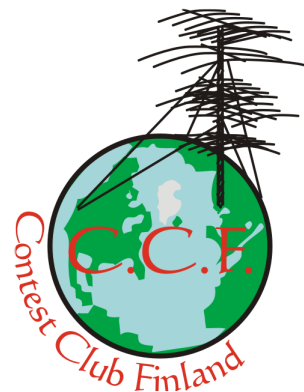


# PileUP!

Volume 13(1) 2009



Timo, OH5KW at the 14<sup>th</sup> CCF/OHDXF meeting.  
In 2009, PileUP! will try to provide happy content.

**PileUp!** is an ad-free quarterly newsletter of Contest Club Finland published in bad Finnish, Swedish and English. <http://www.helsinki.fi/~korpela/PU/PU.html> Contribute! Send your material to [oh1wz@sral.fi](mailto:oh1wz@sral.fi).

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Material: G1VDP, OH1RX, OH1VR, OH1WZ, OH2BH, OH2BR, OH2XX, OH5JOC, OH5LF, OH6BG, OH6CS, OH6KZP, OH6KN, OH6LBW, OH6MW, OH7EA, OH7WV, K6VVA, K9LA, N5ZO.



14<sup>th</sup> CCF/OHDXF meeting: Hans, PB2T received the IARU-membership application of Montenegro amateur radio league from Ranko, 4O3A.



## PileUP! Writers' Contest 2009

To compensate for the lack of sunspots, PileUP! will, in 2009, try to focus more on the less serious, even humorous side of contesting. We invite everyone to participate in a writing contest. The theme is 'The best explanations'. By this we mean the reasons, explanations, detail, factors etc. that might have affected your score such that you did not make it to the top five or, to the station at all. There's a jury that will select the best stories. It has just one member, but he comes from deep Savo, the land of abnormal humor (See July and August: <http://www.yla-savo.fi/?depid=16249>).

Keep the stories short. We accept 1–10 lines. To keep the file sizes down, please select a simple and small font. There are different categories decided by the Jury at some point. Here is a contest that can be won without big antennas. Send your story to [oh1wz@sral.fi](mailto:oh1wz@sral.fi).

## What's it like in the future?



(Avoid driving car. Meandering grannies and stiff old-timers) Kyltti kesäleiriltä vuonna 2015? A road sign at the 20<sup>th</sup> CCF meeting in 2015?

Despite the fun atmosphere at the 14<sup>th</sup> CCF meeting in January, and our promise of happier content in PileUP!, I could not help noticing on board m/s Gabriella, and mentioning here, that our population is not regenerating at the required pace. In terms of population ecology, our recruitment (birth rate) is far too slow,

the immigration to other hobbies is too high, as well as the mortality rate. The equation that gives the future population numbers after 2015 does not look good.

Who's to blame for this, seems to be the topic of the debate in OH. We had high recruitment rates for a short time in the 1990s, when a large number of new (people that had for long wanted to become hams, but did not do CW or advanced technical stuff) licensees were acquired by facilitating the examinations! This effect, i.e. warmth after wetting the pants, is now gone, and people are wondering and disputing over what is going on, trying to cope with the old medicine and tricks.

Well, it simply won't work. The world has changed so much that ham radio cannot appeal to the youngsters in the same way it did in 1950-1990, before the time of wireless technologies and the Internet. My own 8-year-old twin boys do not understand why I go through the trouble of building antennas and paying a lot for equipment to talk to someone in Germany – we have Skype father! On board m/s Gabriella Juha, OH8NC suggested that amateur radio and our attitudes must change. We should not try to remember what awakened our interest in this hobby 20-40 years ago, and try to bring that model and apply to the youngsters of 2009. However, we might succeed in the young people's terms, but not on our old stiff ones. Now, there's a challenge.

### In this issue

There's plenty of reading again by many contributors. The, hopefully, humorous section is at the start, and as you turn the pages you should be able to observe when the content gets serious. This issue has radical changes. It comes with an ad and we decided to start publishing letters from readers that have arrived in vast numbers. PileUP! 13(2) is scheduled for September 2009. In the meantime,  
Cheers, OH1WZ, Editor.



### CCF-antennivertailu

PileUP!-n toimitus on kerännyt empiiristä tietoa erilaisista antenneista. Vierailimme erään viininmaistaja-amatöörin (huom. ei amatööri-viininmaistajan) asemalla koska siellä oli käytettävissä niin monenlaisia antenneja. Aseman omistaja kuvaili antenniensa suorituskykyä näin.

### Trappidipoli

Geini ontto ja heikko. Säteilykuvio sulkeutunut. Rakenne turhan kevyt. Trappi paahtunut ja pirskahteleva erityisesti lineaarisen kanssa nautittaessa. QSL lattea tai olematon.

### Vertikaali

Geini mauton. Kuvio pyöreähkö. Rakenne pystytkö. Maataso rehevä ja runsas. Vaatii kypsän lineaarisen nauttimista varten. QSL kovin viipyilevä.

### 6/6/6 jagi

Geini antava. Säteilykuvio terävä ja aggressiivinen. Rakenne raskas, hienostunut ja roteva. Melko alumiininen. Kukkea ilman suurta tehoa, helppo. Luonteikas. QSL lihaisa ja vivahteikas.



----- ilmoitus -----



----- ilmoitus -----

### Antennimiehet huomio!

International Aluminum Co on tuonut markkinoille uuden seostetun alumiinin. Seosta saa kaikissa tunnetuissa putkimitoissa.

Uuden seoksen  $Al_{52}Cu_2Ti_5He_{41}$  erikoisuus on sen keveys. Perusraaka-aine on siis seostettu kuparilla, titaanilla ja hyvin vahvasti heliumilla. Tuloksena on hyvin johtava, luja ja äärettömän kevyt seos. Ominaispaino on vain vähän reilut puolet esimerkiksi 6063-seoksesta.

Valmistaja on antanut tuotteelle markkinanimen *Heluminum*. Suomeksi sen olemme kääntäneet helumiiniksi.

Unohda roikkuvat elementit. Osta antenniisi Helumiinia. Ostotiedustelut PileUP!-n toimitukseen.



----- ilmoitus -----



----- ilmoitus -----

### Ville ja blondi

Ville, ihan ok tyyppi, käveli sisään publiin illalla vähän ennen kymmenen uutisia ja istahti blondin viereiselle penkille ja alkoi tuijottaa telkkaa. Uutiset alkoivat. Uutistoimittaja kertoi miehestä joka valmistautui elämänsä päättävään hyppyyn korkean talon katolta.

Blondi kysyi Villeltä: ”Mitä luulet hyppääkö hän?”

”Veikkaan, että hyppää!!”. Ville sanoi.

”Minä lyön vetoa ettei uskalla”, blondi vastasi. Ville lätkäisi 20 euron setelin tiskiinkin ja totesi: ”Kiinni veti..” Samalla hetkellä kun Blondi laitto rahansa tiskille, hyppääjä loikkasi suoraan kuolemaansa.

Blondi järkyttyi, mutta ojensi 20 e seteliä Villeä kohti sanoen, ”Reilu on reilua, tässä on rahasi.”

Ville sanoi, ”En voi ottaa rahojasi, koska näin tämän saman uutisen jo klo 19.00, joten tiesin, että hän hyppää...” Blondi vastasi: ”Niin minäkin, mutta en olisi uskonut että hän tekee sen uudelleen..”

Ville otti rahat!

## King of France contest

Affe, OH6MW

Tätä kisaa oli suunniteltu pitkään. Mietin pitäisikö ottaa pari päivää töistä vapaaksi, mutta varmuuden vuoksi irtisanouduin jo alkuvuikosta ja asensin Henry 6,5K linukan poikittain autoni tavarasäiliöön ja aloin hamstrata bensaa viikonloppua varten. Koti-QTH:ssa workkiminen Westendin köyhälistökorttelissa on hieman hankalaa ja sisällä käyttämäni Flash 1000 mobile-GP keittiön tiskialtaaseen kiinnitettynä vetää suhteellisen niukasti. Perjantaiamuna ruivasin Flashin keskelle auton konepeltiä. Sitten vielä läppäri, aggregaatti ja bensatynnyri peräkärryn, niin oh6affe/mobile oli valmis matkaan.



Flash 1000 mobile-GP.

Kontesti-QTH:n valintaan ei kiinnitä ikinä liian paljon huomiota. Valitsin eduskuntatalon portaat, tarkalleen sanottuna sen kolmannen tasanteen. Hyvä lähtö itään ja ilmainen WLAN tarjolla. Siihen parkkiin ja kontesti käyntiin. Paikan etuihin kuuluu mahdollisuus bongailta julkkiksia. Puolet hallituksesta oli katsomassa suu auki, kun meikäläinen huusi kurkku suorana CQ CONTEST. Oppositio heilutti autoa ja vihreät yrittivät sammuttaa aggregaattia. Saivatkin sen sammumaan, mutta oppositio käynnisti sen vahingossa uudestaan.



OH6AFFE/2.

Kontestin aikana kävin haukkumassa kaikki kontesterit fin-hamissa, ham-saunassa ja muissa sivistyneissä yhteisöissä. Kaikki kilpailuoperaattorit kieltäytyvät kuulemasta minua bandilla, varmaan ajavat törkeillä ylitehoilla, puhuvat liian nopeasti ja särisevällä äänellä. Kuulin monia. Hyi.

Radiokeli oli kerrassaan mainio, mutta kusoja ei tullut ainuttakaan. Tai ehkä yksi epävarma QSO saattoi tulla. Kaksi vuorokautta jatkuneen huutamisen jälkeen kävin ilmoittamassa scoren ainakin ccf:ään, 3830:lle, on4kst:lle, cq-forumille ja Helsingin Forumille.



OH6AFFE raportoi Lego 3830:ssa.

Kivaa oli, kiitos kaikille. Seuraavaksi osttan roottorin ja isomman mikrofonin, ehkä kaiulla. Kaikin puolin terve ja kiva harrastus, kaikki mukaan. Hei, hei.



## A SWL-report

Wes, SP4Z

“OH2BH worked ARRL DX SSB contest in 2002 as EA8BH. I was listening to him for about two hours on 15 meters. Here’s a short conversation with station from W5. Since I do not remember his call exactly, let’s say it was W5XX.

- EA8BH QRZ contest
- W5XX
- W5XX 59 Kay
- 59 Tea
- What does that mean, Tea?
- What the heck is Kay?
- Kay is one kilowatt
- Oh yeah, ok, well, Tea for Texas
- Fine, thanks, QRZ EA8BH



## Letters from readers

*“My boyfriend Daniel got 27 points in both of the TCS-tests in your January issue. I wonder what I should do since I know Daniel answered that his sex life being ok when he thinks of his ICOM. I’m all shocked since I thought things were just fine with us. I’d appreciate any help and advice, John”*

Editorial office: “Well, John. First of all, we value you approaching us with your dilemma. Been there, seen that. So, we suggest that as a gesture of love and affection you two start to call your handheld by the name ICOM. Keep well John.”

*“I’m a loyal reader of PileUP! I like it, but there’s one thing that makes me crazy every time I see it. Why does PileUP!, a top quality journal, allow the use of feet, inches, pounds and ounces?? A Mars*

*Orbiter was once lost when playing with the units. Do you want your readers to fall down from the towers or something? Tobias.”*

Editorial office: “We thank you so kindly Tobias. The thing is that we have lots of loyal readers and advertisers in southern parts of CQ-zone 4. Money talks, you see. But Tobias, we guarantee that the conversions are triple-checked by our technical editors and advisors who all hold several well-deserved PhD degrees that have been acquired through the most reliable Balkan internet resources.”

*“Howdy! It’s Bill here. I’m crazy about DXing. At the Mud-River ARC, my home club, we all are. DXing is fun and we collect those DXCC countries. But now we are a little worried. A while back, in PileUP!, you mentioned fighting the global climate change. We did our homework and find it worrying. Namely, will some of our DXCC-points be lost if the islands sink? That would not be fair to us here.”*

Editorial office: Well Bill. Don’t worry. Our experts estimate that the number of IOTA and DXCC-entities will only increase as a consequence of climate change. Think of all the capes and peninsulas that will turn into islands. Lots of opportunities for guys like OH2BH in places like Denmark, the Netherlands, Bangladesh and Florida. Also, thanks to some turmoil, it is likely that a plenty of new administrative districts will come into existence. Moreover, many of the currently easy-to-work areas and DXCC-entries will become very rare. In ARRL DX contests, getting that TX multiplier will be as difficult as ID nowadays. Instead of taking a holiday in Bermuda with your radios, you can consider Greenland. You see, Bill. No worries mate. See it positively.

## **An alternative method of constructing towers**

Dr. Eric v. Clue, ST1CKY

Now here's a myth: tall towers for amateur radio use can only have welded construction. Even though I'm not from the Mythbusters™, I will show you a new era in constructing towers.

Glue. That mysterious stuff in a can or in a tube. All of us have sometimes succeeded to make glue actually hold two pieces together. In many cases, maybe in most cases actually, it has been a failure and we have lost our faith in any glue. I bet you never digged into the problem to find out why it didn't do it's job. In most cases of failure the glue had nothing to do with things getting wrong. It was your fault. Yes! Your fault. Did you actually read the instruction leaflet that came in the package? Of course not. Only those who don't know anything read the manuals and there are not many among us who admit they don't know.

We will have to take a scientific approach on the problem.

To start you convincing about reading further, think about the following. Last time when you were sitting in a plane 33000 feet above the ground, where you worried about the plane coming apart? Even though most of it's outer shell is held in place with glue? No you didn't. I hope you wouldn't in the future either. Sorry if I now created a fear for flying. No worry, they will hold because right kind of glue with correct manufacturing methods were used. How about driving your 550 horsepower Corvette Z06 at 150mph...would you be worried that the chassis will not hold when taking all those bumps on the crappy roads? No. Assuming you are free to pump your speed up to those velocities without worrying about the police, you would just

enjoy. You wouldn't even think that your life is secured by the glue that is holding those critical car parts together. Okay, enough about convincing.

Time to get busting the myth ham radio way.

There are some parameters we have to consider when constructing a tower, whether the method of joining parts is welding or bonding. These factors include, but are not limited to (boy how I love legal language!),

1. Expansion and contraction of the materials upon ambient temperature variation
2. Mechanical stress caused by the material weight, wind, start and stop forces when rotating antennas etc.
3. Expected lifetime
4. Surface treatment
5. Electrical conductivity in cases where the tower needs to act as part of an antenna

Now let's look at these items a little closer one by one.

### **Chapter 1 - Temperature**

The temperature is our worst enemy here. In places like Finland the towers are subjected to severe changes, ranging from -45 C in the winter to +35 in the summer. That's 80 degrees Celsius difference and it will cause a huge difference in metal size. Let me give an example that is an imaginary direct railroad line extending from New York to Los Angeles, 3930 km or 2456 miles in length. Now let's assume this line was constructed at 0 degrees C to reach the platform in both ends. Steel's thermal expansion coefficient is about  $12 \times 10^{-6}$

C in average depending on composition. The linear one-dimensional length change can be calculated with a simple formula:

$$\frac{\Delta L}{L_0} = \alpha_L \Delta T$$

So, on a hot day at 40 C the line would extend 1.88 km (1.17 miles) into the Pacific Ocean, assuming the NY end stays in place. On a very cold day, at -40C, on the other hand, the passengers would have to walk the same distance as the line would be a mere mile too short to reach the platform. Poor fellows, brrrr.

This same applies to your tower, in a smaller scale of course. The issue is not the material itself; the issue is the places where two parts are joined together. They will face expansion and contraction forces in 3 dimensions. Let's look at a metal tube glued onto another. When the temperature rises, both are expanding in every direction. If you follow any particular point, you will notice it moves in a 3 dimensional space. The media holding the tubes together must be able to follow the expansion or contraction in a similar manner. Otherwise...ouch, your tower, well, ceases to be a tower. Aha! We will need glue that has similar thermal properties as the base material. Aha-number-2! The glue used with steel can not be used with aluminum. Now there's a glu...errr clue. Read the manual! I said: read the manual! You need to know what your glue is designed for. Got it? You simply can not use glue to join steel that is designed to join wood. Conclusion on this chapter: Make your homework in selecting the right stuff and RTFM. There are glues that have just the right thermal properties for you, at the same time providing the needed strength. Busted!

