

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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FCC Chairman to "Restructure" the Agency, Republicans want it "Overhauled"

Commission Chairman William Kennard announced plans to reorganize the FCC to reflect an era of competitive telecommunications markets. "This agency will look very different in five years," he said.

Since communications technologies are converging, Kennard said he will also examine the structure of the FCC, which has been divided into bureaus serving wireline phone, wireless, cable, broadcast and international services.

The FCC Chairman said he wants to work with lawmakers and at Congressional hearings held March 17, Kennard gave lawmakers a five-year plan, subject to revisions, for reorganizing the FCC internally along functional rather than technological lines, as well as putting greater emphasis on competition, deregulation, enforcement and consumer protection. Kennard also said he wants to speed up FCC decisions.

The overwhelming sense from the members of the *House Commerce Subcommittee on Telecommunications* is that the FCC is an elderly regulatory agency that needs either to be restructured or completely overhauled to do its duty in the modern information age.

The FCC expects to have its reorganization plan ready for public comment in May or June and finalized in the fall. Some of the plan could be implemented on its own but some of the parts would require congressional action.

Republicans want to revamp the FCC

Republicans in the GOP-controlled Congress have long criticized the FCC for acting too regulatory, particularly in its implementation of a 1996 law freeing cable, local and long-distance companies to get into each other's business.

In a February 28th speech, new House Speaker Dennis Hastert (R-Ill.) said that although he has a busy national agenda, telecommunications policy and ongoing FCC implementation of the *Telecommunications Act of 1996* would be a priority. "I am confident that we can restructure the FCC and help to drag the overly bureaucratic FCC kicking and screaming into the 21st century," Hastert said.

Rep. Billy Tauzin, R-La., chairman of the House Commerce Committee's telecommunications panel that has jurisdiction over the FCC, is leading the overhaul effort. "We have in effect a horse and buggy agency trying to bridle supersonic technology" Tauzin said. He believes reorganization is not enough. "The FCC should change to an entirely new agency ... not just one that behaves better." He wants to "radically reshape" the Commission.

"We need to redesign [the FCC's] mandate to clearly state what it should do and what it shouldn't do," Tauzin said. "We haven't had a comprehensive review of the FCC since the 1970's, when there was one telephone company, three networks and not even Bill Gates had heard of a laptop with Internet access." Rep. Tauzin, along with other lawmakers,

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plan to have a bill drafted by June detailing some changes in the FCC's mission, powers and structure.

Rep. Tauzin believes that: 1) Congress should get rid of FCC rules lawmakers see as unnecessary; 2) some FCC functions should be given over to the private sector; and 3) some of the bureaus should be combined to prevent overlapping of duties.

Republicans and some Democrats in the GOP-controlled Congress have accused the FCC of being too regulatory, particularly in its implementation of a 1996 law that freed cable TV and local and long-distance telephone companies to get into each other's businesses.

Rep. John Dingell of Michigan, the Commerce Committee's senior Democrat and a frequent FCC critic, blasted the agency's implementation of the law. "It has thumbed its nose at Congress." But another key Democrat, Rep. Edward Markey of Massachusetts, gave the agency high marks for implementing the 1996 law and said radically restructuring the FCC "would be counterproductive." Tauzin, meanwhile, renewed his push to try to limit the FCC's authority to review mergers.

"Radical restructuring" of the FCC does not seem to have as much support in the U.S. Senate where counterparts prefer a more modest proposal. "We have to change [the FCC] slowly," said Sen. Conrad Burns (R-Mont.), chairman of the Communications Subcommittee. "It's an evolutionary thing."

Tauzin opposes microradio

Tauzin is particularly outraged by the FCC's plan to allow thousands of new low-powered FM radio stations. The Commission proposed in February to create hundreds - or even thousands - of new FM radio stations broadcasting at 1,000 watts down to as little as one watt. Commercial stations typically broadcast at 5,000 watts or more, requiring expensive outlays for equipment and massive antenna towers.

Tauzin believes the Commission plan for microradio broadcast stations would reduce the audience and advertising revenue of current stations and possibly create severe interference. In a letter to FCC chairman William Kennard, Tauzin called the microradio initiative "ill-advised." He charged that the FCC "...is an agency out of control that demands congressional action to straighten it out."

But FCC Chairman Kennard believes "There is enough room for the voices of churches, schools, and neighborhood groups as well as established radio companies."

Tauzin also wants to repeal a provision of the 1996 *Telecommunications Act* that subsidizes Internet connections for schools and libraries. The education rate, or e-rate, discount is funded from fees added to long distance telephone calls. The program came under fire from some

Republicans last year who labeled it the "Al Gore tax."

In a speech, Kennard disagreed. He said "I'm happy to report that this month marked the end of the first year of e-rate funding. And after only 12 months, we've given out \$1.6 billion to over 80,000 schools. We have wired over one-half of all the classrooms in the nation."

FCC agrees it needs restructuring

Kennard agrees that the "The FCC needs change, but it doesn't need chaos," he said. "And I hope Congress does not use FCC reform as a back door to rewrite the 1996 *Telecommunications Act*" which he called "fundamentally sound." Kennard also reiterated his pledge not to regulate the Internet.

FCC Chairman Kennard presented his report entitled, "A New Federal Communications Commission for the 21st Century," which committed the FCC to focusing on three core functions - consumer protection, including universal service; enforcement; and spectrum management.

Kennard noted that, "In ...a world where old industry boundaries are no longer and competition is king, we need a new FCC. ...The traditional boundaries delineating the FCC's current operating bureaus will cease to be relevant. Simply, in five years time, the FCC will be dramatically transformed."

He said "Change is inevitable; it is necessary. We must re-organize the FCC in such a way that respects the integrity of our staff and protects the interests of the American people."

The FCC believes the re-invention of the Commission is well underway. In a public notice, Kennard said that since becoming Chairman in November 1997, he has emphasized the importance of strengthening agency enforcement as essential to protect consumers.

