DARU Magazine
DARU Magazine Proud of Amateur Radio
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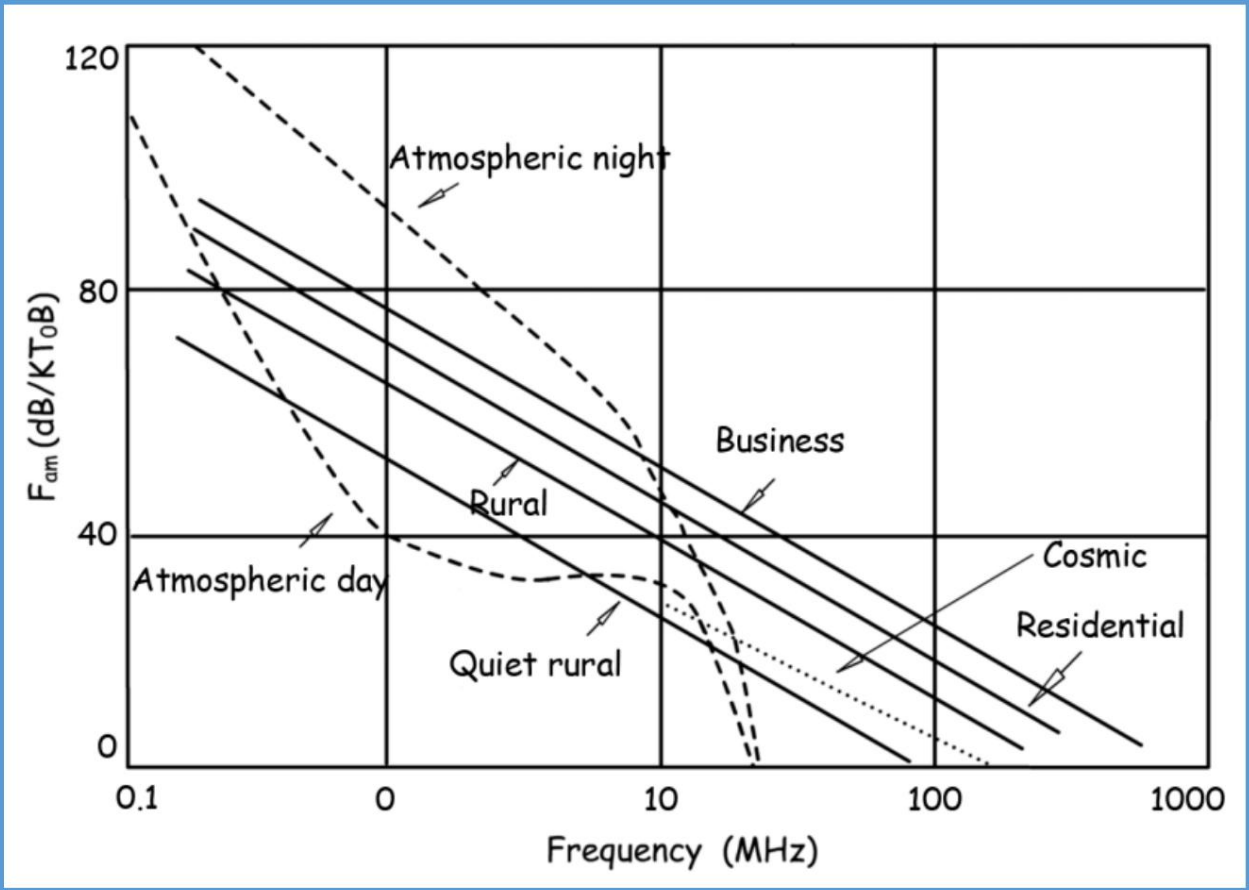
Edition#28, June 2022
The greatest of all scientific hobbies!



In his article ON5PDV explains what noise actually is and what you can do about it. Read more about it on page 6 ff of this magazine.

The above image shows the median values of man-made radio noise (solid lines) expressed in Fam (dB above thermal noise at T0=288 K). Atmospheric noise (dashed lines) and cosmic background noise (dotted line) are shown here for comparison with man-made noise.

Source: "Natural and man-made terrestrial electromagnetic noise: An outlook", by Cesidio Bianchi and Antonio Meloni.
Link to the article: https://www.researchgate.net/publication/50301459_Natural_and_man-made_terrestrial_electromagnetic_noise_An_outlook. CCBY 4.0.

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Navigating within the DARU Magazine

Click on a blue line in the table of contents to go directly to the relevant article.

Click on 'DARU Magazine' at the bottom left of any page to return to the table of contents.

Hyperlinks are included in various articles. If you click on that, you will go to our website or to articles with more background information on the internet.

Forward this magazine to fellow amateurs and other interested parties. Sharing knowledge and learning from each other strengthens cooperation!

Everyone is free to forward this publication to fellow amateur friends. They can of course also sign up for the mailing list, then they will also receive the download link directly by e-mail when a new edition is published. Send 'register' as subject to: magazine@daru.nu.

Amateur radio, also known as ham radio, is the use of radio frequency spectrum for purposes of non-commercial exchange of messages, wireless experimentation, self-training, private recreation, radiosport, contesting, and emergency communication. The term "amateur" is used to specify "a duly authorized person interested in radioelectric practice with a purely personal aim and without pecuniary interest and to differentiate it from commercial broadcasting, public safety (such as police and fire), or professional two- way radio services (such as maritime, aviation, taxis, etc.). Source: Wikipedia

Colophon

Edition#28, June 2022

DARU Magazine is a publication of the **Dutch Amateur Radio Union.** The magazine is made available in digital form for free to members and non-members 11 times a year.

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The **Dutch Amateur Radio Union** is an independent organization for radio amateurs in Europe and the Caribbean
bisch Netherlands and is there for everyone who uses radio technology
niece in general and radio amateurism in particular.

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Happy with the Dutch Amateur Radio Union? Then become a member. Tip family and friends to join this association as well.

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The contribution is € 15.00 per calendar year.

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Become a member of the DARU

And enjoy all the benefits we have to offer you!

From the DARU team

It is warm, sometimes even hot and not only in terms of temperature but also in society. It seems as if the contradictions between us as humans are growing every day. Whatever you read or hear, it is almost all aimed at who or what is wrong.

Unfortunately, as radio amateurs, we are no different. At least it happens too often that, when I turn over the tapes, I get conversations that are unworthy of an amateur radio. As soon as someone has the guts to say something about the language that is used, let alone if it is stated that we have agreed rules with each other for a reason, then that person can get hiccups. Incidentally, the actual language is often more intense, but I dare not repeat it here.

Usually that criticism goes from behind of course because then you are really King Boko. And from my own observation, which is confirmed by the Telecom agency, I can easily dispute the assumption that it usually comes from the N-corner. It's just as true for that same small number with an F permit.
It really gets messy if everyone makes their own interpretation of the rules. And if you still want to be strong, then choose a democratic path to ensure that those conditions you can't live with disappear. But hey, moaning is easier than doing something for it, isn't it? The same as volunteering, but nagging if, for example, a repeater has been out of the air for too long, but helping in any way to maintain such a thing properly, oh well.

But see here that I too am in danger of falling into the trap of concentrating on what is not going well. The advantage is that you can choose for yourself whether you continue to listen to that gribus or whether you are going to refresh yourself with what is fun and beautiful. Fortunately, the latter is possible to a large extent and I do that.
Whether it's the Meppel repeater locally or on many other bands, you will hear a lot of enthusiastic fellow amateurs who share experiences or can finally make that long desired beautiful connection. Isn't it much more fun than concentrating on those 'tough' guys who still boast that they allow themselves to talk to someone who doesn't have a license and similar excuses not to follow the rules

have to keep?!

On Wednesday 6 July, DARU will hold another members' consultation. The invitations for this have been sent.
Just to remind you, DARU is not just another association, but has been established with the ultimate goal to be able to represent the interests of the radio (broadcast) amateur as much as possible. We have also chosen our spearheads on this, namely interference problems, maintaining sufficient and varied frequency space, helping with hassles around antenna placement, being able to offer QSL service and working together on the image and thus the future of radio (broadcasting) amateur hobby. We can only do this if we also receive the support of sufficient volunteers who are willing to give part of their free time for this. I am very honest when I say that this is under pressure and that is why this members' consultation as a precursor to the GMM this autumn.

It's still not too late to sign up as a member and even better as a board or core group member of DARU. First of all, you will immediately participate in the members' consultation on 6 July and more importantly, you will be the pioneer who takes the next step with us in making our wonderful hobby future-proof. And finally. DARU will not represent itself in Friedrichshafen. We do not think it is justified to spend our members' money on this. In any case, our administrative costs are extremely frugal and the accountability is transparent down to the lowest level of detail. In this way everyone can see that the reward for the efforts of our voluntary activities does not come for a single person

part is laundered with dinners or outings with, for example, our partners. We prefer to leave that privilege to others. For us, a simple pat on the back is more than enough reward.

We wish you a nice summer holiday and we hope to see you next July 6th.

73,

Bert Woest - PD0GKB
President DARU

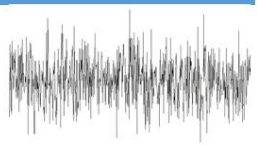
The July/ August summer issue of DARU magazine will be published next month. And then we will enjoy our vacation. If all goes well we will see / read each other again in September.

The section 'from the DARU team' is alternately written by someone from the DARU core team.

A Noise and what you can do about it

By Paul, ON5PDV

The article below is reproduced with permission of the author from the RadioAmateur, the magazine of the Flemish Radio Amateurs (VRA). Our thanks for this!



"I have a constant noise S6.

Is that normal and can I do something about it?"

