W5YI

America's Oldest Ham Radio Newsletter

REPORT

Up to the minute news from the world of amateur radio, personal computing and emerging electronics. While no guarantee is made, information is from sources we believe to be reliable.

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In This Issue...

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Question Pool Committee Releases New Amateur Exams!

On February 1st, the VEC's Question Pool Committee released new Technician, General and Amateur Extra Class examination questions. It was a process that took about a month to complete ...an almost impossible feat when you figure that it usually takes several months just to revise a single exam element.

Background of question pools

The VEC System got its start in 1984 after Congress passed laws that allowed the FCC to accept the services of Volunteer Examiners (VEs) to prepare and administer amateur service license examinations. The testing activity of VEs is managed by Volunteer Examiner Coordinators (or VECs). A VEC acts as the administrative liaison between the VEs who administer the various ham examination s and the FCC, which grants the license.

For the first couple of years of the VEC System, the FCC handled the development and revision of the examination questions. But thanks largely in part to an amateur by the name of Dick Bash, KL7IHP, the FCC changed to a question pool system in the early 1980's. Bash's claim to ham radio fame is that he published the exact questions used by the FCC in their examinations. He even went as far as to have amateurs standing outside FCC field offices where the exams were given asking examinees about the content of the questions.

The question pool system was adopted for ham exams because banks of questions had been successfully used for many years by the Federal Aviation Administration (FAA) for its written examinations. It also would eliminate the unfairness where some people armed with Bash's book (which he called *"The Final Exam"*) could easily pass the written examinations. So with assistance from the amateur community, the FCC developed multiple choice examinations for all Amateur license classes.

In 1986,the FCC turned over the responsibility for maintenance of the examination questions to the National Conference of VECs. The NCVEC consists of representatives from each of more than a dozen Volunteer Examiner Coordinator organizations. The NCVEC then elected an internal Question Pool Committee (QPC) whose job it is to revise the various Question Pools according to a schedule.

The QPC revised the pools on a four year schedule. The Novice and Technician questions were revised first ...followed in subsequent years by the General, Advanced and Extra Class pools.

The revision process starts off at the beginning of the year when a proposed syllabus (outline) of the question subjects are released by the QPC and the amateur community is invited to suggest changes. The actual revision process takes place in the summer and fall with a complete new pool of questions complete with answers and multiple choices released on December 1st. The new questions are used by all VE teams effective the following July 1st. Then the process starts again for the next pool to be revised.

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Prior to the FCC's year-end 1999 "restructuring" of the service to three different examinations, there were five different question pools– one for each license class where a written examination needed to be passed.

The Novice pool had a total of 483 questions, Technician 441, General 332, Advanced 580 and 442 Extra Class questions ...a total of 2,278 questions to be learned covering ten different FCC mandated topics.

The FCC rules (§ 97.523) require that there be ten times as many questions in a question pool as will appear on an examination. Table No. 1 (on the next page) shows the breakdown of the various pools by subelement and the number of questions that were selected in the examination as it stood at year-end 1999.

The new question pools

The VECs question pool committee consists of four different members: Ray Adams, W4CPA (Chairman), Fred Maia W5YI (Vice Chairman), Scotty Neustadter, W4WW and Bart Jahnke, W9JJ.

The QPC was scheduled to review, revise and implement new Advanced Class questions last year. But since the FCC was in the middle of determining just how the new amateur service should be structured, the QPC placed a moratorium on the development and revision of any new questions until the parameters were learned.

The QPC found out what the FCC had in store for the Amateur Service on the same day as everyone else, December 30 – the last government working day of 1999. And the effective date for the new examinations would be April 15, 2000 – a short 4 months away!

Right after the new year, the QPC met by telephone conference call and e-mail to map out strategy on how the transition from five question pools to three should be achieved.

It was decided that new (Element 2) Technician pool should primarily consist of questions from the existing Element 2 (Novice) and Element 3A (Technician) pools. The new (Element 3) General pool would come from the current Element 3B (General) pool but with a few additional new questions added to bring the total up to the mandated "ten-times-the exam" total.

And the new Element 4 (Extra Class) pool questions would be taken from the current Element 4A (Advanced) and 4B (Extra Class) pools. Several existing questions also had to be revised to reflect the new rules. It was also decided to carry over the same graphic diagrams, figures and tables that were used in the previous pools to the new pools.

One of the reasons that basically the same questions and graphics were used was to eliminate the possibility that an applicant might purchase the previous license preparation materials in the publishing marketplace and receive study material which would be totally obsolete.

The strategy was to end up with fewer than 400 questions each in the new Technician and General Class Pools and less than 700 in the Element 4 pool. These quantities were selected to conform to the ten times as many questions as would appear in any one examination.

That meant that the Technician and General Class pools had to have a minimum of 350 questions (35 question exam times 10) and the Extra Class pool had to contain at least 500 (50 times 10.) Questions above these minimum quantities were added to allow for future deleted questions due to changes in technology, rules, etc.

The syllabus is arranged "groups" with each group having specific subjects that are covered. If there are to be 9 questions on FCC Rules (such as there is on the new Technician exam) then there are also 9 groups. One exam question must be selected from each group. While not an FCC requirement, the QPC also has at least 10 questions in each group.

Make up of the new questions

Effective April 15, 2000 the ten previously mandated topics are being discontinued in the Part 97 Rules leaving the QPC free to place question emphasis where they believe appropriate. The only FCC guideline still in Part 97 is that the written examination questions must relate to the privileges of the license class.

