

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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AMATEUR STATION MAY ACCOMPANY STRATO BALLOON

The Amateur Radio Research and Development Corp. (AMRAD) has proposed to place an Amateur Radio communications package on the first experimental flight of a new type of stratospheric communications balloon. Sky Station International (SSI), a company founded by former Secretary of State Gen. Alexander M. Haig, Jr., and his son, Alex P. Haig, is expected to launch the balloon later this summer from Ft. Sumner, New Mexico. The prototype is the forerunner of a new type of communications repeater called Sky Station.

When operational, Sky Station will be held aloft by an unmanned football-field-size, helium-filled airship "platform" floating 13 miles above a populated area in the Earth's uppermost atmosphere. It would be a low-priced alternative to the communications satellite.

SSI was formed to implement a revolutionary new telecommunications system using geostationary balloon-based platforms located in the stratosphere for up to ten or more years. The stationary platforms will be the backbone of a global Internet system which will offer variable broadband data rates to fixed terminals. (Receive dishes would be less than a foot in diameter, and cost about \$100.)

Sky Station has proposed a Stratospheric Telecommunications Service (STS) to the FCC. The service will provide 1.5 Mbps Internet connectivity to portable stations, and as much as 155 Mbps to fixed stations. The service is to be offered worldwide from unmanned balloons at 20 to 30 km altitude--above most of the Earth's atmosphere. They are not con-

sidered to be satellite stations since they do not orbit.

SSI plans to implement Sky Station Stratospheric Telecommunications Service via a joint venture with responsible Internet service providers in various countries. ISPs in Italy, Australia, Argentina, India, Canada, the Philippines and France are interested in the program. Eventually there will be at least 250 Sky Stations, each positioned over areas of greatest population. More Sky Stations can be added at any time.

Last month, the FCC announced the allocation of spectrum in the 47GHz band that could be used for "services utilizing networks of geostationary stratospheric platforms." Gen. Haig hailed the decision, saying that it "...marks the beginning of a new age of high speed Internet service directly to personal and portable multimedia devices, wherever they may be." The Sky Station system provides wireless T1 (1.5 Mbps) links directly to laptop and personal computers. The FCC has not yet detailed the specific technical rules governing the newly allocated band, nor established how interested parties may obtain licenses.

The 47 GHz frequency band (47.2-47.5 GHz stratosphere-to-earth and 47.9-48.2 GHz earth-to-stratosphere) was selected for several reasons. It is a general principle of spectrum management to place new technologies in the highest and least occupied frequency bands consistent with their necessary operating characteristics and table of frequency allocation classifications. Also, new technologies

should use the minimum amount of bandwidth necessary to provide the required service. The required service for Stratospheric Telecommunications Service is universal broadband wireless access to low-cost, consumer-oriented user terminals. STS can operate with up to approximately 1 dB per kilometer of atmospheric attenuation, but not much more. This level is reached between approximately 40 and 50 GHz. STS is considered a "Fixed Service" and there are two Fixed Service bands above 40 GHz. Occupants are in place or in an advanced stage of planning for all sub-bands allocated to the Fixed Service except for 47.2-47.5 GHz and 47.9-48.2 GHz.

Sky Stations can be of variable size depending on market demand. Most Sky Stations will appear to be a tear-drop shaped balloon -- approximately 150 ft around and 450 long. Each blimp would weigh 15 tons, which in the event of a puncture could be a problem for the people living underneath. That's what Motorola told the FCC in opposing Sky Station's request for the spectrum.

Motorola certainly is not impartial. They have a competing \$3.3 billion low-orbit satellite communications system, Iridium, in the works. Sky Stations will cost much less -- about \$50 million to \$200 million each with a quick payoff. Unlike LEOs, there's no need to build the entire network to get one Station working.

Then there's the question of tethering those blimps. Upper-atmosphere winds would tend to push them from their appointed place. To buck the wind, Sky Station claims to have a revolutionary "air treading" technology that can keep the blimps stationary for ten years-plus. Some engineers are very skeptical that it will work.

Each Sky Station will generate 157 kilowatts of power from solar panel arrays. After subtracting power needed for station-keeping and other functions, there is 15 kilowatts of RF power for telecommunications. This is adequate to support 400,000 simultaneous 64 kbps and 1,000 multi-megabit transmissions.

Stratospheric Telecommunications Service is interconnected with the Public Switched Telephone System (PSTN) at Sky Station Gateways located throughout the world. Users may send communications directly to a Sky Station or through the PSTN to one or more persons who access the communication via wireless Sky Station transmissions. STS is also the only system with enough bandwidth to support full-motion personal videophone service over the Internet.

The purpose of the amateur package is to be an exercise for possible permanent amateur packages onboard later operational flights.

AMRAD said that the benefits of amateur participation in Sky Station include provision of environmental telemetry; assistance in identifying the recovery location; experience integrating a secondary payload on the balloon without interference to the main mission; and publicity of successful stratospheric communications.

The package will operate under AMRAD's club station license on normal Amateur frequencies. As the balloon will fly less than 50 km above the Earth's surface, the package will operate within the terrestrial Amateur Radio Service rules, not those of the Amateur Satellite Service. No rules waiver or experimental license should be required for the package.