I wondered why the signal meter on an 11 meter (27 MHz 'CB') device showed a quasi stable 'S6 noise' reception on FM day and night. I thought the noise level should be lower and somewhat variable with eg 'band conditions'. For example, at 11 meters, a higher HF band, I expected to see a lower S level in the evening than during the day.
From that observation I deduced that my noise level must be higher than the 'normal' slightly varying 'background' noise level, and that a presumably local 'disturbance' - perhaps even generated in one's own home - could be partly the cause.

Transceivers and WebSDRs with RF spectrum scopes gave a face to radio signals and interference, and make us think more about noise and whether something can be done about it.

Noise (in English: Noise) is a complex issue with many aspects. This article only aims to highlight some essential basic information in a comprehensible manner.

What is noise? Why is noise important?

Noise manifests itself as unwanted signals that 'interfere' with desired signals (therefore also called EMI or Electromagnetic Interference).

Despite all the investments in quality transceivers, antennas, coax, ..., there is something fundamental that we as radio amateurs must always keep in mind: **It is NOT the strength of the received signal, but the signal-to-noise ratio that determines whether - and how good - the received signal is intelligible.**

Image: The Signal Meter (S-meter) on an old CB device (11 m / 27 MHz) indicates a noise level of S3, which is fairly normal for a rural environment.
Previously, the noise level was permanent (day and night) S6, until causes were sought and adjustments were made.

E.g. if the noise level at your location is S6, a signal you receive with a signal strength of 'S5' will not be intelligible; the noise is stronger than the useful signal, the signal 'disappears' in the noise.
If, on the other hand, the noise level is S3, then the same received signal with signal strength S5 is 2 S points stronger than the noise level (2 S points on HF is 2x6 dB = 12 dB) and then the received signal is perfectly intelligible.

The antenna signal is amplified a million times in a receiver before it is presented to a loudspeaker. We could technically amplify that antenna signal 'infinitely' if it weren't for all kinds of 'noise' spoilsport.

Noise is one of the limiting factors for any communication system, and often THE factor that makes communication impossible. Should there be no noise in an ideal but unfortunately utopian situation, we would be able to perceive very weak signals perfectly. So lowering the noise level, if possible, is a worthwhile endeavor! But where does noise come from, and what can we do about it?

A Noise and What You Can Do About It (continued)

Where does noise come from?

There are various causes or sources of noise which, depending on, among other things, the frequency (and bandwidth) used or the place (the geographical location on earth but also the type of environment e.g. a rural environment) will play to a greater or lesser extent or ' to be dominant. We distinguish:

1. Thermal noise: noise due to electrons moving in certain electronic components and affecting affected by temperature, hence the name thermal noise. For example, if you do not connect an antenna to the receiver and you set the volume high enough, you will still hear noise from the speakers. This is because of the 'internal' noise (coming from the receiver) and is mainly due to thermal noise generated in the electronic components. A quality receiver will score better here than a bad design. We call the 3 other sources of noise 'external' noise.

2. Atmospheric noise: noise that is caused by things that take place in the atmosphere, this mainly concerns gaze sem discharges during thunderstorms that constantly manifest themselves somewhere on earth (this noise is therefore seasonal and location dependent). Atmospheric noise is especially dominant at the lower HF frequencies (< 20 MHz).

3. Cosmic or Galactic noise: noise received from the sun, other stars and galaxies that generates noise up to very high frequencies (GHz). This noise is also experienced on HF, as a kind of regular ah

4. Man-made noise: Noise created by human activities: a lawn mower, a poorly 'disturbed' noise switching power supply, etc. This noise will usually be more pronounced in industrial and urban areas, and less so in remote rural areas. Please note, local sources of interference in your own home can also cause strong 'man-made noise'. 'Man-made' noise usually comes from fairly local sources of interference (several hundred meters from the receiving antenna) and can often be eliminated with the right measures. According to certain sources, the polarization of man-made interference signals usually appears to be vertical.

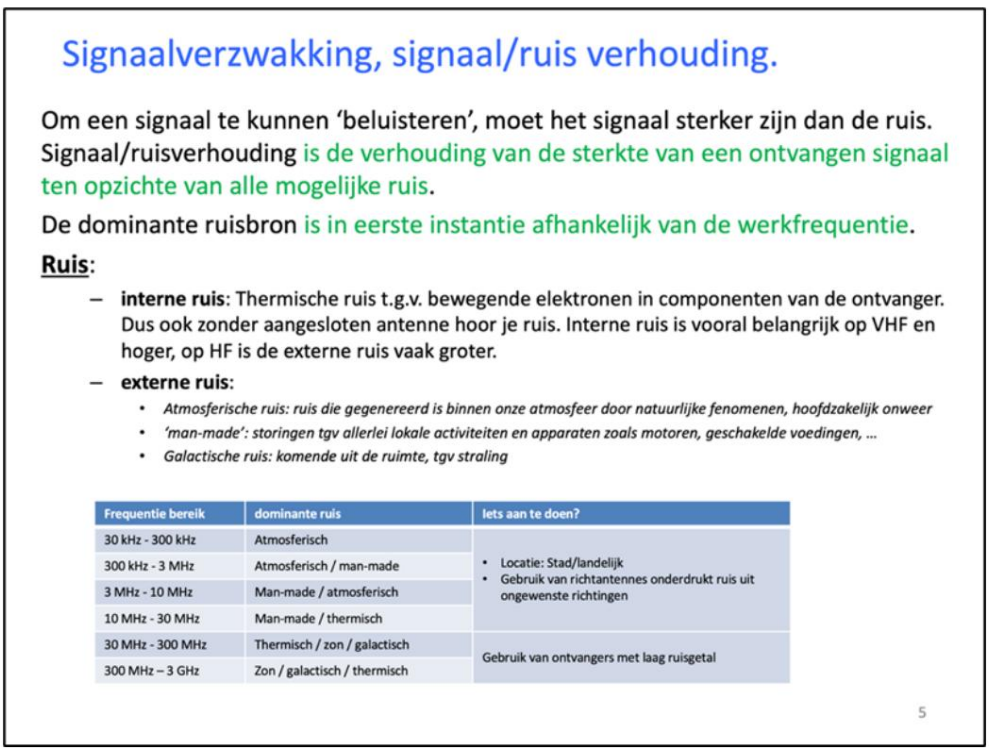
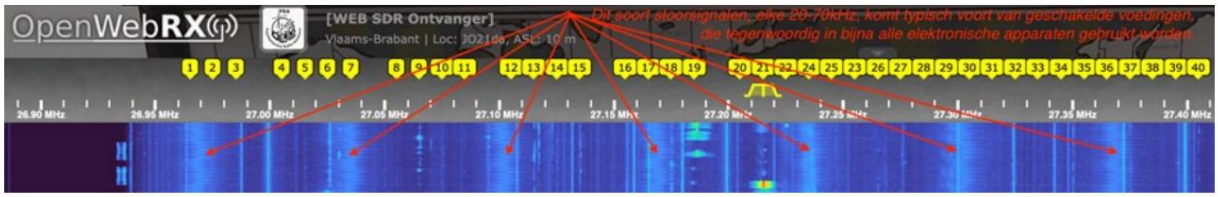


Image: Slide from the HAREC training. Each PRA member can consult these online courses free of charge. The bit about noise is in the video about propagation, 10 minutes away in the video: http://cursus.on4pra.be/harec propagation.html

A Noise and What You Can Do About It (continued)

But how do we know what the 'normal' noise level is? As a guide, we can consult information from the ITU (CCIR), which in publication ITU-R P.372 publish indicative average noise levels (usually expressed in dBm) as a function of (among other things) the frequency for a certain type of environment, urban (urban) or rural (rural) for example.

The received noise power also depends on the bandwidth of the signal. We assume a bandwidth of 10 kHz, for the FM receivers on 27 MHz (CB). Some highly generalized and simplified calculations suggest that a minimum noise level of S2 (-115 dBm) to S4 (-103 dBm) can be expected. That is apart from other disturbances, which will be different during propagation 'conditions' and channel per channel (interference from switching power supplies, for example, typically shows a disturbance every approximately 50 kHz, which can be clearly seen on SDR spectrum scopes).



Although it is also important to note that few S-meters are accurate. They are often correctly adjusted to the calibration value S9 (50 microvolts on HF) but not very accurate at the bottom. Even without the accuracy of the absolute value read on an S-meter, it is nevertheless possible to deduce whether local man-made noise is predominant when the needle does not seem to evolve with other factors such as tire conditions, but rather seems to be permanently stuck on a constant 'too high' value (often across the band). If you do not notice a difference between the noise signal during the day and night (that should typically be a difference of 2 to 3 S-points), then your noise level is too high and it is certainly advisable to look for any local sources of interference.

In the remainder of this article we will focus on the noise we have the most influence on: the 'man-made noise' (4).

Radiated and Conducted Noise

(source: ON7FU, https://www.on7fuferriteapplications.com)

All electronic devices in and around your house (and also at your neighbors) emit unwanted signals (interferences). This ranges from an iron, coffee machine… to TV and computer.

We do not notice part of these interference signals, but another part falls in the part of the radio spectrum that we use as radio amateurs. So we notice that.

These disturbances can be radiated directly by an electronic device (radiated emission) or can penetrate other devices via conduction and via connecting cables (conducted emission). Depending on the case, radiated or conducted may predominate (be more of a nuisance). Radiated emission can induce a current in a conductor and can thus be measured as conducted emission and conducted emission can in turn cause radiated emission when the conductor (eg in relation to the wavelength) functions as an antenna. The 2 mechanisms are therefore inseparable.

A Noise and What You Can Do About It (continued)

Interferences via Radiated Emissions: In this case, a device that disturbs directly radiates interference as electromagnetic waves. For frequencies above 30 MHz, the transmission of interfering energy usually takes place as radiated emission. When we capture the radiated portion directly on our antennas, it immediately enters the useful signal path, and there's not much we can do about it.

