

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.

May be republished providing credit is given to *The W5YI Report*.

Fred Maia, W5YI, Editor, P. O. Box 565101, Dallas TX 75356
Electronic mail: fmaia@prodigy.net Website: <http://www.w5yi.org>
Tel. 817-461-6443 FAX: 817-548-9594

In This Issue...

FCC: Petitions for Reconsideration
Use of Social Security Numbers
New Part 97 Amateur Radio Rules
General Mobile Radio Service Issues
"Iridium" Forced into Bankruptcy
LD Telephone Rates Nosedive!
AT&T Has a Friend at the FCC
Sept. 18: World Amateur Radio Day
Y2K: Opportunity for Amateur Radio
Will My PC Work On January 1, 2000
Universal Licensing System Debuts
FCC's New Plan for the 21st Century
Telephone: A Measure of Prosperity

Vol. 21, Issue #17

\$1.50

PUBLISHED TWICE A MONTH

September 1, 1999

FCC Rules on ULS Petitions for Reconsideration

The Federal Communications Commission received eight *Petitions for Reconsideration* addressing various aspects of the *ULS Report and Order*. Two of those petitions concerned Amateur Radio, one impacted GMRS. The FCC has now issued 52-page order substantially upholding the decisions made in the *ULS Report and Order*. But the FCC did make certain revisions and clarifications to various rules in response to those petitions and on their own motion.

Follows are some FCC's rulings on the ULS *Petition's for Reconsideration* that will be of interest to Amateur and GMRS Operators.

Use of Taxpayer Identification Numbers

Background. In the *ULS Report & Order*, the FCC required all ULS applicants and licensees to register their Taxpayer Identification Numbers (TINs) with the Commission through ULS. David B. Popkin W2CC of Englewood, NJ asked that the FCC reconsider the requirement that Amateur Radio applicants and licensees provide their Social Security Numbers (SSNs) to the Commission.

Discussion. The FCC said that "Popkin does not raise any new issues in his Petition, but simply restates his previous argument that Amateurs should not be required to disclose their SSNs because they do not make fee payments to the Commission for applications." The Commission said that they "...have previously determined that the *Debt Collec-*

tion Improvement Act of 1996 (DCIA) does not distinguish between applicants who pay fees and those who do not in terms of who is 'doing business' with a Federal agency. As a result, we have determined that Amateur applicants and licensees are not exempt from the TIN (Taxpayer Identification Number) disclosure requirement. We reaffirm that decision here. We also reaffirm that we will maintain the confidentiality of SSN/TIN information provided by Amateurs, as well as by licensees and applicants in other services, and that such information will not be disclosed to the public."

Amateur Radio Service Issues

In the *ULS Report and Order*, the FCC adopted various changes to the rules and procedures for Amateur licensees to facilitate the inclusion of the Amateur Radio service in ULS and the use of the new FCC Form 605 for Amateur applications and other filings. Other substantive changes to the Amateur rules were made, including the authorization of alien amateur radio operation by rule.

The FCC said "We found that authorization by rule reduced many burdensome regulations and eliminated an unnecessary database from the Commission's records. In addition, the Commission amended the Amateur service rules to implement two international agreements to aid United States amateur operators traveling abroad in certain European and South American countries."

Modifications to Amateur Application, FCC Form 605

Background. Petitioner David B. Popkin, W2CC requested various changes to the new FCC Form 605. These included that: (1) the FCC provide a short-form specifically for Amateur Radio rather than requiring Amateur applicants to use Form 605; (2) Amateur applicants should not be required to provide telephone numbers and e-mail addresses; (3) Amateurs not be required to certify compliance with section 5301 of the Anti-Drug Abuse Act of 1988 because Amateur Radio is exempted from this requirement; and (4) certain questions and instructions on Form 605, Schedule D should be clarified or modified.

The American Radio Relay League (ARRL) also requested that Form 605 be modified to allow for inclusion of (1) additional information regarding certifications by Volunteer Examiner Coordinators (VECs) that the applicant is qualified to receive an amateur license and the class of license for which he/she is eligible, and (2) information concerning where and when an examination for a new or upgraded license was administered.

Discussion. In the *ULS Report and Order*, the FCC declined to adopt applications designed solely for use in a single service. Petitioners have raised no new arguments to justify reconsideration of that decision with respect to Amateur operators. The FCC believes the Form 605 will provide for fast and easy filing by Amateur applicants, particularly if they file electronically.

"We also believe it is reasonable to request that Amateur applicants provide a telephone number and e-mail address," the FCC said. "We clarify, however, that the provision of telephone and e-mail information by Amateur Radio applicants is optional as long as they provide a valid U.S. mailing address. We will also modify the Form 605 certification pertaining to the Anti-Drug Abuse Act to clarify that it does not apply to services, including Amateur Radio, that are exempted from this requirement under section 1.2002(c) of the rules. With respect to the other Form 605 changes requested by Popkin and ARRL, we conclude that Form 605 satisfactorily collects the information required by our rules. Consequently, no need exists for burdening applicants with additional information requirements. We do not need to address the remaining clarifications to the Form 605 and instructions requested by Popkin. The Bureau has discretion to make appropriate clarifications to forms, provided that it complies with OMB procedures with respect to approval of any information collection requirements."

Charges by Volunteer Examiner Coordinators

Background. David Popkin, W2CC filed a *Petition for Reconsideration and Request for Rule Making* (Petition and Request) in reference to the *Electronic Filing Order* released by the Bureau on July 17, 1996. In that petition, Popkin requested that Volunteer Examiner Coordinators

(VECs) not be allowed to charge fees for renewals or modification of amateur licenses. With respect to fees for renewals and modifications, Popkin maintained that VECs may only be reimbursed for out-of-pocket expenses incurred in the examination procedure.