Proposed package characteristics:

- Radio is a Standard C508A transceiver - (<http://www.stdradio.com>)
- 280 mW TX on 146 MHz and 435 MHz
- Clement Engineering MIM packet controller
- System transmits periodic Morse ID and AX.25 packets giving environmental telemetry supplied by balloons sensors and data logger
- 48 cm whip antenna
- Custom built power controller

Among several companies working with Sky Station International are Spar Aerospace of Canada, makers of satellite and Space Shuttle hardware; and Scaled Composites Inc., designers of unusual, high-performance aircraft and vehicles--including the famed Voyager aircraft that circled the world without refueling. The Sky Station balloons will be built by Lindstrand Balloons, Ltd., of Manchester, England -- the world's largest manufacturer of airships.

Sky Station (<http://www.skystation.com>) is scheduled to commence commercial Stratospheric Telecommunications Service in the year 2000. After that, additional Sky Stations will be launched one per week until all populous parts of the world are covered. Sky Stations will be implemented in accordance with user demand as expressed by responsible organizations in each country.

AMRAD (<http://www.amrad.org>) is a McLean, VA.-based Amateur Radio experimenters organization, active in digital and space communications and application of technology to benefit the handicapped.

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Ham Census - Where the ham operators are located! - The ten most populated states

| State: | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 |
|--------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|
| 1. Calif. | 56606 | 59960 | 58400 | 59944 | 61432 | 66130 | 71895 | 79031 | 87304 | 95126 | 101391 | 107944 | 108770 | 109531 |
| 2. Florida | 23778 | 24518 | 25476 | 26242 | 27094 | 28856 | 30755 | 33128 | 35991 | 38547 | 40945 | 43413 | 43558 | 43760 |
| 3. Texas | 24124 | 24408 | 24930 | 25495 | 25992 | 27750 | 29261 | 31699 | 34487 | 36929 | 39245 | 41911 | 42476 | 43004 |
| 4. N. York | 25996 | 25833 | 26030 | 26001 | 25505 | 26878 | 28202 | 30073 | 32472 | 34436 | 36069 | 37441 | 36721 | 36535 |
| 5. Ohio | 20467 | 20276 | 20370 | 20783 | 21010 | 22179 | 23317 | 24944 | 27002 | 28798 | 30417 | 32040 | 32062 | 32309 |
| 6. Penna. | 17223 | 17153 | 17309 | 17525 | 17531 | 18439 | 19391 | 20584 | 22159 | 23584 | 24832 | 25970 | 25878 | 25956 |
| 7. Illinois | 17588 | 17384 | 17446 | 17548 | 17509 | 18286 | 19070 | 20183 | 21567 | 22798 | 23785 | 24763 | 24661 | 24638 |
| 8. Wash. | 12383 | 12600 | 12997 | 13436 | 14016 | 15034 | 16046 | 17492 | 19185 | 20847 | 22431 | 24161 | 24573 | 25027 |
| 9. Mich. | 14389 | 14212 | 14158 | 14259 | 14258 | 15052 | 15670 | 16690 | 18091 | 19392 | 20414 | 21517 | 21729 | 21847 |
| 10. N. Car. | 7947 | 8377 | 8650 | 9073 | 9427 | 10259 | 11046 | 12104 | 13486 | 14803 | 15892 | 17286 | 17880 | 18252 |
| 11. N.Jersey | 12958 | 12924 | 12910 | 12932 | 12823 | 13482 | 14068 | 14835 | 15869 | 16757 | 17429 | 18059 | 17763 | 17676 |

The top ten states account for more than half of the U.S. amateur population. (53.1%)

The ten states with the fewest amateurs are:

Delaware 1,526, South Dakota 1618, Wyoming 1643, North Dakota 1705, Vermont 2261, Rhode Island 2614, Montana 3062, Alaska 3305, Hawaii 3375 and Idaho 4058.

Amateur Census Last 20 Years by License Class:

