W5YI

Nation'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. May be reproduced providing credit is given to The W5YI Report.

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★ *In This Issue* ★

Vol. 18, Issue #12 **$1.50** PUBLISHED TWICE A MONTH **June 15, 1996**

Is the 2-Meter and 70-cm Ham Band in Jeopardy?

ARRL turns loose its throng of letter writers. Official E-mail brought to its knees!

The American Radio Relay League has unleashed a widespread retaliatory strike to counter the concept that the two most popular ham bands are a consideration for reallocation to commercial satellite usage. The campaign even included the unprecedented advance release of the text of the July "It Seems To Us" QST editorial written monthly by ARRL Executive Vice President Dave Sumner, K1ZZ. Here is the complete text of the ARRL release.

Subject: URGENT ARRL ANNOUNCEMENT

ARRL Headquarters
Newington, Connecticut
May 29, 1996

For immediate release

AMATEURS MOBILIZE AGAINST THREAT TO 2 METERS, 70 CM

The American Radio Relay League is asking radio amateurs across the United States to help defeat a threat to the two most heavily used amateur VHF and UHF bands.

A broad-based working group (known as IWG-2A) is preparing draft US proposals for the 1997 World Radiocommunication Conference has before it a list of "candidate bands" for low-earth orbit mobile satellites ("little LEOs") that includes, among a number of others suggested for consideration, the 144 and 420 MHz bands.

Little LEOs are intended mainly to offer commercial paging and other low-data-rate messaging services. The list of candidate bands was submitted by little LEO industry representatives at a meeting of IWG-2A on May 7.

ARRL Technical Relations Manager Paul Rinaldo, W4RI, was present and objected strongly to the inclusion of these two bands. He was told that objections should be submitted in written comments, and the ARRL did so on May 15. *[See letter from Paul Rinaldo to the informal working group which appears on page 3.]*

At the same time the ARRL advised the industry participants in IWG-2A along with its chairman, Warren Richards of the Department of State, that if we did not receive assurance that the bands would be dropped from the list of candidate bands we would have no choice but to advise members in July QST that the bands were under threat. No such assurances were forthcoming. Instead, we were told that as long as little LEO allocations requirements remained unsatisfied, everything had to remain on the table.

This response was not acceptable. Accordingly, when July QST went to the printer on Tuesday, May 28, it included the following editorial. The editorial speaks for itself, but it is worth

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emphasizing that there is no reason for panic. What we are dealing with is an ill-considered industry effort that is in its early stages; there is no reason to believe there is any government support for any move against these two amateur bands. Our mission is to quash the idea before it goes any further. An outpouring of thoughtful comment by amateurs, explaining why the public interest would not be served by the introduction of commercial services into these bands, will go a long way toward ensuring the desired outcome.

The editorial can be reprinted in its entirety with the credit line, "Reprinted with permission from July 1996 QST."

It Seems to Us
July 1996 QST

Write Now!

Get out a pen and paper, or boot up your computer. There's work to be done! Your help is needed to defend two meters and 70 cm. Yes, that's right -- the two most popular and crowded amateur VHF/UHF bands! But don't panic, and don't "go ballistic."

Here's what's happening, and what you can do about it.

The United States is preparing for the 1997 ITU World Radiocommunication Conference, WRC-97. In the past, the public has been able to participate in the preparations for such conferences by responding to FCC Notices of Inquiry. In March, the FCC announced a streamlining of its International Bureau's preparatory processes for WRCs. Under the new scheme, the NOIs have been eliminated in favor of increased emphasis on WRC Advisory Committees.

For WRC-97, a series of Informal Working Groups (IWGs) of the Advisory Committee has been created to address specific agenda items. The output of each IWG will go directly to a joint FCC-NTIA-Department of State Steering Committee of the Advisory Committee. There, draft proposals as received from the IWGs will be reviewed and forwarded to the FCC for possible release as preliminary U.S. proposals for public comment.

In announcing the streamlined WRC preparatory process, the FCC tried to reassure those who might be concerned about reduced opportunities for public participation: "Interested parties should note that input to the Advisory Committee may be sent at any time directly to the Chair of the WRC-97 Advisory Committee; the Chairs of the Advisory Committee's Informal Working Groups; Cecily C. Holiday, the FCC's federal officer of the WRC-97 Advisory Committee, or to Damon C. Ladson, the alternate federal officer."

Hold that thought while we shift gears to the substance of the issue.

One of the WRC-97 agenda items includes consideration of possible additional frequency allocations for the mobile-satellite service. So-called "little LEOs," low-earth orbit satellites below 1 GHz, already have allocations. Their proponents claim these are inadequate and are trying for more. The needs of little LEOs are being addressed in IWG-2A, chaired by Warren Richards of the Department of State. The ARRL technical relations staff participates in IWG-2A to represent Amateur Radio interests.

At the May 7 IWG-2A meeting, an industry representative proposed a list of "candidate bands" for little LEOs. The list includes a number of bands that would negatively impact existing services, and does not include others that would be technically more feasible but to which strong objection from incumbents could be expected -- the point being that some political, rather than purely technical, judgment already has influenced the list.

Incredibly, 144-148 and 420-450 MHz were included on the list! This is the first time in memory that another service has been proposed for the two-meter amateur band. We must make sure it is also the last time.

We do not need to explain to ARRL members the extensive use that is made of these bands by amateurs. The two bands provide the backbone of our local public service communications effort. Voice and data, mobile and fixed, even television -- the list of present amateur uses is a long one, and of future uses is even longer. Both are already used for satellite services and for moonbounce and extended-range terrestrial operations requiring extremely sensitive receivers and high levels of effective radiated power.