## Chapter 2 – Mechanical stress

All the parts of a tower are always under a mechanical stress. Always. Even when you are asleep. Even there is no wind. I believe you have noticed that especially steel is not very light. So when you start stacking metal higher and higher, it adds up and already a 100 ft tower weighs more than you can lift with one arm. Try it if you don't believe me. This means: the weight has to be supported by the structure itself. Here's a clue: the glue is part of the structure! I know, I told you that already before. Just making sure you remember.

Ever heard of the term tensile strength? That's the fancy word mechanical engineers sometimes use. In fact, the mechanical engineers I know use it very often. It seems to be involved with every discussion, including men talks about women, at least about the tensile strength of the bra strings. Oops, that's a little off topic. Anyway, tensile strength means the force needed to break or permanently deform material.

Now I'm going to show my mind reading capabilities: you are thinking that our bonding material must have the same tensile strength as the base material. Wrong. All wrong. The glue may have higher tensile strength, or lower. As my lawyer always says: it depends. In this case it depends on the overall required structural strength. See, the steel may have too high strength also for the structure in question but too high strength does not matter. Too little does. From practical point of view, it is always a safe choice for the glue to have similar properties than the base material. I can tell you this: it helps you to sleep your nights better when you know there are no weaker points in your tower.

Without going into glue brands and available snif...errr, brands known to



cause sneezing, I can tell you there are several choices to bond aluminum or steel together. For avoidance of doubt (I admit, I spend too much time with my lawyer) that means bonding steel to steel or aluminum to aluminum. Don't believe me? Look at Boeing and the other big guys. Their planes just keep flying and they weigh multiple times of a simple tower. These guys are using the good stuff. Not the stuff you can bargain-buy at eBay. The eBay stuff will not take the temperature differences between a Texan airport at 45 C and minutes later - 60 C up in the air. The good stuff will. That's what you want.

But wait! There is more! (Advice from my lawyer, always include a but, and no, I don't watch shopping channels) The tensile strength of the glue is only as good as you make it. There are about 599 different ways to screw it up. Some screw-ups are 3dB or worse compared to the other. No, 3dB does not mean that if your tower collapses, it will collapse in 6 seconds if otherwise it would take 12. It means it will collapse with half the force to break it. Got it? So, we need to take care of our working methods. Prepare the surfaces as instructed in the user guide. Attach the parts as described in the user guide. Don't let humidity to enter the surfaces before mating them and never ever munch a hamburger when dealing with glue. Any glue. Somehow the mayonnaise always finds it's way to the joint. Result: the joint is busted.

Conclusion of this chapter: Follow the instructions, develop consistent working methods and keep places clean. And no, vodka is not considered a good cleaning substance for exposed surfaces. Neither is 27 year malt whisky. They are meant for operator internal cleaning that most probably will be needed after working all day with the bonding process. Keep this in mind when creating bill of materials

what is needed to construct a sturdy tower. Oh, back to the conclusion: a glue joint with proper tensile strength can be achieved. Busted!

### **Chapter 3 – Expected lifetime**

In this chapter we will discuss about the expected lifetime and surface treatments. They are usually related, as far as steel towers are concerned. Aluminum does not rust and does not have to be surface treated, unless you want a camouflage and make it look like steel by painting it to look like galvanized steel or a commercial tower using red and white.

That said, we will focus on discussing about steel. A long time back I learned that steel has a natural tendency to rust. Oh how I learned? I brought my '66 Al-Bundy-Dodge to the inspection and they gave me instructions to take it to the junkyard. Simply because some of the chassis parts had rusted beyond recognition. I learned to hate rust. That damned thing destroyed my beloved trusty vehicle. No, I'm not becoming sentimental here. I was just p\*\*\*ed off. Had to go to a car dealership and that required hell a lot of money.

Lesson learned: if you want to avoid rust, you need to protect steel from rusting somehow. There are several well-known and proven methods to do that. One of the traditional methods is galvanizing. It's fast, relatively inexpensive and lasts a lifetime. Unfortunately, we will have to forget galvanizing when using bonding materials. See, galvanizing takes place in a hot metal bath and the glue will not take that. At least, not for more than a second or so. This leaves us two options. You guessed the first which I already mentioned and that would be paint. It is also cheap but it is more or less hand work and takes a long time to apply. You can do this by yourself. One coat of well selected paint will do. You

can also give the job to your or neighbor's kids. They will be happy to do that if you provide pizza and soda. Don't know if this would be considered illegal child labor, though. Also, in this case you would need to expect having three coats of paint. Why? Think about it....still don't know? Well, have you ever seen kids use color pens on a coloring book? Your tower will have the same result. Not every square inch will be covered after the first round. However, it is very important that every spot, and I mean, every spot on your tower is painted.

I know by now you already forgot that I mentioned another option. That is plastic coating. You know what I'm talking about. You can buy those household racks etc. made of steel wire that is plastic coated. This is not in the high-dollar category but finding a shop handling this size parts will be almost as difficult as winning the CQWW contest.

I'm going to leave the decision to you. Expensive aluminum without coating worries or cheap steel with somewhat more labor involved. No conclusion on this chapter. You can do it.

#### Chapter 4 – Surface treatment

Ok, you've got to make this tower a part of your 160m antenna. Conductive glue does exist. It really does. They pack the adhesive with tiny silver particles. Lot's of tiny silver particles that make it conductive. I can tell you, this stuff is not in the low-dollar category. They don't take high currents either and will lack some of the other important characteristics required in this application. So, forget conductive glues. This is a no-brainer and really not rocket science. Simply, when there is a cross-over from the tower section to another, provide the electrical connection by connecting the wire between the sections. A conductive wire, to be precise.

Selecting the bonding material will not be difficult. After all, all of them come from the same manufacturer: CAUTION! They have their logo in every bonding product if you haven't happened to notice. Just log on to their website and you can select whatever you need for your particular application.

That's it folks. I hope you have enjoyed reading something scientific in this fine newsletter. Before you rush to buy metal tubing and lots of glue, here are the final words. Most of the contents, not everything though, in this article is 100% bulldoody. As they say in most of the reality TV programs: Don't try this at home!

And now, time for the internal cleaning.

Radio Contesting Playing Cards for Kids and Multi-op Stations

1A



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Overall Gain	15
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Tim, 7, "It's cool to play cards with Grandpa"

## Where is Cycle 24?

Carl Luetzelschwab, K9LA  
k9la@arrl.net

At the beginning of March, this interesting piece of news was posted to the Space Weather Prediction Center (SWPC) website [www.swpc.noaa.gov](http://www.swpc.noaa.gov):

**March 2, 2009** -- The Solar Cycle 24 Prediction Panel has not issued any updates to their prediction. However, the Space Weather Prediction Center and the Chair of the Prediction Panel decided to implement what they believe to be an obvious change to the plotted data. The two predictions, of maximum being either a smoothed sunspot number of 90 or a smoothed sunspot number of 140, remain intact. Once the date of solar minimum is known, that is all the information needed to arrive at a prediction curve. The panel prediction of solar minimum in March, 2008 has been eclipsed. Minimum will now occur no earlier than August, 2008. For every month beyond March 2008 that minimum slips, it is necessary to shift the prediction curves by the same amount. SWPC commenced doing so in mid-February and will continue to do so, unless or until the prediction panel sets a new predicted date for the time of solar minimum.

If you've been following the decline of Cycle 23 and the subsequent predictions for solar minimum, you shouldn't be too surprised with the news that we're still not at that point in time between Cycle 23 and Cycle 24 that is defined as solar minimum. Way back in June 2006

scientists predicted solar minimum was going to occur in December 2006. Since then, solar minimum has been continually pushed out. And now here we are in March 2009, and the prediction is that solar minimum will occur no earlier than August 2008.

We have seen a steady decline of Cycle 23 to this point in time, and the latest data says August 2008 had a smoothed sunspot number of 2.7. When we have the March 2009 monthly mean sunspot data, we'll be able to calculate the September 2008 smoothed sunspot number. Hopefully it will be greater than 2.7, suggesting that Cycle 24 is starting to take over from Cycle 23. Now there's no doubt Cycle 24 has started based on the occurrence of reverse-magnetic-polarity spots at high solar latitudes – it's just been extremely slow with its ascent.

With solar minimum taking so long to reach, is it logical to say we're seeing something unusual? If we just consider our lifetimes, we can answer that question with a definite YES. Figure 1 plots the smoothed sunspot number for the solar minimum periods between Cycles 18 and 19, between Cycles 19 and 20, between Cycles 20 and 21, between Cycles 21 and 22, between Cycles 22 and 23, and between Cycles 23 and 24.

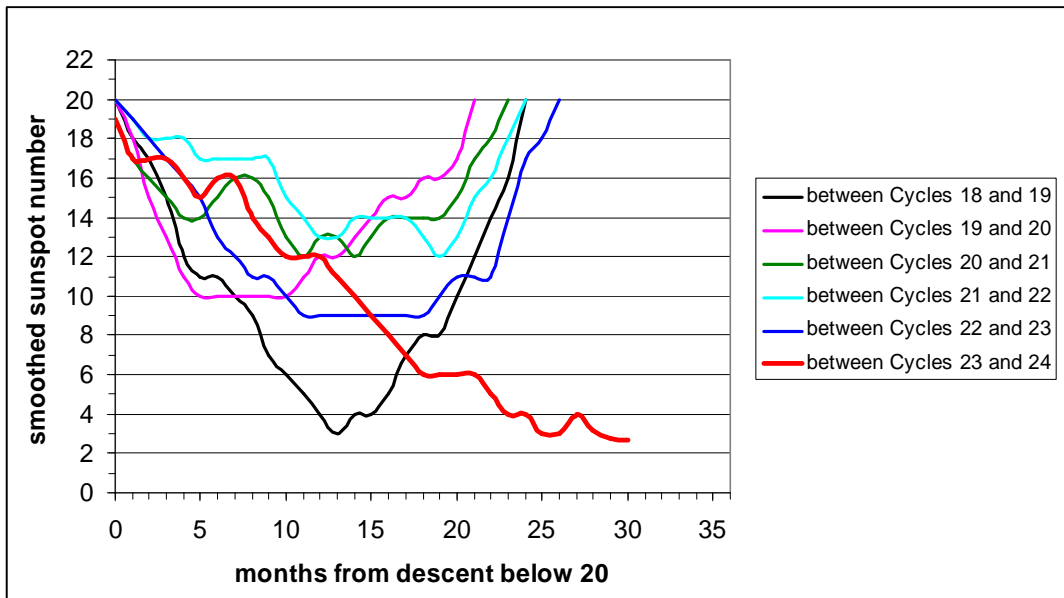


Figure 1 – Duration of Solar Minima

Figure 1 elegantly shows why this solar minimum period is unusual for our lifetimes (this assumes our lifetimes began with the solar minimum period between Cycles 18 and 19 in the early 1950s). When a cycle descended below a smoothed sunspot number of 20 in the old cycle, it took roughly two years for the smoothed sunspot number to then ascend above 20 in the new cycle. As can be seen, the current solar minimum between Cycles 23 and 24 really stands out – but it's not unusual when all historical data is considered.

Plotting the data for the other seventeen solar minimum periods beginning with the solar minimum period between Cycles 1 and 2 proves that what we're experiencing right now is not too unusual. That's because solar cycles, including solar minimum periods, are highly variable. For all historical data, the average duration between descending through a smoothed sunspot number of 20 and then ascending through a smoothed sunspot number of 20 is 37 months. That appears to be about where we're headed.

The longest duration of a solar minimum period is 96 months – between Cycles 5 and 6. The solar minimum periods

between Cycles 11 and 12, between Cycles 12 and 13, between Cycles 13 and 14, and between Cycles 14 and 15 are very similar, and average about 50 months – just over 4 years. Again, this just indicates the data is highly variable, and we're not breaking any new ground with this solar minimum period.

So what's Cycle 24 going to do? Obviously it can't go much lower, but it could stay down there a while. One of these days, though, more new Cycle 24 sunspots will occur and it will start ramping up.

It's interesting to note that solar scientists are still unsure of how big Cycle 24 will be. This is reflected in the prediction at

[www.swpc.noaa.gov/SolarCycle/](http://www.swpc.noaa.gov/SolarCycle/)

Either it will be above average (maximum smoothed sunspot number of 140) or below average (maximum smoothed sunspot number of 90). One trend is disturbingly certain – the longer the duration at solar minimum, the greater the probability that the new cycle will be a low one. This is depicted in Figure 2 for all historical data (Cycle 1 onward).



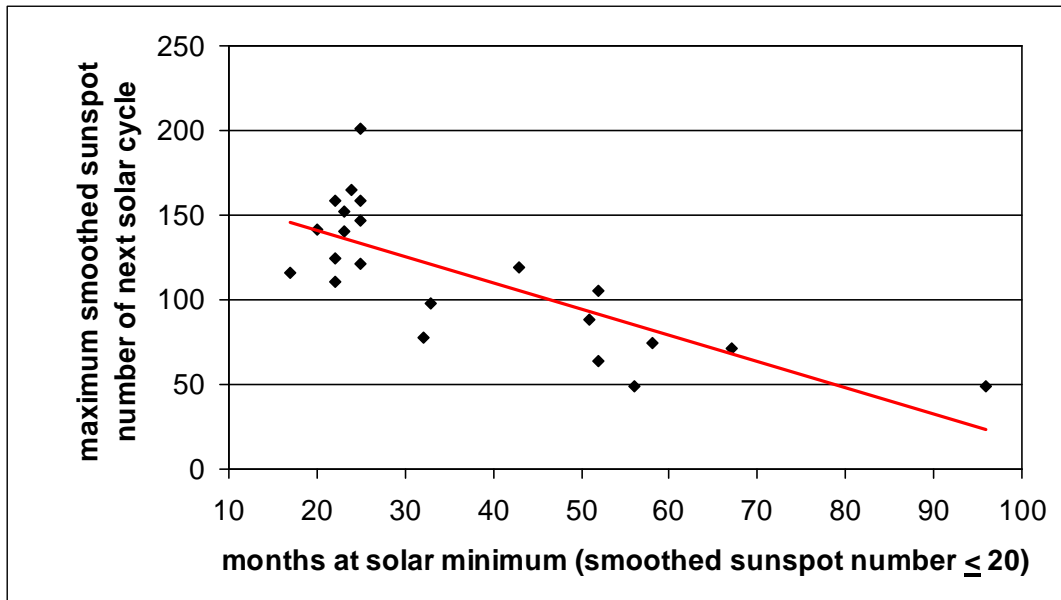


Figure 2 – Next Solar Maximum versus Duration of Previous Solar Minimum

The red linear regression line suggests we're in for at best an average Cycle 24 (smoothed sunspot number around 100). If we stay at solar minimum for another year or so, then it is likely we'll see an even smaller Cycle 24.

Although this is grim news for propagation via the F<sub>2</sub> region on 15m, 12m, 10m, and 6m, we have to remember we're dealing with a very small sample size of data for a solar process that has likely been going on for thousands of years. Additionally, some of the old sunspot data may be questionable. What this all says is anything could happen! So don't take down your 6 element monoband 10m Yagi just yet – I'm sure you'll be using it on a regular basis in a couple years.

## News & Stuff



**EF8U** – Winner of the IARU HF World Championships 2008, HQ-stations

Representing URE and operating from EA8URL, EA8ZS, EA8AH and EA8CMX, EF8U scored 23,193,708 points.

Photo has EA2EA, EA8AH/OH1RY, EA8BQM, EA8CAC and UA9BA in the front row. Standing are OH6MF, OH6CS, EA8CMX/OH2BYS, EA5BM, EA8ZS, RD3AF, RZ3AZ and OH2KI. EA8DP was also in the team. (via OH6CS)

## Dating and Contesting

Jari, OH3BU

Everyone tries to get the best possible spouse that is available. It is in the genes. This explains why quite often a beautiful woman chooses a handsome plumber instead of an ordinary looking lawyer. On the other hand, the word best is context sensitive. The very same beautiful woman may change the plumber to a rich lawyer, no matter what the external appearance is, if given a chance. Success in business often shows the qualities that are sources for success elsewhere, too. But it is not that simple, as there are quite many good qualities that a spouse candidate is looking for. Some of the qualities include power and dominance, which provide food for children, but also honesty and faithfulness which provide care and love for the whole family.