| Year | Extra | Advan. | Gen. | Tech+ | Tech. | Novice | Total |
|----------|-------|--------|--------|--------|--------|--------|--------|
| 1978 | 22498 | 83436 | 118808 | 68738 | | 62856 | 356336 |
| Year End | 6.3% | 23.4% | 33.3% | 19.3% | | 17.7% | |
| 1979 | 24232 | 84981 | 122783 | 69022 | | 61436 | 362454 |
| | 6.7% | 23.4% | 33.9% | 19.0% | | 17.0% | |
| 1980 | 26613 | 88715 | 123904 | 70061 | | 72588 | 381881 |
| | 7.0% | 23.2% | 32.5% | 18.3% | | 19.0% | |
| 1981 | 29768 | 94428 | 125747 | 76976 | | 80162 | 407081 |
| | 7.3% | 23.2% | 30.9% | 18.9% | | 19.7% | |
| 1982 | 31530 | 94588 | 119684 | 75703 | | 88799 | 410304 |
| | 7.7% | 23.1% | 29.2% | 18.4% | | 21.6% | |
| 1983 | 34511 | 95711 | 118223 | 77298 | | 85823 | 411626 |
| | 8.4% | 23.3% | 28.7% | 18.8% | | 20.8% | |
| 1984 | 36149 | 97765 | 116963 | 80680 | | 80599 | 412156 |
| | 8.8% | 23.7% | 28.4% | 19.6% | | 19.5% | |
| 1985 | 38495 | 97959 | 117107 | 83679 | | 78616 | 415856 |
| | 9.3% | 23.5% | 28.2% | 20.1% | | 18.9% | |
| 1986 | 41082 | 97771 | 115715 | 85312 | | 79882 | 419762 |
| | 9.8% | 23.3% | 27.6% | 20.4% | | 18.9% | |
| 1987 | 43902 | 98610 | 114398 | 93466 | | 83013 | 433389 |
| | 10.1% | 22.8% | 26.5% | 21.5% | | 19.1% | |
| 1988 | 46885 | 98681 | 113082 | 101495 | | 80168 | 440311 |
| | 10.6% | 22.4% | 25.7% | 23.1% | | 18.2% | |
| 1989 | 50324 | 102141 | 117153 | 115427 | | 84747 | 470792 |
| | 10.7% | 21.7% | 24.9% | 24.5% | | 18.2% | |
| 1990 | 53836 | 105309 | 119796 | 127427 | | 93875 | 500243 |
| | 10.8% | 21.0% | 23.9% | 25.5% | | 18.8% | |
| 1991 | 57488 | 107642 | 122592 | 129889 | 28152 | 97354 | 543117 |
| | 10.6% | 19.8% | 22.6% | 23.9% | 5.2% | 17.9% | |
| 1992 | 61319 | 109882 | 125207 | 132351 | 59833 | 99065 | 587657 |
| | 10.4% | 18.7% | 21.3% | 22.5% | 10.2% | 16.9% | |
| 1993 | 65277 | 112637 | 126898 | 134813 | 92968 | 99105 | 631598 |
| | 10.3% | 17.8% | 20.1% | 21.4% | 14.7% | 15.7% | |
| 1994 | 69495 | 115882 | 129356 | 137275 | 128295 | 98307 | 678610 |
| | 10.2% | 17.1% | 19.1% | 20.2% | 18.9% | 14.5% | |
| 1995 | 72380 | 117389 | 129962 | 139738 | 149745 | 97080 | 705994 |
| | 10.2% | 16.6% | 18.4% | 19.8% | 21.2% | 13.8% | |
| 1996 | 73518 | 114404 | 126714 | 148341 | 160590 | 88192 | 711745 |
| | 10.3% | 16.1% | 17.8% | 20.8% | 22.6% | 12.4% | |
| 1997* | 74957 | 113387 | 125669 | 148011 | 172092 | 83795 | 717899 |
| *=June | 10.4% | 15.8% | 17.5% | 20.6% | 24.0% | 11.7% | |

THE CHANGING FACE OF AMATEUR RADIO

Since this newsletter goes to most of the Amateur Radio Industry, we constantly get requests for marketing information. For the information of ham radio dealers and manufacturers, we are including a recap of the most recent Amateur Radio operator census in this issue. On the previous page is a list of the total number of licensed amateurs by license class in every state as of June 1997 with a comparison to the December 1996 (six months earlier) census.

- While the total number of amateurs grew less than 1% during the prior six month period; the No Code Technician Class grew by more than 7%. Many states are not growing at all!
- The number of General/Advanced and Extra Class licensees continues to decline. And for the first time, there are less Tech Plus amateurs than six months ago. (There are also nearly five thousand less Novice operators.)
- Looking to start a ham radio store? The "Top Ten" list tells you where most ham operators are located. Note that North Carolina has edged New Jersey out of the ten most ham populated states.
- More than 80% of all new Amateurs now begin their ham radio career as a No-Code Technician. Fewer of them, however, are learning the code and upgrading.
- Note the percentages and the growth of the Technician Class! One amateur in four is now a Codeless Technician. Ten years ago, sixty percent of all amateurs held a General or higher Class ticket. Five years ago that percentage dropped to 50%. It is now down to 44%.

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■ **The Clinton White House is now backing away** from supporting the *Communications Decency Act of 1966* since it will surely be struck down by the U.S. Supreme Court (within a couple of weeks, we were told.) The CDA authorizes the federal government to restrict access to indecent material on the Internet. We heard that Clinton will do an about-face and support self-regulation and parental -- rather than government -- oversight. Clinton signed the CDA into law a year ago.

■ **Motorola is now planning to put constellations of satellites in both high and low orbit.** Motorola's recently announced "Celestri" network -- scheduled to begin service in 2002 -- will have 63 LEO (900 mile high) satellites which will relay data to one or more geosynchronous satellites orbiting at 22,300 miles above the equator. The effective result of simultaneously networking both low earth and geostationary satellites together will be to provide a world-wide footprint from one geostationary satellite.

■ **Noting the multi-billion dollar sales of Dell Computer and Gateway 2000**, NEC is throwing its hat in the ring as a mail-order PC marketer. The NEC telemarketing operation will be run by NEC's Packard-Bell subsidiary. NEC dealers are not happy that they are being cut out of the profit stream.