Apparently we did need to explain all this to the little LEO industry representatives, so we did just that -- both at the meeting and in a followup letter on May 15. We also explained that we had to regard the matter as extremely serious. No one with the slightest background in radiocommunication could possibly believe that a mobile-satellite service could be introduced into either band without disrupting existing and future amateur operations. Therefore, we said, if we did not receive assurance that they would be taken off the list of candidate bands by the deadline for this issue of QST, we would have no choice but to bring the matter to the attention of the entire membership.

The response we received was unsatisfactory. In effect, we were told the little LEO industry would consider our views but that until their spectrum needs are satisfied, all bands must remain under consideration.

So, this is a call to action. We must get across to the industry and government participants in IWG-2A that the 144-148 MHz and 420-450 MHz bands cannot be considered as candidates for mobile-satellite services.

We need to drive the point home so forcefully, with so many grassroots responses, that no one is ever tempted to try this again.

Which brings us back to that invitation for "interested parties" to send input "at any time." There's no time like the present! Here are the key addresses, including those of the mobile-satellite industry folks who seem to have started the ruckus:

- **Cecily C. Holiday**, International Bureau, FCC, Washington, DC 20554; choliday@fcc.gov; FAX (202) 418-0748.
- **Warren G. Richards,** Chair, IWG-2A, Department of State, CIP 2529, Washington, DC 20520; richardswg@ms6820wpoa.us-state.gov; FAX (202) 647-7407.
- **Tracey Weisler,** FCC Rep., IWG-2A, International Bureau, FCC, Washington, DC 20554; tweisler@fcc.gov; FAX (202) 418-2824.
- **Mary Kay Williams,** Final Analysis, Inc., 7500 Greenway Center, Ste. 1240, Greenbelt, MD 20770; FAX (301) 474-3228.
- **Leslie Taylor,** President, LTA, 6800 Carlynn Court, Bethesda, MD 20817; ltaylor@lta.com; FAX (301) 229-3148.

Do comment. But be civil. Don't abuse people who are simply doing their jobs. We have to get across that casting covetous eyes on amateur bands is counterproductive, and contrary to the public interest. To accomplish this we need a lot of comments, including yours. But remember that the objective is to educate and persuade, not to intimidate. We don't need to. The facts are on our side.

To monitor the FCC's ongoing WRC-97 preparations, visit its WRC-97 home page at: http://www.fcc.gov/ib/wrc97/.

Write now. Right now! -- David Sumner, K1ZZ

---------- ***End of ARRL Announcement*** ----------

The inclusion and promotion by the ARRL of the use of E-mail addresses as a means to provide the FCC, Department of State and key members of the Informal Working Group with comments from the amateur community is a new wrinkle! The expected avalanche of E-mail has the potential to completely shut down the recipient's ability to correspond by electronic mail!

Dozens and dozens of E-mail letters have already been received amid strong objections to that method of correspondence. Some are being arbitrarily deleted. We heard that Dave Sumner dashed off a letter reminding the addressees that these letters were official comments which must be made part of the official record of the proceeding.

COMMENTS OF THE ARRL...

The comments of the American Radio Relay League took the form of a FAXed letter sent from the League's Paul Rinaldo, W4RI to Mary Kay Williams of the IWG with a copy being sent to the State Department. Here is an edited copy:

"Inasmuch as the Industry Advisory Committee is the forum for developing WRC-97 proposals rather than the NOI [Notice of Inquiry] process, the American Radio Relay League on behalf of the 650,000 licensed U.S. radio amateurs strongly objects to the inclusion of the bands 144-148 MHz and 420-450 MHz in the list of "candidate bands" for MSS LEOs introduced at the May 7 meeting of IWG-2A.

The 144-148 MHz Band

"The band 144-146 MHz is a worldwide exclusive allocation to the amateur and amateur-satellite services. The band 146-148 MHz is allocated to the amateur service in [ITU] Regions 2 and 3. It is not allocated to the amateur-satellite service because it is not a worldwide allocation.

"The 144-148 MHz band is very heavily used by amateur stations throughout the world using a variety of emissions. The band supports extensive terrestrial voice and data networks, as well as a number of amateur LEO/HEO satellites and space shuttle/space station amateur communication.

"In many of the more populous areas, occupancy is so heavy that additional stations and new uses of the band cannot be accommodated satisfactorily. Experimentation such as Earth-Moon-Earth (EME) communication is very popular in this band because of the relative absence of natural and man-made noise, and the relative ease with which sensitive receiving equipment can be placed into service and maintained.

"Some amateur EME stations routinely use EIRPs in the vicinity of 60 dbW. Amateurs have observed propagation phenomena in this band which previously were unknown or were believed to be extremely rare at this order of frequency.

"This is a planned band, not by the ITU or the FCC but by means of voluntary band plans developed by the International Amateur Radio Union regional organizations and by the ARRL for the United States. ...

"In addition, many uses in this band, such as propagation beacons, voice repeaters and packet radio relay stations, are subject to a well-developed volunteer process recognized by the FCC and similar processes in other regions. Within the United States, coordination bodies may agree on variations on the national band plan to accommodate local requirements. An illustration is that voice repeater spacing is 15 kHz in some states and 20 kHz in others. European voice repeaters use 25 kHz spacing and are migrating to 12.5 kHz spacing.

"The 145.8-146 MHz band is used exclusively for amateur space operations (LEOs, HEOs, space shuttles and the Mir space station). Future use of this band will include amateur operations aboard the International Space Station. Usage of this band is coordinated through a cooperative effort by the Radio Amateur Satellite Corporation (AMSAT), a worldwide group of national amateur-satellite organizations, and the IARU.

"The 144-148 MHz band is used by the majority of amateur radio operators. One reason is that all license classes (except U.S. Novice class) are permitted access to this band. The October 1992 Redex survey documented 275,000 amateurs in the U.S. who were active on this band. This band has an extensive network of voice repeaters, totaling at least 6,939 by latest census, covering virtually all of the United States and its territories, Canada, Europe and other populous areas of the world. Similarly, there are 1,871 packet radio relay stations in our database, which were reported to the ARRL without solicitation.