As everyone knows, contesters are the best of the best, no matter how you judge it. It shouldn't then surprise us that the contesters are the most hotly sought after sources for a spouse. For a woman, this is an excellent opportunity, as contesting is an activity so much dominated by men - you simply have so many top notch choices around you. For a man, contesting is the best way to show how good you are, as everyone knows how tough it is to succeed in this limited edition ranking system. Just to be involved surely increases your chances of getting a good spouse by at least 70 percent (Cowboy University of Lapland Studies 1837/LID). The best part of it is that contesting is a relatively safe way to get a license for spouse market. Compare this to the practice of some remote tribes that require you to participate in painful manhood rituals that involve a danger of being eaten by lions or being killed by poisonous snakes. Ok, I agree, when taken to the extreme - you can face the same types

of dangers in Caribbean islands and other remote places where the top guns so often travel to take the CQWW trophy.

So how exactly should you take an advantage of your contesting passion in the spouse market?

Earlier we mentioned power and dominance. At first, one could assume that the more the better, so it would be more advantageous to participate in high power classes than low power classes. This is more complex, though. Competition in the high power classes is extremely tough. It is not exactly clear whether being number 7 in a high power class is better or worse than being number 1 in a low power class. Single band classes obscure the game even further. How would you compare being number 8 in an all band class to being number 2 in a single band class? Right, it is a difficult choice for the spouse candidates, too. This gives some possibilities to the QRP guy, too. Being a little different often gives you a surprising advantage compared to those who try to repeat what the others are doing. It takes some clever thinking to find the slot where you perform the best.

We'll return to the more power aspect for a moment. Let's assume that for a reason or another you have chosen a high power class. The power limit usually is 1500 watts and most everyone has an amplifier that is capable of producing exactly that or at least some 1000 watts. Thus running 1500 watts won't make you the dominant player. Don't you agree that a little cheating - say 5 kW or so - could increase your chances to win the game. Well, nobody in his right mind could claim that a 4 to 6 dB better signal doesn't make any difference. This is similar to having two bulls fight. If one is several times bigger and stronger the smaller one is bound to lose. This

explains why Enron scandals exist and why overpower is so attractive in contesting. This is a two-edged sword, though, as if you are caught using overpower you may lose your credibility. Your loved one sees that you didn't win because of you being so good but because of cheating. This may create some doubts if you might cheat her, too. But on the other hand, a good cheater can bring benefits to the whole family. The big Mercedes may not be honestly earned but it still is a Mercedes. And one should never underestimate the fact that whenever you have trapped the one that is meant for you eternally, after the kid's school bills are pouring in, there is quite strong a resistance to changes, even when it is found that the Mercedes actually belongs to your brother rather than you.

This all shows that image is everything. It is not enough to be good; one has to look good, too. If this were not true we would not have marketing as a profession at all. The best place to look good is naturally the annual CCF Contest Cruise. We are shown extraordinary contest expeditions with superhuman efforts. We see videos about hot sky driving the operators mad and we see some really impressive antennas. We have all the heroes in one room. Just to be there gives more bragging rights than a lottery win of two million euros. Remember that we are talking about the worth of an operator, not the size of his or her bank account. Often it is better to just look good rather than actually be any better than anyone else. Remember the small monkey that learned to slam a tree branch creating such a noise that the bigger monkeys were scared away. There was no competition because the others escaped. So learn to scare away your competition and you become a winner. Learn the art of Power Points. It is a valuable part of your contesting skills. Remember the wise words of Sun

Zhu that the best victory is when the enemy gives up. If you can't make it that good, at least make sure that your voice shows that it is YOU who owns the frequency.

So far we have been studying single operator contesting. What about being part of a winning multi-multi team? This is totally similar to the ancient times at the mercy of the nature. Imagine that you are out there with the polar bears and other predators sneaking around you. Isn't it obvious that it is a good idea to join a good team that can take care of you and your loved ones. To be part of a good team in the arctic or in a jungle or anywhere requires social skills. You have to be able to communicate what you need and you have to carefully listen to what the others need. You have to be able to co-operate and you have to be able to make compromises so that the team can survive. You have to be flexible in all that you do and simultaneously have your targets clear in your mind. In other words, you have to be a good guy that the others can rely on. These are exactly the same qualities that make you a good salesman, a good engineer, or a good military leader. These are also the qualities that make you a good spouse. Don't let the lonely stars fool you, multi-multi contesting is a serious game right on the roots of the survival of the mankind. Many of the best do multi-multi, and to find out who they are you have to read the operator lists carefully.

So to summarize, if you already are married, you can relax, you already have the best possible match because you are active in contesting. There is no better way to prove your value. If you are a woman looking for a spouse, do check the CQWW score listings before you decide who your future husband will be. And if you are a man looking for a wife, do something to improve your score. Do it now or be doomed!



**14<sup>th</sup> CCF/OHDXF Meeting**  
Ilkka, OH1WZ



OM Mats, SM6LRR is married to and lives in Russia. Mats is a fan of RDXC and SAC. His presentation was about RK3AWL and amateur radio activity in UA3. One thing puzzled me in Mats' presentation. What was the link with the Finnish painting company FSP? Had they painted the towers?



When Mats said that it is challenging, if not impossible for gringos, to obtain a personal call in Russia, Jukka, RZ1BR stepped further and in detail advised us on how to get a license.



Marko, N5ZO took us to Khabarovsk, Far East Russia and CQ zone 19. He visited RW0CWA in November to work the CQ WW CW Contest. The low number of worked zone 19 QSOs, 15 in total, was surprising. Marko said that people at the club were friendly and had done lots of preparations for him. Marko is following the footsteps of N6ZZ from zone to zone.



While we had any technical problems, Ville, OH2MM, our MC, entertained us with jokes on medical doctors, a subject he knows well. Ville recently retired from his job as an academic Gynecologist and lives presently in PY2.



Martti, OH2BH gave an enthusiastic talk. We absorbed expressions such as the Land of Communication, Extreme Level Radiosporting and Young People Terms. Arkala is no longer a little village next to Oulu. Almost as big as the Bermuda Triangle, the extent of the Arkala Triangle was presented by Martti. How young is young. In Arkala it is less than 30.



Rune, SM5COP; Ilmo, OH2BO and Pekka, OH1TV cross-checking the scores of the pileup contest run by Kari, OH2XX. We did not have a computerized system and maybe that's why the results came out in just 20 minutes.



Results of the Pileup contest					
SSB		CW		COMBINED	
<b>ES5TV</b>	<b>18</b>	<b>OH6UM</b>	<b>30</b>	<b>OH1WZ</b>	<b>47</b>
<b>TF3Y</b>	<b>18</b>	<b>OH2MM</b>	<b>30</b>	OH6UM	42
<b>OH1WZ</b>	<b>18</b>	OH1WZ	29	OH2MM	41
SM6LRR	15	OH1OX	25	TF3Y	37
SM0W	14	SM3NXS	24	4O3A	36
4O3A	13	ES5JR	24	SM6LRR	35
K2WR	13	4O3A	23	ES5TV	34
OH6UM	12	SE5E	23	OH1OX	34
TF4M	12	SM3EVR	20	TF4M	31
OH2MM	11	SM6LRR	20	SM3EVR	30
SM3EVR	10	OH2BR	19	ES5JR	30
OH8NC	10	OH1RX	19	K2WR	30
JK3GAD	10	SG3P	19	SM0W	28
SM6U	10	TF3Y	19	SG3P	28
PB2T	9	TF4M	19	JK3GAD	27
OH1OX	9	SM4DHF	18	SE5E	27
SG3P	9	JK3GAD	17	SM3CER	26
SM3CER	9	SM3CER	17	OH2BR	21
OH5KW	8	K2WR	17	PB2T	21
G0CKV	6	ES5TV	16	G0CKV	20
ES5JR	6	SM0EPO	16	OH5KW	19
SE5E	4	SM0AIG	16	SM0EPO	18
SM5DJZ	4	G0CKV	14	SM5DJZ	18
OH2BR	2	SM0W	14	SM5COP	16
SM0EPO	2	SM5COP	14		
SM5COP	2	SM5DJZ	14		
		PB2T	12		
		OH5KW	11		
		OH2BO	8		

RANKO's 15-CALL MEMORY TEST	
<b>OG2M</b>	<b>14</b>
OH1WZ	13
OH6UM	11
ES5TV	10
SM4DHF	9
JK3GAD	9
OH2BH	9
SM0W	9
K2WR	8
OH2BR	8
OH2MM	7
SM6U	6
TF3Y	6
OH5KW	6
SM5CPO	6
G0CKV	6
OH2XX	6
TF4M	5
SM6LRR	5
OH1RX	4
PB2T	4
ES5JR	4

Kari, OH2XX prepared the traditional CCF pileup contest on phone and CW. The mp3-files and the correct calls are available for those who weren't present. See (after taking the test) the next two pages for the correct calls. The audio files, in mp3-format, are here:

<http://www.helsinki.fi/~korpela/PU/Audio/>

When you do the test and wish to get comparable results, use a lousy loudspeaker 4-5 meters away. Send your score to [oh2xx@sral.fi](mailto:oh2xx@sral.fi) to be listed in the next PileUP! CW skills turned out to be crucial in the combined class, as the CW-test was much easier and gave more points. Winners were ES5TV, TF3Y, OH1WZ, OH6UM and OH2MM. Please note when reading the results that our best pileup operators were not in attendance. For example Jouko OH1RX,

Tomi OH6EI and Pertti OH2PM accompanied the ladies who departed for a shopping session in Stockholm. Juha, OH1JT and Mika OH2JA were also allured by the pleasures of Stockholm and left the ship early in the morning.

Ranko, 4O3A organized a surprise contest. It was a memory test. He read 15 calls and we struggled to learn them by

heart and when given permission, we placed the calls on paper. Pertti, OH2RF (known also by the Viagra™ call OG2M) remembered them all. First 14 he got right away and the last one he got soon after the deadline of the logs. Well, in Pertti's profession it's good to remember things.

CCF\_2009\_CWPILE.mp3. Correct calls

AA1V	K5WAF	N6BV	W2IN
AA4VV	K5YAA	N6CW	W2TZ
AB9H	K5YAB	N6NF	W2XL
K0EA	K6VVA	N7DM	W2ZQ
K0FX	K7MI	N7QU	W3EEE
K0OB	K7VT	N8B	W3YY
K0TO	K7VI	N9MM	W4DF
K1KI	K8MP	N9NE	W4MYA
K1MOM	K8TV	NA4CW	W4PA
K1NU	K9NW	NI1N	W4ZW
K1TTT	K9RX	NN5T	W5RYA
K1XM	KC2NTB	NY4A	W5VX
K2DM	KG7H	OH1F	W6RFS
K2KQ	KV1J	OH3WS	W7GG
K2UF	N0AT	OH4XX	W7OE
K3AU	N0AV	OH6T	W7QH
K3CR	N1NK	OH6TN	W7RF
K3DN	N1NK	OH7M	W8EDU
K3EGE	N2LBR	RL3A	W8JY
K3II	N2QOR	RT9A	VE3KP
K3LR	N2RM	UW5U	WT9Q
K3ZO	N3BB	W1EQ	ZL2BR
K4FPF	N3KS	W1HR	
K4GKD	N3RJ	W1NT	
K4LTA	N4EK	W1OX	
K5BM	N4KG	W1QA	
K5GH	N5AU	W2ED	
K5TR	N5JR	W2ID	

CCF\_2009\_SSBPILE.mp3 Correct calls.

AA4V	K4MM	KG1E	N6JN	W1QK	W7Y TZ
AA7ML	K4NR	KG6RJ	N6NBB	W1RG	W7ZI
AB3AH	K4PV	KG7H	N7IV	W1RY	W8GBH
AB8PD	K4SV	KG9N	N7IV	W1TE	W8GG
AC2F	K4WMB	KG9X	N7PP	W1UK	W8VS
AD0H	K4WX	KI7BP	N7RO	W1VET	W8WT
AD4UM	K5MA	KK1DX	N7TR	W1WKO	W9AVM
AD8P	K5MKB	KK3F	N7UMF	W1WLW	W9BCV
AE6AB	K5MO	KK6MM	N7XB	W1ZA	W9IU
AF2S	K5NAC	KM4C	N7YX	W2GW	W9KPA
AG4W	K5RR	KM4UZ	N8MT	W2LO	W9LR
ER4ZA	K5ZD	KN6DQ	N8NSM	W2MAT	W9XN
K0BUD	K6ACZ	KS7C	N9DR	W2OO	WA0DDC
K0DAT	K6CA	KT3Y	N9GGV	W2UH	WA0EBZ
K0HMO	K6OWL	KW7N	N9LA	W2WO	WA1S
K0HY	K6RIM	N0AT	N9TF	W3AP	WA2ECA
K0IR	K6TZ	N0KLV	NA2M	W3DNA	WA2MNO
K0QB	K6WRF	N0LRA	NA2M	W3GK	WA2YMM
K0QQ	K6YV	N0UU	NB7V	W3LL	WA4BKW
K0RL	K7ABV	N0XA	NC8V	W3NO	WA4IU
K0SSE	K7BTW	N1DC	ND0B	W3OU	WA6TLA
K1DJ	K7EG	N1DG	ND2T	W3PP	VA7GS
K1HT	K7IR	N1MD	ND7W	W3TZ	WA7RCW
K1MR	K7MI	N1PGA	ND8L	W3UM	WB0NN
K1NT	K7XZ	N1SV	NK6A	W3ZZ	WB2OQQ
K1RV	K8CV	N2AU	NM1W	W4CEB	WC1M
K1RX	K8IR	N2BA	NO2R	W4LC	VE3BDN
K1TH	K8IZ	N2CK	NR3X	W4SAA	VE3CR
K1TTT	K8LEE	N2GC	NS2P	W5IL	VE3EJ
K2BF	K9DN	N2LEB	NT1N	W5LA	VE3FU
K2FU	K9ES	N2MTG	NU7J	W5OG	VE3GN
K2MFY	KA1CRP	N2NT	NW8U	W6BO	VE3HO
K2OK	KA1EKR	N2PAQ	NX9T	W6KC	VE3NE
K2ONP	KA2D	N3HO	NY2L	W6MZQ	VE3ODR
K2OWE	KA5EYH	N3MK	NY3C	W6PKO	VE3XN
K2UR	KA7GLA	N3NR	NY5G	W6RCK	VE5TLW
K2UT	KB0ENE	N3NS	NY8K	W6SZG	VE6AO
K2WU	KB4ET	N3RA	NZ5M	W6TE	VE6RCI
K3ATO	KB9KEG	N3WD	OH4XX	W6UM	VE6TV
K3HE	KC0GL	N4CW	W0AD	W6YM	VE7NS
K3NZ	KC3I	N4RV	W0AIH	W7AY	VE9XA
K3RV	KC7DB	N4TL	W0DM	W7DK	VE9XA
K3VJ	KC7UP	N4XC	W0JY	W7JAM	WI7N
K3WW	KC9UM	N5AM	W0RK	W7MM	WI9H
K4DDU	KD7E	N5JR	W1DAR	W7TJ	WK2V
K4FPF	KD9ST	N5PA	W1GD	W7TSQ	WM2R
K4GKD	KE2N	N5TY	W1IKO	W7UT	WQ5C
K4JA	KE8RO	N6AA	W1JQ	W7VJ	WR4K
K4JRP	KF7WQ	N6EM	W1NT	W7VV	WT5V
K4JT	KF8K	N6FM	W1OO	W7WW	WV4I
-	-	-	-	-	WW9R
-	-	-	-	-	WV9S
-	-	-	-	-	WX3B



Ranko, 4O3A and Juha, OH8NC are discussing SO2R in SOSB during a break. Ranko has some new gadgets for those who wish to do SO2R on one band. SOSB records will unquestionably be broken by those who consult Ranko.



Kari, OH2XX calming down the vivid pileup contesters. Kari is one of the Paksalo Philharmonics @ OH2U and the Section Manager of the CCF's Little Pistols.