The only remedies in that case are: find and eliminate the interference source, or try to increase the distance between antenna and interference source (after all, the signal strength drops according to a square function, so doubling the distance = interference level divided by 4).

That is the reason that a perceived interference, for example on a portable device, drops fairly quickly if we go a little further away. But if the interfering signal is picked up by the antenna along with the useful weak signal, it is still difficult to separate. You can't do much more than playing around with filters and attenuators in your receiver in such a case.

Disruptions via Conducted emission: But there is also a second part, namely the conducted emission part. After all, part of the interference from all those devices affects the connection cables (mains cable and interface cables), eg when the EMI (Electromagnetic Interference) filters in those devices do not work properly.

In the frequency range below 30 MHz, the transfer of interference energy usually takes place via conducted emission.

These disturbing currents (the so-called common-mode (CM) currents) can reach other devices via galvanic, inductive or capacitive couplings. This can be done, for example, via a USB connection cable, but also via the domestic electricity network.

These disturbing currents (noise, interferences, spurs) also end up on your radio (RX). As long as they stay on the outside of the cabinet and the coax cables, they won't do any harm. However, at the slightest non-ideal shielding or transition resistance, the interference currents that flow on the outside of the cabinet and coax (and do no harm there) can be converted to differential currents, which then penetrate into the useful signal path and add up to the weak useful signal. And then… “we've got it”.

The good news: we can block these disruptions via conducted emissions. We typically do this by ensuring that all metal parts have good low-impedance continuity, and by placing ferrite on interface cables, power cables and coax cables.

The hunt for your own 'man-made' noise

Anyone who suspects that the noise level on the 'QTH' is (much) higher than what can be 'expected' (see earlier in this article), can look for local sources of man-made noise, which can then be tackled if necessary.

Anyone who has specialized (portable) measuring equipment and the knowledge to use them can use them to find sources of noise. This is especially recommended for 'gauging' sources of interference close to but outside one's own home.

But before going 'on the street', it is advisable to investigate whether noise and disturbances come from your own home! After all, if the disturbances radiated (whether or not secondary to conducted emission) are effectively picked up by the antenna itself, there is little that can be done about it. Tackling the noise (source) at the source (certainly in your own home) is therefore always recommended.

You can also experimentally detect any local noise and sources of interference without specialized measuring equipment, with a (transmitter) receiver that is connected to a battery or accumulator. A receiver with a digital S meter is not suitable for this experiment because it is too coarse-grained and therefore small changes in the

A Noise and What You Can Do About It (continued)

Does not display 'Signal Level' sufficiently clearly. On an analog S-meter you can detect very small differences, even a half or a quarter S-point change.

Below is an example of a systematic approach. It is best to do this before dawn when the neighborhood is asleep, because then no lights are on (which may cause malfunction), no washing machine is running, no solar inverters are active, etc.:

1) First switch off the entire electrical installation in a controlled manner, including devices that work on a battery or are connected to a 'UPS'. Please note, do this at your own risk and make sure you know what you are doing and that you do it safely is doing !

Switching off the entire electrical installation first and foremost excludes the possibility of devices in the own home being a possible source of an abnormally high noise level on the receiver. That receiver runs on a battery during the experiment. When your S-level drops significantly when the electrical installation is completely turned off, you know that you have noise sources of your own that can be addressed at the source. In my experiment, the noise level (at 11 m and in FM mode) on the signal meter of the device dropped from S6 to S3, a very big difference!
Moreover, S3 seems to be a fairly 'normal' value. If you still notice the same (too) high noise level after switching off the electrical installation completely, the cause must be sought outside the home.

2) Then switch separate circuits (per 'fuse'/circuit breaker) on and off in a controlled manner, check the noise level at each step, and record each result in detail! This way you can discover which circuit of the electrical indoor installation 'plays a role' when observing extra noise, either as a result of radiated or conducted emission, or both.

If you turn off one circuit and the noise level drops, it could be:
a. That this circuit contains an electrical device that produces RF noise (EMI). That device does not have to be in operation, the power supply of a device is often also active when a device is in 'standby' mode.
state.

b. it is also possible that the circuit was a carrier of conducted emission RF noise coming from another branch, and that by switching off the fuse this branch was switched off, causing the noise level to drop. The circuit may even function as an antenna, which emits interference when a high-frequency conducted EMI current flows through the conductor. The interference signal radiated in this way is then picked up by the antenna and can no longer be filtered with a CM (Common Mode) choke in the transmission line, which is why it is important to tackle the source where possible.

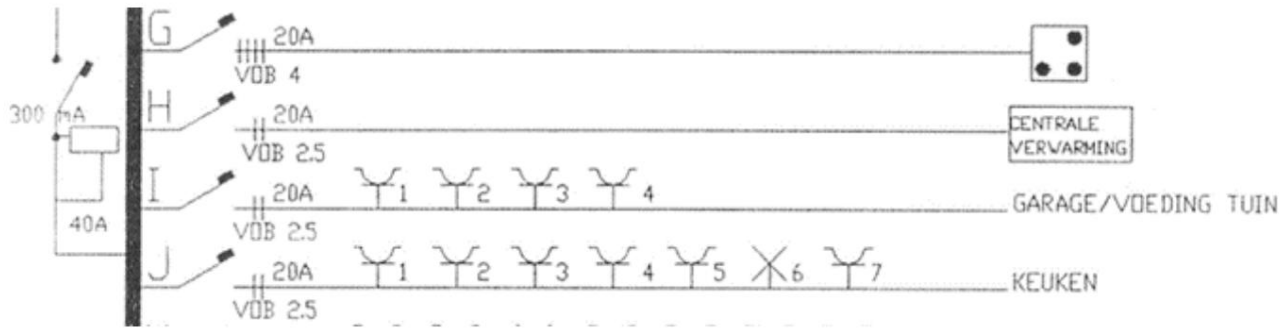


Image: Part of the 'one-wire diagram' of my indoor electricity network. Each circuit (G, H, I, J in this figure) consists of long copper cables with outlets (and lighting points) to which consumers (which may cause EMI) are connected. Turning off a fuse not only shuts down the consumers, but also 'cuts' (excluding capacitive couplings) the cable, which may act as an RF antenna for RF noise, or as a conductor to conduct the EMI to other locations where the enters the useful signal path via conduction or a capacitive/inductive path.

A Noise and What You Can Do About It (continued)

What you can do now is turn the fuse back on (the noise level should now be higher again because nothing has changed yet). Now you can disconnect devices on that circuit from the mains. If the noise level drops when disconnecting a device, you know that there is a problem with that device and you can take action (e.g. de-clutter the device with filters, move the device, replace it, turn it off when not needed, etc).

If all the devices on the circuit have been disconnected from this circuit and the noise still hasn't decreased, then that piece of indoor electrical wiring apparently acts as a carrier for 'conducted emissions' coming from elsewhere. Leave the fuse on and continue searching by applying the above procedure to the other circuits.

Tackling man-made noise: ferrites

The man-made malfunctions discussed (whether they come from your own home or from outside the house) can often be remedied by using ferrite material. Placing ferrite around a cable provides 'resistance' to the unwanted high-frequency common-mode (CM) current. Ferrite 'chokes' (weakens) the CM current before it can enter the useful signal path in certain places and adds to the weak antenna signal.

Clip-on ferrites (which you can click over a cable) or ferrite 'sleeves' (where the cable is inserted) actually offer too limited impedance on HF (on VHF/UHF such clip-on ferrites can be used favorably become). After all, it is assumed that you need to achieve at least an impedance of 1000 ÿ to obtain a usable effect and that is difficult to achieve on HF with clip-on ferrites alone. You would already have to place about 10 clip-on ferrites on the coax transmission line to obtain sufficient damping, and that will only work for the higher HF frequencies.

That is why for the frequencies 1.5 – 30 MHz, an effective choke is preferably made by placing a number of windings on a ferrite ring core. That's how you get quickly to a few kilo-ohms.

It is assumed that for effective noise (interference) suppression about 3 kÿ is needed is.

The inclusion of high-quality choke baluns and/or line isolators in the coax transmission line is therefore the best option. You can in principle place a common-mode choke 'line isolator' anywhere in your antenna cable, although a few places are designated, especially at the feed point of the antenna, or where you connect the line isolator with a short thick cable to a clean low-impedance separate RF ground can connect. The photo on the right shows the interior of an ON7FU Common Mode Current UNUN Line Isolator under construction. With the optional earthing clamp (yellow cable shoe) you may obtain some additional filtering (inform yourself well about legal and safety aspects of earthing!)

Mind you, the safety ground of your house is not a clean RF ground (just the opposite, together with the electricity network it is a 'sewer' for interference currents).
In any case, for safety you only place a line insulator outside the house, so good protection against weather influences, especially of the coax connections, is necessary.
If the noise level does not seem to decrease after adding a Line isolator (CM choke) in the antenna line, it indicates that in this case

radiated emissions predominate. If you have already located and switched off the radiated emission from your own sources of interference in your home , then in the next step you will effectively have to go out on the street to look behind the radiated emission source of interference. to search.

In my case, by applying a high-quality line isolator to the feed point of the antenna, and with clip-on ferrites in the feed lines of a number of devices (TV, computers, clock radio, desk lamps, ...) I brought an S6 noise level. back to S4 (when the complete electrical installation was switched off it was S3, so there is still some self-induced EMI, presumably 'radiated' emissions). You can use CM chokes im

only lower until radiated emissions take the upper hand.

The major noise sources in your own home turned out to be:

- a heat pump whose outdoor unit is mounted on the wall just below the vertical antenna. Even when it was in standby it still generated noise (eg the infrared receiver must have power to be able to switch on the unit with a remote control).