■ **The next wave of computers, NetPCs and NCs** (network computers) priced under \$1,000 will soon be with us. Compaq, Gateway, IBM, Dell, Hewlett-Packard, Mitsubishi and others are rushing to get them on dealer shelves. These will be diskless terminals that will be managed in corporate networks or the Internet with the software applications downloaded from servers. The concept will drastically reduce computer hardware, software and maintenance costs.

■ **The FCC is readying a new Universal Licensing System.** ULS will replace ten separate license/application processing systems with a single integrated licensing system. The FCC is currently developing data conversion programs, verifying data and developing the functional requirements and technical specifications for this new system. VECs (volunteer-examiner coordinators who file Form 610's Amateur Radio applications directly into the FCC's computer) will find out how their activities are affected at their scheduled conference in Gettysburg, PA July 18th. ULS will "...permit the FCC to

expand electronic filing capabilities, speed licensing processes and provide a simple method to obtain data..." The FCC said their goal was to have the system fully operational within a year.

■ **"PC Call home!" Nearly 250,000 laptop computers are stolen every year!** Using invisible software, CompuTrace has devised a system whereby a stolen computer will report its whereabouts to a central location once it is plugged into a telephone line.

■ **Watch out for fraudulent pay-per-call scams beyond the reach of U.S. authorities.** Don't return a call to 809 or 268 area codes ...especially if you get an message that claims to be a last chance to avoid proceeding on a fictitious outstanding balance. Your return call could cost up to \$25.00 a minute! 809 and 268 area codes are not located in the United States and are not subject to U.S. regulations.

■ **The non-profit Better Business Bureau is now endorsing Internet-based businesses.** The BBB "seal-of-approval" logo is awarded to Web sites that permit the Better Business Bureau to review their operations which also includes an on-site inspection. Internet businesses must agree to binding arbitration with the BBB in the event of a dispute. Visitors to BBB approved sites are transported to the BBB Web site when the user clicks on the logo. An announcement then declares "BBB-OnLine Participation Confirmed." A warning flashes if the BBB logo is merely an illegal copy. Check out URL: <http://www.BBBOnline.org>

■ **IBM has closed their much ballyhooed "World Avenue Online Mall."** The idea was to get IBM's customers online quickly. That part worked. But customers apparently do not want to go to a third-party to access a commercial site. Sales were extremely poor at "World Avenue." Businesses showcased at the "mall" were charged a 5% commission. The same businesses did far better when they had their own Internet site. America OnLine, however, is going ahead with its content-specific malls. AOL believes that its huge customer base (over 8 million subscribers) will make the concept successful.

■ **The FCC has suspended the Technician Class license of Anthony Barben, Jr., N2NWF** (Brooklyn, NY) for causing willful or malicious interference, using obscene or indecent language and failure to identify. Barben agreed to a

15-month suspension. The FCC said the violations occurred in November 1996.

■ The FCC released the following Public Announcement on June 18th:

Amateur Station Special Event Call Sign Common Data Base Coordinator Announcement.

Entities desiring to volunteer their services as amateur station special event call sign common data base coordinators may submit their requests in writing to:

CDBC Request
Public Safety and Private Wireless Division
Wireless Telecommunications Bureau
Federal Communications Commission
Washington, DC 20554

For consideration, the request must be received by the Public Safety and Private Wireless Division on or after August 1, 1997. The amateur station special event call sign data base coordinators will be selected on the basis of their ability to coordinate, maintain and disseminate a common data base.

The amateur station special event call sign common data base coordinators must maintain a common data base of the one-by-one format call signs. The data base must be disseminated to the amateur service community.

The purpose of the data base is to avoid the same call sign being used by more than one station during the same day. For each of the 750 special event call signs and for the current day and for each of the following 365 days, the common data base must indicate whether the call sign has been reserved for use or is available for use.

Section §97.119 of the Commission's Rules, 47 C.F.R. 97.119, authorizes an amateur station, when transmitting in conjunction with an event of special significance to the amateur service community, to substitute for its assigned call sign a special event call sign as shown for that station on the data base coordinated, maintained and disseminated by the special event call sign common data base coordinators.

Additionally, where the special event call sign has been reserved, the data base must show the FCC-assigned station call sign for which substitution is being made and the time period thereof.

If you have questions concerning the amateur station special event call sign data base coordinators, contact the FCC's National Call Center at 1-888-225-5322.

-FCC-

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WEB USERS SEEK MORE PRIVACY PROTECTION

The Federal Trade Commission recently held hearings about Internet privacy and e-mail fraud. The conclusion was that Government regulations may indeed be necessary because it is questionable as to whether the industry is capable of regulating itself. The FTC hearings are in response to concerns that companies offering computerized information are compromising the privacy rights of individuals.

The non-profit *Electronic Privacy Information Center* (EPIC) wants the FTC to adopt guidelines that require web sites to tell you what information is being collected, why it is being collected and how it will be used.

Congress is also interested in the collection, compilation, sale, and use of computerized data bases that contain what consumers may perceive to be sensitive identifying information. Firms that offer this data are often referred to as "look-up services." They maintain that the information they provide is widely and publicly available from local courthouses, telephone directories, driver license registries and state and federal government records. The Internet has made the distribution of this information very easy, quick and inexpensive.