Pertti, OH2RF (OG2M) and winner of the 4O3A-pileup contest. Pertti is the DX-advisor of the Finnish amateur radio league and President of OHDXF, our sister society.



Teemu, SM0W and Rickard, SM6U doing the phone pileup test, which was very difficult. After the first minute, most of us had just 1 or 2 calls on the paper.



Visitors from Estonia: Toivo ES2RR (ex UR2RRR) and Tõnno, ES5TV. Toivo speaks fluently 6 languages - a reason why he is not easily bluffed in the poker table. Tõnno is the president of ERAU, the Estonian league and a top-ranked contest op in Europe. Toivo has won CQ WW for both Europe and World.



Marko, OH4JFN, one of the young ones on board m/s Gabriella with youthful Pekkka, OH2HE (OH2U).





The Swedish visitor constellation was lead by Ingo, SM5AJV. Zoom in to see better.



Hans, PB2T gave a DX-presentation. The destiny of the Netherland Antilles is still a bit open. There'll be new and deleted DXCC-entities in PJ2/PJ7. Keep yourselves updated on the administrative settlements. In one scenario, Hans had 4 new countries waiting for us. To those who do not know PB2T, Hans is the President of IARU Region 1 and EUDXF.

Hans was preceded by Tõnno, ES5TV and his Ducie-talk VP6DX. My notes on his presentation are miserable, but I do remember a few things. They made a lot of contacts, even moved stations from band to band, contest style. VP6DX had a special VIP-QSL and a bumper sticker (my kids have samples) to give away. There's a toilet on the Island waiting for the next expedition. I guess it wasn't left on purpose.



Thor, TF4M presenting "Arctic diamonds". I definitely encourage the readers to pay a visit to Thor's website. Search engines take you there.

Thor's presentation's title, Arctic Diamonds, in a way challenged the activity @ OH8X. Claims about Arkala being the northernmost serious contest station were proven wrong. Thor's farm is further north in both geographic latitude and geomagnetic latitude. Thor gave us a demonstration of what hard work and commitment can accomplish. And his plans about putting up huge wire arrays over a valley where is QTH is will see daylight, I hope. And I'm sure that if it depends on Thor's attitude, they will.



In his presentation, Veijo OH6KN went through the different phases in the construction of the 160/80-yagi antenna @ the OH8X-station. The presentation is available at [radioarcala.com](http://radioarcala.com).



SAC-panel members looking a bit uncomfortable while listening to Jukka, OH2BR. He was the official SRAL-delegate bringing the owners' point of view to the debate over SAC. Jukka speaks fluent Russian, but there was little perestroika in his SAC-comments. However, the discussion followed the spirit of 'glasnost' and SAC still might have some chance to develop.



Our mystifying YL-delegation on board m/s Gabriella.

CCF/OHDXF meeting was great fun.  
Hope to see you in 2010!



These guys made sure that Tomi, OH6EI had lots of program during the trip.

The youngest participant on the trip was Noel, who is a 1-year-wide spurious harmonic of Marko, OH4JFN.



Timo, OH5KW with Rich, K2WR, who was one of long-distance travelers. Rich claims to be coming from New York City, which is difficult to believe when you listen to his articulation. Rich is also known as GJ2A and MJ0AWR.



Tore SM0DZB and Hasse, SM0IMJ. Tore is the next President of SSA (Swedish amateur radio organization), a job currently taken care by Hasse.



John OH5NZ with his XYL. John belongs to the Swedish-speaking population in Finland. John together with Peter, OH5NQ entertained us all with some Swedish drinking-songs, for which this language group is well-known. John is the DXCC-examiner in OH. Those who worked John in the sixties remember him as OH5TM.



# KH3 Palmyra Island

**Endless  
Pileups**

This game is for two players. Place the pawns in the start square. The players roll the dice. The one with higher number starts the game. In the game players take turns rolling the dice. The pawns are moved ahead as many squares as indicated by the dice. When arriving to a colored square, follow the instructions. The winner is the player first reaching the Endless Pileups.

Oh boy. You forgot your keyer paddle. Constructing a new one costs you one turn.

Your amplifier gives you an extra turn. Roll the dice again.

Something is wrong with the yagi. While climbing the tower you will lose two turns.

Trouble with packing your radio gear. You lose one turn.

You just received a \$20,000 donation. Roll the dice again.

Your power supply has an incorrect plug. Trip to the electric store costs you one turn.

**HOME**

Shit! ARRL rejected your operation. Return to home.

Your flight is delayed overnight. You will lose one turn.

Station is ready. Go ahead to testing it by rolling the dice again.

PileUP!'s gift for the readers: the ultimate DX-game. Design by *HamStyle*.

Tip: have it printed and laminated together with your next PDF-contest Diploma.

## Luke and Obi-Wan in CQ WW 2008 - Study of OH4A and OH8X Logs Ilkka, OH1WZ

This article looks inside two SOAB HP logs from the CQ WW CW contest in last November. The objective was to examine mainly what happened @ OH8X using OH4A log for benchmarking. Comparison of logs is an excellent way of training and preparing for the next event, and should never be neglected, at least in target-oriented radio-sporting. Normally, it is the exclusive trade of the operators, but this time it fell on me. In the old days, I learned that post-contest analysis means that we ran through the log sheets and do tables and graphs by hand. That's at least what I did with OH2PM 15–25 years ago. Now we have the computers to help and to do the same and more.

I normally do the log-analysis by first computing some bulk performance measures, distribution statistics and visualizations. From these emerge the more detailed questions to be answered using sometimes rather unique fixes. Thus, I never know where I finally end up. I don't know of software that can input multiple logs for pair-wise or global analyses. Therefore the analyses here were made using homebrew Visual Basic code together with the excellent callpars.dll COM-object by VE3NEA. See more on p. 21–24 in PileUP! 12(4).

In CQ WW CW 2008, Kim (Luke), OH6KZP had traveled 180 km from Tampere to Kisko and the OH4A station, while Pasi, (Obi-Wan) OH6UM took the 600-km trip to Arkala and OH8X from Helsinki. The antenna setups of both stations consists of rotary yagis on 80–10. OH4A has two rotary towers. OH8X has a more redundant antenna farm as up to 4 directions can be used on some bands. Kisko is in southern Finland at 60°N, near the town of Salo. Arkala is located 65.4°N and 45 km NE of Oulu. In

late November, the maximum sun elevation is 9 degrees in Kisko and 3 degrees in Arkala. The day length is merely 4 hours in Arkala. Both sites are in the countryside, although at OH4A some trouble with landline noise was reported. Kim is still young as his age is 30, while Pasi got his ticket in 1974 at the age of 15. Pasi is known for his multi-op and SOSB-efforts (OH6AM, OH2U, OH8X), whereas Kim has mostly been doing SOAB since the start in 1995–1996.



**OH6KZP:** Born 1978, licensed 1994. Kim is an engineer in telecommunication and is currently doing post-graduate studies at two universities: Tampere Technical and Åbo Akademi. Kim has operated Multi and SOAB contests from OH6NIO and OH4A. OH4A is a call held by Jukka, OH6LI. Kim's father is OH6GE. <http://www.multi.fi/~kim/>



**OH6UM/OH2IW:** Pasi is not born in 1959 but in '59 as he puts it. Ulla-Maija is two-time WRTC-veteran. He has escorted M/M teams to win World and Europe, both on CW and SSB. He is one of the Arkala Extremes. Pasi's father is OH6UG.

In CQ WW, the scoring is simple. Zones and DXCC/WAE-countries on each band count as multipliers. It's 0, 1 or 3 points per valid contact. Three points for an intercontinental QSO, 1 for an intracontinental and 0 for a domestic or a dupe.



## What can be extracted from the logs?

This time I wanted to avoid the time-consuming trial-and-error – post-justification method™ and listed the tasks and their rationales in advance:

### 1 Continental distribution per band

The QSO- and mult-matrices swiftly gives an overview of the log contents. It shows where differences are. These tables are standard product in any logging software, I believe.

### 2 SO2R/S&P QSOs and mults

A QSO that is followed and preceded by a band change marks a SO2R QSO (Since there is no room for a SO2R tag in Cabrillo format). For this analysis it is good to have the frequencies in the log. OH8X contacts were marked with a kHz-accuracy whereas the OH4A-contacts had just the minimum, the band info. Thus, unfortunately, Search & Pounce QSOs could not be extracted from the OH4A log. Anyway, it is interesting to learn and compare how much the operators used the second radio, and if they continued using it throughout the contest. SO2R is a must nowadays in SOAB.

### 3 Leave-an-hour-out analyses

This analysis jackknives the log, and 48 new scores are computed on the basis of 47-hour log data that is not discarded. When the scores are plotted over time, the graph tells the unproductive and productive hours.

### 4 Unique stations

This analysis is preceded by first labeling the contacts on each band as either *unique* or *common*. It is interesting to look at the unique QSOs that are in the other log but not in yours. This analysis is of

course somewhat redundant with the continental × band distributions, but if combined with visual map analysis, it may reveal details that are not so obvious in the tables.

### 5 Comparison of 160/80 performance

It is of particular interest at Arkala to learn everything there is to learn about the low-band conditions because it is the chink in the OH8X-armor. The time spent on 160–40 should be carefully optimized especially when we start to approach the next Sunspot maximum.

### 6 Assessment of operator performance

Although many of us think that radio-sporting has less and less to do with operator skills, a post-contest (self) analysis should always include a proper evaluation of the operator's actions. It is easiest, if the two stations are equal in performance, or at least, one has lots of past contest results (a calibration period) from both stations to deduce 'the difference'. Here it was particularly difficult because of the 600-km distance between the stations from the 20 to the 100-visible-aurora nights per year zone. Also, there's very little 80/160 log data from OH8-stations and OH8X in particular to look at. The operators at OH8X can always blame the conditions and prove it indirectly by using Mammoth-size antennas, which are outperformed by dipoles 1000 km to the S and SW. WRTC-events are examples where proper "experimental design" is available for saying who's a good operator, but radio-sporting is more than just the operating skills.

## Ionosphere, Magnetosphere and Sun

I PileUP! 12(4) Jan LA9HW (58°N, 8°E) reported his activity on 160 and I analyzed the 40-m logs of OH2BH and TC4X. Jan's comment was: 'Top Band

sounded like 20 m to the States, not so good to East'. LA9HW is 800 km west from OH4A and 1300 km SW of OH8X. OH2BH is only 40 km from OH4A so that the observations at OH2BH should be applicable. Therefore, also @ OH4A, 40 m was a daytime DX band open to WVE and JA when and only when the sun was above the horizon. The aurora was very moderate during CQ WW CW 2008 but Flux was as low as it is believed to go, at 70.

### Continental per band data

This first thing to notice was that the size of the OH4A log file was 287 kB. Pasi fell 37000 bytes behind by submitting a 240 Kbyte Cabrillo file. If this was ski jumping, we'd stop here and congratulate Kim.

OH4A started on 40 meters, worked 50 QSOs and did the first SO2R-move at 0025Z. ON4WW was worked on 160 in the middle of the 40-m activity. Pasi was on the same band SPing. By 0025Z there were 24 QSOs in his log, however some real good ones were included: TF3CW, HC8N and ZS4TX. First SO2R-move came at 0034Z, when VY2ZM was logged on 80 m. First hour gave 102 and 43 QSOs for OH4A and OH8X, respectively. So much for riffling through the log files. Let's look at the graphs and tables.

#### OH4A mults per band and continent

	AF	NA	SA	AS	EU	OC	ALL
160	3	8	3	13	43	5	75
80	8	18	7	25	47	10	115
40	12	19	12	25	47	11	126
20	15	19	13	28	48	8	131
15	16	7	9	19	29	5	85
10	2				13		15
	56	71	44	110	227	39	547

#### OH8X mults per band and continent

	AF	NA	SA	AS	EU	OC	ALL
160	6	13	5	17	48	2	91
80	14	17	11	17	47	8	114
40	15	15	13	21	49	10	123
20	9	21	7	19	46	10	112
15	9		2	8	19		38
10					4		4
	53	66	38	82	213	30	482

Multiplier distributions above show that OH8X did better on 160. The 160 m antenna at OH8X was the four-square. However, comparison of the numbers for 20–10 meters show that these were bands where the 15% advantage in mults was made by Kim. It may be a result of the propagation and/or the fact that Kim used his second radio to find the short openings and low signals on 15 and 10. We can't say for sure. Anyway, the high low-band multiplier numbers suggest that, at least on CW, in the absence of Aurora, a first-class low-band mult-total is possible from Arkala in SOAB.

#### OH4A and OH8X QSOs:

	AF	NA	SA	AS	EU	OC	ALL
160	2	29	2	70	548	4	655
80	8	145	5	169	827	6	1160
40	14	222	25	170	622	13	1066
20	15	278	14	143	353	11	814
15	12	5	8	30	41	3	99
10	1				10		11
	52	679	54	582	2401	37	3805
160	4	60	4	44	365	2	479
80	13	132	9	117	562	4	837
40	14	171	16	201	452	13	867
20	9	360	8	42	256	11	686
15	5		1	10	28		44
10					5		5
	45	723	38	414	1668	30	2918

#### The differences in %.

160	-50	-52	-50	59	50	100	37
80	-38	10	-44	44	47	50	39
40	0	30	56	-15	38	0	23
20	67	-23	75	240	38	0	19
15	140		700	200	46		125
10					100		120
	16	-6	42	41	44	23	30

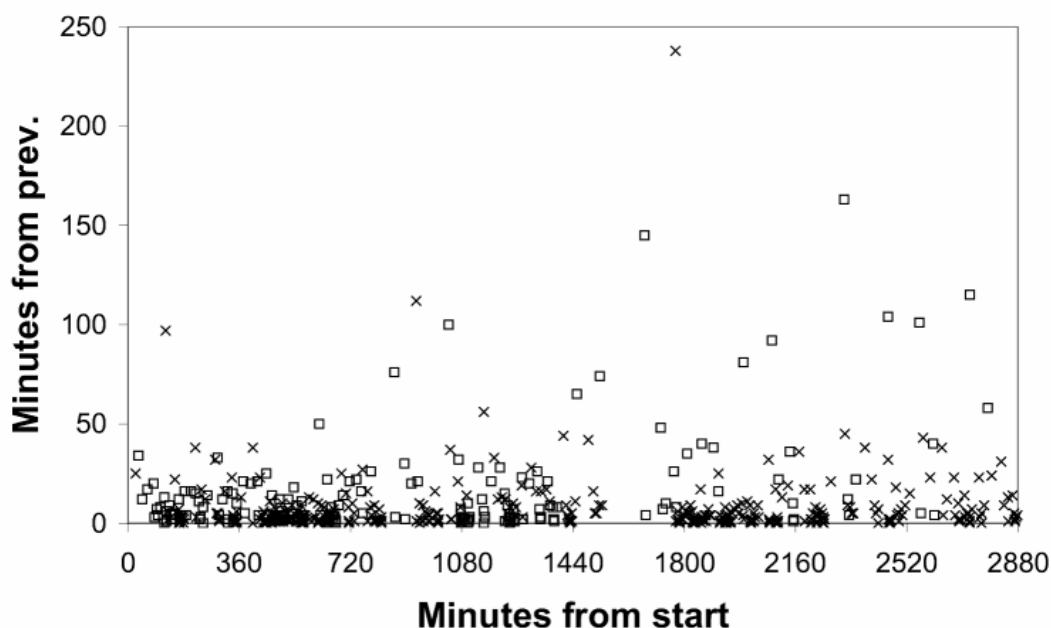
The tables above explain the 37-kB difference in the size of the log-files. Kim at OH4A crushed OH8X in the number of QSOs. The strength of OH8X is believed to be NA as it is often possible to reach the high-MUF zone inside the aurora oval and work WVEs as the only European on the band (with OH8L, SM2EKM etc.). The NA numbers, 679 vs. 723 (+6%) indicate that Arkala wasn't able to use this advantage. Worth noting is also

that OH4A did better in Asia on 80/160. This direction should not be affected by Aurora as much as NA. There was a difference of 700 EU-QSOs, the 1-point QSOs. Pasi had worked just the multipliers in EU, but was perhaps focusing on the 3-point QSOs.