"There are many activities in this band not accounted for in the above numbers, among which is the ability of the amateur radio operators to provide critical communication in time of natural disasters when normal means of communication may be in operative. This is the most important band for scene-of-action communication in disasters and is one of the bands designated in RR Resolution 640, 'Relative to the International Use of Radiocommunications, in the Event of Natural Disasters, in Frequency Bands Allocated to the Amateur Service.'

The 420-450 MHz Band

"From a spectrum management viewpoint, the 420-450 MHz band is far more complicated than the 144-148 MHz band because it is primarily a radiolocation band and in the United States is a secondary amateur allocation. The band is heavily footnoted in the international table. U.S. Government usage was described in NTIA's "Spectrum Use Summary," August 1, 1994, as follows:

- This band is used for long-range surveillance on land-based, ship, and airborne platforms. These uses are essential to the nation's early warning capability, law enforcement, and tracking objects in space. These systems operate with very high power and wide bandwidths.
- This band is becoming increasingly important for detection of low observable targets. This band is the only military radiolocation band currently available for this frequency sensitive function.
- The frequency 449 MHz has recently been authorized for non-military use of wind profilers. Rapid implementation of this use is expected.
- NASA and military use of telemetry and telecommand is also extensive.

"The 420-450 MHz band is particularly important to the amateur services. It is the lowest frequency band in which amateurs can use conventional television (C3F emission), and other emissions with similar bandwidths. This band provides reliable local voice and data communication while at the same time affording opportunities for experimentation with various forms of tropospheric propagation and with Earth-Moon-Earth (EME) communication. The amateur-satellite service relies heavily on the subband 435-438 MHz which presently is the only space-to-Earth amateur-satellite allocation between 146 and 2400 MHz. Currently, daily amateur-satellite operation is ongoing in this subband.

"Because amateurs pursue so many different operating interests in this band, they must observe voluntary sharing arrangements among themselves based on frequency, time, and geography. Highly directive antenna arrays are practical for many applications, which can impose additional constraints that may severely limit amateur operation, depending on the nature of the other service. The amateur services have learned, through years of experience, to share the band with primary radiolocation stations and avoid uses that would cause interference to the primary users. These unique sharing situations do not necessarily extend to MSS LEOs, however. ...Like the 144-148 MHz band, the 420-450 MHz is also a planned band through the use of these band plans and local volunteer coordinating groups.

"The ARRL repeater database lists 6,214 voice repeaters, 195 packet relay stations and 132 amateur television repeaters in the 420-440 MHz band, which is illustrative of the importance of the 420-MHz band to the amateur community. In addition, there are numerous unreported telecommand and telemetry links associated with these stations and the voice repeaters and packet relay stations operating int he 144-148 MHz band.

"All U.S. amateurs (except the Novice class licensees) have access to the 420-450 MHz band, thus indicating its importance to amateurs. Amateur use of this band is growing because of the crowding of the 144-148 MHz band and 222-225 MHz bands. The 435-438 MHz space subband is used for all of the same amateur-satellite service applications noted for the 144-148 MHz band, where one band is used in the space-to-Earth direction, the other band is often used in the reverse direction.

Conclusion

"In summary, 144-148 MHz is the worst possible band as an MSS candidate from the standpoint of the amateur service and 420-450 MHz is the next worst. These bands are simply not available to MSS and their nomination as MSS bands would be vigorously opposed by licensed amateur radio operators."

The letter was signed by Paul Rinaldo, W4RI - Manager, Technical Relations, ARRL.

EMERGING TECHNOLOGY

• **For $5.00 a day, Hertz and Avis rental car users will never be lost.** "Never Lost" is a portable on-board satellite navigation system that uses the global positioning system (GPS) to get you where you want to go! You simply enter the address of your destination and you get an intersection-by-intersection read out (both on screen and aloud by computer voice) of the correct directions.

• **E-mail with attached photographs will be facilitated by a new "Nifty" imaging technology** being jointly introduced by Microsoft and Kodak. Editing and transmission over the Internet of existing digital photographic formats is slow, but Kodak has found a way that permits fast editing of lower resolution photo versions Once the picture has been modified, the changes apply to the final high resolution version. Microsoft plans to market consumer software using the new Kodak "Nifty" system.

And this fall, Kodak will introduce a new $350 digital camera that takes file format pictures

• **Sony's new $300 video CD-based game platform, "PlayStation" is a smash hit!** PlayStation, which cost $500 million to develop, will account for $700 million in sales this year. To counteract Sony's success, Nintendo has just introduced their new Nintendo 64 cartridge-based system. The profit, however, is made with software. It costs Sony only a dollar to make a CD game disk verses $15 for a Nintendo cartridge.

• **Wireless Internet access is in the process of being tested in Washington, DC.** The National Digital Network (NDN) will use a 6-MHz wide MMDS (Multipoint Distribution System) wireless-cable channel. Operating in the 2.1 to 2.7 Ghz band, NDN will offer data rates up to 10MB/sec. The price initially will be too expensive for consumer use and NDN will be positioned as a business service. The plan is to eventually build a nationwide service that lets computer users hook into the Internet without wires.

• **Listening to your PC. "Netcast" is a new interactive online radio network** opening up shop this fall on the Internet. Using new AT&T digital audio compression technology, Netcast will broadcast 12 "high quality audio" channels - seven music and five sports/-news/talk formats. The service will be funded by advertising and features real-time listener counts.

Personal computer's outfitted with Intel Intercast capability will be able to receive Newscast ...a news-service transmitted to PCs via FM sideband over the TV's vertical blanking interval.

