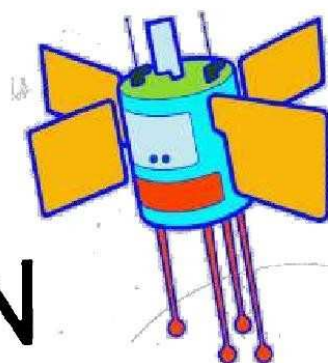


April 2014
41^e jaargang nr. 1



DE KUNSTMAAN



In dit nummer o.a.:
"Punctured" Viterbi
Weersatellieten in Vietnam deel 11
USBee Logic Analyzer
en nog veel meer.....

ISSN: 1382-8215

Dear member,

This pdf contains some translated articles of our Dutch magazine “De Kunstmaan”.
Google Translate is used; none or very few corrections are done afterwards. Results may be sometimes incorrect or hard to understand, but mostly I think it is usable.
Figures and pictures are left out. Please use the “paper” (Dutch) magazine together with these translations.

I hope these translations will help you to understand the Dutch articles. If there is a particular article for which you want a translation just let me know.

Please check also our web-site, which has now a translated version:
www.kunstmanen.net

Rob Alblas
werkgroep Kunstmanen
kunstmanen@alblas.demon.nl

Foreword (page 2)

Every year we sadly lose 8 to 10 members. It is hard to reverse this trend. You also see the Veron that it is hard to get. New (young) growth of members

This does not mean that there are no young people who are engaged in electronics. We fail properly to reach these people. Particularly through the internet you will find no need to go for information or parts. Scholarships to / meetings

A quick search on Google or Youtube gives a deluge of information, tutorials, etc. all conceivable questions about electronics you can lose several forums, a well-known site circuitsonline.net.

Want to order parts you can do this through eBay, where free shipping, send parts from China to you for a few Euro. The local retailer can not compete here.

So the question is how do you reach potential new members and how you can bind to your organization? In the world there are many people interested in the reception of weather satellites. Social media offer the ultimate platform to find, share information with each other and learn from each other. Those people We have our group recently created an account on twitter: @satellites and the first interaction is already underway. We note that our messages and retweets will be happy to follow.

Except for a Twitter account, we also have a Facebook page where we can share our experiences with the outside world and results:

<https://www.facebook.com/kunstmanen>.

In addition, there exclusively for our members created a Facebook group: Since only members of our group can join (who themselves have a facebook account):

<https://www.facebook.com/groups/687359444618426/>

It is our intention to carry on the progress of our projects, dialogue in the Facebook group together updates on meetings, etc. Do you have an account on Twitter or Facebook, follow or like us.

For members who still do not use social media or who have questions, we want to give a presentation at the *meibijeekomst* on Social Media. We will show you how to easily create a Facebook or Twitter account can create.

You know potential members to achieve than you usually get one of the first questions: What must I do to be able to receive weather satellites themselves? The answer that we give to this is not very satisfactory:

The simplest solution is EUMETCast: from August to December 2014, need a new decoder, we do not know which. It is advised for those few months, but no money to stabbing. In old technology Direct reception also. Thus APT reception with WRX1700 possible as long as the NOAA18 and NOAA19 satellites are there.

For HRPT reception, you need a rotor control: you must be a metalworker to build something yourself. Maybe it *Diseq* story where Arne and Rob are doing a simple alternative.

The 8052 controller board for the rotor control is almost more of the era and the driver *Videre* not run on 64-bit computers. Fortunately, there are new developments with an Arduino and Xtrack.

The future of the reception of weather satellites lies with the Chinese that a series of Fengyun satellites are going to launch. With the completion of the receiver with a Costas loop for receiving QPSK is a big step. The latter, also great step, the Viterbi decoder which has to be completed.

In summary, it seems that we are in the technological sector in a sort of transitional year. Hopefully filled many of the uncertainties over a year. For recruiting new members this is necessary because everyone wants to have the time and effort you put into a receiving station, also pays off. Assurance

It is desirable to have everyone get to work with? Standard kit Whether you create this expectation that it's all easy. Given the complexity of our hobby is questionable whether this is desirable.

Both the New Year Reception and de March meeting, well attended, and it's nice to see that there is a core of loyal members who come to the meetings.

Unfortunately we have to deal with the parking of the city of Utrecht who believes they may charge for parking your car much money. Fortunately, it is often possible to park like the sports fields. Free car For early arrivals, we have a limited number of parking tickets. Sometimes it is possible next to the property, at the delivery entrance, parking. So walk in first when Nimeto in and ask what parking options are before you put money in the parking meter.

