

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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...and much, much more!

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Question Pool Committee Proposes New Technician Class Outline

As part of the FCC's 1998 Regulatory Review, the FCC issued a *Notice of Proposed Rulemaking* on August 10, 1998 seeking to restructure the U.S. Amateur Service. This eventually led to a multitude of changes when the FCC issued the *Report and Order* in WT Docket No. 98-143 on Dec. 30, 1999.

One of the items that the FCC sought information on in the NPRM was the future preparation and content of the various written examinations. There were five different question pools at the time (Novice, Technician, General, Advanced and Extra.)

The *Report and Order* restructuring the service into three license classes (from six) was effective April 15, 2001. The Tech Plus Class was eliminated and the Novice and Advanced Class were "grandfathered" ...that is, they could be renewed and modified indefinitely but no new Novice and Advanced Class licenses would be issued.

It was necessary to condense the five written exam question pools into three: Technician (Element 2), General (Element 3) and Extra Class (Element 4.) The national database of multiple-choice questions and answers are developed by the National Conference of VECs "Question Pool Committee" (QPC) and are periodically updated so that all publishers and applicants have access to current materials.

The QPC had to do a rush job in preparing the initial three pools since they had to be ready in less than 3 months so they could be distributed to VE teams for use after April 15, 2000. Basically the

QPC combined questions from the existing Novice and Technician pools for the new Element 2, left the General Class pool pretty much as it was, and incorporated questions from the existing Advanced and Extra Class pools into the new Element 4.

The FCC asked in NPRM whether the examination topics should continue to be mandated by the Commission. At the time, the written examination for each license class specified ten general topics and a specific number of exam questions that had to be asked from each topic.

Noting that the "written examinations have been prepared and administered under the VE system for over a decade..." the FCC asked in the NPRM whether the required number of questions from each general topic should continue to be established by rule.

The FCC said in the *Report and Order* that "the VECs had consistently shown since 1986 their ability to maintain the question pools." The Part 97 Rules were amended "...to require that the Technician Class and General Class written examination elements consist of thirty five questions each, and that the Amateur Extra Class written examination element consist of fifty technically oriented questions, including questions about administering amateur radio operator license examinations."

The FCC additionally agreed "that the Question Pool Committee has a better ability to insure that the question pools reflect current technology than we do by specifying general topics in our Rules..."

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and that the QPC "...is capable of both specifying topics and organizing questions by topic...."

The VECs said in their comments that it is not necessary for licensees to understand electronics and other technical subjects in order to properly operate commercially-manufactured equipment. They recommended that the Commission eliminate the mandated ten topics and that the "...Question Pool Committee determine the topics and questions that are appropriate as part of the process of reviewing and revising the various question pools." The ARRL disagreed, however, and said they wanted "...some version of the syllabus to remain in the Rules."

Now that the Question Pool Committee has adequate time to do a more thorough job of revising the pools, a new syllabus has been developed for the Element 2 (Technician) Question Pool. It still contains ten different topics, but they have been completely overhauled. Follows is a breakdown of the previous outline and the new one:

The ten topics and questions currently in effect are:

(1) FCC rules, 9 questions; (2) Operating procedures, 6 questions; (3) Radio propagation, 3 questions; (4) Amateur radio practices, 4 questions; (5) Electrical principles, 3 questions; (6) Circuit components, 2 questions; (7) Practical circuits, 2 questions; (8) Signals and emissions, 2 questions; (9) Antennas and feed lines, 2 questions; and (10) Radiofrequency safety, 3 questions. (Total: 35 questions)

Ten proposed topics in new Element 2 syllabus are:

(1) FCC rules, 5 questions; (2) Methods of communication, 2 questions; (3) Radio Phenomena, 2 questions; (4) Station licensee duties, 3 questions; (5) Control operator duties, 3 questions; (6) Good operating practices, 3 questions; (7) Basic communications electronics, 3 questions; (8) Good engineering practice, 6 questions; (9) Special operations, 2 exam questions, and (10) Electrical, antenna structure and RF safety, 6 questions. (Total: 35 questions.)

Request for comments on proposed syllabus

On April 4th, Scotty Neustadter, Chairman of the VECs Question Pool Committee released the following proposed Element 2 (Technician written exam) syllabus out for public comments.

Comments on the following syllabus should be directed to each of the following four QPC members:

Scotty Neustadter, W4WW	w4ww@arrl.net
Bart Jahnke, W9JJ	vec@arrl.org
Fred Maia, W5YI	w5yi@w5yi.org
John Johnston, W3BE	<Johnston.John1@worldnet.att.net>

The public comment period closes on May 9, 2002.

SUBELEMENT T1 - FCC Rules -

[5 Exam Questions -- 5 Groups]

- T1A** Definition and purpose of Amateur Radio Service, Amateur-Satellite Service and Radio Amateur Civil Emergency Service in places where the FCC regulates these services and elsewhere; Communications Act, Part 97 and FCC regulation of the amateur services; Penalties for unlicensed operation and for violating FCC rules; Prohibited transmissions.
- T1B** International aspect of Amateur Radio; ITU Regions, International and domestic spectrum allocation; Spectrum sharing; International communications; reciprocal operation.
- T1C** All about license grants; Station and operator license grant structure including responsibilities, basic differences; Privileges of the various operator license classes; General eligibility; License grant term; Modifying and renewing license grant; Grace period.
- T1D** Qualifying for a license; Purpose of examination; Examination elements; Upgrading operator license class; Element credit; Provision for physical disabilities.
- T1E** Amateur station call sign systems including Sequential, Vanity and Special Event; ITU Prefix; Call sign formats..

