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...

13-cm Ham Band May be at Risk
FCC's S25 Working Group Update
Sprayable Radio Antennas Coming!
On the Merging of TV and the PC
NY Bans Cell Phones While Driving
New Windows XP Operating System
Microsoft Relents on Windows Rules
Report: Student Cheating on the Web
Internet Grocer Webvan to Shut Down
FCC Now Up to Full Strength
Chet Atkins W4CGP Dead at Age 77
Novice Spectrum Refarming Survey
Amateur Radio Enforcement News
Backing Up Internet with Ham Radio
Battle between Pirates and Satellite TV

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Amateur and Commercial Operations go after the 13-cm Band

The 2300-2305 MHz segment is ideally suited for domestic Primary allocation to the Amateur Service. Amateurs make significant use of the 2300-2305 MHz segment for numerous types of communications. Amateurs need and should be afforded protection from commercial uses within the 2300-2305 MHz band. (ARRL Petition for Rule Making)

On July 2 the FCC placed on Public Notice the May 7, 2001 petition from American Radio Relay League and another (April 8, 2001) petition from AeroAstro, Inc., to allocate the 2300-2305 MHz (13-cm) band. The ARRL rule making file number is RM-10165 and AeroAstro: RM-10166.

This band was transferred from the federal government's spectrum arsenal to "Non-government" exclusive spectrum in August 1995. In the process of reallocation from Government use, Congress instructed that, in identifying spectrum for transfer to non-Government use, the Secretary of Commerce must avoid "...excessive disruption of existing use of Federal Government frequencies by amateur radio licensees."

In November 1999, the FCC affirmed the "reserve status" of this band along with the 2400-2402 and 2417 to 2450 MHz segments "...until a future time when new technology or other changes may increase the opportunities for new operations in these bands."

The 13-cm band

The ARRL pointed out that until approximately fifteen years ago, the Amateur Service had secondary access domestically to the entire 2300-2450 MHz band and had essentially unlimited use of the 2300-2400 MHz band prior to 1984, due to the relatively light use by Government Radiolocation, away from populated areas.

Most amateur operation below 2400 MHz including "moon bounce" or *Earth-Moon-Earth* (EME) has historically concentrated most densely around 2304 MHz. The portion of the band above 2400 MHz has been used for ATV and satellite operation, and more recently, the 2390-2450 MHz segment has been used for broadband amateur applications.

The Amateur Service was excluded from the 2310-2390 MHz band domestically in 1984, in order to accommodate aeronautical flight test telemetry in that band in certain areas. Amateur use of the 2400-2450 MHz band has always been limited by noise from unlicensed low power (Part 15) and Industrial, Scientific and Medical (Part 18) devices above 2400 MHz.

"The most useful segment for amateur weak-signal communications and propagation research, including beacon operation, is 2300-2305 MHz, because of the low noise levels in that band," the League said.

At present this segment is allocated to the Amateur Service on a secondary basis and amateur stations must not cause interference to stations authorized by other nations in the fixed, mobile and

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radiocommunication services. This band has no primary allocation.

ARRL wants the Amateur Radio status in this band upgraded to primary and asks that commercial operations not be introduced into the band. The Amateur Service already has primary 13-cm allocations at 2390-2400 MHz and 2402-2417 MHz.

"The segment 2300-2305 MHz is of extreme importance to the Amateur Service, especially for weak-signal communications and propagation research, including beacon operation, due to the low noise levels in that band," the ARRL noted. The revived petition was prompted by increasing demands on that portion of the spectrum due to development of new telecommunications technologies.

In light of the FCC's stated policy to protect incumbent amateur operation at 2300-2305 MHz, upgrading the amateur allocation there "...would constitute the highest and best use of the band at present," the League said in its latest filing.

The ARRL said it was necessary to "maintain flexibility in the amateur uses of the 2300-2305 MHz band, so that some paired, point-to-point operation can be conducted, together with frequencies in the 2390-2400 MHz band."

This is actually ARRL's second petition on the subject. On November 19, 1996, the League filed a petition seeking to upgrade the 2300-2305 MHz segment to a primary Amateur band but the petition was never acted upon. The May 2001 petition is actually a restatement of a document filed by the League in ET Docket No. 94-32.

That proceeding dealt with the *Allocation of Spectrum Below 5 GHz Transferred from Federal Government Use,* following the enactment of the *Omnibus Budget Reconciliation Act of 1993* ("OBRA"). ARRL's document was entitled a *"Petition of The American Radio Relay League, Incorporated for Issuance of Further Notice of Proposed Rule Making."*

Since the filing of the ARRL Petition in 1996, there has been no modification of the 2300-2305 MHz allocation. Amateurs remain secondary in that segment and there is no primary allocation

Commercial use of the band

The League has been made aware of a *Petition for Rule Making* filed last April by a company called "AeroAstro, Inc.", which seeks the allocation of 2300-2305 MHz on a co-primary basis to the MWCS *(Miscellaneous Wireless Communications Service)* and the Amateur Service, with severe operating constraints on the Amateur Service.

AeroAstro Inc, founded in 1988, is a small company with 28 employees in Herndon, VA and Boston, MA. They develop very small, low cost commercial satellites

The Commission in Docket 96-228 created the MWCS, now Part 27 of the FCC's Rules, in 1997. The allocation for that Service, which is a general wireless service available for just about anything (fixed, mobile, radiolocation, and audio-broadcasting satellite operations) included the 2305- 2320 MHz and the 2345-2360 MHz bands.