As a result, the Commission has investigated and shut down and fined hundreds of companies that engaged in "slamming" (unauthorized switching of long distance telephone service); shut down 261 unlicensed "pirate" broadcast radio operations, including five which were interfering with air traffic control or were otherwise endangering human life; and established a "fast-track" complaint process for resolution of complaints that are important to maintaining fair rules of competition;

Since December of 1997, the Commission has stressed the importance of removing unnecessary burdensome regulations.

The Commission's efforts to streamline regulations include simplifying the equipment authorization process; implementing electronic filing of applications and comments in rulemakings; and proposing several streamlining initiatives in over two dozen areas, as part of the 1998 Biennial Regulatory Review - including the restructuring of the Amateur Service.

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"VANITY" CALL SIGN FEE TO INCREASE SLIGHTLY

The FCC released a *Notice of Proposed Rulemaking* on March 24th in which it proposes to revise its *Schedule of Regulatory Fees* in order to collect the \$172.5 million that Congress has required it to collect for Fiscal Year (FY) 1999. Regulatory fees are used to recover the cost of the Commission's enforcement, policy and rulemaking, international and user information activities.

This amount is \$10 million or approximately 6% more than was designated for recovery last year. Almost half of all regulatory fees are paid by Common Carriers (such as telephone companies), another third by cable TV operators and broadcast licensees. Most regulatory fees are paid in full annually or in installments.

Small fees, such as those required for "Vanity" Amateur station call signs are payable in advance, that is: the annual fee multiplied by the number of years in the license term. The "small fee" category also includes applicants for new, renewal and reinstatement licenses in the Marine (Ship and Coast) Service, Aviation (Aircraft and Ground) Service, and the General Mobile Radio Service (GMRS). The effective date of the new regulatory fees is expected to be sometime in September 1999. Regulatory fees of less than \$10.00 are exempted from payment.

The proceeding is on the "fast track." Interested parties may file comments on or before April 19, 1999. Replies are due by April 29, 1999. Comments may be filed via the Internet using the Commission's Electronic Comment Filing System (ECFS) located on the World Wide Web at <<http://www.fcc.gov/e-file/ecfs.html>> or by filing paper copies.

Amateur Radio Service. Up until September of 1998, the regulatory fee for an Amateur station call sign was \$50. It was dropped to \$13.00 last summer. About a thousand Amateur "Vanity" call signs are issued monthly. The FCC estimates that 6,800 individuals will apply for vanity call signs in FY 1999 which will yield \$96,732 in revenue to the government. This category covers voluntary requests for specific call signs in the Amateur Radio Service authorized under Part 97 of the Commission's Rules. All other amateur licensees are exempt from payment of regulatory fees. The new FY 1999 regulatory fee will be \$14.20 (\$1.42 per year for a ten year license) payable in advance. As has been previous practice, this figure could be rounded off to the nearest dollar ...or \$14.00.

Aviation and Marine Radio Service. Most applicants for recreational licenses are individuals. Approximately 581,000 ship station licensees and 131,000 aircraft station licensees operate domestically and are not subject to the radio carriage requirements of any statute or treaty. Thus, private boat operators and private aircraft operators sailing/flying entirely within domestic U.S.

waters/airspace are not be required to pay a regulatory fee. The FCC estimates, however, that 16,800 operators will be subject to FY 1999 regulatory fees. The regulatory fee for ship/aircraft licensees is being increased from \$60 to \$70 (for a ten year license); Marine/Coast and Aviation/Ground is being increased from \$30 to \$35 (five year license.)

Personal Radio Services. Personal radio services provide short-range, low power radio for personal communications, radio signaling, and business communications not provided for in other services. The services include the Citizen's Band (CB) radio service, General Mobile Radio Service (GMRS), Radio Control Radio Service (R/C), and Family Radio Service (FRS). Only GMRS licensees are subject to regulatory fees which is being increased from \$30 to \$35. GMRS is a Part 95 personal and limited business communication service between vehicles or to fixed stations for short-range, two-way communications. It is anticipated that 68,700 GMRS operators will pay that fee. (NPRM, MD Docket 98-200, released: March 24, 1999)

AMATEUR RADIO STATION CALL SIGNS

...sequentially issued as of the first of April 1999:

Radio District	Group A Extra	Group B AdvancedTech/Gen.	Group C	Group D Novice
0 (*)	AB0IL	KI0PT	(***)	KC0FKM
1 (*)	AA1UK	KE1LE	(***)	KB1DWG
2 (*)	AB2GA	KG2QC	(***)	KC2EWL
3 (*)	AA3SJ	KF3CX	(***)	KB3DPM
4 (*)	AF4NZ	KU4YY	(***)	KG4CQH
5 (*)	AC5SL	KM5UT	(***)	KD5GUF
6 (*)	AD6HZ	KR6AJ	(***)	KF6VMG
7 (*)	AC7AP	KK7SM	(***)	KD7ERZ
8 (*)	AB8DX	KI8IB	(***)	KC8MCF
9 (*)	AA9WX	KG9PK	(***)	KB9UKE
N. Mariana	NH0M	AH0BC	KH0HY	WH0ABL
Guam	(**)	AH2DK	KH2UC	WH2ANZ
Hawaii	NH7Z	AH6PS	KH7SO	WH6DFL
Am.Samoa	AH8R	AH8AH	KH8DO	WH8ABH
Alaska	AL0N	AL7RL	KL0SO	WL7CVB
Virgin Isl.	(**)	KP2CP	NP2KJ	WP2AIK
Puerto Rico	(**)	KP3BM	WP3CD	WP3NOM

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

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

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

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

[Source: FCC Amateur Service Database, Washington, DC]

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LPFM RADIO COMMENTS POURING INTO FCC

Last February, the FCC proposed to establish new, low power FM (LPFM) radio stations with microradio power levels as low as 1 to 10 watts. The original public comment and reply comment dates on *MM Docket 99-25* were established as April 12, 1999 and May 12, 1999.

At the request of Lucent Digital Radio, the National Association of Broadcasters, Digital Radio Express, the Consumer Electronics Manufacturers Association, Bonneville International (which operates 11 FM radio broadcast stations,) Broadcasters/CEMA (a state broadcaster organization), Saga Communications (they own 26 FM stations) and the Walt Disney Company (on behalf of ABC) - the new comment date has been extended by the FCC to June 1, 1999 with replies filed by July 1. All had originally supported an even longer comment period.