- A security camera system that works with cameras connected via Ethernet cables and Power-over -Ethernet (PoE).
- An LED desk lamp in the radio shack also appeared to add half an S point when I turned it on.
- A battery 'trickle charger' caused interference (noise) on the WebSDR whose receiving antenna is 30m away from the garden house! When the electrical line to the garden house was switched off, the interference disappeared (experiment was repeated several times). A clear case of conducted emission.

The use of ferrite is of course not the only thing that can 'mitigate' possible noise problems, the choice and arrangement of an antenna can of course make a big difference in terms of noise:

- a horizontally polarized directional antenna away from an industrial area will pick up less noise
- a higher antenna (far away from possible local sources of interference) is also

However, even when using those antennas, common mode currents can cause noise on the transmission line, so it can also be useful to use a line isolator to further reduce the noise level.

Conclusion and recommendations

Poorly suppressed devices in your own home can be local man-made EMI sources of interference that are best suppressed at the source. This is possible, for example, with clip-on ferrites. After all, if these devices would lead directly or indirectly to radiated EMI emissions (whereby the interference signal is picked up directly by the antenna), a line insulator in the antenna line will not get 'choked'.

In addition, a line isolator incorporated into the transmission line provides sufficient impedance (thousands of ohms) to attenuate any common mode interference signals on the transmission line, allowing the noise level to be damped by a few S-points, depending on the situation. You could also look at it this way: if you manage to lower the noise level by 10 dB (just under 2 S-points), it seems that all your counterparts suddenly work with 40W instead of 4W transmitting power….

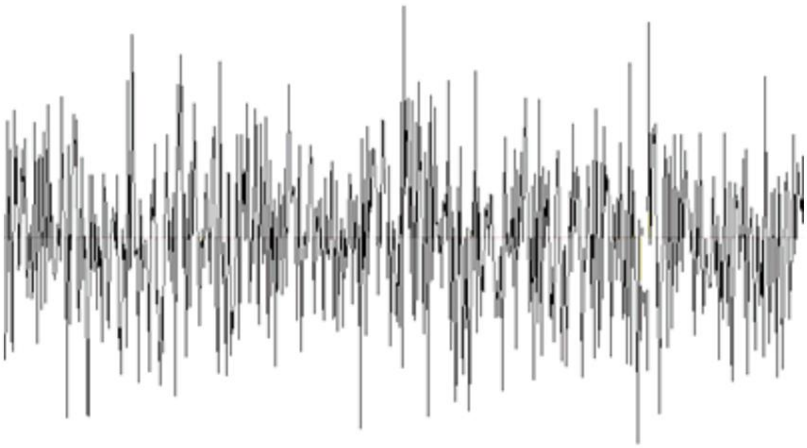
A Noise and What You Can Do About It (continued)

Where the inclusion of a line isolator in the antenna transmission line does not have an immediate effect on the noise level, it may still be useful to install one for any future disturbances that may manifest themselves, e.g. could cause interference due to common mode sheath currents on the antenna transmission line. You increase the immunity of your antenna system, as it were, as a preventive measure.

You can also plan such a preventive installation when placing the antenna, eg a current (choke) balun on a symmetrically fed antenna, or a line isolator eg at the feed point of a vertical antenna (see photo on the right).

The PRA (the Pajottenlandse Radio Amateurs, one of the departments of the VRA, ed.) has a line isolator that it can loan to its members to check whether local EMI has a line isolator before purchasing a line isolator. possible source of man-made noise that can possibly be contained with such a 'Common Mode Choke' ('balun' or 'unun') .

73, Paul - ON5PDV



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frequentie : 3773 kHz
moderators : PA3FUN / PA2DW

Also listen to the Daily Minutes, the (almost) daily news for the radio broadcasting and listening amateur, produced by John, PA0ETE.

Listen at: http://dmr.li/

Episodes of the Daily Minutes are out there in addition to listening afterwards via:

https://www.youtube.com/user/PA0ETE

Hamnieuws

Het laatste nieuws voor zendamateurs

www.hamnieuws.nl

DARES®

Dutch Amateur Radio Emergency Service

ANBI

The PI9D net is held every first Sunday of the month.
The purpose of this net is to try out antennas and antenna arrangements and to test the connections between the regions at different frequencies. (NVIS propagation plays an important role in this)

The PI9D net is broadcast from a different regions every month.

The round starts at 10am LT and is on 80m, 3670 kHz +/- QRM.

You are most welcome to make a QSO.

Listening report can be sent to **pi9d@dares.nl**

Old Timers Club

Sinds 26 oktober 1950

De OTC is een zelfstandige besloten club van radio-zendamateurs en hun partners die hun gemeenschappelijke achtergrond en belang-stelling in regelmatig contact onderhouden. Hiertoe wordt door het bestuur ééns per jaar de **'Dag voor de OTC'** georganiseerd waarbij alle leden elkaar kunnen ontmoeten.

Word ook lid!

www.OldTimersClub.info

A 40 Years of Antenna Placement Support Office in the Netherlands

By Jan van Muijlwijk, PA3FXB

When you say BOAN, most of us automatically think of the man who has already spent a lifetime helping radio amateurs with solving antenna placement problems. Now that Jan PA3FXB has retired, the time has come to look back...

40 years of BOAN

When I became a radio amateur in 1978 and after a few years came up with the plan to no longer mount my antennas on the chimney but, a lot higher, in a mast, I entered the wonderful world of permit applications, discussions with civil servants, politics , city council, mayor, etc. rightly so.
It turned out to be a very long story, but after a lot of explaining, negotiating and even threatening with a lawsuit I finally got my permit!

I learned a lot from that. And from then on, I've helped other radio amateurs who ran into antenna placement problems to get their building permits. The first decades only in the region , but over time more and more people managed to find me. That is why at a certain point I chose to 'give the animal a name' and that became BOANN (Bureau Support Antenna Placement Northern Netherlands). Most requests for help then also came from my own region of Groningen and sometimes also from Friesland or Drenthe, so that name covered the load.

When the Dutch Kingdom Amateur Radio Society (DKARS, the predecessor of the DARU) was founded, I was asked if I wanted to carry out my aerial work under the wings of DKARS. Because I wholeheartedly supported the objective of DKARS, the association of Dutch radio amateur associations, I said yes to it. I also changed the name of the agency by removing the N from Noord.

Logical, because DKARS was there for the whole of the Netherlands and overseas territories. So from that moment on it became BOAN.

It ran like a train! Requests came in from all over the country and although it sometimes took a lot of time, the work was very satisfying because it always went well.
I always tried to stay away from legal proceedings as much as possible by achieving the permit or permission through persistent and purposeful negotiations.
It was all 'labor of love old paper' or as it's called in our world 'ham spirit', so it never got me any money. Only the satisfaction of being able to help another radio amateur with an antenna was more than enough.

Time for a goodbye

DKARS has since been transferred to DARU and BOAN works under the DARU umbrella.
I am now retired and recently I suddenly realized that I have been working with help with antenna placement for over 40 years… That is quite a long time

I have also indicated a few times in recent years that I actually want to stop and look for a successor or successors. To date they have not reported.

Now that I'm retired, I finally want to pick up a whole pile of radio projects and projects that have been waiting for years for quieter times. That doesn't happen automatically. That will only work if you really make time for it. And that means that I am now going to put an end to BOAN. Within DARU I have already indicated that I have actually stopped with it as of January 2022, but you still hope that succession will come from somewhere. Unfortunately that should not have been the case. I will of course still deal with current affairs, but I will no longer deal with new issues.

I keep hoping that there will be one merged amateur radio association in the Netherlands and that we can put the crazy tribal struggle behind us. That new association should then start a semi-professional antenna placement agency

Today's increasingly intolerant society makes it increasingly difficult for radio amateurs to get their antenna licensed. This is a sad development, but unfortunately the reality.

https://www.helpdeskbouwreglement.nl/ImageById/65

In short, it is time to join forces as associations and to reverse this trend by means of a new antenna placement agency.

I now say goodbye to the antenna placement work and hope to find some more time for amateur radio. Good luck to you all!

73,
Jan - PA3FXB

Postscript

The DARU owes Jan many thanks. And definitely not just the DARU. Jans' unbridled and unpaid, selfless dedication to fellow radio amateurs, regardless of which association they are a member of, is and remains very commendable. Jan is therefore an example for this society, in which unfortunately the importance of the ego increasingly prevails and too little cooperation is sought with each other to join forces in order to continue to enjoy our beautiful hobby. That is why we have deep respect for the great work that Jan has done over the past 40 years. Thank you very much for this Jan!

Let's clear up a misunderstanding: BOAN is not a DARU service. But it is often done by amateurs seen that way. The association with DARU is not so strange in itself, because there is of course a connection between Jan PA3FXB and the DARU. An image that has grown historically. Yet DARU has only been a home for BOAN and BOAN is completely separate from any radio association.

In view of the fact that radio (broadcast) amateurs are increasingly under pressure, something Jan also mentions above, it would be of great value to the radio amateur community if the BOAN work is continued in one way or another. Perhaps combined with EMC support, because disturbances on all kinds of fronts also make it increasingly difficult for radio amateurs to enjoy their hobby. The pressure from outside increases rather than decreases.

In short: we as DARU would welcome it if the current amateur radio associations could work together to give BOAN a good follow-up in one way or another. As a joint service with which we can help many radio amateurs. Now and in the future.

Surplus Radio Society

SRS 25 jaar 18 december 1994 18 december 2019

PA25SRS Clubstation SRS

SRS CW round: On Sunday morning from 9.15 am local time, the CW round on 3568 kHz led by Piet van Veen PAØCWF. Every first Sunday of the month the CW round goes into the air under the association call PI4SRS. Every Wednesday after the USB round is another CW round at 8:30 pm under PI4SRS on 3568 kHz **SRS AM round:** The AM round starts every Sunday morning at 10 am to about 12 noon local time on 3705 kHz, under the association call PI4SRS.