• To compete with Direct Broadcast Satellites, **TCI telecable (the nation's largest) will begin offering 30 pay-per-view video-on-demand channels** in September by satellite to new high-capacity set-top boxes. The so-called "head-end in the sky" will offer same-title movies on different channels with staggered start times.

• **Intel Corp., has new video phone technology** that permits users with a Pentium 133-MHz PC and a regular voice grade telephone line to see the person they are talking to. The new PC-phone video operates at 4 to 12 frames per second and only adds $200 to the cost of the computer. Users can also send pictures back and forth.

COMPUTER STUFF

• **Five key computer firms have now agreed on the specifications for the high-profile (but low-function) NC, Network Computer.** Oracle Corp., IBM, Sun Microsystems, Apple Computer and Netscape all support the "NC Reference Profile." The standard guarantees that software and hardware bearing the NC logo will be compatible.

Twenty vendors including such biggies as Fujitsu, NEC and Toshiba have now been lined up to make the $500 Network Computer. And Oracle formed a new company called Network Computer, Inc., to market the system software.

The Sheraton Hotel chain wants to put one lashed to a TV in each of its hotel rooms so guests can order movies-on-demand and send/receive electronic mail.

Webgate Technologies, a Canadian firm, is considering installing NCs in phone booth-like enclosures everywhere to permit Internet telephone service, FAXing, videoconferencing, E-mail and net surfing at a $2 per hour cost to the consumer! Webgate is pondering an order for 2 million units!

Technology researcher - Dataquest, expects that schools will offer the biggest market for NCs. That ...and people who can't afford - or do not want - a PC.

Microsoft CEO Bill Gates is not convinced that a $500 limited capability NC is a viable product. Speaking at Harvard University, Gates says that new communications technology will drive down the cost of full-featured PCs to that level. NC proponents call his prediction: "vaporware" ...designed to adversely impact the emerging market.

INTERNET NEWS

• **It looks like Las Vegas is getting into Internet gambling** from servers located in the Caribbean! Check out: http://www.vegas.com/wagernet/

• **Get ready for self-censorship!** There seems to be general agreement that certain information on the Internet should be suppressed ...such as criminal/-terrorist/anti-government activity and child pornography. The still unanswered question, however, is how to do it!

At present there are three basic blocking methods: (1) software that blocks a known list of objectionable sites; (2) software that looks for suspect words and (3) requiring Internet Access Providers to fence off certain areas. So far, none have worked. Reason: The Internet changes daily!

Hundreds of sites are coming online every day from all over the world ...faster than parents, software and censors can locate them and take action. Word-screening software works in theory, but in practice there are too many keywords ...many of which may be acceptable in a proper context. And words can be purposely mispelled. Blocking whole sections also does not work since users turn to other means to exchange questionable material. Some sites simply copy material to their own website.

Self-policing stands the best chance of working. At a recent Paris meeting, a consortium of computer and Internet firms released the specifications for PICS, the "Platform for Internet Content Selection."

It works similar to a film rating. Web publishers simply rate their own site ...but if necessary, a third party could evaluate it for them. But there is a problem there, too. Various communities, states and nations have different standards. What is acceptable here, may not be on the other side of the world. The

biggest advantage of PICS is that it does not limit what people say or publish on the Internet ...only what they choose to hear or read. Thus First Amendment free speech and freedom of the press concerns are protected.

• **Which Internet search engine indexes the most data?** It depends on who you believe, but Inktomi is claiming to be the winner. They say they access the full text - every word - of every one of the World Wide Web's 50 million pages ...including Usenet newsgroups.

Inktomi got its name from a mythological spider of the Plains Indians, known to bring culture to the people. The service started as a research project at the University of California at Berkeley. Inktomi exploits innovative parallel processing technology and uses equipment donated by Sun Microsystems. As the database and number of users increases, the service simply adds more workstations.

Inktomi is now in the process of going commercial! It can be reached at the following URL: http://hotbot.com - an offshoot of "Hot Wired" magazine. (My personal favorite, AltaVista supposedly indexes about half as many documents.)

• **Microsoft is about to go into the Internet-delivered "Webzine" business big time!** Their interactive media division has three (free to the public) advertiser-supported publications on the drawing board. Microsoft will recruit best-selling authors to contribute to "Slate" (debuting this month), "Mungo Park" (scheduled for September) and eventually "CityScape" ...an entertainment-information magazine for major cities.

Mungo Park will be an exotic adventure travel magazine offering a major "trip" every couple of weeks. (Dr. Mungo Park was an 18th century Scottish explorer who disappeared mysteriously.) Microsoft is even trying to get a NASA astronaut to contribute a story. The down-the-road plan is for the Webzines to offer online transactions.

• **You can forget about going into the ISP (Internet Service Provider) business.** The big boys are moving in and competition will be overwhelming! MCI rolled out their service a year ago ...and AT&T "Worldnet" joined the foray this Spring. Now all of the RBOC's, the seven so-called Baby-Bells, will begin offering Internet service within 6 months. (Pacific Bell began June 1st.) Sprint gets into the business in July.

The access rate has stabilized at $19.95 per month for unlimited service - lower than most local providers so a shakeout is indeed coming! PacTel's introductory rate is $14.95 per month for 20 hours service ...50¢ for each additional hour - up to a $19.95 maximum. PacTel also is giving away a free copy of the Netscape Navigator - a blow to Microsoft's Explorer browser.

AT&T has signed up only one quarter of the 600,000 people that applied for its Worldnet. They did not realize the magnitude of the needed browser/E-mail "hand holding" and AT&T is having serious customer service problems. Their help lines are jammed and staffed with inexperienced people!

We look for some of the larger independent ISP's to be bought up by larger telecommunications companies - primarily for their ability to provide service to their customers.

• **Our own W5YI website is back on the Internet "airwaves."** It came online during late April and went off a couple of weeks later when our provider (GlobaLink/Ft. Worth, TX) suddenly went out of business! We have now switched servers and it can once again be reached at: **http://www.w5yi.org** - Be sure to sign the guest book if check in. The new server requires the "www" in the URL whereas it was optional at the old location.

