W5YI

Nation's Oldest Ham Radio Newsletter

REPORT

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★ *In This Issue* ★

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Ham Morse Code to be Considered at Later ITU Conference

As readers to this newsletter are all aware, the International Telecommunication Union (ITU) held its 1995 World Radio Conference (WRC-95) in Geneva between Oct. 23 and Nov. 17, 1995.

Modern WRC's have limited agendas, that is they consider only certain radio services rather than all radio frequencies. The last, more comprehensive General World Administrative Radio Conferences (WARC's) was held in 1979.

At WARC-79, the amateur Morse code proficiency requirement was lowered from 144 to 30 MHz. That meant that amateurs had to be Morse proficient to order to access the HF ham bands - but not the VHF and higher frequencies. That led to a monumental worldwide increase in the number of no-code ham operators. The United States FCC had wanted the Morse code requirement eliminated entirely at WARC-79. But that proposal was defeated and modified to 30 MHz.

Beginning in 1992, WRC's replaced WARCs. Frequency allocation matters are addressed in ITU Committee 4. WRC-92 was held in Spain during Feb. 1992. One of the key questions concerning ham radio was amateur and broadcast use of the 40 meter HF band. A resolution was adopted agreeing that 7 MHz amateur use and HF broadcasting should be on an exclusive rather than shared basis. It was further agreed that realignment of the 40 meter band should be considered at a future conference.

A smaller WRC-93 met to come up with an agenda for WRC-95. An agenda focusing on the Mobile-Satellite Service (MSS) was adopted. A feature of all WRC's is consideration given towards simplifying the Radio Regulations by the so-called VGE (Voluntary Group of Experts.)

The VGE's recommendations had been prepared prior to WRC-95. Their report, which ran to more than 300 pages, made no mention about changing any Amateur Radio rules. Quite the contrary. The VGE agreed that Amateur Radio rules should stay the same.

The New Zealand proposal

At the urging of ORACLE *(the Organization Requesting Alternatives by Code-Less Examinations, Inc.)* the New Zealand government adopted a position which looked toward totally ending the Morse code proficiency requirement as a prerequisite for HF amateur operation. ORACLE is a break-away New Zealand lobbying organization whose only purpose is to end the amateur manual telegraphy requirement.

The New Zealand proposal was to simply abolish International Radio Regulation 2735 requirement in favor or the following RR2736. RR2735 requires Morse code knowledge when the operation takes place below 30 MHz. RR2736 leaves ham radio operator requirements up to the various national administrations.

The proposal became very controversial. Some administrations favored the change, others strongly opposed it.

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Position of Great Britain

Interestingly, the following letter was written by the United Kingdom's Radiocommunication Agency (RA) to the Radio Society of Great Britain (RSGB), following a meeting they held at the end of September 1995, on Morse code policy. The text of the letter was published in the November 1995 issue of the RSGB journal *Radio Communication.* The RA is similar to our FCC.

4th October 1995
Dear Sir

THE MORSE REQUIREMENT

As you will be aware, the President of the Radio Society of Great Britain (RSGB) wrote to the Agency in August expressing concern about the UK's proposed stance to support the proposal to delete Radio Regulation 2735. That letter and my subsequent reply were circulated with last month's RadCom promoting a flood of correspondence and telephone calls. I would like to take this opportunity to put the issue into context.

Background

There has long been debate on whether there should be two separate license classes and whether the Morse test should be the means of differentiation. We asked the amateur community in 1992 to submit their views on code-free licensing both to various publications, including RadCom, and to the Agency direct. The general result was that Class A's *[Novices with code proficiency]* were in favor of retaining the requirement, while Class B's *[no-code Novices]* wished to see the test dropped. The main reason given by respondents for retaining the test was to maintain the high standards of operation on HF. Class A's felt that they have struggled to obtain their position and that opening up the bands to Class B's would be a retrograde step. The arguments given for abolishing the test were that Morse was no longer widely used and that modern technology had removed the need for a knowledge of Morse. Many Class B's felt that the Morse test is a real barrier to the development of amateur radio.

The Current Position

It is the role of the Agency to manage the radio spectrum on behalf of all users. The RSGB have stated that the HF bands are already overcrowded and that opening the bands up to all license holders would result in them being unusable. If this is the case, and it is necessary to restrict access, the Agency needs to consider whether the Morse test is the appropriate means of doing this. A possible alternative option put forward by respondents to our survey was a further technical examination, perhaps one that related specifically to the use of HF. A further possibility is, in line with the Government's policy of deregulation, to abolish the distinction between A and B licenses altogether.

By its very nature, radio is international and the UK will need to keep a close eye on events within Europe and worldwide. We already have a number of reciprocal agreements with other countries and participate in CEPT Recommendation T/R 61-01. We fully support these initiatives and would want to allow UK amateurs to continue to take part. Again, one option we could consider is an optional Morse test for those who want to travel abroad and operate.

The World Radio Conference (WRC) 1995

This issue has arisen because a proposal for the deletion of Radio Regulation 2735 may be discussed at the forthcoming WRC. There is a view that this regulation is outdated and therefore should be deleted. CEPT administrators have briefly discussed this topic but have been unable to reach an agreed view. While we are still considering our own national position, we see merit in the argument that the Morse test should cease to be an international obligation. Removing it would allow administrations a degree of flexibility and, should we decide to remove the Morse test in the future, would simplify procedures. It is still unclear as to whether this issue will come up for debate at the WRC.

The Future

Whatever happens at WRC, it is clear that the issue of the future of the Morse test needs to be firmly resolved. There is still much to be considered and we would propose to pursue this issue with the RSGB as the national representative body for radio amateurs. I have personally received a number of letters following publication of my letter and while some have expressed concern about the proposal to drop the Morse test, others have fully supported its abolition. Whilst I cannot give a definitive statement now of where we go from here, I can give an assurance that we will continue to act in the best interests of the whole of the amateur radio community.