The Commission did not, in the process of creating the MWCS, delete the secondary Amateur allocation at 2305-2310 MHz. However, due to the undefined nature of MWCS, it is apparent that amateur use of the upper half of the 2300-2310 MHz allocation, especially in populated areas, will be difficult, ARRL said. "The Commission made it clear that any continued amateur operation at 2305-2310 MHz must protect WCS operations. Therefore, what remains of the 2300-2310 MHz band for Amateur use, as a practical matter, is the 2300-2305 MHz segment."

AeroAstro wants to use the 2300-2305 MHz band for SENS *(Satellite Enabled Notification System)* uplinks, a satellite location and data-collection network for large numbers of small user devices. AeroAstro is already operating in the band under an FCC experimental license.

ARRL described the AeroAstro petition in unfavorable terms, but it reserved detailed comment for the Public Notice period. The ARRL said the petition would impose "severe operating constraints on the Amateur Service."

The League said "Sharing between Federal Government users and the Amateur Service has been successful largely because Federal operations are generally located outside of highly populated areas. It is very unlikely that the Amateur Service will enjoy an analogous situation with a commercial or other private sector service. If commercial services are to share with the weak signal operations located at 2303.75 - 2304.75 MHz, they must be able to withstand potential interference from the high-powered transmitters used for those operations, but not create interference to the sensitive receivers used."

Other companies interested in this band include ArrayComm, for its iBurst service; and MicroTrax which asked for the allocation of a series of eleven frequency bands for a new *Personal Location and Monitoring Service* (PLM) to conduct location monitoring and identification of persons and objects. Among these was the 2300-2305 MHz band.

The Petition was opposed by ARRL in comments filed February 7, 2000 and the FCC did not allocate the 2300-2305 MHz for the type of personal location and monitoring service proposed by MicroTrax. Instead, it proposed to allocate 1670-1675 MHz and 2385-2390 MHz for PLM service.

Presumably licenses in the 2300-2305 MHz band would be auctioned if allocated to MWCS. But there are some sticky interference issues here, not only the amateur allocation but also sensitive adjacent operations.

FCC's AMATEUR RADIO ADVISORY COMMITTEE TO WRC-2003

The ITU's next World Radiocommunication Conference, WRC-03 will be held in Venezuela from June 9 to July 4, 2003

The FCC's International Bureau has been very busy preparing. Informal Working Group 6 (IWG-6) continues to work on the Amateur Radio Service recommendations it will give to the WRC-03 Advisory Committee including suggestions for U.S. proposals and positions on agenda Item No.:

"1.7 – to consider issues concerning the amateur and amateur-satellite services" and;

"1.7.1 possible revision of Article S25."

The Working Group guidelines state that:

"Where appropriate, IWG-6 recommendations shall address the International Radio Regulations, their Appendices, Resolutions and Recommendations, including additions [ADD], modifications [MOD] or suppressions [SUP] that may be required. IWG recommendations for U.S. proposals to WRC-03 shall be supported by narrative text indicating:

- the basis of the need for any changes that may be required including any rationale that may be useful to promoting and negotiating the recommendation; and
- the relationship or dependency upon preparatory work and/or recommendations of other domestic and international groups outside the terms of reference of this group."

Here is the latest draft of Agenda Item No. 1.7.1.

Doc. IWG-6/049 (Rev. 2)
6 July 2001
Paul Rinaldo
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Informal Working Group 6

DRAFT PROPOSAL FOR THE WORK OF THE CONFERENCE

WRC-2003 Agenda Item 1.7: *to consider issues concerning the amateur and amateur-satellite services:*

ISSUES: 1.7.1 possible revision of Article S25;

BACKGROUND:

Agenda Item 1.7.1. At WRC-95, one administration proposed to delete from Article S25 the requirement that amateurs demonstrate Morse code capability to be licensed to operate on frequencies below 30 MHz. Instead, a review of Article S25 was placed on the preliminary agenda for WRC-99. At WRC-97 this agenda item was moved to the preliminary agenda for WRC-01. At WRC-2000 the item was confirmed on the agenda for WRC-03.

Article S25 contains 11 paragraphs, only one of which relates to the Morse code requirement. In 1996 the International Amateur Radio Union (IARU), an ITU Sector Member, initiated a review of the entire Article by publishing a discussion paper and soliciting comment. Several iterations of the paper and discussions at three regional conferences over a three-year period culminated in the adoption of a consensus view in 1998. This consensus view supports the following principles:

- Retention of the requirement that administrations shall verify the technical and operational qualifications of any person wishing to operate an amateur station. The specific qualifications are subject to change over time and more appropriately belong in an ITU-R Recommendation than in a treaty document. Accordingly, Recommendation M.[RAM.QUAL] was developed in Working Party 8A and has been adopted by Study Group 8 by correspondence.
- Protection of the non-commercial nature of the amateur and amateur-satellite services.
- Inclusion of specific provisions to recognize the disaster communications role of the amateur service and to facilitate global roaming by amateur stations.
- Relief from the existing prohibition on transmitting international communications on behalf of third parties.
- Elimination of the provision forbidding radiocommunications between amateurs of different countries if the administration of one of the countries has notified that it objects to such communications.
- Elimination of redundant provisions that simply repeat regulations that apply generally to all radio services.

By applying these principles the IARU was able to redraft Article S25, reducing it from 11 to just six paragraphs. The IARU draft of Article S25 does *not* include the Morse code requirement (present paragraph S25.5). The following USA proposal, while not identical in all respects to the IARU recommendation, is consistent in all major respects.