The Amherst Alliance, a national organization of groups and individuals who advocate greater diversity in media ownership and programming strongly opposed the extension. They called the extension "...an outrage and an insult." Adding "...the NAB is treating itself as the Center of the Universe - if not the Universe itself - and treating others as ants to be crushed at will." - *Don Schellhardt, Attorney, The Amherst Alliance*

"The fundamental laws of physics cannot be denied; additional energy in the spectrum will create some measurable interference." - *N.J. Miller, President, Digital Radio Express, Inc.*

"These stations would open a wealth of opportunities for business as well as artists who due to the nature of big business have no chance of being heard.... Our communities deserve to have the opportunity to be heard." - *Wyatt Mims*

"...microradios would no longer allow FM stations to be added in most major markets ... I do not believe this notice takes into consideration the forthcoming move our local stations will be making to digital audio broadcasting ... The adoption of this proposal would place our listeners in the hands of new, untested and technically infeasible radio servers for reasons that seem driven less by good public policy and more by an interest in placating pirate radio operators." - *WVBA, West Virginia Broadcasters Association.*

"ABC is currently identifying potential low power station allocations consistent with the FCC's proposals. ... ABC plans to use this information to produce maps of identifiable interference, if any, to further evaluate on which receivers such interference might be expected to occur. These maps will be included in our filing. ..." - *ABC, Inc., subsidiary Walt Disney Co., Washington, DC*

"Low power radio will not have the expertise to maintain the operating perimeters of the transmitters nor the sufficient advertising base to maintain the equipment resulting in degradation of the spectrum. With the proliferation of the Internet, cable, HDTV, Satellite radio, CD's & etc., Low Power Radio will not and cannot serve the public and will not only degrade the spectrum, but also the existing full service radio we have left in the country." - *KJAM, Country Jam radio FM 103.1 Stereo, Madison, SD*

"...all citizens should have equal access to media within a Democratic society. I urge you to support measures to ensure under-financed communities access to non-Commercial Low Power FM radio. ... The current restriction on micro radio is indicative of a greater problem in our culture, in which citizens are

disenchanted by the 200 year old promise of freedom and prosperity, where the outlets for small change have been severed by corporations that have the money to control what we see and hear. ... Micro broadcast pioneers that have suffered government seizure and fines should receive amnesty, have their property returned, and be prioritized for new licenses". - *Regina Liszanckie*

"Our members feel that dropping in low power FM stations will create significant interference problems that will particularly affect the reception on car radios and less expensive radios so common in people's homes, especially battery-powered portable radios. ... Microradio will complicate the matter of moving from analog to digital broadcasting." - *Virginia Association of Broadcasters.*

"Pennsylvania is generally regarded as an urban state, but we live in one of those 'gaps', between large urban areas, where so much of America has 'fallen through the cracks.' ...For large urban areas, Low Power Radio can be the key to greater diversity in radio programming. In rural areas, such as ours, Low Power Radio is often the key to ANY kind of radio programming." - *Spencer Clark, John Benjamin and Charles Coplén.*

"Low Power FM will cause interference to existing stations, ...will harm the development of In-Band, On-Channel (IBOC) digital radio, ...will not create viable stations to increase minority and female ownership, [and] ...will be an administrative nightmare for the FCC. Low Power FM proposals for 1-10 watt stations are inefficient use of the spectrum." *KROC AM/FM, Southern Minnesota Broadcasting Co.*

"To kick down peoples' doors and confiscate their radio transmitters is the modern worlds' equivalent of censorship by book burning. To argue that the 'airwaves' are a finite resource that must be 'protected' is blatantly ignorant of the scientific fact that the electromagnetic spectrum is in reality infinite by its very nature. The NAB and their powerful corporate lobby are in reality much more concerned with the finite resource known as radio listeners. ...The real issue is constitutional freedom of speech versus its' antithesis, corporate greed." - *Robert G. Cutts*

"I hope that corporate ownership of Low Power FM will be banned. Part of the reason that the movement for low power FM refers to 'community radio' is to distinguish that corporations don't care about communities, only the money they can get from communities. ...This republic was founded on freedom. The public should be free to use its airwaves." - *Anthony Marimpietri, Jr.*

"...these outlets would be more like 'neighborhood radio stations.' Our neighborhood association recently sponsored a neighborhood-wide garage sale, however, not only couldn't we afford to advertise the event on radio, but we were told by at least 5 radio stations that there was no air-time available. We even attempted to get stations to broadcast public service announcements about our local proposal to incorporate into a city and we were turned down by the stations. ...A Low-Power FM Radio station in our neighborhood would have answered that need for us." - *Donald and Penny Carter, Littleton, CO*

"As a local musician, I know, better than most people, how difficult it is for local talent to get on the air in the Denver-Boulder area. Unless you are signed with a major label, your music isn't played on most radio stations, and there is little hope of local musicians getting exposure. More important, it is difficult for radio listeners to hear a diversity of music, entertainment and opinions. Low Powered radio would be the ultimate in public participation on the public airwaves." - *Cindy Wonderful, Littleton, CO.*

Excerpts from the public comments on Low Power FM broadcasting will be continued in our next issue.

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CUTTING EDGE TECHNOLOGY

■ **Take apart a cellular handset and you'll probably find no resistors inside.** That's because the continuing reduction of package size requires smaller components. To that end, resistors are now being manufactured literally inside the circuit board. This is called planar resistor technology. It saves weight and space, and doesn't need soldering.

■ **Ordinarily, a trip to the dentist isn't much fun.** But what if you got to watch TV while the dentist is working on you? It's already happening. Some dentists provide their patients with virtual-reality glasses and headphones that allow them to watch movies. Some patients even bring their own favorite videos!

■ **Microwave engineers trying to tune a UHF system** can now literally peel & stick their way to full quieting. Emerson & Cuming Microwave Products makes a silicone-based material that, once the backing is removed, can be stuck onto walls and inside cavities to absorb undesirable RF reflections.