Except on the first Sunday of the month, then under your own call. The AM round is performed by several leaders. Often, listeners to the round can register by phone. The phone number will be announced by the leader.

USB round: On Wednesday evenings from 19:00 to +/- 20:30, local time, there will be a round in USB, for the users of surplus SSB equipment at 3705kHz. After the USB round there is another CW round at 20:30. see info at CW round.

AM test round: Every first Saturday of the month (except the summer months) there will be a test round on 3705 kHz from 3:00 pm to 4:00 pm, local time, conducted by Cor van Doeselaar, PAØAM.

Welkom bij de Benelux QRP Club

Our association aims to: promote Experimental, Low Power (QRP) Radio amateurism.

The club tries to achieve this by providing information, exchanging data, providing schedules and construction instructions of QRP transmitters and everything else that is conducive to achieving the stated goal.

Take a look at our website. There you will find articles on various topics, such as activity announcements, BQC association news and reports. If you want to become a member of the Benelux QRP Club, you can do so easily by filling out the registration form to fill in and send it to our secretary.

A Ducktape or Ducttape 'semi DIY' multiband HF-vertical

By Fred Stam , PE3FS

Duct tape is also popularly referred to as Duck Tape. Duct tape is made with hot melt glue for a high adhesive strength, despite being an economical version. It is hand tearable and easy to use. In addition, Ducttape is oil and water resistant. Duct tape is because of its versatility indispensable for every handyman.

Versatile

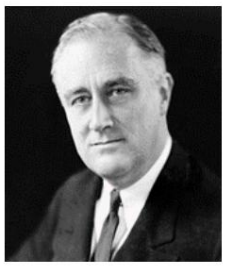
The text above comes from a website of a provider of the well-known tape. I will come back to the name later. Either you use it to stick something semi-permanently, or you tie a few hands together with that tape. You can do both, but you only do the latter if your intentions are malicious. But you do see it in movies. The stuff is certainly versatile. Another name is 'Gaffertape', an English name named after the profession in the film industry, one who is responsible for the light. We call this an illuminator or main lighting. Sending amateurs also use this tape for all kinds of things. The wires from my transceiver, in my car, are tied up with it.

Let's stick to the familiar name Ducktape or Ducttape. May both. But now the history: It started in 1941. The Americans rolled into the Second World War after an attack on Pearl Harbor. Large quantities of ammunition were required, which were dispatched to the troops. For this they used special boxes that had to be watertight. Those boxes were sealed with paper tape and then they were sealed with wax. In this way the boxes became watertight. One piece of tape was released for you to grab. And by pulling it, you could pull the tape off the box and open the box. Only that didn't work well. The paper broke off and then you had to open the kit with other tools. And that's not really pleasant when you're being shot at.

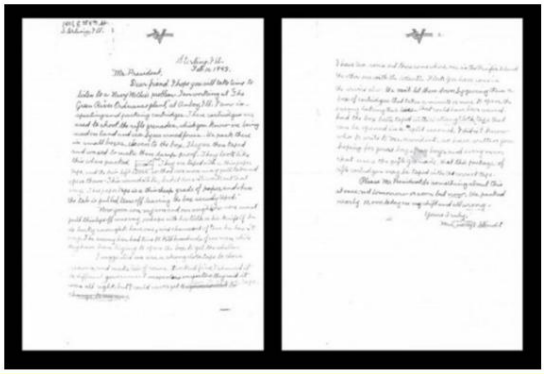
mrs. Vesta Stoudt

Now a man Vesta Stoudt worked in a munitions factory, the Green River Ordnance Plant in Illinois . She made the ammunition boxes there and also heard about the problems with opening those boxes. That had to be done differently and better! She devised another tape, replacing the paper with fabric (see how the tape got its name). It was made of sticking tape: very strong, easy to tear, and waterproof. She took her tape to her superiors. They thought it was a good tape but they weren't going to change anything.

She wrote a letter to Franklin D. Roosevelt on February 10, 1943 about the problem of opening those chests.



"I have two sons, one who fights on an island in the Pacific and one with the Atlantic Fleet. You also have sons who serve in the military. We cannot leave our sons with an ammunition box that takes minutes to reach. *have it open while the enemy is firing on them, their lives are in danger and can be saved."*



WAR PRODUCTION BOARD
WASHINGTON, D. C.

Conservation Division
10th Floor

March 26, 1942

Mrs. Harry I. Stoudt
1401 East 4th Street
Sterling, Illinois

Dear Mrs. Stoudt:

I know you will be pleased to hear that we have received word from the Ordnance Department regarding your suggestions for changing the type of tape used on munition packaging.

The Ordnance Department has not only pressed the matter, but has now informed us that the change you have recommended has been approved with the comment that the idea is of exceptional merit.

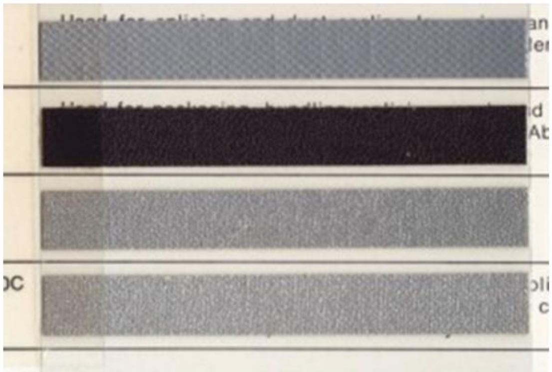
We thank you for bringing this matter to our attention so effectively and will attempt to get a copy of the official notice and send it to you.

Sincerely,

Howard Coonley
Director
Conservation Division

The president was quite impressed and forwarded the letter to the War Production Board. Who in turn sent a letter to Vesta Stoudt, letting her know that her idea had been approved.

The board asked the Industrial Tape Corporation (later Permacel, part of Johnson&Johnson), to start manufacturing the tape because they had experience manufacturing surgical tapes (the thing you use to package sterile material). And here too the rest is history: not only was the tape used for the ammunition boxes, but also for all kinds of other tasks!



Examples of the first duct tape. Johnson & Johnson Archives

How the tape got its name

Cotton Duck (from Dutch cloth,'linen canvas'), also simply duck, sometimes duck cloth or duck canvas - commonly called 'canvas' outside the textile industry - is a heavy, plain-woven cotton fabric. There is also linen duck, which is less often used. Duck fabric is woven with two yarns together in the warp and a single yarn in the weft.

I found the above text on the American website www.bigduckcanvas.com/categories/resources/what-is duck-cloth.html. Do I need to say more about it? In this way, the tape still has a Dutch touch.

space tape

Duct tape is not only used on Earth. NASA has been sending standard Ducttape on space missions for years. It was used on several manned Apollo missions, including to repair the fender of the Apollo 17 rover.
See: https://medium.com/@patrickboniface_39584/how-gaffer-tape-saved-apollo-17 -c0d855d353b2

Last year, a leak was discovered in the International Space Station. If nothing had been done about it, the entire space station would eventually have run out of oxygen . Finally, the leak was traced and repaired with… yes: Duct tape.

Facts

Duct tape should not be applied to 'ducts' (the English word for 'ducts', in this case the ducts of air conditioning installations). Max Sherman, one of the researchers at Lawrence Berkeley National Laboratory, says that they have tried many kinds of tapes. But that Ducktape failed miserably, and often failed miserably. It does not tolerate heat well and that is exactly what those channels sometimes do: get warm.
It may, however, be used on ventilation ducts. That's probably where the name Ducttape comes from.

A Ducttape (continued) Ducttape DIY' multiband HF-vertical

You can also easily remove Ducttape with another American product: WD40. WD40 stands for 'water displacement'. The 40 refers to the number of attempts made to make the final product. WD40 is only 10 years younger than Duct Tape; it was invented in 1953.

More information

Do you want to know more? Then check the websites below:

https://www.kilmerhouse.com/2012/06/the-woman-who-invented-duct-tape

https://www.duckbrand.com/about

https://www.fieldandstream.com/story/outdoor-gear/duct-tape-facts/

73, Fred PE3FS

Netherlands Telegraphy Club (NTC)

A new CW club in the Netherlands? Yes that's right!

Apart from the well-known Benelux QRP club (BQC) and the Very High Speed Club (VHSC), there are no CW clubs in the Netherlands. The founders of NTC want to close this gap.

The aim of NTC is to unite Dutch telegraph operators in order to generate more CW activity on the bands. To make us heard in the neighboring countries by collaborating with the various sister associations and to enjoy our beautiful hobby and radio telegraphy together.

Of course, the NTC is for all CWers, new, slow, speed demons and everyone in between. Let's keep our intangible heritage alive!

The NTC is now a member of The European CW Association (EUCW) and the International CW Council (ICWC) to make our voices heard.

Because the NTC wants to be there for all telegraph operators, a low-threshold membership policy has been chosen. To be able to apply for membership, you only need to have made a QSO with at least 2 NTC members. Then download the application form from the website, fill it in and email it to us. No registration fee is requested.

To generate CW traffic there are currently two activities:

1. Work NTC Members (W-NTC-M) award.
   A 2nd award is on the design table.
2. Monthly QSO party.

If you want to know more, take a look at our site (under development) www.qsl.net/ntc, or send an email to: NetTelClub@outlook.com

Of course you can also immediately check whether you have already worked or are working on NTC members.
The list of members is on our website.

Of course you are also welcome to participate in our activities without an NTC membership.

Our meeting frequencies are 3568, 7038 and 14068 kHz.

Our QSO party takes place every 3rd Tuesday of the month at 19.00 UTC and starts at 80 meters.

Our club call PG6NTC participates in the monthly Straight Key Sprint Europe (SKSE), organized by the Straight Key Century Club (SKCC).

We look forward to meeting you on the band!