• **Interested in high technology investing?** Here is a good website to check out! http://www.techstocks.com focuses on four areas: communications, software, computers & peripherals and semiconductors. The site is also a good source of high tech news.

Be careful, however of get rich schemes! The Federal Trade Commission just closed down an Internet-based pyramid investment scam that promised 2000% return on a $250 monthly investment. Fortuna Alliance of Bellingham, WA transferred the receipts (some $6 million) to Antigua. A Seattle federal court has directed Fortuna to return the money to the U.S.

THE ONLINE WORLD

• **The Prodigy Online Service heads toward global distribution!** The mystery buyer of Prodigy is International Wireless, Inc. - a Cambridge, MA-based company specializing in international tele communications. They currently operate cellular service in Asia and Africa! They believe Prodigy has the potential to provide Internet access in developing countries. Their president, Harvard graduate Greg Carr (only 36 years old) made his fortune by selling networking equipment.

International Wireless, Inc. coughed up $200 million for Prodigy and plans to invest another $50 million in the service. We heard much of the money came from Grupo Carso, the largest stockholder in TelMex (Mexico's phone company.) Prodigy will be translated into Spanish and Mandarin Chinese. The service also has entered into new distribution agreements with France's "Club Internet", Italy's "Italia On-Line" and Germany's "Uni-Online" and "Focus Online."

• **The good news is that America On-Line is topping profit forecasts.** The bad news is that it might not last. Effective next month, AOL is reducing its rates 50% to $19.95 monthly for 20 hours service (plus $2.95 for each additional hour.) The objective is to keep subscribers from jumping to the Internet. (Old AOL rate of $9.95 for 5 hours will still be available.)

• **A national survey shows that people want three things from an online service: E-mail, file downloads and Internet access.** Since every online service can offer that, subscriber turnover or "churn" is extremely high in the online business. More than six million people have sampled (most for free) and canceled an online service.

WASHINGTON WHISPERS

• Is government regulation of the virtual world on the horizon? **A Petition for Rulemaking has been filed with the FCC by the America's Carriers Telecommunications Association.** The ACTA consists of more than 130 long distance telephone service resellers who are concerned that voice-over-the-Internet could put them out of business. They claim it is unfair competition.

ACTA demands that the FCC confirm its authority over telecommunications services using the Internet and initiate rulemaking for these services. The request for regulation signals the coming economic war between free cyberspace and the wireline/wireless community.

The Telecommunications Act of 1996 exempts enhanced computer services from government regulation. But ACTA maintains that real time digitized voice messaging is really a basic telecommunications (rather than a computer) service subject to access charges, tariffs and regulation - especially since gateways are being built between the public switched telephone system and the Internet.

ACTA asked the FCC to stop the sale of software and hardware designed to allow voice telephone calls over the Internet. ACTA said I-phone manufacturers were permitting the public to avoid their responsibility to pay into the subsidies required for rural and poor telephone users.

• **The Clinton administration, however, clearly supports Internet telephone service.** The National Telecommunications and Information Administration is the White House advisor on telecommunications matters.

Responding to the ACTA petition, NTIA Chief, Larry Irving, dashed off a strongly-worded letter to the FCC reminding them that their own rules prohibit restraining growth of an emerging service. "The Commission decision in the 1980s not to regulate advanced services was a wise one that has conferred substantial benefits on American consumers," he said.

Both AT&T and IBM are said to be readying software that allows Internet telephoning. AT&T Labs claims improved clarity using new compression technology they developed. And America Online and the Netscape Navigator browser 3.0 will also be implementing net phone capability.

• **The FCC was in the process of adopting plans that would have allowed coast-to-coast Digital Audio (broadcast) Radio** when Congress asked that the new service be put "on hold." DAR is vehemently opposed by the nation's terrestrial radio stations since they all broadcast locally. The spectrum needed for DAR is to be auctioned. Digital Audio Radio will also be able to transmit data ...such as stock quotes.

• **City zoning boards are unhappy with the FCC** for adopting new rules that impact satellite dish installation. The Telecom Act of 1996 "...prohibits restrictions that impair a viewer's ability to receive video programming from over-the-air services" including DBS. Except for health and safety reasons, the FCC preempted all local zoning regulations applying to dishes one meter or less in diameter. The DBS industry had wanted the FCC to go even further and void covenants that prevent home-owners from installing DBS dishes.

• **Beware of "800" numbers offering "something for nothing!"** It may be costly if you don't! The FCC is on record as strongly opposing any charges to people who call an "800" telephone number. But there may be little they can do about it since it is so easy to transform a toll-free number into a "high dollar" toll call site. Here is how it is done.

The "800 look-alike" scam involves getting an 800 phone number then simply forwarding that call to a toll phone number, like a 976 number. You call the 800 number, it forwards the call (along with your telephone number for automatic billing) to the toll number. And YOU pay the charge on the toll number ...up to $4 a minute!

Since you dialed an 800 number and you don't realize it's being forwarded, you don't know that you are paying a toll call until after you receive your bill. Few people contest a $10.00 (or higher) charge to a seemingly free chat line.

How do you know if an 800 number is a real free 800 number or a look-alike? If the advertiser is offering something for free that might otherwise cost money, then you should be extremely suspicious. Your local phone company may be able to identify the 800 service provider for you before you call.

The "800 pager scam" works on the same principle of the "800 look-alike." The culprit calls large numbers of pagers and enters the 800 look-alike number for the call-back number. When the owner of the pager sees the 800 number in their pager they call the number to see who it is since they don't know it is a scam ...after all, "800 calls are free, aren't they?" They may not be!