Examples of such sensitive identifying information may include some or all of the following: social security numbers, mothers' maiden names, marriage records, prior addresses, business filings, credit records and dates of birth. Some data bases provide significantly more information, such as information about physical characteristics, property holdings, and the subject individual's family members and neighbors.

The FTC wants to know!

The following is a partial list of questions that the Federal Trade Commission wants answered.

- What data bases are available on the Internet, what do they contain ...and where did they come from?
- What information is currently used to identify individuals and is the information considered to be sensitive?
- Who has access to the information in the data bases and what are the charges for accessing the information?
- What are the uses of the information in the data bases? And are there beneficial uses of the information in these data bases? Do these data bases create an undue potential for theft of consumers' credit identities?
- Do data base operators permit consumers to choose whether and how their personal identifying information will be collected and used? Do subject individuals have access to their data and the ability to correct errors?
- Is the collection, compilation, sale, and use of this information subject to any state or federal laws or regulations?
- Should the collection, compilation, sale, and use of information from these data bases be subject to additional regulations or laws? If so, what regulatory or legal requirements are appropriate?
- What kinds of personal information are collected by commercial Web sites from users who visit those sites and how

is such information subsequently used? Among other things, is clickstream data being collected and tied to personally identifying information?

- How many commercial Web sites collect, compile, sell or use personal information? Of these, how many give consumers notice of their practices regarding the collection and subsequent use of personal information? With respect to these Web sites, describe (1) how and when such notice is given, (2) the content of such notice, and (3) the costs and benefits, for both consumers and commercial Web sites, of providing such notice.
- Of the commercial Web sites that collect, compile, sell or use personal information, how many provide consumers choice with respect to whether and how their personal information is to be collected and subsequently used by those sites?
- Of the commercial Web sites that collect, compile, sell or use personal information, how many provide consumers access to, and an opportunity to review and correct, personal information about them that is collected and retained by those sites?
- How widespread is the practice of sending unsolicited commercial e-mail (UCE)? Are privacy or other consumer interests implicated by this practice? What are the sources of e-mail addresses used for this purpose?
- What are the risks and benefits, to both consumers and commercial entities, of UCE? What are consumers' perceptions, knowledge, and expectations regarding the risks and benefits of unsolicited commercial e-mail?
- What costs does UCE impose on consumers or others? Are there available means of avoiding or limiting such costs? If so, what are they?
- Are there technological developments that might serve the interests of consumers who prefer not to receive UCE? If so, please describe.
- What kinds of personal information are collected by children's commercial Web sites from children who visit those sites and how is such information subsequently used?
- How many children's commercial Web sites collect, compile, sell or use children's personal information? Of these, how many give parents notice of their practices regarding the collection and subsequent use of personal information?

The protection of privacy is one of the most important and talked about issues on the Internet today. Internet users routinely report that privacy protection is one of their greatest concerns. More and more Internet sites are collecting personal information from users through online registrations, surveys, order fulfillment information and on-line forms.

Most Web sites do not tell a user that personal information is being collected or how it is to be used. Some Web sites are even rewarding your children with free gifts and sweepstake entries for divulging details about your family. A survey by the *Center for Media Education* revealed that nearly half of the major children's Web sites surveyed gather personal information such as name, address and age of young users. A survey of 1,000 adults (by *Privacy and American Business Journal*) found that asking children to register their names and addresses at Web sites is unacceptable to

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97% of parents surveyed.

One of the important goals of most privacy laws is to ensure that individuals have the ability to inspect personal information that is collected by others and to make corrections if necessary. Few sites offer this choice now.

Sites that sell personal information

There are several sites that make a business out of selling your personal information. For an example, try visiting <http://www.deepdata.com>. For twenty bucks, this Web site will provide the name, current address and up to four former addresses when you enter a Social Security number. For \$5, they will provide a date-of-birth. They also sell property records, lawsuit information and offer a "Flake Index" of questionable people.

Cookies that you don't eat

Information is also collected from users surreptitiously with "cookies." There has been a great deal of controversy about the "cookies" feature in browser software.

"Cookies" make it possible for a web server to "recognize" a web client and enables certain features that are useful for surfing and on-line commerce, such as retaining screen preferences, storing passwords and creating virtual shopping carts. At the same time, "cookies" also enable the concealed collection of information from the user -- such as the creation of a log of user preferences, "interest tracking" within a site ...and even the storing of such personal data such as household income.

Serving up electronic snapshots

Every time you visit a site, you leave a calling card that reveals where you're coming from, what kind of computer you have and other details. Many sites keep logs of all your visits. Net surfers have no assurance that personal information collected at a website might not be misused.

To give you an example of how information about you is available to a Web site, we suggest that you check into "The Anonymizer." This site can quickly tell you who your ISP (Internet Service Provider) is, where you are located (complete with a map), and what kind of computer, browser and operating system you have. It is a real eye-opener! (Their address is <http://www.anonymizer.com>) This site does not collect information about you and offers a way for you to send and receive anonymous files and e-mail.

Sites such as this are called *anonymous public remailers* -- free computer services that allow you to send electronic mail to a Usenet news group or to an individual without the recipient knowing your name or your e-mail address. Anonymous remail servers strip away your real name and address (the header at the top of your e-mail), replace the data with a dummy address or a coded return address, and then forward your message. Some offer a way for the recipient to reply without know-

ing who you are. Legitimate remailers will not tolerate the use of their facilities to distribute unsolicited commercial junk e-mail.