Discussion. The FCC said "Popkin is correct in that section 97.527(a) of the Rules allows VECs to be reimbursed for 'out-of-pocket expenses incurred in preparing, processing, administering or coordinating an examination for an Amateur operator license.' However, renewing or modifying an Amateur license is not part of the actual testing process. Rather, it is a non-mandated service performed by VECs for applicants that is procedural in nature. Therefore, modifications and renewals performed by VECs do not fall within the provisions governing VEC reimbursement that apply to activities related to conducting examinations for amateur operator license applicants. We reiterate that the compensation, if any, the VEC organization receives as a result of assisting with renewals and modifications is a matter that is between the Amateur operator choosing to use the organization's services and the organization. Moreover, Amateur applicants who prefer not to pay charges imposed by the VEC may, if they so choose, renew or modify their licenses themselves manually or electronically."

Issuance of License Documents

Background. In the *ULS Report and Order*, the FCC responded to comments from ARRL regarding whether Amateur operators require a paper license issued by the Commission in order to operate. The Commission affirmed a prior decision that Amateur operators are authorized to operate as soon as their licensing data is entered in the Commission's database, and are not required to wait until they receive the license itself, which may not be issued for several weeks.

In its petition for reconsideration, ARRL stated that it agrees with this decision, but that a legal and practical necessity still exists for Amateur operators to receive a license document issued by the Commission.

Discussion. The FCC responded "ARRL's petition is premised on the assumption that we plan to discontinue issuance of license documents to Amateur operators when Amateur is converted to ULS. This is not the case. Amateur operators will continue to receive a printed license generated by ULS shortly after their licensing data has been entered into the ULS database. Therefore, we need not address this issue further."

Club Station Call Sign Administrators

Background. Popkin, W2CC requested several new rules concerning Club Station Call Sign Administrators (CSCSAs), including: (1) requiring CSCSAs to provide services in a non-discriminatory manner; (2) requiring

WSYI REPORT

America's Oldest Ham Radio Newsletter

Page #3

September 1, 1999

CSCSAs either to submit applications to the Commission or to retain them 2 years after license expiration, and (3) assigning call signs to club stations from the sequential call sign system used by other Amateur licensees.

Discussion. "Popkin provides no evidence that CSCSAs have acted in a discriminatory manner that would warrant an explicit non-discrimination requirement," FCC said. "We believe any such instances, if they occur, can be addressed through the Commission's complaint process. We will also retain our current requirement that CSCSAs retain application information for 15 months, which is the same requirement applicable to retention of such information by VECs."

"Popkin has failed to demonstrate that there is a need for CSCSAs to retain this information for a longer period that would justify the additional administrative burden. Of course, this does not preclude CSCSAs from retaining this information for a longer period voluntarily. Finally, we confirm that assignment of call signs to club stations will be based on the sequential call sign system used by all Amateur operators."

Other Amateur Issues

Background. Popkin also requested that (1) United States citizens who are also citizens of other countries should not receive reciprocal authorization and that a reciprocal licensee must be a citizen of the country which issued the basic amateur radio license; (2) clarification of various operating privileges; and (3) that all requirements pertaining to Amateur Radio should appear in only one rule part and not appear in Part 1, even though the requirements are general in nature.

Discussion. The FCC concluded that these issues have been fully addressed in the *ULS Report and Order*, and that Popkin has failed to present any basis for their reconsideration. "On our own motion, however, we make certain non-substantive amendments and corrections to our Amateur rules to eliminate duplicative rules and conform them with our consolidated ULS rules. Specifically, we revise section 97.15 to conform it with Part 17 of the rules and to restore a rule section that was inadvertently removed by the *ULS Report and Order*. We also delete language in sections 97.17 and 97.21 regarding administering Volunteer Examiner requirements that duplicates other rule sections."

Transition Period for Filing of Pre-ULS Forms

Background. In order to provide a reasonable transition for wireless applicants and licensees to move from using pre-ULS application forms (FCC Form 610) to the new ULS forms (FCC Form 605), the FCC determined that use of pre-ULS forms would be allowed for six months after the effective date of the ULS rules adopted in the *ULS Report and Order*. The ULS rules became effective

on February 12, 1999. As a result, the six month transition period for use of pre-ULS forms expires on August 12, 1999. However, under the current ULS deployment schedule, the Amateur Service will not be converted from their current licensing databases to ULS until August 16.

Discussion. The FCC said that in light of this consideration, the transition period during which Amateur Service applicants may continue to file the FCC Form 610 is being extended until February 16, 2000. "This will provide licensees and applicants in as-yet unconverted services with the same flexibility to make the transition to ULS that has been afforded to licensees and applicants in services that have already been converted to ULS." It is necessary, however, that radioamateurs include their Social Security Number (SSN) at the top of the FCC Form 610.

Appendix A: Revised Final Rules

§ 97.15 Station antenna structures.

(a) Owners of certain antenna structures more than 60.96 meters (200 feet) above ground level at the site or located near or at a public use airport must notify the Federal Aviation Administration and register with the Commission as required by Part 17 of this chapter.

(b) Except as otherwise provided herein, a station antenna structure may be erected at heights and dimensions sufficient to accommodate amateur service communications. [State and local regulation of a station antenna structure must not preclude amateur service communications. Rather, it must reasonably accommodate such communications and must constitute the minimum practicable regulation to accomplish the state or local authority's legitimate purpose. See PRB-1, 101 FCC 2d 952 (1985) for details.]

Section 97.17 is amended by revising paragraphs (b)(1) and (c) to read as follows.

§ 97.17 Application for new license grant.

(a) ***

(b) ***

(1) Each candidate for an amateur radio operator license which requires the applicant to pass one or more examination elements must present the administering VEs with all information required by the rules prior to the examination. The VEs may collect all necessary information in any manner of their choosing, including creating their own forms.

(2) ***

(c) No person shall obtain or attempt to obtain, or assist another person to obtain or attempt to obtain, an amateur service license grant by fraudulent means.

Section 97.21 is amended by revising paragraph (a)(2) to read as follows:

§ 97.21 Application for a modified or renewed license.