The Technician Class is the entry level VHF/UHF/ microwave entry into amateur radio. Since practically all equipment used by Technician Class amateurs is purchased in the commercial marketplace, the QPC felt that less emphasis needed to be placed on electronics and circuit questions. A higher percentage of the questions, however, will be on basic FCC rules ...and amateur radio operating procedures and practices.

Previously becoming a Technician radioamateurs required studying 924 questions (483 in Element 2 and 441 in Element 3A). The new Element 2 (Technician) pool now only contains 394 questions ...nearly a 60% reduction. You pass if you answer 26 questions correctly.

And to upgrade from the General Class to the Extra Class required studying 1,022 questions (580 Advanced and 442 Extra Class questions.) This has been reduced by one third to 676 questions.

The bottom line is that while the difficulty of the examinations has not changed, the total number of questions to study is now substantially less. That fact, coupled with a top Morse code examination speed of 5 words-per-minute should add up to a revitalized Amateur Radio Service. Based on sales of study manuals (especially those of the General and Extra Class) and examinations already passed, we already know that tens of thousands of amateurs are planning to upgrade their license now that the telegraphy requirements have been relaxed.

Table No. 1 – Questions Appearing in Old Pools and Examinations – 1999

Subtopic Number	Element 2 Questions Total	Element 2 Questions Select	Element 3(A) Questions Total	Element 3(A) Questions Select	Element 3(B) Questions Total	Element 3(B) Questions Select	Element 4(A) Questions Total	Element 4(A) Questions Select	Element 4(B) Questions Total	Element 4(B) Questions Select
1	123	10	64	5	46	4	72	6	88	8
2	38	2	45	3	33	3	12	1	44	4
3	18	1	39	3	33	3	23	2	22	2
4	50	4	54	4	55	5	44	4	46	4
5	53	4	27	2	22	2	110	10	66	6
6	26	2	30	2	11	1	74	6	45	4
7	32	2	20	1	11	1	120	10	46	4
8	27	2	24	2	22	2	67	6	41	4
9	36	3	41	3	44	4	58	5	44	4
0	80	5	96	5	44	5	0	0	0	0
Totals:	**483**	**35**	**441**	**30**	**332**	**30**	**580**	**50**	**442**	**40**
Effective Date of Question Pools:	**7-1-1997**		**7-1-1997**		**7-1-1998**		**7-1-1995**		**7-1-1996**	
Question Pools Valid Through (Original Schedule):	**6-30-2001**		**6-30-2001**		**6-30-2002**		**6-30-1999**		**6-30-2000**	

How to read these tables: Table No. 1 (above) shows the distribution of all examination questions in the various question pools as it stood in 1999 and the number of questions that had to be selected from each for an exam. Table No. 2 (below) shows this same information effective April 15, 2000. There are now 1455 total questions in the new pools versus 2278 in the previous ones. The total questions asked in the various examinations is now 120 (35 each on the Technician and General, and 50 in the Extra) versus 185. While the ten subelement topics are no longer mandated by the FCC Part 97 Rules, the Question Pool Committee elected to continue these subelement topics until a more thorough evaluation of each question pool can be completed when they are routinely reviewed in later years.

Table No. 2 – Questions Appearing in New Pools and Examinations – 2000

	Topics Elements	Total Element 2 Tech.	Select Element 2 Tech.	Total Element 3 Gen.	Select Element 3 Gen.	Total Element 4 Extra	Select Element 4 Extra
1	FCC Rules for Amateur Service	112	9	66	6	99	7
2	Station Operating Procedures	55	5	66	6	46	4
3	Radio Wave Propagation	33	3	33	3	45	3
4	Amateur Radio Practices	44	4	55	5	68	5
5	Electrical Principles	33	3	22	2	111	9
6	Amateur Station Circuit Components	22	2	11	1	72	5
7	Practical Circuits in Station Equipment	22	2	11	1	95	7
8	Signals and Emissions	20	2	22	2	69	5
9	Amateur Antennas and Feedlines	22	2	44	4	71	5
0	Radiofrequency Safety Practices	31	3	55	5	0	0
	Total Questions in Pool and Exam	**394**	**35**	**385**	**35**	**676**	**50**
Effective Date of New Question Pools:		**4-15-2000**		**4-15-2000**		**4-15-2000**	
Question Pools Valid Through (New Schedule):		**6-30-2003**		**6-30-2004**		**6-30-2002**	

• **In Canada, Amateur Radio is regulated by Industry Canada** where there is only one station license class with four possible qualification levels. The Basic Qualification is the entry-level and does not require a Morse code test. It grants access to all Amateur Radio bands above 30 MHz.

Additionally passing a 5 word-per-minute Morse Code exam grants the holder access to the 160 m (1.8 – 2.0 MHz), 80 m (3.5 – 4.0 MHz) and 10 m (28.0 to 29.7 MHz) bands in all modes. Passing 12 wpm grants all mode access to the remainder of the HF bands. There are no subbands (e.g. CW only) in Canada.

The fourth level, the Advanced Qualification requires passing an examination totaling 50 questions on advanced radio theory and permits the holder to build radio transmitting equipment, operate high-powered transmitters, and to sponsor a voice repeater or club station.

The Board of Directors of Radio Amateurs of Canada, their national ham radio society, has now voted to propose to Industry Canada to drop the code requirement for full access to the HF bands to 5 wpm from 12 wpm. . The Canadian announcement follows in the footsteps of the recent FCC decision in the US, as well as in some European countries.

