

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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Where Things Stand! Pending Amateur Radio Rulemaking

According to our records, there are only two FCC rule making proposals outstanding. Both are *Notices of Proposed Rule Making*. WT Docket No. 96-188) was released on September 20, 1996; WT Docket No. 97-12 on March 3, 1997.

The comments and reply period on WT Docket No. 96-188 closed on January 13, 1997. This proposal seeks to permit citizens of certain countries in Europe and the Americas to operate amateur radio stations while on short visits to the United States. If approved, the new rules would also make it easier for U.S. amateur operators to operate stations temporarily in twenty-two European countries, eight South American countries, Mexico, and Honduras. Currently, foreign amateur operators are authorized to operate stations in the U.S. under three circumstances.

- (1.) U.S. operating privileges are granted to citizens of Canada who hold amateur service licenses issued by the Government of Canada;
- (2.) Citizens of some 76 countries, whose governments have entered into bilateral reciprocal operating arrangements with the U.S., may obtain non-renewable one-year permits to operate their amateur stations in the U.S.; and
- (3.) Non-U.S. citizens who pass the required examinations are granted licenses in the same manner as U.S. citizens. This latter method is generally used by foreign operators who reside permanently in the U.S. or who are here for

lengthy stays.

There are two pending international reciprocal operating arrangements that offer to provide more convenient ways for foreign amateur operators to operate stations in the U.S.

They are the *European Conference of Postal and Telecommunications Administrations* (CEPT) radio-amateur license and the *Inter-American Convention on an International Amateur Radio Permit* (CITEL/Amateur Convention).

These negotiations were prompted by amateur operators who want to operate their stations during international travel without first obtaining a permit from each country visited.

The CEPT radio-amateur license

Under CEPT Recommendation T/R 61-01, CEPT radio-amateur licenses are granted by the country of which the person is a citizen. By possession of these licenses, holders can operate an amateur station temporarily in any participating CEPT country without first obtaining another license or permit from the host country.

The CEPT Agreement also provides for reciprocal operation between participating CEPT countries and participating non-CEPT countries. Three non-CEPT countries -- Israel, Peru and New Zealand -- are currently participating in the CEPT Agreement. With the U.S. as a participating non-CEPT country, U.S. citizens could operate amateur

stations temporarily in participating European countries and their citizens could enjoy similar operating privileges in the U.S.

The FCC has, therefore, requested the Department of State to apply for participation in the agreement as a non-CEPT country. It is expected that this agreement will be concluded shortly.

The International Amateur Radio Permit

The Inter-American Convention on an International Amateur Radio Permit (CITEL/Amateur Convention) is an arrangement that would allow visitors to operate stations temporarily in other countries of the Americas. At the Aug. 21-25, 1995 meeting of the *Inter-American Telecommunication Commission* (CITEL) a U.S. resolution was adopted urging members to sign the CITEL/Amateur Convention.

Participation in the CITEL/Amateur Convention would allow U.S. citizens to operate amateur stations in ten countries within CITEL, a component of the Organization of American States. Under the agreement, individual amateur operators with an International Amateur Radio Permit (IARP) would have reciprocal operating privileges. An IARP may be issued by the home administration or, under authority delegated, by the membership of the International Amateur Radio Union (IARU).

The American Radio Relay League, Inc. has offered to issue the IARP to U.S. amateurs at no cost to the United States Government. On July 19, 1995, the ARRL filed a petition for rule making requesting amendment of the rules to implement the CITEL/Amateur Convention.

The FCC agrees that U.S. participation in both the CEPT Agreement and the CITEL/Amateur Convention would benefit U.S. amateur operators who travel to Europe and to the Americas, as well as foreign amateur operators visiting places where the amateur service is regulated by the FCC.

There are two classes of CEPT radio-amateur licenses and IARPs. Class 1 requires knowledge of the international Morse code and carries all operating privileges and is similar to the Amateur Extra Class. Class 2 does not require knowledge of telegraphy and carries all operating privileges above 30 MHz and is similar to the Technician Class operator license. The FCC has proposed to authorize for Class 1 operators the frequency privileges of Amateur Extra Class operators -- and for Class 2 operators the frequency privileges of the Technician Class.

The FCC also proposed to amend Part 97 to authorize, by rule, a person holding a CEPT radio-amateur license issued by a participating CEPT country or an IARP issued under the authority of a participating CITEL country to temporarily operate, for a period of 180 days or less, an amateur station in the U.S. In other words, the FCC would not issue an additional CEPT or IARP license.

Expansion in Spread Spectrum Technology

On March 3, 1997, the FCC released a Notice of Proposed Rulemaking (WT Docket No. 97-12) looking towards providing greater use of spread spectrum in the Amateur Service.

On Dec. 12, 1995, the American Radio Relay League, Inc. asked the FCC to amend the rules to allow amateur stations to transmit spread spectrum ("SS") type emission using additional spreading sequences. It also requested that each SS transmitter be required to incorporate a device to automatically limit its power to that actually necessary to carry out the communications. ARRL believes that these rule changes will allow the amateur service to contribute to the development of SS communications. The FCC agreed and said such a rule change was "...consistent with their general policy of allowing licensees flexibility to develop more effective and efficient uses of the radio spectrum."

Spread spectrum is a technique whereby little pieces of the transmitted signal is distributed over a wide segment of spectrum and reassembled according to a formula. The signal power density is typically very low and the duration of a transmission on any frequency in the segment of the spectrum can be but a fraction of a second. SS systems can share spectrum despite a number of stations already transmitting in the band.

Two types of spreading techniques -- frequency hopping and direct sequence -- are currently authorized on amateur service frequencies above 420 MHz with transmitter powers up to 100 watts. Experiments conducted by amateur operators have shown that stations transmitting SS emissions can co-exist with other amateur stations, and in many cases these spread spectrum emissions are totally undetectable by other amateur stations operating on the same frequency.

As requested by the ARRL and Part 15 equipment providers, the FCC is requiring that power control circuitry be employed which automatically reduces the radiated power of an amateur station transmitting an SS emission to the minimum level necessary to conduct communications. The FCC also asked for suggested methods that could be used to minimize any potential interference between amateur station operations and Part 15 devices.

