

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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Reply Comments Close on WT 98-143 on January 15th!

Reply comments on the Commissions NPRM to restructure the Amateur Service are being posted to the FCC's *Electronic Comment Filing Service* located on the World Wide Web. At press time, there was still more than a week left before the Reply comment closing date. Here is a random sample of what is being posted.

"I am opposed to the way that some of the licenses are grouped together. As the NPRM proposes four classes of licenses when there will still be five classes of license. That's because you will still renew Novice class licenses. I feel [three license classes] would be a more equitable method of realigning the classes of licenses. The Technician Class would be the entry level license with the current VHF and UHF privileges. ...combine the current General, Technician Plus and Novice together as all three have HF privileges ...Group Advanced and Extra Class to Extra.

"...the 13 and 20 words per minute exam serves no real purpose. It requires that individuals that have no use for Morse Code learn it so that they can get HF voice privileges. Or if they find the right doctor, they can get an exemption... ..it seems strange that we are only required to show proficiency in Morse code, but not in any other form of emissions. ...more and more organizations and services are moving away from Morse code... ..recognizing the effort that those amateurs who have passed the thirteen and twenty word exams is a function that could be provided by either the VEC program or the ARRL." [Lawrence Melby, KA5TXL]

"None of the comments submitted to the Commission in response to this NPRM provide any substantive reason why the Amateur Service needs ANY code test at more than the minimum required to meet the ITU S25.5 requirement. The FCC is not in the business of preserving old technology, just for the sake of preservation.

"The only reasons for requiring ANY kind of knowledge to be tested for an Amateur license, is to guarantee the public health, welfare and safety, especially as it applies to controlling RF interference, and for electrical and RF biological safety.

The ARRL plan ...calls for allowing 'No-Code' Technician class operators to operate Morse CW on the General CW subbands. Although this plan has some merit and the ARRL is to be commended for finally seeing the inevitable and accepting some degree of change, their plan is basically too little restructuring with too many flaws. ...

(1) It does not eliminate the need for code testing waivers.

...the ham VEs have no business trying to determine what is an applicable disability waiver. ...the mere fact that waivers exist with the blessing of the Commission proves that high-speed CW testing is not a requirement for HF operation in either the 'phone' or 'cw' subbands.

(2) The ARRL plan rewards high speed CW testing with additional 'phone' subband privileges, but NO additional CW subband privileges at the Advanced Class level. This is clear absurdity.

(3) The ARRL plan would allow codeless Technicians to operate on the HF General CW subbands. Their rationale for this approach is that it encourages codeless hams to learn code to upgrade. However, it engenders the absurdity of proving that NO code knowledge is necessary to access HF code subbands. ...What they fail to note is that much CW is now sent and received by automated (computerized) means, and that no 'sending by hand' or 'receiving by ear' may be involved at all. If this meets the requirement of S25.5, then indeed, no CW testing is required to access ANY portion of the HF spectrum, since automated CW operation is possible by anyone.

(4) The ARRL plan does not propose to sunset Morse CW testing when ITU S25.5 is repealed. This leads to the suspicion that there is a 'hidden agenda' to throw a 'small bone,' a 5 WPM General Class, to those opposed to continued code testing, while secretly trying to 'lock-in' continued high speed CW testing for as long as possible... Their agenda would appear to be to 'encourage' more CW operation by future, younger hams,

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rather than eliminate it. The amateur service does not need continued high speed code testing for any rational reason." [Richard Tannehill, P.E., W7RT]

"I strongly support the ARRL's proposal to restructure the Amateur Radio Licensing system. I strongly oppose any effort to reduce the license system from six to three classes. Additionally, I strongly oppose any effort to eliminate the Morse code requirement or to reduce it to a single 5 WPM requirement. While I support the no-code entry license, I feel that with the ARRL's proposal to grant limited access to HF CW for entry level licensees there is ample opportunity for them to acquire the necessary skills for full HF access (5 WPM). This is easily obtainable even for handicapped individuals. Requiring the 12 WPM code proficiency shows to the amateur community that the candidate has dedicated him/herself to progress in the 'ranks' of amateur radio, and should be rewarded accordingly. This reward is increased radio spectrum that is less crowded." [Richard G. Gutknecht, N2Z1]

"Unfortunately, there seems to be little concern for attracting school age kids to ham radio. The present Novice or Tech Plus license allows voice operation on 10 meters. The proposed new entry level Technician license will not - a General class license will be required. Do you think school kids are going to run right out and take the General exam, when they are not even taking the Novice or Tech Plus now? No way! ...If the Novice must go, at least keep the Technician Plus, and reduce the number of questions to the suggested 35 (ARRL) with an associated question pool of no more than 400 questions to study and a 5 WPM code test. Then permit voice operation on 28.3 to 28.5 MHz for Technician Plus and CW operation on all General class bands (ARRL)." [John Abbott, K6YB]

"Many Volunteer Examiners addressed in their comments a concern that the introductory test was becoming too difficult to sustain amateur radio growth. I absolutely agree with those comments by seasoned testers who are in a position to see the future. The introductory class license must seem realistically obtainable or potential hams will just go to other hobbies. I teach amateur radio at my high school and it concerns me that the written part is now harder than it has ever been before. As commented upon in the September 1998 'QST,' there are now more questions for the Novice license alone than there were questions for all the licenses back in 1962. Combining the Novice and Technician pools for a total number of almost 1,000 questions in the question pool will make it even harder. Contrast that with the 20 questions the potential Novice of yesterday faced. If we are to combine question pools then let us combine Advanced and Extra for more dedicated hams. ...As a teacher, I can tell you that combining the novice and Technician pools or having the first Morse code speed as 12-13 words per minute will significantly lower the number of young people I can introduce to ham radio and may even threaten my whole program. ...

