

# Feedline



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The Voice of The Cary Amateur Radio Club N4NC

January 2003

## CARC FEEDLINE

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The deadline for submission to the Cary Amateur Radio Club FEEDLINE newsletter is the second Thursday of the month. Information should be forwarded by e-mail to the editor at w4kaz@arrl.net.

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### CARC Officers for 2003

**President** Clare Owens, N2RJB  
**Vice Pres.** vacant  
**Secretary** Keith Zeringue, W4KAZ  
**Treasurer** Herb Lacey, W3HL

### 2002 Volunteers

**N4NC Trustee:** Will Harper, K4IWW  
**Swapfest Czar:** Alf Johnson, KQ4FP  
**Field Day Czar:** Herb Lacey, W3HL  
**Listserv admin:** Will Harper, K4IWW  
**Website admin:** Susan Jones, WA4AKB

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Listserv:

<http://groups.yahoo.com/group/carc>

## Pheedline Phun Phacts

Kaz, W4KAZ

Anybody got a chainsaw? A spare generator?

I hope everyone survived the early December ice storm okay, and the ensuing electric service outages. Those of you equipped with generators were certainly ahead of the game. I guess it was not much of a "game" for the rest of us.

Being a transplant from the Gulf coast, I'm more used to the idea of this sort of thing being a problem during the summer months (like after a tropical storm). I sure did get a lot of exercise chopping firewood the old-fashioned way (a bow saw supplemented with a wedge-n-sledge) from my yard full of downed limbs. That will keep you warm twice....first, while chopping, and second, when you finally get the fireplace stoked. My small store of seasoned firewood served as starter for all of the greener wood. Too bad a single fireplace is relatively ineffective, although its certainly better than no heat whatsoever!

Seems there were lots of folks complaining about how long it took to have their services restored. Given the extent of the damage to overhead lines, I think the utility company and the line crews did great work. (I was without electric service for almost exactly 5 days).

Thanks to the folks putting in overtime under crummy and sometimes dangerous conditions.

For the January meeting, if you plan to attend the Charlotte HAMFEST on March 8, (& 9), you can bring your check payable to: "Charlotte HAMFEST" for \$5 per ticket (the pre-registration price). Tickets can be picked up at the February meeting.

Whew....Another one bytes the ether.....

## Coming Cary ARC Events

### January 23 2003, CARC meeting and program

#### "A Discussion on Antennas" by Herb, W3HL

All members and friends of CARC should bring their questions about antennas and antenna problems to the meeting.

Also, since the Holiday CARC Dinner was canceled due to the infamous ice storm, the prizes for the Dinner will be raffled at the January meeting!!!

Also, if you plan to attend the Charlotte HAMFEST on March 8, (& 9), bring your check payable to: "Charlotte HAMFEST" for \$5 per ticket for the pre-registration price. CARC will have a table there for use of the membership and for handing out SWAPFEST flyers.

### February 2003 CARC Program

AUCTION!! AUCTION!! AUCTION!! AUCTION!! AUCTION!! AUCTION!! AUCTION!!

## Other Area Events

### Amateur Extra License Upgrade Class

Frank, W4FAL

The Smith Chart Amateur Radio Society, K4OO announces an Amateur Extra License class. The class begins Monday March 10, 2003, from 7:00 PM to 9:00 PM and meets every Monday night through May 12. The VE test session in Smithfield is the following Saturday.

This will be the third year that the Smith Chart Society has sponsored an Extra Licensing class. The past classes I'm told have been fun for the participants, fun for the instructors, and informative. To date our number of Extra's is somewhere between 25 and 30.

The fee for the class is \$25.00 and includes the ARRL Extra Class License Manual 8th edition that we will be using as the text. The class will be held at the Knightdale Fire Station #2 at the intersection of Poole and Clifton Roads. From the I-440 Poole Road exit, take Poole Road east approximately 4.5 miles. The station will be on your left.

Pre-registration is required for this class. I must have your class fee (\$25.00) by Feb 25, 2002 so that the training materials can be ordered. In the event that we don't have enough pre-registrations to hold the class the class fee will be refunded.