PROPOSAL:
USA/xx/1

Amateur Services

Section 1. Amateur Service

MOD

S25.1 1. Administrations shall verify the technical and operational qualifications of any person wishing to operate an amateur station. ~~A person seeking a licence to operate an amateur station shall be required to demonstrate a knowledge of the topics specified in ITU-R Recommendation M.[RAM.QUAL].~~

[Note: It is now proposed to delete the reference to ITU-R Recommendation M.[RAM.QUAL]. But this does not mean that a majority of other countries could not still agree to its inclusion in the international Amateur Radio rules. This IARU recommendation specifies the minimum qualifications for a Amateur Radio license.]

Reasons:
To establish technical and operational qualifications of amateur operators.

MOD

S25.2 2. (1) Transmissions between amateur stations of different countries shall be limited to communications incidental to the purposes of the amateur service or of a personal character.

(2) Except with the authority of the relevant administration granted to meet a particular operational need, transmissions between amateur stations shall not be encoded for the purpose of obscuring their meaning.

Reasons:
Renumbering of existing provisions.

MOD

S25.3 3. Administrations are urged to take the steps necessary to allow amateur stations to prepare for and meet communication needs in the event of a natural disaster.

Reasons:
Recognizes disaster communications role of the amateur service.

MOD

S25.4 4. An administration may, without issuing a licence, permit a person who has been granted a license to operate an amateur station by another administration, to operate an amateur station while that person is temporarily in its territory, subject to such conditions or restrictions it may impose.

Reasons:
To facilitate global roaming by amateur stations.

Section II. Amateur-Satellite Service

MOD

S25.5 5. The provisions of Section I of this Article shall apply equally, as appropriate, to the amateur-satellite service.

Reasons:
Consequential renumbering.

MOD

S25.6 6. Administrations authorising space stations in the amateur-satellite service shall ensure that sufficient earth command stations are established before launch to ensure that any harmful interference caused by emissions from a station in the amateur-satellite service can be immediately eliminated.

Reasons:
Restatement of requirement and eliminating provisions already covered in Article **S15**.

SUP [Suppress]
S25.7 through **S25.11**.

CUTTING EDGE TECHNOLOGY

Sprayable and embedded antennas - A story in the July issue of *"Signal"*, a military communications magazine, tells how researchers are studying applications and materials for creating radio antennas that are sprayed onto a surface.

To create an antenna, a template is placed on the desired surface, and metal-based or carbon-graphite-based paints are sprayed over it and a connector is attached. The antennas can be applied directly to walls, windows or fabric shelters, allowing military commanders and relief workers to quickly set up communications networks.

Work is also being conducted on developing "invisible" antennas built into transparent surfaces such as glass or plastic. Unlike sprayable antennas, these devices consist of films embedded into or placed over a windshield or a window.

Both types of antennas could receive a variety of signals such as AM, FM, global positioning system, cellular telephone and personal communications systems transmissions. One goal of the research is to develop multifunction antennas for law enforcement vehicles so as not to tip off others about the identity of the vehicle.

Kodak has a new president -- Patricia Russo who came from Lucent Technologies -- and a badly needed new direction ...that is to bring the film giant into the digital age. Its primary business, conventional film is fading into oblivion.

Though growing fast, digital photography still makes up a small fraction of the $90-billion-a-year global photo business. Digital cameras represent just 13 percent of total camera sales worldwide but is surging upward. They are expected to grow as much as 32 percent this year. By Christmas, one in five cameras sold will be digital. But four-fifths of Kodak's $14 billion in revenue still comes from conventional photography. Sales of Kodak film have declined for the last three quarters.

Last year, Kodak was the No. 2 seller of digital cameras, behind Sony. But Kodak loses around $60 on every digital camera it sells, hoping to eventually make the money from online services, printers or other products. So far it has not worked.

It is now poised to enter what it says is a $225 billion market for "info-imaging", a world where data, audio and images converge. Instead of making products, they will move towards a systems and services business.

In April, Kodak launched the "EasyShare" system, which combines a digital camera and a docking station to make uploading images simple and fast. You shoot a picture, drop the camera into a small hardware base which is connected to your (Windows or MacIntosh) PC, touch a button, print and share your pictures online with the world. The ultra high resolution (1800x1200 pixel) DX3500 EasyShare camera, bundled with dock and software sells for $379. The DX3600 ($459) also captures video and audio.

If Russo succeeds, Kodak could become the Microsoft of digital photography. If she fails, Kodak will languish as just another American company overwhelmed by new technology. *(Digested from "The Industry Standard" July 3, 2001)*

EMERGING COMMUNICATIONS

The long-held theory that broadband technology would be the force that merges the PC and TV into a single device does not seem to be accurate. Research firm McKinsey Quarterly says the two markets are so dissimilar that two dramatically different markets will coexist ...at least for the next few years..

"Companies offering interactive-TV applications are likely to reach profitability quite rapidly as TVs become more than simple receivers. Providers of PC-based applications offered over the Internet, by contrast, face open standards, high costs and consumers who are not used to paying for content..."

"The variety of broadband applications that will work well with PCs ranges from streaming audio and video to gaming, unified messaging, enhanced file sharing and virtual models and tours."

"Gaming is already big business. In 1999, people in the United States spent about $7 billion on PC and console game software - roughly the amount they spent on first-run movies." *(Reported by CNet)*

The *Wall Street Journal* reported that **Verizon Wireless, the No. 1 cellular carrier in the U.S., added 807 thousand new cellular subscribers in the second quarter for a total of 1.3 million new subscribers added this year.** Verizon Wireless now has 28 million customers or one quarter of all wireless subscribers in the U.S.