• **The ARRL reports that the Wireless Institute of Australia is also seriously considering** whether to push regulatory authorities to reduce the maximum Morse code license test speed to 5 wpm. WIA says it expects to discuss the matter in detail next month with the Australian Communications Authority.

The seven state-based divisions of the WIA – which form the policy making WIA Federal Council – plan to vote shortly on a new policy supporting a lowering of the Morse code test speed for full access to the HF bands from 10 to 5 wpm.

The WIA says it expects the general issue of Morse code license requirements to be debated at the IARU Region 3 conference it's hosting later this year.

The US, the United Kingdom, and Sweden, all have adopted 5 wpm as the Morse code examination requirement for access to the full HF amateur spectrum.

The South African Telecommunications Regulatory Authority may act soon on an SARL request for a lower code speed limit there, and other nations have expressed interest in the issue.

The Israeli Ministry of Communications has introduced a new license giving access to all HF bands that has a 6 wpm Morse code requirement. The new license does not include HF phone privileges.

• **Australian hams lose 2302 - 2400 MHz** – The Australian Communications Authority (ACA) has withdrawn amateur access to the 2302 - 2400 MHz band. The ACA announced on its website that the Amateur License Information Paper has been updated "...to reflect recent amendments" to the License Conditions. The key item of interest is the withdrawal of 2302 - 2400 MHz, which "...has been designated, by the Minister for Communications . . . to be allocated by issuing spectrum licenses."

Also, 3.425 - 3.4425 GHz and 3.475 - 3.4925 GHz have been withdrawn in "...certain parts of Australia" and are in the process of being declared by the Minister "...for re-allocation by issuing spectrum licenses."

• **Bob VE7BS writes that, according to Mark F6JSZ, editor of the French CQ magazine, there is officially no amateur service in France.** The latest regulations have been canceled by the Council of State. From now on – and until the new regulations are published – there are no examination sessions and license renewals for 2000 have been postponed.

F6JSZ said, "Thanks to the CFRR, a confederation opposing France's national IARU society (the REF– Union), the actual regulations in place since May 1997, have been canceled and must be revised."

The french authority now has taken the position that "French hams are now considered as CB enthusiasts and anyone can use the ham bands in France without a license to do what they want." It is expected that the situation will be back to normal shortly.

We also heard that effective December 31, 1999, French amateurs were authorized to use 135.7-137.8 kHz with 1 Watt ERP.

• **Bob also reported that there is new top ham band spectrum in Japan**. – Yosi JA3AAW told him that "The February 8th official gazette reported that effective April 1st, 2000, 1,810 -- 1,825 KHz would be added to the usual 1907.5 – 1912.5 KHz." He said he already had gotten the same info from a director of the JARL on January 1st. He wonders if the "...1.9 MHz segment might be for domestic use and 1.8 MHz for DX use."

• **Fred Lloyd AA7BQ (Scottsdale, AZ) operator of QRZ.com, has placed practice exams on the web using the new question pools that begin April 15, 2000** <http://clicktron.com/ham>. The ARRL has also posted the new pools at <http//www.arrl.org/arrlvec/pools.html>.

Both the ARRL/VEC and W5YI-VEC will be accepting any reasonable evidence to support that an applicant was a pre-3/21/87 Technician and thus qualified for the new General license on/after April 15 ...including a photocopied listing from the 1987 and earlier Callbook.

QRZ.com has also posted it's very first CD ROM on their web page. Published in 1993, it includes licensees from 1983 to 1993. A printout of a listing from this CD ROM, showing a Technician license is also acceptable proof. See: <http://www.qrz.com/search1993.html>.

CUTTING EDGE TECHNOLOGY

■ **How hard is a particular substance?** Rather than scratch rocks together, you can use an ultrasonic hardness tester. A diamond-tipped probe sends ultrasonic waves down into the material you're measuring. The hardness of the material changes the resonant frequency of the probe, and the frequency change is read back. The system correlates that information into how hard the surface is, and displays the results graphically.

■ **Imagine being able to place an oscilloscope, a vectorscope, a video monitor and an audio analyzer on the same viewscreen.** Broadcast engineers are doing just that with the Videotek VTM-200. It's a rack-mounted piece of equipment that lets you look at any one of four displays on a Super VGA monitor. Point and click to what you want to examine: the station's video signal, the audio modulation, the vectorscope display or the actual picture. You can even see all four at once on the screen, letting one box do the job of four.

■ **Industrial lasers take a beating in their work.** As they cut, bore, weld or heat all kinds of materials, they slowly change their output. This can be due to aging power supplies, weakening flashlamps, running low on the gas in the tube, or shifting mirror alignment. Electronic beam analysis uses input sensors and sophisticated software to compare a laser's measured output with its design specifications. If something is not working right, the computer can tell the operator where the trouble could be. This helps a great deal with preventive maintenance.

■ **General Electric is using white LEDs to replace some generic incandescent bulbs.** Because of their more efficient operation, lower operating temperature, longer life span and increased ruggedness, solid-state replacements for old bulbs are finding homes in cars and houses. GE wants to make larger LED replacement lights for traffic systems and flat-panel displays.

EMERGING COMMUNICATIONS

■ **More FM radio subcarrier systems are on the way**. These are the "hidden" signals riding on commercial FM radio signals, such as Muzak and news in foreign languages. Two new standards for digital data transmission have been agreed upon by a standards committe: the Data Radio Channel (DARC) and the Subcarrier Traffic Information Channel (STIC). Both systems will allow listeners to receive traffic and news information through a special digital decoder.