To pre-register send checks payable to:

Frank A. Lynch, W4FAL  
2528 Oakes Plantation Drive  
Raleigh, NC 27610-9328  
919-740-3957  
w4fal@arrl.net

### DFMA Technician Class

The Durham FM Association (DFMA), in conjunction with Central Carolina Helping Hams is offering an introductory course in Amateur Radio. This class will allow the participant to sit for the Technician Class (no code) Amateur Radio license. Cost will be nominal (\$10.00) for course materials. Begins January 15<sup>th</sup>(may be slots still open?) For details, see <http://www.hampublicservice.org/Training.html#DFMA%20Class>

### RARS License Class-

RARS will be holding its winter technician license class beginning 3/3/3, at the Nortel Education Center. Code class is optional. For full info, see <http://www.rars.org/class/moreclassinfo.htm>

## Birthdays

KD4PCD,	Buddy Pate	Feb 10
AG4OP,	Bob Guenther	Feb 13
NJ2E,	Don Kalinowski	Feb 18

Also, we congratulate Jim Weathers, N4RSE and his new XYL, Paula, on their marriage on January 10, 2003.

## Fontella Spratley, KE4IZZ, SK

Sympathies to the family and friends of Mrs. Spratley. Fontella was active in RARS, and was instrumental in organizing the RARS hamfest social for many years.

## Upcoming Hamfests

**February 1<sup>st</sup>, 2003 Charleston SC.** 8:30 until, at Exchange Park Fairground, 9850 Hwy 78, Ladson, SC. For flyer, see <http://www.qsl.net/wa4usn/hamfest.htm>

**February 9<sup>th</sup>, 2003 (a Sunday) Richmond FrostFest,** Held again at the Showplace, 3000 Mechanicsville Turnpike(aka route 360) in Richmond. For more information, see <http://www.frostfest.com/>

**February,23 2003 Elkin,** Briarpatch and Foothills Hamfest

**March 8<sup>th</sup> and 9<sup>th</sup>, Charlotte Hamfest and Computer Fair,** at the Merchandise Mart, 2500 East Independence Blvd. (This year coinciding with "The Woodworking Show", for those seeking to sate two appetites at once) For more information, see <http://www.w4bfb.org/hamfest2003/hamfest.html>

**March 23<sup>rd</sup>, 2003—Kinston Downeast Hamfest**

**July 19<sup>th</sup>, 2003 -- Cary Midsummer Swapfest—**Only six months away!

## The NC QSO Party Is Coming Up Soon

Henry Heidtmann W2DZO (ex. N4VHK)  
Forsyth Amateur Radio Club  
Winston-Salem, NC

Its slated this year for 1700 UTC Feb.23 through 0300 UTC Feb.24 (10 hours). The rules have not changed from last year, and we were successful at activating 98 of 100 counties! We'd like to try and get all counties involved this year. The website for the party is located at- <http://www.w4nc.com>.

Just click on the NC QSO Party tab. There you will also find results from last year. I will again be keeping a map of counties so if you are planning to be fixed or mobile, let me know with an email and I'll fill that county in.

Last year we had over 50 logs, and had certificates and plaques out WITHIN 60 DAYS of the log due date (no endless waiting with this event...). Several of the plaques were presented at the Contest Dinner at the Dayton hamfest- some even in the parking lot! We hope to have even better participation this year. So...

Email me the county/counties you'll be activating and I'll get the map up on the QSO Party page within the week. Thanks for your continued support of the ever-growing NC QSO Party! If you send me mail and want me to forward it to this list, just let me know- I'll be happy to play "reflector" for all participants.

## TenTec Orion On The Air?

W4KAZ, Kaz

Mutterings of disgruntlement from the TenTec reflector indicate the Orion will soon be shipping to those who ordered it sight-unseen. It would appear that the first production run is being polished up, maybe even being shipped as you read this. I'd guess we might all get to see the-real-thing at Charlotte in March, if the crowd isn't too large. (Gonna be impossible to hear it play though. Any of you folks getting one? Wanna play show-n-tell? Now there's a program idea.....an A/B "shootout" of various volunteered rigs.)

Scott Robbins, W4PA, (the Ten Tec sales rep.) indicates the receiver on the final production units may be exceeding the originally published specifications for IMD3 dynamic range, at 20kc and 5kc spacings, and indicates that the staff is working on testing at 1kc spacings out of curiosity.

