible for various duties to ensure everybody has FUN.

We will be operating as a 2A team with UHF/VHF. Any and all input will be considered for the antennas. Operation will take place on 15-80SSB, 15-80CW, and 6m(mostly). This Field Day is designed to refresh your memory concerning antenna design and construction (6m wire antennas are possible).

Setup will be at Bond Park, CW station in the same location with SSB being located in same location or closer to lake. Setup of stations will occur as soon as possible with a tentative completion time of 11:30 ET(includes station test QSOs.). The remainder of time will be relaxation, meal-time and friendly QSOs with other Hams.

Also, this year it is recommended that each member bring a kid, neighbor or relative who might be interested in amateur radio. Anybody who wants to make QSOs be will given a chance. Remember first place isn't important as a new Ham.

Volunteers are needed for:

1. Tent Raising and temp power installation
2. Antenna Crew, design, construction and installation
3. CW Station Leader
4. SSB Station Leader
5. Cooks, prior to Field Day start at 1400 ET.
6. Tear down, preferably everyone.

Status of SSB station: Yaesu FT-990 with Heil headset, laptop with CT, portable generator(can share with VHF/UHF), and 250 feet of coax. Status of CW station is unknown. Status of VHF/UHF station is unknown. If you would like to volunteer for any duty or station, please contact Mike Lewis or Jack Davis.

Mike Lewis WA4KE/20 lewisms@interpath.com

Space and Science: Crew Reaches MIR; What About Ham Radio?

A pair of Russian cosmonauts have reached the aging Mir Space Station and are slowly bringing it back to life.

The Mir crew docked with the space station on Thursday April 6th. A short time later the crew activated the amateur radio station. The first report that it was on the air came on Saturday April 8th from Israeli station 4-X-4-L-F. Shlomo says he heard the 143 dot 625 MHz, during the 1006 to 1014 UTC pass. The signals were 5 by 3 to 5 by 5 and full quieting most of the time. Shlomo adds that he tried calling on 145.985 MHz using both packet and F-M voice but got no reply.

According to information supplied to Newsline, you can expect to hear quite a bit of ham activity from the Mir while the crew is up there. Cosmonaut Aleksander Kalari is a very experienced ham and a lot of activity is expected to take place on 145 dot 985 F-M Simplex.

In the meantime, more audio from Mir and other space missions can be found at Andrew Thomas website. Its address in cyberspace is <http://www.andythomas.org.uk>

Low Power Long Distance Record

According to Rich Arland, K7YHA (Now K7SZ), in World Radio Magazine (February 1990, Year 19, Issue 8, pp. 46-47) the long-distance low power record is held by KL7YU and W7BVV using one MicroWatt over a 1,650 mile Ten Meter path between Alaska and Oregon in 1970. This is the equivalent of 1.6 BILLION Miles per Watt!! It's interesting to note that NASA's deep space missions typically achieve miles-per-watt ratings of over 500 million miles. One example was the 8-watt signal from Pioneer 10*. At a power level equal to that of a night light, the craft's signal traveled 11 billion km (6.8 billion miles) to Earth for a rating of 850 million miles per watt, or about half the KL7YU/W7BVV record.

*Launched on March 2, 1972 from Cape Kennedy aboard an Atlas Centaur rocket for a two-year mission to Jupiter. The probe is now about twice as far from the Sun as Pluto. At 13 km/s (28,000 miles per hour) it's heading in the general direction of the first magnitude star Aldebaran.

AR Programmers Site

While this online society of programmers for Amateur Radio is just forming, it is my privilege to welcome you. The purpose of the site is to bring together information regarding the union of two fine avocations: programming and radio communications. As in most technical disciplines, the personal computer and software have brought about many new ways of doing things. So it is for radio operators.

There is a growing "market" of software products for radio operators. Applications are emerging such as station log books, beam heading calculators, memory keyers, satellite pass prediction, education and training, rig control, APRS, digital communications, signal analysis, wefax translators...the list goes on and on...!!

Because Microsoft's VBA (Visual Basic for Applications) is widely distributed, much of the programming content, though not exclusively, will be emphasized. However, content from any language or tool is welcomed.

This site will not only feature source code, but also links and information to various commercial and freeware applications. Most importantly, I think, is the centralized collaboration point offered by this society. Locating and discussing, even educating each other as developers, and exchanging information in the forms of source code, articles, discussions, and so on.

In view of all these goals, let's get started. Join up. It's free. Your membership information will not be used to spam you or anything sinister. Regards! --- David Johnson, kb5ylg <http://www.geocities.com/kb5ylg/>

Ham radio-related sci-fi thriller

Frequency was directed by Gregory Hoblit. The movie uses ham radio as a plot device that lets a long-dead father (Dennis Quaid) and his adult son (John Caviziel) meet up on the airwaves via ham radio--during the mother of all sunspot cycles. Eventually, they conspire in efforts to change the past. The ARRL was consulted in the interests of accuracy, but no League representatives have viewed the film.

The film is expected to debut April 28. Local show schedules could vary.

For more information on "Frequency," visit <http://www.frequencymovie.com>.