Yesterday we had a fun fair in Rosmalen. You see a lot of familiar faces and it's fun to make with anyone. Chat again Fun was the state of circuit line where large parties for little parts were sold. There are also well-known exhibitors who their (old) inventories are trying to sell. For the new material, go to Mouser or eBay

Now with the beautiful spring weather the weather's time to go out and tackle. Work on the antenna again In addition, the images of weather satellites are getting better now that the sun is moving back to the northern hemisphere. Let us know what you are doing, for others it may be an answer to a question or inspiration for a good idea.

In this Kunstmaan again many articles worth reading, from easy to challenging. Lot of reading pleasure and hope to see you at the General Meeting on May 10.

Your Chairman.

Making an x / y-DiSEqC rotor (page 32)

As I wrote elsewhere in this Kunstmaan I have two DiSEqC rotor from the Netherlands included. They are Clarke-Tech HH-390 and described by Arne rotors in a previous Kunstmaan [1]. I assembled an x / y-rotor. I used the idea before that as x / y-rotor, which Arne made. I have the drawing found on the Internet alongside and photos from [2] used to understand what an x / y-rotor is and how to establish such contacts.

general

I have used for building materials that I had lying around. In the junk box I describe here also the principle how I made such a rotor, I do not give a detailed description Dimensional. Anyone can do this with their own materials. Because I just let the pictures of the rotor of Arne saw my performance also differs from that of him. The overall differences are:

The y-rotor is mounted on the side of the x-rotor to Arne, at me of the end face

When Arne y rotor is stationary and the rest moves. For me that is the exact opposite.

In summary: Arne has two rotors attached directly to each other via a plate. In this way, its implementation is more compact (about 5 cm.) And easier. See picture 1 for the lower part of Arne's rotor. Anyone can implement to make his own choice. So under the motto "why easy as it can be difficult" here's mine.

Picture 1.

Rotor + rotor support

The first step is to confirm. Rotor in a support Both rotors and brackets supplied are treated the same way.

In the house of the rotor is in line with the shaft, which goes to the outside, a drilled hole. This is a M5X60 mm bolt surrounded by a van. The van should be such that it comes through the hole and acts as a bearing. For me that is about 3 ½ inches.

In support two holes are drilled. Taking into account that the rotor must be able to rotate, the axis remains fixed in place. In the middle position the plugs pointing downwards. My rotors at the center of the hole to the inside of the support is approximately 10 cm. bodem.Een from the gap of 5 mm, through which the bolt passes, the other is large enough to get through the axis of the rotor to stabbing. This is put firmly on the outside with a metal block which consists of a hole drilled. With the help of a socket head cap screw M8x40 is the block against the support shaft and the fixed put. On the other hand, the bolt between two fixed nuts put. The whole is trapped between the support. If this is not the case, the metal block can also be confirmed. Against the support Arne, the welded. See photos 2 and 3. This shows the rotor rotated a lot.

Photo 2 Photo 3

compound 1

This serves to confirm. Entire rotor on a support

Arne has for this purpose the lower part of an old TV rotor. This is just in one picture visible. That was my plan, but the upper part of my old TV rotor turned around and therefore not large enough for a stable mounting. I would therefore allow welding where I rotor mount with 2 fixing brackets. Pipe in the existing aid See picture 4, where the tee provisionally secured with brackets.

compound 2

The unit is mounted on the lower rotor and serves to mount. The upper rotor support between Here I've been working on for some time. In the end I chose the rack, which I could fix my TV on the wall to sacrifice. I'm with the Vietnamese build quality afraid a picture frame will come, let alone a big TV down. So still it lay unused in the closet.

Photo 4

For fitting on the rotor and the bolt holes are used, where the rotor is mounted normally. Along in the support As the upper support is wider than the lower rotor, I on the rotor filled the gap with a strip of about 3 mm. thickness.

In the upper bracket holes are drilled at appropriate place. Take into account the fact that the rotor on one side quite close to the support runs. So use bolts with a very flat head. I made two additional brackets for strength. See photos 4 and 5.

compound 3

The unit is mounted on the upper rotor and serves to mount the antenna. I have previously used a picture, this one-piece U-profile fitted (on the construction of our house) and then directly mounted on the satellite dish. See photos 4 and 5

picture 5

roof support

The aid, which must be on the roof and I had it welded, here before with some minor adjustments can be simply used [3]. The upper part of the two rotors is removed and in its place is a horizontal pipe welded.

interface

To control the rotors is an interface. Arne has [1] a diagram given in. However, I have used the Mosfet can find anywhere. Also my electronics store could find no equivalent. According to Ben, the Mosfets with Mauser for sale. Rob goes directly involved in developing the interface or it this something more common parts can be used. I have tested it fully using the buttons on the rotors.

[1] The Kunstmaan, June 2011, p. 99 New developments Part 2

[2] The Kunstmaan, June 2013, p. 70 Optimal tracking polar satellites

[3] The Kunstmaan, December 2012, p.138, Weather Satellites in Vietnam (6)