Shipping now? The assembly line.... <http://www.tentec.com/TT565.htm>

More Orion photos: <http://www.n9vv.com/orion.html>

Reflector posting from Scott, W4PA [http://lists.contesting.com/\\_tentec/2003-January/030058.html](http://lists.contesting.com/_tentec/2003-January/030058.html)

## Online TenTec Factory Tour

W4KAZ, Kaz

Can't fit that new Orion into the budget? Me either! But CQ magazine has posted its tour of the TenTec factory online, along with a roundup of their hamfest. For those interested, see <http://scripts.sunserver.com/cq/gallery/Travels-With-CQ-2002>

## Yaesu FT-857 Rumor(coming soon to a QST near you?)

W4KAZ, Kaz

QST as in magazine advertisement....On the maybe-see-it-at-Dayton front, Yaesu is rumored to have a replacement for the FT-100D in the works. Rumor has it to be HF+50+144+440, 100/100/50/20 watts, all in a teensy, slender tiny 2-meter-mobile-sized box. (slightly larger than the currently available FT-1500 2 meter mobile.) Keyed down on 100 watt CW, can the heat sink can be used as a hot plate for making coffee in the wee hours for Field Day? I notice from the pictures that Yaesu got rid of the "pigtail" antenna connectors in favor of chassis mounts. Common sense rears its ugly head.

Photos of said currently mythological beastie can be had at:

<http://www.rigpix.com/yaesu/ft857.htm>

(or in that issue of QST???)

## Elecraft K2/KPA100 and KAT100 150 Watt Autotuner

W4KAZ, Kaz

For those who may have noticed the growing popularity of the Elecraft K2, there are two relatively new reasons to notice. Now the K2 kit can be built as a 100 watt rig, and there is also an automatic tuner now available for the 100 watt version of the rig. The tuner is said to be able to match up to 10:1 SWR mismatches. The amplifier is being sold for \$350 USD, and the autotuner for between \$220 and \$270 USD (depending on which cabinet one chooses). Lets see....that brings the kit price up to.....YIKES!

Elecraft also has links to a couple of interesting articles regarding receiver performance. While these certainly are self serving, they are interesting reading for those interested in such information.

Autotuner see: [http://www.elecraft.com/kat100/kat100\\_page.htm](http://www.elecraft.com/kat100/kat100_page.htm)

KPA100 amp see <http://www.elecraft.com/k2100/k2100page.htm>

## Recharge Those Little Puppies!

W4KAZ, Kaz

Okay, drop that dawg! That's not what I meant..... The recent power outages with the ice storm allowed me to easily recoup money I've spent on AA sized Nickel Metal Hydride (NiMH) rechargeable batteries. Over the past couple of years, I've picked up several pairs of these to use in various odds and ends (flashlights, pocket am/fm radios, a digital camera, and countless kids toys). I have a Maha C204F charger, which can charge two pairs of AA or AAA NiMH batteries, using either the wall transformer or a 12 volt supply for input power. While the electricity was out in December, I was able to use my emergency 12V gel cell to keep the 12V batteries in action. I recommend a charger allowing the use of a 12V input source.

My Maha unit will charge 1600mAh batteries in about 2 ½ hours, and is simple enough for the kids to use. This sized AA NiMH battery appears to last about twice as long as standard alkaline AA batteries in "constant use" devices (flashlights and Nintendo gameboys). The NiMH batteries are also much more convenient than the older nicads, having far less pronounced "memory effects".

Also, several new chargers have hit the market that allow for recharging individual cells, instead of in pairs. This could be helpful if you have devices using odd numbers of batteries. If you are so inclined, several new LED flashlights are now coming to market. These lights provide extra long life, and would likely make a great long life combination with NiMH batteries.

The largest potential problem I have found so far is the lower voltage on NiMH cells, which normally are rated at 1.2V per cell. I've found new alkaline cells to show voltages as high as 1.6V. As yet, I've not found this to be a problem with consumer devices, but it is a consideration if you are putting together your own battery packs for a QRP rig, hoping to use in an HT, or some such.

A casual internet search shows that currently available NiMH batteries now have higher capacity, up to 2100 mAh ratings. These are still somewhat pricy compared to the cost of a comparable alkaline cell, until you factor in the true life on the NiMH cells after 500 uses.. What is more interesting is that the lower capacity NiMH units (1400 to 1600 mAh) have dropped in price, and are now nearly as inexpensive as alkaline cells. I have found batteries of about 1500 mAh to be good for flashlights and broadcast radio reception (and kids toys too!). They also are fairly quick to recharge.