The ARRL is an honorable but very conservative organization of increasingly older members. They do not speak for all or even most hams. If amateur radio is to survive as both a hobby and a service for emergencies then it must focus on new technologies of the future rather than on a mode which was developed over 150 years ago. ...I do not think there should be Morse code requirements. If you decide to keep them until the

next ITU convention, the only Morse code test should be five words per minute. Reduce the number of license classes to three or less." [Ed Griffith, KC6WCT]

"In the mid 1970's, the *Edgewood Amateur Radio Society, Inc.* (EARS) proposed a no code VHF only license which we called the Communicator Class license. It turned out that the proposal, while rejected at the time by the Commission resurfaced again at least twice. ...finally as the no code Technician class license which has been embraced by the overwhelming majority of those entering the ranks of Amateur Radio. Clearly a trend has been evolving to move away from CW as a prime requirement for an Amateur Radio license.

Our sampling of comments filed on behalf of this NPRM suggest that the majority of respondents support a simplified license structure with minimal Morse code (CW) requirements. ...We feel that over the next two or three years the international community will remove the CW requirement totally from the international rules. Any changes made to our licensing structure should be done in a way that makes it very easy to restructure the testing when this happens. [Edgewood Amateur Radio Society, Inc. by William L. Carpenter, WA6QZY]

"The Commission received over 1900 comments during the initial comment period that urged either the elimination of or reducing to a single test element of 5 (five) words per minute for ALL license levels that permit access to the HF spectrum. ...While many of the comments are persuasive, I point out that the Amateur Service is over 600,000 persons strong - the MAJORITY of whom either felt satisfied with the service as it presently exists or were apathetic to the considerations made and did not comment. That in itself demonstrates a very vocal minority...

The Commission should seriously consider the concept of a 'learner's permit' as suggested by the Editors of 'CQ Magazine' and 'CQ VHF Magazine.' But it should be a separate NPRM and include a requirement that appropriately licensed or certified persons be present for the supervision of said 'permittee.' [Steven James Robeson, K4YZ]

"Magazine publisher *CQ Communications* suggests that the current amateur written and Morse code system be supplemented by requiring amateurs pass certain activity-based requirements before being eligible to upgrade to the next highest class of license. ...I cannot support this proposal. As a volunteer examiner, I see many problems with verifying that these activity steps are completed. ...Certainly CQ is correct in stating that amateurs should be required to show proper operating practices in order to upgrade, but there is absolutely no reason to believe that this cannot be accomplished through the written examinations. ...the days of the ARS being an experimenter's radio service are quickly coming to an end. The technical state of the art has developed to the point where few amateurs are able ...to develop new communications technology in a meaningful way. Rather than lapsing into a service of 'hobbyists,' the direction that the ARS is currently heading, I believe that the FCC should set new goals for the service. The first, and most obvious of these should be the furthering of education in regards to electronics, wireless communications and computers. I urge the Commission to amend the purposes of the Amateur Radio Service to include "The furthering of electronics and communications based education." [Kenneth J. Collier, KO6UX]

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From: The Fairfax VA Journal; December 10, 1998; pg A3

EX-HAM DEALER PLEADS GUILTY TO DEA FRAUD

The owner of Electronic Equipment Bank, a government electronics contractor in Vienna, pleaded guilty in U.S. District Court yesterday to conspiracy to submit false invoices to the Drug Enforcement Administration in Northern Virginia, according to a statement from the U.S. Attorney's office. [EEB also operated as a full service Amateur Radio dealer located near Washington, DC.]

Richard Fleet Robinson, 67, [K4EIH Advanced Class] of Fairfax, VA could face up to five years in prison and a fine of up to \$250,000 for defrauding the DEA of \$50,000 worth of supplies in August 1995, according to the release. Robinson is scheduled to be sentenced Feb. 19.

Robinson conspired with Robert Burchell, a telecommunications specialist at the DEA, to submit two fake invoices to the DEA for \$50,000 worth of batteries, the statement said.

The batteries, used in DEA radios, were never delivered, but Robinson received payment for the non-existent batteries, according to court documents. Both Robinson and Burchell profited from the fake purchase.

Burchell pleaded guilty in July to conspiracy to embezzle U.S. government property and engage in money laundering, according to the U.S. Attorney's Office. He was sentenced in October to four years in prison.

Editor's Note: Both Gilfer Short-Wave and the Electronic Equipment Bank went out of business this past year. Ken Ascher, WB8LIT at Communications Electronics, Inc., Ann Arbor, MI have acquired both Gilfer's old phone number (1-800-GILFER1) as well as EEB's old number: 1-800-368-3270. So if you call these numbers, you will actually reach CEI (...which is a real good firm, by the way!)

SHRINKING 'NUMBERS' TO IMPACT ARRL'S "QST"

The following message was sent to all Section Managers by ARRL's Field Service manager, Rick Palm, K1CE. Basically it says that in view of shrinking numbers (including, total/new amateurs and League members) that QST, the journal of the American Radio Relay League, will necessarily also be shrinking. The party that made the following release available to us has asked not to be identified. But it appears authentic.

"NOT FOR GENERAL DISTRIBUTION ALL SECTION MANAGERS:

Some bad news, I'm afraid. In the face of a declining ARRL membership, and waning advertising revenues, the editor of QST has been forced to cut editorial content from

the magazine. Many areas of the magazine have been cut back, and unfortunately this included a reduction of approximately 16% in the space allotted for Section News.

The simple fact is that the Amateur Radio Service is contracting. Indicators of this include:

- The annual number of new licensees, which has dropped dramatically over the past two or three years;
- Overall VEC exam activity is down about 25% from last year;
- The number of dealers that have closed their doors in the past three years; and
- The number of manufacturers and publishers that are no longer in business.

Since March 1997 we have seen our overall membership numbers decline by more than 14,000 or about 8%. The reasons for this drop are varied but include the traditional reaction to a dues increase as well as a strong indication that Technician licensees are not finding much to keep them interested in Amateur Radio or to compel them to be members.