I have copied this letter to the Editors of ShortWave Magazine, Ham Radio Today and Practical Wireless.

Yours faithfully,
(signed) Roger Louth - Director - Mobile Services

ORACLE MANAGERS COMMENT OF LETTER FROM UK RADIOCOMMUNICATION AGENCY TO RSGB

In New Zealand, the ORACLE leadership issued the following statement about the UK letter: (Quote)

This is one of the more enlightened letters we have seen from an Administration to an amateur radio society. We are aware that there has been correspondence between the Administrations of the United Kingdom and New Zealand on removal of RR 2735. The RA letter to RSGB discusses Morse code testing policy in terms that are realistic to the times.

A survey in New Zealand gave similar trends. Those who have passed a Morse test seem to prefer that newcomers should also qualify by the same means, irrespective of the current day (ir)relevance of using Morse code as a "filter" for licensing. We think that it is appropriate for Administrations to take account of more views than expressions of self-interest from Class A amateurs.

RSGB states that the HF bands are already overcrowded. There are many countries in the world where HF amateur operation is NOT overcrowded. Also, some bands have wider bandwidth than others, such as 80 metres and 10 metres, so not all HF bands have similar degrees of crowding

or uncrowding. We understand that in the last year, the number of UK amateur licenses decreased by 4.2%, so how did this reflect in band crowding? We prefer the "use it or lose it" approach and some crowding is a good sign of lots of amateur radio activity, and certainly better than waiting for a slow demise when numbers are reducing annually. It is uneven consideration to address access to "bands below 30 MHz" as a single topic that is directly related to Morse code testing. National variations on licence policy can cope with overcrowding in specific bands.

We favour alternative tests or examinations that have equivalent challenge to existing Morse code tests. An additional technical examination focused on HF use could be a suitable option." (End Quote)

What the ITU nations had to say at WRC-95

The removal of the Morse code requirement did indeed come up at WRC-95. The ultimate action was to delay further consideration until 1999 - although an initial proposal looked toward resolving the issue at WRC-97. This deferred handling is very similar to the HF broadcasting/Amateur 40 meter HF matter. The following news from the ITU Conference WRC-95 was published by the ITU via the Internet's World Wide Web. (Quote)

Excerpt from ITU WRC-95 News of 31 October 1995.

MORSE CODE A DINOSAUR OF RADIOCOMMUNICATIONS?

Working Group 4C examined a proposal from New Zealand concerning relaxing the obligation for Morse code in radio amateur examinations. According to the proposal, the obligation does not need to remain in the international regulations, and decisions on whether it is retained can then be made by each administration.

The proposal was supported in principal by the United Kingdom, Denmark and Turkey. Some reticence for dealing with the issue at the 1995 Conference was expressed by Germany, Israel, Sierra Leone, Switzerland, Canada and Zambia, so a proposal was made to defer this item until the next Conference, in 1997.

Working Group 4C concluded that the issue should be decided at a following Conference, following opportunity for consultations with national, regional and international amateur radio representatives.

Excerpt from ITU WRC-95 News of 6 November 1995

MORSE CODE SURVIVES EXTINCTION THREAT

The Morse code that was under threat of becoming an extinct dinosaur at the start of the Conference may survive that threat (at least for now). A proposal came from New Zealand to delete from the Radio Regulations (Article S25), mandatory requirements on Morse code applications in the radio amateur services. Working Group 4C has, after an extensive debate, agreed that the Conference should recommend this matter for inclusion in the provisional agenda of WRC-99.

And here is what the ARRL had to say:

The following is the text of ARRL Bulletin No. 100:

MORSE REQUIREMENT STAYS

On October 23, 1995 the 1995 World Radiocommunication Conference, WRC-95, opened in Geneva. As described in November 1995 QST, Page 106, one of the matters expected to be raised at the conference was a New Zealand proposal to delete from the Radio Regulations of the International Telecommunication Union the requirement that amateurs demonstrate Morse code ability in order to be licensed to operate below 30 MHz.

On Tuesday morning, Oct. 31, New Zealand offered its proposal in working party 4C. While some other administrations expressed support, most who asked for the floor either opposed the change or said the time was not right and the issued needed further study within the amateur community.

Summarizing the discussion, the chairman of the working party said that most comments opposed the proposal and that he would send the matter to the working group of the plenary, which is responsible for agendas of future conferences, to consider adding it to a future agenda in 1997, 1999, or later. This was acceptable to New Zealand.

WRC-95 is scheduled to complete its work on Nov. 17. No conference decision is final until it has been approved in final form by the Plenary, usually late in the conference.

Amateur radio is represented at the ITU by the International Amateur Radio Union. Present at WRC- 95 are the IARU President Richard Baldwin, W1RU, Secretary Larry Price, W4RA, and Region 1 Vice Chairman Wojciech Nietyksza, SP5FM. ARRL Technical Relations Manager Paul Rinaldo, W4RI, is a member of the United States delegation, and other national delegations also have amateur radio representatives.

WHAT WRC-95 ENDED UP WITH FROM THE NEW ZEALAND PROPOSAL TO SUPPRESS RR2735

It is understood that item 2.2 of the preliminary agenda for WRC-99 is:

"Consideration of Article S25 concerning the Amateur Service and the Amateur-satellite Service."

The wording is general rather than specific. Note that in the simplified international radio regulations, Article S25 is the replacement number for Article 32 in the current regulations.

The following packet message was released in New Zealand by ORACLE on Sat., Nov. 25, 1995: (Quote)

PROGRESS MADE TOWARDS REMOVAL OF MORSE CODE REGULATIONS

ORACLE has been established for some 18 months. In this time we claim to have made significant progress with opening up the debate on Morse code testing issues in amateur radio. Our central policy is to actively lobby for removal of international radio regulation 2735, so that each country can then make a choice in how amateurs qualify for licences. We have had the support of independent publishers to spread debate internationally. We will continue with various

lobbying initiatives, despite opposition from some parts of amateur radio. Amateur radio policies need to move forward.