The FCC proposed to eliminate the rules that restricted amateur stations to transmitting only frequency hopping and direct sequencing spreading techniques. Spread Spectrum emission transmissions must not be used to obscure the meaning of any communication. Nor may a station transmitting SS emissions cause harmful interference to stations employing other authorized emissions.

Public comments on the NPRM closed on May 5, 1997. Reply comments are scheduled to close on June 5, 1997.

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AMATEUR RADIO STATION CALL SIGNS

...sequentially issued as of the first of May 1997:

Radio District	Group A Extra	Group B Advanced	Group C Tech/Gen.	Group D Novice
0 (*)	AB0FH	KI0IB	(***)	KC0ATB
1 (*)	AA1SD	KE1HP	N1ZDC	KB1CDN
2 (*)	AB2DQ	KG2LE	(***)	KC2BMQ
3 (*)	AA3PT	KE3ZP	N3ZFT	KB3BTD
4 (*)	AF4CV	KU4GL	(***)	KF4RIY
5 (*)	AC5MF	KM5IU	(***)	KD5AHF
6 (*)	AD6BE	KQ6OO	(***)	KF6KSU
7 (*)	AB7VB	KK7HK	(***)	KC7WFH
8 (*)	AA8ZY	KI8CD	(***)	KC8HEG
9 (*)	AA9UK	KG9KG	(***)	KB9QII
N. Mariana	NH0A	AH0AX	KH0GT	WH0ABG
Guam	(**)	AH2DD	KH2RU	WH2ANT
Hawaii	AH7X	AH6PA	KH7DW	WH6DDT
Amer. Samoa	AH8O	AH8AH	KH8DH	WH8ABF
Alaska	AL0D	AL7QT	KL0GK	WL7CUE
Virgin Is.	(**)	KP2CJ	NP2JQ	WP2AIH
Puerto Rico	NP3C	KP3AV	NP3MW	WP4NNB

* = All 1-by-2 & 2-by-1 call signs have been assigned.

** = All 2-by-1 call signs have been assigned.

*** = Group "C" (N-by-3) call signs have now run out in all but the 1st and 3rd call district.

Note: New prefix numerals now being assigned in Puerto Rico (KP3/NP3), Hawaii (AH7/KH7) & Alaska (AL0/KL0)

[Source: FCC Database, Washington, DC]

NEW AND UPGRADING AMATEUR STATISTICS FOR THE MONTH OF APRIL 1997

Amateur License Class	New Amateurs 1997	Upgrading Amateurs 1997	Total Amateurs 1997
Novice	93	5	98
Technician	2682	11	2693
Tech Plus	221	437	658
General	29	415	444
Advanced	2	317	319
Extra Class	4	230	234
Club	188	10	198
Total:	3219	1425	4644

AMATEUR RADIO RF SAFETY CALCULATOR

Ken Harker, KM5FA, acting president of the University of Texas Amateur Radio Club, was first licensed in August 1993. He is a 1995 graduate of Dartmouth College and is currently working on his PhD in Computer Science at the University of Texas.

Ken has written an easy to use RF Safety Calculator computer program and has placed it on the Internet at: <http://www.cs.utexas.edu/users/kharker/rfsafety>

Beginning January 1, 1998, operators who use a transmitter power of 50 watts or more are required to complete a "routine evaluation" of the strength of the RF fields around their stations to insure that they are in com-

pliance with the new RF safety guidelines.

You can determine whether or not you are in compliance with the FCC's new RF Safety Guidelines by answering four questions. This program uses the formulas given by the FCC in OET Bulletin No. 65 to estimate power density. It was written in the "C" language based on information published by Wayne Overbeck, N6NB, in the January 1997 issue of CQ VHF, page 33.

Calculate Radio Frequency Power Density

What is the average power at the antenna: in watts

What is the antenna gain in dBi: (Enter 2.2 for dipoles, add 2.2 for antennas rated in dBd.)

What is the distance to the area of interest: From the center of the antenna, in feet

What is the frequency of operation in MHz:

Ground Reflection Effects

Ground reflection effects need not be included in most main-beam calculations but including them may yield more accurate results with very low antennas, non-directional antennas, and calculations below the main lobe of directional antennas.

Do you wish to include effects of ground reflections:

Yes No

The next screen gives the calculation results. For the above 4 figures, the results were given as follows:

Calculation Results

With **500.00 watts** and **7.20 dBi** gain with ground reflections, at **35.00 feet** from the antenna center, the estimated power density is **0.4698 mw/cm²**. At **14.250 MHz**, the maximum permissible exposure (MPE) in controlled environments is **4.44 mw/cm²**. The MPE in uncontrolled environments is **0.89 mw/cm²**. This installation would meet the controlled MPE limit at **11.44 feet** and the uncontrolled MPE limit at **25.53 feet** away from the center of the antenna.

If the location **35.00 feet** away from the center of the antenna is a controlled environment, the installation **appears** to be in compliance with FCC regulations on RF exposure. If the location is an uncontrolled environment, the installation **appears** to be in compliance with FCC regulations on RF exposure.

CUTTING EDGE TECHNOLOGY

■ **Simultaneous cruising of the information and asphalt highway is now a reality!** Mercedes-Benz has designed a vehicle with front and back-seat multimedia voice-activated computer screens, transceivers for hand held computers, wireless Internet access, a navigation/route planning system, video games and a slot for a smart card. Traffic sensors avoid construction and accident delays. The sophisticated electronics are stashed in the trunk.

■ **The successor to the postage meter may be your PC and laser printer!** E-Stamp Corp., a Palo Alto, Calif., company has developed a PC-based postage meter. The "stamp" includes a secret bar-coded computer number, time and date the letter was stamped and the destination zip code.

Pitney-Bowes (which owns 85% of the postage meter business) is working on a similar product. The Postal Service appears willing to give the concept a try but first wants to make certain that the technology is secure.

The postage is held electronically in a small cigarette-pack sized device that operate on the same principle as telephone cards. The hardware interface goes between the printer port of a personal computer and the printer. The postage is electronically replenished through the Internet or a telephone link.