Two years ago, they were joining in large numbers in response to spectrum threats. A year later, almost 50% have not renewed. Was it the dues increase, the perception that the threats have abated, lack of interest in what we were offering, or defection from the hobby? All these reasons are probably contributors.

This is not to say the sky is falling. Once the uncertainty surrounding FCC license restructuring is behind us, things ought to improve. In the meantime, we as an organization need to respond to the contraction that has already occurred and we must do it now.

Steve Ewald will be working with you to effect the Section News column reductions. I know this is a difficult pill to swallow and I know you will have deep concerns. Over the years, many of you have told me that you didn't have enough space to work with. And now, unfortunately, we will have even less. I wish I had better news.

To all of you and your families, all the best from Newington for a great holiday and happy new year.

73,
Rick Palm, K1CE
Field Services Manager"

Editor's Note: ARRL Advertising Manager, Brad Thomas KC1EX has left League employment as of year end. He started in a new advertising sales position on January 6th with a major boating (marine) newspaper called "Soundings". They are located in Essex, Connecticut and have a website at: <<http://www.soundingspub.com>>

Australia Reviewing Telecommunications Policy ...including Ham Radio Requirements

Like the United States, Australia is also reviewing their telecommunications policies. As their name suggests, the Australian *Department of Communications, Information Technology and the Arts* (DCIA) provides policy advice and program support to the Australian Government, on cultural arts, information technology and communications matters.

The DCIA operates four divisions.. Their Telecommunications Industry Division provides telecommunications and radiocommunications regulatory policy guidance to the Australian Communications Authority. ACA is Australia's telecommunications agency, similar to our FCC.

On December 18th, the DCIA released a 124-page Discussion Paper addressing a review of Australia's *Radiocommunications Act 1992*. "The Radiocommunications Review is part of the Government's legislative review program to identify regulations which unnecessarily restrict business or competition and which are inappropriate, outdated and costly."

That statement sounds pretty much like the purpose of the FCC's 1998 Biennial Regulatory Review "...which seeks to eliminate or modify regulations which are overly burdensome or no longer serve the public interest." One of the initiatives in the FCC's review involves simplification and streamlining of the U.S. Amateur Service. The Australian Radiocommunications Review does also.

"The Review will use responses to the discussion paper to assist in the development of a final report to Government," the DCIA summary reads.

The (Australian) Review actually began in June 1997. A month later, the Taskforce asked for submissions that addressed the appropriateness, effectiveness and efficiency of the current system of spectrum management in Australia. The Review was delayed during late 1997 and early 1998 so that it would not disrupt the auction of spectrum licenses.

Radio Operator Proficiency

Of particular interest to ham operators is Chapter 14 which describes the current arrangements in Australia where radio operators must hold certificates of proficiency to operate the radio. It discusses a number of options aimed at reducing restrictions without lessening the utility of the spectrum. Comment is solicited on the following question: "Would providing greater choice and competition in training, testing and certification of operator proficiency generate efficiencies?"

Here is what Chapter 14 of the discussion paper has to say:

14 RADIO OPERATOR PROFICIENCY ARRANGEMENTS

Operator proficiency requirements are generally maintained to: avoid interference (this is particularly the case for amateurs); provide for shared use of spectrum (e.g. maritime and aeronautical bands); and maximize the utility of the frequencies for safety purposes. All of these outcomes increase the value of the spectrum to the community and hence are consistent with the objectives of spectrum management.

Operator proficiency requirements are also needed as part of Australia's international treaty obligations. However a potential disadvantage of operator proficiency requirements is that they may constitute an unnecessary barrier to a person using the spectrum (and hence deny the benefits of that use). Rationing the use of spectrum by imposing unnecessary hurdles reduce the benefits the community derives from the use of the spectrum.

For example, it is sometimes suggested that the examination on Morse code skills for amateur licensees are to maintain the exclusivity of the amateur bands and enhance the exclusive privilege value of being qualified to use these bands, rather than enhancing the benefits Australians can enjoy by having more people using these bands. While the ITU regulations require Morse code skills of amateurs, it does not specify whether the Morse sending and receiving be at a certain rate (words per minute) or indeed whether it be done from the operators memory only that the skill be by hand.

Current arrangements

Sections 119 and 122 of the Act provide the ACA with a wide discretion to determine which operators of devices must be qualified as well as the requirements for qualification. The requirement for a qualified operator only applies to the operation of devices under transmitter licenses (apparatus licenses) and does not apply to spectrum or class licences.

Article 55 of the International Telecommunications Union (ITU) Radio Regulations requires that the operation of certain transmitters shall be controlled by a qualified operator.

The ACA prepares syllabuses and conducts examinations to test candidates prior to issuing certificates. In some cases approved organizations examine candidates and issue certificates (for example, the *Wireless Institute of Australia* conducts examinations on behalf of the ACA for Amateurs; and the *Australian Maritime Safety Authority* issues Global Maritime Distress and Safety Certificates of Proficiency). The papers prepared by these organizations are individually approved by the ACA. Where approved organizations conduct examinations they forward the names of successful candidates to the relevant ACA area office for the issue of the certificate.

The ACA has already consulted with a number of organizations and is moving to institute a competitive arrangement under which organizations are approved as examiners (amateur, marine or both). The ACA intends that it would retain an oversight role with involvement in changes to syllabus etc.

Issues

There are three basic questions that need to be addressed with regard to the effectiveness and efficiency of operator proficiency arrangements:

1. Is the requirement necessary or desirable — what outcome is being achieved?
2. Does the proficiency requirement match the skills and competencies of the operator with the desired outcome?
3. What is the best means of certifying or testing operator

proficiency?

Some submitters suggested that those issuing certificates of proficiency should have a monopoly to do so (e.g. the WIA), but this view was also opposed (by some amateurs). Monopoly status is supported by the claim that a monopoly enables significant economies of scale to be achieved — that competition would increase the ACA supervisory responsibilities and hence increase the cost of regulation.