■ **RFID (radio frequency identification) tags may soon let you pay at the pump ...and you don't get a bill later.** Gas pumps with RF tag readers detect an RFID tag on an incoming car, thereby obtaining the customer's accounting information from an internal ATM. If the customer's credit is OK, the pump starts pumping.

RFID requires no power source; the radio waves themselves create enough current to transfer the information. Many toll roads already use it, and so do many warehouses because these tags don't require line-of-sight access.

RFID can identify a whole room full of barrels, for example, even those hiding in the back, without moving any of them.

■ **Triplett offers a device that lets you track down circuit breakers.** The "Breaker Sniff-It" Model 9650 consists of a transmitter, which plugs into a live outlet, and a receiver. The receiver contains a probe that you wave up and down the breaker box. An array of LEDs displays various intensities until the strongest reading is reached and a loud "chip" is heard. That means you've found the breaker.

■ **Most hams wouldn't think of putting solder in the refrigerator.** But some solder paste, which is used in connecting surface-mount components to printed-circuit boards, stores better when cold. But it doesn't "keep"; once you open the jar and allow it to reach room temperature, you can't put it back in the fridge. "Take all you want, but use all you take."

■ **X-rays can't detect tooth decay early enough to prevent it.** But lasers can. Sick teeth "light up" differently under laser light than healthy teeth. It may not be long before the dentist takes a laser snapshot of your smile for preventive medicine. And if that's the case, why not a consumer version of the same tool?

■ **The Defense Department has spent a few million dollars** on exploring the technology required to operate on wounded soldiers in the field via remote control. That is, a doctor in a hospital several miles away could theoretically perform surgery through a virtual-reality hookup on a wounded man who is still near the battlefield. Robotic tools, video cameras and feedback sensors tell the surgeon how to cut and stitch, with all vital biomedical data of the patient presented down the side of the doctor's field of vision as a menu.

■ **It's actually possible to solder to glass.** Ceramics, glasses and other non-metals can be made solderable through a process called firing. In firing, a mixture of borate and a powdered metal such as silver is heated and applied to the surface of the material you're trying to solder. The result is a solderable coating. (You can also solder aluminum, if you use a special flux.)

■ **The future of rental cars could include GPS operation** to not only keep the driver from getting lost, but also help prevent theft. The car's navigational computer could be programmed to keep track of a certain set of boundaries, as purchased by the car's renter. Should the car be driven outside of this area, an internal transmitter could page the home office. The GPS location data could be included, to alert the car rental company as well as the authorities.

EMERGING COMMUNICATIONS

■ **Residential wireless local telephone service is on the way** -- By acquiring the nation's largest cable operator, Tele-Communications Inc., and negotiating a joint venture with Time Warner Cable -- AT&T has obtained access to about 40% of all homes in the U.S.. Additional cable agreements should bring their consumer penetration to about 60% of the market. AT&T is now looking into reaching the remaining 40% by using a wireless system.

Code-named "Project Angel", AT&T will shortly begin market testing local telephone service and high speed Internet access via a wireless system delivered to residential rooftop antennas. The \$750 installation cost is expected to eventually fall to about \$300. Deployment to "selective cities" is a year away. Wireless customers would use regular phones that plug into walls. Each wireless hookup would support up to four phone lines and a high-speed Internet connection.

■ **It is estimated that electromagnetic interference (EMI) around the world doubles every three years, over a wide bandwidth.**

■ **Most neighbors don't mind antennas,** as long as they don't look like antennas (if it looks like a weather vane, it probably is.) Cellular phone towers are already being disguised to look like palm trees or advertising signs. One company even makes laminated wood towers with a natural wood-grain pattern.

■ **One estimate places the cost of switching a single television station from NTSC to HDTV at about \$8 million.** This includes new cameras, video recorders, video monitors, audio equipment (HDTV uses digital sound), transmitters and antennas. In some cases, a new tower will be required.

■ **To save space and money, many FM radio and TV stations** have shared transmitting towers for years. That may change soon, though, because the new HDTV technology requires new, separate antennas. The TV stations usually own the towers, and the towers are not allowed to carry more than a certain number of antennas. Something's got to go.

New HDTV antennas on a tower could change the radiation pattern of an FM station's signal, anyway, so it's up to the radio station to find another tower. That could be tough, because tower space

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is often scarce, and building a new tower from scratch is even tougher.

■ **Several countries already limit the use of a cellular telephone inside a moving vehicle**, and now almost 20 states are working on similar legislation.

COMPUTERS & SOFTWARE

■ **Video games will become "cyber-space fantasy generators" in time for Christmas 2000.** Still more than a year away from store shelves, Sony's Playstation II will put youngsters on the threshold of real-time virtual reality at a cost of less than \$500. It will offer life-like graphics at twice the speed of the most powerful engineering workstations which, up until now, has only been available through supercomputers.

The new Playstation II is a \$2 billion joint venture between Sony and Toshiba Corp. Its "Emotion Engine" microprocessor reportedly has enough power to begin to convey humanlike motions and abilities, ranging from natural movement and facial expressions ...to artificial intelligence like the ability to learn and to recognize speech. Sony and Toshiba are in the process of completing a new semiconductor plant just for the Emotion Engine

The chip is significantly more powerful than Intel Corp.'s newest Pentium III microprocessor and has more than twice the graphics and multi-media processing power of the most powerful Silicon Graphics work station, the benchmark for graphics computing power.

Its graphics power will be coupled with high-speed connections to the Internet through cable and satellite links. One analyst hailed the machine as "...the merger of film, television and the video game businesses." Another believes the Emotion Engine could evolve to beyond game playing and become "...the first credible alternative to the PC for reaching people on the Internet." (Reported by the *New York Times*)

■ **Laptop computers cost more than desktop PCs**, but the difference is made up if people use their business laptops at home for an extra hour or two per week. The payback is productivity.