With customers using so many minutes, the networks of many large-market wireless operators are getting full and more spectrum is needed. Some 42 percent of the U.S. population now carries a wireless telephone. Verizon can only last another two years in some major markets without expansion.

Verizon Wireless was formed by Verizon Communications - formerly Bell Atlantic and GTE - and Vodafone - the largest mobile telecommunications network company in the world. Vodafone (name derived from VOice and DAta) launched in the United Kingdom in 1985.

Vodafone has approximately 93 million customers in 29 countries. By market capitalization, Vodafone is the largest company in Europe, and is one of the ten largest companies in the world.

Major cities are wiring their underground (such as subways, tunnels, rail systems and other wireless dead zones) so that cell phones will still work.

Beginning Nov. 1st, it will be illegal for motorists to use a handheld cell phone while driving in New York State ...the lone exception is for making emergency 911 calls. New York thus becomes the first state to enact such a law. The potential $300 fine has caused a huge run on headsets and other hands-free devices in the state.

A similar bill passed by Rhode Island lawmakers was vetoed by the state's governor. He cited statistics showing that wireless phone use contributes to only a small fraction of highway crashes and that other driver distractions - eating, drinking, reading, shaving, ...applying makeup - cause more accidents than cell phones.

Thirty-nine other states are considering legislation that would ban or limit motorists' use of wireless phones.

COMPUTERS & SOFTWARE

Microsoft Corp. has distributed its first release candidate (code-named RC1) for Windows XP, its new Windows operating system for home and business. It gives users a chance to evaluate Windows XP - the upgrade to versions 95, 98, Me and 2000 - prior to its Oct. 25 launch. More than 500,000 users have been involved in the beta testing program to date and the feedback generally

has been very good.

New features include a real-time Windows Messenger communications facility that enables people to see, talk, work and play with friends, family and colleagues online. Among other new goodies are an Internet personal firewall, a new (Version 8) Windows media player with CD-burning and DVD-playback, remote access tools, movie-making and photo-editing/printing software, wireless capabilities, broadband networking and an entirely new desktop look. Windows XP also includes a new version of the Internet Explorer browser, IE 6.

The good news: The next release of Microsoft's operating system comes out with enough features so that, for most people, they don't need anything else.

The bad news: Analysts warn that the requirements could force many users to buy new PCs with more horsepower to run the operating system. Microsoft's Web site recommends a minimum 300 MHz Pentium II processor and 128MB of RAM to run the Windows XP

More than 100,000 participants are enrolled in the Windows XP Preview Program, and, for a small fee, consumers can join the program and test drive Windows XP prior to its general availability. Registration for the Windows XP Preview Program is available through <www.microsoft.com/windowsxp/preview/>.

PC makers given some control of the Windows desktop real estate. Although the U.S. Court of Appeals in Washington, D.C. last month ruled Microsoft would not have to be broken up into separate companies, it concluded Microsoft's licensing agreements with PC companies that gave preference to its software were illegal.

Microsoft had included its Internet Explorer browser in its Windows operating system and prohibited PC makers from removing the program. Previously manufacturers could add shortcuts but couldn't remove any Microsoft icons such as the one for Internet Explorer.

As a result of the Court decision, Microsoft is now agreeing to let computer makers remove the shortcuts to its Internet Explorer browser from the Windows computer desktop.

Microsoft said that only the browser icon could be removed since that was the product addressed by the court. Analysts said the change should not impact the browser market since Microsoft has already won the browser war.

Microsoft had also planned to end its practice of letting PC makers add icons to the initial start page "...in the interest of having a clean desktop." But Microsoft has now relented and will continue its past policy of permitting manufacturers to add shortcuts to competing software products (such as the Netscape browser) to its new Windows XP operating system due out in just 3 months.

INTERNET NEWS

The Wall Street Journal (July 2) tells about how in the last year, **the number of Internet service providers has shrunk from 4,000 to only 70.** This is according to U.K. research firm, Analysys Ltd. A half dozen ISPs, mostly owned by national telephone companies, have about 50% of the market. There are huge economies of scale to running an ISP.

Term papers in the new millenium - or - Cheating is big business! High school and college kids are getting better at writing essays, reports, research studies and term papers - or so it seems ...thanks to the Internet.

They simply download someone else's, use it as a guide and add some embellishment's with the help of a search engine. A frequent use is to come up with an idea for a term paper. Even though essay sites clearly say that their papers are "...for reference purposes only", many students simply submit someone else's paper as their own.

Teacher's and students are well aware of the plagiarism system. Parents less so. Unknown to them are hundreds of Websites that specialize in posting completed homework ...even search engines dedicated to finding an essay website. See: <http://www.freeessay.com/find/>, <http://essays.hostme.com/> and <http://www.saunalahti.fi/frog1/-essay/>. There are hundreds of thousands of essays on line! <http://www.-goldenessays.com/> says they have 25,000 free essays; <http://www.-15000papers.com/> claims to have 15,000 on various subjects! All are arranged in easy-to-use subject categories.

Some sites offer free papers, others charge up to $9 or $10 a page. <www.-megaessays.com/> charges a monthly ($14.95) flat fee subscription rate to its 50,000 completed papers ($29.95 for 6 months.) <www.bignerds.com/> offers a lifetime supply (6500) essays for $25 on a CD-ROM.

Some sites will even completely custom write your term paper (at around $20 a page!) ...even a college Ph.d thesis from the ground up. <www.thewriters-coach.com/>.

<http://www.termpapers-on-file.-com/customwriting.htm> maintains a full time staff of writers and researchers who can prepare an entirely new paper on any subject according to your guidelines and by any date you specify - even tomorrow.