On the other hand, opening up the conducting of training, examination and issuing of certificates to competition, would give users greater choice and may enable bodies such as TAFEs or evening schools to achieve economies of scale and scope. In relation to regulatory costs, random audits and powers to revoke proficiency qualification (e.g. on resolving an interference problem) may be sufficient. In any case, if economies of scale suggested a monopoly would be more efficient, competing operators - even if allowed - would not enter the 'market'.

Comment is sought on the following options:

- (a) Maintaining the current arrangements
- (b) Limiting the extent qualifications are required to only where this is necessary to maintain or increase benefits of spectrum use, for example for safety (maritime, aeronautical), or interference avoidance (amateur) reasons
- (c) Requiring the ACA to justify a qualification requirement in terms of outcome directly linked to the objectives of the Act
- (d) Increased use of private and public education entities (TAFE colleges, evening schools, the WIA and the Institute of Radio Engineers) to develop syllabuses and conduct examinations.

This assumes minimum proficiency standards are set out by the ACA, and any training material, syllabus, examinations etc are developed by the education bodies (e.g. the ACA could in the case of bodies wishing to issue certificates to amateurs, specify the relevant ITU requirement as the minimum standard) This could be arranged with:

- a single monopoly body providing the training, testing and certification; and
 - multiple bodies providing competition in the training, testing and certification of radio operators.
- (e) provision of additional and more flexible arrangements for persons to become qualified through competency based qualification from practical instruction and supervision. For example, a person under the supervision of a fishing or volunteer coastal patrol organization or other body (e.g. the Gliding Federation of Australia) might be able to operate radio equipment and be 'signed off' as having the necessary skills.

Or for amateur radio operators, an amateur with, say, more than five years' experience could supervise a student amateur radio operator and finally certify the student as a proficient amateur. It has been argued this approach is more open to abuse than other approaches.

Question: Would providing greater choice and competition in training, testing and certification of operator proficiency generate efficiencies?

All submissions must be made by February 8, 1999 and sent to The Radiocommunications Review Taskforce in Canberra, Australia.

The complete text of the discussion paper is on the DCIA web site at: <http://www.dcia.gov.au>.

AMATEUR RADIO STATION CALL SIGNS

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

Radio District	Group A Extra	Group B Advanced	Group C Tech/Gen.	Group D Novice
0 (*)	AB0IG	KI0PC	(***)	KC0EUA
1 (*)	AA1UG	KE1KU	(***)	KB1DPH
2 (*)	AB2FZ	KG2PN	(***)	KC2ENL
3 (*)	AA3SA	KF3CH	(***)	KB3DHR
4 (*)	AF4MY	KU4XN	(***)	KG4BLK
5 (*)	AC5SB	KM5TV	(***)	KD5FZS
6 (*)	AD6HP	KQ6ZE	(***)	KF6UIZ
7 (*)	AC7AC	KK7RL	(***)	KD7DSQ
8 (*)	AB8DN	KI8HI	(***)	KC8LNZ
9 (*)	AA9WU	KG9PC	(***)	KB9TYM
N. Mariana	NH0H	AH0BB	KH0HM	WH0ABJ
Guam	(**)	AH2DJ	KH2UC	WH2ANX
Hawaii	NH7T	AH6PQ	KH7QN	WH6DFB
Am.Samoa	AH8R	AH8AH	KH8DM	WH8ABF
Alaska	AL0N	AL7RI	KL0RD	WL7CUY
Virgin Isl.	(**)	KP2CP	NP2KG	WP2AIJ
Puerto Rico	NP3Z	KP3BM	NP3ZZ	WP4NOH

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

** = When all 1-by-2 and 2-by-1 (Group "A") call signs have been assigned, AA-AK-by-2) are next assigned.

***= Group "C" (N-by-3) calls have now run out in all radio districts. Group "D" (2-by-3) now being assigned.)

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]

NEW AND UPGRADING AMATEUR STATISTICS

For the Month of December 1996, 1997 & 1998

License Class	New Amateurs			Upgrading Amateurs		
	1996	1997	1998	1996	1997	1998
Novice	72	70	65	0	0	0
Technician	1816	1057	1309	1	0	00
Tech Plus	180	133	142	350	293	312
General	39	23	24	364	282	240
Advanced	6	8	9	270	228	196
Extra Class	9	3	3	221	172	146
Total:	2122	1294	1552	1206	975	894
Decrease:	+38.8%	(39.5%)	+19.9%	+70.3%	(19.2%)	(8.3%)

■ **Glenn Baxter's (K1MAN) American Amateur Radio Association (AARA)** has mailed out their quarterly newsletter. In it, Baxter gives a brief history of IARN (his International Amateur Radio Network) and AARA. Apparently his organizations are financed - at least in part - by a special AARA VISA card. He says he will be doing a direct mailing pushing the AARA VISA card to 50,000 hams next month. Baxter says that AARA is "...right on track to be far bigger than ARRL with over 200,000 members within five to ten years. The secret is by offering the radio amateur more for less... Our news programs on HF eliminates the need for a snail mail magazine."

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■ **There is a gigantic battle raging between a recorded music trade group and supporters of MP3**, now the Web's most popular audio compression format. It lets you download "digital-quality" music from a web site in near-CD-quality.

Record company executives represented by the RIAA (*Recording Industry Association of America*) say that MP3 recording devices encourage consumers to illegally distribute copyright-protected music free of charge.

Diamond Multimedia Systems, Inc., (Nasdaq: DIMD), the manufacturer of a hot new, portable digital music player called the "Diamond Rio" (PMP300 — \$199.95) was sued in October by the RIAA. They allege the portable music player violates the 1992 *Audio Home Recording Act (AHRA)*. RIAA represents six large recording companies that distribute 90% of all recorded music.

Saying that the MP3 format does not provide for serial copy protection as required by the AHRA, a federal judge refused to grant a temporary restraining order against the controversial player.