### SO2R activity

Kim at OH4A worked 403 possible SO2R contacts. They gave 103 country multipliers and 49 zone mults. In all, 28 % of all mults and 11% of all QSOs were worked with SO2R. Noteworthy is also that 49% of the SO2R-QSOs were DXs and 51% EU. I did not observe any variation in Kim's SO2R-willingness. The

403 contacts stretch the whole 48 hours evenly except a 3-hour break. Pasi at OH8X worked 180 possible SO2R contacts. They gave 70 country multipliers and 22 zone mults. In all, 19% of all mults and 6% of all QSOs were worked with SO2R. 41 % of the SO2R-QSOs were DXs and 59 % EU. Pasi had worked a SO2R QSO every 15<sup>th</sup> minute, on average. There was, however, lots of variation in the time between consecutive SO2R QSOs and apparently, Pasi's activity got worse on the second day, see the Fig. below. Luke outperformed Obi-Wan unmistakably although it's only in 2007 when Luke started learning SO2R skills with Jedi Master Jukka, OH6LI.



Time from the last SO2R-QSO. "x" depicts OH4A. Kim's Sunday morning break shows as a 250-minute interval between SO2R QSOs.

### Jackknife analysis

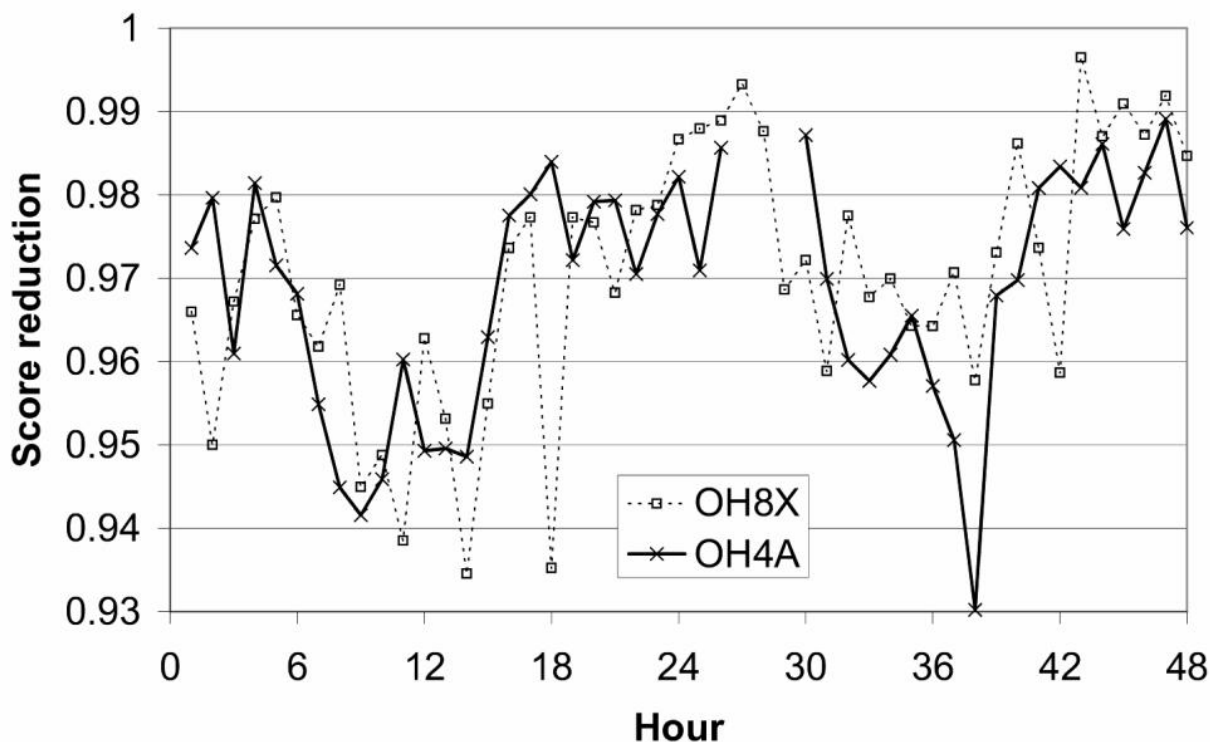
The leave-an-hour-out analysis gives 48 scores and each misses points and mults from the QSOs of the particular hour. See the graph on the next page. For example, without the QSOs of the first hour, OH8X missed 10 country multipliers, 0 zone mults and the score reduced 3.5%. The most valuable hours are therefore the ones, in which the percen-

tage is low and penalty of missing that hour is high. Kim had a 4-hour break, and that shows as missing values in the graph. It seems that Pasi was struggling without a proper siesta. I wonder how he coped after having just driven 9 hours by car to reach Arkala?

The graphs reveal that daytime hours were crucial in CQ WW CW 2008 from Finland in SOAB. They also reveal that

Sunday was less important. Also, it seems that Kim could have done better by choosing the rest period to start an hour or so earlier. Anyway, good timing

by Luke, because OH8X had two low (99%) hours, while he was having a rest.



Leave-an-hour-out-and-recompute-the-score –graphs

The graph discloses that hours 18 and 38 were valuable for OH8X and OH4A, respectively. At OH8X it was an hour of 120 W-stations on 20 meters, with KH6 as a double-mult. At OH4A, the 109-QSO hour nr 38 was spent using SO2R on 40 m (working 4 JAs), WVE/EU-pileup on 20 m with 4 new mults and 12 S&P QSOs on 15 m. The 15-m QSOs produced 15 multipliers from zones 8–10. It really was a good hour, and shows what SO2R can achieve. It may be possible that Obi-Wan missed this as a result of the travel fatigue in hyperspace?

### Unique stations

Let's first look at what was distinctive in the OH8X log. I asked the computer kindly to list the *unique* QSOs that are not in the OH4A log. A common QSO (share) is a log-entry with the same station on the same band.

There were 1242 common QSOs, which means that OH8X had 1704 unique QSOs. There were 2576 unique QSOs in the OH4A log. I then gently asked the notebook to make per band continental distributions of these QSOs got the tables below.

### Unique QSOs in OH8X log

	AF	NA	SA	AS	EU	OC	ALL
160	3	49	3	25	159	1	240
80	7	74	7	61	261	2	412
40	7	119	5	119	253	10	513
20	3	287	6	20	180	8	504
15	1		1	5	23		30
10					5		5
	21	529	22	230	881	21	1704

### Unique QSOs in the OH4A log.

	AF	NA	SA	AS	EU	OC	ALL
160	1	17	1	51	340	3	413
80	3	85	3	113	524	4	732
40	7	169	14	88	420	10	708
20	9	202	12	121	275	8	627
15	7	5	8	25	37	3	85
10	1				10		11
	28	478	38	398	1606	28	2576

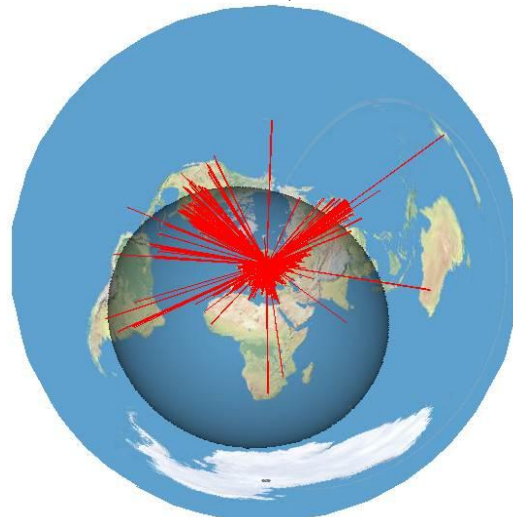
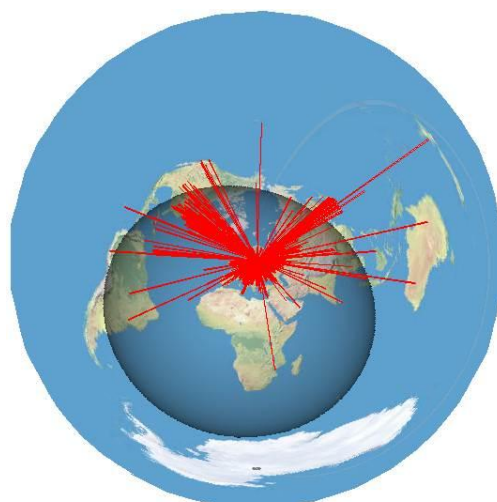
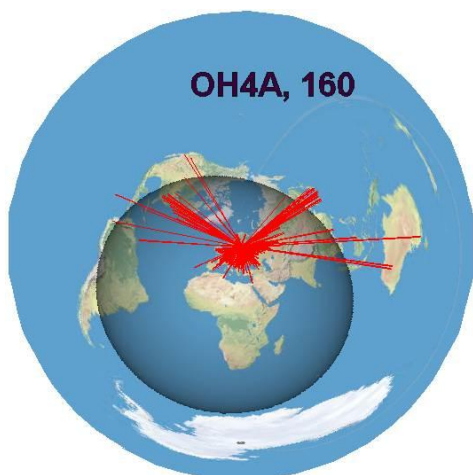


### Difference in unique QSOs.

	AF	NA	SA	AS	EU	OC	ALL
160	-2	-32	-2	26	181	2	173
80	-4	11	-4	52	263	2	320
40	0	50	9	-31	167	0	195
20	6	-85	6	101	95	0	123
15	6	5	7	20	14	3	55
10	1	0	0	0	5	0	6
	7	-51	16	168	725	7	872

OH8X did better towards NA, but the marginal is far smaller than expected, 51 unique contacts more than OH4A. Obi-Wan also was there for Asia on 40 meters, but missed 160, 80 and 20 especially, where OH4A logged over 180 extra QSOs. That's a lot. Luke also worked a total of 725 extra Europeans, which is ok during sun spot minimum in CQ WW SOAB from Finland.

### Comparison of 160/80 m performance



The 160-QSO maps and the continental per band QSO-distributions show how OH8X was effective in logging WVE-

stations on 160. This is exceptional, because under normal operating condition, the aurora oval would block everything above 6Y5. OH4A worked more stations in the East. Not a single long-distance QSO to Africa or South America by either station. The North Atlantic path was good, but perhaps AF and SA suffered from QRN. The multiplier counts, 75 and 91, are really good for the Top Band. Here Obi-Wan did a good job. It is likely that we have to wait a long time to see these conditions again. The last time was in 1995.

On 80, OH4A did slightly better in all directions. OH8X has had troubles with the 2/2-el antenna. and I assume Pasi wasn't using it much, but wires.

## Assessment of operator performance

There's nothing absolute that can be said about the operator performance. The pair-wise comparison shows that OH6KZP took advantage of his SO2R skills, SOAB-experience, somewhat better conditions on 15/10 and probably also made the right decision to do a 44-hour contest with a break in the middle of the second night. Saying that, these are the points that worked in favor for him and where, at least in this contest, OH6UM could perhaps do better in the future. If I'm to guess, the SOAB OH-record will first be broken from OH4A. Both ops missed Andorra and Kaliningrad on 160, which is an embarrassment since both C3PO and R2D2 were on the air.

**OH1WZ:** The analysis of unique multipliers would have been the next topic. I left it out but recommend it for any serious pair-wise log comparisons.

## Concluding words

To work in the SOAB category is really challenging as the operator is faced with a true continuous optimization task during the contest. One should monitor the propagations, be aware of what is in the log, and adapt the objectives and strategy all the time. When we will get more sunspots, Kisko and Arkala will become competitive QTHs in Europe and for me personally it going to be interesting to see my 10-yr-old OH-record from OH5LF to collapse. Then it was SO1.5R, two transceivers and one amplifier, one tower but up to 3 directions.

**OH6KN:** "A 2-el yagi on 80 m was operational at OH8X. I was listening on 15 m a lot over the weekend from my Oulu-QTH, and I can say that 15/10 were really poor up here. We haven't had that over-the-pole advantage in few years. I guess some sun spots are required.

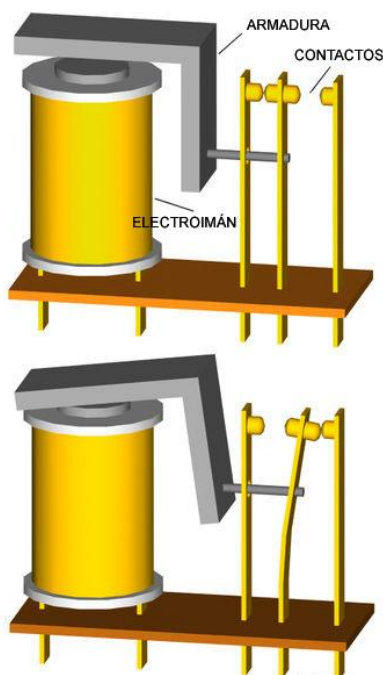


Mike, RW0CN was the host for Marko, N5ZO (RW0CWA) in CQ WW CW 2008. The radio is warmed up to allow the installation of some tight-fitting filter-units.



## Arkalan laboratorio raportoi

Veijo, OH6KN



“Eilen tsekkasin antenninohjausträkitä rx/tx-vaihtojen tilastoa. Viime elokuusta alkaen ts. puolessa vuodessa on ollut A-radiolla 92000 vaihtoa ja B-radiolla 31000. Kontestit ovat olleet: WAE, SAC, CQ WWx2, TOP Band ja ARRL. Tästä on johdettavissa muutama lukema:

- Pitkässä kontestissa tulee n. 20000 rx/tx vaihtoa

- A/B radioiden käyttösuhde, joka on kaiketi aikalailla ko. lukujen suhde. Arkalassa A:lla varmaan jauhetaan enemmän CQ:ta ja B:llä lukemat tulee todellisista QSO:sta.

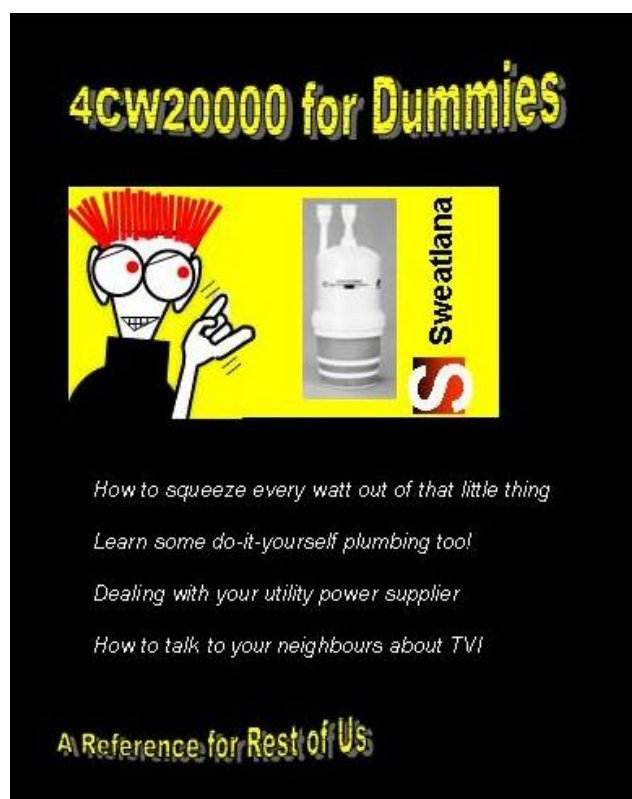
- Releiden käyttöikä: Hyville releille ja vakuumeille käyttöikä on noin 1-2 milj. vaihtoa ja huonommilla 100k vaihtoa.

=> Arkalan käytöllä 100.000/puoli vuotta hyvät releet kestää 5-10 vuotta ja huonot puoli vuotta!!

- Mittasin syksyllä Arkalassa käytetyn open frame releen eliniän ja tulos oli about 3 milj. vaihtoa, jonka jälkeen releen liike oli jo niin laiskaa, että kontakti ei olisi syntynyt. Koerele raksutti

pannu-huoneessa 0,5 Hz tahtiin kolme kuukautta ja se oli siinä.

Summa summarum: RX/TX-tahtiin liikkuvissa releissä (vaiheistukset, linukan releet) on ehdottomasti syytä katsoa myös releen elinikä speksejä, muuten niitä saa vaihdella vuosittain. Mikään ei ole niin ikävä systeemissä, kuin epävarmasti toimiva rele - välillä toimii ja välillä ei. Releet saattavat myös toimia päällisin puolin ok, mutta aiheuttavat RFI:tä A/B-asemien välillä tai rypyytä naapurisuhteisiin.”