SUBELEMENT T2 -- Methods of Communication -

[2 Exam Questions -- 2 Groups]

- T2A** How Radio Works; Electromagnetic spectrum; Magnetic/Electric Fields; Nature of Radio Waves; Wavelength; Frequency; Velocity; AC Sine wave/Hertz.
- T2B** Frequency privileges granted to Technician class operators; Amateur service bands; Audio and Radio frequency; Unmodulated RF carrier; Emission types and designators; Modulation principles; AM/FM/Single sideband/upper-lower, international Morse code (CW), RTTY, packet radio and data emission types; Full quieting..

SUBELEMENT T3 - Radio Phenomena -

[2 Exam Questions - 2 Groups]

- T3A** How a radio signal travels; Atmosphere/troposphere/ionosphere and ionized layers; Skip distance; Ground (surface)/sky (space) waves; Single/multihop; Path; Ionospheric absorption; Refraction; Line of sight.
- T3B** HF vs. VHF vs. UHF characteristics; Types of VHF/UHF propagation; Daylight and seasonal variations; Tropospheric ducting; Maximum usable frequency (MUF); Sunspots and sunspot Cycle, Characteristics of different bands..

SUBELEMENT T4 -- Station Licensee Duties -

[3 Exam Questions -- 3 Groups]

- T4A** Correct name and mailing address on station license grant; Places from where station is authorized to transmit; Selecting station location; Antenna structure location; Stations installed aboard ship or aircraft.
- T4B** Designation of control operator; FCC presumption of control operator; Physical control of station apparatus; Control point; Immediate station control; Protecting against unauthorized

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transmissions; Station records; FCC Inspection; Restricted operation.

- T4C** Providing public service; emergency and disaster communications; Distress calling; Emergency drills and communications; Purpose of RACES..

SUBELEMENT T5 - Control Operator Duties - **[3 Exam Questions -- 3 Groups]**

- T5A** Determining operating privileges, Where control operator must be situated while station is locally or remotely controlled; Operating other amateur stations.
- T5B** Band selection; Selecting a transmitting channel; Transmitter power standards; Interference to stations providing emergency communications; Station identification requirements; Observing frequency boundaries.
- T5C** Authorized transmissions, Prohibited practices; Third party communications; Retransmitting radio signals; Participation in message forwarding system; One way communications.

SUBELEMENT T6 - Good Operating Practices - **[3 Exam Questions -- 3 Groups]**

- T6A** Calling another station; Calling CQ; Sending messages; Typical amateur service radio contacts; Proper language; Courtesy and respect for others; Popular Q-signals; Signal reception reports; Phonetic alphabet for voice operations; Coordinated Universal Time (UTC).
- T6B** Occupied bandwidth for emission types; Mandated and voluntary band plans.
- T6C** TVI and RFI reduction and elimination, Band/Low/High pass filter, Out of band harmonic signals, Spurious Emissions, Grounding, Telephone Interference, Shielding, Receiver Overload.

SUBELEMENT T7 - Basic Communications Electronics - **[3 Exam Questions -- 3 Groups]**

- T7A** Fundamentals of electricity; AC/DC power; units and definitions of current, voltage, resistance, inductance, capacitance and impedance; Rectification; Ohm's Law principle (simple math); Decibel; Metric system and prefixes (e.g. pico, nano, micro, milli, deci, centi, kilo, mega, giga).
- T7B** Analog vs. digital communications; Audio/RF signal; Oscillator; Bandwidth; Amplification.
- T7C** Concepts of Resistance/resistor; Capacitor/capacitance; Inductor/Inductance; Conductor/Insulator; Diode; Transistor; Semiconductor devices; Step up/step down transformer; Filter; Resistor Color Code system; Electrical functions of and schematic symbols of resistors, switches, fuses, batteries, inductors, capacitors, antennas, grounds and polarity; Construction of variable and fixed inductors and capacitors; Factors affecting inductance and capacitance..

SUBELEMENT T8 - Good Engineering Practice - **[6 Exam Questions - 6 Groups]**

- T8A** Basic amateur station apparatus; Choice of apparatus for de-

sired communications; Setting up station; Constructing and modifying amateur station apparatus; Station layout for CW, SSB, FM, Packet and other popular modes

- T8B** How transmitters work; Operation and tuning; VFO; Transceiver; Dummy load; Power supply; Amplifier; Stability; Microphone gain; FM deviation; Block diagrams of typical stations.
- T8C** How receivers work, operation and tuning, including block diagrams; Super-heterodyne including Intermediate frequency; Reception; Demodulation or Detection; Sensitivity; Selectivity; Frequency standards; Squelch and audio gain (volume) control.
- T8D** How antennas work; Radiation principles; Basic construction; Half wave dipole length vs. frequency; Polarization; Directivity; ERP; Directional/non-directional antennas; Multiband antennas; Antenna gain; Resonant frequency; Loading coil; Antenna switch; Electrical vs. physical length; Radiation pattern; Transmatch.
- T8E** How transmission lines work; Standing waves/SWR/SWR-meter; Impedance matching; Types of transmission lines; Feed point; Coaxial cable; Balun.
- T8F** Voltmeter/ammeter/ohmmeter/multi/S-meter, peak reading and RF watt meter; Building/modifying equipment; Soldering; Minimum tools needed for building kits; Making measurements; Test instruments..

SUBELEMENT T9 - Special Operations - **[2 Exam Questions -- 2 Groups]**

- T9A** How an FM Repeater Works; Repeater operating procedures; Available frequencies; Input/output frequency separation; Repeater ID requirements; Simplex operation; Coordination; Time out; Open/closed repeater; Responsibility for interference.
- T9B** Auxiliary, beacon, satellite, space, EME communications; Radio control of models; Autopatch; Slow scan television; Telecommand; CTCSS tone access; Duplex/crossband operation.