Furthermore, the Rio player — what the RIAA calls a "portable MP3 recorder" — is a playback-only device. A user can create MP3 files from audio CDs on their computer and then download those files into the MP3 player, but that makes the computer the recording device. And the AHRA explicitly states that computers are exempt from the law.

And even if the Rio could record music, it would not violate the AHRA which states that "...no action may be brought under this title ...on the noncommercial use of ...a device ...for making digital music recordings...."

Diamond's responded with a counter-suit of their own denying all claims against it and charged RIAA with violations of State and Federal antitrust laws and unlawful business practices under California law. They asked for treble and punitive damages for intentional misconduct aimed at injuring Diamond and requested a jury trial.

The Rio player is only about the size of a cigarette pack (3 1/2" x 2 1/2" x 5/8") and runs for 12 hours on one "AA" battery. It's smaller than an audio cassette and has no moving parts, so it never skips.

You simply plug it into the computer and about an hour's worth of audio files are then stored in 32MB of internal flash memory. (System requires: Windows 95/98, Pentium 90 or higher, 16 MB RAM recommended and a parallel port.)

Diamond began shipping the Rio in November. The player includes headphones, cabling and software to download music from compact disks or the Internet. See: <<http://www.mp3.com/diamond/>>

1998's HIGH TECH HAPPENINGS

■ **PCs and printers grew more sophisticated and less expensive during 1998.** Thanks to microprocessors from AMD (Advanced Micro Devices) and Cyrix the average price of PCs sold at retail stores or mail-order fell below \$1000. Prices continue to fall as several vendors now offer sub-\$500 models.

And the trend will continue in 1999 with Intel joining the low priced melee. Both AMD and Intel have announced new lower priced 366 MHZ and 400-MHZ chips. Intel's new high speed microprocessors (called "Celeron") are priced at less than half that of similar speed Pentium II's. AMD has launched new 366 and 400 MHZ K6-3 chips which will match Intel's pricing.

Some of the likely options you are likely to see in 1999 include stripped-down PCs for under \$400 or ...giving away the box under extended Internet service contracts, similar to the cell phone business model.

■ **Thanks to CEO Steve Jobs, Apple Computer became profitable in 1998** and launched the highly successful iMac in August at \$1299. Within 90 days, the sleek computer was outselling all other brands in retail and mail-order sales channels. Analysts estimate that Apple shipped 800,000 iMacs in 1998.

According to the survey by PC Data Inc., a market research firm in Reston, Va., the Apple iMac accounted for 7.1% of all PC units sales as well as 8.2% of the dollar volume. The performance beat all competitors including Compaq Computer Corp. and Hewlett-Packard Co.

As a result, Apple's overall PC market share in the U.S. doubled to 10% in November from about 5% in August. At year end, their stock had more than tripled to \$41 in Nasdaq Stock Market trading.

Rumors are that Apple will be unveiling a portable version of the iMac (to be called the "WebMate") sometime in the first half of 1999. We also heard that a "wild colored" faster iMac (code-named "Yosemite") will launch in Feb. at \$1,199 -- \$100 less than the current iMac system.

At the same time, list price on the original turquoise model will drop to \$1049.

■ **Modem makers and ISPs adopted the 56 kbps v.90 standard.** Next will come speedy digital alternatives — cable modems and Digital Subscriber Line (DSL) modems that use standard phone lines. The world wide wait will be much shorter.

■ **Debuting in April, Windows 98 sold more than 10 million copies** by October. Most users found Win98 more stable and more powerful than its predecessor, Win95. And it looks like the next Microsoft operating system will be Windows 2000 which will actually be a re-named Windows NT system.

■ **1998 also will go down as the year of the free web-based e-mail account.** Microsoft (Hotmail), Yahoo, Excite, and many other sites now offer them. They are great if you want to travel without having to drag along a laptop computer.

The newest thing in e-mail, however, are electronic mail search engines that let you download your e-mail from your existing ISP's mail server. They are very useful in cyber cafes, airport lounges and hotel business centers where busy executives on the move can have easy access to their mailboxes. They have only been in existence about a month.

■ Two Asian companies (<<http://www.ThatWeb.com>> and <<http://www.WorldRoom.com>>) have web-based systems that let you get your e-mail on the Internet by simply typing in your e-mail address and password into an online form. All regular features are supported including accessing, composing, sending, replying, forwarding mail and the capability to receive and send attachments.

Singapore-based "ThatWeb" has been reviewed by "Trust-e" - an independent security company that analyzes and certifies privacy practices. Interest in this service seems high. "ThatWeb," reports a half a million hits on its site since its launch in November. The e-mail service is free and supported by advertising.

■ **"WorldRoom," based in Hong-Kong, offers the same painless access to your e-mail.** But their business approach is a little different. They cater to the business traveler by offering in-room high-tech "offices" complete with the most commonly used software installed (such as Lotus SmartSuite, Corel Word-Perfect Suite and Microsoft's Office.)

For an additional daily charge on your

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hotel room bill, you get an in-room workstation with high speed (ten times faster than a 56K modem) Internet access and a zip drive/fax/laser printer/scanner.

Executives carrying a shirt-pocket-sized 120-MB zip disk can basically transfer their entire home office to a remote hotel room located anywhere in the world. And at least one hotel offers around-the-clock "technology butlers" on duty to assist travelers with the system.

If executives insist on carrying their own portable PC, then it too can be networked into the "WorldRoom" system. Check these two sites out! And watch for U.S. firms to start similar e-mail-based business ventures.

■ **PC households have finally started using the Internet to shop for consumer goods!** Fast holiday shopping on the Web showed a big increase as people worried less about privacy and security concerns ...and online credit card sales boomed.

Nearly three-quarters of all online users now research information about products before they buy ...but not all buy online. Fifty-seven percent of all new home online subscribers during the past year have been women ...and they control the consumer purse strings.

According to New York-based research firm Jupiter Communications, U.S. Internet retailers in 1998 rang up \$7.1 billion in sales, compared with \$3 billion in 1997. And consumer online sales are expected to reach \$41.1 billion in 2002.