How do you know if it is a legitimate page or an "800 look-alike"? You don't really, but think about this before calling: if you don't immediately recognize the number, then ask yourself "who would be entering an 800 number in my pager?" That should answer your question as to whether or not it is a legitimate 800 number.

• **A federal auction of wireless PCS licenses** reserved for small business brought in more than $10 billion for the U.S. treasury ...more than twice the amount expected!

• The Government Accounting Office (the GAO audits various federal agencies) says **there were some 250,000 hacker attacks on Defense Dept. computers last year** and the intrusion rate is doubling every year. Some pose a serious threat to national security. Ninety-five percent of all Pentagon business is carried on the Internet.

AMATEUR RADIO

• **Well known Jerry Freeman, W4JJ of Virginia Beach, VA died May 18th.** He was the Engineer-in-Charge of the FCC's Norfolk, VA field office until his retirement last year. A career staffer, Jerry, 63, had been with the FCC for 35 years.

• **The FCC Rules provide for fast scan television repeaters on the 420 to 450 MHz band.** Most every cable-ready TV set is also ATV ready, for ATV repeaters with video output on 421.250. Band plans have been published in the ARRL's FCC Rule Book.

As a general rule, fast-scan ATV operators are not pleased with the efforts directed at arranging a so-called "single point of contact" ("SPOC") for repeater coordination, by the newly created "National Frequency Coordinators' Council" ("NFCC").

They feel such an arrangement would have the potential to affect rights and privileges granted to amateurs by the FCC, each time an amateur license is issued. They believe it would be unprecedented for the ARRL to go along with an effort to reduce these rights and privileges.

These concerns were amplified when the Mid-America Coordination Council ("MACC") announced it would no longer coordinate ATV repeaters on the 420 MHz. band. Later, at its 1996 board meeting in Dayton, MACC reportedly modified its position.

However, there remains a concern among the ATV operators that organizations heading up the development of the "SPOC" are primarily interested in packet and FM voice repeater operations, including closed, private, linked repeater systems.

There is also concern about coordinators who may adopt band plans where other modes would be allowed to crowd the UHF band to the extent that these lawful UHF ATV repeaters would not be

practical. Some frequency coordinating bodies want all ATV operation moved to the 23-cm band.

If a private sector "SPOC" concept is adopted, and the FCC approves it, it could effectively transfer control over the modes allowed on amateur bands to these coordinators.

Meanwhile there is concern that some of the coordination councils do not have the same kind of open records and mechanisms for the representation of members that is found at the ARRL.

There is discussion of this on a Web page by Tom Blackwell, N5GAR, at: http://www.why.net/home/tom.blackwell/

• **The marriage of ham radio and the Internet is being urged by the International Amateur Radio Union.** The IARU Region 2 (North and South America) Executive Committee has adopted a resolution "...encouraging its member societies to develop Internet access as complementary capabilities of communications.

"This interchange should be extended to administrative, technical, bibliographic and general use. Technical working groups and interest groups can easily be formed with people from different countries participating in them, preparation for future conferences can be facilitated, thus having better informed and coordinated delegates in the future.

"The use of the Internet to link Member Societies with Region 2 Headquarters, that of individual members with their own societies, and adoption of 'home pages' is strongly recommended. This should be done on a gradual basis, first with access to e-mail services and then moving to SLIP or PPP services and WWW.

"Interconnection of Amateur Radio to the Internet offer great opportunities, both to interconnect packet radio links and to provide access via packet radio to Amateur Radio information on the Internet. ..."

The biggest problem with Internet interconnection, however, is the stringent content rules that apply to Amateur Radio. Over-the-air regulations that apply to commercial, broadcast and amateur radio are more strict since the air waves are legally considered to be more accessible to the public at a time when children may be listening. That may no longer be the case and we may see a day when the regulatory differences between wireline and wireless communications content are abolished.

• The most innovative new product we saw at the Dayton HamVention a couple of weeks ago was the **WiNRadio Digital General Coverage Radio** receiver out of Melbourne, Australia! WiNRadio merges the radio and the computer ...with your PC becoming a receiver. The monitor screen graphics make your computer look exactly like the tuning panel of a professional worldband radio.

Coverage is continuous from 500 kHz and 1.3 Ghz in 1 kHz steps with 1uv sensitivity! WiNRadio effectively tunes AM, SSB, CW (50 Hz filter) and narrow/wideband FM. Features that you can't get with a regular radio include an internal global database of 300,000 radio transmitters from all over the world and an online help menu.

The package contains an internal receiver card, software installation disk and an indoor antenna. Minimum hardware requirements are at least a 386 IBM/-compatible PC running Windows 3.1.

You simply (1) drop the card into an empty 16-bit expansion slot, (2) plug a speaker (or headphones) and (3) the antenna into the rear of the card and (4) run "install" to load the software and you are off and running!

You turn the tuning knobs, set modes, volume, squelch, sensitivity, fine tuning, scanning ranges and a host of other controls with your mouse and cursor ...or by using keyboard shortcuts. Frequencies can be stored in memory for later recall.

We only wonder why someone had not thought of this earlier! U.S. distributor is SSB Electronic USA in Pennsylvania at Tel. 717/868-5643. It is probably only a matter of time before plug-in amateur transmitter cards are available.

• **Gate 1 of the Vanity Call Sign System finally opened on May 31st.** This gate allows amateurs, close relatives and ham club trustees to reclaim a previously held station call sign. Implementation of the program had been held up while the FCC considered four petitions for reconsideration of the vanity rules.

The Southern California Repeater and Remote Base Association (SCRRBA) and Charnelle H. Summers, Jr. (W4IJE, Advanced Class, Key Largo, FL) both disputed the limitation tnat requires a close relative to hold an operator license of at least the level held by the deceased. Summers apparently wanted the call sign held by his father, W4AR, Extra Class.

SCRBBA suggested that station call signs of deceased relatives be withheld for two years following death to enable close relatives time to upgrade to the appropriate class.