On behalf of the NTC,

Rien PA7RA, Joop PG4I & Theo PA3HEN

DX-ROTTERDAM

Jaargang / Volume 5 Uitgave / Edition 51
juli / July 2022

De RTV mast op de locatie Grenaa, (DNK).
The RTV mast at the location Grenaa, (DNK).
Hans Baard, 2022.

E34 ZDF Großer Feldberg, ID plaatje, (DEU).
E34 ZDF Großer Feldberg, ID Slide, (DEU).
Hans Termeer, 1970s.

E54 HR-3 Großer Feldberg, ID plaatje, (DEU).
E54 HR-3 Großer Feldberg, ID Slide, (DEU).
Gösta van der Linden, 1970s.

VHF & UHF NIEUWS / NEWS

Click on the image above to download the full edition as a PDF

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Hamgear and Gadgets

By Peter de Graaf, PJ4NX

Have you also noticed something nice or new? Send us an e-mail and we include it in this section.

A new compact RF transceiver from Xiegu

The Xiegu G106 is a new 5 watt QRP transceiver with a 0.55-30MHz receiver with SSB/CW/AM modes in the amateur bands from 80 to 10 meters, including WARC bands.

The G106 also has wideband FM reception in the FM band of 88-108MHz.

The G106 is based on SDR architecture with 16-bit sampling.

With the optional external digital DE-19 adapter, it can be connected to a PC for various digital modes, where under FT8.

Xiegu G106 features:

- Powerful SDR 16-bit circuit
- Compact, robust and easy to use
- General coverage HF receiver
- Transmit on all amateur bands from 3.8 ~ 29.7 MHz
- WFM broadcast received in 88-108 MHz
- Possibility of digital modes
- computer control

Xiegu G106 general specifications:

RX Frequency Range: 0.55 ~ 30 MHz 88 ~ 108 MHz (WFM)

TX Frequency Range: 3.5~3.9MHz, 7.0~7.2MHz, 10.1~10.15MHz, 14.0~14.35MHz, 18.068~18.168MHz, 21.0~21.45MHz, 24.89~24.99MHz and 28.0~29.7MHz

Transmission modes: SSB/CW/AM, WFM (receive only)

Receive Sensitivity: CW: 0.25uV @10dB S/N, SSB: 0.5uV @10dB S/N, AM: 10uV @10dB S/N

Frequency Stability: ±1.5ppm within 30 minutes of power on @25°C: 1ppm/hr

Transmit Power: ÿ5W @13.8V DC

Audio output power: 0.3W

Operating voltage: 9~15V DC

Standby current: 0.37A @Max

Transmitting Current: 2.8A @Max

Dimensions: 120*40*135 (mm)

Weight: about 720g

More info via this link

Available from mid-July 2022

XPA125B. 125 Watt linear with built-in tuner. Nice for behind the QRP set.

The main features

1. Built-in Auto Antenna Tuner: The XPA125B's auto antenna tuner and power amplifier can be used independently as an auto antenna tuner or as a separate power amplifier.
The tuner handles 14-500 ohm loads in the 1.8-30 MHz HF bands and the 50-54 MHz 6-meter band.

2. 100W Power Output: The XPA-125B is the perfect amplifier for low-power QRP radios or SDR transceivers (such as a 5-watt transmitter) when 100-watt output is required.
The **maximum** power is **125 watts.**

3. Safety and Protection: The XPA125B has several intelligent protection circuits to ensure the safety of the amplifier and the connected transceiver. When abnormal conditions occur, such as too high a SWR, too much steering power or too high a temperature, the amplifier will go into bypass mode and an alarm message will be displayed.

4. New Improved Version: After improving the shape and size of XPA125, it is smaller than the old version. It can be carried like a small bag with the handle.

2.7 INCH LCD SCREEN

5. Large Display: The 2.7-inch large backlit LCD display shows input/output power, SWR, voltage, current, temperature, amp status and warning messages, making operation of this modern amplifier easy and also user-friendly.

Directly compatible with the Xiegu X5105, Xiegu G90, Xiegu X6100 Yaesu FT-817 and the Yaesu FT-818

Specifications

Operating Frequency: 0.5~54MHz; **Input power:** ÿ5W **Maximum RF output power:** 1.8-30MHz ÿ110W | 50-54MHz ÿ 90W **Maximum Ambient Temperature:** 131 Fahrenheit (55 Celsius) **Gain:** 13 dB (+/-2dB)
Spurious suppression: >50 dB **Supply voltage:** 12-15 Volt DC **Transmit power consumption:** @ max output 30 Ampere **Current parameters:** Standby 260mA **@Max Launch:** 30A@Max **Receive current consumption:** @ max 700mA
ATU Frequency Range: 1.8-30MHz & 50-54MHz ATU Tuning Range : 14-500 Ohms
ATU Maximum Tuning Range: 14~500ÿ **Working Voltage:** 12V~14.5V DC **Dimensions:** 260*150*100mm | 10.24*6.3*2.56inch [Excluding knobs, handles, etc.] Weight: 1.6kg

More info via this link

Price : $649.00

Speaker Master

What you can do with the SP-Master:

- Connect three transceivers to your favorite external speaker. Listen to all transceivers simultaneously, as if you had connected separate speakers to each transceiver;
- Passive device; no need to power it;
- Complete isolation between transceivers;
- 4W continuous, 20W peak at 8ÿ;
- Filters to remove QRN;
- Works with any transceiver and any 8ÿ speaker.

More info via this link

RF-Kit RF 2K6 HF and 6 meters solid state linear

The RF-Kit B26-PA RF2K-S is supplied as a kit.
In this case, the kit does not mean that you get 100 plastic bags with loose parts, that you have to assemble and solder plates, drill housing parts, etc. The PA kit is supplied as an almost finished device.
To make the kit a working device, you will need to purchase a Raspberry® Pi 4 - 2GB and a power cord.
All other necessary parts such as 1 x coaxial cable, plug, USB cable, HDMI cable and micro SD card are included in the scope of delivery.

To 'finish' the kit, the Raspberry Pi must be installed. Spacers are already mounted for this and the necessary fastening screws are also included. Connect the supplied USB and HDMI cables and solder in the coaxial cable. After that, commissioning takes place with the necessary calibration / setting.
No special tools are required for all this work. Screwdrivers, soldering iron, DVM, Ammeter/ clamp meter and RF power meter is all you need.

For questions you can always contact RF-Kit or call on a very large user community on **Groups.io** with more than 1400 members. A current version of the operating instructions is also always available there.

A micro SD card is included. Since the PA has a LAN port for 'remote control', the control software can also be downloaded from the Internet and updated at any time.

Specifications:

Frequency range: 1.8-30MHz and 50-54MHz. **RF output:** 1500 Watts (...with something extra), Control power : 50 Watts, **Efficiency:** up to 70% varies by band, Dual LDMOS devices with a power of 3400 Watts, **TX/**
RX switching: <1mS PIN diode switching (for really fast QSK with no relay noise).
Internal automatic antenna tuner (unlimited memory), adjustment up to 3:1 SWR. The tuner can store values for the 4 internal antennas and up to 16 external antennas (1X TRX and 4x TRX antenna built-in, - 16 external antennas with an external antenna switch).
Excellent signal quality. 7-inch color touchscreen, multiple user displays selectable, very quiet thanks to low-noise fans.
Very fast RF Sens, even fast enough for high-speed CW and QSK,
YAESU® Band Data output for external devices, CAT connectivity over USB, CAT over IP (UDP), TCI interface for SunSDR, LAN connectivity (for remote access via internet), Wi-Fi connectivity (Client mode), Power meter from 1 W to 3 kW, free software update via the Internet.
Remote Internet control via PC, tablet or mobile phone - supports platforms such as Apple IOS®, Android®, Linux® and Windows®
External power supply +12V, low power sleep mode, silent internal PSU 90-290V/AC/1 phase.
Dimensions (hd): 7.4 x 12.2 x 16.7 inches. / 19 x 31 x 42.5 cm.
Weight: 16 Kg

Price: $4,990.00 at a US dealer

Machine Translated by Google

What about the output impedance?

By Pascal Schiks, PA3FKM

In this episode Pascal takes us into the wonderful world of output impedance. How do you ensure the correct adjustment of … on the output stage?

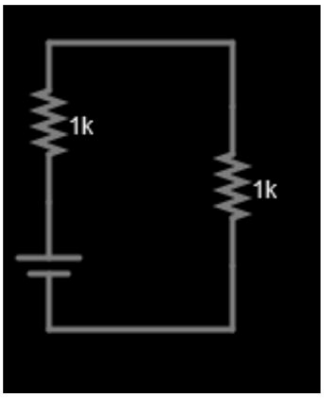
> *“Electronics is nothing more or less than applying Ohm's law.*
> *The rest is all boolshit.” (no,* dear reader. This is not a typo)
>
> - Cool Pascal

Introduction

Some time ago I got the question: Pascal what about the output impedance of an output stage? How can I determine that?

Bright... The first question that naturally arises is why do you want to know that, why do you think it is important? Well, there are two good reasons for this.

The first reason is that when the output impedance and the subsequent input impedance match, you get the largest signal and thus power transfer. So the most efficient. This is easily explained with the following picture.



Maximum signal transfer

The signal source on the left, with an output resistance of 1kOhm, supplies the most power to the load on the right when it also has a resistance has 1 kOhm.

If the right-hand resistance is greater than the left-hand resistance, the current in the circuit will become lower than possible and thus the signal transfer (read the power) will be lower. If the right resistor is smaller than the left, the voltage across that resistor will be lower than across the left and thus the signal source heats up power.

We already see here that in such a case the voltage on the left is higher than on the right.
But we will soon see that under specific circumstances, which you mainly encounter with amplifier stages for higher powers, a mismatch can lead to an even higher voltage on your output transistor, which can break as a result.

The second reason is the possible consequence of a mismatch, which can even lead to damage to the output stage. I discuss this danger later in this article.