(a) ***

(2) May apply to the FCC for a modification of the operator/primary station license grant to show a higher operator class. Applicants must present the administering VEs with all

information required by the rules prior to the examination. The VEs may collect all necessary information in any manner of their choosing, including creating their own forms.

[Note: The text that was removed from § 97.17 and 97.21 is as follows: "Upon completion of the examination, the administering VEs will immediately grade the test papers and will then issue a certificate for successful completion of an amateur radio operator examination (CSCE) if the applicant is successful. The VEs will send all necessary information regarding the candidate to the Volunteer-Examiner Coordinator (VEC) coordinating the examination session. Applications filed with the Commission by VECs must be filed in an electronic batch file." This language mirrors the provisions of § 97.509(h), (l), (m), and 97.519(b) and is redundant.]

Section 1.923 is amended to add paragraph (i) to read as follows:

§ 1.923 Content of Applications

(a) ***

(i) Unless an exception is set forth elsewhere in this chapter, each applicant must specify an address where the applicant can receive mail delivery by the United States Postal Service. This address will be used by the Commission to serve documents or direct correspondence to the applicant.

General Mobile Radio Service Issues

Channeling Plan

Background: In the *ULS Report and Order*, the FCC adopted an "all-channel" usage plan, which authorized GMRS stations to transmit on any authorized channel from any geographic location where the FCC regulates communication, but restricted use of the 462.675 MHz/467.675 MHz channel pair to emergency and traveler's assistance use.

The PRSG (Personal Radio Steering Group) and others argue that restricting the 462.675 MHz/467.675 MHz channel pair to emergency and traveler's assistance use would force many licensees who operate repeaters on the 462.675 MHz/467.676 MHz channel pair to have to permanently re-tune their repeaters to other channel pairs. Others claimed the revised rule would result in inefficient use of the GMRS spectrum, and that the FCC did not show that an exclusive GMRS channel is necessary to serve emergency and traveler's assistance needs.

Discussion. The FCC agreed with PRSG and others that unrestricted use of the of the 462.675 MHz/467.675 MHz channel pair by all eligible GMRS licensees should be allowed. "Furthermore, we note that a large portion of the GMRS community previously self-selected use of the 462.675 MHz/467.675 MHz channel pair without apparent detriment to emergency and traveler's assistance communications, and that the 'all-channel' usage plan will allow GMRS users to select the channel that provides the best operational environment for any communi-

cation need, including traveler's assistance. We conclude that allowing use of the 462.675 MHz/467.675 MHz channel pair in the same way that GMRS users may use any other channel pair will not hinder emergency and traveler's assistance communications. We therefore remove the restriction on use of the 462.675 MHz/467.675 MHz channel pair."

Use of GMRS Repeaters

Background. In the *ULS Report and Order*, we also determined that the points of communication rules should be eliminated. Many commenters continue to express concern that these changes will make it difficult for repeater operators to maintain control over their stations, and ask that we require users to have permission before using others' repeaters.

Discussion. "We decline to adopt such a rule because it would interject the Commission into a GMRS licensee's private management of its GMRS system -- including its repeaters," the FCC said. "Such a rule also would be inconsistent with our efforts to eliminate unnecessary regulations and burdens for GMRS licensees and applicants. We emphasize that users are currently free to take steps to prevent unauthorized use of their facilities -- including turning the repeater off as necessary, limiting or disabling receiver sites, and using tone-operated squelch or digital access codes. Moreover, the rule suggested by petitioners would do nothing to change access to a repeater: even with the rule, an unauthorized user could cause a repeater to transmit, absent some engineering solution to limit access to the repeater input.

We are concerned, however, that the GMRS community has the mistaken impression that repeater operators must allow unlimited use of their facilities by third parties. Accordingly, we will include in our rules a statement that limiting the use of a repeater to certain user stations is permissible. Repeater owners, as part of management of their GMRS systems, are free to decide what means of control, if any, are necessary."

Technical Issues

Background. PRSG requests that we update our rules to define a "channel pair." This is necessary, PRSG claims, because we no longer authorize specific channel pairs on a GMRS license.

Discussion. The FCC agreed that under our "all-channel" usage plan, that they should clarify that a channel pair consists of one 462 MHz frequency and one 467 MHz frequency. "We will revise sections 95.29(a) and (b) to reflect this concept. We do not agree that a channel pair must consist of two channels exactly 5.000 MHz apart. Although we recognize that in GMRS, the common practice is to associate channels with a 5.000 MHz differential to form channel pairs, we see no regulatory basis for limiting channel usage in this way under our 'all-channel' usage plan."

W5YI REPORT

America's Oldest Ham Radio Newsletter

Page #5

September 1, 1999

GLENN BAXTER, K1MAN ISSUES PRESS RELEASE ON HIS \$10 MILLION LAWSUIT AGAINST THE FCC

The following press release on *American Amateur Radio Association* stationery was issued by Glenn Baxter, K1MAN to the Amateur Radio media on August 10th.

[QUOTE] Central to Glenn Baxter's (K1MAN's) \$10,000,000 libel suit against the FCC now pending in Federal District Court, are very serious, long standing, and alleged criminal irregularities with regard to the Commission's handling of both incoming and outgoing Certified Mail.

Intentional subversion of the United States Postal Service Certified Mail process by the FCC goes to proving intent in Court with regard Baxter's \$10,000,000 libel suit against the Commission.

Baxter has scheduled a deposition, under oath, of R. (sic) Riley Hollingsworth in Augusta, Maine on August 27, 1999 at 9:30 a.m. to grill him about these postal irregularities. When asked about Hollingsworth's second letter to him dated August 4, 1999 regarding the control operator issues at K1 MAN now being raised by the FCC, Baxter said:

"It's a desperate FCC smoke screen as you shall all understand clearly when all the facts of the suit are published. It is interesting that the FCC has not yet publicly acknowledged that this suit is going on, not have they even released the entire text of my July 25, 1999 response to the first Hollingsworth letter to me dated 5 June 1999. I suspect they will also not publish my response to his second (4 August 1999) letter either. These letters are, essentially, litigation which will be tied in to the libel suit, and we do not want to jeopardize our case in any way releasing documents that we intend to use as exhibits when the libel suit finally goes to trial in front of a jury. K1MAN's big showdown with the FCC is evolving faster than expected, and I look forward to squaring off with Hollingsworth, face to face, and putting him under oath on August 27, 1999." [END QUOTE] To be continued...