The FCC declined to change the rules stating that "it would be unfair, to those who have qualified by passing difficult examinations ...to allow a less-qualified licensee to obtain a call sign from a call sign group designated for a higher class of operator license, merely because the less-qualified licensee is a relative of the deceased former holder."

The Hill Country Amateur Radio Club objected to the date that the FCC established on which a club must have held a license in order to apply for a call sign under Gate 1A. This gate allows ham clubs to next apply for a deceased members station call sign *in memoriam*. The FCC said that licensing of ham clubs resumed on March 24, 1995 and they wanted to be certain that clubs were not formed so that they would have an advantage in obtaining a specific call sign.

David Popkin, W2CC of Englewood, NJ wanted the rules to state that an application for license renewal received on the same date as the license expiration is timely. The FCC agreed to this change.

Popkin also wanted assurance that if a vanity call sign was not available, that the previously held call would not be considered a vanity call sign. The FCC said clarification was not necessary since the rules "...clearly states that when none of the call signs requested are assignable, the current sequential call sign will be shown on the license grant. ...If the application is not granted, the vanity call sign regulatory fee will be refunded."

• **The Personal Radio Steering Group, a GMRS advocacy association, issued a press release** protesting the recent allocation of spectrum to the "Family Radio Service ." It said the FCC's claim of "overwhelming support" for FRS was non-existent. In reality, 80% of the comments objected to the FRS, PRSG said. The new service received 14 channels in the 462 and 467 MHz bands, overlapping the channels occupied by the licensed General Mobile Radio Service.

• **Special Olympic call signs have been approved until Aug. 31 for amateurs** operating within the state of Georgia with the figure "4" in their call sign. They may replace that number with "96" (representing the year) or "26" commemorating the 26th Olympiad.

AMATEUR RADIO STATION CALL SIGNS

...sequentially issued as of the first of June1996:

Radio District	Gp."A" Extra	Gp."B" Advan.	Gp."C" Tech/Gen	Gp."D" Novice
0 (*)	AB0CB	KI0DE	(****)	KB0WQF
1 (*)	AA1QA	KE1FB	N1XLL	KB1BYG
2 (*)	AB2BH	KG2HK	(****)	KB2ZEP
3 (*)	AA3OI	KE3WQ	N3XPK	KB3BPF
4 (*)	AE4VG	KT4RR	(****)	KF4KCB
5 (*)	AC5IG	KM5AP	(****)	KC5UUR
6 (*)	AC6VK	KQ6GU	(****)	KF6EHR
7 (*)	AB7RC	KJ7YN	(****)	KD7HFS
8 (*)	AA8XH	KG8XL	(****)	KC8EBP
9 (*)	AA9SL	KG9GP	(****)	KB9NUV
N. Mariana	KH0Z	AH0AW	KH0FA	WH0ABF
Guam	WH2V	AH2DB	KH2QG	WH2ANQ
Johnston Is.	AH3D	AH3AD	KH3AG	WH3AAG
Midway Is.		AH4AA	KH4AG	WH4AAH
Hawaii	(**)	AH6OP	(****)	WH6DBY
Kure Is.			KH7AA	
Amer.Samoa	AH8O	AH8AH	KH8DA	WH8ABF
Wake W.Peale	AH9C	AH9AD	KH9AE	WH9AAI
Alaska	(**)	AL7QL	(****)	WL7CTL
Virgin Is.	WP2X	KP2CJ	NP2JI	WP2AIE
Puerto Rico	(**)	(***)	(****)	WP4NMF

* = All 1-by-2 & 2-by-1 call signs have been assigned.
** = All 2-by-1 call signs have been assigned.
*** = All KP4-by-2 call signs assigned in Puerto Rico.
****= Group "C" (N-by-3) call signs have now run out in all but the 1st and 3rd call district.

[Source: FCC, Gettysburg, Pennsylvania]

NEW AND UPGRADING AMATEUR STATISTICS FOR THE MONTH OF MAY 1996

License Class	New Amateurs	Upgrading Amateurs
Novice	135	0
Technician	2888	2
Tech Plus	262	522
General	37	542
Advanced	7	407
Extra Class	2	362
Club	52	0
Total	**3383**	**1835**

New Zealand-based ORACLE, Organisation Requesting Alternatives by Code-Less Examinations, is generally credited with initiating the campaign to eliminate Morse code testing as a amateur radio license pre-requisite for HF operation. The group convinced their Minister of Communications to support this postion at the WRC-95 Geneva Conference. The end result was the issue became an agenda item for a future conference. It now appears that the IARU is also recommending abolishing the treaty requirement that requires code proficiency.

A STATEMENT BY ORACLE MANAGERS
23 May 1996

ORACLE Managers have studied the discussion paper released by the International Amateur Radio Union Future of the Amateur Service Committee (IARU FASC). ORACLE Managers compliment the members of the IARU FASC for proposing a package of progressive changes to the international regulations.

In particular we are supportive of the IARU FASC conclusion that the international regulation on Morse code testing should be removed. This is consistent with the feedback we have had to our independently organised international campaign for removal of this regulation.

There are simply no compelling reasons to retain mandatory Morse code testing, and nowadays reductions of restrictive practices are favoured by an increasing number of administrations. Code testing as a "filter" to authorise access to amateur spectrum is increasingly recognised as being a form of restrictive practice.

It will be interesting to gauge responses to the IARU FASC discussion paper. The subjects of Morse code and CW appear to invoke more emotive reactions than other subjects in amateur radio.

As we have encountered in our lobbying, there are likely to be some reactions of a self-interest type rather than deciding on what is in the best interests of the future of amateur radio. We suggest there is a need to carefully distinguish between:

- the regulatory application of code testing for licensing, and
- the recreational use of code by amateur operators who enjoy communicating by CW.