■ **Who isn't happy about high-definition television (HDTV)?** A lot of TV producers, that's who. While movies and sporting events collect enough viewers to make broadcasting in HDTV financially viable, the same can't be said for weekly network shows such as comedies and dramas. It takes a lot of money to upgrade equipment from the old NTSC format to HDTV, and many producers say they can't afford it. If people want to see these programs digitally, they say, someone must provide a financial incentive for the shows to do so.

■ **Imagine what a job climbing an icy tower in the dead of winter to knock icicles off of your beam antenna can be.** High winds seem to blow right through you. Ice falls down, usually on top of you. As an amateur, you have the option of just staying inside; but professional radio engineers must keep their antennas free of ice, or else. One way is to heat up the antenna elements, either by using RF or internal heating elements. Some stations in colder climates use radomes to prevent ice from accumulating, but that can increase the wind load on the tower.

■ **Deaf people and normal-hearing individuals may soon be able to communicate with each other** thanks to a device that converts sign language in speech and vice versa. A system under development in Japan translates voice into sign language made by animated characters shown on a video screen.

■ **Will the next communications breakthrough be in mind control technology and thought reading devices?** Apparently they have been around for decades. But have been shrouded in secrecy and supposedly classified at the highest level.

Check either of these two sites: <http://www.raven1.net/uncom.htm> or <http://www.bestnet.org/~raven1/-uncom.htm> for more information. Experiments are being conducted that deliver audible and inaudible communications directly to a person's brain by microwave radio signals ...so called "V2S" - Voice-to-Skull - technology. There are even references to non-lethal mind control warfare - the manipulation of mind and body - delivered by satellite. Real scary stuff.

■ **A story in the January-February 2000 issue of *"The Futurist"* says that the future of telecommunications may not be lie in satellites,** but in solar-powered unmanned aircraft that can fly at high altitudes for long periods of time.

One such aircraft, the Centurion, recently test flown at NASA's Dryden Flight Research Center, has a wingspan of over 200 feet covered with solar panels that drive its fourteen propellers. It can carry a payload of about 600 pounds - roughly the weight of a satellite.

A fleet of these aircraft are being looked at as an alternative to communications satellites. Each plane - which could be 'parked' over major cities - costs $5 to $10 million, a lot less expensive than the $100 million needed to build and launch a satellite.

Because they fly closer to the ground, lower power wireless devices can be used on the ground and there is no signal delay as when transmitting through a geosynchronous bird parked 22,000 miles out in space oer the equator.

Another communications aircraft under development, called the Helios, uses regenerative fuel cells so it can fly at night. It could stay aloft six months at a time. It should be ready by 2003.

■ The same issue of *"The Futurist"says* that computers will write most of their own software (and a global electronic "Cybermoney" currency will be in use) within five years.

■ **The Los Angeles Times reports that "radio hackers" are invading Southern California police radio channels,** interfering with police calls, confusing officers and broadcasting bogus emergency calls.

"Officials blame the increase in hackers on the growing availability of cheap high-tech radios. Swap meets and private sellers offer gadgets for as little as $300 that can be modified to transmit on police channels", the Times said.

"Orange County agencies are spending millions of dollars on a new radio system that will - among other features - encrypt police frequencies and better protect channels from invasion."

COMPUTER INFO

■ **As mainstream microprocessors reach 1 GHz clock speeds, hardware designers must face the fact that ordinary TTL logic chips weren't designed to run that fast.** Even CMOS can break down when pushed that hard. Motorola has come up with a practical solution, the ECLinPS Plus logic family. It's related to ECL (emitter-coupled logic), which offers very fast clock speeds, but this new generation is far easier to use. Data sheets show that these glue-logic chips can handle 3 GHz with propagation delays down into the tenth-of-a-nanosecond range, without burning themselves out from internal heat.

■ **Just in time for the Y2K rollover, the world's biggest television screen was set up in New York City.** Based on light-emitting diodes, the full-color SmartVision measures 120 feet wide and 90 feet tall. It hangs on the outside of a building in Times Square.

■ **Interesting prediction!** "The number of telecommuters (people who work at home using a computer link to their job) will rise above 100 million in about 2015, and this increase will distribute worldwide wealth more rapidly, reduce global pollution, and transfer real estate values." *(From "Outlook 2000.")*

■ **ASCII has long been used as an international standard for exchanging text among computers.** But one of its drawbacks is that it's always been limited to English characters. Languages such as Japanese and Chinese use written symbols that can number into the tens of thousands. Unicode is a proposed new standard that would eventually allow all languages to be exchanged digitally. It won't appear overnight, however, because the task of translating characters from one language to another is tougher than it appears. Dialects of a particular language may lengthen the process. And it would take years for computers around the world to upgrade to a new symbol standard.

■ **Does your big new computer monitor seem to be suffering the "shakes"?** It could be radio-frequency interference, even though your older monitor didn't seem to be bothered by it. That's because larger picture tubes are more susceptible to RFI than smaller ones. The electron beam has a longer distance to travel, thereby giving outside RF waves more of a chance to affect it. In addition, picture tubes using lower levels of high voltage at the anode in an effort to lighten the electrical load are in fact more susceptible to RFI because of weaker internal field strength.

■ **Welcome to a new century – we're exchanging more information in America with digital data than we are by talking on the phone.** We send and receive more mail each day over computers than through the U.S. Postal Service which is already feeling the pinch. One estimate places the number of daily e-mail messages in the U.S. at 3.5 billion, and that number is expected to double within two years. Analysts say a first class stamp will go for 50¢ by 2005.