Progress made

The established New Zealand position is to remove the international radio regulation on Morse code testing. This is now known internationally.

New Zealand made a formal proposal to the World Radio Conference (WRC-95), to remove RR 2735. This was not made until about a month before the Conference, which was relatively late notice for an item that was not specifically on the agenda for this conference.

Despite short notice, several administrations supported the New Zealand proposal at the Conference, which confirms that they are already comfortable with removing the international regulation.

For some administrations the issue was timing of making a decision. It is usual for the two yearly cycle of conferences to have at least two years advance notice of agenda items.

It is known that representatives from CEPT (European) countries discussed the New Zealand proposal before WRC-95, and were unable to reach an agreed result. This indicates a split vote situation, which is somewhat different from the view coming out of IARU Region 1 (mainly European societies) for "no change".

Debate on the subject did take place at WRC-95. This clarifies the points of substance and allows those "sitting on the fence" to assess the declared support for the New Zealand proposal. The support of the UK administration is one "big player" taking a lead, and is expected to be influential on change.

There was opportunity for the regulation to be removed by WRC-95, but the decision of WRC-95 was to place the matter on the agenda of a future conference. This is the formal way of giving notice of the issue to all administrations, for consideration well in advance of the decision being taken.

ORACLE has received replies from several administrations, in response to lobbying. The outlook is positive. At least one amateur radio society is known to be in disagreement with the IARU view on "no change" to the international regulation on Morse code testing. ORACLE has been approached by individual officials from various amateur radio societies and it is clear that there is not a unanimous position within amateur radio for "no change".

Parallel relationship with reciprocal agreements

As is already a part of the established New Zealand policy, reciprocal agreements need to be maintained as they currently are. In the interests of having stable arrangements, change to reciprocal agreements can lag behind changes to the international regulations. This is normal practice.

New reciprocal agreements can be negotiated with terms and conditions that are acceptable to the participating administrations. If these draw on "old regulations" then so be it, but they do not prevent regulatory change from taking place, as a parallel event.

Future review of reciprocal agreements (after the international regulation is removed) is desirable so that code-less general licences can achieve fair reciprocal arrangements with other administrations who have also introduced code-less general licences.

The most popular type of reciprocal agreement would be for use of 2 metre hand helds for temporary periods. It does not need an all-band agreement to satisfy this reduced scope "roaming" activity.

Reciprocal agreements for "roaming" give most benefit to a small minority of radio amateurs (probably less than 1% want to operate overseas at any one time).

Removal of Morse testing can benefit a large sector of amateur radio.

Furthering of "roaming" agreements under the existing regulations can proceed in parallel with removal of the international regulation on Morse code testing. (End Quote.)

AMSAT DEBUTS ON SCI-FI CABLE CHANNEL

AMSAT and Amateur Radio was a smash hit on the cable television Sci-Fi Channel's "Inside Space" program which was aired on Friday evening, November 17th at 9 PM Eastern time. It was repeated at 1 AM Eastern (four hours later) on Saturday morning and again on Sunday morning (Nov. 19) 11 AM (EST.)

Ham radio was most of the show. A small segment at the beginning showed the GATV experiment from the STS-73 shuttle mission. A ham radio field day set up was included, with various HF and VHF units. Then a SAREX school contact from the STS-71 mission. Several AMSAT hams appeared in the Phase 3-D segment filmed at the Lab in Orlando. A demonstration contact with the AO-27 amateur satellite contact was included between the control station in Vienna, Virginia and AMSAT president Bill Tynan, W3XO driving in his car. Other segments showed meteor bounce, and a solar powered rig.

Science writer, Philip Chien, KC4YER, said the there were several mistakes in the program, but nothing major. For one, Astronaut Hoot Gibson is not a ham, he was using pilot Charlie Precourt KB5YSQ's call and the segment seems to imply that Phase 3-D is a LEO (low earth orbit) satellite which it is not.

AMSAT-NA's Executive Vice President Keith Baker, KB1SF said "The producers split AMSAT's piece of the program into two segments. The second the program (featuring more of Phase 3-D) will most likely be aired closer to the amateur satellite's launch date later next year."

Stephen Smith, N8DEZ, a Burbank, CA based post-production video technician took his DirecTV TVRO to work and recorded the "Inside Space" program on a D2 digital format. Smith donated his efforts to AMSAT who is working to make the video available to the amateur community. Purchase will probably be in the form of a donation to the Phase-3D effort if clearances can be obtained from the Sci Fi Channel.

EMERGING TECHNOLOGY

- **Be on the lookout for the "RCA Genius Home Theatre."** Thompson Consumer Electronics (the same company that brought you the RCA 18" Direct Broadcast Satellite hardware package) is quietly developing a big screen TV that acts like a computer. The "Genius" incorporates a TV remote control alpha-numeric keyboard, a CD-ROM and an online service but has no floppy or hard disk drives. Its use will be for watching TV and accessing the Internet and online services ...even e-mail. The hybrid CD-ROM can play educational packages or digital video-disc movies. Cost will be around $3,500.

- **PCs are now on the market with video-compression MPEG technology.** Pronounced "em-peg," the letters represent the standards-setting Motion Pictures Experts Group. The next release of Windows-95 will include both MPEG and Indeo, Intel's rival version of video-compression. The advantage is that more data can be moved quicker, greatly enhancing flicker-free color and resolution. The entertainment industry has agreed to use MPEG compression which will allow an entire feature movie on a single 5¼-inch CD. The next break-through will be recordable CD-ROMs. They arrive next year from Panasonic, NEC and Sony.

- **VCRs with brains.** Samsung offers videocassette recorders that deliver updated TV listings. RCA Thompson VCRs automatically bypass ads. JVC has "Index Plus" which summarizes up to 400 programs.