A simple low-frequency amplifier, class-A setting

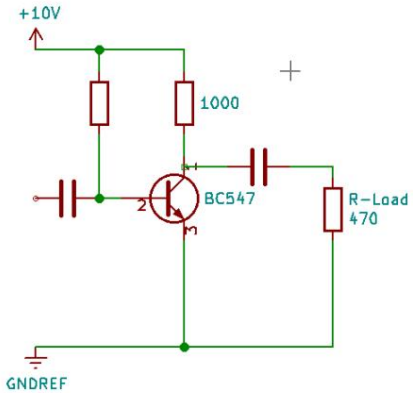
Now let's look at this with a very simple low-frequency amplifier. We immediately run into the next challenge: if we want to amplify a signal, for example from a microphone, we will see that this concerns an alternating voltage. Let's say that this signal has an amplitude of 100mV then this is -
0.1V to +0.1V, after all, it concerns an alternating voltage. With only a positive supply voltage we have to come up with a way to amplify the negative half as well.
We do this simply by setting the transistor in such a way that it is at half the supply voltage when it is resting.
At the input we add a voltage to the signal that ensures this direct current setting. And at the exit we remove it again. We call this a class-A setting.

What about the output impedance? (continuation)

In its simplest form it would look something like this.

If we set this circuit to class A, the voltage on the collector of the transistor will therefore be 5V. The current through the transistor is then the same as through the resistor, so the output impedance on the collector will then be half the resistance, about 500 Ohms. A load resistance of 470 Ohm fits perfectly with this.

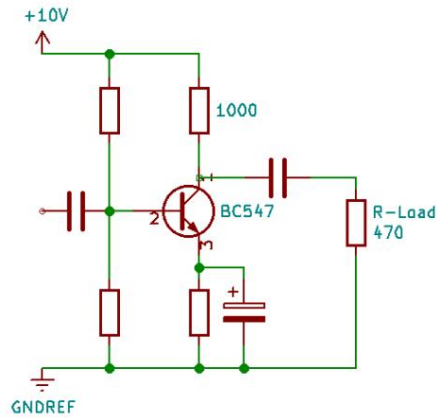
This circuit is a bit short sighted. Yes, it can work like this, but with the distribution of parts and influence of temperature on the transistor, the circuit will turn out to be very unstable. The schedule below will make it considerably do better.



Simplest low-frequency amplifier.

We can now let a somewhat larger current flow through the two resistors on the base, making this setting a bit more stable. The resistance in the collector also contributes to a more robust DC setting.

The savvy researcher may now be wondering the following. When the collector is set to the hall



A slightly better solution

If you have a supply voltage of 10V, then you can go up 5V, but there is also voltage across the emitter resistor, so you can't go down 5V.

That is indeed correct. And that's why we put a capacitor over it. For the direct current setting there is a voltage across the emitter resistance, but for alternating current it is short-circuited by the capacitor, so that for alternating current this resistance does not exist and you can indeed drop 5V.

Here it applies that for very low frequencies, the influence of the capacitor becomes less and less.

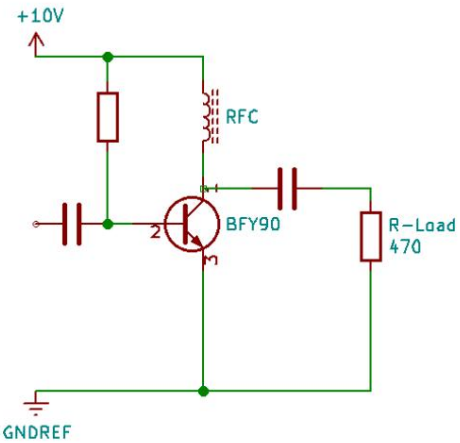
And by smartly choosing the combination of emitter resistor and capacitor, you can ensure that very low frequencies (for example below 300Hz) are less well amplified, which is nice for speech and music amplification.

Now the same with a high-frequency step

With an RFC on the collector we cannot set the collector voltage to half the voltage, because for direct current a coil is simply a short circuit.

If we look back at the comparable scheme for the low-frequency rap, we see that to get the collector voltage there to 5V, we set a quiescent current of 5V / 1000Ohm = 5mA.

To get the quiescent collector voltage to 5V, we set the quiescent current to 5V / 1000 Ohm = 5mA.



A very simple RF step

What about the output impedance? (continuation)

We can do the same here.

We choose a base resistor that ensures that the collector current is 5mA. Very roughly (all with fictitious and easily chosen numbers) you can determine that something like this.

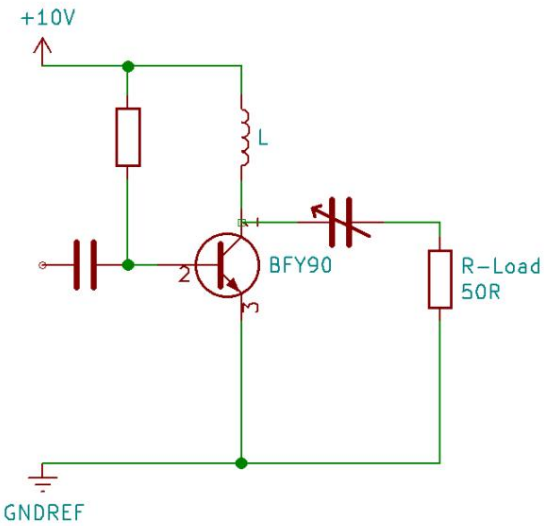
When does Hfe=100 at Ic=10mA apply (you get that from the datasheet of the transistor)? That applies to the basic resistance: R= (10V - 0.6V) (BE transition) / (10mA / 100) = 94kOhm.

I can assure you that for the reason already mentioned, that circuit will never work stable like this, but it works just for the idea.

This RFC is not present for high-frequency, because it does not allow high-frequency to pass through. The output impedance is now 5V/10mA = 500 Ohm, again fine for our load of 470 Ohm.

Yes, but I want 50 Ohms!

Which can. There are a few solutions for that. The simplest is the circuit below.



RF staircase with adjustment

It's basically the same circuit as the previous one, but instead of an RFC, the coil and tuning capacitor form an impedance match that converts the impedance from 500 Ohms to 50 Ohms.

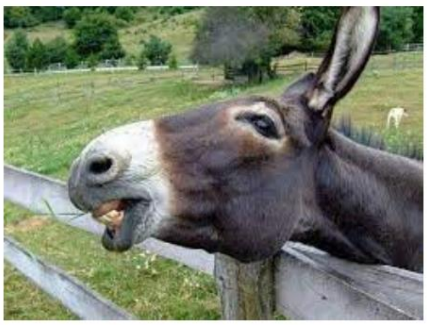
However, only for the frequency to which it is tuned.

This is the method that was often used in tube output stages in the past suits.

Another solution is to use a lowpass filter (which is always a good idea anyway), which actually does the same thing as an antenna tuner. Such an adjustment actually forms a transformer for the specific frequency.

And there is a danger! When the antenna suddenly turns out not to be 50 Ohm (it is not in resonance or just broken) then we have too dealing with a bad SWR. In that case, the signal sent by the transmitter stage is completely or partially back.

The transmission line can also cause an impedance change in this way. Just as the matching of our stage converts the impedance from 500 Ohms to 50 Ohms, it will do it in reverse from 50 Ohms to 500 Ohms. The voltage will thus become considerably higher, and may even be higher than the voltage for which the transistor is suitable. This is the reason why an unmodified or poorly adapted antenna can cause your output stage to break. I'm afraid I also had to learn this the hard way in my younger years...

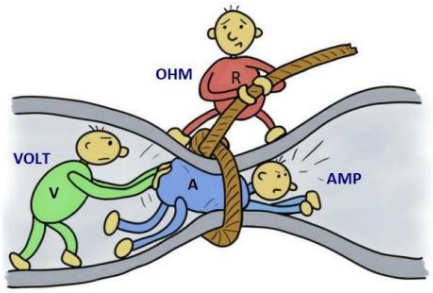


What about the output impedance? (continuation)

Earlier I noted that an RF amplifier built so simply cannot work stably. Apart from the distribution of the parts, this is because the transistor naturally heats up slowly. As a result, the characteristic changes and with it the setting. How you solve that is subject for another article.

And last but not least

> *“If you write 'boolshit' when you mean 'bullshit' you may have programmed a little too much C.”*
>
> - Fermata (nickname friend Stefan)

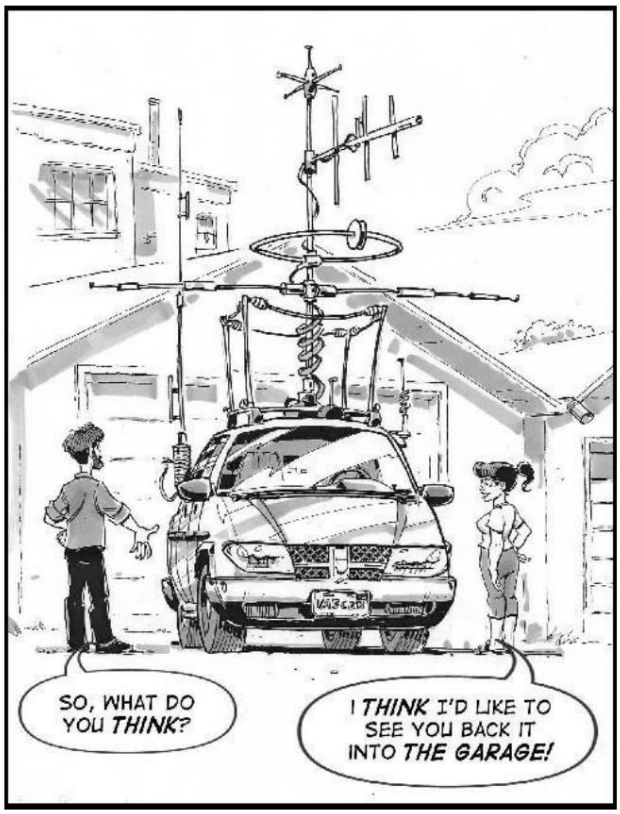


Well, that may need some explanation.
My position is that electronics actually means nothing more or less than applying Ohm's law. This really means more than the well-known triangle R=U/I. This is not about being able to calculate a replacement resistor , but about understanding and being able to apply it for both direct current and alternating current (high frequency) situations -and in our case the combination of these. This is actually the subject of electrical engineering. A boring, but oh so important subject for the electronic engineer!

