

<http://www.eaa>

<http://www.>

K7EAR

April 2009

EAARS open repeaters. PL is 141.3 unless noted otherwise

Helio 146.860 and 440.700 EAARS Network, 146.900, 447.825 w/ closed remote PL 100.0 or 141.3. Packet 145.010 **MT. Lemmon** 147.160 EAARS Network **Pinal Peak** 145.41 EAARS Network **Jacks Peak, NM** 145.21 EAARS Network **Guthrie Peak** 147.28 EAARS Network **Greens Peak** 146.70 EAARS Network

GMRS Repeater on Helio 462.625 PL 123.0

Website [HTTP://WWW.EAARS.COM](http://WWW.EAARS.COM)

Next Meeting

The next meeting will be held on the SECOND Tuesday in May. May 12th arrive at 6:30 pm, meeting at 7:00 pm at Search and Rescue in Thatcher, AZ

Email Newsletter

The newsletter is available by email and most of the members get it that way. The email version makes all the URLs clickable and I send out several ARRL bulletins a month to the members on the email reflector that the few print copy members don't get. If you currently receive your newsletter by US Mail and would like to convert to email format contact Larry N5BG or myself N7AM and we'll get you changed over. Larry can also set you up with an email address at EAARS.COM either web mail, pop3, or forward type.

7QP Contest

EAARS is going to participate in the 7QP contest again this year from the Graham/Greenlee county line. The contest is the first Saturday in May from 6 am to midnight. Setup will be Friday, tear down on Sunday. Help is needed with setup, tear down, and operation so, come on out for some part of the contest. There will be enough extra class control operators present that anybody should be able to get on HF and try contesting no matter what license class. Grace KB7CSE and Beth AA7NW will be cooking burgers for lunch on Saturday. The rules for 7QP are at <http://www.codxc.com/new/Page.asp?Content=DRYLAND7S&Page=3>

This year for the 7QP contest we are going to add a 5th station operating digital modes. Basically we will be on PSK-31 but, may try some RTTY or other modes. We will of course need more operators so, if you do PSK-31 or would like to try it come on out. The software we will be using is Digipan available free at <http://www.digipan.net/> if you'd like to play with it. To receive PSK-31 all it takes is a audio cable with stereo miniature phone plugs to hook between your speaker jack and your computer sound cards mic or line in jack and a Y connector if you also want to hear the speaker.

The logging program we use is N1MM Contest Logger also available for free at

<http://pages.cthome.net/n1mm/>

I have links to these and some other sites at <http://n7am.net/index.htm>

From ARRL Web

It Seems to Us: Keeping the "Amateur" in Amateur Radio

By David Sumner, K1ZZ
ARRL Chief Executive Officer

April 01, 2009

Being called an amateur can have a negative connotation, but the term's origin is the Latin word for "lover" and it has to do with motivation, not skill level. As they say, professionals built the Titanic; the Ark was built by amateurs.

Radio amateurs do what we do because we love to do it. We are, by international regulation, "interested in radio technique purely with a personal aim and without pecuniary interest." Even if we are employed in a radio-related field, when we are on the air in the ham bands we are not pursuing financial gain for ourselves or our employers.

The "no pecuniary interest" principle has been reflected in the FCC regulations in different ways over the years. In 1928 the Federal Radio Commission — the predecessor of the FCC — adopted revised rules that prohibited amateurs from handling "any form of commercial correspondence." After months of discussion and debate, the ARRL obtained a clarification that relieved amateurs of any obligation to determine whether the messages they were handling were of a commercial nature and established the principle that amateurs could handle messages "...regardless of the source or text, provided that no pecuniary or other consideration is directly or indirectly paid or promised."

More than 40 years later, the FCC at the time of President Nixon suddenly found a reason to reinterpret the rules so as to prohibit amateur communications on behalf of any non-amateur organization. It was immediately apparent that this went too far in discouraging public service communications, so in 1972 the misinterpreted rule was dropped and new rules were adopted prohibiting third party traffic consisting of business communication or involving material compensation of *any* kind to *anyone*.