■ **Hospitals are among the most eager customers of liquid-crystal-displays (LCDs) for computers.** Can you

guess why? LCDs don't generate the electromagnetic fields associated with standard CRT-based displays. LCDs also take up less space, don't generate as much heat, and consume less power

■ **Rescue Professional is a new piece of software designed to recover data from damaged hard or floppy disks.**

What makes this work better than other programs is the method used - they don't use the same DOS interrupts. Rescue Professional by ForeFront Direct comes on one 3.5" floppy disk. You can even copy all the recovered data onto another hard drive.

■ **Apple is selling out of colored iMacs. And no one seems to know why.** As of January 1999, iMac is now available in a variety of colors - including tangerine, lime, grape, blueberry and strawberry "flavors" in addition to its original "blue ice/turquoise." The original \$1299 iMac is now being discounted for as low as \$900.

Steve Jobs says over 800,000 iMac computers have been sold since August 1998. Apple says it's due to the multicolored machines' overwhelming popularity. They hope that users will want to collect them. Mac retailers and customers apparently think it signifies that iMacs are "...hot new machines."

Dealers all over the United States are running low on the multicolored iMacs and are having trouble replenishing supply. Grape and blueberry are particularly good. We heard that an all black iMac is on the way with a 17-inch screen.

<<http://www.imacfloppy.com>> offers free "virtual storage" since iMac doesn't come with a floppy. You can upload up to 3 megs of data to the Web. Saving stuff online also saves you the \$150 it costs for an external floppy drive.

By clicking on your iMac color, you can even get the website to display in colors that match your iMac. None of this makes any sense. And Nerds with beige boxes don't understand it. But it is happening. Watch for other PC makers to offer different colors.

■ **"Is my credit card safe on the Internet?"** is the title of an interesting story from Ziff-Davis. They say "You should only give your credit card information on the Internet when you know you are on a secure site. On Internet Explorer, in the View, Options, Security tab, hit the Security Level button, and set the security

level up to high. If it is turned up to high, the browser will warn you before you try to send information insecurely.

"Netscape put a Security button right on its toolbar (next to the Print button) that will tell you how secure the page you're viewing really is: whether it's encrypted or not, and whether the URL you're seeing in the location window is really the source of the site.

When you hit the button, it launches a new window, and you can adjust the level of security by clicking on "Navigator" in the left-hand column and clicking on the boxes that correspond to your level of paranoia. You can be warned when you are entering or leaving an encrypted page, viewing a page with an encrypted and unencrypted mix, and sending unencrypted information to a site.

"Before you send any private information on the Internet, the most important thing is to make sure the padlock is locked. Both Internet Explorer and Netscape Navigator use the padlock, a little icon that appears at the bottom of the browser screen. If the site you're at is secure, the padlock will appear locked, and if not, it will appear unlocked."

If you're visiting a secure site, your credit card information is pretty safe. When it's transmitted, it will be encrypted, which means the information will be scrambled by your computer and unscrambled by the receiving computer. (ZDTV)

■ **Metric prefixes applying to computer data are being changed to binary. Do you know what a 20 gibibyte hard disk is?** A kilobyte is one thousand bytes, right? Wrong! Kilo = 10^3 or ten raised to the third power ($10 \times 10 \times 10 = 1,000$). But computers use binary technology - that is, powers of two. 2^{10} or two raised to the tenth power actually is 1,024. But since 1,024 is "close enough for government work" to one thousand, it has always been called a kilobyte. That's changing.

The Geneva-based *International Electrotechnical Commission*, the world organization that prepares and publishes international standards for all electrical, electronic and related technologies, is adopting new prefixes to more accurately describe computer data values. (Amendment 2 to IEC 60027-2)

The new term "kibibyte" will now be used to describe the number of bytes in a kilobyte. "Kibi" stands for **kilobinary**. A

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kibibyte has 1,024 (2 to the 10th power) bytes. All metric prefixes currently employed — kilo, mega, giga, and so forth — are being changed to binary prefixes.

The new prefixes are kibi, mebi, gibi, tebi, pebi and exbi to express exponentially increasing binary multiples — (2¹⁰)¹, (2¹⁰)², (2¹⁰)³, (2¹⁰)⁴, (2¹⁰)⁵ and (2¹⁰)⁶. Check: <<http://www.iec.ch/tclet6.pdf>>

■ **If you shoot at the U.S. Army, chances are the Army will shoot back.** Several computer hackers learned this the hard way recently when their electronic attacks against the Pentagon's web site got turned against them, resulting in their own crashed systems. The Pentagon, having tired of being a target, had installed a retaliatory strike in the form of software that ties up the computers that launch the web site attacks.

■ **In 15 years, we may see CPU clock speeds over 10 GHz and CPU pin counts in the thousands.** Voltage bus levels will drop from five volts to half a volt, and you may find 64 GBit or even 128 GBit RAM packages at computer sidewalk sales.

■ **Inkjet printers have thankfully improved over the years.** They now contain automatic flush systems that keep the ink pipelines from clogging. They automatically add ink or fluid to the inkflow to keep a constant viscosity. There is no longer any waste ink to dispose of, and the heads do not require cleaning as often.

INTERNET NEWS

■ **Snap, a joint venture of technology news publisher CNet and General Electric's NBC subsidiary, is the first out with a broadband "fast speed" portal site.** Located at: <<http://speed.snap.com>>, it features "rich media"— such as video streams, Internet radio, MP3 song files, etc.

■ **U.S. consumers will spend a whopping \$56 billion on Internet access services over the next five years,** and the market will grow at a compound annual rate of 21 percent during the period, according to a research report issued by the Yankee Group. "While America Online (AOL) is clearly the leader in consumer Internet access, with a 57percent share of the U.S. market, the expected growth of the market leaves plenty of op-

portunity for ISPs..." the report said. ISPs can grow by targeting the "newbie" market. (Reported by CBS Marketwatch)

■ **The print version of the Ham Radio Callbook is no longer available** ...having fell victim to escalating print costs and the ready availability of free on-line databases. It looks like the telephone directory could follow.

The first white pages debuted in New Haven, Connecticut on Feb. 21, 1878 when the *District Telephone Company* published a one-page flyer listing its subscribers ...but not their phone numbers. People simply called the phone company who plugged them into their customers. That was the system back then.