A more bullish study by Boston Consulting Group predicts online sales to reach \$30 billion to \$40 billion next year.

■ **The World Wide Web is still growing by leaps and bounds.** By mid-year more than 60 million PCs in the United States (more than half the PCs in use) were connected to the Internet. And about 30 percent of users stay online for more than 10 hours a week.

71% of the U.S. online population has been online under three years ...and 29% less than a year! It is expected that the Web will grow by about 25 million users annually for the foreseeable future. And nearly half of all users now consider the Internet "...a necessity!" As a result, television viewing took up less free time in 1998.

■ **America Online (AOL) had a big year in 1998 and widened its lead as the nation's largest interactive online content service.** It's membership has now rocketed past 15 million! Just four years

ago (in August 1994,) AOL announced it had one million members. It passed the 10-million-member mark on Nov. 17, 1997 by saturating the U.S. with its free software. AOL exceeded 14 million members worldwide on Nov. 12, 1998. Six weeks later, (Dec. 30) they had 15 million. More than 25,000 AOL subscribers are now signing up for the service every day!

Few people know how AOL's CEO Steve Case got started. Actually he became interested in the online world in the early 1980's because he had a boring job: developing pizzas for Pizza Hut.

In 1983 he signed on with Control Video Corp, a Vienna, Va., company whose business was transporting video games over phone lines. In 1985, Control Video became Quantum Computer Services, an online service. The name was changed to America Online in 1991 and the firm went public a year later. At the time, CompuServe and Prodigy were the big online leaders.

By 1995, AOL was the nation's largest online service, with some three million users. Its service was overwhelmed in 1996 when it went to flat-rate pricing and couldn't keep up with demand. At the same time it changed its controversial accounting method that deferred marketing costs to attract new subscribers. In 1997, it bought CompuServe the No. 2 online service.

AOL has just now acquired Netscape Communications Corp. (in Nov. 1998) for \$4.2 billion in stock and entered into a long term agreement with Sun Microsystems and its java technology. It also purchased ICQ and its instant communications and chat portal.

America Online now sports a stock market valuation of about \$40 billion and is now clearly in the online driver's seat ...something that could impact the Justice Dept's inquiry into Microsoft's alleged monopoly and anti-competitive activities.

AOL is looking to expand its service into cable-TV next where Web browsing is just getting going. There are 150 million cable TV households. It is predicted that more than 3 million Internet-enabled TVs will be in use in 1999.

A year ago, AOL's shares were selling for \$20-5/8. They closed on December 31st at \$155-1/8 ...a gain of more than 650%! On Monday, January 4th, AOL became part of the prestigious Standard & Poor's 500-stock index. A rags-to-riches story in just a decade if there ever was one!

■ **Steve Case now controls the biggest U.S. gateway to the Internet** and AOL is now in a better position to battle Microsoft's dominance. But in order to be included on the Windows desktop, AOL plans to maintain its working relationship with Microsoft.

Last year, the Internet Explorer 4.0 browser got included with Windows 98. The Justice Department and 19 states have alleged that Microsoft integrated its Internet browser into its Windows operating system as a way of illegally blunting competition from a browser made by Netscape Communications Corp.

Now it appears Netscape's new parent will do the same thing. Netscape's Communicator browser will shortly be bundled with America Online. And both the IE 5.0 and Communicator 5.0 browsers are on the way.

■ **What will happen to the meteoric Internet stock sector** is anyone's guess in 1999! Last year, the technology laden NASDAQ composite index increased by 40% in 1998.

Many individual stocks in the Internet sector, however, were higher ...in many cases, MUCH higher! The current Internet craze is likened to what happened with electronics and computer stocks in the 1960's and 1970's

The biggest percentage winner was Web book seller: Amazon.com's stock which mushroomed some 966% since Jan. 1, 1998. The next biggest gain was Network Solution's stock, up 800% in 1998. (They register Internet addresses.)

Other well known Internet stocks are YHOO (Yahoo is an online portal site) up 606% for the year, EBAY (auction online trader) up 434%, SEEK (Infoseek operates an advertising supported search engine) up 365%, XCIT (Excite is the #2 search engine ...behind Yahoo) up 198%, RNWK (Real Networks, audio and video software) up 255%, LCOS (Lycos, an advertising supported Internet navigation service) up 158%, ONSL (OnSale, Inc., operates Internet auctions) up 144%, PTVL (Preview Travel, an online travel service) up 128%, EGRP (E-Trade, the #2 online stock brokerage behind Charles Schwab) up 121%, CNET (Online news service geared to computer enthusiasts) up 73%, SPLN (Sportsline provides real time sports news) up 53% ...and on and on!

■ **Digital cameras got cheaper in 1998 and their use increased dramatically.** The day is coming when digital photography will be the norm. You can

now print good quality megapixel 5-by-7-inch photos on printers that cost \$500 or less. The one-hour photofinishers now have antique analog technology. Several previously film only companies (such as Kodak and Wolf Camera) will digitize your film photos to floppy disks and/or allow you to store your digital photos on their Web site for viewing by others who have the proper ID.

■ **Ever wonder how discount airline fare and hotel room site "Priceline.com" makes its money?** It isn't a travel agency, which gets an 8 percent commission on airline tickets. Instead, it is in the emerging Internet commerce business which is a different ball game. Basically, Priceline makes money on the "spread" ...the difference between what the airline will sell a ticket for and what the consumer offers to pay. For example, if a customer bids \$150 to fly between New York and Dallas, and Priceline finds the ticket for \$140, the company pockets the \$10 difference. Recently, Priceline has been selling more than 1,000 airline tickets a day and 1,000 hotel reservations a week.

WASHINGTON WHISPERS

■ **Remember the story we did on Tree Radio Berkeley - a pirate FM radio station** broadcasting from the tall branches of a redwood tree. The station was perched five stories above a residential park in California. (See Dec. 15, 1998, *W5YI Report*, pg 6.) The purpose of the station was to protest FCC rules that make it prohibitive for a small community FM station to operate. The FCC will not license stations with less than 100 watts of power, something the activists claim is a denial of their First Amendment right to free speech.