■ **Supercomputers in outer space? NASA's Jet Propulsion Laboratory is working on it.** As robot spacecraft are designed and expected to perform more complicated operations faster than before, and do it on their own, engineers must build computers powerful enough to control them. Exploring the outer planets means a probe is at least several minutes away from Earth-based help, and direct command from the ground is spotty at best. If the machine can "think" its way out of a jam, so much the better.

INTERNET NEWS

■ **HTML stands for HyperText Markup Language, the international Internet standard for exchanging digital information on the Web.** But a new standard is on the way. Called eXtensible HyperText Markup Language, or XHTML, it promises to close some gaps in the original spec. Engineers say programmers won't have to write custom software for different browsers anymore. Both languages specify how text and graphics are presented on Web pages.

■ **Newspapers continue to lose readers to television, radio, and of course the Internet.** A daily paper is just that -- daily. You must go out and retrieve it from somewhere. But the latest news comes from the turn of a dial or the click of a mouse in just a few seconds. There are practically no two-paper cities in the U.S. anymore. Some newspaper industry executives say that only three-fifths of Americans read a newspaper every day, and that paper-based news is on the way out. Perhaps, but you can't line the bird cage with a computer.

■ **Since America Online released 5.0, the latest version of its Internet software,** many users have complained that it sometimes disables their computers by preventing them from dialing up Internet service from other providers. No one knows how many computers have been affected by it, but enough complaints have surfaced to force a lawsuit against AOL. Plaintiffs argue that AOL 5.0 rearranges customer settings on their computers by the dozens.

■ **"Why isn't my new car ready?"** You may be able to find out much faster than you used to. Ford is teaming up with United Parcel Service to set up an automated tracking system over the Internet to let customers track the status of their new cars as they're being manufactured and delivered. The network will initially provide this information only to dealers, but it's hoped that it will eventually expand. Ford says this tracking method should help weed out trouble spots in the distribution system, as well.

■ **Wondering why AOL bought Time Warner for $190 billion ...the biggest merger in corporate history?** It is to gain access to high speed Internet access using Time-Warner's cable system – the nation's second largest (behind AT&T.) The new company is called AOL Time Warner, Inc.

■ **High speed Internet via DSL and cable modems are more susceptible to security problems** since their "always on' state makes them more vulnerable to hackers. And there have been reports that neighbors also on Internet cable lines have a way to read and access your hard drive.

Cable modems slow down when many people are on line.

■ **According to a study released Semico Research Corp., the Internet appliance market totaled $73.2 billion in 1999 and will grow at a compound annual growth rate of 18% to $166.9 billion by 2004.** An Internet appliance is any device used to connect to the Internet. Today, PCs dominate the Internet appliance market, accounting for 90.3% of the revenue.

By 2004, however, Semico expects that smart Web-capable cell phones will account for 42.1% of the revenue in the Internet appliance market and that the PC's share of the revenue will have shrunk

to 43.6%. In units, nearly 80% of the Internet appliances shipped in 2004 will be smart cell phones.

Future cell phones and handheld devices will probably converge into one product that can play digital music, display color video, allow wireless e-mail and Internet access, and provide cell phone and typical handheld functions. Casio and Siemens have already announced such a product, due out this year, which will be Windows-powered.

WASHINGTON WHISPERS

■ The FCC is clamping down on intrusive and illegal telemarketing practices ...especially firms that fax unsolicited advertisements to telephone facsimile machines. The *Telephone Consumer Protection Act of 1991* (TCPA) prohibits unsolicited "junk" advertisements sent to business and residential fax machines. The Commission fined one firm ("Get-Aways" which offers vacation packages) $4,500 each for 19 documented violations ...a total of $85,500!

■ **A website has been established at <http://www.thisiswrong.com/>** to discuss the recent raid on Ramsey Electronics that prevents them from selling a number of their wireless hobby and educational kits because it is believed by the government that they are used for illegal purposes. Investigators believe things like Ramsey's $5.95 wireless microphone kits are primarily being used for "surreptitious" monitoring in violation of US Code Title 18, Section 2512 and not for hobby, and educational purposes.

AMATEUR RADIO

■ **Judging from the number of Tech Plus and Advanced Class applicants that are showing up at VE sessions these days to take Element 3(B) and 4(B)** (but not the code), it appears that VE teams everywhere are going to be super busy on and after April 15th!

April 15th is a Saturday and that's the day most VE teams are scheduling an examination session. But few exams will be given. Instead, VE teams will be collecting CSCE's so that applicants can upgrade to more HF privileges. They will simply check the correct license box and attach an CSCE.

VE teams report that the number of applicants showing up at VE sessions has increased ten fold since the first of the year! They want to pass the current examinations before the new pools go into effect. Most examinees seem to be totally unaware that, for the most part, the new exams are actually constructed from the exact word-for-word questions that are in the various current question pools.

A Tech Plus operator taking the current (General written) Element 3B will qualify for the new General Class without further examination when they present their CSCE for Element 3B to a VE team at an exam session on or after April 15th.

Likewise, an Advanced Class operator taking the current (Extra Class written) Element 4B will qualify for the new Extra Class without further examination when they present their CSCE for Element 4B to a VE team at an exam session on or after April 15th.

Since a General Class operator would have to pass both the current Element 4A (Advanced) and 4B (Extra) to qualify for the new Extra Class (a total of 90 questions elected from 1,022 questions) , most are electing to wait until April 15th to take the new Element 4 since only one 50 question examination (from a pool of 676 quesitons) will be required.