FTC to crack down on questionable mass e-mail

The FTC has put mass e-mailers on notice that they will take punitive action against businesses that put false, fraudulent or misleading information in unsolicited commercial e-mail. Penalties could include court injunctions and fines. Sending out bulk e-mail solicitations is vastly less expensive than traditional mailings through the post office. A Harris poll revealed that consumers were having far more difficulties with unsolicited e-mail than with privacy problems.

Through the *Internet E-Mail Marketing Council* (IEMMC), five of the Internet's largest mass mailers are now promising to take people's names off lists if they so request. The five are Cyber Promotions, CyberTize E-mail, Integrated Media Promotions Corp, Internet Savings Group and Quantum Communications. Under the proposal, consumers would go to the <http://www.iemmc.org> site to be deleted from the mailing lists, but they even might be paid to continue receiving the messages.

The Federal Trade Commission intends to focus on two types of scams: (1) businesses that use a fake name or Internet address, leaving consumers with no way of stopping the mail because their messages bounce back as undeliverable and (2) fraudulent or misleading business opportunities and investments.

The agency wants database services who assemble and sell private information to allow consumers to be able to examine and correct inaccuracies. Also discussed was eliminating "big brother" by barring marketers from gathering tracking data on individual use of Web sites before a consumer approves.

The FTC has asked that industry and consumer groups create a working group to examine the problem and report back to them within six months. The agency will then write a report which will recommend new policies and perhaps legislation. FTC Commission Christine Varney would like to see the Internet industry solve its own problems. But she recognizes that this may not be possible since there are some 500,000 Web sites "out there" ...with more coming all the time.

Trying to avert any new regulations, bitter browser rivals, Microsoft and Netscape have announced that they will collaborate to help safeguard consumer data on the Web. The joint Netscape-Microsoft "open profiling standard" or OPS would permit Web surfers to specify on their browser what personal information, such as hobbies and buying habits they are willing to share and to whom. Web sites could be required not to share the user's preferences with others. A computerized form called a "digital certificate" stored on the user's hard drive would immediately make their authorized personal information available when visiting a Web site. OPS would replace the "cookie."

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AMATEURS, ORGANIZATIONS AND INDUSTRY REPLIES ON AMATEUR SPREAD SPECTRUM

Reply comments in WT Docket 97-12 to deregulate--somewhat--amateur spread spectrum (SS) communications attracted a healthy stack of reply comments on June 5. Most reply commenters opposed requirements for such things as automatic power control and narrowband station identification.

The FCC heard from some commenters operating under the authority of the Tucson Amateur Packet Radio (TAPR) special temporary authority (STA), from amateur organizations, and from manufacturers of unlicensed, Part 15 devices.

Here is a sampling of the replies:

"The proposed section 97.311(b) [SS must not cause harmful interference to other modes, and must accept interference from other modes] continues to relegate SS communications to second class status. New technologies in the past, such as single sideband and packet radio have not burdened with such rules, and it seems to me unfair to do this with SS. Section 97.101 already covers the requirement for coexistence of various operators and modes within the Amateur Radio Service, and provides adequate protections to current users." - *Steven S. Dimse, K4HG*

"Spread Spectrum technology is surprisingly versatile. Until recently, we did not feel any strong motivation to experiment with this technology because the existing regulations were too strict. It was the freedom the TAPR STA offered which got us started building prototypes. While building these prototypes, we have begun to notice many other ways to apply this technology.

"We think there are more amateur radio experimenters who would be interested in doing what we are, if only the tight regulatory environment now in place were loosened up. Our 52 MHz spread spectrum radio, for example, could not be legally tested on the air without the TAPR STA.

"If we are to continue experimenting, we need a free hand to try all sorts of different coding schemes, spreading bandwidths, even power levels and antennas. We should not have to resort to an STA permit to do this kind of development." - *Jacob Brodsky, AB3A and Anthony McConnell, N3JLI*

"I believe that the nearly-unfettered use of SS on all or most Amateur Radio allocations, as proposed in the Karn, Buas, and TAPR comments, is very premature. Since actual field experience of use of SS by the amateur community is essentially nonexistent, and never formally reported, limitation of wideband SS to bands above 420 MHz would appear sensible at the present time.

"I feel that narrowband SS should be authorized on all amateur band segments above 50 MHz where MCW is authorized." - *Robert J. Carpenter, W3OTC*

"Some commenters suggest that a 'narrowband SS' class be established for weak-signal operation, and a 'wideband SS' class be established for all other types of operation. This is like setting aside some spectrum for CW at 5 WPM and slower, and another for CW at 20 WPM and faster.

"It assumes that no serious weak-signal work could be done if the SS signal is wider than some arbitrary limit (in the range of 3 to 10 kHz), or that such SS emissions will somehow cause less interference to narrowband weak-signal stations than wider ones." - *Lyle Johnson, WA7GXD*

"Direct Sequence Spread Spectrum (DSSS) and Frequency Hopping Spread Spectrum [should] be allowed on all Amateur Radio frequencies 1.8 MHz and above. Based on my DSSS activities on 3.581 MHz, SS can be used without causing problems for other modes (CW, AMTOR, Packet, etc.).