ORACLE was formed two years ago to lobby for regulatory change to Morse code testing, and intends to continue with independent activity towards this end.

However, ORACLE Managers see potential for convergence of positions if the IARU FASC proposals continue to develop along the lines of their first discussion paper. We are predicting overall support for removal of the international regulation on Morse code testing.

We are also generally supportive of the scope of changes in the currently described IARU FASC package, and see this as having great potential to give a real boost to modernisation of amateur radio rule-making.

This statement was released after a meeting of ORACLE Managers in Wellington, New Zealand. The address for any donations to be made to ORACLE, which will be 100% directed towards international lobbying for removal of the international regulation on Morse code testing, is: ORACLE Incorporated, 3 Allenby Terrace, Wellington, NEW ZEALAND

(Statement released by ZL2BHE)

SHUTTLE AMATEUR RADIO EXPERIMENT (SAREX) SET TO FLY ON JUNE 20TH ABOARD STS-78

Space Shuttle mission STS-78, a SAREX flight, will once again afford Amateur Radio operators around the world the opportunity to contact the ham astronauts aboard Columbia. Some of these amateurs have volunteered to assist student groups that have prepared questions to ask the astronauts via ham radio.

Veteran astronaut Susan T. Helms (Payload Commander) holds Amateur Radio call sign KC7NHZ. Helms was previously a crew member aboard the shuttle Endeavor during STS-54 in January 1993, and last used ham radio from aboard Discovery during STS-64 in September 1994. In addition, ham astronauts Charles E. Brady Jr., N4BQW and Robert Brent Thirsk, VA3CSA (Canada) are on their first space flights. The remaining four crew members are not licensed. Amateur Radio has been flying aboard the shuttles since 1983, when Owen Garriot, W5LFL became the first to operate an amateur station from space.

Launch of STS-78 is scheduled for June 20, 1996 at 1449 UTC (10:49 AM EST) from the Kennedy Space Center, Cape Canaveral, Florida with landing planned for July 6, 1996 at 1246 UTC (8:46 AM EST) at the Kennedy Space Center, Florida ...a 15 day mission. The launch will place the shuttle into Earth orbit at an altitude of 173 statute miles (278 km) and an inclination of 39 degrees.

NASA has several reasons for allowing amateur radio operation from the Shuttle. One of the most important is to involve the largest possible numbers of people, particularly students, in technology and the U.S. space program. During SAREX missions, the astronauts will typically make three types of Amateur Radio contacts: scheduled radio contacts with schools, random radio contacts with members of the Amateur Radio community and personal contacts with their families.

The primary payload during the STS-78 mission is life and microgravity experiments in a weightless environment. Experimenters will also focus on the effects of weightlessness on human physiology and function.

Eleven schools from around the world have been selected to make contact with the shuttle during the missions. Two or more students at each of the following schools will ask questions of the STS-78 astronauts.

- Bethlehem Central Senior High School, Delmar, NY,
- Eisenhower Middle School, San Antonio, TX,
- Heritage Middle School, Collyville, TX,
- Anacortes Middle School, Anacortes, WA,
- Valley Heights Jr-Sr High School, Blue Rapids, KS,
- Monroe Elementary School, Santa Barbara, CA,
- Maple Grove Education Centre, Nova Scotia, Canada,
- Saskatoon Public Aerospace Education (S.P.A.C.E.), Saskatchewan, Canada,
- Toowoomba State H.S., Queensland, Australia,
- Catholic Ladies College, Victoria, Australia; and the
- CENG Nuclear Center of Grenoble, Grenoble, France

Random contacts with hams on Earth are made during the astronauts breaks, before and after meal time, and during their pre-sleep time. Over the past 16 years, astronauts have contacted thousands of amateurs around the world. On many missions, they have carried a 2-meter packet radio station in addition to FM voice capability and STS-78 includes packet. Innovative computer software allows the crew to operate the packet gear in an "unattended" mode, allowing amateurs to make contacts with the Shuttle ROBOT station when the astronauts are not able to be at the rig.

During STS-78, the SAREX hardware will be flown in configuration "C" which consists of the handheld transceiver, I/F module, PGSC (serves as the packet data terminal), spare battery set, window antenna, packet module, SAREX headset assembly, personal recorder, and the required cable assemblies. The packet module contains a power supply and packet TNC. The power supply provides power for both the TNC and the handheld transceiver. Configuration "C" is capable of operating in either the voice or data mode in communications with amateur stations within LOS of the orbiter.

The crew will use separate receive and transmit frequencies. Amateurs are asked to not transmit on the shuttle's DOWNLINK frequency. The crew will not favor any of the uplink frequencies, so success in working the Shuttle will be the "luck of the draw." Hams should transmit only when the shuttle is within range of their stations, and when the shuttle's station has been heard.

Frequencies to be used on STS-78 are:

- FM Voice Downlink: (Worldwide) 145.55 MHz
- FM Voice Uplink: 144.91, .93, .95, .97, and .99 MHz
- FM Voice Uplink: (Europe) 144.70, .75, and .80 MHz
- FM Packet Downlink: 145.55 MHz
- FM Packet Uplink: 144.49 MHz

Call signs to be used on STS-78 are:

- FM voice call signs: KC7NHZ, N4BQW, VA3CSA
- FM packet call sign: W5RRR-1

QSLs go to ARRL EAD, STS-78 QSL, 225 Main Street, Newington, CT 06111-1494, USA with the following information: STS-78, date, time in UTC, frequency and mode. In addition, a SASE using a large, business -sized envelope must be included. "The Net" in Anacortes, Washington State has generously volunteered to manage QSL cards for this mission.

SAREX Sponsors are: the American Radio Relay League (ARRL), the Radio Amateur Satellite Corporation (AMSAT) and the National Aeronautics and Space Administration (NASA). *[Information from: NQ1R]*