- **Is free e-mail the killer application? At least two companies believe think so. No cost advertiser-supported e-mail is on the way!** Twenty-two million U.S. households own a computer with a modem. Surveys show that most online users say e-mail is important to them. Statistically, they send three messages and receive five on a typical day. That adds up to millions of e-mail letters and potential ad impressions..

  Freemark Communications has signed up several big name advertisers (like Campbell Soup, Radio Shack, RJR Nabisco and ESPN) to deliver the mail with an enclosed ad coupon or headline. Additional information is just a mouse click away. Radio Shack will distribute the needed software.

  Juno Online Services, another free e-mailer, will distribute their software through hardware and software bundling. Every thirty seconds, an advertisers message flashes across the screen.

- **The U.S. Postal Service in a joint venture with American Express is testing an interactive smart card** that can be used at post office locations to access electronic data networks, renew passports, buy airline tickets, prepay telephone service ...as well as store/-view personal medical and federal information. It might even be possible in the future to vote at your local post office and for federal agencies to deliver social services.

- **Long distance provider, MCI Communications Corp. wants to better utilize their intelligent network.** MCI believes that by the end of the decade, half of its revenue will come from new products. Their new 1-800-MUSIC NOW service allows consumers to sample and buy more up to 20,000 music titles over any touchtone telephone. Users simply dial into a digital disc jockey in their home calling area for information about new music, special discounts and local music events. After setting up an credit card account, callers listen to song clips stored in a huge database. The orders are filled by MCA.

  MCI has also launched a new WWW Internet website at http://www.1800musicnow.mci.com where consumers can listen to the music in real time and purchase online. Needless to say, music stores are less than excited about the new venture. But it is a big market. $15 billion will be spent on recorded music this year.

  Another music service (Digital Generation Systems, Inc.) digitizes songs and transmits them to 3,500 radio station DJs who have DG receivers with storage capability.

  MCI is also considering an over-the-phones lines national spot ad-delivery service to cable companies. The first MCI Connections retail electronic gadget store recently opened. MCI's new web-based consumer online venture is going slow, however. Beta testers are now trying out the new service which includes Internet access, e-mail, chat and original programming.

- **Novell, which bought WordPerfect Corp. last year, now wants to sell it to concentrate on its core business, NetWare networking.** IBM and Oracle are considered candidates. Selling price is believed to be less than half the $855 million Novell paid. It seems that WordPerfect has lost the word processing battle to Microsoft's Word which now has a 90% share of the market. Some 15 million WordPerfect users are worried about future support. WordPerfect was once the market leader in word processing.

- **Sprint has unveiled its U.S. PCS (Personal Communications Service) last week by introducing microcellular Sprint Spectrum** service in Baltimore and Washington. Sprint and three cable companies bid more than $2 billion for the PCS spectrum at an FCC auction last year ...enough to serve 180 million people. The service, being digital, is more secure against eavesdropping and is substantially cheaper than traditional cellular. An Ericsson PCS telephone is available for $99 and service starts at $15 per month for 15 minutes of "anytime airtime."

  Coming up next is "Teledesic" - a wireless global satellite-based telephone network in which Microsoft's Bill Gates has an interest.

- **Comdex, the giant computer industry trade show now owned by a Japanese company, was held in Las Vegas last week.** Japan's Softbank Corp., bought Comdex for $800 million last spring.

  Softbank, Japan's biggest software distribution company, is owned by a Korean (Masayoshi Son) who was schooled in the U.S. (University of California at Berkeley.) He married a Japanese and applied for citizenship. Besides Comdex, Son also bought Ziff-Davis Publishing (for a couple of billion) which owns *PC Magazine* and others.

  As usual, Comdex was a zoo. Attendance was said to be 205,000. We were there during set-up and peeked into the Las Vegas Convention Center. It was awesome. The key focus was the Internet and micro computing.

There were all sorts of new products.

Outside there were temporary exhibits in tents ...and additional shows at some hotels. Adult-oriented software was banned by Comdex, so X-rated video distribututors put on their own "AdultDex" porn show at the Sahara's Grand Ballroom. Since most x-rated stuff is produced and bought by men, I thought it unusual that the AdultDex trade show is headed up by a woman.

Keynote speakers at Comdex were Microsoft's Bill Gates and IBM's Lou Gerstner who talked about the unlimited opportunities. Gates said that computers will eventually "learn" about their owners and will go out and search for information they need from the Internet.

Admittedly trying to play catchup with Netscape's 80% browser market share, Microsoft showed its new Explorer 2.0 web cruiser which is now being beta tested. Ten million people now use Netscape. Most got it free by downloading from their website. Featuring video, 3-D graphics and imbedded "RealAudio," Microsoft's free beta test browser version is available from: http://www.windows.microsoft.com

- **Bill Gates has a new $29.95 275-page book that comes with a CD-ROM that connects to the World Wide Web at http://roadahead.com.** There are video clips on the CD of some of Gates speeches ...and of the futuristic $30 million home he is building in suburban Seattle. (Including customized framed video wall artwork that can be changed to occupant's whims.) Click on "Melinda French" and you see a photo of Gate's new wife (and her accomplishments as a Microsoft marketer.)

Aimed at the consumer market, "*The Road Ahead*" promotes his vision of the information highway. To be printed in 20 languages, the first printing was 2 million copies. One of the novel things that Gates predicts is "wallet PCs" that will control your life. They will transfer digital money ...even identify your location through the satellite-based GPS (Global Positioning System.)

But not everyone appears convinced that Microsoft will lead the way. There is talk that the Internet - and not Windows-95 or any operating system - will be platform of the future.

Gates, the richest man on the planet, views the Internet as an opportunity rather than a threat. Thus far, Microsoft has beaten every competitor and has been the personal computing leader for two decades.