For the next two decades there were seemingly endless debates about what was and was not permitted. For example, in the days before ubiquitous cell phones, amateur repeater autopatches were the most effective means of summoning aid for disabled motorists — but under a literal application of the rules you couldn't use one to call a tow truck unless there was an immediate threat to life or property. It would be nice to be able to say that common sense prevailed in such situations, but in fact there was a lot of pointless wrangling.

Finally in 1993, at the ARRL's urging the FCC adopted new rules that dropped the "no business communication" language and simply prohibited communication on behalf of an amateur's employer or in which the amateur has a pecuniary interest.

In adopting these rules the FCC made it clear that it didn't want to answer questions about whether

specific communications were permitted. In the words of the Report and Order in PR Docket No. 92-136, "...any amateur-to-amateur communication is permitted unless specifically prohibited, or unless transmitted for compensation, or unless done for the pecuniary benefit of the station control operator or his or her employer." It boils down to a simple four-part test:

1. Is it expressly prohibited in the rules (music, obscenity, etc)?
2. Is it transmitted for compensation?
3. Does the control operator have a pecuniary interest, that is, could he or she benefit financially?
4. Does the control operator's employer have a pecuniary interest?

If the answer in each case is "no" then the communication is acceptable to the FCC with one additional caveat: To guard against the systematic use of Amateur Radio for non-amateur purposes, there is a prohibition on "communications, on a regular basis, which could reasonably be furnished alternatively through other radio services."

By now you may be wondering why this is a timely topic in 2009 if the rules have not changed since 1993. The reason is that growing numbers of employers and non-amateur organizations are recognizing the value of Amateur Radio as an emergency communications resource and are encouraging their employees and members to obtain amateur licenses. This is a welcome trend, one that we do not wish to discourage in any way. We can never have enough trained and disciplined amateur operators who have equipped themselves, and are willing, to provide public service communications in time of need. That said, there are limits to what an amateur can do on behalf of his or her employer. There are also limits on the extent to which Amateur Radio can be used for the purposes for which other radio services were created.

If you have just entered Amateur Radio with the desire to be of service, welcome! You have joined a community with a well-earned reputation for being able to communicate when other communications systems have failed. Of course, there is nothing inherently superior about Amateur Radio equipment; it's not hardware, but rather knowhow, that gives us our edge. We look forward to sharing that knowhow so you can help write the next chapter in the proud history of Amateur Radio public service communications. We also look forward to learning from you and with you as together we explore new radio technologies and put new tools to work.

We are radio amateurs. That's what we do — because we love to do it.

German AMSAT Team Transmits, Receives Signals from Venus

On March 25, a group from AMSAT-DL [bounced radio signals off the surface of Venus](#), marking the first time Amateur Radio operators have bounced radio signals off another planet. According to AMSAT-DL President Peter Guelzow, DB2OS, the Earth-Venus-Earth (EVE) transmission is another step in preparing for a mission to Mars. According to an AMSAT-DL press release, the team's transmitter was generating about 6 kW CW on 2.4 GHz.

Guelzow said that signals were sent from a ground control station at the [IUZ Sternwarte](#) observatory in Bochum: "After traveling almost 100 million kilometers and a round trip delay of about 5 minutes, they were clearly received as echoes from the surface of Venus. This was the first German success to receive echoes of other planets. In addition, this is the farthest distance crossed by radio amateurs, over

100 times further than echoes from the moon (EME reflections)."

The EVE experiment was repeated on March 26 for several hours with "good echoes" from Venus, Guelzow said. "Morse code was used to transmit the well-known "HI" signature known from the AMSAT OSCAR satellites."

For receiving the EVE reflections, Guelzow said that the team used a fast Fourier transform ([FFT](#)) analysis with an integration time of 5 minutes. "After integrating for 2 minutes only, the reflected signals were clearly visible in the display," he said. "Despite the bad weather, signals from Venus could be detected from 1038 UTC on until the planet reached the local horizon."

Guelzow explained that with the EVE reflections, the high power amplifier "has therefore passed this crucial test as a final key component for the planned P5-A Mars mission. By receiving generated echoes from Venus, the ground and command station for the Mars probe has been cleared for operational use and the AMSAT-DL team is now gearing up for building the P5-A space probe. AMSAT-DL wants to show that low-budget interplanetary exploration is possible with its approach."