Others take a "work in progress" and finish (professionalize) it for you. <essay-repair.totally.net/>. Going to the library is now apparently archaic.

Webvan laid to rest in dot.com graveyard; latest victim of the bursting Internet bubble. It appears that buying groceries over the web and having them delivered to your door is a concept that isn't going to fly ...at least not anytime soon. People want to see what they are getting ...especially meat and produce. And they don't want to pay higher than locally available prices..

Webvan began selling groceries over the Internet about two years ago, promising delivery of goods within a 30-minute window specified by customers. A research firm said Webvan had a 46 percent share of the online grocery market and 750,000 active customers.

A couple of weeks ago, the once billion dollar Webvan operation folded its tent and shut down its website. The decision to file for Chapter 11 bankruptcy (rather than Chapter 7 liquidation) allows Webvan to manage the sale of any remaining company assets. The company said it would not resume operations.

Webvan, the brainchild of Louis Borders of Borders bookstore fame, was a colossal failure! Venture capitalists poured big bucks into it. Its shares sold for a high of $34.00 just 18 months ago giving it a market capitalization of more than $10 billion. On July 10th the shares were worth 5¢ - virtually worthless!

Webvan had strived to be a national company and its 26 city expansion had taken it from coast-to-coast -- from its California base to Atlanta ...and from Chicago to Dallas. Their business model was based on the premise that affluent, busy people wanted to avoid a trip to the grocery store. But the number of people willing to place large $100 orders never made up for high overhead and razor-thin profit margins.

Traditional supermarkets typically

only make $2 to $4 on every $100 in sales and make up for low margins with high volume. Webvan competed against traditional grocers which forced them to sell groceries at basically the same price as established supermarkets. Their extra $10 to $15 in delivery costs eliminated any possible chance of ever making a profit.

WebVan joins several other online grocers already on the dot.com scrap heap. Among them are: ShopLink.com, HomeGrocer.com, WebhouseClub.com, HomeRuns.com, Streamline.com and PDQuick.com.

While the number of online grocers is dwindling, they are not all completely dead. WhyRunOut.com, NetGrocer.com and Peapod.com still operate to some extent. And Groceryworks.com is being relaunched thanks to an overseas cash infusion and groceries from local Safeways.

Sometime in the future, online grocery shopping may be widespread, but it clearly is a long way off. Most large brick-and-mortar supermarkets (such as Albertsons.com) pick-and-pack groceries for customer pick up ...or will deliver free from local stores if you place a large order. At least one dot.com - <www.mywebgrocer.com> specializes in putting local grocers on the Internet.

Webvan's remaining workers did not receiving severance pay, but an anonymous person donated $1.5 million (about $900 each) to be divided up between its discharged employees.

Latin America is the world's fastest growing internet region. Overall user population is estimated to jump from nearly 10 million in 2000 to over 40 million in 2004.

WASHINGTON WHISPERS

The FCC has proposed new regulations by which it finances its Universal Service Fund. The USF is the method by which the FCC ensures that affordable telecommunications services are available to all Americans.

Telephone companies contribute to this fund but are allowed to recover it from their customers. The amount was 5.7% of total revenues last year; it is now 6.9%. Sort of a "redistribution from the rich" and "give to the poor" Robin Hood scheme. It amounts to billions of dollars.

Most companies add a "line item" charge on their customer telephone bills. Some telco's charge their customers more than the amount of their USF contribution. This money is used to subsidize telecommunications service in rural areas, provide discounts to low-income consumers and to provide Internet access and "internal connections" (i.e. wiring classrooms and buying computers, servers, routers, etc.) for schools and libraries. Many believe the plan, also known as the "e-rate" program, amounts to a hidden tax. It is commonly referred to as the "Gore tax."

Among the issues that the FCC wants comment on is whether telephone companies should be limited to charging no more than what they contribute to the USF and whether the charge should be listed on phone bills in an easy-to-understand way.

Kevin J. Martin was sworn in July 3rd as a member of the Federal Communications Commission for a term that runs to June 30, 2006. Before joining the FCC, Martin was a Special Assistant to the President for Economic Policy. He served on the Bush-Cheney Transition Team and was Deputy General Counsel for the Bush campaign. He also had been an advisor to outgoing FCC Commissioner Harold Furchtgott-Roth, served in the Office of the Independent Counsel and was a lawyer at the respected Washington, DC law firm of Wiley, Rein & Fielding.

Martin received a B.A. from the University of North Carolina at Chapel Hill, a Masters in Public Policy from Duke University, and a J.D. from Harvard.

The FCC now has a full panel. The lone hold-over, Gloria Tristani's term ends June 30, 2003. Kathleen Q. Abernathy's term expires June 30, 2004. Michael J. Copps' term runs until June 30, 2005.

FCC Chairman Michael K. Powell's term originally was to expire on June 30, 2002 but the Bush administration nominated him to serve a second five-year term until June 30, 2007.

The St. Louis Post-Dispatch newspaper (July 11, 2001) tells how **a St. Charles, Missouri man convicted of child molestation will lose his five broadcast station licenses** within 90 days. The FCC said it would auction his licenses. "The decision marks the first time in many years that the FCC has revoked a license because it finds the owner morally unfit." The man's attorney has charged that the FCC abuses its powers when it punishes licensees for acts not related to their ability to run radio stations.