Another bestseller in the CCF bookstore.

This space and more was reserved for a book review. Jerry, VE6CNU has written a HAM HUMOUR book:

“Hogwash for Hamsters”

Well in advance, our PileUP!-agent in the U.K. tried to get the book to do a review, but due to the high demand, we did not get it in time. PileUP! 13(2) will have the review.

## When OH6NV whitewashed OG1M

Seppo Sisättö, OH1VR

The following two statements portray the ARRL DX contest from Finland:

- You can't win it
- You can't even do well

The question remains: What to do? There are many answers but ours is the following: you can have a lot of fun in the ARRL DX Contest from Finland by spending the weekend in the first-class company of good friends and do a little contesting at the same time. A weekend to remember is the outcome of this kind of contesting. This is a short story on how a team of foreigners @ OH6NV beat the team of natives @ OG1M.

It all started more than a year ago when Oliver, W6NV promised to come to Finland for the ARRL CW Contest. The idea to have a foreign and a domestic team to compete was finally realized during the CCF's annual DX-cruise in January 2009, when Olof, G0CKV/SM0CKV and Kazu, JK3GAD agreed to join the team of foreigners.

It was impossible to arrange two equal QTHs. However, with a bit of flexibility and creativeness, a solution was found. Our foreign team really had to adjust. They were given my summer cottage with the traditional Finnish goodies incl. the cold outdoor restroom. The native team occupied my farm and got to stay in much more comfortable circumstances evened up by the smaller antennas. A distance of 12 km separated OH6NV and OG1M. Both teams had internet access.

The hardware at the stations was:

### OH6NV

K3 + Acom 2000A

Tower 1: 3-el SteppIR at 24 mtrs,

Tower 2: 4el/40, 2x5 el/20, 2x5el/15,

2x6el/10, dipole for 80, sloper for 160, a beverage for low bands.

Operators: SM0CKV, JK3GAD, W6NV

### OG1M

K3 + Acom 2000A

KT36XA @ 42 mtrs for 20-10, Cushcraft XM-240 @ 39 m for 40, dipole for 80 and a sloper for 160

Operators: (OH1VR), -2KI, -3RM, -3WW. OH1VR was mainly cruising between the two sites.



Olof, G0CKV/SM0CKV keeping 40 hot @ OH6NV.



Kazu, JK3GAD - the only one of us who wanted to climb up to the tower (for taking pictures)

The native team knew that it possessed the knowledge over band behavior in the Far North. This would balance the difference in antennas, which was slightly favoring the foreign team. Yes? Remember that both stations are located on a latitude 200 km north of Anchorage, Alaska.





Jorma, OH2KI on 80 m @ OG1M.



Oliver, W6NV.

The scores, OH6NV vs. OG1M:

BAND	QSOs	Multipliers		
160	29	22	15	12
80	66	67	26	23
40	139	175	29	35
20	663	629	57	56
15	9	3	8	3
10	-	-	-	-
	909	896	135	129

The operating time of both stations was about 32 hours according to Win-Test 3.25.1. We have not analyzed the scores hour by hour, but it was quite a surprise how similar logs came out of the computers – even the effective operating time matched accurately. My conclusion is that especially on 40 m, the native team got some edge over the competitors because of the slightly better understanding of band conditions. The gringos spent more time on 15 m, while the Finns run first-rate pileups on 20 in Sunday afternoon. That's why the difference in QSO-numbers on 20 m tapered to only 30 contacts. It should have been a bigger difference considering the performance difference of the antennas: 2x5el versus KT36XA.

The objectives of ARRL CW 2009 were achieved: We had fun, we had good company, we had traditional technical last minute problems and we enjoyed our stay here in the North. Anchorage is in Alaska, but all this happened in Finland.



A farewell dinner ended the OH6NV-OG1M story. Oliver, W6NV and Outi, XYL/OH1VR.

### The Story continued..

When the battle between OH6NV and OG1M was over, the story continued in California. Wireless Contesters W6WB operated ARRL Phone from Sunol Ridge (W6NV's Contest QTH) in m/s. California is another impossible place to win, but you can have a lot of fun out there. Our m/s team consisted of W6NV, N6DA, KX7M and OH1VR/AE6PP. We made some 1270 QSOs on SSB and achieved one million points. As a trustee of the Wireless Contesters I would like to say: 'Not so bad...'

Contesting is a serious business but as you might see it can be also something else.

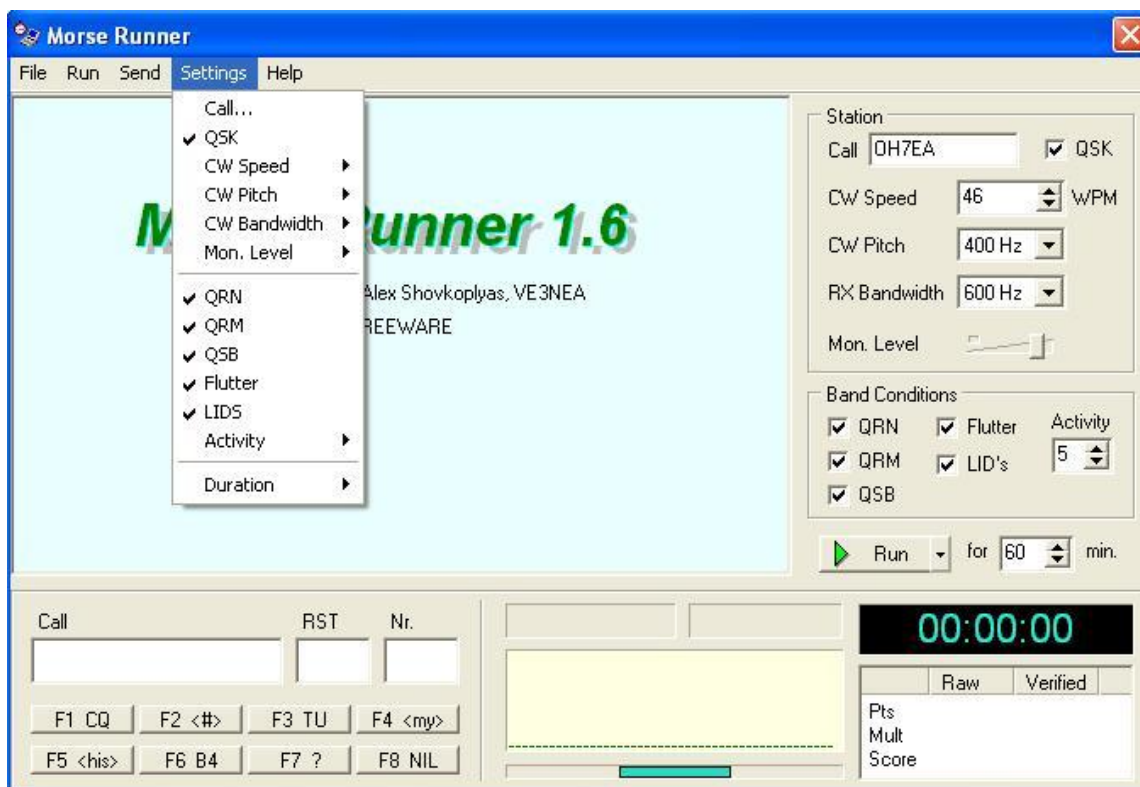
## Morse Runner review

Antti, OH7EA

About two years ago I started to explore the possibilities of keeping my CW and pile-up skills up-to-date without actually having an HF station of my own. So I happened to run across a nice piece of software (written by Alex VE3NEA) called MorseRunner (MR). Basically it's a CW contest simulator that allows you to practise quite realistic 1-hour WPX contest on your computer, running a pile-up on your own frequency. All you need is a computer and I suggest plugging in the headphones, too.

I'll be going through some of its basic functions so that you'll get an easy start with it before hitting the airwaves in the next real contest. But let me begin by saying that the simulation of band conditions is impressive with QSB, QRN and even some LIDs being computer-generated. Now it's possible to do a bit of virtual contesting that feels truly real.

So, let's get on with it. The interface is quite simple and using the program fairly straightforward. First, we'll make a configuration that suits your operation style and skills.



### CONFIGURATION

**Call** Enter your contest call here.

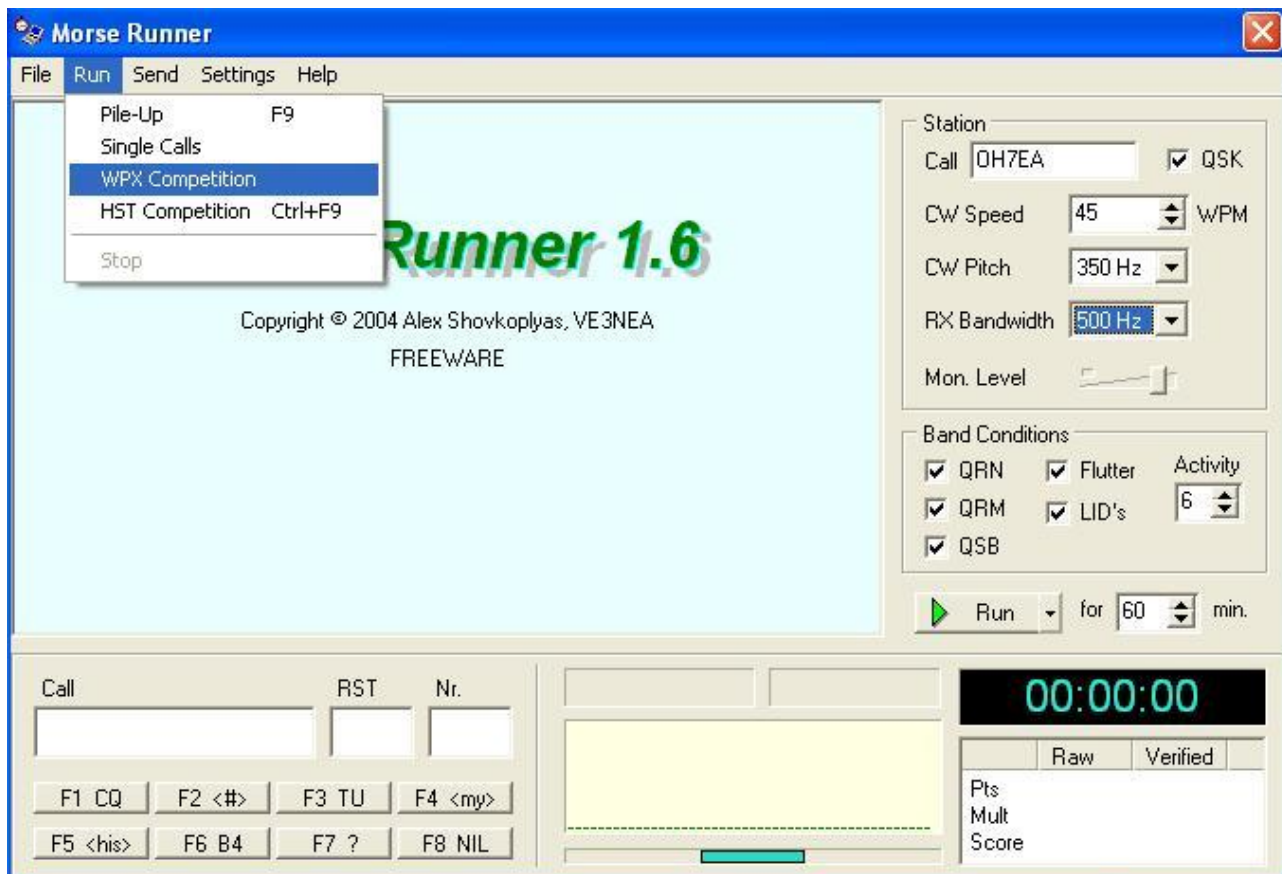
**QSK** Simulates the semi-duplex operation of the radio. Enable it if your physical radio supports QSK. If it doesn't, enable QSK anyway to see what you are missing.

**CW Speed** Select the CW speed, in WPM (PARIS system) that matches your skills. The calling stations will call you at about the same speed.

**CW Pitch** Pitch in Hz.

**RX Bandwidth** The receiver bandwidth in Hz

**Audio Recording Enabled** When this menu option is checked, MR saves the audio in the MorseRunner.wav file. If this file already exists, MR overwrites it.



We've made a few changes to settings and now we're ready to rock.

Here's a basic view of the program, and we've selected the Run from the Menu. Under that section, there's a choice that we want to make for entering the contest: WPX Competition. Once you select it, the contest will begin.

During a contest, something will always go wrong. The log window marks incorrect entries in your log as follows:

**DUP** Duplicate QSO

**NIL** Not in other station's log: you made a mistake in the callsign, or forgot to send the corrected call to the station

**RST** Incorrect RST in your log

**NR** Incorrect exchange number in your log

You may also take a look at these:

#### KEY ASSIGNMENTS:

**F1-F8** Sends one of the pre-defined messages. The buttons under the input fields have the same functions as these keys, and the captions of the buttons show what each key sends

**Esc** Stop sending

**Alt-W, Ctrl-W, F11** Wipe the input fields

**Alt-Ent, Shift-Ent, Ctrl-Ent** Save QSO

**<Space>** Auto-complete input, jump between the input fields.

**<Tab>, Shift-<Tab>** Move to the next/previous field

**";", <Ins>** Equivalent to F5 + F2

**"+", "."** Equivalent to F3 + Save



**Enter** Sends various messages, depending on the state of the QSO

**Up/Down arrows** RIT

**Ctrl-Up/Ctrl-Down arrows** Bandwidth

**PgUp/PgDn, Ctrl-F10/Ctrl-F9, Alt-F10/Alt-F9** Keying speed

These and more you'll also find in the Help section of the program.

Hints: Timing your calls is important. Listen to the pile-up, you might be better off if you start sending your message when everyone has stopped transmitting.

"Activity" determines how many stations on average reply to your CQ. Try different settings and see how big a pile you're able to manage and still maintain a reasonable QSO rate. Multipliers - as we all know - are different prefixes, so keep your ears open in the pile-up...pick up a SJ2 rather than your 4th W4. Learn how to best use Enter for sending the messages.

Impressions: MorseRunner doesn't require a fast computer with all the bells and whistles. Even an older one should do fine, and works in Windows environment as well as Linux system under WINE. After a while you'll be comfortable operating with it and improving your scores quickly.

This is a fun program to use. I hope you enjoy it as much as I do! It's free and small in size, so you're able to download it quickly. Try it out!

Have fun and remember to upload your WPX scores to the Hi-Score web page <http://www.dxatlas.com/MorseRunner/MrScore.asp>

### **PileUP! 12(4) reader statistics**

To stimulate writers the editorial office tracks the web-traffic on the PileUP! webpage to know where and in what numbers, the readers of PileUP! are. Until now, the pdf-file has been directly accessible. We considered using some UNIX tricks that would force everyone to use a download webpage, but it's just too complicated. Our data has and will therefore have some missing souls but let's not worry about that.

Since Jan 11, there were 6810 page-views and 3605 visitors on the PU-meter. W-land had 901 visitors, OH 614, EA 489, G 122, SM 110, DL 108, F 86, VE 85 and OK 65 visitors (IP-addresses).

In Africa the last Mammoth issue was a success with 22 readers in V5, ZS, 9G, SU and 6W.

A total of 129 downloads came from South America, 27 from Central America and Caribbean. Asian downloads totaled 102 and 50 downloads came from VK/ZL.



## Contesting the Welsh Way – Making a Multi-Multi into an SOSB Assisted in CQWW SSB 2008

Chris, G1VDP

### MW9W enters serious CQWW

In 2007, a group of friends formed a small club called the Strumble Head DX and Contest Group, regularly getting together at a farm in Pembrokeshire, West Wales. We got call signs MC0SHL and MW9W, the latter is our contest call. We are keen DX'ers and enjoy getting together throughout the year. In 2007 we entered the CQWW contest first time as a group, from our homes, using our own calls. Last year 2008, we planned a serious team effort in CQWW SSB using MW9W.