But Bill Gates (at age 40) is an old man in this business and the value of Microsoft shares has been going down. In the past, Microsoft has believed the information highway was constructed of coordinated hardware, memory and manipulative software. The new "Internet era" thinking is that it is paved with databases and files that people need and pluck out of a nearby stream.

- **Netscape Communications Corp., stock has been skyrocketing!** In fact, anything that is even remotely associated with the Internet's World Wide Web has been surging in value. Heir apparent Marc Andreessen, their Vice President of Technology (at only 24 years old) is now worth $250 million.

He believes that Microsoft's new browser and Lotus "Notes" groupware (for which IBM recently paid $3 billion) is old stuff. Interestingly, IBM has now bought a license to sell and use Netscape with its Internet servers and applications.

IBM (along with Sears Roebuck) owns the Prodigy consumer online service and the new Netscape Navigator 2.0 will be available there very soon. There are also rumblings of an IBM/-Prodigy "Internet only" service.

After announcing their first profit, Netscape stock immediately doubled to over $110. The company which went public at $28 on August 29th (three months ago) is now worth four times its original offering price. The original $4 million investment is now worth $4 billion.

The new Netscape Navigator 2.0 prototype doesn't need a Windows-95 (or any specific) operating system. It was put on the Netscape webserver Nov. 4 and like the previous version, you can download it for free at: http://home.netscape.com

E-mail and Usenet News support has been added ...along with much faster image loading. Early reviews have been enthusiastic. Commercial copies will sell for $49 when they hit the stores. Hackers note. Netscape pays a $1,000 "bug bounty" if you detect a major security flaw.

- **Vice on the net is big business including sex, violence and gambling.** Did you know you can play the national Liechtenstein lottery "InterLotto" on the Web? Pick 6 of 40 numbers at http://www.interlotto.li and win more than a million dollars. Entry fee is five Swiss francs, payment by MasterCard. InterLotto uses a secure server with encrypted technology.

Widespread sports book betting and casino games are available from the Caribbean and Cuba. They are easy to find and access. Just go to any WWW search service and type in key words ...like "casino" and "lottery." It is very interesting ...even if you don't want to gamble.

- **McAfee Associates, Inc., the anti-virus software company, has developed a new product that prevents downloading viruses from the Internet.** WebScan screens the file before it is downloaded and warns the user not to continue. Current anti-virus programs on the market only detect a virus after it has arrived.

PERSONAL COMPUTING STUFF

- **Another new development to watch is the impending arrival of the non-complex $500 "Information Appliance."** It will be used for e-mail, faxes, simple word processing, home banking, Internet/online and routine "household chores." Several hardware companies including companies you wouldn't expect like Oracle and Sun Microsystems are working on them.

Oracle's "Web TV" will be used for WWW "Webstation" browsing, word processing, e-mail ...even cable-TV. Manufacturers want to sell as many PCs as TVs. Only 6 million computers are sold annually vs. 36 million television sets.

- **The market is huge!** According to a researcher quoted in the Wall Street Journal, PC penetration in U.S. households by income stands at:

$50,000 and above:	58%
$30,000 to $49,999	37%
Below $30,000	14%

One-third of all U.S. households now have a PC. Who has the biggest sales increase? Its Hewlett-Packard's IBM compatibles. They more than

tripled their sales in the third quarter. But Apple-Macintosh shipped the most units, nearly 800,000. The worst performance? IBM ...only a 2% increase. They lost $1 billion in their PC division last year. That's all fixing to change.

Thousands of PCs will be sold between now and Christmas. Most will be IBM compatibles and nearly all will sport an Intel motherboard and a Microsoft Windows-95 operating system.

- **If you can't fight'em, join 'em department.** IBM is now doing an "about-face" in its PC marketing strategy. Their past contempt for products and components "not invented here" is fading fast. In fact it is gone! Like everyone else, they will now rely heavily on outside designers, suppliers, contract manufacturers and resellers for circuit boards, internal parts ...even off shore assembly, and outside sales, delivery and installation. In short, there will be "no difference" between the machines of the current market leaders and IBM. But competitors will not have the IBM name and massive consumer promotion! And therein lies the strategy.

Credit the change in thinking to Louis V. Gerstner, Jr., IBM's new CEO who has a consumer marketing (RJR Nabisco) rather than technical background. He even hired Bruce Harreld (who perfected touch-screen PC applications now widely used in restaurants) to be IBM's chief strategist. A Harvard graduate, Harreld, 44, was previously president of fast-food Boston Chicken, Inc. That's a far cry from the typical IBM engineering executive of old.

Look for low-price IBM-PC promotions everywhere. The firm is also among those who will make a low-price PC without a floppy drive for online, Internet and network use.

- **PC use and sales is soaring** overseas. The European and Asia-Pacific market will soon overtake the U.S., as the world's largest user. By the year 2000, $48 billion worth of home PCs will sold overseas with $27 billion being sold here.

But more Asian electronic firms are also getting ready to invade the highly competitive U.S. PC market. Deep-pocketed Hitachi, Ltd., Sony Electronics and Fujitsu Ltd are gearing up to do battle on U.S. turf. And further expansion is planned by NEC (Japan's biggest PC maker owns 20% of Packard-Bell), Toshiba Corp., Taiwan's Acer and Korea's Samsung.

Manufacturer profit margins will get razor thin ...and probably non-existent. Why bother, you say? Some companies are not. Giant AT&T and Tandy both dumped PC product manufacturing and both are starting to look smart.

The Wall Street Journal says PC makers "...need a big stake in the PC market to raise their profile, capture new customers and spread costs over as many units as they can." The big guns apparently don't need to make money!

Ultimately, the consumer will be the big winner ...as well as the so-called "Wintel Cartel" (Microsoft and Intel) who with microchip and operating system monopolies control the PC marketplace.