A No Code Technician may take the current Element 3B (General written) examination without first taking the 5 wpm code exam. The CSCE for 3B may be used as Element 3 credit for one year during which time the applicant would have to pass Element 1 (5 wpm.).

Many Technician operators are passing the 5 wpm code in hopes of upgrading to HF privileges. The number of Techs moving up to Tech Plus has doubled in January and February.

■ **VE teams should be aware that they may no longer submit the existing FCC Form 610 to their VEC and must use the NCVEC Form 610.** In the ruling on various ULS *Petitions for Reconsideration,* the FCC extended the transition period during which the FCC Form 610 (application form) could be used until February 16, 2000. Applicants using the FCC Form 610 simply wrote in their Social Security Number at the top of the form.

The FCC rules (Section §97.9(b)) call for applicants to submit "...to the administering VEs a FCC Form 605 document requesitng examination..." but this is incorrect since this form does not provide for entering examination and license class information by the VE team.

Section §97.17(b)(1) correctly indicates that a VE team may "...collect all necessary information in any manner of their choosing including creating their own forms."

The National Conference of VEC's prepared their own version of the previous FCC Form 610 last summer and called it the NCVEC Form 605. This (August 1999) form has now been updated to a new April 2000 version which provides for examinations in only three license classes, Technician, General and Extra.

The current NCVEC Form 605 may be used until stocks are depleted, however. (Simply check Technician, General or Extra even though the references to the examinations passed are wrong effective April 15th.)

■ **Silent Keys - The founder of Larsen Antenna, Leland J. "Jim" Larsen, K7GE, of Vancouver, Washington,** died on the 3rd February. He would have turned 82 years old later this month. An ARRL member, Larsen had been a ham for more than 67 years. He was a contester and DXer, enjoyed CW, and was a member of the First-Class CW Operators Club. He is described as an "experimenter and mad scientist."

Former Chief Engineer of the Hallicrafters Company, Ferdinand W. Schor, K6HPB, died on 14 January, 2000, in Santa Barbara, California. He was 94. During World War II and the years following, Schor was responsible for the design of many of the Hallicrafters products and receivers, including the S-40, SX-42 and SX-62.

■ **Be on the lookout for a science fiction movie called "Frequency" which features Amateur Radio** and a ham transceiver that has the ability to receive and make transmissions back in time.

It is about Frank Sullivan - a New York City firefighter - and his son (John) who shares his fathers passion for baseball and ham radio. A warehouse fire takes Frank's life when John is just six years old.

Thirty years later, John - now a New York City homicide detective, hears a voice over his ham radio talking about the Amazin' 1969 Mets but loses the signal. The next night he hears a young boy calling to the man and the man calls him "Little Chief"- the same nickname John was

called by his father.

John realizes that he is speaking to Frank Sullivan, his long dead father. Just before the final blast of static, John is able to save his father's life by telling him how to survive the warehouse fire, the fire that will kill him tomorrow Oct. 12th, 1969. <http://www.frequencymovie.com/>

■ **Adrian Robinson, G7WFM of Nottingham, England is the first Amateur Radio station in the world to be granted permission to link his station to the Internet** using a 70-cm (431.075 MHz) simplex frequency. He received a special *"Notice of Variance"* from the UK's Regulatory Agency.

You will find G7WFM on the air and in the Internet phone chat rooms under the Repeater and Ham Radio groups. He has made more than 300 contacts through the system to radio amateurs world-wide, including many from the USA, Australia, New Zealand and Hawaii.

For more information on how to use the internet link visit G7WFMs web pages: <http://www.crosswinds.net/~g7wfm/>

■ **Enforcement News:** Responding to long running complaints of intentional interference to the Houston Memorial Repeater Association's 147.47/87 MHz repeater, the FCC has socked two Houston ham operators with $8,000 fines.

On February 24, 1999 a Commission agent using a "mobile automatic direction finding" (MADF) vehicle tracked an unidentified interfering signal to a Jeep Cherokee registered to Robert L. Meyers, N5WLY of Houston, TX. Meyers was later issued an *Official Notice of Violation* for failure to identify amateur communications. The FCC said Meyers timed his transmissions to cause harmful, malicious interference to communications already in progress.

Paul E. Holcombe K4TOF also of Houston also was cited for "...transmitting unidentified tones, inflammatory or derogatory remarks and unmodulated signals" on the same repeater input frequency on May 25, 1999, none of which were identified with an FCC-assigned call sign. FCC monitoring revealed that the malicious interference was coming from a silver Toyota belonging to Holcomb.

Both Meyers and Holcombe have been fined $7,000 for intentional interference and $1,000 for failure to identify. They have been ordered to pay the fines within 30 days or to file written statements showing why the forfeitures should be reduced or canceled.

■ **Jeffrey G. Guss KF4MWT** of Palm Bay, FL (Technician Class), **Pedro Acevedo KG4EYT** of Dunnellon, FL (Technician Plus) and **Ramon A. Alvarez AE4ES** of Miami,FL (Extra Class) have all been ordered to retake all of their license examinations up to an including the license class currently held.

■ **Sam W. Jacobs, K3SAM of Latrobe, PA** has been sent an official warning letter advising him that the FCC Rules do not allow "...appropriating a frequency before a net starts and broadcasting, talking to no one in particular, making non-serious 'CQ' calls, and 'filibustering' the frequency in order to 'hold' it for the start of net operations."

Riley Hollingsworth warned Jacobs that "Nets are voluntary in nature and have no greater rights than any bonafide existing communications on a given frequency. You have apparently engaged in such activities at length on the frequency 7.262 MHz in order to appropriate the frequency for a 'PLC' net. Such activities are not only against Amateur rules, but constitute poor Amateur practice and will jeopardize your Amateur Radio license."