■ **Hewlett-Packard has just introduced a new low cost (\$500) PhotoSmart digital photograph scanner and printer.** Its companion \$400 digital PhotoSmart camera went on sale about two months ago. The PhotoSmart system lets users edit photos and print them out on photo-quality glossy paper at high resolution. Photos can also be e-mailed.

COMPUTER INFO

■ **Intel has now come up with a way to keep competing computer chips out of "Intel inside" motherboards.** Their new Pentium II (233 to 300 MHz) microprocessor requires a special patented proprietary cartridge-type socket. Arch-rival Advanced Micro Devices (AMD) has developed a lower-price chip which basically matches the performance of the Pentium II, but it can't be inserted into

motherboards designed for the Intel chip. Intel also slashed the prices of its older Pentium chips.

■ **The successor to the "Pet Rock" and "Beanie Babies" is on its way to U.S. stores.** More than 4 million "Tamagotchi" (Japanese for "cute little egg") virtual chickens have been sold in Japan -- many at inflated black-market prices. The objective is to raise a toy bird, animal or alien on an egg-size computerized pendant key chain or necklace.

U.S. toy retailers are buying all they can get! Sales this fall supposedly will be triple those of the "Tickle Me Elmo" craze. Virtual pets were a smash hit in Japan last Christmas. Many stores simply gave a few of them away each morning as a way to insure that hundreds of shoppers would be lined up at their doors at opening.

The Japanese toymaker behind the craze is the Bandai Company - the same firm that came up with "Power Rangers." The most popular Tamagotchi pet chicken hatches on a tiny liquid crystal video screen after buttons are pushed. Working from a menu, owners then must feed, exercise, play, discipline and clean up after it. The "pet" beeps when it needs something. A missed feeding can be fatal! About a week later, the chick develops into an adult. The goal is to keep the virtual pet alive and happy as long as possible. The "game" takes a long time to play and the big question is will U.S. youngsters have the patience? Current record is 26 days. Upon death, you start over again.

Competitors (such as Tiger Electronics) have now come out with such versions as MicroChimps and CompuKitty. There even will be virtual pets tied to such films as "101 Dalmations" and the Jurassic Park sequel, "The Lost World." Retail is in the \$10 to \$18 range. Big retailers (such as Toys-R-Us, K-Mart, Wal-mart and Target) are jockeying for position in the marketplace to insure that they have huge quantities on hand. It will be either a big boom ...or a big bust! Tamagotchi websites are sprouting up on the Net.

■ **IBM's 1.5 ton Deep Blue-2 computer is challenging the world's best chess player,** Garry Kasparov of Russia. Only age 34, Kasparov has been world champion since the age of 22. He gets \$700,000 if he wins. At this writing, they are tied at one game each. Kasparov beat Deep Blue-1 in October 1989 and again in February 1996. But IBM has beefed up its DB-2 software for this rematch.

But the game is not really about chess. It is about advertising, publicity and promoting the IBM name. Well, Intel is secretly readying a new chess computer code-named "Debbi-1" (short for Debbi WahN or Deep Blue's Worst Nightmare) If Kasparov beats Deep Blue, look for Intel to put its reputation on the line and try to upstage IBM. Intel believes that Debbi-1 can analyze 10,000 times more moves per second than Deep Blue. Debbi-1 will have the computing power of 1 million Pentium-2 CPU chips.

The Kasparov-Deep Blue match is due to end after our deadline for printing this issue. I predict Kasparov will win. No one has yet been able to build human traits such as "intuition" and "feelings" into computer software.

■ **Information technology is demolishing time and distance.** IBM programmers are able to work on projects around the clock by relaying software programs from one country to the next. A *USA Today* article tells how IBM computer programmers in Beijing (China) send their work to Seattle over the Internet. There, programmers build on it and forward it to Belarus and Latvia. From there it goes to India who pass it back in the morning to Beijing. The relay continues until the project is done. "The difference between Peoria and Romania on the Web is not very large," IBM says.

■ **Personal computers continue to sell in big volume!** So says researchers Dataquest and International Data. Sales are up 15% to 20% for the first quarter of 1997. Sales of under \$1,000 PCS were exceptionally strong ...especially Compaq's \$999 home computer and the Packard-Bell-NEC \$799 PC.

Compaq plans to introduce a \$799 166-MHz Cyrix-chip based model this summer. Acer and AST plan \$799 systems for the back-to-school season. Under \$1,000 systems supposedly will account for 25% of PC sales.

Compaq remains the No. 1 seller worldwide with 11% of the market. IBM is No. 2 with an 8.8% share. Fastest growing company was Dell Computer with a 5.3% share. Packard Bell-NEC was No. 4 with 5%. Toshiba had a 4.9% share.

In the US, Compaq was first, Packard Bell second, Dell third, IBM fourth and Gateway 2000 fifth. For the first time, Apple Computer failed to show up among the top five PC firms. Dell Computer (which sells PCS primarily by telephone) gained 61% in the first quarter of 1997

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and has gained 50% or more for five consecutive quarters.

■ **PCs will have a lot of company on the Web by the year 2002!** Another research firm (Jupiter Communications) said that within five years, 7.7 million people will use TV set-top boxes to access the Internet, 5 million will use game consoles (such as Nintendo) and 2.6 million will use smart phones. An additional 5.3 million will use "other means" ...such as satellite hookups. They project Internet households at 68 million in five years.

■ **Compaq Computer Corp. and TV-maker Thomson Consumer Electronics (RCA and GE) have introduced a PC theater** with a 36-inch multimedia monitor at \$4999. It will be jointly marketed with both the Compaq-RCA brand name on it. And Gateway 2000 has a 31-inch "Destination" Pentium PC-TV.

INTERNET NEWS

■ **It appears that Prodigy is coming back from the dead!** Once America's leading on-line service, Prodigy Online has established a joint venture with a Chinese company to provide a public subscription Internet service in China at a cost of about \$30 per month. The service will be carefully screened to preclude political dissent and "spiritual pollution."

The new company, called Shanghai Prodigy Telecommunications., is 80% owned by Prodigy and 20% owned by state-run China North Industries, Inc. -- also known as Norinco, a conglomerate that manufactures defense and munitions products.