I found a good price on batteries at the Charlotte Hamfest last year. If you prefer home delivery, here are some of the vendors that popped up. (note: I have not used any of these vendors, nor do I have fiduciary interest in their business, nor do I vouch for them.....just what popped up in a quick search.)

<http://www.nimhbattery.com/index.htm>

<http://www.onlybatteries.com/>

<http://www.batteriesamerica.com>

## The Ultimate DX'er, Grote Reber, Former W9GFZ, SK

W4KAZ, Kaz

Pioneer radio astronomer Grote Reber died this past December, two days before his 91<sup>st</sup> birthday. Reber was the first person to make systematic studies of the sky using something other than visible light.

Though not a "professional" scientist, Reber published results in several technical journals, received several honors normally reserved for trained researchers, and in 1941 produced the first radio map of the sky. Reber also conducted research at the National Radio Astronomy Observatory in Green Bank, W Va. in the 50's. ARRL has a short biography, see: <http://www.arrl.org/news/stories/2002/12/23/2/?nc=1>

## Gravity Sucks

W4KAZ, Kaz

Well, duh-uh! The interesting part is that now maybe there is experimental evidence to indicate "how fast" gravity sucks. That wacky Al Einstein....there he goes again.

<http://www.washingtonpost.com/wp-dyn/articles/A24630-2003Jan7.html>

## Falling Branches and Antennas

Kaz, W4KAZ with Lee, N4AJF

You may not be able to tell from these photos which is the antenna and which is a tree branch. Lee, N4AJF took a hit to his roof mounted rack of UHF and VHF antennas during the early December ice storm. The 6 meter antenna appeared to have the most extensive damage. When asked a foolish question, Lee answered, "No, they are NOT "getting out" too good."



The following two shots are from W4KAZ's yard, about halfway through the day. Another four branches fell after these photos were taken(from the safety of the carport).

The top photo shows "the worlds luckiest lamp post". (In the center of the photo, swaddled in red ribbon and fallen branches). Two additional branches landed on this post before the day was out, but no permanent damage was done.



Below, you may be able to see what looks like a fallen wire antenna in the foreground. This was actually already on the ground before the storm, and is not the result of damage. But this small oak has not recovered, and after I check for eagle nests, it will become part of the fire wood pile.



## **New Jersey Legislature Honors Amateur Radio's 9/11 Role**

The ARRL Letter, Vol. 22, No. 02, January 10, 2003

The New Jersey Legislature has honored the role of Amateur Radio operators in the aftermath of the September 11, 2001, terrorist attacks. On hand in Trenton to witness a joint proclamation December 12 were ARRL Hudson Division Director Frank Fallon, N2FF, Hudson Division Vice Director Steve Mendelsohn, W2ML, Northern New Jersey Section Manager Bill Hudzik, W2UDT, and Bergen County District Emergency Coordinator Mike Adams, WA2MWT, who's also a member of the New Jersey PRB-1 Task Force.

"I would like to take this opportunity to commend you for your hard work and efforts," said Assembly Speaker Albio Sires. "During times of disaster, your group has displayed superior service and dedication to the safety of our citizens. I applaud the efforts of the independent radio operators and thank you for your selfless actions on September 11, 2001. Allow me to express my sincere gratitude for your participation with the New Jersey General Assembly on this day, December 12, 2002."

On behalf of the amateur contingent, Hudzik thanked the 80 members of the Assembly. Among the cosponsors of the resolution was Assemblyman Matthew Ahearn, KB2PNN, a Democrat from Fair Lawn and sponsor of an Amateur Radio antenna bill, Assembly Bill 3065, in the Garden State.

While in the state capital, the ham radio delegation took the opportunity to promote A3065, "The Amateur Radio Antenna Bill." The measure would codify the limited preemption known as PRB-1 into New Jersey's statutes. In addition, it would preclude local ordinances or regulations that effectively prohibit an antenna support structure of 70 feet or less above ground level exclusive of any antenna upon the structure. The measure has been assigned to the Housing and Local Government Committee chaired by Assemblyman Jerry Green (D-Plainfield). The text of the proposed legislation <<http://www.njleg.state.nj.us/>> is available on the New Jersey Legislature Web site. Search on "A3065" in the "Bill Search" engine.