SUBELEMENT T0 - Electrical, Antenna Structure and RF Safety Practices - **[6 Exam Questions - 6 Groups]**

- T0A** Sources of electrical danger in amateur stations: lethal voltages, high current sources, fire; avoiding electrical shock; Station wiring; Wiring a three wire electrical plug; Need for main power switch; Safety interlock switch; Open/short circuit; Fuses; Station grounding.
- T0B** Lightning protection; Antenna structure installation safety; Tower climbing Safety; Safety belt/hard hat/safety glasses; Antenna structure limitations.
- T0C** Definition of RF radiation; Procedures for RF environmental safety; Definitions and guidelines.
- T0D** Radiofrequency exposure standards; Near/far field, Field strength; Compliance distance; Controlled/Uncontrolled environment.
- T0E** RF Biological effects and potential hazards; Radiation exposure limits; OET Bulletin 65; MPE (Maximum permissible exposure).
- T0F** Routine station evaluation.

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HDTV TAKES CENTER STAGE AT NAB2002 CONVENTION

Produced annually in April by the *National Association of Broadcasters*, the 2002 NAB convention showcased the radio and television broadcast industry. This year the emphasis was on digital communications technologies. The trade show, held annually at the Las Vegas Convention Center (and overflowing into several hotels), featured nearly a million square feet of cutting-edge exhibits ...and more than 1,400 exhibitors.

The focus of this year's show was the transition of TV broadcasting from analog to digital transmission. Just before the NAB convention, FCC chairman Michael Powell proposed voluntary measures for broadcasters, cable and satellite operators to speed the conversion. (See story on page 9.)

Broadcasters generally praised Powell's effort to increase the availability of high definition television (HDTV).

Gary Shapiro, president of the Consumer Electronics Association, said the rollout of digital television is being slowed by those who want to limit the consumer's right to record programs for their own use. "Americans believe they have a certain right to record and we want to make sure those [rights] are protected," Shapiro said.

Hollywood and TV studios are concerned about the theft and distribution of copyrighted films and video content. Consumer advocates believe movie studios want to reduce or eliminate the traditional ability to record music and video that they purchase or receive over the air.

The movie industry is pressing Congress for strong anti-copy protection to prevent piracy. They want consumer electronics makers to install protective devices that will prevent their content from being duplicated.

Toward that end, Sen. Ernest Hollings, D-SC, and Ted Stevens, R-AK, recently introduced industry-sponsored legislation entitled the *Consumer Broadband and Digital Television Promotion Act*. S. 2048 requires the broadcast industry to develop anti-piracy standards within a year which must be incorporated into all home entertainment equipment and PCs. The bill addresses copy protection and "fair use" concerns applying to digital content and digital consumer technologies.

Hollywood is particularly troubled about the transmission of movies to others over the Internet. They don't want a 'video Napster.' Since the FCC has mandated that broadcasts must remain unencrypted, Hollywood is determined to control hardware devices capable of recording digital video.

Meeting behind closed doors in Los Angeles, a secret industry forum called the *Broadcast Protection Dis-*

ussion Group (BPDG) is writing a technical standard called the "BPDG Compliance and Robustness Rules." Here "compliance" means that the bridled device will do what Hollywood wants (as opposed to what its owner wants). "Robustness" means that it will be difficult (and illegal!) for the owner to modify the device.

The result is that you'll get digital television hardware - TVs, VCRs, personal video recorders, and computer "tuner cards" capable of receiving digital TV broadcasts -- which is less functional, less flexible, more expensive, less interoperable, and harder to fix, modify, or upgrade. Basically, film industry executives are trying to cripple the equipment that receives digital broadcasts.

But some are giving in on copying for personal use. As recently as February 28, Michael Eisner of Disney and Peter Chernin of Fox told the Senate Commerce Committee that their studios "...no

longer have any objection to home recording or to the circulation of copies 'anywhere in the house' - so long as they can not re-broadcast over the Internet."

CD-burning, TV-recording public get stronger voices

A high-definition-TV advocacy group was formed during the NAB convention. The yet unnamed organization reflects the concerns of HDTV owners, many of whom are upset about the slow flow of high-definition broadcasts and the threat of new copy protection measures that could erode the usefulness of the more than two million expensive digital TV sets sold to date.

The association represents the interests of HDTV owners who are concerned that new copyright measures could destroy the usefulness of the expensive sets. The group was organized by *HDTV Magazine* publisher Dale Cripps and communications attorney Tedson Meyers. "Early adopters feel a little bit knifed in the back, and I don't blame them," Cripps says. They will lobby Congress and educate consumers about HDTV's benefits.

Another new California-based advocacy group called <DigitalConsumer.org> was formed by Excite.com founder, Joe Kraus. He wants Congress to pass a "Consumer Technology Bill of Rights." He fears that without consumer involvement, new laws will reduce consumer options when watching TV and listening to music. They believe there is a difference between copying and piracy and that consumers should have the right to:

- ▶ Time-shift media ...record a TV show and watch it later.
- ▶ Space-shift media ...copy a CD you have bought to an MP3 player
- ▶ Make backup copies, in the event the original is destroyed.

"We embrace the principles embodied in the Powell plan. This transition is far too important to consumers to risk further delay.

Eighty percent of the nation will be covered with digital TV transmission by this time next year." ...Eddie Fritts, NAB president.

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- ▶ Use legally acquired media on the platform of your choice. For example, watch TV on your PC or listen to music on your MP3 player.

The Washington, DC-based *Home Recording Rights Coalition* fights for the consumers' right to use home electronics products for private, non-commercial purposes. The members of HRRC include consumers, retailers, manufacturers and professional servicers of consumer electronics products. Their website is at <www.hrrc.org>.

And still another organization is the *Digital Future Coalition* (DFC). They are committed to striking an appropriate balance in law and public policy between protecting intellectual property and affording public access to it.