■ **David J. Tolassi KB1EVE** of Barre, VT has had his Advanced Class call sign (KZ1ZQ) downgraded to KB1EVE as a result of his not passing the Advanced Class examination last fall.

■ **Dayton HamVention 2000 is planning on having a very big crowd at the FCC forum** to be held Sunday morning May 21st from 8:00 a.m. to 11:00 a.m. Speakers will be FCC's Riley Hollingsworth, K4ZDH and Bill Cross W3TN. Hollingsworth will discuss enforcement issues and Bill Cross, the author of the recent *Report and Order* on Amateur Service Restructuring, will cover the new ham radio rules. Last year's forum had standing room only so DARA is opening up what would be three separate meeting rooms into one large room that will triple the capacity to 700 people. We also understand that Bill Cross will be the keynote speaker at the upcoming (June) Ham-Com Convention in Dallas.

■ **Amateur Radio Trader is in the process of upgrading their Online Auction for Hams.** You will be able to list items for just $3.00 or 3% commission whichever is greater ...paid only if the item sells. You can access the auction site at: <http://auction.amradiotrader.com>

■ **Interesting callsigns** (All are thanks to the Vanity Call Sign program.)

KE1TH, Keith M. Bransky Marrietta,GA
KN1GHT, Peter J. Knight, Portland, OR
KR1STA, Krista Speroni, Lawai, HI
NØSEY, Larry M. Kistler, Davenport, IA
K6SPY, James Bond, Walnut Creek, CA
WØMAN, Susanne Moore, Lynchburg, VA
WØODY, Woodvall Moore, Springfield,MO
WRØNG, Paul S., Hilde, Sr., Bemidji, MN
WW2VET, Tom Lankford, Sylacauga, AL
ALØHA, Coconut Island DX Assn.,Hilo, HI

■ **Beginning March 1, 2000, the FCC will begin accepting requests from organizations interested in processing applications for Amateur Service Club and Military recreation station call signs.** Groups wishing to be designated as a "Club Station Call Sign Administrator" (CSCSA) must be an amateur radio organization that has tax-exempt status under IRS code 501(c)(3) and be willing to submit the information to the FCC in an electronic batch file. The Club Station Call Sign Administrator may collect all necessary information in any manner of its choosing including creating its own forms. Requests to become a CSCSA must be sent to the: FCC, WTB, Public Safety and Private Wireless Division, 445 Twelfth Street SW, Room 4-C330, Washington, DC 20554, Attention: Club Station Call Sign Administrator.

■ **The ARRL is seeking partial reconsideration on two points in the Amateur Radio license restructuring plan announced by the FCC Dec. 30.**

The League basically wants the FCC to continue the Technician Plus license category. As it stands now, Technicians who pass Element 1 and 2 will receive a Technician Class license with CSCE credit for 5 wpm code proficiency. Under the current system, the license class of Technicians is designated by a "T" in the FCC's amateur database, and of Tech Plus licensees by a '"P."

The ARRL wants everyone to be able to determine which Technicians have indeed passed a Morse code examination and which have not. The FCC believes that it is up to the Technician licensee to prove that they have successfully passed the 5 wpm code test.

The ARRL also will ask the FCC to grant credit for the Element 1 (5 wpm) code examination to any amateur who has previously passed a Morse code exam element when applying for future upgrades even if the amateur has a long expired license.

W5YI REPORT

America's Oldest Ham Radio Newsletter

NEW RULES PUBLISHED IN FEDERAL REGISTER

FCC Changes Mind on Expired Novice License Exam Credit

The new Amateur Service Rules that are effective April 15th were published in the February 10th *Federal Register*. Here is how the Federal Register summarized the new rules:

SUMMARY: This document revises the Amateur Radio Service rules to simplify the Amateur Radio Service operator license structure; streamlines the number of examination elements; and reduces the emphasis on telegraphy that underlies the current license structure to the greatest extent possible, consistent with the international radio regulations.

Specifically, the Commission amends the rules to reduce the number of operator license classes from six to three, reduce the number of telegraphy examination elements from three to one, reduce the number of written examination elements from five to three, authorize Advanced Class amateur radio operators to prepare and administer examinations for the General Class amateur radio operator license, and eliminate Radio Amateur Civil Emergency Service (RACES) station licenses.

This action will allow current Amateur Radio Service licensees to contribute more to the advancement of the radio art; reduce the administrative costs that the Commission incurs in regulating this service and streamline our licensing processes; eliminate unnecessary requirements that may discourage or limit individuals from becoming trained operators, technicians, and electronic experts; and promote efficient use of spectrum allocated to the Amateur Radio Service. Effective April 15, 2000.

Change in More code credit!

There was a surprise in the Federal Register concerning Morse code examination credit! The *Report & Order* (Released Dec. 30, 1999) had this rule change on Page 69 of the R&O (and we quote)

Sec. 97.505 Element Credit

(b)

(5) An unexpired (or expired within the grace period for renewal) FCC-granted Novice Class operator license grant - Element 1.

What that says is that a currently licensed Novice operator (or a Novice still within the two year "grace period") receives credit for Element 1, the 5 words-per-minute code examination. It also meant that once a Novice operator's license drops out of the FCC database, that no code credit is available to them.

An amateur's license data stays in the FCC database for a 12 year period ...the ten year license term plus an additional two year "grace" period during which the license may still be renewed without re-examination or loss of station call sign.