## **FCC Threatens New York Amateur With Hearing**

The ARRL Letter, Vol. 22, No. 02, January 10, 2003

The FCC has told a Technician-class operator from New York to stay off 20 meters or risk having to defend his license at a hearing. FCC Special Counsel Riley Hollingsworth wrote Alexander Sandbrand, N2NNU, of Yonkers December 12 notifying him that the FCC plans to designate his ham ticket for revocation and suspension proceedings if it learns of additional incidents of out-of-band operation.

"This serves as notice that if you engage in any additional incident of out-of band operation, the Enforcement Bureau intends to designate your Amateur station license N2NNU for a revocation hearing before an Administrative Law Judge," Hollingsworth wrote, "and, further, that we intend to designate your Technician-class operator license for suspension for the remainder of the license term, August 26, 2011."

An initial Warning Notice regarding alleged operation on the 20-meter phone band went out to Sandbrand in August 2001, but the FCC has reports that Sandbrand has operated on HF phone since then.

"Information before the Commission indicates that on at least nine occasions subsequent to receipt of that warning letter, you operated out of band," Hollingsworth wrote. He cited reports that N2NNU had operated at various times on 20, 17, 15 and 10 meters between September 2001 and June 2002.

Hollingsworth told ARRL that after the first Warning Notice, Sandbrand called him to complain that it wasn't fair that he had to pass additional examination elements to operate on HF phone. "I told him if he wants to operate on HF, he has to take the test like everybody else," Hollingsworth said.

In the latest Warning Notice, Hollingsworth informed Sandbrand that the FCC's Wireless Telecommunications Bureau will not process any upgrade applications from him until the matter is resolved. He said this week that he has not heard anything further from Sandbrand

*(Editors note: he says its "Not fair"????? What, I wonder, would he consider "fair"? How about a summary revocation? Tough to legislate "character".....)*



## **ARRL Concludes 5-Mhz Experiments, Awaits FCC Decision On New Band**

The ARRL Letter, Vol. 22, No. 01, January 3, 2003

Without fanfare, the ARRL allowed its WA2XSY 5-MHz experimental license to lapse January 1 rather than request renewal for another year. Last May, the FCC proposed going along with the ARRL's 2001 request for a new domestic (US-only), secondary HF allocation at 5.25 to 5.4 MHz. Discussions with various governmental agencies--including the Interdepartment Radio Advisory Committee (IRAC) and the National Telecommunications and Information Administration (NTIA)--continue on how to accommodate amateur operation in the band, which is primary for several governmental agencies including the military. The NTIA regulates radio spectrum allocated to the federal government.

"At this point, we have every reason to believe the FCC will act on its proposal early this year," said ARRL Chief Executive Officer David Sumner, K1ZZ. "As to what the outcome will be as far as 5 MHz is concerned, we cannot predict."

In a December 24 letter, Sumner thanked the 15 Amateur Radio clubs and individual amateurs who took part in the 5-MHz experimental operation that began in January 1999 and largely concluded in 2002. "You assisted in providing an important part of the groundwork for our petition for a domestic allocation to the Amateur Radio Service in this frequency range by demonstrating the desirability and feasibility of a shared allocation," he wrote. "We hope it will not be long before amateurs throughout the country are able to enjoy the fruits of your efforts."

Sumner said the ARRL chose not to request another renewal of the WA2XSY license because it already had obtained sufficient information to justify its petition for the band. Until surprise opposition surfaced last fall from the NTIA, the FCC had the League's request for a new 60-meter band on the proverbial fast track. In a letter filed with the FCC last August--after the comment deadline had passed--the NTIA recommended that the Commission not go forward with the 5-MHz proposal. The NTIA said several government agencies with allocations in the proposed spectrum had expressed reservations about allowing amateurs to use the band, even on a non-interference basis.

The ARRL has been working with the federal agencies involved to resolve the impasse the NTIA letter raised. The NTIA said critical federal agencies, including the Department of Justice, the US Coast Guard and the Department of Defense, were making extensive use of 5 MHz frequencies. The FCC's May 2002 Notice of Proposed Rule Making (NPRM) fails to adequately protect these "critical government operations" from harmful interference, the NTIA asserted.

The ARRL has called the 5 MHz allocation "an urgent priority of the Amateur Service." In its July 2001 petition, the League told the FCC that a new band at 5 MHz would aid emergency communication activities by filling a "propagation gap" between 80 and 40 meters.