All programming and technical parameters will be controlled by the Chinese due to restrictions on foreign involvement in telecommunications. One hundred Chinese nationals have been hired to create program content.

China's existing primary Internet provider, "Chinanet" is operated by the government's Ministry of Posts and Telecommunications (MPT.) Shanghai Prodigy will be beamed by satellite and distributed locally via wireline. All requests for Chinese access to a foreign Internet site must be routed through the MPT.

Prodigy also has begun an African Internet service and has a Spanish language service in the works to Latin America. We also understand that Prodigy is planning to become a publicly owned company. Be on the lookout for a stock offering.

■ **The attorneys general of Texas and Massachusetts are looking into Microsoft's browser marketing tactics.** They are concerned that Microsoft's plan to give their Internet Explorer away as part of a new Windows upgrade planned for next year will stifle competition. Netscape is still the leader in the market, but their market share percentage is dropping.

■ **Many Internet Service Providers are now terminating customers that distribute huge quantities of junk electronic mail.** Server software can determine who the offenders are ...and "traps" can prevent the distribution. It is apparently legal to dump the junk e-mail since recipients not on a flat rate plan must pay to download unwanted advertising. ISPs claim that bulk e-mailers -- commonly called "spammers" -- are causing severe congestion to their networks.

A research study showed that two-thirds of all users favor some sort of anti-spam regulation. One junk e-mailer (Cyber Promotions of Philadelphia) believes that distribution of unsolicited mail is their "free speech" right and an advertising fact of life.

In February, a U.S. District court in Ohio disagreed and issued a preliminary injunction against the firm. And last fall, a federal court allowed America Online, who were already having customer access problems, to block all incoming messages from Cyber Promotions.

Cyber Promotions is now making it easy for anyone to be a big time spammer! They have released "Cyber Bomber" software that allows anyone with a 28.8 modem to send 150,000 e-mails an hour -- that's 50 a second! The cat and mouse game continues.

■ **Microsoft has retained a Silicon Valley company founded by engineers from the Russian Academy of Sciences** to develop a virtual-reality world (code named "Magic Resort") for its online Microsoft Network.

■ According to an exhaustive May 5th *Business Week* magazine survey, **the number of Internet and World Wide Web users has nearly doubled to 40 million people.** The study by a professional research company (Harris Poll) found that 21% of all adults now browse the Web, up from 21.5 million a year ago. An additional 12% use a commercial online service such as American Online and CompuServe. The gender gap is closing and women now account for 41%

of Internet users, up from 23%. The poll also found that 42% of Internet households have incomes of \$50,000 or more, 85% are white. Blacks and Hispanics each account for 6%.

And web users are older than first thought; 25% are in their forties and 45% are over age 40. (32% are between 18 and 29.) Adult Netizens are more affluent and better educated than the population as a whole. 73% of Net surfers have attended college, vs. 46% of the total population.

The Internet is being used primarily as a giant electronic library with the most common activities being "research, information and education". 89% use E-mail.

The least common activity is "shopping" although one quarter of online users -- some 10 million -- have already purchased something online. 76% of all Internet users have never purchased anything from the Web and less than 1% of Web users say they frequently buy online.

Most users do not surf. Instead they visit the same sites regularly. Younger surfers "...tend to view the Web as a sprawling playground."

■ **A computer virus is being distributed over the Internet under the name "AOL4Free."** Computer users who download and run the program will have their hard disk erased. A computer cannot be damaged simply by receiving the program.

■ **Resellers and brokers of Internet domain names are springing up everywhere!** Anyone can buy any unused name for \$100 and resell it for thousands! And name speculators and commission brokers are doing just that. Check out: (<http://www.bestdomains.com>), [fordomains.com](http://www.fordomains.com), [domainseller.com](http://www.domainseller.com), [domainrush.com](http://www.domainrush.com), [killernames.com](http://www.killernames.com), [finddomains.com](http://www.finddomains.com), [1stcome1stserved.com](http://www.1stcome1stserved.com), [coolnames.com](http://www.coolnames.com), [domainname.com](http://www.domainname.com), [domains.com](http://www.domains.com)

One company even registered www.calripkin.com and tried to sell it to the Baltimore Oriole baseball infielder for \$10,000. (Cal Ripkin ended up using www.2131.com as his site name instead.)

■ Keeping an eye on the kids! **Kinder-cam delivers real-time video** of children at daycare centers to working mothers (or grandparents at home) over an "I See You!" website.

EMERGING COMMUNICATIONS

■ **The number of U.S. Direct Broad-**

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cast Satellite subscribers is apparently overstated! The industry puts the figure at nearly 5 million. It appears, however, that about 10% of this figure are really in Canada and Mexico. The law prohibits foreign distribution of DBS signals, but anyone with a U.S. address can obtain the needed equipment. Payment for programming is by credit card in U.S. dollars. Some dish retailers are even providing an American false address when the equipment is purchased.

■ Fueled by a Radio Shack promotion offering half price installation, **more than 30,000 people signed on to PrimeStar's "Big Switch Weekend."**

PrimeStar successfully upgraded its 1.8 million DBS (direct broadcast satellite) customers from 95 to 160 channels on April 23rd. Their 1-800-PRIMESTAR call center handled 130,000 phone calls. PrimeStar is the only DBS service that does not require the purchase of equipment.

■ **The commercial low earth orbit (LEO) satellite communications business is heating up!** Boeing Co. has agreed to invest \$100 million in Teledesic Corp.'s \$9 billion project to use satellites for high speed global wireless Internet access. Principle investors in Teledesic are Microsoft's Bill Gates and Craig McCaw who sold McCaw Cellular to AT&T for \$11.5 billion. Boeing, as prime contractor, will lead the effort to design, build and launch the satellite network which should be operational within five years. In a new plan, Teledesic has agreed to scale down the number of satellites from 840 to 288 which will be in a higher orbit.