Five years later, the *Cheyenne, Wyoming Telephone Company* published a "broadsheet" (6½"x17") that not only included phone numbers, but advertising for goods and services as well to help pay the printing cost.

The listing was printed on yellow paper because the printer ran out of white stock. They never legally protected their "yellow pages" and the term became universally associated with telephone directory advertising. Thousands are now in existence ...all claiming to be "The Yellow Pages".

Today nearly 400,000 million copies of over 6,000 print directories are left at front doors throughout the United States every year. Surveys show that 90% of the public use a phone book ...more than half at least once a week!

But the widespread deployment of cellular phones and personal computers could bring the age of print phone books to a close. White page phone books which are printed every year or so can no longer keep up with the millions of telephone customers who come and go quickly. The biggest advantage of online phone directories is "immediacy." Content can be easily updated daily ...or hourly if need be.

Today, Internet-based Electronic Yellow Pages (EYPs) are not only presenting a cost effective alternative, but a better product since they offer faster key word searching. You don't have to second guess what the heading might be of the service or product you want.

And white and yellow page printed directories are necessarily "local" whereas electronic phone books can be national ...even worldwide. You can expect that electronic phone books will not only be accessed from your PC, but from your

television set as well ...even your car.

Look for EYPs to eventually include video and audio advertising clips. You'll even be able to ask your PC to locate help for you which will be immediately e-mailed to you without even consulting the Electronic Yellow Pages. Consulting the EYP could even result in you being bombarded with inquiries from like businesses without you even asking. The possibilities are limitless.

Surveys show that within ten years, electronic media will overtake print. It has already started. Newspapers could be next.

■ **Be extremely careful what you say or divulge in Web portal chat rooms, financial roundtables, message board postings or Usenet discussion groups** — especially about corporations ...or your former company or boss. The chances are pretty good that it will be reported to them. There are firms out there that specialize in just that sort of thing — and they are finding a ready market for their collected information.

Ewatch, Cybercheck and Cyveillance are all little known "clipping service companies" that scour the Internet on behalf of corporate clients who want to know what the rest of the world is saying behind their backs.

Corporations are concerned that unfounded rumors or the release of trade secrets can damage their reputations and stock prices. Some of these monitoring services use very sophisticated, automated "spiders" — software search tools that secretly work their way into discussions on the Web — to scour for certain client-selected key-word phrases and to collect information on what is being said.

Ewatch alone combs through more than 250,000 Usenet postings daily for stuff that they feel companies should know about. Bottom line. Chat rooms and discussion groups are definitely not private.

■ **AOL may have twice as many users as customers!** According to Media Metrix, America Online and Yahoo! reached roughly the same number of unique users in February ...just over 31 million. That's roughly double the number of AOL subscribers. The huge number is undoubtedly due to AOL's hottest web-based service, ICQ, which has over 28 million users. The ICQ service alerts you when your friends are also online, allowing you to send instant chat messages

back and forth.

The ICQ client is a small piece of software downloaded into your and your friends' browsers and works with or without a browser being open. ICQ can even be used in offices to replace intercoms. While ICQ is a separate brand, it connects you to the AOL network.

WASHINGTON WHISPERS

■ **Vanity "toll free" telephone numbers with the 888 prefix are now available** to both individuals and businesses. Beginning April 5th, toll-free service providers (AT&T, MCI Worldcom and Sprint) are making 140,000 numbers available.

The FCC had set aside 370,000 vanity numbers using the 888 prefix because many companies using the same vanity numbers with the original 800 prefix wanted them.

The FCC had decided to give those companies first chance at the same vanity number with a 888 prefix. Some 230,000 were picked up and the 140,000 represents the left overs. Any of the three toll free number providers can tell you if the number you want is still available.

■ **On March 12, 1999, the U. S. District Court for the Southern District of New York issued an injunction against unlicensed New York City radio broadcast station known as "Steal This Radio."** In his 26 page opinion, Judge Michael B. Mukasey denied a complaint filed by "Steal This Radio" that strived to prevent the FCC from taking enforcement action against them.

The FCC's New York City field office found that "Steal This Radio," which began broadcasting in November of 1995, was operating on frequency 88.7 MHz without a license. Despite numerous FCC warnings, the station continued to operate.

The operators of "Steal This Radio" and two listeners of the station filed a complaint in federal court, challenging the constitutionality of the Communications Act and the FCC's licensing regulations, and seeking an injunction against the FCC.

The District Court dismissed the station's complaint and rejected their First Amendment arguments. According to the Court, the regulatory framework for licensing radio stations withstands constitu-

tional review because it specifies procedures which the FCC must follow in such cases and it provides for judicial review of any FCC ruling granting or denying a license.

In granting the FCC's request for an injunction against the unlicensed radio station, the Court stated that "...given plaintiffs' three-year-long, nearly continuous violations of the statutory licensing requirement, there is every indication that plaintiffs will continue to violate this provision in the future unless restrained by judicial order."

The FCC urges operators of all unlicensed stations to voluntarily cease their illegal broadcasting operations. Unauthorized operation of a radio transmitter or station subjects the operator to penalties of up to \$11,000 and the equipment may be seized and forfeited. Unlicensed operators also may be subject to criminal fines of up to \$100,000 and/or imprisonment for up to one year, or both, for a first offense.

■ **The FCC is now using an on-line computer system** that allows commercial radio and TV stations to request new call letters through the Internet. Users can find out for themselves if a desired callsign is already in use, or has already been requested. This lightens the load on the FCC, because it means fewer stations have to go through them, and it also reduces the paperwork. No more applications must be returned because of improper filing.

■ *The Defense Advanced Research Projects Agency (DARPA) says that the next-generation military combat radio will keep soldiers from getting lost (thanks to a GPS receiver),* will be hard to jam (because of its frequency-hopping capability), will transmit and receive digital data as well as voice, and let soldiers communicate with each other as far away as 400 miles through repeaters either on the ground, in the air or in orbit.

■ **With so many people using GPS,** the Air Force (the service in charge of maintaining the system) wants to be sure that no one literally gets lost should one of the satellites suddenly fail. Millions of people lost their pager access last year when *Galaxy 4* quit working.