- **With so much publicity, you'd think the Internet's Wide World Web would be a household word.** Strangely, it isn't. A Times-Mirror survey of 3,603 adults determined that only 8% of those queried had heard of it and only 3% had actually used it.

- **But phone companies sure know about it and they are concerned about its implications.** Internet phone service, still in the embryonic stage, offers very low start up costs, no cost for even international calls ...and you don't even need a telephone. Besides an off-the-shelf multimedia PC, all you need is an Internet connection, a full-duplex sound card to digitize your voice, software (such as Internet Phone, NetPhone, Cyberphone or DigiPhone) and a microphone. DigiPhone software offers videoconferencing ...sort of like 2-way amateur television without a radio (or a ham license.) Your voice is compressed and decompressed over the Internet.

- **Russia-On-Line says it "is a new commercial Internet-based information service** devoted to bringing the wealth of Russia-connected data to the Russian and worldwide community as well as providing Russia-based users with Internet access." The painfully slow service is located at: http://www.online.ru

AMATEUR RADIO NOTES

- The FCC's Gettysburg, PA licensing facility notified all VECs to stop transmitting FCC Form 610 amateur radio license applications effective Tuesday, Nov. 14th due to the forthcoming government shutdown. Even though the FCC went back to work on Monday, Nov. 20th, electronic application filing did not resume until all data processing systems could be fully reactivated on Wednesday, Nov. 22nd.

- **Several hams have formed the Southeastern VHF Society** to promote weak signal and VHF/UHF/Microwave experimentation. Membership applications (and $20 annual dues) go to Neal Sulmeyer, AE6E, Treasurer, 412 Stockwood Dr., Woodstock, GA 30188.

- **The Nov. 2nd Los Angeles Times tells about five felony counts being filed against a Los Angeles neurosurgeon, Dr. David G. Gardner, K6LPL** (Extra Class) for allegedly running in a $4.2 million tax-fraud and money laundering conspiracy. Gardner founded a chain of workers' compensation clinics during the early 1990's known as Primedex Corp., which he later closed down following adoption of a California workers' compensation reform package. Primedex used a TV advertising scheme under the name of Injury Central to encourage viewers to call a toll-free number to get "...all the medical and monetary benefits available through your employer's insurance." The arrest warrant charges Gardner with transferring checks totalling $4.2 million to his own use through a check-cashing service in amounts less than $10,000 which circumvented bank reporting laws. He remains under investigation for possible insurance and securities fraud. The *Los Angeles Times* said that as of Nov. 1st, Gardner remained at large and was considered a fugitive from justice. He faces six years in prison and $8.9 million in fines if convicted.

- **A University of Wisconsin-based ham group known as the Morse 2000 Outreach** is harnessing manual telegraphy for use in patient rehabilitation applications. Morse code input to activate control devices may open worlds of educational, vocational and recreational opportunities to the disabled says the Fall 1995 issue of MorseLS. Founders are Dr. Thomas W. King, WF9I of the Dept. of Communication Disorders and wife, Debra N9GLG, both of the University of Wisconsin at Eau Claire.

BALLOON LAUNCH ANNOUNCEMENT (NTBP #7A)
NORTH TEXAS BALLOON PROJECT, MISSION #7A

The North Texas balloon project will try again to launch its seventh high altitude balloon experiment carrying amateur radio payloads on the 2nd of December, 1995. The payload carries a variety of radios and instruments that can be easily used by any amateur with a Technician's license or above.

The launch will be from Cleburn, Texas (located 20 miles south of Ft. Worth) at approximately 9:30 AM. In the event of inclement whether, the launch will be delayed to the next day, and then to the next Saturday (the 9th). There will be a pre-launch net at 8:30 PM on the Fort Worth 146.76 repeater the evening before the launch. The morning of launch there will be an HF net on 7.155 MHz +/- QRM. The Net control station will probably be W5IU.

Approximately 1.5 hours after launch, the balloon is expected to reach an altitude of 90,000 feet before burst. At this altitude the area of visibility will be about 370 miles in any direction for a total 740 mile communications range. In past missions, there have been QSO's between Corpus Christi, TX and Salina, KS.

The following is a list of the available experiments onboard:

Two Crossband FM Voice Repeaters: There will be two crossband FM repeaters open to all.

Uplink #1 147.45 MHz Downlink #1 445.85 MHz.
Uplink #2 147.57 MHz Downlink #2 445.95 MHz.

Packet Telemetry on 144.290 MHz: This GPS and telemetry information will be the data downlink (downlink ONLY) of the mission. The packet format is the common 1200 baud AFSK found in all TNC's. The data will be presented in an easy to read format with no conversions required and is NOT in APRS format. Packet digipeating and packet connects to the package will NOT be possible.

Global Positioning System: Precise longitude, latitude and altitude data will be provided by a donated Rockwell NavCore V GPS receiver. The following data will be measured and can be seen on the 144.290 MHz packet downlink:

- UTC day/time
- Longitude
- Latitude
- Altitude
- Bearing
- Ground Velocity
- Velocity up

Telemetry: There will be an onboard 12 bit, 8 channel Analog to Digital converter. Six of the eight channels are used to measure the following:

- Inside Temperature
- Outside Temperature
- Barometric Altitude
- Main Battery Voltage
- ATV Battery Voltage
- Summed Battery Voltage

Amateur Television (ATV): There will be a live, full motion, Amateur Television camera and 10 Watt transmitter onboard. The downlink frequency will be 439.250 MHz VERTICALLY Polarized. This frequency was chosen to exactly correspond to Cable Channel No. 60. With a 440 MHz beam and reasonable Low Noise Amplifier, a cable ready TV tuned to Cable Channel 60 should be able to receive an acceptable signal. The camera will be remotely pointed via ground command to any of 256 possible positions.

Other Innovations On NTBP #7

Active package stabilization: ...Remotely controlled air foils to cancel package spin.