Teledesic's cost is nearly twice that of the next expensive satellite venture, Iridium Inc., \$5 billion, 66-satellite system. The first five of 66 Iridium satellites were launched from Vandenberg Air Force Base in California aboard a McDonnell Douglas Delta II rocket on May 5th. Russia and China will also launch more Iridium satellites next month. Interestingly, the 1,500 pound satellites are being shipped to the launch sites by Federal Express. The 66 satellite network is designed to permit any type of telephone transmission -- voice, data, fax and paging -- to and from anywhere on earth using a palm-size telephone. Commercial service is scheduled to begin in 1998. Each satellite in the constellation is connected by radio transmission to four others. Communications are uplinked on one satellite and then handed off to others for eventual downlinking. Motorola is the

prime contractor for the Iridium LEO network. The multi-nation Iridium consortium includes Africa, Canada, China, India, the Middle East, Russia, Korea, Japan, Germany, Taiwan, Italy and Thailand.

■ **Now comes word of still another low earth (lower tech) system called "Sky Station International."** This is a \$5 billion network of 250 helium-filled "blimps" -- each stationed 13 miles above the earth. The blimps will relay communications in much the same fashion as satellites. Sky Station wants the FCC to allocate a portion of 47 GHz band to the new service. Supposedly Sky Station has new solar-powered "air treading" technology that will keep the unmanned blimps stationary for up to ten years.

■ **Commercial international telephone-to-telephone calling over the Internet has been established in Australia.** Cost is one third of that charged by regular telephone companies. Callers do not need a microphone, modem, speakers ...or even a PC! The service is called OzEmail Netphone. OzEmail is establishing Internet entry and exit points around the globe. The UK and US joins the network this summer. Callers simply punch in a nine digit PIN in addition to the standard international number. OzEmail has notified all 120,000 of its subscribers in Australia about its Netphone service. Users call from a regular telephone which is transparently switched to and from the Internet. Call Control Nodes (CCN) located in foreign countries automatically outdial the call to the POTS (plain old telephone service) network. More information is available at URL: <http://www.ozemailphone.aust.com>

■ **The Republic of Texas separatist group had been using the Internet to promote an independent Texas.** They maintain that the incorporation of Texas into the U.S. in 1845 was illegal. The FBI's San Antonio office says it couldn't close down the websites without violating First Amendment rights. It did cut off electricity and telephone service, however, which achieved the same result.

■ **It looks like GTE will be following MCI, AT&T and Sprint into the Internet business.** They just paid \$616 million to purchase Internet pioneer, BBN of Cambridge, Mass. Huge companies with deep pockets are taking over the Internet access business. A leading analyst said that 90% of today's ISP's (Internet Service Providers) will be out of business

within five years.

WASHINGTON WHISPERS

■ At a recent Senate forum, **U.S. Defense secretary William Cohen said he was very concerned about Internet terrorism.** He told an Armed Services Committee that home-made chemical, biological and electromagnetic weapons of mass destruction and bomb-making recipes are being distributed worldwide unimpeded over the Internet.

■ **Netscape has been given permission to export products with stronger encryption.** The previous 40-bit limit has been increased to 56 bits. Encryption strength is a function of the length of the software keys measured in bits. Each additional bit (a one or a zero) doubles the number of possible sequences in the key. Therefore a 56 bit code is 65,000 times harder to crack than a 40 bit. The new 56-bit codes contain an imbedded feature that permits the U.S. government to read coded messages.

A bill (opposed by the Clinton administration) entitled "*The Security and Freedom through Encryption Act*" is moving through Congress which would permit companies to export strong encryption programs without the government holding the key if similar products are being offered by foreign competitors.

■ **The FCC and Justice Department are looking into possible illegal bidding and "collusive anti-competitive behavior"** by companies competing at FCC airwaves auctions. The investigation was announced as Wireless Communications Service licenses brought in record low amounts. Congress had anticipated that the 128 licenses for wireless phone, television, data and Internet access would bring \$1.8 billion to the U.S. treasury. Instead the total was only \$14 million -- about 95% less. The Wall Street Journal said that the probe is "...focusing on signaling among bidders in which a bid is raised by an odd amount to indicate the bidder's intention. ...As the auction progresses through multiple rounds of bidding, such signaling lets bidders manipulate the outcome."

■ Telecasters will begin digital TV broadcasting next year on new spectrum. Once digital television takes hold, broadcasters will be required to return their old analog channel back to the FCC for

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auktioning. **TV broadcasters are lobbying to stop a Clinton administration proposal that would sock them with spectrum fees** if the sale of their old analog channels does not raise \$14.8 billion for the U.S. treasury in 2002. In effect, broadcasters will have to make up the difference. They also want to be allowed to wait until 2006 before they give up their analog channel.

■ **The most recent "NetDay" (on April 19th) was a big success.** Over the past year, about 250,000 volunteers have wired 50,000 school classrooms into the Internet. Clinton made a campaign promise to help wire every American classroom and library to the Internet by the year 2000.

■ **"Free unlimited linking" ..one of the most basic and widespread of all Internet practices is being challenged in federal court.** Ticketmaster, Inc. filed a lawsuit in Los Angeles federal court alleging that Microsoft is engaging in "electronic piracy" by linking its new "Seattle Sidewalk" (<http://seattle.sidewalk.com>) web site to Ticketmaster Online. The Seattle site is the first of many local information sites planned by Microsoft.

When Seattle Sidewalkers click on the Ticketmaster link, they are first taken to a Microsoft interface which has advertising.

Ticketmaster which sells entertainment tickets over the Internet says that Microsoft must first obtain permission before linking to their site. At issue is a supposedly exclusive right that Ticketmaster has granted to "City Search" - a local service that competes with Microsoft's new "Sidewalk" concept.

They charge Microsoft with trafficking their good name and preventing them from marketing their service to others. Ticketmaster believes that Microsoft should not be permitted to sell advertising on the basis of content acquired from other sites.

■ **<http://totalNEWS.com/> which provides links to 1200 Internet news sites also is being sued** for basically the same thing. The Washington Post, Time-Warner, Reuters, Times Mirror, Dow Jones & Co, and CNN do not appreciate TotalNEWS providing links to their service and then keeping it within a frame containing the TotalNEWS logo and their paid advertising. The (small 5-person company operating from a strip mall behind Lulu's Tacos in Gilbert, Arizona) issued a statement that big companies should not be permitted to write the rules for the Net.