Current copyright law permits copyrighted material to be copied or shared without compensation under certain circumstances, such as: copying for personal use, or copying to promote the creation and distribution of new, non-infringing works. This is referred to as the "fair use doctrine." The DFC advocates amending the copyright law to make clear that the fair use doctrine continues to apply with full force in the digital network environment.

HAM RADIO'S NEWEST MODE: DIGITAL VOICE

Doug Smith, KF6DX who heads up the ARRL Digital Voice Working Group (DVWG) announced that a Digital Voice Forum, will be held at the Dayton HamVention at 10:15 a.m. on Sunday, May 19, 2002 following the ARRL Forum. It will be an opportunity for radioamateurs to hear and discuss ham radio's newest mode, digital voice.

Coming from the UK, digital voice pioneers Charles Brain, G4GUO, and Andy Talbot, G4JNT, will discuss their previous work in this field, along with their ongoing efforts to produce even more-robust, high-speed systems.

Gary Barbour, AC4DL, details his work on high-speed, software-based modems, such as are required for digital voice. His work may also result in advancement of regular, high-speed data transmission over Amateur Radio spectrum.

Special guest Harold Reasoner, K5SXX, relates his experience with digital voice in Amateur Radio and public-service communications. Through his relationship with the Motorola Amateur Radio Club (MARC), Harold has gained a lot of practical experience with APCO25-compatible radios. APCO25 is a national standard for digital voice systems.

From France, Thales (formerly Thomson/CSF) graciously is sending special guest Cédric Demeure to talk about digital audio, ham radio and broadcasting. Cédric is involved with Thales' entry into the digital audio-broadcasting arena. He is also part of a DVWG plan to conduct transatlantic tests of digital voice over Amateur Radio.

His presentation should appeal to hams and short-wave listeners alike. Visit <www.hamvention.org> for more information or send e-mail to kf6dx@arrl.org.

AMERICAN ASSOCIATION OF RADIO ENTHUSIASTS FORMED

Industry Group will be voice for promotion of Amateur Radio and conduit for Manufacturers and Dealers.

Milwaukee, WI, April 5, 2002: During the informal annual industry meeting of Amateur Radio manufacturers held in Milwaukee, Wisconsin and hosted by AES [Amateur Electronic Supply] during Superfest 2002, the industry decided to create a formalized and official industry group for dealers and manufacturers.

The *American Association of Radio Enthusiasts* (AARE) was formed as a non-profit corporation for the promotion of amateur radio and emergency communications into areas outside of amateur radio. The organization will provide a conduit for dealers and manufacturers to exchange ideas, to work together on projects, to help ham radio grow and to double the number of hams in 5 years.

Members of this group will be the manufacturers and dealers of radio and emergency products. Companies who join in the first six months will be charter members of the organization.

An executive team was chosen to lead the debut year. They represent many facets of the ham radio industry. The initial officers of the group are:

- **Ray Novak, KC7JPA of Icom America**, President. E-mail: ray@aaregroup.org
- **Rick Ruhl, W4PC of Creative Services Software, Inc.**, Vice-President. E-mail: rick@aaregroup.org
- **Evelyn Garrison, WS7A. Representing Alinco**, Secretary/Treasurer. E-mail: evelyn@aaregroup.org
- **Gordon West, WB6NOA of Gordon West Radio School**, member: Board of Directors, E-mail: gordon@aaregroup.org.
- **Bob Heil, K9EID of Heil Sound**, member: Board of Directors. E-mail: bob@aaregroup.org
- **Randy Gawtry, K0CBH of Timewave Technology**, Member-at-large. E-mail: randy@aaregroup.org.

The AARE website, initiated on April 7th following the 2002 Superfest, is located at <<http://www.aaregroup.org>>.

The group will be 'the voice' of the manufacturers and dealers in radio, much like the American Radio Relay League is the voice of each ham radio operator.

"We look forward to encompassing all aspects of the Amateur Radio Industry: retail dealers, manufacturers, and distributors," Novak said. "This umbrella organization will provide an important focal point leading to a great future for Amateur Radio."

The first member of the *American Association of Radio Enthusiasts* was Ray Grenier, K9KHW, who presented the first membership check from AES to Ray Novak, KC7JPA, AARE President.

Dealers and manufacturers of radio products are welcome to join. Contact Evelyn Garrison at evelyn@aaregroup.org for membership info.

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CUTTING EDGE TECHNOLOGY

Sony introduced a new camcorder at the Las Vegas Consumer Electronic Show in January that fits in your shirt pocket. The DCR-IP7BT Networking Handycam Camcorder is only 4"x3"x2". You can also use it like a digital camera and take still shots with it. The photos are stored in a Sony's Memory Stick. With Bluetooth technology, you can transfer pictures and movies from the camcorder to the computer wirelessly. It also has web surfing capability and you can e-mail pictures and movies or upload them to Sony's ImageStation. (A website that allows you to make a personal album to share your pictures and movies with your friends and family.) And you can achieve all this without even turning on a computer. But price is not cheap. Lists for: \$1699.99. Street price: around \$1400.

EMERGING COMMUNICATIONS

Remember the story we did on the "Hop-On Wireless" disposable cell phone? Well, the *San Francisco Chronicle* (March 29th edition) indicates the phone does not yet exist. Supposedly the \$29.95 disposable telephone was to come with 60 minutes of outgoing local or long distance call time. A deposit of \$3 to \$5 is repaid if the phone is returned for recycling. Hop-On Communications is based in Garden Grove, California.

The Chronicle found the "revolutionary" devices to actually be modified Nokia's in a new shell. Hop-On said the repackaged Nokia's were "promotional samples" ...not production models and that they used the Nokia when they had difficulty with their own models. The phone which is to have only two-buttons and voice recognition dialing has not yet received FCC equipment approval. And, according to the Chronicle, there are many controversial legal questions concerning Hop-On's present and past business practices.