Power distribution: ...Non essential equipment turned off after touchdown and batteries summed to provide power to essential DF'ing beacons.

Audio Distribution: ...Ground commands allow audio from crossband repeaters, packet downlink, or command uplink to be piped through ATV audio.

Improved Parachute/Tow line: ...New spreader ring design, swivels and woven tow line should help ensure that parachute does not tangle.

QSL's can be had through KG5OA via the Callbook address.

STS-74 SAREX MISSION - A SMASHING SUCCESS

Despite beautiful skies at the Kennedy Space Center, the weather at the Trans-Atlantic Landing (TAL) sites caused the scheduled launch of the STS-74 Space Shuttle mission to be scrubbed on Saturday, November 11th. A new launch was scheduled for the following day.

All five astronauts aboard Atlantis are U.S. licensed ham operators including Canadian Chris Hadfield, KC5RNJ, who also holds Canadian amateur radio call sign: VA3OOG. The other astronaut's hold KB5AWP (Commander Ken Cameron), KC5NRI (Jim Halsell), N5SCW (Jerry Ross), and KC5ACR (Bill McArthur).

The weather improved in the emergency landing area on Sunday, but clouds rolled in to the Florida coast threatening liftoff. But the launch occurred on schedule (12:30:25 UTC, 6:30 a.m. CST) as the Space Shuttle Atlantis headed toward the second rendezvous with the Russian Space Station Mir. Its primary mission is to deliver a permanent docking port that will be used during future shuttle flights to Mir. Docking was scheduled for 12:28 a.m. CST on Wednesday, Nov. 15 with return to KSC set for Monday, Nov. 20.

SAREX

The Shuttle Amateur Radio Experiment (SAREX) was on board STS-74. SAREX provides the opportunity for school students and ham radio operators to talk to the astronauts while on-orbit. Five school groups

had been selected to have a 4-8 minute opportunity to talk to the Shuttle crew. Due to the later Sunday launch, however, the pre-docking SAREX passes had to be shifted significantly earlier. Contacts with the general amateur radio community were not anticipated until after Mir docking occurs.

During final approaches to the Mir Space Station, a VHF radio (military version of the Motorola URC-200) was used by the shuttle Commander for Atlantis to Mir ship-to-ship communications. The hand-held radio can use either the window-mounted antenna or the payload bay antenna (the candy-striped antenna you see in some of the cargo bay views.)

Since it can be programmed for the shuttle-Mir frequencies or for the amateur radio 2 meter band, this same VHF radio is used by the crew for SAREX activities during shuttle/Mir docking missions. There was no hardware on Atlantis to support packet radio contacts from the shuttle during this flight.

During mission STS-63 in February 1995, one of the objectives was to test the shuttle/Mir VHF radio. The radio worked well and contact was initiated about 200 feet from Mir. The radio was also used by Mission Specialists C. Michael Foale, KB5UAC and Janice Voss Ford, KC5BTK to make a few test Amateur Radio contacts. These QSOs helped NASA confirm the usefullness of the radio hardware and antennas. Two antennas were carried for the STS-63 tests: a window-mounted antenna (tuned-cavity), and an exterior-mounted antenna.

Shuttle docks with Mir

Space Shuttle Atlantis Commander Ken Cameron, KB5AWP, superbly guided Atlantis to a successful docking with MIR on Nov. 15 at 6:28 UTC ...within 3 seconds of the original timeline. The combined US, Russian, Canadian and German crews then started the important task of transferring food, water and experiments to replenish Mir. In addition, the combined crew of eight packed several experiments from Mir on the Space Shuttle Atlantis for return to Earth.

One of the STS-74 mission objectives was to install a Russian-built docking module on Mir. Canadian astronaut Chris Hadfield used the Shuttle remote manipulator to install the module on the Shuttle docking module prior to the Shuttle Mir docking. After undocking, the docking module remained behind to provide a permanent docking port for future Space Shuttle missions. Undocking occurred on Friday, Nov. 17.

Schools talk to the astronauts

Prior to docking, all five school groups successfully completed their contacts. This providing the SAREX team it's second mission with 100% school group success. The last school group contact, the Quimby Oak JHS in San Jose, California was accomplished using the telebridge station in Santa Rosa, California on Tuesday, Nov. 14.

Due to some docking preparation issues which unfolded prior to the SAREX contact, Astronaut Bill McArthur, KC5ACR, could not support the SAREX school group contact until 2 minutes prior to LOS (loss of signal). Five students at Quimby Oak had an opportunity to talk to Astronaut McArthur, despite the shortened schedule.

AMSAT V.P. for Manned Space Frank Bauer (KA3HDO) said, "The new telebridge station at Santa Rosa really paid for itself on this contact. The Santa Rosa team's technical abilities and outstanding station setup allowed the students to carry on the contact to the horizon, making this contact a huge success for Quimby Oak."

This represents the first operation of the Santa Rosa telebridge station for SAREX. The station was installed at the Santa Rosa Junior College by AMSAT and student volunteers over the past year and a half. The students and volunteers at Santa Rosa raised $30,000 in donations to install this station as a SAREX telebridge station and as an educational outreach capability for the school and for amateur radio. The station is currently being managed by Tim Bosma, AB6FL. SAREX volunteer Steve Teegarden, WH6IC, was instrumental in setting up this station. The Santa Rosa team also received guidance and support from SAREX volunteer Dick Flagg, AH6NM, who manages the SAREX telebridge station in Hawaii.

Ham radio in the media

The SAREX school communications generated much good publicity for NASA and amateur radio. Broadcasters and newspapers throughout North America carried accounts of the astronaut/school contacts. Here is what the *Chicago Tribune* had to say on Thursday, Nov. 16th.

KIDS REACH ORBIT VIA HAM RADIO

"This is N9OLA, Magee School, Round Lake (Illinois)." "KC5ACR--Atlantis. Go ahead with your questions."