To prevent a similar occurrence with GPS, the Air Force plan is to periodically launch replacement satellites before the old ones fail. They work on a predictive schedule according to how long each

"bird" has been in orbit.

■ **Interestingly, some people don't want to hear a GPS signal!** If you're designing RF circuitry that reacts unfavorably to the 1.575 GHz signal, you can't get away from the worldwide signal without filtering. Trans-Tech makes a ceramic notch filter specifically designed to "take out" an incoming GPS signal.

■ **The FCC has announced that it intends to close its Gettysburg, Pa., reference room,** once its Universal Licensing Service (ULS) is 100% operational later this year. According to the commission, computers have replaced people in Gettysburg as far as information retrieval is concerned, and requests to access the actual paper applications have decreased significantly. The FCC added that the use of electronic filing to request new, modified and renewed authorizations for wireless services continues to increase. Currently, more than half the applications for wireless services are received by electronic means.

AMATEUR RADIO

■ AD7K advises that we made an error in our last newsletter concerning the annual **Amateur Radio Reception held during the National Association of Broadcasters (NAB) Convention.** It is being held on Wednesday, April 21st between 6 and 8 p.m. at the Las Vegas Hilton, Ballroom C. ("Squeak" Porray, AD7K is the manager of the AES - *Amateur Electronic Supply* - store in Las Vegas.)

■ According to an ARRL bulletin, **the FCC is investigating a Texas Technician licensee, Leonard Martin, KC5WHN, of Houston, Texas, for operating outside the amateur bands without a proper license.** Using direction finding equipment, the FCC reportedly found Martin operating on 27.370, 27.535 MHz and 545 during February and March. Those frequencies are located between CB channels.

On March 15th, Martin refused to allow FCC officials and the local police to inspect his station. The FCC's Riley Hollingsworth, K4ZDH said that Martin could be subject "...to a large fine for unlicensed operation and refusal to allow an inspection, plus loss of his license." Mar-

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tin was warned last fall about operation on frequencies other than those authorized under his Amateur Radio license.

In other actions, the FCC sent Warning Notices to an Illinois ham alleging broadcasting and on-air harassment as well as transmission of profane and indecent language. The FCC also warned a Texas ham about causing deliberate interference on 40 meters, an Illinois ham who holds a Technician ticket about operating on 20 and 40 meters, and a North Carolina Novice who's allegedly showed up on 2 meters.

■ **The International Maritime Coast Station Special Event** - The Marconi Radio Club's W1AA will represent former Cape Cod coastal station WCC April 10-11 during the *Radio Officers Amateur Radio Society* special event commemorating the end of maritime CW operations. Crews have been at work this month dismantling the former WCC antenna site. Some 90 coast stations worldwide are expected to take part in the ROARS event. Awards and certificates will be available. Visit: <<http://homepages.enterprise.net/dbarlow/index.html>> for more information. -- *Whitey Doherty, K1VV*

■ AMSAT France has announced that **one of the astronauts on board the Mir space station - Jean Pierre Haiguer** - has the callsign **FX0STB**. He is operating the Mir VHF FM station on 145.985MHz. The QSL manager for FX0STB is: Radio Club F5KAM, QSL Manager Mir, 22 Rue Bansac, 63000 Clermont Ferrand, France.

■ **Here's a new DX location you have not heard of! Will it qualify as a new DX country?**

On April 1, 1999, "Nunavut" becomes the first new Canadian territory since Newfoundland joined Canada in 1949. The new northeastern arctic territory has been assigned the distinctive prefix VY0 (Victor Yankee Zero) by *Industry Canada*.

The Nunavut Territory was born through the settlement of one of the largest aboriginal land claim agreements in North America. It will now be self-governing and, as such, may qualify it for new DXCC country status.

The Inuit people (don't call them "Eskimos") have lived in the Nunavut area for thousands of years. In the Inuit language, Nunavut means "Our Land". It is located east of Canada's Northwest Ter-

ritories and west of Greenland and is the largest and northernmost territory of Canada.

Iqaluit is the largest community in Territory of Nunavut with a population of 3,600. It gets 24 hours of daylight per day in June, and six hours per day in December. There is only 12 (yes, twelve!) miles of highway in all of Nunavut! While Nunavut covers a huge land and water area it has only a population of 24,000 - most of whom are Inuits.

Go to <<http://www.nunavut.com>> and <<http://www.arctic-travel.com/>> for more information on Nunavut. The Prefix VE8 (Victor Echo Eight) will remain for the use of the western Northwest territories.

■ **This year's Dayton HamVention is just around the corner.** It takes place At Dayton, Ohio's Hara Arena May 14, 15 and 16. Talk-in frequency, 146.94 MHz (down 600), will be operational from Wednesday (May 12) to Monday (May 17.)

The first HamVention took place in 1952 when 600 visitors showed up. By contrast, more than 30,000 radioamateurs are expected to attend this year.

The giant HamVention banquet is scheduled for Saturday evening, May 15th at nearby Nuter Center when the **1999 Hamvention award winners** will be honored. They are:

• **Kenneth M. Miller, K6IR, AMA-TEUR OF THE YEAR**, of Rockville, MD, for the leadership, vision and dedication exhibited during his nearly 60 years of continuous involvement in amateur radio.

• **Alfonso R. Torres, KP4AQI, TECHNICAL EXCELLENCE**, of Huber Heights, OH, for his numerous designs and inventions that have enhanced the art and science of amateur radio operations.

• **Paul D. Lieb, KH6HME, SPECIAL ACHIEVEMENT**, of Hilo, HI, for his pioneering and record-setting work in tropospheric ducting and VHF, UHF and Microwave communications.

For the second year in a row, the HamVention banquet will feature entertainment. Joe Walsh, WB6ACU and his band will appear in concert at 8:30 p.m. Last year's smash hit entertainment featured country singer Ronnie Milsap, WB4KCG.