Development, design and construction of this first German Mars mission have been achieved by AMSAT-DL and its partner organizations, Guelzow explained. "Already a third of the total project costs were performed. More work shall follow during the mission. AMSAT-DL would like to demonstrate that their approaches to low-cost space missions are feasible." -- *Information provided by AMSAT-DL*

The K7RA Solar Update

Our Sun is in the news again, unfortunately not due to any hoped-for activity, but for the eerie quiet instead. The Sun is surprisingly calm by several measurements -- including the large number of spotless days -- with an average 10.7 cm solar flux and low solar wind pressure.

According to an [April 1 release](#) from NASA (that I wish was just an April Fool's Day joke), we are witnessing a 50 year low in solar wind pressure -- a 20 percent drop since the mid 1990s. Of course the advantage to this is geomagnetic storms are very rare. But that is a disadvantage for VHF operators who enjoy using aurora to propagate radio waves. The news release claimed that the 10.7 cm solar flux is at a 55 year low, although this figure has only been tracked for the past 65 or so years. They also tell us that [2008 had more spotless days than any year since 1913](#).

In this bulletin, we have calculated a running 3 month average sunspot number; the average for January-March -- centered on February at 2.1 -- was the lowest 3month average since July and August of 2008.

Here are the averages since January 2007:

Jan 07 22.7
Feb 07 18.5
Mar 07 11.2
Apr 07 12.2
May 07 15.8
Jun 07 18.7
Jul 07 15.4
Aug 07 10.2
Sep 07 5.4
Oct 07 3.0
Nov 07 6.9

Dec 07 8.1
Jan 08 8.5
Feb 08 8.4
Mar 08 8.4
Apr 08 8.9
May 08 5.0
Jun 08 3.7
Jul 08 2.0
Aug 08 1.1
Sep 08 2.5
Oct 08 4.5
Nov 08 4.4
Dec 08 3.7
Jan 09 2.3
Feb 09 2.1

Using this table, we have been fooled before, thinking that an up-trend would continue. Take a look at the periods centered on October 2007 or August 2008.

The [first bulletin of 2008](#) noted that one year prior we commented that 2007 would likely see the transition from Solar Cycle 23 to 24. Then in the [fifth bulletin of last year](#), we saw that uptick in the 3 month moving average, suggesting that the new cycle was commencing. The same bulletin noted that four years prior to that, a reader asked if we might be at the end of Solar Cycle 23. We've looked at various predictions for the next cycle, and that same NASA article referenced above has a [plot of the various predicted maxima](#). Quite a range! At one time we were excited by the prediction of Dikpati et al, because it foretold a robust Solar Cycle 24. But note in the chart (that you can zoom in on by clicking) there were actually four predictions more optimistic than her team's projection. My favorite -- since it is the most wildly optimistic -- is the 2005 forecast by Horstman that crunched data from the last five solar cycles, starting with 19, of course, for a sunspot peak of 185 in 2010 or 2011.

Right now there are no sunspots, but the 10.7 cm solar flux is up a bit lately. The latest prediction has the usual quiet planetary A index at 8 for April 3-4, then back to 5, then 15 and 10 for April 9-10. Predicted solar flux is 71 for April 3-9, then back to 70 for April 10-22 then to 72 for April 23 and into May. Sunspot numbers for March 26-April 1 were 0, 0, 0, 0, 0, 0 and 0 with a mean of 0. The 10.7 cm flux was 69.1, 71.6, 70.6, 70.9, 70.9, 71.2 and 70.8 with a mean of 70.7. The estimated planetary A indices were 7, 4, 4, 5, 4, 4 and 4 with a mean of 4.6. The estimated mid-latitude A indices were 6, 2, 2, 4, 3, 2 and 3 with a mean of 3.1.

Recent mail indicates operators are still enjoying the HF bands, even without sunspots. Matthew Chambers, W1JEQ, of Newark, Missouri, said he had fun working HI3TEJ, ZW5B, YW4D, PY6HD and several US stations in a recent DX contest, using just a barefoot transceiver and a 20 meter monoband mobile whip attached to a fire escape. He notes, "If this is what zero sunspots can sound like, then I can't wait to hear the bands with sunspots!"