### Fish & chips, first things first

The team arrived to the farm on Wednesday, October 22. Charles, M0OXO came from Yorkshire. Chris, G1VDP and Tim M0URX left the Midlands and picked Ant MW0JZE. Oli MW0JRX drove across to Manchester airport to meet Viliam, OM0AAO who had arrived from Bratislava.

After eating fish and chips – the traditional 1<sup>st</sup> night's meal – we erected the first antenna in the dark, the 40M ¼-wave vertical ground-mounted with 60 radials. Later, Wednesday night, we celebrated with Oli. He had passed his advanced exam.

The pile-ups on 40 surprised the boys, but I guess MC0 is a rare prefix, and it was surprising how many stations thanked for the new one, signifying that Wales as a DXCC entity is still widely wanted on 40.

### Booby trapped by Mosley

Thursday morning was the start of the antenna and station building. Strong winds and driving rain were not ideal conditions to erect antennas. The first to go up was

the 80 m ¼-wave vertical with close on 120 radials.

Within an hour, the 80-m vertical was ready to be hauled in the air. We guyed the antenna at 3 levels as the winds were so strong. The antenna analyzer showed a perfect reading. We now had 2 bands, Thursday afternoon.

The 160 m antenna, an inverted L went up easier. Viliam used a pair of 12-m fishing poles as supports – one for the vertical section and the other to hold the top of the inverted L. We again fought with the wind. When tested, the antenna was spot on. Viliam we salute for building and shipping the antenna over from Slovakia.



Chris G1VDP happily building the 5-band Mosley beam. 51°59'413"N, 5°04'537"W

Friday was spent fixing the rotators and high-band antennas and erecting masts. Also, the IT in the shack, was set up – the computers and networks. A Mosley was going on Rob's tower and the 10-m antenna on a 10 meter high portable mast. Once the Mosley was in place we all gathered at the base and lifted it into the air, put the analyzer on to it and it was way out of resonance to be a 20-m antenna. This did not look good. We lowered the mast and checked everything. We moved

the feed point as per instructions and still it was way out. We tried the other bands and found the 20/15M bands were way out. A trap had likely gone down. More tests and we could not determine the fault.

The 10-m antenna was easy and quick. What remained were the 15-m tower and the broken 20-m antenna. We attached the rotator cage and then we all got ready to fix onto the tower base. This is where the fun really begins. We used one of the farm tractors to lift into position and secured with Bolts to the base and supported with an Acro stand. Once the antenna was mounted we checked all guy ropes were OK and hoisted in the air. Not an easy feat, but something we are going to look at changing for next year. By now the sun was starting to set so no time to go back to the 20M beam.

### **OK, it's getting personal now**

We sat down and discussed our options, without 20M we would not build up a high enough score to achieve our goal, so we voted to do single-band high-power entries using the following calls:

160 MW9W	Viliam, OM0AAO
80 MW0JRX	Oli, MW0JRX
40 MC0SHL	Tim, M0URX
40 MW0X	Charles, M0OXO
15 GW4OH	Ant, MW0JZE
10 GW1VDP	Chris, G1VDP.

The decision made, we ran a few test calls on each band using MC0SHL and checked all was working OK.

### **Low bands and 15 in surprisingly good health**

From the off the Low bands were in fine condition and the rate at each station was fantastic. We knew what the records from Wales were and decided to break them.

This is where the best laid plans went wrong.

Following a sleep Ant and Chris settled into their respective operating positions and checked the bands, 15M was open and Ant found a frequency and called CQ getting a steady stream of callers. Chris tuned 10M and nothing! Not even a local or UK station calling, so he decided to try and get a run going. He called for a good 2 hours turning the beam virtually 360 degrees before his first reply. This is how the 10-m band was all weekend, but it was the same all around the UK.

As Saturday progressed the 80-m and 160-m operators went and had some well earned rest, leaving Chris, Tim and Ant to try and rack up some scores on their chosen bands. 10 m just did not produce, and 15 m was hard work for Ant. Because we are right out on the Western coast of the UK the 3 element was not allowing him to hear or be heard by the near European stations, and a few "local" multipliers were missed, maybe this will improve next year as we will have a 4 element beam on 15. Tim carried on making contacts all day until he was so tired he was operating like a robot.

Ant, Chris, and Rob gave the others moral support as well as keeping them in cups of tea, and other beverages. Sunday morning and more breakfast cooked by Jane. 10 m was still not opening and on 15 m Ant had a good run into the Pacific and as the propagation changed had a huge pile up into the US.

Viliam retired as 160M closed, closely followed by Oli as he started to fall asleep while CQ'ing. When the evening came Charles also had to get some sleep, but he was back for the end of the contest. Tim got back into the 40M chair and carried on up to the close. Oli and Viliam again got on the air for the last hours.

The final claimed scores.

Band	Call	C	Z	Score
160	MW9W	61	13	39590
80	MW0JRX	91	18	151510
40	MC0SHL	98	23	159478
40	MW0X	83	21	145288
15	GW4OH	101	29	130520
10	GW1VDP	15	3	846

The Low bands and 15M beat the previous records, with Viliam and Oli taking the highest UK scores for their respective bands.

10 m - well maybe next time! When the contest ended we opened a bottle of Champagne and toasted what was overall a successful weekend, a lesson learned that we need to make sure we have spares for the antennas, especially a trap or two.

## Stripping it down

Monday morning dawned, and time to strip down most of the antennas, but leave one so we can get on the air Monday night before we all go our separate ways home. The antennas came down without problems. We then went for the post-contest walk down to the cliff tops and around the farm for our team photo. That evening we got on the air using MC0SHL for the final time at our first anniversary weekend.

Again we had a good time, lots of laughs and hard work at times, but most of all we bonded and became even closer friends. We all left with a project to look at and we even decided when we were all going to try and get together again. See our website [www.mc0shl.com](http://www.mc0shl.com) for updated information on the group's activities.

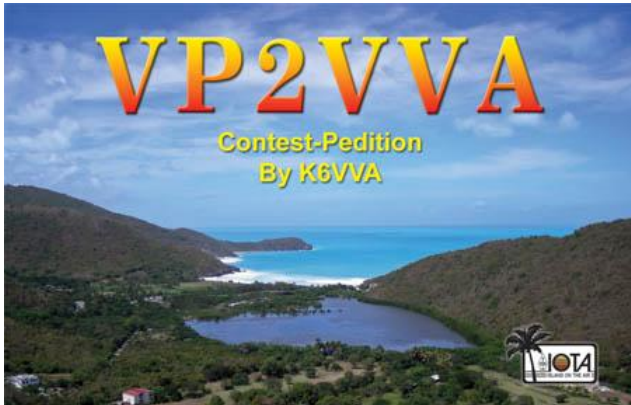


The MW9W Team. Back row: Charles M0OXO, Ant MW0JZE, Viliam OM0AAO  
In Front: Jane, Rob MW0RLJ, Tim M0URX, Chris G1VDP, Oli MW0JRX.

The team congratulates Rob and Jane on the recent announcement of getting married in 2010.



**VP2VVA in ARRL DX CW 2009**  
**Rick, K6VVA**



I decided a Contest-Pedition to the Caribbean would be a good present to celebrate my 65th birthday, and 52 years of being a licensed Ham Radio Operator.

A full 48 hours all-band contest effort with no sleep was not appealing to me, so I chose a strategy to enter the 20 m SOSB category. This would allow me to get some decent sleep and also have a very short vacation. I could also operate 40 m & 80 m for check-log purposes to provide some VP2V-multiplier QSOs to others on 40 m and 80 m for a few hours in the evening.



Rick, VP2VVA. TS-480S & AL811AH @ 400 watts.

My research of the previous 5 years of results for the 20 m only category suggested that if I set a goal of at least 2100 QSOs and 60 Multipliers, that I should be able to hopefully have the top

score for the category this year (even at the bottom of the sunspot cycle). I wrote down my goal on a small yellow Post It note and kept this in front of me while operating. It required calling CQ more than 5,300 times, and so far it appears my goal was accomplished with 2,172 Gross Q's and 60 Mults, unless a higher 20 m score is submitted. A few "dupes" and probable logging errors will undoubtedly reduce the score a bit in log checking, of course.

During so many CQ's, I wished for a shorter contest callsign like D4B. However, I was grateful to the licensing authorities for the special assignment of VP2VVA to use in the contest instead of VP2V/K6VVA which was for non-contest operation to hand out some IOTA QSOs primarily to Europe. .

Dmitriy, UA4WLI made several modifications to TR4W for me, which helped greatly. It was a pleasure to use his excellent software for the first time in a major contest. I am also converting to TR4W for use at my new solar/battery remote controlled station in California, which is now partially operational. If you have not used TR4W yet, I encourage everyone to try it!!!

Although my host George, VP2VQ, kindly offered me the use of either his FT-1000MP or IC-746 Pro, I decided to take one of my TS-480 rigs because I am so familiar with it and have used the TS-480 on other Contest-Peditions. My home QTH SO2R station also uses two TS-480's. Fortunately, I was able to reduce my Contest-Pedition travel luggage because George also provided the use of a 12v power supply, his small amplifier and existing A3 tribander. Although the tribander was only 30 feet off the ground, the QSL photo I took from the VP2VVA operating location looking toward the U.S.A. shows why it worked so well. George, VP2VQ, and his family were



excellent hosts. When not operating in the Contest, I enjoyed many fun times visiting with them.



George, VP2VQ.

I arrived on Tortola Thursday afternoon, with the contest to start the next evening local time. When I woke up on Friday morning, George informed me that the A/C electrical power was QRT on the entire Island. It did not come back on until that afternoon. We searched for a possible backup generator to accommodate a pure sine wave for the computer and radio equipment, but none was available. My concern was that the power might go off during the contest. So I said many prayers during the contest for the power to stay on and gratefully all was OK. George is planning to add a backup generator soon.

In a few months, George, VP2VQ, will have some exciting news about future Contest-Pedition and DX-Pedition opportunities on Tortola. If you'd like to be informed, send George an email ([vp2vq at surfbvi.com](mailto:vp2vq@surfbvi.com)) and use TORTOLA in the Subject line.

My very good long time friend Jim, N6TJ (ZD8Z), was also operating the contest not too far away from VP2V as NP3U. We just missed being able to see each other at the San Juan, Puerto Rico airport by about one hour because of our different airplane flights to and from the

Caribbean. Fortunately, I will be able to see Jim and his XYL at the Visalia DX Convention next month, as well as Martti, OH2BH which will be nice. I am also looking forward to seeing the Radio Arcala Project presentation!



Tortola airport comes with chickens.

Now back in California, I wish my trip to VP2V would have been longer in order to do sightseeing and enjoy the Caribbean waters. Next time I will plan to spend more days there. Some photos from my Contest-Pedition trip to Tortola, British Virgin Islands, are at:

<http://www.k6vva.com/iota/na023> .

73 & Tnx to all for the Contest QSOs and Multipliers

Rick, K6VVA \* the Locust

- Celebrating 52 years as a licensed amateur radio operator
- Co-founding member of NCCC
- FOC member #1845, ex- #845
- A-1 Operator Club
- C6AVA, KL8C-trustee, KP2CW-trustee
- DXCC, WAZ, WAS, etc.

## Visual DX Summit – Future of DX spotting?

Juho, OH5JOC

In the last PileUP! magazine I noticed that Ilkka, OH1WZ had again made visualizations of the contest QSOs. I needed something to do for my Christmas holidays so I thought that it could not be so hard to do the same thing online for spots in the dx summit.

Visualizing the spots offers nice benefits compared to the traditional plain text version of the summit. You can clearly see the propagation (or at least the spots) of the band. Also the information about who is the spotter and who is being spotted loses meaning when you see the qsos and propagation paths between different locations.

I wanted to learn something new on web programming and after a short web surfing I decided to make everything on the client side using AJAX and JQuery. Mapping is done with Gmaps, which offers a free and simple API for implementing

your own applications on top of the Google maps. This solved the age-old problem of making your own map applications:<http://code.google.com/apis/maps>

The file Cty.dat is used to get the coordinates for callsigns. It is good enough for small countries like Åland islands (OH0) but large countries like US, Australia and Russia would benefit a lot from more detailed information. So there is need to identify not just the country, but also state, oblast or territory from the callsign. Other option for prefix / location information would be the file Prefix.lst by Alex VE3NEA. It offers more a detailed mapping of the calls, but it's trickier to use so I took the easy way and chose Cty.dat.

Then it was just putting it all together and making the webpage including some Javascript code for fetching the DX-spots from DX-Summit, parsing the coordinates for both stations and plotting the data into the map in the webpage. An example of the end result is shown in the picture below. It shows 20-m DX-spots from DX-Summit on March 22, 2009 at 2030UTC.





There are still some issues like how to map long-path QSOs and the problem of the large countries. The list of ideas for further development is endless. For example there are options for defining the band, mode and number of the spots. The use of colors for different bands would make visualization much more informative. Also my prefix parsing should be better. Currently it just matches the beginning of the calls. Gmaps supports markers where some QSO information could be added, fading of the old QSOs

to background, making the page look pretty and so on.

At the moment everything is still in Beta stage so I haven't put the thing available to the net. For example I have tested the webpage only with Safari. But, if you have comments, feedback, suggestions or want to do a test run with it, you are welcome to drop me a line.

oh5joc@sral.fi



Ant, MW0JZE. One the MW9W Gang. CQ WW SSB 2008. 21 MHz SOSB (A).

## Remote eli DX-aseman kaukokäyttö

Kari, OH5LF

### Miksi remote?

Useat kilpailu- ja DX-asemat ovat suurimman osan vuotta "tyhjillään" ollen aktiivisia lähinnä kontestiviikonloppuina tai silloin kun paikalla sattuu käymään. Ne sijaitsevat hieman "korvessa" ja mukavuudetkaan eivät aina ole kaupunkitasoa. Monella on isompi asema kesämökillä, jonne ei välttämättä talvisaikaan viitsi lähteä ihan vain workkimaan. Kaupungeissa asemien rakentamista hankaloihtaa tilanpuute, viranomaisten määräykset ja naapurien penseys isompiin installaatioihin. Lisäksi QRM-taso on nykyään aito ongelma, jolle ei paljon ole tehtävissä. Siis miksipä ei rakentaa kaukokäyttöä eli remotea tuolle korpi/mökkiasemalle. Tämä lisää kummasti aseman käyttöasetta. Aiheesta on julkaistu aika vähän artikkeleita. Netistä löytyy kyllä infoa mutta useinkaan niissä oikein selitetä mitä käytännössä pitää tehdä ja mitä haasteita hommassa on. Voidaan ajatella, että remote on Plug and Play -juttu. Helpoimmillaan näin on, mutta omia haasteita voi tulla vastaan.

Seuraavassa kerron kuinka olen toteuttanut oman remote-asemani ja mitä asioita eteen on matkan varrella tullut kahden vuoden aikana. Remote-asemalla tarkoitetaan tässä yhteydessä yllämainittua korpiasemaa.

### Tarvittavat välineet

Asemalla pitää olla HF-radio, jossa on tietokoneliitettä ja PC ja nettiyhteys. Lisäksi on syytä varata hurja määrä snapon ferriittejä häiriöpoistoihin. PC:n ja radion väliin tarvitaan minimissään 3 välikaapelia. Radion ohjaus PC:n com-portista radioon vaatii tietenkin välikaapelin. Toisella kaapelilla kytketään PC:n kuulokeliitettä radion mikkiliitettä. Kätevä on kytkeä se takapaneelin phone patch –

liitääntään, se ainakin toimii. Kolmannella kaapelilla liitetään radion audio aux – ulostulo PC:n mikrofonin sisäänmenoon. Väliin tarvitaan galvaaninen erotus eli jonkin sortin 1:1 audiomuuntaja. Itselläni on Bitemasta saatava 10 €n purkki. Lisäksi audioulostuloon, radiosta PC:lle, kannattaa asentaa väliin potikka, jolla saa vaimennettua audioulostuloa PC:lle. Audio-lijnahan on olemassa pilvin pimein kaupallisia sovittimia, joista minulla ei ole kokemusta. Tässäkin asiassa mottoni on: "keep it simple". Muistakaa ferriitit väliin, niiden lopullinen määrä on toki tapauskohtainen riippuen mm. siitä ajetaanko lopullisessa remote-installaatiossa 100 W vai 1 kW teholla.