"Today, if SS activities are to be relegated to a 'second class status' type existence with respect to existing and emerging (to Amateur Radio) technologies used in communications, then what other communications techniques/modes will not be allowed in the near future?" - *John R. Bingham, WTWKR*

"ARRL, the only existing U.S. organization in a position to organize [coordination of SS and narrowband operation] efforts on a national basis, in recent years has run away from band planning and frequency coordination as rapidly as humanly possible, leaving U.S. radio amateurs today with no organizational framework whatsoever which would be capable of implementing the 'advance planning,' 'coordination' and 'intraservice cooperation' [between SS and narrowband users] to which its comments refer.

"ARRL's comments are silent as to how it would propose to implement the 'advance planning and coordination' which it assumes, but the recent history of this organization in spectrum management matters provides the amateur weak-signal community with no comfort whatsoever." - *Raphael Soifer, W2RS*

"[Frequency coordinators] suggest the use of local coordinators to assign frequencies to experimenters. Given the desire of each local group to protect certain different frequencies, and given the conflicting nature of the proposed frequency assignments, it is not likely that such coordination would lead to adequate contiguous spectral width for experimental purposes, nor would they be reasonably forthcoming.

"Thus, the frequency assignments currently contained in the Commission's rules (and not proposed to be altered by the proposed rule making) are the only effective way to assure access to spectrum for these purposes.

"Ultimately, use of spread spectrum emissions for

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existing services could lead to significant improvements in amateur spectrum utilization." - *Thomas C. McDermott, N5EG*

"I have watched VHF FM repeater operation evolve from controversial to routine. Today, it is hard to understand why SSB and FM repeater operations were ever controversial. I suggest that spread spectrum will be a common, uncontroversial form of Amateur Radio communication in a few years, and there is no need to put special, unneeded restrictions on this transmission technique that we will surely want to drop in the future." - *Frank H. Perkins Jr., WB5IPM*

"The requirement in proposed Section 97.119(b)(5) for Morse code identification is counterproductive. The narrow-band identification may itself cause interference even though the SS emission does not, and it is likely to be difficult to correlate the CW identification with a particular SS signal. This requirement also precludes the use of currently available commercial SS equipment, as to my knowledge no such unit provides for CW identification." - *John R. Ackerman, AG9V*

"Spread spectrum has the potential to replace most other modulation methods currently in use in Amateur Radio, and can probably coexist with other modulation methods in the near future. Amateur Radio operators interested in employing digital systems and experimenting with high speed digital operations have been frustrated in their attempts to construct such systems on Amateur Radio bands on 50 MHz, 144 MHz, 222 MHz, and 430 MHz because the existing users state 'the band is already fully occupied, and cannot accommodate additional systems.'

"My hope for Amateur Radio spread spectrum is that it can make use of the vast amounts of 'dead air-time' on Amateur Radio frequencies above 50 MHz.

"These frequencies are vastly underutilized because they are used primarily by FM voice repeaters, which by their nature are only actually transmitting a few minutes of each day." - *Steven K. Stroh, N8GNJ*

"SS is the new mode trying to gain access to the amateur bands. It is the responsibility of the new mode to demonstrate that it can coexist, not the responsibility of current inhabitants to prove that it can't.

"The fact that SS interference to weak signal operations is likely, has been proven in simple straightforward calculations. To date, SS proponents have failed to present anything that disproves these calculations.

"The failure of SS proponents to conduct and document tests or respond sensibly to fundamental radio propagation calculations, should in themselves, make the Commission wonder if proposals contained in this Docket are well founded." - *Central States VHF Society*

"[A]nalysis shows that, on average, spread spec-

trum interference is no more a problem for weak signal terrestrial, and horizon pointing space (satellite and EME) communications, than noise sources that already exist in the radio environment.

"In 6 meters, 2 meters, and 1.25 meter band allocations, all of the weak signal activity occurs on the lower edge of the band. This can easily be programmed out of a frequency hopping system, along the lines of coordination. Direct sequence spread spectrum has a spectral density on the band edges that is necessarily low, so as to not bleed out of the band.

"6 meters and 1.25 meters could readily be used for spread spectrum with even less interference potential to weak signal activities than on the 440 MHz ham band." - *Donald V. Lemke, WB9MJN*

"Several commenters have agreed with TAPR's position that the limit on transmit power to 100 watts of section 97.311 should also be deleted. While TAPR does feel that 100 watts of power is more than enough for most terrestrial SS operations, this limit may present problems for some of the more interesting applications in the service today such as EME (Earth-Moon-Earth) operations.