The radio radicals had vowed to keep broadcasting until federal marshals and FCC agents forced them off the air. Powered by car batteries, Tree Radio Berkeley began their 40 watt operation on Nov. 24th. Siding with the station operators, the nightly park curfew was strangely waived by city officials and local residents sent hot food up to the broadcasters. The weather was less cooperative, however, chilling broadcasters with wintry rains.

The Associated Press reports that they gave up on Dec. 17th after broadcasting for nearly a month. "The group went out on a limb to protest a court ruling shutting down another station, Free Radio Berkeley. They also were opposing the FCC ban

on low-powered stations, known as 'micro radio.' On Thursday morning, a DJ who gave his name as Curious George said via walkie-talkie that 'the consensus is it's cold and wet.' But he said it was important to take a stand for low-powered radio -- 'one of the last forms of grassroots communications that has not been sold down the road.'"

■ **A powerful real estate coalition has appealed an FCC satellite antenna ruling in Federal Court** - A group of large real estate organizations have joined forces and filed suit in a Washington, DC federal court. They seek to overturn an FCC order which grants tenants the right to install a satellite dish or antenna on their balconies without the approval of the building owner/manager.

The National Multi Housing Council (NMHC), American Seniors Housing Association (ASHA), National Apartment Association (NAA), the Building Owners and Managers Association International (BOMA), Institute of Real Estate Management (IREM), National Association of Realtors (NAR), and the National Realty Committee (NRC) maintain that the government does not have the authority to grant permission for tenants without ownership interest to install outside video antennas without the property owners consent.

The coalition maintains that Congress did not intend for Section 207 of the 1996 *Telecommunications Act* to apply to leased property or to apply to services other than video programming. They say that the FCC has not only overstepped its authority, but it also ignored basic safety guidelines. The FCC Order is scheduled to take effect on January 22, 1999.

■ **Supporting e-commerce and reforming the Federal Communications Commission** are two issues at the top of the incoming Congress' high-tech agenda. Online privacy, encryption, 'spam' (or junk e-mail) and Internet gambling are other issues also left over from the previous Congress.

Legislators believe FCC regulations have blocked competition in phone markets promised by the *Telecommunications Act of 1996*. Many Republican lawmakers are also outraged by the FCC's 'e-rate' program, which offers discounts to schools and libraries that want to get wired.

Lining up to curb the FCC's authority are Sen. John McCain (R-Ariz.), chairman of the Senate Commerce Committee, Rep. Tom Bliley (R-Va.), chairman of the

House Commerce Committee, and Rep. W.J. "Billy" Tauzin, (R-La.), chairman of the Commerce Committee's Telecommunications, Trade, and Consumer Protection subcommittee.

"We've got a horse-and-buggy agency trying to bridle a supersonic technology," Rep. Billy Tauzin (R-La.) said. He wants to reform the FCC from top to bottom. "It is painfully obvious that the FCC structure has become a roadblock to competition."

AMATEUR RADIO

■ **UK non-amateurs are now allowed to send greetings by ham radio** - Great Britain's *Radiocommunications Agency* announced on December 21st that holders of a full Amateur Radio License will now be permitted to allow non-licensed persons to send short "greetings messages" to other UK stations. A full amateur license requires applicants to pass the RAE (Radio Amateur's Examinations) and 12 wpm code.

Until recently only clubs and special event stations have been able to allow non-licensed persons to operate amateur radio. The RA said this extension will allow radio amateurs to encourage non-licensed persons to sample the hobby for themselves and hopefully go on to become a licensed radio amateur in their own right.

Operation must be under the direct supervision of the licensee who must operate the transmitter and identify the station. Greeting-type messages can be sent/received only within the UK or to and from stations in Canada, Falkland Islands and Pitcairn Island. Each greetings message must not be longer than two minutes and each person may send only one message to each station with which the station is in contact.

Existing arrangements for clubs and special event stations are unaffected by this extension. U.S. amateurs have always been permitted to allow non-amateurs to operate their stations providing there is a properly licensed control operator at the station.

The Agency also made a number of minor changes to the license. In particular, UK licensees operating abroad under CEPT Recommendation T/R 61-01 will only need to abide by the license conditions of the country they are visiting and will no longer need to also abide by UK license conditions. (Press Release, 12/21/98)

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THE INTERNATIONAL RADIO REGULATIONS APPLYING TO THE AMATEUR SERVICES.

After analyzing many of the comments filed on WT Docket No. 98-143, (Amateur Service Restructuring) it appears that many amateurs are confused about the international treaty arrangements that apply to Amateur Radio — especially the numbering system.

At WRC-95, a new numbering system for the *International Radio Regulations* was adopted which became effective January 1997. Article 32 which applies to the Amateur Service was renumbered to Article S25. There are two sections to the Amateur regulations.

Section I applies to the Amateur Service; *Section II* to the Amateur-Satellite Service. The previous paragraph numbers (such as 2731) were also changed to a subsection of S25 (for example: S25.1.) The big controversy about the need for Morse code is contained in S25.5. It used to be paragraph 2735 of *Section I*.

Follows are the complete (they aren't very long) international regulations that apply to all of the Amateur Services throughout the world.

Section I. Amateur Service

2731/S25.1

§ 1. Radiocommunications between amateur stations of different countries shall be forbidden if the administration of one of the countries concerned has notified that it objects to such radiocommunications.

2732/S25.2

§ 2. (1) When transmissions between amateur stations of different countries are permitted, they shall be made in plain language and shall be limited to messages of a technical nature relating to tests and to remarks of a personal character for which, by reason of their unimportance, recourse to the public telecommunications service is not justified.

2733/S25.3

(2) It is absolutely forbidden for amateur stations to be used for transmitting international communications on behalf of third parties.