TotalNEWS doesn't change the contents of the site it delivers, but the frame does in some cases hide some of a news site's advertising banners. Recently, TotalNEWS seems to be backing away from "covering up" sites with its advertising frames if the programming source objects.

■ **Travel agents are another group that are sponging off of various airline, entertainment and vacation content links.** And there are a zillion of them ...including the well done Microsoft Corp. "Expedia." All a travel operation need do is to establish a low cost website and then link to large glitzy commercial travel and vacation pages. Small independent online travel agents collect a commission when they ticket a service.

Airlines, which often offer additional discounts for business conducted online, are responding by drastically cutting the commissions for online sales by travel agencies. Agents are furious and are charging "discrimination."

In any event, the linking controversy rages on. It could have far reaching consequences indeed! As it is now, an unwritten rule is that any website can link to any other without permission or compensation. The results of these lawsuits could impact the very culture of the Internet.

■ **Christopher McLean, the principle author of the Communications Decency Act is a possible nominee to the Federal Communications Commission.** He previously served on the staff of Senator James Exon (D-Nebraska).

The Clinton White House plans to announce several candidates to replace Commissioner James Quello and we heard that McLean is on the short list. The leading candidate for the Democratic slot is William Kennard, who currently serves as the FCC general counsel.

Internet users widely oppose McLean for the role he played in drafting the CDA which was later struck down in federal court as being unconstitutional and a violation of free speech. "Wired" magazine said "Nominating Chris McLean to the FCC would suggest that the White House intends to take an aggressive, hands-on approach to Internet regulation." This is exactly opposite current FCC thinking which is to have less Internet regulation.

AMATEUR RADIO

■ **Radio Shack has recalled all unsold stocks of their new HTX-204**

dual band hand-held radio because it has been discovered that the radio is keyboard programmable (both transmit and receive) to out-of-band operation. Tandy VP Robert B. Miller, K2RM said that "Radio Shack would never knowingly do anything that would compromise our standing with the radio amateur community or the FCC." Miller also said that "Radio Shack has clauses in its contracts with its suppliers which protect the company from products which are inappropriate for sale."

It is rumored that Tandy's offshore supplier used an internal microprocessor chip that can be keyboard activated to permit out-of-band transmitting and scanning of cellular telephone frequencies. According to an Internet newsgroup (rec.radio.amateur.equipment) posting, an amateur discovered the "bug" and posted the information to the Internet. Tandy promptly responded by pulling the radio from its shelves. Tony Magoulas, Tandy's Public Information Officer in Fort Worth, TX said "The radio is gone and will not be replaced."

■ **NASA has agreed to put another U.S. astronaut aboard Mir.** Astronaut Mike Foale KB5UAC will replace Jerry Linenger KC5HBR on May 15th. NASA had been concerned about the life support system on the aging Mir space station.

■ **Follow the floods from Space!** The Red River Valley is subject to frequent flooding due to spring run-off from melting snow. The flood of 1997 is the largest this century due to two times the normal amount of snow during the winter and a major snow storm in early April.

Ham radio continued to have a critical role in emergency relief and recovery efforts along the Red River, where flooding overtook the cities of Grand Forks, North Dakota, and East Grand Forks, Minnesota. Most area residents -- an estimated 50,000 people -- were evacuated into surrounding towns and emergency shelters. The Salvation Army has been assisting at many of the temporary camps and shelters, providing food and other necessities, and Amateur Radio has been maintaining several important communication links.

Satellite images are providing some amazing before and after pictures of the flooding Red River in N. Dakota, Minnesota and Manitoba. The Canadian Space Agency has pictures online at <http://radarsat.space.gc.ca/ENG/Activities/Events/menu.html> (Thanks ARRL & others)

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INTERNET PRIVATIZED TO ITS PARTICIPANTS!

"We believe that for the Internet to reach its fullest potential, it will require self-governance. Our intent is to facilitate that realization. The Internet is without boundaries; it routes around barriers that are erected to thwart its reach - barriers of all kinds: technical, political, social, and, yes, even ethical, legal, and economic. No single government can govern, regulate, or otherwise control the Internet, not should it. ...The Internet should prove to be the single most successful enterprise produced by man. ...One could argue that the Internet is about 28 years old. Yet this is just the beginning." Excerpt from April 29 speech by Donald M. Heath, President of the Internet Society.

The Internet has been officially privatized, internationalized and is now self-governed. A three day meeting, held at the ITU in Geneva between April 29th and May 1st, culminated with the signing of a *Memorandum of Understanding*. The gTLD-MoU (Generic Top Level Domain Memorandum of Understanding) sets up an international structure, and establishes policies, and procedures for administration of the Internet domain name space.

The National Science Foundation will no longer be in charge of assigning domain names. The contract that the NSF has with Network Solutions, Inc., the private Virginia company that assigns top-level Internet names, will not be renewed. The agreement ends in March 1998, but it could be ended sooner. In short, the NSF has completely ended its oversight of the Internet and turned all administration over to the Internet community itself. The Internet is now a global, public resource.

The U.S. monopoly on Internet registration and management is over. Under the new system, the hoarding and "hijacking" of well-known names and trademarks by people and companies hoping to resell their right will cease. An independent panel of international experts will now oversee Internet names.

There is good reason to believe that the Clinton White House was not totally pleased with the how the Geneva meeting was handled. It had assembled an interagency task force chaired by the *Office of Management and Budget* to study the domain name issue. The State Department was part of that task force. The FCC also was studying the Internet issue. An internal report suggested keeping domain name oversight within the federal government ...after all, the Internet was a U.S. invention.

The April 29 to May 1 ITU Geneva meeting contained an assembly by 150 delegate representatives from various organizations covering a broad range of Internet interests and activities -- but not national governments. In a leaked State Dept. cable, Secretary of State Madeline Albright said the United States was concerned that the ITU meeting was convened without the consent of its member nations, the United States among them. The implication was that the ITU has no authority to enter into international agreements without going through national governments. The U.S. made it clear that they thought the project needed more preparation and consul-

tation. Congress will not even get the chance to approve or disapprove of the accord.

History of the Internet

The United States created what was to become the Internet in 1969 when the Dept. of Defense's *Advanced Research Projects Agency* developed ARPAnet. The objective was to fashion a persistent communications network that it could withstand unusual conditions and unforeseen events -- such as the wages of war.