Experimental operations on 5 MHz continue on a very limited basis in the United Kingdom and in Canada. In Newfoundland, the Marconi Radio Club's VO1MRC has been operating under experimental authority from Industry Canada and an endorsement from Radio Amateurs of Canada to conduct experiments on 5 MHz. On December 21, VO1MRC completed a cross-band (5 MHz/7 MHz) CW contact with VK7RO in Tasmania.

## **WRC-03 Conference Preparatory Meeting Expands 40-Meter Options**

The ARRL Letter, Vol. 21, No. 47, December 6, 2002

Paul Simon sang of 50 ways to leave your lover, but participants at the just-ended Conference Preparatory Meeting (CPM) for World Radiocommunication Conference 2003 heard just five ways to fix 40 meters, plus a sixth that would just leave things as they are.

"The five options for change all represent improvements in the amateur band, although two fall short of fulfilling the 300-kHz worldwide requirement," said ARRL Chief Executive Officer David Sumner, K1ZZ. He attended the Geneva gathering in his role as International Amateur Radio Union (IARU) secretary. "All six options maintain the existing 300-kHz exclusive amateur allocation in Region 2."

The objective of the CPM was to complete work on a 700-plus page extensive technical CPM Report, which outlines methods to address the more than three dozen items that are on the WRC-03 agenda. As for amateur issues, Sumner says 7-MHz realignment or harmonization "is one of the most difficult issues facing WRC-03." As he explains the situation, three major interests--amateurs, shortwave broadcasters, and users, mainly military, of the fixed and mobile services--have a stake in the outcome.

The IARU is on record as supporting a 300-kHz worldwide amateur allocation in the vicinity of 7 MHz. Sumner said achieving this would require the fixed and mobile services to make room for broadcasters and for the broadcasters to change their operating frequencies. The five methods for change the CPM Report describes include a variety of transition schedules to ease the impact on these other services.

- \* Method A would shift Region 1 and 3 broadcasters up by 200 kHz to 7300-7550 kHz in two stages and would provide the same band for broadcasting in Region 2.

- \* Method B is similar but would have amateurs in Regions 1 and 3 sharing the upper 100 kHz of their newly expanded band with fixed and mobile.

- \* Method C would provide just 200 kHz for amateurs in Regions 1 and 3. Amateurs in Region 2 would continue to contend with broadcasting interference from Regions 1 and 3 in the 7200-7300 kHz segment.

- \* Method D, proposed by Canada at the CPM, would provide 300 kHz worldwide for amateurs by shifting broadcasters in Regions 1 and 3 up by 200 kHz but would not expand the Region 2 broadcasting allocation. This plan would minimize the impact on fixed and mobile services in Region 2.

- \* Method E, proposed by the Republic of Korea at the CPM, would provide amateurs in Regions 1 and 3 with an additional 100 kHz shared with fixed and mobile (7100-7200 kHz). As with Method C, however, Region 2 amateurs would continue to face broadcasting interference from Regions 1 and 3 in the 7200-7300 kHz segment.

- \* Method F, proposed by Australia at the CPM, would simply maintain the status quo. This plan reflects concerns about the impact of realignment on military and national security communications capabilities.

"There is no guarantee that proposals will be limited to the six methods described in the CPM Report," Sumner said.

Amateur Radio was well represented at the CPM. Chairing the CPM was Eberhard George, DL7IH, of Germany. A three-member IARU team was headed by President Larry Price, W4RA, and included Sumner and Wojciech Nietyksza, SP5FM. ARRL Technical Relations Manager Paul Rinaldo, W4RI, served as a member of the US delegation. He also was named to chair the ad hoc group that dealt with the substance of the 7-MHz text. Several other amateurs were on their national delegations, some of them specifically to represent Amateur Radio and others in professional capacities. IARU Vice President David Wardlaw, VK3ADW, was on the Australian delegation.

Sponsored by the International Telecommunication Union (ITU), the CPM drew more than 1000 participants to Geneva during the last two weeks of November. Over the next three months, regional telecommunications organizations and groups (CEPT, CITELE, and Asia-Pacific Telecommunity, the African Telecommunications Union, and Iran and the Arab States) as well as individual administrations will be developing their proposals for WRC-03, which takes place in Geneva next summer.