HAMQUEST INTERNET AUCTIONS PREMIER

We received the following press release from Bill Fehrmann on August 6th. Tel. (410) 638-0960.

[QUOTE] Based in Forest Hill, Maryland, HamQuest.com is a live, on-line auction site tailored for Amateur Ham Radio and Electronics gear. A virtual Hamfest, 24/7! Bidders and sellers enjoy the easy to use format, up-to-the minute statistics and wealth of helpful features.

HamQuest.com supports English, Dutch and Reserve style auctions. Fully featured auctions with over 270 electronics related categories are available to review. The novice's, hobbyist's, radio operator's, engineer's and technician's, as well as serious haggler's uti-

lize the fair and honest trading method coupled with superb customer service.

The goal of HamQuest is to centralize buying and selling of electronics on the Internet. Currently, people must visit myriad swap sites, individual pages and generic auction sites to find product for sale. This is time consuming for the buyers and doesn't offer the exposure for the sellers.

HamQuest is the brainchild of Bill and Michelle Fehrmann, owners of an electronics-based firm. Bill is an electrical engineer who has spent the past twenty-five years buying and selling at Hamfests. Michelle is a webmaster and developed the auction site. [END QUOTE]

Note: We reviewed the website and found it very well done. In response to my e-mail asking for more information, Michelle said that neither she or Bill are ham radio operators.

"Bill used to be, but the time constraints of running a manufacturing company, HamQuest and children don't provide enough hours in the day." They do sell test equipment and components at local (Timonium, Howard County, York, Gaithersburg, and Richmond) hamfests.

We asked Michelle what motivated them to try a ham product auction. "We were selling lots of product on eBay and felt that we (as well as others) weren't getting the exposure necessary. There are only two to three applicable categories on eBay: Electronics, Ham, Electronics Audio, Electronics Consumer. Based on our listing and purchasing items, we thought it would be a great idea to have an auction site dedicated solely to ham related items and electronics. There are the myriad swap sites and generic auctions sites on the Internet, but still not one central location to go to buy and sell electronics. It is our hope that people will find HamQuest an ideal location for their ham gear. We were especially motivated after driving 11 hours to Dayton this spring and walking the grounds for four very long days!"

Michelle created their company's Internet site at <http://electrol.net>. "It was my first attempt at a web site and after I was finished I felt I had learned so much that tackling an auction site would be a nice challenge - it was! Many countless hours went into the preparation of HamQuest to ensure it would be as user-friendly as possible. HamQuest was a labor of love, financed personally without compensation for hundreds of hours of cgi and html text. Critiques are always welcome to make the site the best it can be!"

■ **The Foundation for Amateur Radio, Inc, Riverdale, MD announced the 1999 winners of the sixty-seven scholarships which it administers.** These awards (which ranged from \$500 to \$2,500 each) were open to all licensed Radio Amateurs meeting the qualification and residence requirements of the various sponsors. The Foundation is a non-profit organization incorporated in the District of Columbia, representing more than seventy-five Amateur Radio clubs in Maryland, the District of Columbia and Northern Virginia. It is devoted exclusively to the scientific, literary and educational pursuits that advance the purposes of the Amateur Radio Service.

CUTTING EDGE TECHNOLOGY

■ **Can fiber-optic cables have "speed bumps"?** In a way, if they are not spliced correctly, yes. Every connector or splice can be a potential insertion loss. Optic cables come in different diameters and if you try to connect a large optic cable to one of smaller diameter, the pathway becomes a bottleneck. Going from smaller diameter to a larger one would work better, but it's still best to use the same size cable.

■ **Gyroscope on a chip.** British Aerospace Systems offers their Silicon VSG gyroscope, only 1 cm across! Machined out of silicon instead of metal, the VSG can withstand the forces of gravity and sudden shock found in automobiles, airplanes, and even equipment carried by everyday people.

■ **Manufacturers of magnetic recording tape recommend against using new, virgin tape for backing-up computer data or recording music.** They suggest "exercising" tape by playing it at normal speed a few times, in order to relieve stress on the tape and remove any debris that may have collected during the manufacturing process. It also provides a longer shelf life for what's recorded on it.

■ **It won't be long before digital movie theaters appear.** The latest projectors can display moving images with quality greater than VGA, and rather than wait for a courier to deliver an expensive film print, the movie is simply transmitted to the theater over satellite or fiber-optic cable. (One wonders if first-run movies could be seen for free by hackers who tune in on the satellite frequency.) Multi-channel digital sound can be delivered in the same manner. An entire movie could be stored on hard disk, with no splicing or film deterioration.

■ **"Biometric marketing data collection"** — Levi Strauss, the maker of Levi jeans, is in the process of opening an information age store in San Francisco. The lavish 24,000-square-foot, 4-story "store-of-the-future" features big-screen video, electronic art, digital audio and high speed Internet connections.

Customers can use the hot tub to get true "shrink-to-fit" jeans and watch "experimental" films while the jeans are blown dry. Store visitors can even spy on other customers with remote controlled video

cams. Body measurements and profiles of every customer are uploaded to Levi's data warehouse for personalized direct mail campaign use.

A customer is welcomed by name when they log in. After disrobing, a scanner in a private booth reviews their body in three dimensions. Even a customer's fingerprint is part of the profile. All data can be deleted by the customer if desired.