With these words, several area students began forging their place in history. For about four minutes Tuesday, as the space shuttle Atlantis orbited over the United States, student "astronauts" spoke with a NASA counterpart aboard the space craft over amateur, or "ham," radio.

One of only eight schools in the nation to be so honored, Magee Middle School was selected in September to participate in the Shuttle Amateur Radio Experiment, or SAREX.

The shuttle mission came together through the combined sponsorship of the Business Industry Education Consortium, a local partnership of about 100 educators and businessmen, and 2nd-grade teacher Mary Lou Biel, a licensed "ham" radio operator who also heads Magee's after-school

Space Club. Biel, (KB9HYB), and Jerry Gudaukas, (N90LA), applied for the SAREX privilege about one year ago, she said.

"We had their frequency, they had ours," Biel explained. The student astronauts, trained on the ham radio, were 7th grader Michael Enzenberger, flight director; 8th grader Alex Bailey-Matthews, communications; 7th grader Scott Michaels, mission specialist; 6th grader Lauren Miranda, weather tracker; and 6th grader Sherry Zimmermann, medical specialist. All the students had previously participated in simulated space shuttle missions.

Students and ham operators Biel, Gudaukas, Andy Bachler (N9AB) and Dan Habecker (WB9TPN) rose early to prepare for the anticipated 8:52 a.m. communication. The student astronauts, bedecked in white suits, huddled on the gymnasium floor, putting finishing touches on a banner and shuttle patches.

The anticipation heightened as Magee students filed into the gym to listen to the transmission. As Bachler and Gudaukas placed last-minute phone calls to NASA officials in Houston to ensure a smooth transmission, the students anxiously tapped their feet. Some of the participants admitted to having butterflies. "I couldn't sleep (the night before)," Biel said. "It's a once-in-a-lifetime honor for a ham radio operator."

The crew members of Atlantis were flying to the Russian space station Mir to install a docking module that would streamline future shuttle linkups to the Russian station, she said.

Finally, Gudaukas attempted to initiate the first contact, reading his call sign over the radio. The first several attempts were unsuccessful, leaving audience members wondering. Then NASA astronaut Bill McArthur Jr. answered with his call sign. For the next few minutes, the students queried McArthur on life aboard Atlantis. "On a scale of 1 to 10 . . . how (difficult) would you rate this docking maneuver?" Miranda asked. "A 7 or 8, just because it's so important. We have to come within inches of being right on target," McArthur replied.

Then, as quickly as it began, it was over, as Atlantis orbited out of the radio's range. "All the preparation--and then 'Poof,' " Bailey-Mathews said. "Rocking!" was Michaels' response. Mission complete.

The story was accompanied by two photos. One showed Sherry Zimmermann holding a microphone and speaking by ham radio to a space shuttle astronaut. Photo 2 had Scott Michaels and Sherry designing a circular patch modeled on NASA's own, showing an outer-space view of Earth.

The existence of the first Canadian astronaut was big news north of the border. One humorous news broadcast was an account of a Canadian ham operator getting through to the shuttle when the Canadian Prime Minister could not due to the U.S. government shut-down and NASA scale-back. Here is what the CBC Radio National News on Thursday, November 16 had to say:

"A ham-radio operator from Alberta is thrilled that he was able to contact the space shuttle 'Atlantis' and talk to the Canadian astronaut, Chris Hadfield (VA3OOG). Prime Minister Chretien was unable to get through to Hadfield. NASA was forced to cancel his call because of the budget stand-off which has shut down many U.S. government operations. but Scott Smith of Tiger Lily, Alberta, kept his transmitter warm and worked the wave-bands." (Scott Smith is VE6ITV.)

The CBC played a recording of the contact, and observed that this was exactly what Prime Minister Chretien had failed to do earlier in the week through NASA telecommunications channels.

All SAREX school contacts took place prior to the docked portion of the mission. The STS-74 crew members were granted permission from the Russian government to operate the ham equipment on Mir but it is not known if any QSO's were accomplished during the linkup using the Russian equipment. The ham station on Mir operates on 145.55 simplex. The SAREX equipment on Atlantis operates on a 145.84 downlink and listens on 144.45 and 144.47. But there were several reports that the STS-74 crew made general voice ham contacts using their VHF hand-held.

Hams Contact Atlantis/Mir Astronauts

The SAREX Astronauts have been very active on voice this mission. The SAREX team has received numerous reports of hams making contact with the STS-74 crew on this joint Shuttle/MIR mission. Mir/-Shuttle undocking took place at 8:15 UTC on Saturday November 18. The following bulletin was distributed by Bob Inderbitzen, NQ1R from the ARRL on Friday, November 17:

Hams Contact Atlantis/Mir Astronauts

ARRL has received dozens of reports from amateurs that have made successful voice contacts with the crew aboard the Space Shuttle Atlantis and the Mir Space Station Complex. The two spacecraft have been docked together since Wednesday, and are orbiting 245 miles above the earth at approximately 17,000 mph.

Earlier this week, the Atlantis astronauts completed five scheduled ham radio contacts with U.S. students as part of the Shuttle Amateur Radio EXperiment or SAREX. These groups included students from Franklin Junior High School in Pocatello, Idaho, Norwalk County schools in Connecticut, Lake Street Elementary School in Crown Point, Indiana, Round Lake-area schools in Illinois, and Quimby Oak Junior High School in San Jose, California. The students were assisted by their local Amateur Radio clubs and many AMSAT SAREX volunteers.

QSL cards and reports may be sent to ARRL EAD, STS-74 QSL, 225 Main Street, Newington, CT 06111-1494, USA. Include the following information in your QSL or report: STS-74, date, time in UTC, frequency and mode (FM voice). In addition, you must also include a SASE using a large, business-sized envelope (#10) if you wish to receive a card. The Greater Norwalk Amateur Radio Club in Norwalk, CT has generously volunteered to manage the cards for this mission.