Several retail outlets denied that reported plans are in the works to carry the disposable phone including Chevron-Texaco, 7-Eleven, Target, Walgreens and K-mart. A photo of the Hop-On phone is on their website: <www.hop-on.com>. HPON shares are selling at about 10 percent of their 52-week high of \$1.50/-share in the over-the-counter "pink sheet" marketplace.

Verizon Wireless does have its "Free-

up" prepaid cell phone plan, but it costs a lot more than \$30 for the phone and one hour of talk time. The "Freeup" phone costs \$125 for a Nokia (\$99 for a Kyocera) plus another \$50 for a calling card. (Some promotional plans offer a rebate or a free first calling card.) When the \$50 is used up, the customer simply buys another "Reup" card. (Daytime calls cost about 30¢/minute, nighttime and weekend prepaid calls are about 10¢/minute. All calls must be made within a 60 days period.) (Wall Street Journal)

The U.S. Post Office killed off its new wireless service on April 7th which allowed customers to track packages, locate nearby post offices and find ZIP codes using PDAs such as the *Palm Pilot*. (A Personal Digital Assistant is a small hand-held device that can function as a cellular phone, computer, fax sender, and personal organizer. Some PDAs can also react to handwriting and voice input.)

The USPS said their wireless service lacked customer support. They had hoped that their E-commerce initiatives would generate \$104 million in fiscal 2001. Actual sales were closer to \$1 million.

Meanwhile, FedEx Corp. is working with AT&T to create a similar wireless service. Perhaps it will catch on due to the urgent nature of FedEx shipments.

COMPUTERS & SOFTWARE

A new, and supposedly more authoritative, Internet search engine called "Teoma" has launched. It was developed by Apostolos Gerasoulis, Ph.D, a Rutgers University (Piscataway, NJ) mathematics professor and Tao Yang, Ph.D., an Associate Professor in Computer Science at the University of California at Santa Barbara. *PC Magazine* lists Teoma, which means "expert" in Gaelic, as one of its "Top 100 Undiscovered Web Sites."

Teoma uses "Subject-Specific Popularity" ranking ...a system based on expert authority pages, rather than general popularity. According to the developers, "Teoma delivers quality not just quantity." They ask, "For one million dollars, would you ask the audience their opinion (similar to using other leading search technologies) or would you turn to experts on the subject (similar to Subject-Specific Popularity)?"

"Ask Jeeves" has purchased the Teoma search engine, which has attracted interest over recent months as a potential relevancy challenger to Google. Teoma is also different from Google in that it re-

turns links to related subcategories of a searched subject (suggestions to narrow your search), as well as a section of "expert" sources. See: <www.teoma.com>.

Nielset/NetRatings says Yahoo's search engine is the most popular on the Web. The audience measurement service's February data reported 35.1 million people used Yahoo, compared to 32.3 million accessing MSN Search and 27.4 million using Google. (<CBS.Marketwatch.com>)

GADGETS & GIZMOS

X-10 has a new Showtime Digital/-Video Broadcast System that lets you wirelessly transmit digital photographs and movies stored on your computer (with a USB port) to your large screen television set located up to 100 feet away.

It uses a 2.4 GHz video transmitter to send the pictures. Comes with a remote control that lets you navigate through pictures and videos and sort through albums with ease, or press the ZOOM button to magnify any section of a photo. Using the remote, you can also e-mail photos from the comfort of your living room couch.

Opening promotion (now over) had a price of only \$149. See it on the Web at: <www.x10.com>

INTERNET & WORLD WIDE WEB

Book authors are not happy with Internet book-seller Amazon.com and are removing all links to Amazon from their individual websites. The Authors Guild says Amazon offers both new and used books at the same time from the same webpage. "Amazon's practice does damage to the publishing industry by decreasing royalty payments to authors and profits to publishers."

Doubleclick, the huge New York City-based online advertising firm, is settling a class action "privacy rights suit" by agreeing to give consumers more control over the personal data it collects over the Internet and purging existing consumer information from its system.

DoubleClick's had planned to combine anonymous Web-surfing data with personal information that could be used to identify surfers and then sell the information. Doubleclick also will pay nearly \$2 million to cover legal costs.

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Consumer Reports is turning to the Internet to help the company erase its history of losses, which last year totaled \$7.5 million. Consumer-Reports.org is starting specialized e-newsletters for specific audiences including new parents, first-time homeowners and aging baby boomers. They will also tailor product-ratings so they can be delivered via handheld computers and used by consumers while shopping. (*Washington Post*)

The trend towards charging a fee for online greeting cards is creating more traffic to yahoo. Their free online greetings service delivered more than 11 million Valentines on February 14th - three times the volume processed last year. During peak hours, more than 14,000 Valentine greetings were sent per minute.

WASHINGTON WHISPERS

In late February, FCC Chairman Mike Powell has made it very clear to the National Cable Telecommunications Association that cable TV should get on with the transition to high definition television (HDTV).

Powell noted that if cable jumped out front with new HDTV roll-outs, it would score some points on broadcasters, who have pretty successfully made the cable industry and the consumer-set makers the villains in the painfully slow rollout of HDTV. Powell reminded the group that rolling out digital HD service is "...simply good business." Since his NCTA talk, cable operators: Comcast and Charter have both announced new HDTV rollout plans.

Charter Communications company said it will shortly launch HDTV programming in Alhambra/Pasadena, Calif.; Glendale/Burbank, Calif.; University Park, Texas; South Miami, Fla.; and Birmingham, Ala. and add additional markets in the third quarter.

Comcast Cable will expand high-definition television programming to northern Virginia, the Maryland suburbs, Detroit and Indianapolis, Ind., this year and add Washington, D.C., in 2003.