■ **Let your refrigerator replace needed items.** Electrolux has a "Screenfridge" with a built-in 13-inch LCD touchscreen and bar-code scanner connected to the Internet. You just scan or punch in near empty or needed items and your local grocer delivers the items or you can pick them up.

EMERGING COMMUNICATIONS

■ **Bondholders force Iridium into Bankruptcy** - The \$5 billion LEO global communications system defaulted on two bank loans totaling more than \$1.5 billion on August 11th. Iridium's banks had granted three extensions, most recently in June, for the company to meet sales and subscriber goals. It never came close.

Part of the blame is placed on poor marketing, high subscriber costs and technical problems with its telephone handsets. Iridium is an orbiting communications network of 66 strategically-placed low-earth orbiting (LEO) satellites. It took nearly a decade to get into orbit and operating.

Schaumburg, Ill.-based Motorola is the guarantor of \$750 million of the loan in default. Iridium (IRID-Nasdaq) was trading at \$50 last November. Since then, it has tumbled more than 90%.

■ **Cellular telephone user gets cell time.** He wasn't driving while talking, he was flying. A British man was sentenced to a year in prison for using a cellular phone during a plane ride across Europe. Since unproven electronic transmitters may affect or even damage avionics, and he refused to hang up after warnings, he was arrested and convicted of endangering the aircraft.

■ **DirecTV is the first direct-broadcast-satellite (DBS) provider** to offer major movies to their subscribers in the HDTV format.

DirecTV additionally agreed to allow SBC (Southwestern Bell Corp.) to market its direct broadcast service to the potential 18 million local, long distance and Inter-

net customers in its franchise area. The capability would give SBC a competitive weapon against AT&T who are expected to offer local telephone service. SBC is also in the process of acquiring Ameritech.

■ **The upcoming High-Definition Television (HDTV) switchover** means viewers must either buy all-new TV sets or adapter boxes. There will be a "grace period" of a few years, during which TV stations may broadcast in both the old analog NTSC format as well as an HDTV signal. For this reason, and because most people will hang on to their old VCRs, several firms plan to sell TV sets that receive both NTSC and HDTV signals.

COMPUTER STUFF

■ **Have you refragmented your hard drive recently?** Over time, data stored on a computer's hard drive may be scattered so wide and thin that it gradually takes more and more time to access it. "Refragging" a hard drive means rearranging the files stored on it so that they are more easily and quickly accessed. Still, however, that may not be enough. Different areas of a hard drive perform with different efficiency levels. That might mean that a fragmented file stored near the front of the drive may still perform better than a continuous file stored near the end.

■ **The Benediver Mask Computer, made by a Finnish firm,** is a computer and display that attaches to a scuba diver's goggles. It shows the diver through a heads-up display exactly how far down he is, how long he's been under water, and decompression data.

■ **Sharp, the large electronics manufacturing firm,** says that they expect all of their TV sets sold in Japan by the year 2005 will be based on liquid-crystal display (LCD) technology, rather than cathode-ray tube (CRT) technology.

■ **The top three video console game makers are battling. And with it comes cheaper prices!** On August 16th the retail price of both the Nintendo 64 and the Sony PlayStation were slashed to \$99.95. Sony, the leading seller, has sold 55 million of its PlayStation which was introduced in 1995 at \$299. Some 20 million Nintendo 64's have been sold.

The reason for the price drop is the looming introduction of Sega's "next generation" Dreamcast which will be launched

at \$199. on September 9th. Sega's Dreamcast has a built-in 56K modem which allows users to play games over the Internet. This feature will not be available from Nintendo or Sony until the year 2000 Christmas selling season. Sega is the No. 3 video game maker.

■ **Details of Sony's "next generation" PlayStation II is still under wraps**, but it will have five times the graphics-processing power of today's most powerful graphics workstation.

PlayStation II will be able to simulate the physical properties of real world objects, including the behavior of animals and humans. Future games will not only possess limited intelligence but will feature characters having not only brains, but simulated senses like sight and hearing, leading to an unprecedented level of realism.

Some games may be voice controlled. Sony also wants to appeal to older video console users. There is talk that consumers will be able to import a photograph from a digital camera, animate it in 3-D, add a little sound, and then email it to friends and relatives as a greeting card.

■ **Until recently, computer chess programs were graded by how well they performed against human players.** Now the tables have turned and human players will soon be rated according to how well they play against silicon-based Grand Masters.

■ **Advanced Micro Devices Inc. has introduced the world's fastest PC chip.** The Athlon chip chugs along at speeds up to 650MHz and meets or exceeds Intel's Pentium III chip in megahertz, graphics performance and floating point performance. Both IBM, Gateway and Compaq will ship new PCs using it. And a 700 MHz Athlon version is on the way. Corporate users are waiting to see how its Windows compatibility stacks up. AMD's goal is a 30 percent market share.

INTERNET NEWS

■ **Colorado-based Jones International University has become the first fully online university to become accredited** by a national accrediting body (North Central Association of Colleges and Schools). Credits may be transferred.

■ **Online diaries, appointment schedulers, task management tools, reminder services and calendars are**

proliferating. Check out these sites:

<<http://www.anyday.com>>,
<<http://www.hotdiary.com>>,
<<http://www.jump.com>>,
<<http://www.scheduleonline.com>>,
<<http://www.visto.com>>,
<<http://www.webaddressbook.com>> and
<<http://www.when.com>>.

■ **British Petroleum will introduce Internet-equipped gasoline pumps** next year that will allow motorists to get weather forecasts and traffic updates while pumping gas.

■ **What's in a name?** Eric MacIver, a 21-year-old Mesa, Ariz., Internet businessman in Mesa, Ariz., is selling the "Drugs.com" Internet address at auction. So far the bidding has reached more than \$800 thousand. In other auctions, the high bid on Loans.com stands at \$480,000, Tobacco.com (\$150,000 bid), Slim.com (\$200,000), Houses.com (\$65,000) and VideoDating.com (\$35,000). Wallstreet.com was recently sold for \$1 million to a Venezuelan company. Last year Compaq Computer Corp. paid \$3.35 million for the name AltaVista.com for its AltaVista search engine. Since then, Compaq sold the engine to CMGI, Inc, an Internet investment company.