Very little was known at the time about networking. A protocol was developed in which digital packetized information traveled from the originating to the destination computer over a totally unpredictable route. The idea was that if some of the network was knocked out, then the message itself could try another. This self-routing redundancy became the key to the Internet. If a portion of the network is down, the Internet continues to function and new routing is built on the fly.

By 1981 there were 200 computers on the network. At the suggestion of researchers, the National Science Foundation got involved in the 1980s and it funded an upgrade of the ARPAnet. It connected its five high speed supercomputing centers into what they called the NSFnet and various university and government networks tied into this "backbone." By 1991, about 500,000 computers were linked on the Net.

The Internet thus became a huge collection of interconnected private and commercial computer networks with no one in charge. Its existence depends on everyone cooperating with one another. Today, there are probably 50 million people exchanging electronic mail and other online information over the Internet. The network has gotten so large, that no one knows just how many networks or computers are on it. In the early 1990's, the Internet began to commercialize and the U.S. government began taking steps to turn it over to the public.

But in the end, the Internet community handled the matter internally and the National Science Foundation simply bowed out. The United States government is now officially out of the Internet supervision business

ITU accepts Internet privatization

On May 1st, the proposal of the International Ad Hoc Committee was adopted. The plan calls for the creation of seven new generic top level domains (.firm, .store, .web, .arts, .rec, .info and .nom) in addition to the three existing general top level domains (.com, .org and .net). In addition, 28 new global Internet registrars will be selected ...four from each of the seven world regions. Each registrar must meet a very stringent set of business and technical criteria.

The plan also calls for competition among the four registrars in each region and a common central database will be shared by each. Internet registrations under the new system is scheduled to begin later this summer.

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"HAM RADIO AND THE 21st CENTURY"

[The following are remarks by Fred Maia, W5YI during a debate with Nancy Kott, WZ8C, who heads up the U.S. Chapter of F.I.S.T.S. - a pro-CW organization. The debate took place on April 27, 1997 on the "Ham Radio and More" radio show hosted by Len Winkler, KB7LPW. It will be repeated at the Dayton HamVenton, May 17.]

Amateur radio is the oldest radio service. What started as a CW hobby is now many things to many people. It exists to provide public service, as a technical hobby, to improve communication skills, as a non-commercial personal radio service and to enhance international good will. The Amateur Radio Service was never created as a family radio service, but it has become that also.

No where in either the international or FCC rules does it mention that one of the purposes of the amateur service is to be Morse proficient. There is, however, an international rule which requires Morse knowledge when the operation takes place under 30 MHz. In the United States, over the last thirty years amateur radio has developed into a structured hobby with the Morse code being the primary licensing ingredient. Thus, our technical hobby is really based on a non-technical art form.

Two of the flawed concepts in amateur radio is that the "crown jewel" is the ability to operate on HF. Another is that if we don't have a Morse requirement, millions of people will commandeer our bands like CB. I don't believe either of these notions. First of all, in recent years, the reliability and importance of the VHF/UHF and higher frequency bands has been proven. If anything, the microwaves are more valuable than HF. Commercial interests have paid billions for these frequencies.

And secondly we have theory testing requirements which tends to limit the number of licensed amateurs. I simply do not believe that abolishing code testing will result in a glorified CB radio service. I heard that claim when code was abolished at the VHF level. But it didn't happen. Sure, we have a few bad apples, but overall, today's Technician amateur is a credit to our hobby. It is safe to assume that higher classes -- even without a code requirement -- would grow about the same rate or less.

Under the current system, upgrading to higher class licenses is shrinking. Ten years ago, sixty percent of all amateurs were at the General and higher class level. Today, that figure is down to about 40% -- and dropping. At the end of 1996, there were less amateurs at these classes than the year prior. Only the code-free Technician Class is growing.

HF operators are aging and HF Interest is declining. And many manufacturers and dealers are going out of business. This is translating into lowered advertising revenue for amateur radio publications and is resulting in higher membership dues needed by the ARRL. At the rate we are going, it won't be long before we will have more Technician Class amateurs than the rest of the amateur classes combined. I believe that the answer to a stagnating, aging hobby is to revitalize the system.

Do I think there is a justification for the presence of Morse code in amateur radio. Yes, I do. There are large numbers of people worldwide who enjoy using it. But I also believe that new technologies ...such as the Internet and cellular phone are diminishing ham radio. You don't require a license there -- only equipment. Operating CW on the HF bands is fun. But it makes little sense from a regulatory standpoint to require

proficiency in a mode that will not - and need not - be used.

I think the code should be voluntary. I believe that the CW requirement has kept otherwise qualified people out of the hobby. That is something we can not afford to do when commercial interests are targeting our valuable frequencies. The radio spectrum is public property and the Government will dole out the frequencies to those who will benefit the most. We need to refocus our energy. Remember that without spectrum there is no ham radio.

JUST HOW IMPORTANT IS CW?

I personally find CW operating fun, satisfying and rewarding and I hold DXCC-CW only. But it is clear to me that not everyone feels this way. It used to be that ham radio provided a way to meet new people over great distances. Today, new wireless and wireline technologies have removed the magic from amateur radio. There is a big gap between the ham operator of yesterday and today's communications enthusiast. What we consider the mainstream of ham radio is pretty much obsolete technology to the kids of today who are the life blood of our hobby. And as Internet voice and video advances, the gap will get wider.

By today's digital communications standards, CW is slow and inefficient. To an outsider, the code requirement is a sacrifice that eats up an excessive amount of valuable learning time. Most won't do it, but that doesn't mean they are undesirable people.

CW testing is now not only a form of social discrimination, but it has also serves to divide the amateur community. The so-called "in crowd" knows CW. The "out crowd" does not. Most no code amateurs do not believe that they are "wanted" by the long term amateurs. And, as a general rule, they do not participate with them -- nor are they joining the ARRL.

If Morse knowledge were voluntary, many new and existing amateurs would be transmitting also in HF. And our hobby would have more participants. Unfortunately, many existing HF operators do not want more participants who they perceive as competition to their signals. This is also part of the problem.