"It would appear that the 100 watt limit was imposed back in 1985 out of a concern for limiting the range of possible SS interference [but] this concern appears groundless in the operating environment that we now face today. TAPR therefore asks the Commission to strike this provision and allow SS emissions that same transmitter power levels allowed for the other emission modes authorized for the service." - *Tucson Amateur Packet Radio Corp. (TAPR)*

"Most of those commenting in favor of SS use terms like 'no restrictions' and 'maximum flexibility.' RM-8737 and this Docket are absolutely silent on what SS is. No bandwidth limits are specified. Presumably amateur spread spectrum emissions would be limited to the amateur bands, but even that is not stated. The amateur community is being asked to accept this new technology without any information as to what it is or what its effect on current operations will be." - *William A. Tynan, W3XO*

"The Commission should not disrupt the carefully crafted delicate balance created in the ISM and Part 15 bands in order to adopt rules that do not have strong record support or the full support of the amateur community. Instead, the Commission should allow amateurs to transmit spread spectrum communications in the ISM bands at the same power levels as those governed by Part 15 of the Commission's rules.

"The Commission should not accept the arguments of the ARRL and William A. Tynan W3XO that Part 15 operations operate at sufferance to licensed services in certain bands and are not entitled to any protection -- without weighing the consequences of allowing very high

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powered amateur spread spectrum operations in Part 15 bands." - *Metricom, Inc.*

"The Part 15 Coalition and Metricom proposed limiting the power levels for spread spectrum operations. Their position is clearly self serving. Part 15 devices must accept and tolerate any potential interference on shared bands. It would be unprecedented to deny licensee users full access to their authorized bands and therefore, the proposals to impose power limits should be dismissed." - *Paul R. Schwedler, Deputy General Counsel, Regulatory Law, for the Manager, National Communications System*

"Not surprisingly, the Amateur community suggests that the concerns of the Part 15 community can be ignored, since Part 15 devices are not licensed and therefore are always subject to receiving interference from licensed devices.

"But the Commission has already gone well beyond this antiquated spectrum policy in encouraging, and indeed crafting rules for, the development of low power, unlicensed technologies, and now recognizes the benefit of Part 15 uses and the need to protect such uses in shared bands.

"It is simply no longer good enough for the licensed services like Amateur Radio to ascribe second class citizenry status to Part 15 devices and ignore their interference concerns." - *CellNet Data Systems, Inc.*

"The League has met recently with representatives of the Part 15 Coalition and Metricom, and it was agreed that the League and Metricom would conduct tests of Metricom's devices at the League's laboratory, with the goal of minimizing interaction between Metricom's devices and amateur SS station configurations.

"It apparently bears reiteration, however, that Part 15 manufacturers generally have no standing to object to Amateur Service rules changes, because Part 15 devices have no allocation status in any Amateur bands. There can be no restrictions, nor any refusal to eliminate unnecessary regulatory barriers, on amateur radio experimentation based on unquantified fears of possible future interference to Part 15 devices.

"It is not reasonable at this time to completely deregulate SS emissions as Buaas suggests, because to do so without affording the amateur community the opportunity to develop its own protocols for band sharing invites a clash between incompatible modes, rather than the hoped-for assimilation of both narrowband and wideband emissions. Furthermore, as to the suggestion made by Buaas to permit SS emissions on all bands above 50 MHz, the current narrowband occupancy of those bands is sufficiently high that development of SS systems in bands currently authorized for SS operation is prudent." - *American Radio Relay League*

"In my opinion, the ARRL (as an organization) is

illustrative of the lack of consensus among Amateurs. It has the pro-SS and the anti-SS factions, and the many other factions/interests that leave it at cross purposes with the initiative that is the subject of this Proceeding. The ARRL has neither contributed to nor provided leadership in this matter. As for policy, it wishes to see predominantly that the status quo remain in place, since this position best serves the ARRL as a power broker. All the while, technology is advancing, leaving the current practices in Amateur Radio behind." - *Robert A. Buaas, K6KGS*

"Even if a frequency coordinating body were to attempt to coordinate 70 cm SS operation so as to not impact the Amateur-satellite Service allocation from 435 to 438 MHz, how could this be done if the SS operation in question is 30 MHz wide? AMSAT continues to feel that the provisions we proposed in our comments, namely that no terrestrial SS communication be permitted in Amateur-satellite Service allocations, are appropriate and will afford SS ample room in which to develop without impacting amateur satellite activities. We continue to wish to be able to employ SS techniques in the Amateur-satellite Service bands for purposes of communicating with and through amateur satellites." - *AMSAT, Dr. Perry I. Klein, W3PK*

"In addition to the need for relaxed rules for wideband spread spectrum operation at UHF and microwave, I believe that development and experimentation with these techniques is best supported by a minimum of additional regulations. ...In general I believe that the amateur service can and must continue to be largely self regulating and policing, within the general bounds established by the Commission. I believe that this is the only practical way that effective sharing of the amateur spectrum may be accomplished. This approach is not without the potential for contention and discord but I believe it offers the only practical method for sharing resources." - *Glenn E. Elmore, N6GN*

"Several commenters have asked that SS be excluded from various portions of the spectrum above 50 MHz. They cite the case that in particular the 144-148 and 420-450 MHz bands are already congested in many parts of the country. They overlook the fact that SS is the one mode best suited to help relieve this congestion and less likely to interfere than would trying to add additional narrowband channels to the mix.

Over the years I have observed that amateurs have a tendency to ask, through their national organizations, for overly restrictive and conservative regulations for new modes of operation. The Commission typically gives us what we ask for. Invariably we then come back later to ask that these restrictions be relaxed or eliminated to give that new mode parity with other existing modes." - *John C. Koster, W9DDD*