■ **AltaVista now offers free Internet access.** That is if you don't mind on-screen advertising and less privacy. It expects to have one million users within a year. Microworkz and Netzero also offer free Internet access. AOL (which raised its monthly rates to \$21.95) will not follow suit.

■ **Quest Communication offers free Internet access** when consumers order 250 minutes of domestic long distance telephone calling for \$24.95 per month. Additional minutes are 10¢ each.

■ **Quest already offers telephone calls for 5¢ a minute, 24 hours a day**, after a \$14.95 monthly fee. Both Sprint and MCI have 5¢/minute evening long distance calling without a monthly fee. By contrast, AT&T's "One Rate" is 10¢ min.

But the lowest rate in the nation belongs to GTC Telecom (Tel. 800-486-4030). They offer a straight-forward, "no catch" five cent rate 24/7 plan for long distance state-to-state calling.

■ **Wal-Mart is readying an Internet megasite which will open later this year.** Due to its massive (\$140 billion) buying power and low overhead, Wal-Mart is in a position to offer goods at even lower prices via the Web. Wal-Mart also

plans to attack the travel/vacation and drug/pharmacy business and has lined up 2-million sq. ft. of warehouse space to support its web operation. Wal-Mart may allow online shoppers to pick up goods at neighborhood stores.

WASHINGTON WHISPERS

■ **AT&T has a friend at the FCC.** The commission is challenging a Portland, Oregon decree that AT&T must open its cable Internet service to competitors.

The FCC cautioned the Ninth Circuit Court that while it has the authority to regulate broadband (high speed) Internet access, it has chosen not to do so. Furthermore, the FCC said that local officials may not exercise authority over cable companies that offer Internet service. About one million people currently use cable modems. (Forty million people access the Internet using telephone modems which are about 50 times slower.)

The city of Portland is requiring AT&T (which purchased TCI cable) to allow Internet competitors to use its cable delivery system. "Local officials do not have regulatory authority over service providers other than cable systems," the commission said.

The FCC ruling meant that cable companies that offer Internet cable-modem access are in a separate telecommunications class ... a class which is not subject to local jurisdiction. The FCC said "...the information superhighway will not work if 30,000 municipalities have their own Internet access regulations."

■ **The Senate has approved a bill which outlaws "cybersquatting"** by imposing fines of up to \$100,000 per Internet name on a person who registers a web domain name in hopes of profiting from the association with a trademark owned by someone else.

AMATEUR RADIO

■ **The Administrative Council of the IARU (International Amateur Radio Union) has voted unanimously** to dedicate this year's *World Amateur Radio Day* on September 18 to "Celebrating Success in Amateur Digital Communication." *World Amateur Radio Day* will be celebrated for the last time on the third week of September this year. From 2000

on, the day will shift to the founding day of the IARU. The IARU was founded in Paris on April 18, 1925. Next year is its 75th anniversary.

■ **The Y2K problem represents an opportunity for Amateur Radio.** During the 1950s and 60's, computer programmers intentionally used two digits (to save memory) to represent the year. 1967 was programmed as 67. The dilemma is that next year, computers will not know if "67" is 1967 or 2067.

The Year 2000 problem has been described as the greatest challenge ever to face information system managers. The Gartner Group estimates the total worldwide costs of fixing the problem, including the cost of new upgraded software, will be between \$300 and \$600 billion. As much as 20 percent of the cost could be related to communications systems.

The ARRL has surveyed the manufacturers of Amateur Radio equipment and found they were very confident that their equipment will not be adversely affected. In other words, when January 1, 2000 rolls around, our transceivers will continue to function normally.

While no one can predict with certainty whether serious disruptions of the infrastructure will occur as a result of Y2K, the possibility of disruptions does exist — especially in lesser developed countries. The IARU has asked its member societies to advise amateurs to:

- Have an auxiliary power source (and fuel) available and ready in the event of the loss of commercial power;
- Have a few days' supply of fresh water, food, flashlight batteries, etc. set aside;
- Know the frequencies and times of emergency nets; and
- Remind civil preparedness officials that if normal communications are lost or overloaded, the Amateur Radio Service is prepared to render assistance.

The South African Relay League is putting their "Hamnet" on full alert at the change of the century ...from Dec. 31 to Jan. 1 to cope with any possible problems that may occur as a result of the Y2K.

■ **Where to find out about Y2K** — For starters, check out the ITU (*International Telecommunication Union*) "Year 2000 Task Force" web pages at: <<http://www.itu.int/Y2K/>> This site has had more than one million "hits." The FCC also has an excellent Y2K website at: <<http://www.fcc.gov/year2000/>> Another good resource is ZDNets "Year 2000 Resource Center" located at:

<<http://www.zdnet.com/pcmag/special/y2k/>> These three sites will make you an expert at Y2K and what to do about it.

■ **Will my PC work on January 1, 2000?** You can check online using a browser whether or not your PC is Year 2000 compliant at: <<http://cgi.zdnet.com/zdy2k/y2k.pl>> The PC brands that checked out best are Dell, DEC, Gateway, Hewlett-Packard, NEC, IBM and Toshiba. But no brand had a 100% compliant rating. By contrast, only 66.4% of all Compaq PCs, the world's biggest seller, checked were Y2K compliant. And twenty percent of all "clones" are not Year 2000 compliant. As a general rule, the older the PC, the less chance it has of working properly after the new year.

It is even possible to have a problem before January 1, 2000. September 9, 1999, is a date that many worry about, because some programmers used 9/9/99 to indicate an invalid date field.

■ **On Monday, August 16, the FCC implemented their new Universal Licensing System for the Amateur Service.** The current Amateur Service database has been converted to the new ULS format and, at this writing, new Public Access files are in the process of also being installed on the Internet.