AMATEUR RADIO

World famous country legend Chet Atkins W4CGP of Nashville, TN died in Nashville on June 30th. He was 77. Atkins had a long history of colon and brain cancer. Chester Burton Atkins, born on June 20, 1924 in the impoverished hill country near Knoxville, Tennessee, began his music career at age 5 with a broken ukelele with strings made from a screen door. He got his first job at 17 playing with a radio station orchestra in Knoxville.

Known as "Mister Guitar," Chet changed his WA4CZD ham call sign to W4CGP in 1998 under the Vanity call sign program. He chose the suffix "cgp" to match the letters he frequently added to his signature. He said it stood for "certified guitar player."

Atkins won a total of 14 Grammys and was the youngest person ever to be inducted into the Country Music Hall of Fame. He worked with the best, including Elvis Presley, the Everly Brothers, Dolly Parton, Waylon Jennings, Willie Nelson, Eddy Arnold, Perry Como and others.

The ARRL Novice Spectrum Study Committee is asking for suggestions on the best way to "re-farm" (re- use) the present Novice and Technician Plus HF allocations on 80, 40, 15 and 10 meters.

The League said that the "Survey results might form the basis for the ARRL to approach the FCC and request changes in the ways amateurs may operate within HF bands that contain Novice subbands." Notice the word "might" - historically the directors "do their own thing."

The ARRL has set up an online survey which is available to ARRL members on the Web at: <http://www.arrl.org/members-only/NoviceSurvey.html>. Members will be able to complete and submit the survey only once. Nonmembers are invited to e-mail comments and suggestions to: <novicesurvey@arrl.org>. The committee is chaired by ex-ARRL president Rod Stafford, W6ROD.

Some 40,000 Novice licensees remain in the current FCC database, and that number is dropping by some 6000 licensees each year through attrition and upgrading. The committee will present a final report at the annual meeting next January.

Another "Re-Farming the Novice/-Technician Plus HF sub bands and the ARRL Novice Spectrum Survey" online

response form has been established at: <http://www.eham.net> under their "Speak Out" section on the main page.

It seems very unlikely, however, that the FCC will accept - or even consider - any proposal to "refarm" the so-called Novice HF bands. FCC's Bill Cross clearly said at the Dayton Hamvention forum that before the FCC initiates any rule making proceedings in the Amateur Service to change privileges it wants to see proposals involving the implementation of "new and more modern communications technologies," such as digital.

In addition, he said, any future proposal "must include all licensees, and it must include all bands," and - most important - the amateur community must reach a consensus on the topic."

A question we get asked frequently is **"How does a foreign radioamateur with a U.S. (FCC-issued) Amateur Radio license renew their license when they do not have a Social Security Number?"**

The FCC's technical support people must assign the non-citizen an "Assigned Taxpayer Identification Number" (ATIN) which is used in place of the Social Security Number (SSN.) It is a nine character ID number beginning with the letter "A" followed by eight digits.

To obtain the ATIN, foreign radioamateurs must either telephone ULS Tech Support at (202) 414-1250 or send an e-mail to: <ULSCOMM@fcc.gov> stating they want to renew their license. In the e- mail, they must give their name, U.S. mailing address (it *must* be a U.S. address), the expiration date of the license, and their country and home telephone number. The FCC will either call the amateur or send an e-mail with the ATIN.

The non-citizen radioamateur can then renew online at our website using the ATIN in place of the SSN. The URL is: <www.w5yi.org/Secure/Renew.htm>.

Tornado curtails Ft. Worth, Texas R.A.C.E.S. storm spotting ...at least for now. The Bank One Tower in downtown Fort Worth (at 500 Throckmorton) is nearing its demolition. The 454 feet tall - 37 story skyscraper is now scheduled to be imploded on a Sunday morning. The exact date is not yet selected.

It was heavily damaged in the March 28, 2000 tornado. I will be the tallest building ever blown up in the U.S. It must be dropped in an area only 30-feet larger than around its base.

The implosion will occur at 6:00 AM on a Sunday Morning. The Tarrant County R.A.C.E.S. (storm spotter group) had their repeater antenna on top of the building which enabled them to broadcast their eyewitness storm reports up to 50 miles. Without the antenna, their range is about 10 miles

With high dollars going for rent to place rooftop communications on skyscrapers, no building owner has yet offered to give the group space on their roof for free. R.A.C.E.S. can't afford to pay for the repeater to be installed on another building, so the equipment has gone into storage, and when another tornado hits, North Texas will not have as much warning as it did a year ago.

The building will be imploded by the famous Loizeaux family of Phoenix, Maryland who have performed nearly 200 high-rise implosions around the world since 1970 ...including the Dunes, Alladin and Hacienda Hotels in Las Vegas.

Their Controlled Demolition, Inc., firm already holds the record for the tallest building ever imploded ...the 439-ft tall J.L. Hudson department store in Detroit. CDI also brought down the balance of the Alfred P. Murrah Federal Building in Oklahoma City partially destroyed by a terrorist bomb.

FCC Amateur Radio Enforcement

The FCC is auditing an ARRL-VEC license examination session conducted in Trumbull, CT on May 10, 2001. It appears that applicant **Elvis Mendez KB1GPY (Revere, Mass.)** "...either before or during the examination, may have had access to the answer key used by VE's for grading the Morse code examinations. In the alternative, his answer sheet may have been completed prior to the examination."Furthermore, there is evidence that Mendez (Extra Class) exam answer sheet may have been altered to show a passing score.