National Hurricane Conference to feature Amateur Radio: "The Role of Amateur Radio in Hurricane Communications" will be one of the featured training sessions at the National Hurricane Conference in New Orleans April 18, 1:30-5 PM. Any Amateur Radio operator wishing to attend this session may do so without registering for the conference. The conference is being held April 17-21 at the Hyatt Regency, 500 Poydras Plaza, New Orleans, Louisiana. For further details, visit <http://www.HurricaneCon.com>. Session organizer Dr. T. Michael Carter, N3PDK, has lined up several speakers, including representatives from the Hurricane Watch Net, the American Red Cross National Disaster Operations Center, and ARRL Field Organization officials from Florida, Louisiana and Mississippi.--Steve Ewald, WV1X

Smothers Brothers to top Dayton Banquet Lineup

Dayton Hamvention® has announced that the Smothers Brothers comedy team will headline the post-banquet entertainment this year. This year's Hamvention also will host the ARRL National Convention.

The Smothers Brothers, Tom and Dick, are perhaps best known for their TV variety program, "The Smothers Brothers Comedy Hour," which aired in the 1960s. The comedy duo will perform Saturday, May 20, at 8:30 PM, following the Hamvention banquet in the Nutter Center. The Grand Banquet begins at 5:45 PM.

This year's banquet keynote speaker will be FCC Special Counsel for Amateur Radio Enforcement Riley Hollingsworth, K4ZDH. Hollingsworth's appearances at last year's Hamvention were a huge hit. He'll also appear again this year as part of the FCC forums.

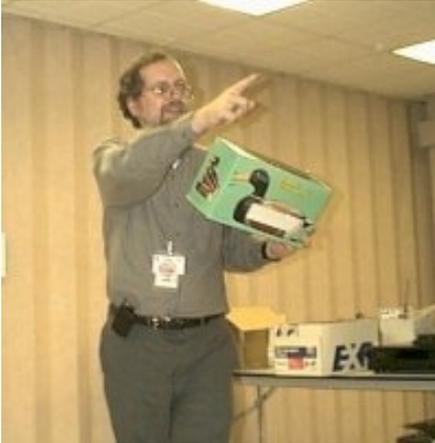
Returning for the third year as master of ceremonies for the 2000 Hamvention banquet will be Carl Nichols, N8WFQ, chief meteorologist for WDTN channel 2 news in Dayton.

See the Dayton Hamvention Web site for details on this year's event, <http://www.hamvention.org>.

New National Contest Journal Website Opens

NCJ, the National Contest Journal, this week opened a new Web site to complement the printed magazine. Created by Bruce Horn, WA7BNM, the new site offers sample articles from recent NCJ issues; rules, records and information about the popular NA Sprint and North American QSO Party contests; DX-Ventures, a wealth of information about operating overseas; and a calendar of upcoming contests. The site will also feature timely topics of special interest to the contest community, beginning with coverage of the World Radiosport Team Championship to be held this July in Slovenia.

The National Contest Journal is a bi-monthly magazine published by the ARRL for the contesting community. Each issue is loaded with information of interest to contesters and DXers, from casual observer to hardcore competitor, from little pistol to big gun. NCJ covers the latest innovations in contesting and profiles contesters in action around the world. But you don't have to consider yourself to be a contester to enjoy reading the magazine. "Contesters build some of the biggest and most effective stations in the world, and they develop the most efficient operating techniques around," said NCJ Editor Dennis Motschenbacher, K7BV. "Some of the information in the NCJ, like that pertaining to antenna system design and equipment improvements, is valuable to a broad range of ham radio enthusiasts." Visit the new NCJ Web site at <http://www.ncjweb.com>.



March Meeting Minutes....

Seems this duck waddles into a grocery store and asks the Manager "Do you have any duck food?" The manager says, "No, we don't have duck food. This is a 'grocery' store. Now get out of here."

The next morning the duck waddles into the same grocery store and again asks the manager, "Do you have any duck food?" The manager, goes ballistic - "NO! WE DON'T HAVE DUCK FOOD AND IF YOU COME IN HERE ASKING FOR DUCK FOOD ONE MORE TIME I'M GOING TO NAIL YOUR WEBBED FEET TO THE FLOOR!!"

The next morning the duck enters the grocery store and asks the manager, "Do you have any nails?"

Resigned, the manager says, "No, we don't carry nails." "Good," says the duck. "Do you have any duck food?"

Donald's Family Tree

I won't try to redraw it here, but the information in it is:

Old Scotty McDuck had the following children:

Matilda McDuck who married Goosetave Gander,
Scrooge McDuck,
Hortense McDuck.

Grandma Duck had the following children:

Quackmore Duck,
Daphne, who married Luke the Goose.

Hortense McDuck and Quackmore Duck married and had Thelma Duck (the mother of Huey, Dewey and Louie) and Donald Duck.

Luke the Goose and Daphne had one son, Gladstone, who was orphaned when Daphne and Luke overate at a free-lunch picnic. Gladstone was then adopted by Matilda McDuck and Goosetave Gander!

Gus Goose was a nephew of Luke the Goose making him a very distant cousin of Donald.

Feedline

Feedline is a member-supported publication of the Cary Amateur Radio Club and is published monthly. Deadline for submissions is the second Thursday of the month. Editor: Tom Klimala, KM4LB Send snail mail to 1545 Seabrook Avenue Cary, North Carolina 27511
klimala@mindspring.com

KM4LB Alinco Bulletin - 2M Mobile is back from Alinco - (it wouldn't transmit tone to open .39 machine)
The problem was an open capacitor in the mike circuit. \$50 solved the problem. Still waiting for UPS to settle on HT claim. Stay tuned - film at 11.

For Sale: 200MHz Pentium / 48 mb / 4x CD / Sound Card / 15" monitor / kbd / W98 and Office 97 \$200 KM4LB