U.S. Amateur license applicants are now required to submit their Social Security Number (SSN) to the FCC. Alternatively, amateurs may register their SSN and receive a "Licensee ID" which may be used in its place. A "Licensee ID" consists of the letter "L" followed by eight digits.

Amateurs who have registered their SSN (or who have submitted their SSN to a VEC) may obtain their corresponding "Licensee ID" by calling the FCC Tech Support line at (202) 414-1250.

Applicants who are U.S. citizens or "lawful aliens" without a Social Security Number (SSN) will be unable to obtain a new or upgraded Amateur Radio license or renew the one that they currently have. A "lawful alien" is a non-citizen who is eligible to work in the United States.

Foreign nationals (non-citizens) without a Social Security Number but who are eligible to obtain an Amateur Radio license must mark their NVEC Form 605 with the word "Foreign" at the top. The VEC will then assign this alien an *Assigned Taxpayer Identification Number* (ATIN) from the block that they have been allocated by the FCC.

It used to be that getting a SSN was symbolic of becoming an adult. Today,

many parents apply for SSNs for their newborns even before they leave the hospital. The number's use is no longer confined to working and paying taxes. In ever increasing numbers, government agencies, schools and businesses rely on Social Security Numbers to identify people in their computer systems. Some local, state and federal agencies use SSNs in computer matching operations to stop fraud and abuse.

In the case of federal agencies, the Congress mandated at all federal agencies collect the SSN as part of the *Debt Collection Improvement Act of 1996 (DCIA)* and the FCC is merely following through on what is now Public Law 104-134.

As of August 8th, 1999 a VEC is prohibited from submitting a new/ungraded/renewal application without the SSN (or "Licensee ID") UNLESS this person is eligible for an FCC license but is not eligible to obtain a SSN (as in the case of foreign nationals.)

Even though any citizen (or "lawful alien") may easily obtain a SSN, there are many people — especially youngsters who have not yet applied for their first job — who do not have one. These applicants for Amateur Radio licenses must obtain a SSN before the VE team can submit their application to the VEC for processing.

This can be easily accomplished by obtaining SSN application Form SS-5 from their local Social Security Administration (SSA) office. It may also be obtained by mail by telephoning the SSA at (toll free) to 1-800-772-1213. This number can be called 24 hours a day. This form in Adobe Acrobat Reader ".pdf" format may also be downloaded from the Internet at <<http://www.ssa.gov/online/forms.html>>

In addition to the SSN application form SS-5, an applicant also must provide original or certified copies of documents that show their identity, age, and citizenship or lawful alien status. This is usually an original or certified birth certificate. If born outside of the United States, proof of U.S. citizenship is also required.

The SS-5 application form must be taken or mailed to the local Social Security office. This address is also available on the Internet by inserting your zip code — click on "Social Security Office locator" — on the above web page.

The FCC is already accepting ULS files from VECs, but only a limited number of exam session files may be sent each day until the FCC works out all of the "bugs" in the ULS system. So it will be some time before we are "caught up."

RECREATING A NEW FCC FOR THE 21st CENTURY COMMISSION PLANS MASSIVE RESTRUCTURING

The plan "will allow the FCC to enter the next century able to respond fully and quickly to emerging technologies and the inexorable movement from regulation to competition."

On August 12th, FCC Chairman William E. Kennard, Chairman delivered to Congress a draft strategic plan for the future so that it may better meet the fast-changing needs of the communications world. Entitled "A New FCC for the 21st Century," Kennard seeks to eliminate unnecessary rules in areas where competition has emerged and reorganize the FCC along functional rather than technological lines.

The current FCC is currently managed among wire, wireless, satellite, broadcast and cable communication bureaus. The FCC believes that Internet-based and other new technology-driven communications services will erode the traditional regulatory distinctions between different sectors of the communications industry.

The plan comes at a time when some top GOP legislators are seeking to revamp its structure and mission. Some even want the agency eliminated. Rep. Billy Tauzin, R-La., chairman of the House Commerce Committee's telecommunications sub-committee that has jurisdiction over the FCC, said the plan was a step in the right direction and "...a growing recognition that the FCC, as presently structured, simply isn't working anymore."

"With this plan," Chairman Kennard noted, "the FCC is meeting the challenge of reinventing itself to keep pace with the rapidly changing communications industry landscape. We've developed a well-thought-out plan that reflects input from consumer groups, industry, state and local governments, the academic community, and FCC employees."

The plan is based on the premise that in five years U.S. communications markets will be competitive which will greatly reduce the need for direct regulation. "The FCC as we know it today will be very different both in structure and mission," Kennard said.

The FCC will refocus efforts from managing monopolies to addressing issues that will not be solved by the market. To do this, it must (1) create a model agency for the Digital Age; (2) promote competition in all communications markets; (3) promote opportunities for all Americans to benefit from the communications revolution; and (4) manage the electromagnetic spectrum (the nation's airwaves) in the public interest.

For example, the agency may combine media-related cable and mass media functions to create a media competition bureau. Enforcement, consumer information, licensing, competition and policy, and international communications are other offices that may be restructured.

In addition, the FCC will streamline its licensing activities by instituting agency-wide electronic filing and automated licensing systems, accelerate the decision-making process, and allow the public faster and easier

access to information through increased automation and efficiency. The FCC must become a "...one-stop, digital shop" where form-filing and document-location is easy and instantaneous.

The self-imposed five year plan was developed in consultation with the senior FCC management and is available at: <http://www.fcc.gov/21st_century/>. Here are some highlights:

Create a Model Agency for the Digital Age

- The Commission is committed to reorganizing along functional lines. Rulemaking and licensing functions will be consolidated. The FCC will examine the effects of increased competition and convergence on our existing bureaus to consider what areas should be restructured.
- Our vision is to restructure the agency along the functional lines of enforcement, consumer information, licensing, competition/policy, and international communications. These functional areas will replace the current industry-specific Bureaus and be completed in five years.
- The Commission will develop an Intelligent Gateway which will provide tracking information on the status of proceedings electronically via our website. The FCC will also act on Petitions for Reconsideration within 60 days to move regulatory items more quickly.