Seuraavaksi tarvitaan PC:lle sopiva radionohjaussofta, vaihtoehtoina mm. Ham Radio Deluxe tai TRX manager. Itse käytän ensimmäistä - se on ilmainen ja käyttöliittymä on asiallinen. TRX managerista saa ilmaisen kokeiluversion, mutta sitten se pitää ostaa. TRX:ää en ole käyttänyt, mutta manuaalista päätellen se on monipuolisempi ohjelma. HRD:llä ja TRX:llä voidaan ohjata kaikkia yleisimpiä radioita. Kenwoodille (TS2000 ja 480) on tehty kätevä remoteohjelma, kts. W4MQ:n sivut.

Seuraavaksi lataa HRD remote PC:lle ja kokeile kuinka ohjelma toimii paikalliskäytössä radion kanssa. Ohjelmassa valitaan "connect", jossa pitää määritellä käytettävä radio ja com-portin numero. Sitten yhteyden pitäisi olla päällä. On hyvä räplätä oma aikansa ohjelmaa, jotta nappulatekniikka tulee tutuksi. HRD:llä pystyy ohjaamaan FT1000MP:ssä seuraavia toimintoja: taajuus, bandi, mode, filterit, PTT, VFO A ja B, splitti. Sillä ei voi säätää seuraavia toimintoja: teho, mikkigeini, puheprosessori, muistit, audiogeini, ei voi kytkeä rx-antennia ei notsia yms. Joitakin toisia radioita voi ohjata monipuolisemmin. Ym. TS2000 ja TS480:ssa voi ohjata kaikkia toimintoja kuten käyttöpaneelisti. Kuitenkin FT1000MP:lla on pärjännyt hyvin. Paikan



päällä pitää säätää miksigaini oikealle tasolle. Teho voi olla maksimissa, paitsi linukkaa käytettäessä sopivalla tasolla, jotta yliohjausta ei tapahdu. Eräät muut nappulat on syytä pitää perusasennossa: vox pois päältä, monitori pois päältä, dsp pois päältä, shift ja width perusasennossa, notch pois päältä.

Seuraavaksi tarvitaan ADSL-modeemi. Kokeiluja varten on parempi olla 4-porttinen. WLAN mallia ei kannata ottaa, kokeilin sitä ja sen kanssa tuli RF-ongelmia 80:llä ja 160:llä. Kaikki mallit ovat olleet Telewellin. Ilmeisesti WLAN vastaanotin sekoaa RF:stä helpommin, ainakin linukalla ajettaessa. ADSL:n puhelinverkon puolella tarvitaan hyvin rajusti ferriittiä, samoin jonkin verran PC:n ja ADSL:n väliin sekä ADSL:n powerijohtoon. Seuraava askel on hankkia toinen PC, joka on ns. kotikone. Paras on tuoda se remote-asemalle. Siihen asennetaan sama radionohjausohjelma eli HRD. Remote PC:n HRD:ssä pitää ottaa käyttöön "remote server" ohjelma (katso HRD:n manuaalista). Tässä yhteydessä määritellään myös Username ja Password. Seuraavaksi kytke koti-PC samaan ADSL päätteeseen vapaaseen porttiin. Mainitakoon, että remote PC:n HRD ei saa olla nyt päällä. Koti PC:n HRD käynnistetään: (File | connect). Siellä valitaan "Company" (Yaesu), Radio (FT1000 MP), Com port (Remote), Speed 4800 ja remote PC:n COM-portti, johon itse radio on kytketty. Lisäksi ohjelma kysyy Username ja Password sekä remote PC:n IP-osoitteen. Itselläni on kiinteä IP, muitakin mahdollisuuksia on (noip.com). Kiinteä IP maksaa hieman, mutta toimii kuin "junan vessa". Ilmaista NOIP:tä en saanut toimimaan HRD:n kanssa (saattoi olla osaamisen puute, Tapanilla OH5BM:llä on hyviä kokemuksia tästä). Käyttöjärjestelmänä kummallakin koneella on XP-home. Käytettäessä kiinteää IP:tä pitää ADSL-modeemi sillata eli läpikytkä. Tällöin myöskään ADSL:n palomuuuri ei ole käytössä. Telewellin pienin yksipor-

ttinen malli on valmiiksi sillattu. Itselläni on vain XP:n palomuurit käytössä. HRD vaatii "reiän" palomuuuriin (kts. HRD:n ohje).

Nyt sinulla pitäisi olla paikallisesti remoteyhteys radioon HRD:llä. Seuraavaksi tarvitaan audio. Tässä olen käyttänyt Skypeä ([www.skype.com](http://www.skype.com)), asennat se kummallekin PC:lle. Määrittele tunnukset ja salasana. Remote-PC:n Skypen voi asettaa vastaamaan automaattisesti kun se vastaanottaa "puhelun". Kytke koti-PC:hen headsetit. Tämän laatu pitää olla samaa tasoa kuin radioiden kanssa normaalistiikin. Itse käytän Heilin HC-4 kapselilla varustettua mallia. Kokeilin myös Heilin PC-headsettiä, mutta palautin sen välittömästi kauppiaille, HC-4 oli kommenttien mukaan selvästi parempi. Kuunteluaudion tasoa voit säätää koti PC:n säätimestä. Remote PC:n audion sisäänmenon ja radion välissä olevalla potikalla voit vaimentaa tasoa sopivaksi PC:lle. Jos PC saa liikaa ohjausta, niin ääni säröytyy. Skypekin on kehittynyt kahden vuoden aikana ja laatu on nykyään erittäin hyvä. Säätöjä voi tuki tehdä myös kummankin PC:n käyttiksen Control Panelin audiosäätimillä.

Kätevä tapa säätää miksigaini sopivaksi on seuraava. Normaalisti sinun koti-PC on kotona ja itse olet ollut viikonlopun remotesemalla paikanpäällä workkimassa. Lähdet kotiin ja pitää säätää miksigaini kohdalleen. Jos sitä on liikaa, niin laatu kärsii. FT1000MP:ssä sitä ei voi säätää kotoa, mikä on tavallaan puute. Mutta avaa XP:n control panel ja valitse "puhe". Siellä on PC:n koneääni, jonka voit käynnistää, voit kirjoittaa siihen vaikka oscar hotel 5 lima florida. Kytke radion VOX päälle ja aktivoi teksti PC:ltä. Puheen mongerrusta voi kuunnella radion monitorista. Säädä miksigainiä siten, että ALC pysyy asteikon rajoissa. Minulla on normaali workkimisessa miksigaini asennossa klo-9. Em. säädöllä se asettuu jonkin klo 7.30..8 tienoille. Liiankaan ujo ei säädössä pidä olla, jotta rigi ohjautuisi. Prosessori saa Yeasussa olla normaalisti

melkein täysillä, mutta remote käytössä olen säätänyt potikan noin klo 12:een.

### **Remotena lokaalisti<sup>1</sup>**

Nyt voit alkaa workkimaan remotena lokaalisti. Tune-toiminto pelaa myös FT1000:MP:llä. PTT:tä kun klikkaat, niin TX käynnistyy. ALC-mittari näkyy remotessa, se on hyvä indikaatio sille että audio toimii. Samoin tehomittari näyttää indikaatiota. Kuuntelulla S-mittari toimii. Audioraportteja voi kysellä bandilla. Hyvä apu on toinen amatööri joka voi omalta asemaltaan kaukokäyttää sinun remote-asemaa kun itse olet paikan päällä. Näin säätöjä ja kokeiluja on helpompi tehdä. Hänellä on toki syytä olla hieman kokemusta asiasta. Itselläni oli suurena apuna Tapani, OH5BM.

Itselläni oli mielenkiintoinen RF-ongelma äskettäin. Syystä tai toisesta (ilman että olin muuttanut asemalla mitään) remote-yhteys alkoi lähettäessä jumittaa. Skype on melko herkkä RF:lle ja sen laatu kärsii ja yhteys saattaa katketa. Kun vika oli päällä, kokeilin paikan päällä kannettavalla remotea paikallisesti kytkettynä suoraan samaan ADSL päätteeseen. Ei RF ongelmaa. Mutta, kun Tapani kokeili Simpeleeltä, ongelmia ilmeni. Tällöin oli linukka päällä ja tehoja se mitä ACOM antaa. Hoito oli se, että lisäsin puhelinlinjaan snap-on ferriittiä. Minulla tulee puhelinlinja ilmakaapelina suoraan maston alta. Lopputolpalta se tulee maakaapelina kallion pinnalla turpeen alla. Viimeiset ferriitit asensin lähelle tolppaa. Nyt RF talttui. Kuten aikaisemmin totesin, mitä matalampi taajuus, sen herkempi ADSL on RF:lle eli hankalin on 160 m, sitten 80 m. Ylemmillä taajuuksilla ei ongelmia ole ollut. Samoja havaintoja on ollut muillakin.

### **Entäpä antenninvaihto?**

Otan FT1000MP:stä band-data liittimeltä tiedon omatekoiseen band-data purkkiin, joka ohjaa omatekoista antennirele-

purkkia. Idioottivarma toiminta. Kaupallisiakin versioita band-data purkista on saatavana. Kokeilin myös Micro Hamin band decoder nimistä, hyvin sofistikoitua laitetta, jolla voidaan taajuuden mukaan määritellä käytettävä antenni. Jopa siten, että samalla bandilla voi olla useampi vaihtoehto. Band-data purkissa on se hyvä puoli, että se on nopea. Bandi vaihtuu aina yhtä nopeasti kuin radiossa. Jos bandin vaihtotieto tulee jostakin softalta, saattaa olla viivettä sen verran, että radio on jo vaihtanut bandia ja antenni on vielä vanhalla bandilla. Remotea linukalla ajettaessa tällä voi olla merkitystä. Tapanilla on käytössään Micro Ham ja se on toiminut ilmeisen hyvin.

### **Antennin kääntö?**

Taas on monta mahdollisuutta. HRD tukee muutamia kaupallisia roottoreita suoraan, TRX manager huomattavasti useampia. Tällöin roottorilla pitää olla PC-kytkentä mahdollisuus. Itse hankin Pablon, EA4TX universal rotor controller platan. Siihen voi liittää useimmat kaupallisetkin kääntäjät valmistajan ohjeita seuraamalla. EA4TX soveltuu oivallisesti mastonkääntö vaihdemoottorin ohjaukseen. Asenna platta metallikoteloon. Se tarvitsee 12VDC. Minulla on itse vaihdemoottorille suunnanvaihtokontaktorit+moottorinsuojakytkin hamshäkin ulkoseinän sähkökeskuksessa. EA4TX platassa on releet (CW ja CCW), joilla kontaktoreita (3-vaihe) ohjataan. Platassa on myös rele, jolla vapautetaan lukitusjarru, jos sellainen kääntäjässä on. Lisäksi EA4TX tarvitaan +/- 12 tai 24 VDC virtalähde, suunnannäyttöön. Paras on käyttää esim. 10-kierrospotikaa. + ja - jännite tulee platalle ja näyttöpotikan päihin ja liulle 0 V. Tarkemmat kalibrointiohjeet ovat EA4TX kotosivulla manuaalissa. EA4TX kytketään PC:n rinnakkaisporttiin. Se ei ole toiminut minulla lisä LPT-porteilla jostakin syystä, ainoastaan PC:n LPT1 orginaaliportissa. Käyttöliittymä ARSWIN (EA4TX softa) on yksin-

<sup>1</sup> Etänä paikallisesti...

kertainen. HRD ei tue EA4TX:ää. TRX puolestaan tukee. Muista asentaa mastolle turvarajakytkimet, jotta masto ei missään oloissa "käänny yli". EA4TX:ssä se on hoidettu softalla, mutta jos potikka-signaali katkeaa, esim. kaapelivaurion takia, niin EA4TX ohjaa moottoria "jatkuvasti", jos starttia on painettu. Tämän vuoksi olen asentanut REALVNC ilmaisohjelmat. Remote PC:lle VNC-Server ohjelman ja koti-PC:lle VNC Viewer-ohjelman. VNC:llä saa remote PC:n kuvaruudun kotikoneelle. Eli käytän roottoriohjelmaa VNC:llä remotekoneen ruudulta. VNC on muutenkin kätevä. Sillä voi käsitellä remote PC:tä aivan kuin paikan päältä. VNC Serverille asetetaan salasana. Viewer kysyy salasanan ja IP-osoitteen yhteyden muodostamiseen. VNC vaatii reiän XP:n palomuriin.

### Linukka?

Jos kaipaa enemmän kuin 100 W, pitää olla linukka. Kätevin on automaattimallinen. Ovat kyllä aika arvokkaita. Puoli-johde- ja Fettilinukka-markkinoille on tullut uusia malleja. Niissä bandinvaihto onnistuu automaattisesti - joko haistavat sen suoraan RF:stä tai band-data tiedolla. Puolikilowattisia voi saada edullisemmin, mutta kilowatin pelit taitavat olla alkaen 3000€. Itselläni on Acom-2000a, siihen saa acom-tools softan, jolla voi ohjata linukkaa. Acom kytketään remote PC:n com porttiin. Lisäksi Acom RS232-liittimiin tulee pieni lisäplatta "remote pc on/off", jolla siihen saa virrat päälle ja pois PC:ltä Acom Toolsilla. Muutoin itse ohjaus toimii ilman lisäplattaakin. TRX mangerissa on uusi ominaisuus eli se tukee Acomia suoraan. HRD ei tue. Acom tools softassa ei ole varsinaista remote ominaisuutta, mutta VNC:llä linukan ohjaus käy hyvin suoraan remotekoneen ruudulta. Radion ulostuloteho pitää säätää siten, että linukka ei yliohjaudu ja "putoa pois päältä".

### Hätä-seis ja sähköt pois

Turvallisuus- ja käytettävyyssyistä olen varustanut aseman Probyten GSM-ohjauksella. Minulla on kaksi relettä. Toisella saan sähköt pois PC:ltä, ADSL:ltä ja radiolta, toisella linukalta. Näin vehkeet saadaan virrattomaksi. Toinen tärkeä syy on saada ADSL ja PC:n buutattua. On tilanteita, jolloin remote PC tai ADSL menee niin sanotusti juntturaan, jolloin buuttaus yleensä auttaa. Remote PC:n Biosilta pitää valita PC:lle automaattikäynnistys aina, kun se saa sähköä. Muutoinhan se ei sähkökatkon jälkeen tai buuttauksesta käynnisty. Toki itse PC:n buuttauksen voisi tehdä VNC:llä, mutta virrat pois ja päälle on ns. idioottivarma toimenpide. Myös aseman väärinkäyttö voidaan estää näin. Tietoturvamielessäkin ADSL:n pimentäminen vähentää riskejä. Minulla ei kyllä ole ollut mitään virusongelmia, ihme kyllä, vaikka sama kiinteä IP on ollut jo kaksi vuotta. Tosin sähköposteja en tällä koneella käsittele, enkä käy tuhmilla sivuilla. Virustorjunta on toki ajan tasalla.

Edellä oleva teksti on kirjoitettu jo vuosi sitten ja se sisältää aika paljon nippeletietoa. Remote workkiminen on sinänsä arkipäiväistynyt ja se ei omasta mielestäni poikkeaa paikanpäällä workkimisestä. Bandin selaaminen on toki hie-man "kankeampaa" kuin radion nupista. Samoin nopea kontestitworkkiminen voi olla oma haasteensa koska PTT:lla on pieni viive (30 – 50 ms). Plokkaaminen ja normaali DX-jahti sujuu. Yllä kuvattu järjestelmä on ollut hyvin toimintavarma ja asemalle ei ole tarvinnut tehdä huoltokäyntejä kesän jälkeen. Kaikki on toiminut kuten pitää. Kannettavalla PC:llä ja 3G mokkalalla asemaa voi periaatteessa ohjata mistä tahansa. Mutta käytännössä viiveaika nousee liikaa ja yhteys on 3G:llä ja yllämainituilla softilla liian hidas. Tavallinen ADSL tai esimerkiksi hotellien WLAN verkosta homma hoituu hyvin.

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Wife-carrying is the trendy activity at OH7M. Tractor fishing is a very innovative Welsh sport. Here's a sample from MW9W.