The Commerce Dept. said online sales of consumer goods topped \$10 billion in the 4th quarter of last year ... a 34% rise from Q3. For the year, total retail sales were estimated at \$3.2 trillion, while e-commerce, excluding sales of travel-related products, was \$32.6 billion. (% of total sales in

2001, up 0.1% from 2000, the government report said.

AMATEUR RADIO NEWS

Space shuttle launch times to be kept secret. To enhance security, NASA will not announce exact launch times of future shuttle launches until the day before liftoff. Up until that time, NASA will only announce a four hour launch window for a particular launch. The new policy went into effect on April 4th with the launch of mission STS-110 aboard the Shuttle Atlantis. (The launch of the 11-day mission actually was 4 days late.) STS-110, the 13th trip to the International Space Station (ISS), delivered new outside (truss) framework to the station. Two of the seven STS-110 astronauts, mission pilot, Stephen N. Frick, KD5DZC and flight engineer Ellen Ochoa, KB5TZZ are licensed radioamateurs.

Once NASA releases the exact launch time, everything about the flight - including the landing time - will be made public. All launches are now conducted with unprecedented security. More on the Net at: <spaceflight.nasa.gov>.

FCC Amateur Radio Enforcement

Five power companies have been warned about RFI to Amateur Radio Operations. Juan Gonzales, President, Socorro Electric Cooperative (Socorro, NM), Edgar M. Roach, Jr., CEO, Dominion Virginia Power (Richmond, VA), J. Mark Lawler, Mayor, (City of Anderson, IN), Stephen E. Frank, Chairman, Southern California Edison (Rosemead, CA) and Cheryl Grise, President, Northeast Utilities (Berlin, CT) have all been notified by the FCC that it has received complaints that equipment operated by their electric utility companies may be causing harmful radio interference to operators in the Amateur Radio Service.

Under FCC rules, most power-line and related equipment is classified as an "incidental radiator." This term describes equipment that does not intentionally generate any RF energy, but may create such energy as an incidental part of its intended operation. The Part 15 Rules state:

Sec. 15.15 General conditions:

(b) Operation of an intentional, unintentional, or incidental radiator is subject to the conditions that no harmful interference is caused and that interference must be accepted that may be caused by the operation of an authorized radio station,

by another intentional or unintentional radiator, by industrial, scientific and medical (ISM) equipment, or by an incidental radiator.

(c) The operator of the radio frequency device shall be required to cease operating the device upon notification by a Commission representative that the device is causing harmful interference. Operation shall not resume until the condition causing the harmful interference has been corrected.

Sec. 15.13 Incidental radiators:

Manufacturers of these devices shall employ good engineering practices to minimize the risk of harmful interference.

Sec 15.15 Technical requirements:

(c) Parties responsible for equipment compliance should note that the limits specified in this part will not prevent harmful interference under all circumstances. Since the operators of Part 15 devices are required to cease operation should harmful interference occur to authorized users of the radio frequency spectrum, the parties responsible for equipment compliance are encouraged to employ the minimum field strength necessary for communications, to provide greater attenuation of unwanted emissions than required by these regulations, and to advise the user as to how to resolve harmful interference problems.

The FCC said that amateur radio operators have not been successful in working through their utility company's complaint resolution process. All five companies were told that they "...should locate the source of any interference caused by their equipment and make necessary corrections within a reasonable time. Unresolved problems may be a violation of FCC rules and could result in a monetary forfeiture for each occurrence."

The firms were directed to advise the FCC within 30 days of the steps they were taking to correct the interference.

Mark Hanson (Wausau, WI) has been warned that the FCC has information that he has been transmitting on Amateur Radio frequencies without a license. Such operation could result in a fine, imprisonment and seizure of the radio transmitting equipment. Fines for this violation normally range from \$7,500 to \$10,000. He is to contact the FCC.

Jacob T. Johnson, KCØFPN (Essex, IA) has had his Technician Class license canceled by the FCC due to his failure to retake the license examination by February 15, 2002

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May 1, 2002

FCC PROPOSES TO INCREASE VANITY CALL SIGN FEE

The FCC basically pays its own way in that the regulatory fees it collects from the public covers its operating budget. On March 27th, the FCC issued a *Notice of Proposed Rulemaking* (MD Docket No. 02-64) proposing to revise its Schedule of Regulatory Fees.

Congress is requiring that the Commission collect \$218,757,000 through regulatory fees to recover the costs of its competition, enforcement, spectrum management, and consumer information activities for FY 2002. This amount is \$18,611,000 or approximately 9.3% more than last year. The FCC is therefore proposing to revise the fees collected for each service subject to a fee.

The only regulatory fee that Amateur Radio operators are subject to is for a ten year term Vanity Call Sign. All other amateur licensees are exempt from payment of regulatory fees. The present Vanity Call Sign fee is \$1.20 a year or \$12.00 for a ten year term. The proposed rate for the coming year is \$1.45 or \$14.50 for the ten year term.

The FCC had estimated that 8000 applicants would apply for vanity call signs in FY2001 and has increased this figure to 9,000 for FY2002. Applicants for Amateur Vanity Call Signs will continue to pay the \$12 regulatory fee per call sign (per 10-year license term) until the FY2002 fee schedule becomes effective which has historically been in mid-September. Comments on the NPRM were due April 23 with reply comments due May 3.

FCC: RELOCATING AMATEUR 13-cm BAND IS AN OPTION

The FCC released a *Notice of Proposed Rulemaking* (WT Docket No. 02-55) entitled "Improving Public Safety Communications in the 800 MHz Band." The proceeding has the potential to relocate the 2390 to 2400 MHz (13-cm) Amateur Service band to other spectrum.

The FCC said that it has long recognized that the nation's public safety community requires effective radio communications systems free of harmful interference if public safety agencies are to adequately protect the safety of lives and property.