Just because I learned the code doesn't mean that everyone else should have to. Morse is only one mode and does not deserve special emphasis above any other analog or digital mode. And I really see no reason why Morse needs to be transcribed by ear when machines can do it so much better, at much faster baud rates and with better accuracy.

The current rules permit amateurs who have passed the minimum 5 words-per-minute code requirement to obtain a waiver of the higher speeds if they have a doctor-certified handicap. It doesn't seem hard to get. Even a learning disability qualifies. And if an applicant can't pass the slow speed requirement, then they take the exam one character at a time -- at no particular speed. It hardly seems to be an equitable arrangement and there are widespread abuses raising the question of fairness.

There appears to be a widespread belief among old timers that people "filtered" through Morse code testing make better candidates for ham radio -- or that eliminating the Morse requirement would allow standards to fall. These people relate personal sacrifice to quality.

But there is no credible evidence that Morse speed testing sifts out those with potentially good behavior. I listen to 80,

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40 and 20 meters all the time and I am frequently ashamed of what I hear from amateurs who went through the CW "cleansing process." It appears to me that the greatest enforcement problems comes from amateurs who are Morse proficient.

We need to assure ham radio's survival in the coming century. As it is now, a "true" amateur radio operator seems to be defined as one having Morse proficiency. Amateur radio needs to be modernized and abolishing code testing I believe should be one part of it. In reality, Morse code testing is a form of "hazing." And that's not something that our federal government should condone ...much less participate in. The objective of licensing is not to prove one's worth in terms of time, effort or sacrifice. The purpose of testing and licensing is to confirm the minimum qualifications needed, to contribute to spectrum management -- and to minimize interference to others.

I know dozens of exceptionally well-qualified people who have resisted joining our ranks simply because of the Morse hazing ritual. I do not buy into the theory that otherwise qualified operators are lazy. But this is what many code advocates seem to think. And I am distressed by those pro-coders who feel obligated to attack the motives of anyone who does not agree with their position. The fact remains, that from a regulatory standpoint, it makes no sense to require manual Morse proficiency in order to gain access to totally unrelated privileges in the HF bands.

I see no point in having Morse testing at all. If a person wishes to operate CW, he or she will learn and do it. One of the neat features of ham radio, is that you can participate in many modes without the necessity of proving proficiency. Requiring Morse testing to access HF voice bands makes little sense because the code no longer serves any regulatory or safety purpose. No one is against the use of CW on the amateur bands. What is objectionable is Morse code testing in order to be authorized to use voice below 30 MHz.

It is true that Morse equipment is simpler, less expensive and easily home constructed and an ideal mode for weak signal and propagation experimentation. But that certainly is not a reason to force the mode on everyone. Besides, few amateurs home brew their equipment today. And I do not believe that Morse code is the only practical means of ensuring that amateur stations across the globe are capable of communicating with one other. Anything that is possible via Morse code is possible by any digital mode.

From a purely technical standpoint, manual CW on the unreliable HF bands is a very inefficient way to pass communications. Traffic can be passed faster, more accurately and automatically forwarded with the various digital modes available to us today. One of the biggest advantages of packet and the newer digital modes are their unattended nature. You can completely eliminate the human operator from all handling except at origination and receipt. This speeds the message on its way much faster and eliminates the errors that human relay operators using manual Morse would introduce

LETS TALK ABOUT EMERGENCY USE...

Many advocates of continued Morse testing say that the code is still a significant communications tool outside of recreational amateur Morse activity. I don't believe it. And apparently neither do the various governments of the world since they are all discontinuing commercial, military and maritime Morse.

The fact of the matter is that the days when hams provided the only emergency communication are virtually over, what

with the widespread availability of cellular phones and small portable satellite stations. When public service by amateurs is called for, it's almost exclusively phone operation.

And its a mistaken notion that CW gets through when all other modes fail. There are self-correcting digital techniques that can get through when manual Morse cannot. Morse code is very, very seldom used by amateurs during an emergency.

The U.S., Canadian, British and French Coast Guards no longer even listen on 500 kHz, which for 75 years was the CW cornerstone of maritime distress communications. Nowadays no ship captain relies on Morse Code for emergency communications since there are many superior methods available. If Morse was of any value in emergencies it would be used.

By 1999, all commercial ships sailing the high seas will have to be equipped with digital and satellite emergency communications and automatic float-free beacons. CW is out. It won't even be used for backup purposes. In short, the world has abandoned Morse in favor of faster, better, and more reliable techniques.

IN CONCLUSION

I believe the code debate is over and that the decision has already been made. Canada, the United Kingdom the United States delegations -- and many others -- are already on record as favoring abolishing the code requirement in the amateur service. The U.S. delegation wanted to eliminate it at the last WARC in 1979 and voted to do so.

The bottom line is that when a requirement is no longer of any value, then the requirement must be dropped or changed. Even respondents to the ARRL survey question asking if individual countries should be allowed to decide if code should be required, 52% said yes, 38% no and 10% had no opinion.

It appears, however, that the ARRL will support the wishes of its membership which is to retain the code requirement. Being a membership organization of essentially long term operators who have passed the code requirement, they have little choice. It is unfortunate that more no-coders aren't League members so that their voice would be heard and we need to promote ARRL membership for all.

The preliminary finding of the IARU is that the code requirement should be eliminated. Their reason given is that it will be many years before the issue can be considered again. They said "It is unrealistic to expect that Article S25, having been placed on the agenda for WRC-99, will again be reviewed at another conference in the foreseeable future." Actually, I believe they see the handwriting on the wall.

There is no question in my mind that the Morse testing requirement will be eliminated at WRC-99. The battle has already been decided. And many of the gyrations that the ARRL and IARU are going through are really unnecessary and artificial. We really should be spending our time considering the more productive issue of what, if anything, should replace the code test. We all need to compromise and develop a new plan for ham radio's future. There is a place for all modes ...CW and non-CW. All the arguing over Morse code is getting us nowhere.

As one old timer recently said, "I am sad to see code go. It was fun. But progress goes on. Nostalgia is not a good reason to continue the requirement." In short, the rest of the communications world has already changed. It is time for amateur radio to follow. You know, we used to be leaders.