Tim Hickman, N3JON, of Timonium, Maryland, wrote: "After a more quiet-than-normal week, if that is even possible, the bands were popping late afternoon and early evening on Thursday April 2, 2009. On 20 meters, strong signals from CN8KD at 2100 show up in Maryland, then VKs and JA start showing up on 20 meters, then 2 hours later, AG1AB is working the East Coast with solid 59s on 40 meters. The spotter's net reports start showing up of DX on 10 meters that I can hear, but not well enough to work. It was nice to see the bands come alive at least for a moment -- we all can hope this is the harbinger of things to come!"

Russ Ward, W4NI, of Nashville, Tennessee, likes the new book *Midlatitude Ionospheric Dynamics and Disturbances* by Kintner and Coster, although he says it is very advanced and notes it is "not for the unmotivated. I noticed also that the book is very expensive."

Amateur solar observer Tad Cook, K7RA, of Seattle, Washington, provides this weekly report on solar conditions and propagation. This report also is available via WIAW every Friday, and an abbreviated version appears in [The ARRL Letter](#). Check [here](#) for a detailed explanation of the numbers used in this bulletin. An archive of past propagation bulletins can be found [here](#). You can find monthly propagation charts between four USA regions and 12 overseas locations [here](#). Readers may contact the author via [e-mail](#).

From Amateur Radio Newsline

RESTRUCTURING: BROADCASTERS BEGIN VACATING 40 METERS HAM BAND

Shortwave broadcasters have begun to vacate 7 point 1 to 7 point 2 Mhz in ITU regions 1 and 3. This a new I-T-U rules became effective on March 29th.

Following on from the decision made during the World Radio Conference in 2003, the amateur service becomes the primary user in this high frequency segment world-wide. In layman's terms, this represents everywhere except the Americas, who have always enjoyed this segment as part of the 7 to 7.3MHz allocation in Region 2.

Although this date also coincides with the start of the HF broadcasting schedule, it would be naive to think the segment might be completely clear of broadcasting stations on that date. However a number of international broadcasters have already have been noted to have moved closer to 7 point 5MHz. and away from operations in the ham radio band.

HAM RADIO IN SPACE: KE7KDP AGAIN OPERATING FROM THE ISS

American entrepreneur Charles Simonyi, KE7KDP, is back in space and talking to kids in schools as well as the hams worldwide. This, from his perch some 250 miles straight up.

Simonyi was onboard a Russian Soyuz rocket that blasted off from Kazakhstan on Thursday March 26 and rendezvoused with the International Space Station the following day. Since then the software pioneer and aviator turned space explorer has been delighting hams on the ground with both voice contacts and slow scan pictures sent back from space.

In addition to his leisure time ham radio operations during his 13 day stay, KE7KDP, is assisting with several research projects. He is also taking part in a series of live two way contacts with school classrooms world-wide using ham station on board the ISS and the ground facilities of ARISS. The Amateur Radio station onboard the Space Station uses a downlink frequency of 145.800 MHz FM and most Astronauts have tended to use that frequency for both voice and Slow Scan TV.

Simonyi's first trip to the space station in 2007 cost him an estimated \$24 million. It is believed that this time it will have cost him \$35 million by the time he returns to Earth on April 6th. More about Charles Simonyi's latest trip to the ISS is on-line at <http://www.charlesinspace.com>.

2009 Officers

President Lon Whitmer K7LON

Vice President Quentin Kavanaugh N7QK

Secretary/ Treasurer Larry Griggs N5BG

Net Control Operator James Reid W1EYE

Helio Site Trustee Joe Montieth K7JEM

Technical Adviser Milt Jensen N5IA

Newsletter Editor Dave Wells N7AM

Club Address

EAARS

P.O. Box 398

Solomon, AZ 85551

Nets

EAARS Net; Sunday Night 7 PM general check ins

Smart Net; Monday evening 7:30 to 8:30 Technical discussion

Weather; Net Daily 5:30 AM collect local weather information

Email Addresses

To get your own email at EAARS.com contact Larry, N5BG

Email all Officers at once

OFFICERS@EAARS.COM

Newsletter Editor

NEWSLETTER@EAARS.COM