The following (Southern Connecticut) Volunteer Examiners have been placed on suspension as a VE until the inquiry is over: **Kevin W. Cellini N1GKM, Allen H. Silberstein N1RWE, Andres A. Rosado KB1FKJ, Paul J. Keyes N1GOJ, Arthur I. Cartier N1VGT, Glenn J. Kreiger N1HAW, Freddy Martin KB1FKI, Robert E. Moreland KA1ZMF, Donald W. Stowe N1VNM, and Kenneth A. Frissora N1JKA.**

Jose C. Moreno Cdueto KP4ZY (Mayaguez, PR) has been warned that the FCC has information indicating he has been interfering with ongoing 20 and 40 meter Amateur communications. These occurrences took place on 7.207 and 14.310 MHz on March 9, 18, 26 and 31, and June 10th. Further such operation will lead to enforcement action including license revocation and/or a fine. He must contact the FCC within 20 days.

Don Hall, Gravois, MO has been cited by the FCC for allegedly operating without a license on the WØGTH two-meter Amateur repeater using the call sign K5AQ.

John O. Bradley (Realto, CA) and **Larry E. Landon (San Bernadino, CA)** also received a warning for alleged unlicensed operation on 149.8 and 150.4 MHz. All were asked to contact the FCC.

David R. Armstrong AF4QV (Horton, AL) and **David A, DePoy ABØNW (Wichita, KS)** have had their Extra Class licenses canceled after failing to retake the license examinations on or before June 15th as ordered by the FCC on March 21, 2001.

NCR, Inc. (Dayton, OH) was advised that radioamateurs are receiving interference on the 80 meter ham band from NCR's unlicensed Part 15 devices. The FCC said it was their understanding that the *Dayton Amateur Radio Association's* Interference Committee had been in contact with NCR but that no action had been taken. The Commission asked NCR to advise the complainant within 30 days as to what steps they are taking to correct the reported interference.

Michael E. Robb KCØHPB (House Springs, MO) was advised that FCC high frequency direction finding determined that malicious interference was "...emanating from your neighborhood."

Zdzislaw R. Sawicki AB2ET (Woodbury, NY) was asked to contact the FCC relative to sound effects being transmitted on the 20 and 75 meter bands from his station.

Robert J. Turner KN4CF (Hopwell, VA) and **Ronald E. Miller N3QPC (Pasadena, MD)** were cited for "engaging in slanderous communications regarding other Amateur operators." Such conduct degrades the service and "will not be tolerated," FCC said.

They were advised to file a complaint with the FCC or local enforcement authorities ...or pursue private legal action rather than to air accusations over the air. Further incidents will result in a fine or license revocation proceedings.

"BACKING UP THE INTERNET WITH AMATEUR RADIO"

On July 11th, <www.newsforge.com>, an Internet news site, ran the following article We are passing it along. *[QUOTE]*

Imagine the Internet crashing in a big way, perhaps in a whole region of the United States, or a big chunk of Europe. Imagine at the same time the telephone service being interrupted, perhaps as millions of users overload the phone lines desperately trying to get an Internet connection.

That scenario may sound a bit doomsday-ish, but Internet outages have affected large chunks of real estate, and it's the job of people at the security-minded SANS Institute to wonder about such what-ifs.

[Note: The SANS (System Administration, Networking, and Security) Institute says it is a cooperative research and education organization through which more than 96,000 system administrators, security professionals, and network administrators share the lessons they are learning and find solutions to the challenges they face. SANS was founded in 1989.]

A new project at SANS seeks to keep emergency communications working in the event of a large-scale outage, through a network of amateur radio operators. The Emergency Communication Network project, announced last week, is so new it doesn't yet have a Web site, but close to 300 amateur radio operators have expressed interest in working with the project.

Scott F. Conti, N1LYW (Greenfield, Mass.) network operations manager at the University of Massachusetts and one of the leaders of the project, stresses that the project isn't attempting to replace Internet traffic -- amateur radio couldn't handle it -- but radios could transmit short emergency messages that could, for example, help an Internet service provider recover from a major outage.

"We've already seen several examples of these things happening," he says of the situations the ECN project is trying to protect against. "We certainly know what a distributed denial-of-service attack can do. We're just trying to come up with alternatives."

Stephen Northcutt from SANS, another project coordinator, says the scenario of a loss of Internet and telephone service doesn't seem that far-fetched if attackers become more coordinated.

"It only takes one time connecting to the Internet without protection and you don't even have to download a file to become infected," Northcutt says. "In the past, it was possible to run anti-virus software to clean up your system. Today, we have variations from which you cannot recover, the software equivalent of HIV, if you will. Once you are infected, the attackers literally own your system and can use it for anything they want including infecting others, and so the size of the problem gets bigger and bigger.

"What does any of that have to do with ECN? Well, with enough compromised systems under the command of attackers you could just about drop the Internet," he adds. "If the Internet was impacted, would it affect the phone system? We know that during hurricanes and earthquakes all available circuits have been used up. This would be compounded by people like me that switch to phone dial-ins when my broadband connectivity fails. In fact, all circuits being busy has happened during non-emergency times as well. So it isn't all that likely, but a focused, coordinated attack could take out the Internet and as a secondary effect, disable the phone system."

Instead of other options - smoke signals aren't particularly efficient, Northcutt says - the ECN would use amateur radios to pass along "do this" type of information or even samples of code. Amateur radio operators could also transmit Internet addresses of emergency information sources, or even HTML files. The data doesn't have to be voice -- in the early days of bulletin boards, several amateur radio operators ran entire BBSes on amateur radio networks.

The project leaders are already talking to amateur radio groups such as the Amateur Radio Relay League about the challenges in setting up setting up such a network and the legal issues. The project FAQ tries to head off questions about whether the network is an appropriate use for amateur radio.