Promote Competition in All Communications Markets

- The Commission will implement an aggressive Year 2000 Biennial Review of regulations aimed at eliminating unnecessary rules as competition develops.
- The Commission will create a joint conference with the states to promote deployment of advanced services to rural areas.

Promote Opportunities For All Americans to Benefit From the Communications Revolution

- The Commission will establish a Consumer Advisory Board to advise the agency on consumer issues, including issues involving access for individuals with disabilities.
- The Commission is developing an outreach plan to increase the presence of women, minorities, and small-business owners of communications outlets.

Manage the Electromagnetic Spectrum In the Public Interest

- The Commission is in the process of developing a plan to allocate and assign up to 200 Megahertz of spectrum for a broad range of new services.
- The Commission is working on a market-based spectrum initiative that would, among other things (i) explore innovative assignment mechanisms, such as band managers.; (ii) facilitate the creation of a secondary market for spectrum by establishing a public database on current spectrum incumbency; and (iii) develop and encourage market-oriented ways to clear encumbered spectrum for more valuable uses and reduce interference.
- The Commission is actively preparing for the Year 2000 World Radio Conference which will help promote the competitive provision of radio services to a world community; ensure the availability of new and innovative communications services; and protect existing services in the U.S. and around the world.

THE TELEPHONE AS A MEASURE OF PROSPERITY *'Half of humanity has never made a telephone call'*

We all talk of the marvels of computers and the Internet. But don't lose sight of the fact that three quarters of the world's telephones are installed in just eight industrialized countries. And some 80 percent of the world's people, living mostly in developing regions, have no access to a phone service at all!

China and India are home to a combined population of more than 2 billion people – almost 40 percent of the human race. But fewer than two in 100 people have phone lines – a “teledensity” of under 2. Africa supports 12 percent of the world's people but 1.8 percent of the world's lines.

Teledensity - the number of telephone lines per 100 people - and wealth of nations go hand-in-hand. Nearly all countries with an annual GDP (Gross Domestic Product) of \$7,000 or more per inhabitant also have a teledensity rating higher than 30. Teledensity averages just 1.5 in developing countries as a whole.

Most of us believe the personal computer and the Internet is cutting-edge technology. But for most of the world, it is the telephone! In very low-income countries like Afghanistan, Guinea, Liberia, Niger and Somalia, there is only one telephone for every 500 people. In Cambodia, Chad and Zaire, there is one for every 1,000.

About 80 percent of Kenya's people live in places that have no phone. And at least 500,000 would-be subscribers are on waiting lists to be connected to the state-run telephone grid in Malawi, where teledensity runs at a rock-bottom rate of 1 connection per 10,000 people.

By stark contrast, the USA has 57 telephone connections per 100 inhabitants and Sweden has 68.

In 1993 a total of 8 million people in Latin America were on waiting lists to have phones installed, with an average waiting time of more than three years. The wait in some countries of up to 21 years. In Zimbabwe, some 400,000 people are said to be waiting for a telephone line to be installed. In India, some 3 million people are on the waiting list.

The idea that countries that cannot get their telephone lines to work face virtual economic extinction has startling implications. Today it is prompting countries around the world - rich and poor alike - to pump billions of investment dollars into improving telecommunications.

Developing countries now constitute the fastest growing and largest telecommunications investment market. The sums invested by some developing countries on their own account now run into the megabuck range.

China plans to invest more than US\$100 billion in telecom equipment over the next decade, increasing its investment by 40 percent per year. Its aim is to achieve a teledensity of 25 lines per 100 people, with significant emphasis on reaching rural areas.

The reasons behind such huge investment are not

difficult to figure out. One Chinese study concluded that 100 million yuan (US\$12 million) invested in posts and telecommunications would lead to an increase in national income of 1.38 billion yuan (US\$160 million) over ten years.

According to a World Bank analysis, countries unable to modernize their telephone networks face economic ruin. Even for very poor people, access to modern telecoms can make big differences to standards of living.

For example, farmers can, find out for themselves how much their crops are fetching in retail markets then bargain better prices from dealers. In agriculture, knowing when to bring produce to market and using telephones to ensure optimum prices for products has been shown to improve farm earnings in some cases by 50 percent or more. In Ghana, up to 50 percent of working time in small firms is wasted by following up goods and orders in person for want of reliable phone, telex or fax lines.

Telecommunications also provide the network on which use of new, more distributed media such as the World Wide Web and e-mail, must depend. Electronic mail is arguably more important to users in low-income than in the relatively affluent industrialized countries.

Internet growth is accelerating faster in developing countries than anywhere else, but it will continue to be available only to a tiny proportion of people in the poorest countries for many years to come. The Internet is still very much in its early stages of growth everywhere and is in its infancy in developing countries.

In many developing countries, postal services are poor and conventional telecommunications links using voice or fax are often more expensive than e-mail. Sending a 2,000 word fax from Europe to Ghana costs around \$7, while sending the same message by e-mail costs just 40 cents.

The opportunities and threats posed by the information revolution are being made possible by rapid and radical changes in the technology of telecommunications. Telephone lines once capable of carrying only the sound of a human voice can now transmit in digital form vast volumes of information - television pictures, sounds, data - over vast distances with unfailing efficiency.

One optical fibre the width of a human hair can carry 30,000 simultaneous telephone conversations over any distance. But for rapidly increasing numbers of people in developing countries, their first telephone will be hand-held, portable ...and wireless.

Rapid technological advances in mobile and wireless telephony offer the attractive prospect that developing countries can 'leapfrog' the cumbersome and expensive business of rigging transmission wires and digging up the ground to lay landlines. "If local telephone companies were to rebuild from scratch today, they would do so mostly with radio." This gives us a fairly good idea of just how valuable our ham radio frequencies really are.