But when the Federal Register (and "official" rule change) version was released, there was a change in that rule. It now reads as follows:

Sec. 97.505 Element Credit

(b)

(5) An expired or unexpired FCC-granted Novice Class operator license grant - Element 1.

The new version means that if an applicant for an Amateur license **ever** held a Novice license - expired or not - that this person now receives credit for the 5 wpm code requirement. He does not have to take it again.

This is a significant change since amateurs who have left the service many years - or decades - ago may now rejoin without having to retake the code exam. That is, if they began their ham career at the Novice level - which almost all amateurs did prior to 1991 when the "no code Technician" license was established.

The new rules already allow Element 1 (5 wpm code) credit to Technician Class operators with expired licenses granted prior to February 14, 1991.

Basically what the FCC is saying now that if you passed a telegraphy examination once if your lifetime, you don't have to worry about the code ever again! It does not appear that the FCC intends to extend Element 1 code credit to applicants who once held any other FCC-issued licenses now expired.

That means that if an amateur started at the General, Advanced or Extra Class level and their license expired two or more years ago, they are out of luck! It is thus more important than ever that holders of Novice or Tech Plus licenses retain their license copies or *Certificates of Successful Completion of Examination* (CSCEs) in the event they need to prove Element 1 credit when upgrading under the new rules.

Keep in mind that Technician Plus licenses will be renewed as "Technician," with permanent credit for the Amateur Service (5 wpm) code requirement. The FCC has said it does not plan to keep track of which Technicians have Morse code element credit and which do not.

Effective April 15, 2000, Technician Class amateurs who pass a code examination receive two types of "credit" ...**operating authority** and **examination credit.** These Techs with CSCE code credit get **permanent operating authority** on the four "Novice" HF bands at 80 m (3.675-3.725 MHz CW), 40 m (7.10-7.150 MHz CW), 15 m (21.100-21.200 MHz CW) and 10 m (28.10-28.50 MHz CW and 28.30-28.50 MHz SSB Phone or CW).

Technicians who qualify for HF operation by passing

Element 1 will retain element credit for upgrading purposes only for 365 days – the term of a CSCE – not permanently. That means that Technicians attempting to upgrade more than a year after passing Element 1 would have to retake the Morse code examination.

The ARRL plans to file a petition for partial reconsideration asking the FCC to continue to keep track of which Technicians have Morse code element credit and which do not. The League also will ask the FCC to make Element 1 credit permanent for post-April 15 Technicians who successfully pass the Morse exam.

Examination credit after April 15th

Here is the corrected Part 97 rules section on examination element credit.

Sec. 97.505 Element credit.

(a) The administering VEs must give credit as specified below to an examinee holding any of the following license grants or license documents:

(1) An unexpired (or expired but within the grace period for renewal) FCC-granted Advanced Class operator license grant: Elements 1, 2, and 3.

(2) An unexpired (or expired but within the grace period for renewal) FCC-granted General Class operator license grant: Elements 1, 2, and 3.

(3) An unexpired (or expired but within the grace period for renewal) FCC-granted Technician Plus Class operator (including a Technician Class operator license granted before February 14, 1991) license grant: Elements 1 and 2.

(4) An unexpired (or expired but within the grace period for renewal) FCC-granted Technician Class operator license grant: Element 2.

(5) An expired or unexpired FCC-granted Novice Class operator license grant: Element 1.

(6) A CSCE: Each element the CSCE indicates the examinee passed within the previous 365 days.

(7) An unexpired (or expired less than 5 years) FCC-issued commercial radiotelegraph operator license or permit: Element 1.

(8) An expired FCC-issued Technician Class operator license document granted before March 21, 1987: Element 3.

(9) An expired or unexpired FCC-issued Technician Class operator license document granted before February 14, 1991: Element 1.

(b) No examination credit, except as herein provided shall be allowed on the basis of holding or having held any other license grant or document.

Follows is a recap of the examination credit awarded for various amateur radio operator license status::

1.	**Currently or previously licensed (now expired) Novice Class** operator.	**Element 1**
2.	**Currently licensed** (or license expired less than 5 years) FCC-issued **Commercial Radiotelegraph operator**	**Element 1**
3.	**Currently licensed Technician** operator (or license expired less than two years) and licensed after 2/14/91	**Element 2**
4.	**Currently licensed or previously licensed (now expired) Technician Class** operator and licensed as Technician between 3/22/87 and 2/14/91.	**Element 1 and 2**
5.	**Currently licensed Technician Plus** operator (or license expired less than two years) and licensed after 2/14/91	**Element 1 and 2**
6.	**Currently licensed or previously licensed (now expired) Technician Class** operator and licensed as Technician on/before March 21,1987.	**Element 1, 2 and 3**
7.	**Currently licensed General Class** operator (or license expired less than two years.)	**Element 1, 2 and 3**
8.	**Currently licensed Advanced Class** operator (or license expired less than two years.)	**Element 1, 2 and 3**
9.	**Tech Plus, General or Advanced Class operator** with license expired more than 2 years.	**No credit**

Upgrade path

Examination elements needed for above amateurs to upgrade to:

No.	Technician	Technician w/code credit	General	Extra
1.	–	2	2 & 3	2, 3 & 4
2.	–	2	2 & 3	2, 3 & 4
3.	–	1	1 & 3	1, 3 & 4
4.	–	–	3	3 & 4
5.	–	–	3	3 & 4
6.	–	–	Now Qualified	4
7.	–	–	–	4
8.	–	–	–	4
9.	2	1 & 2	1, 2 & 3	1, 2, 3 & 4