"Concerns over domestic security are placing increasing burdens on the resources of the Country's public safety providers, including on their critical communications systems. Many of these existing systems operate in the 800 MHz land mobile band."

Various channels in the 800 MHz band were first allocated for public safety use in 1980. Recently public safety systems have been subjected to increasing incidents of severe interference.

Public safety systems typically provide communications to and among vehicular or hand-held mobile units used by police and fire agencies, medical rescue teams and other governmental personnel throughout a large geographical area. Many of these communications are of

an urgent nature, involving the safety of life or protection of property.

"Public safety concerns have become increasingly complex - notably after the attacks of September 11, 2001 - and require a greater level of cooperation and communication among different public safety agencies and jurisdictions."

Background

In 1970, the Commission reallocated 115 megahertz of spectrum in the 806-947 MHz band for land mobile operations. Over the next 25 years, the FCC allocated spectrum in this range to a variety of radio services, including Cellular systems, Public Safety, Industrial/Land Transportation Radio, the Business Radio Service and the SMR (Specialized Mobile Radio) Service.

The FCC assigned channel pairs by radio service and many public safety channel pairs were "interleaved" with private and commercial wireless operations. Consequently, public safety operations are frequently jeopardized by interference, particularly when operating in close proximity to commercial base station cell sites (...such as at the World Trade Center.)

The primary objective of the NPRM is to solicit proposals on how best to remedy this interference and to explore available options and alternatives for improving public safety operations in the 800 MHz Band. "We intend to move swiftly to achieve this objective," FCC said.

The Commission said it might be necessary to relocate existing operations. Three candidate bands identified by the FCC that could furnish replacement spectrum for cellular-type digital SMR licensees relocating from the 800 MHz land mobile band. They include the 1910-1930 unlicensed Data-PCS band; the 2 GHz MSS (Mobile Satellite Service) band, and the 2390-2400 unlicensed Data-PCS band. The 2390-2400 MHz (13-cm) band is also allocated to the Amateur Radio Service on a primary basis.

"The discussion of the above three bands as sources of replacement spectrum is meant to be illustrative rather than exclusive," FCC said. "Other bands or band segments may also merit consideration."

The 2390-2400 MHz band was allocated to unlicensed asynchronous PCS devices in 1995. However, the Amateur Radio Service was given primary status in this band because the Commission found that low power, unlicensed devices were unlikely to interfere with amateur communications.

The FCC said that "...if commenting parties believe that incumbent Amateur Services cannot co-exist with relocated 800 MHz services, we seek comment on whether incumbent Amateur Services could be relocated, what spectrum could be used for their relocation, and what procedures would apply to such relocation."

Comment period expires 30 days after publishing in the Federal Register. Replies are due 30 days later.

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May 1, 2002

FCC CHAIRMAN URGES TRANSITION TO DIGITAL TV

The transition from analog to digital television is going painfully slow. In an unexpected move, FCC chairman Michael Powell unveiled a voluntary plan April 4th that he hopes will jump-start the conversion of the nation's TV industry to digital television.

The plan was contained in identical letters sent to Sen. Fritz Hollings (D- S.C.) Chairman of the Senate *Committee on Commerce, Science and Transportation* and Rep. W. J. "Billy" Tauzin (R- La.) Chairman, House *Committee on Energy and Commerce*. Copies of the letters were sent to all committee members.

Powell said he applauded their continuing efforts to advance the availability of digital television for consumers. "In support of those efforts and in the same spirit, I am writing to set forth a plan that I hope will provide a near-term boost to the DTV transition."

"...the plan seeks to advance two key goals: (1) increasing the level of compelling digital content available to consumers; and (2) providing cable subscribers access to that content over their cable systems."

"The plan is purely voluntary but, as you can see, contemplates that each relevant industry will play a significant role." Powell said he would be seeking commitments on his proposal from industry sectors. The plan asks that television station owners, program content providers, the cable industry and TV set makers cooperate in a speedier transition to digital television. Up until now, each segment of the in-

dustry has been waiting for consumer acceptance of digital TV before increasing their participation. It is a classic "chicken and egg" confrontation. The consumer has been reluctant to invest in a product that is largely unavailable and the television industry has been unwilling to ramp up

HDTV content when there are so few receivers capable of high definition content reception.

The *National Cable & Telecommunications Association* neither endorsed nor opposed Powell's plan. They called the proposals "thought-provoking" many of which "warrant further study."

According to the *National Association of Broadcasters*, 258 TV stations are currently transmitting digital signals that can reach 76.8% of U.S. households. Congress granted broadcasters a second channel to offer digital and analog TV. As part of the deal, broadcasters keep their analog channel until digital TV penetration reaches 85% or 2006, whichever is later.

Congress expects to take in some \$60 billion from the auction of the analog spectrum that broadcasters are supposed to return, and it wants its money. Forrester Research thinks 2016 is more likely.

Only about 1.4 million of the 28.3 million television sets sold in the U.S. last year were digital TVs. And of those only about 100,000 included tuners to receive high-definition program-

ming. But their high price brought in more than one quarter of all television set revenue. Many people buy digital TVs to watch DVDs. More than 2.2 million digital TVs are expected to be sold in 2002, nearly double that of 2001.

Proposal for Voluntary Industry Actions to Speed the Digital Television Transition*

1. To four broadcast networks (i.e., ABC, CBS, Fox and NBC), HBO, and Showtime:

Provide high-definition or other "value-added DTV programming" during at least 50% of their prime-time schedule, beginning with the 2002-2003 season. Value-added DTV programming could be high-definition, innovative multicasting, interactive, etc. - so long as it gives consumers something significantly different than what they currently receive in analog. This would include something more than a single stream of standard-definition digital programming.