2734/S25.4

(3) The preceding provisions may be modified by special arrangements between the administrations of the countries concerned.

2735/S25.5

§ 3. (1) Any person seeking a licence to operate the

apparatus of an amateur station shall prove that he is able to send correctly by hand and to receive correctly by ear, texts in Morse code signals. The administrations concerned may, however, waive this requirement in the case of stations making use exclusively of frequencies above 30 MHz.

2736/S25.6

(2) Administrations shall take such measures as they judge necessary to verify the operational and technical qualifications of any person wishing to operate the apparatus of an amateur station.

2737/S25.7

§ 4. The maximum power of amateur stations shall be fixed by the administrations concerned, having regard to the technical qualifications of the operators and to the conditions under which these stations are to operate.

2738/S25.8

§ 5. (1) All the general rules of the Convention and of these Regulations shall apply to amateur stations. In particular, the emitted frequency shall be as stable and as free from spurious emissions as the state of technical development for such stations permits.

2739/S25.9

(2) During the course of their transmissions, amateur stations shall transmit their call sign at short intervals.

Section II. Amateur-Satellite Service

2740/S25.10

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

2741/S25.11

§ 7. Space stations in the amateur-satellite service operating in bands shared with other services shall be fitted with appropriate devices for controlling emissions in the event that harmful interference is reported in accordance with the procedure laid down in Article 22/S15. Administrations authorizing such space stations shall inform the IFRB and shall ensure that sufficient earth command stations are established before launch to guarantee that any harmful interference which might be reported can be terminated by the authorizing administration (see No. S22.1).

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FOOD FOR THOUGHT — Canadian Ham Radio News Amateur Radio Deregulation Coming to Canada?

Amateurs north of the border and their national society, *Radio Amateurs of Canada*, are concerned about a proposal by *Industry Canada (IC)* to privatize Amateur Radio authorizations in Canada and to drop the requirement for a station license which would be replaced by a certificate. Industry Canada has also proposed to eliminate the annual \$24.00 renewal fee.

At a recent meeting with IC officials, RAC raised a number of concerns related to the maintenance of a database of addresses of amateurs, the portability of call signs and the ability and willingness of the department to monitor and enforce the *Radio Regulations*.

Canadian Telephone Companies Need Spectrum!

A disturbing editorial from *Radio Amateurs of Canada (RAC)* tells how "Canadian telephone companies are rapidly switching from wired to wireless communications. Fixed wireless access systems are replacing the copper wire lines used for telephone communications in the past."

"Constellations of satellites will soon be providing world wide hand-held communications to rival the cellular and PCS systems presently in use. Other satellites commonly called little LEO's will transmit low speed data."

"All of these systems require radio frequency spectrum and lots of it. The microwave amateur bands are a tempting target, and governments around the world are thinking seriously about reallocation."

"We have already been forced to give up our primary allocations in these bands several decades ago when military and civil radar systems came into being," RAC said. "As secondary users, we cannot claim protection from interference from primary users, and we must not interfere with them."

"We now find ourselves sitting across the table from the large telephone companies and the large manufacturers, representing billions of dollars of capital investment, and billions of dollars of annual sales. The government is clearly on their side, because they represent jobs and exports."

"Amateur radio cannot defend itself as a hobby. Our only hope is to convince the government that Amateurs represent a public service. We provide emergency communications, we provide a training ground for bringing young people into telecomm professions, and we experiment with and develop new means of communication."

"Unfortunately, the number of amateurs who use the microwave frequency bands is quite limited, and our case is not a strong one. This is not a battle that RAC can win alone. If the amateur community as a whole are not prepared to participate, we can look forward to slowly slipping away into irrelevance."

Industry Canada Proposes Wireless LANs at 5 GHz

RAC tells how *Industry Canada* has proposed three bands of "License Exempt" Wireless LANs at 5 GHz — one of which falls within the 5650 to 5925 MHz Amateur band. This Government-use band is secondarily allocated to both Amateur and ISM (*Industrial, Scientific and Medical*) devices. The new Local Area Network (LAN) allows computers to communicate with each other without the usual cable connections.

A big advantage of LANs is the easy and fast installation and relocation ...especially where cabling is impractical such as in older buildings where no allowance was made for cable ducts and crossing streets between buildings where trenching or tunneling or stringing overhead cables would be disruptive or not economically viable.

Some LAN versions, intended for outdoor use, can communicate over distances of several miles. Since radiated power is quite low, these devices would be classed as license-exempt, and the government would not control their sale or usage."

RAC believes that these LAN products will interfere with Canadian amateur weak signal communications. Some commercial interests want to extend the upper band limit for wireless LANs to 5850 MHz, which would include the Amateur Satellite down link allocation at 5830 to 5850 MHz, and potentially provide another source of interference to Amateur radio.

Wireless LANs at 5 GHz are also on the way in the U.S. The FCC has made 300 megahertz of spectrum at 5.15 - 5.35 GHz and 5.725 - 5.875 GHz available for use by a new category of unlicensed equipment. The Commission said this "...would foster the development of a broad range of new devices, stimulate the growth of new industries, and promote the ability of U.S. manufacturers to compete globally by enabling them to develop unlicensed digital products for the world market. Unlicensed National Information Infrastructure ('U-NII') devices would provide short-range, high-speed wireless digital information transfer and could support the creation of new wireless local area networks (LANs) as well as facilitate access to the Internet without the expense of wiring." (*ET Docket 96-102*)

"Although in theory amateur stations take precedence over users of such license-exempt devices," RAC said. "It is unlikely that the Canadian government would take action against a large number of LAN users if an amateur should move into the area and express concern about the level of interference to his receiving system."

"As with the case for amateur interference with poorly designed consumer electronics, the easy solution for *Industry Canada* is to require that the amateur make the sacrifice. This may be even easier for the Canadian Government to do if the Amateur license is abolished and replaced by a certificate." (*Digested from an RAC editorial.*)