The Dayton Hamvention has signed a contract with Hara Arena for use of the facility through 2003. Future Hamvention dates will be:

- May 19, 20 and 21, 2000 - First joint conference with ARRL!
 - May 18, 19 and 20, 2001
 - May 17, 18 and 19, 2002 - Hamvention's 50th Anniversary!
 - May 16, 17 and 18, 2003
- More information on Hamvention '99 at: <<http://www.hamvention.org>>

■ **In a plea bargain, super-hacker Kevin Mitnick, 35, N6NHG was sentenced** by US District Court Judge Marianne Pfaelzer on March 26th to 46 months in prison after pleading guilty to seven counts of wireline and computer fraud. He had been scheduled to go on trial April 20. Mitnick could also be responsible for up to \$10 million in restitution.

Mitnick, who has already spent 48 months in a Los Angeles detention center, will be given credit for time served. He could be released to a halfway house as early as this fall. Mitnick still faces charges in Southern California from a 1993 arrest for fraudulently obtaining information from the Department of Motor Vehicles. He could spend another four years behind bars if convicted.

Mitnick holds the distinction of being the only computer hacker to make the FBI's most-wanted list. Once released, he will be prohibited from using computers for at least three years ...and from profiting from his story.

NEW AND UPGRADING AMATEUR RADIO STATISTICS Month of March 1997, 1998 & 1999

License Class	New Amateurs		
	1997	1998	1999
Novice	0	70	60
Technician	2398	1958	1522
Tech Plus	223	199	192
General	26	43	22
Advanced	5	2	3
Extra Class	1	2	2
Total:	2653	2274	1801
Decrease:		(14.3%)	(20.8%)

License Class	Upgrading Amateurs		
	1997	1998	1999
Novice	0	5	0
Technician	1	4	6
Tech Plus	469	362	366
General	431	427	275
Advanced	326	305	279
Extra Class	226	232	161
Total:	1453	1335	1087
Decrease		(8.1%)	(18.6%)

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THE INTERNET BROWSER WAR IS BACK!

Microsoft beats Netscape to the market with its Version 5.0

Microsoft, which seemingly had won the battle of the browsers – has competition again! The reason for the renewed fighting is America Online's takeover of Netscape Communications Corp. IE's single largest customer was America Online ...and that is fixing to change!

If AOL users start using Netscape – and you can bet that's AOL's intention – then the scale is tipped again. More web surfers use AOL than any other service ...more than 16 million and mounting daily.

AOL is the favorite of the "newbie" – many of whom didn't know a browser from a bagel before they were thrown into the battle. Sooner or later, AOL will switch to Netscape or its own version of it. The winner will be the consumer who will have better software at less – make that "no" – cost.

We may be headed toward a scenario where Internet surfers will need both browsers on their PC. Many users already do just that. Microsoft still doesn't have a version of AOL/Netscape's popular chat-pager, "Instant Messenger." The merger of AOL and Netscape shows competition is indeed alive and well.

Microsoft's new Internet Explorer IE-5

Microsoft debuted their new Internet Explorer, Version 5 (IE-5) since our last newsletter. Netscape's version 5 is not due for final release until this summer. IE-5 indeed has a lot of neat new features, but no dramatic "breakthroughs." It certainly outperforms IE-4. Most compliments go to its speedier performance. It loads text pages, graphics, cached pages ...and starts up much faster. Netscape's new Navigator 5 reportedly will "up" the speed even more – or so they say.

The IE-5 has an expanded "**AutoComplete**" feature which remembers the sites you frequent most. You only have to enter a few characters of the URL in the address bar and a new drop-down list of matching sites appears. AutoComplete also works with Web forms, displaying a list of previous entries when you start to type in a field on a Web site. To automate login processes even further, you can also now save usernames and passwords for particular sites.

You can also search your History file for recently visited pages or simply sort the list by name, date, or number of times visited. History also chops off the www that begins most URLs for easier reading.

"**AutoCorrect**" fixes common typos in Web addresses. Mistype a URL and it will automatically change your typo to the what it believes to be the correct address.

The enhanced "**AutoSearch**" allows common words typed into the Address Bar to be displayed in a win-

dow full of possible links, while automatically linking to the most probable site.

"**Search Assistant**" now permits you to do different types of searches such as "Find a Web page," "Find a person's address," "Find a map," "Find a business" ...and so on.) When you select a particular type of search, the browser automatically selects the best engine (such as *InfoSpace* for business searches). You can pick which engine to use for each type of search, but IE-5 usually directs you to a Microsoft site. For Usenet news you are redirected to Deja News. If you don't like the results the default search engine, just click "Next" to go to the next engine.

The new bottom-of-the-screen "**Explorer Bars**" feature allows you to get constant scrolled information – such as stock quotes, headlines, searches, sports, weather, indexes ...even encyclopedia articles. You will be seeing a lot of new "Explorer Bars" developed by various web sites. Right now, Bloomberg, Alexa, Alta-Vista and the New York Times already have their's ready to go. You can see them now (without IE-5) by going to <<http://www.microsoft.com/Windows/IE/WebAccess/default.asp>>

Another new feature in IE-5 is the Windows "**Radio Toolbar**," ...sort of an online car radio complete with push buttons that allows you to listen to Net-broadcast stations as you browse. A quick-access list of radio stations is provided. No more going to a website to get music.

IE also allows you to select the default email, calendar, newsgroup, and HTML editors of your choice. You can even designate your Web-based email provider as the default email program.

Faster loading pages, graphics

Even though slow servers and telephone connections have the biggest impact on browser speed, surfers naturally want the fastest speed they can get. In that regard, IE-5 is big improvement over IE-4 ...about 25% faster. But the existing Netscape is still faster in some areas ...such as routine text-and-graphics pages.

IE-5 loads cached (saved) pages faster than both IE-4 and Navigator 4.5 by limiting the times the browser has to go back to the server. As a result, IE-5's "Back" button is super fast.

There is no doubt that you should upgrade to IE-5 if you currently use IE-4. Its speed and new features make the upgrade worthwhile. Beginners will particularly like IE-5 since it is easier to use and its online jargon less technical. Netscape users may want to see how Navigator 5 performs before changing.

I paid \$6.95 for my IE-5 on an easy-to-install CD. But you can download it for free from <<http://www.microsoft.com/windows/ie/default.htm>> A Mac version is due this summer.