2. Broadcast Licensees:

By January 1, 2003, or as soon thereafter as they commence broadcasting, DTV affiliates of the top four networks in markets 1-100 will obtain and install the equipment necessary to pass through network DTV without degradation of signal quality (e.g., pass through HD programming, if that is what its network provides).

Stations broadcasting DTV programming will inform viewers of their digital content through on-air promotional announcements over their analog broadcast facilities.

3. Cable:

By January 1, 2003, cable systems with 750 MHz or higher channel capacity will:

- ▶ Offer to carry, at no cost, the signals of up to five broadcast or other digital programming services that are providing value-added digital programming during at least 50% of their prime-time schedule.
- ▶ Provide cable subscribers the option of leasing or purchasing a single set-top box that allows for the display of high definition programming. These devices will include digital connectors (e.g., 1394/5C and/or DVI/HDCP) at the request of the consumer.
- ▶ Market the digital television products the operator provides, including on their systems and in monthly bills, so that consumers know what programming is available and how they can receive it over the cable plant.

4. Direct Broadcast Satellite:

By January 1, 2003, carry the signals of up to five digital programming services that are providing value-added digital programming during at least 50% of their prime-time schedule.

* Nothing contained in this Proposal for Voluntary Industry Action is intended to prejudge any issue in pending or future Commission proceedings.

THE FCC AND YOUR SOCIAL SECURITY NUMBER

One of the most common questions we get is why does a VE, VEC or the FCC require that you provide them with your Social Security number (SSN) ...otherwise known as a Taxpayer Identification Number (TIN.) Why is it needed and what does the FCC do with it?

Supplying SSNs to the FCC dates back to a 1996 appropriations bill that eventually became Public Law 104-134. Within that legislation is the *Debt Collection Improvement Act of 1996*. The Government Accounting Office (GAO) had noted at the time that there were more than \$30 billion in outstanding delinquent federal receivables. Most of this debt involved Federally guaranteed housing, farm, small business and education loans.

According to the law, the objective of the DCIA is to "...maximize collections of delinquent debts owed to the Government by ensuring quick action to enforce recovery of debts and the use of all appropriate collection tools."

The DCIA was signed into law on April 26, 1996 by President Clinton.

The Debt Collection Improvement Act of 1996.

...centralized the government-wide collection of delinquent debt and gave Treasury significant new responsibilities in this area.

The DCIA provides for any non-tax debt or claim owed to the United States that has been delinquent for a period of 180 days to be turned over to the Secretary of the Treasury for appropriate action to collect.

It was decided that the Treasury Department's *Financial Management Service* (FMS) was the appropriate agency to handle debt collection operations for the federal government due to their accumulated knowledge of debt collection practices and procedures, and its position as the disbursing agency for more than 85 percent of federal payments. The transfer of non-tax debt to the FMS (known as "Cross-Servicing") makes Treasury responsible for collecting delinquent debts Government-wide.

The DCIA also authorizes the Secretary of the Treasury to collect past-due child support by deduction from Federal payments (such as tax refunds) or through wage garnishment, a process whereby an employer withholds amounts from an employee's wages and pays those amounts to the employee's creditor.

The types of debts referred to FMS include unpaid loans, overpayments or duplicate payments made to federal salary or benefit payment recipients, misused grant funds, and fines, penalties or fees assessed by federal agencies.

I am not aware of any unpaid FCC administrative fines being transferred to FMS for collection, but they certainly could be once the appeals process is completed and the amount set. FMS can recommend, and upon agency concurrence refer debts to the Department of

Justice (DOJ) if the situation warrants.

A key provision of the Act is access by the Dept. of the Treasury to Taxpayer Identifying Numbers (TINs). One of the procedures established under the DCIA used by FMS to collect debts is its Treasury Offset Program. The TOP compares the names and taxpayer identifying numbers (TINs) of debtors with the names and TINs of recipients of federal payments including vendor, federal retirement, federal salary, and Social Security benefits.

Amateur Radio

As a result of the DCIA, all federal agencies are required to collect Taxpayer Identification Numbers (TINs) from anyone who does business with or are recipients of federal licenses or permits. The collection of TINs (9-digit Social Security Numbers) from radioamateurs began in August 1999 with the implementation of the FCC's Universal Licensing System (ULS.)

A provision was also made for applicants using an FCC-generated TIN in place of their SSN. The "Licensee ID" is a systematic number generated by ULS when your TIN was registered with the FCC. Applicants could supply the FCC with either their SSN or use the *Licensee ID* in place of the SSN on an application.

As of December 3, 2001, however, all parties and entities doing business with the Commission were required to obtain another new unique identifying number called the *FCC Registration Number* (or FRN) and supply it to the Commission. The FRN basically replaces the *Licensee ID* and is obtained in one of three ways.

- (1.) The FCC automatically assigned an FRN to most all existing radioamateurs in 2001,
- (2.) FRNs are automatically generated when a VEC electronically submits your application if you do not already have one, or;
- (3.) you can apply for an FRN electronically by going to the FCC website: <www.fcc.gov> and clicking on the "Commission Registration System" (CORES) link on the left side. You can also submit a paper FCC Form 160, available from the FCC's Forms Distribution Center: Telephone 1-800-418-FORM (3676), or from fax-on-demand by dialing (202) 418-0177.

But just about every licensed radioamateur already has an FCC Registration Number (FRN.) Do **NOT** apply for an additional FRN if you already have one. To determine your existing FRN, go to: <<http://wireless.fcc.gov/uls>> and click on "License Search - Enhanced" (left side of the page) and enter your call sign.

It is not possible to renew or modify an existing license or to receive a new or upgraded Amateur Radio license grant or Vanity call sign without first providing your SSN to the FCC and receiving an FRN. You will also need your FRN, along with a user-selected password, to access your licensing records in they event you want to renew or modify your license.