"There are many restrictions that have to be considered, but I believe that this could be an excellent use for Amateur Radio," Conti writes in the FAQ. "Hams have proven over and over that they can operate where and when no other communications service was functional. As more of our critical infrastructure is connected to the Internet, the potential for disruption of multiple services increases as well. If important information needs to be passed in order to restore emergency services, and amateur radio is the only way, it is going to be legal. Hams assist now when only cell service is disrupted."

Conti says the project is just getting off the ground, but the coordinators are looking for amateur radio operators to volunteer their services in more than a dozen locations worldwide, including Washington, D.C.; Melbourne, Australia; London; Kuala Lumpur; and San Jose, Calif. Ham radio operators wanting information about the project should send email to info@sans.org with "Emergency Communications Network" in the subject line. The project has also established a discussion forum at: <http://www.-sans.org/sansforum/messages/board-topics.html>.

Northcutt says he's been impressed with the technical expertise of the volunteers so far. "A lot of them really know computers and information security," he says. "I expect that we will find they aren't just an out-of-band network to connect the analysts that need to respond to an attack, they will almost certainly be able to help in the analysis as well." *[END QUOTE.]*

THE DIGITAL BATTLE AGAINST SATELLITE TV PIRATES

DirecTV, the leading DBS (direct-broadcast-service) satellite provider has declared all out war on high-tech "pirates" who steal television satellite signals. DirecTV, a unit of Hughes Electronics Corp., has about 10 million home satellite subscribers in the United States, and rival EchoStar Communications' DISH Network has about half that many. Subscription to satellite TV costs about $50 a month ...and much more if you buy premium programming. People are constantly trying to eliminate the cost.

DBS receivers come equipped with a smart card with an embedded microchip that allows access to the system. When you subscribe to a satellite TV service, the card is programmed with downlinked code which permits the receiver to acquire only the channels that the subscriber has paid for, and leaves the rest scrambled. Each card has a unique identification number which is how the DBS service can add or remove programming from each and every individual card

Satellite TV hacking is big business!

Some hackers buy set-top receivers from former subscribers or over the Internet to which they add an illegal smart card. Others specialize in reprogramming these cards or offering "emulation" software. Still others resell only set-top receivers without cards which does not appear to be illegal as long as they are not purchased to receive satellite signals without payment. Ads for cable and satellite TV set top boxes are everywhere!

Reprogramming smart cards and offering "emulation software" is strictly outlawed. Some websites tell you about the existence of the software – some of it shareware or freeware – but leave it up to you to find it. A search engine on the Web usually does the trick.

Hackers can make a good living by selling illegal equipment, cards and reprogramming services that gets around paying the subscription cost. Pirates charge up to $350 for "cracked" cards so that the encrypted channels can be watched at no additional charge. Reportedly, the satellite industry loses more than $6 million annually due to illegal piracy of its programming.

Reprogrammed "emulator" cards (which simulate the cards of legal services) are frequently made inactive by DBS providers using downlinked "seek and destroy" ECM (electronic counter measure) code which sends the card's processor into an infinite loop, making it unprogrammable. An "unlooper" is a software program hackers have developed to fix cards that have been looped.

On "Black Sunday" (January 21st, 2001 -- just a week before Super Bowl XXXV, the biggest viewing day of the year) DirecTV sent down a punishing series of ECM's including an amusing "Game Over" message. It made some 200,000 counterfeit cards unusable by not allowing them to be rewritten. It caused a massive run on rabbit ear antennas!

Not to be out done, hackers designed a successful "bootloader," (which reprograms the cards) to circumvent the Black Sunday ECM. Now DirecTV has retaliated against the bootloader with a "hash" that makes them useless. The back and forth "cat-and-mouse" game continues. There are very bright engineers on both sides.

Satellite TV pirates raided

The last week of June, in connection with lawsuits filed in U.S. District Court in California, DirecTV's Office of Signal Integrity with the assistance of U.S. Marshals raided several businesses and carted off "truckloads" of equipment used to reprogram DirecTV access cards and steal satellite programming.

The confiscation was made under civil-seizure and impoundment provisions of the *Digital Millennium Copyright Act of 1998 (DMCA)* which makes it illegal to break a system used to protect digital content. The raid also resulted in the shutdown of several websites through restraining orders and preliminary injunctions. Firms located in Texas and Florida, as well as California were involved in the bust.

Before the raid, the satellite company used private investigators to pursue the Internet advertisements of software and access card reprogramming services. One complaint alleges that a firm advertised a circuit-board device called the ISO7816 Smart Card Programmer on its website that included a link to a site with information on illegally modifying DirecTV access cards. An undercover purchase was made by an investigator.

During the raids, officials also found customer lists. Satellite companies will now go after consumers as well who have purchased equipment, cards or software from the pirate companies. They will be asked to pay for the service they got and may be prosecuted if they don't.

There are at least two websites still operating that openly cater to those who are interested in accessing DirecTV and EchoStar programming: < http://www.Hack-HU.com/> and <http://www.dishnethack.net/>. They both report on the state of the DBS hacking art and operate on the fringe of legality. HU is DirecTV's latest generation of smart card which apparently can be rewritten with a standard smartcard programmer lashed to a PC's serial port.

DishNetHack says they "...do not condone signal theft, nor do we provide you the tools to do so." They have a password protected forum and exist financially by asking for donations which are paid by credit card direct to a secure "Pay Pal" credit card service.

Both <http://www.superdish.tv/> and a website at <http://64.65.21.8/> sell satellite "devices" for "educational purposes only" and that any purchases must "only be used in a lawful manner." You must specifically agree not to use any information or purchased product illegally.