The rest is really not really important whether it concerns digital (boolean) technology.

(And that's how I'm talking myself out of it again).

73,
Pascal - PA3FKM



Do you have news for the activity calendar? Mail it to: secretaris@daru.nu

All contests can also be found on: www.contestkalender.nl

Day	Date	Topic	Location	Info
Sunday	26-6-2022			
Monday	6/27/2022			
Tuesday	6/28/2022			
Wednesday	6/29/2022			
Thursday	6/30/2022			
Friday	7/1/2022			
Saturday	7/2/2022	Marconi Memorial Contest(160-10)	Worldwide	Link
Sunday	7/3/2022	Marconi Memorial Contest(160-10)	Worldwide	Link
Monday	7/3/2022	KAR . radio market	blade	Link
Tuesday	7/4/2022			
Wednesday	5-7-2022			
Thursday	6-7-2022			
Friday	7-7-2022			
Saturday	7/8-2022			
Sunday	7/9-2022	IARU HF World Championship CW and SSB	Worldwide	Link
Monday	10-7-2022	IARU HF World Championship CW and SSB	Worldwide	Link
Tuesday	11-7-2022			
Wednesday	12-7-2022			
Thursday	13-7-2022			
Friday	7/14-2022			
Saturday	7/15-2022			
Sunday	7/16-2022			
Monday	17-7-2022	NVHR Repair Day	Den Bosch	Link
Tuesday	7/18-2022			
Wednesday	7/19-2022			
Thursday	7/20/2022			
Friday	7/21-2022			
Saturday	7/22-2022			
Sunday	7/23-2022			
Monday	24-7-2022			
Tuesday	7/25-2022			
Wednesday	7/26-2022			
Thursday	7/27-2022			
Friday	7/28-2022			
Saturday	7/29/2022			
Sunday	7/30/2022			
	7/31-2022			

In this section we prefer to mention the national events and the larger contests.

Let's hope the next issue paints a busier picture than that.

IWAB - Everyone Keeps Getting Better

www.iwab.nu

The happiest school on the net

Questions to ask…

Don't wait too long!

Course weekly on
Monday and Thursday (N)
Tuesday and Friday (F)
from 8 p.m. to 9 p.m.

ts.whiskyoscar.nl:9978
ts.radioamateur.nu:9988

Start of the courses: Novice September 26, 2022, Full September 27, 2022

We follow the requirements as can be found at: https://www.radio-examen.nl/

Also follow the course at IWAB
Sign up at:

Mieke: **pa7mk@pi2gor.nl**
Willem : **pa3kyh@pi2gor.nl**

Voluntary contribution / donation?

We received a question: *'I support the vision of DARU and would like to commit myself to this association. But I don't have time. Is it also possible to make a voluntary contribution or donation?'*

Of course! We welcome any kind of support. Every radio amateur can help us and contribute according to his or her possibilities: as a thinker/ doer on a board or working group, as a volunteer at one of the DARU events or as a financial sponsor. Read more information on our website: www.daru.nu

And aren't you a member yet? Then consider a DARU membership. For a contribution of only €15 per year, you count all the way!
You can register via this link.

The Ecuador earthquake and the Guayaquil Radio Club

By Martin Butera, PT2ZDX - LU9EFO

As a journalist and radio amateur, Martin Butera is always looking for people, organizations or situations that have common ground with our hobby. We are allowed to publish his articles in DARU Magazine, something we are very happy about, because there are very interesting stories in there!
Below you can read his report on one of the most devastating earthquakes in Ecuador and the role played by the Guayaquil Radio Club in it.

devastation

On April 16, 2016, Ecuador experienced one of the most devastating earthquakes in its recent history.
An earthquake measuring 7.8 on the Richter scale killed 670 and injured thousands, as well as millions in property damage.

This earthquake struck the provinces of Esmeraldas (on the border with Colombia) and neighboring Manabí, both located on the coast of the Andean country. But it also affected other areas and was strongly felt even in the Ecuadorian capital Quito.

Founded on May 9, 1923, the Guayaquil Radio Club (HC2GRC) is the largest radio club in Ecuador and in all of Latin America and was instrumental in one of the worst emergencies to hit the country.
Six years later, the Radio Club commemorates the largest earthquake in its history.

The first hours after the devastating earthquake. (Photo of the Red Cross Ecuador)

The Ecuador earthquake and the Guayaquil Radio Club (continued)

Today the story of Victor Perez (HC2DR), one of the Emergency Coordinators of the Guayaquil Radio Club (HC2GRC), who along with other radio amateurs became the heroes who selflessly cooperated with society when it needed it most.

Victor Perez (HC2DR), member of the Guayaquil Radio Club (HC2GRC)

Let's start…

Martín Butera PT2ZDX/LU9EFO: Six years have passed since the Guayaquil Radio Club (HC2GRC) responded to the earthquake. What are your memories of those first hours?

Victor Perez (HC2DR): I remember the first time we felt a slight magnitude 4.8 quake and according to reports from the Military Geophysical Institute of Ecuador (IGM), it took place in the sea off the coast of the Cojimies- sector, around 06:48 local time and 10 minutes later, the Mw 7 Pedernales earthquake occurred.

I remember it seemed like a very strong quake in the city of Guayaquil where I was at the time. I went to my shack with one to get news on the VHF repeaters and on HF bands where the HC round had just started. A round that has taken place continuously every day for more than 41 years.

Early reports from amateur radio operators in the affected area of Manabi Province revealed that every block of houses and buildings had collapsed and that they lacked basic services. There were many dead and wounded, it was total chaos.

Martín: What were the actions, speaking of communication, that the Guayaquil Radio Club (HC2GRC) took during the earthquake?

The Ecuador earthquake and the Guayaquil Radio Club (continued)

Victor: We organize ourselves to be able to go out the next day with radio equipment, antennas, batteries, solar panels, etc. With the aim of establishing two communication points from the affected area of Pedernales and Tarqui for Manta to the power supply plant. 911 and the central radio of the Guayaquil Radio Club.

Let me mention the colleagues who worked in the vicinity of Pedernales and Jama: Gunther Chaange (HC2G) and Juan Jose Chaange (HC2TKA). Both stayed there for 4 days.

And I, along with my son Ahmed Perez (HC2AP), was in the area of Portoviejo, Manta and Tarqui, also for 4 days.

We helped 174 affected people pass messages to their relatives in other parts of the country, either letting them know that they were healthy or that they had injured or deceased relatives.

We also restored operation of the repeaters in the sector and programmed rescue teams on our frequencies to integrate them with the various emergency services working together in the affected sectors.

A Red Cross employee walks through the deserted streets of Manta where the earthquake was very strong. (Photo of the Red Cross Ecuador)

Martín: At that time you received an important donation from other colleagues, what can you tell me about that?

Victor: We then received a shipment of about 200 kilos of radio equipment worth more than $ 7,500. This donation came from ARRL headquarters.

I remember when everything was coordinated by the ARRL Emergency Preparedness Manager, Mike Corey (KI1U), along with other colleagues such as: Ken Bailey, (K1FUG), Sean Kutzko (KX9X), Tom Gallagher (NY2RF), Jeff Beals (WA4AW) and Kenny Hollenbeck (KD4ZFW). This would, of course, have been impossible without the collaboration here in Ecuador of our colleague Gunter Chaange (HC2CG) together with our Guayaquil Radio Club President Lorenzo Lertora (HC2BP).

Thanks to those radio teams, and together with the Ecuadorian radio amateurs, we were even able to help a Venezuelan Air Force plane with search and rescue personnel and equipment land safely at an airport where power and communications had been lost. We will always be very grateful to our North American colleagues for their selfless cooperation.

Of course I apologize in advance if I forgot to mention in this interview an amateur who participated in the relief in the affected area.

Some of the equipment that was down by the ARRL (American Radio Relay) League) at the Guay aquil Radio Club (HC2GRC)

The important dona tie of the ARRL to the Guayaquil Radio Club (HC2GRC)

The amateurs of the Guayaquil Radio Club (HC2GRC) are grateful for the donation

Martín: Coincidentally, on the morning of Monday, April 4, 2022, the Geophysical Institute of Ecuador reported an earthquake measuring 4.1 on the Richter scale, recorded in the Guayaquil area. What is it like to live with this constant fear of another earthquake?

Victor: It's not easy, but we're adapting. A lot of work has been done to inform and train the population about what to do in these cases. Every year earthquake and tsunami exercises are held along the entire coastline. An early warning system is now operational and evacuation boards and meeting points have been implemented.

The municipality has drawn up a civil safety ordinance in the major cities, so that companies can implement contingency plans in these situations.

Martín: Since the earthquake, the Guayaquil Radio Club (HC2GRC) has held several exercises. What can you tell me about that?

Victor: Every year we participate in the annual exercise that takes place in Guayaquil and we test our response capabilities. We have signed cooperation, consultancy and training agreements with the Secretariat of Risk Management, the Ecuadorian Red Cross, and the fire service. Among other things with a view to the formation of an emergency telecommunications network.

Radio amateurs participate with a big Tsunami exercise. The Red Cross, the air force, fire brigade, navy and government agencies did participate in this exercise.

Radio amateurs in action during a major tsunami exercise

Members of the Guayaquil Radio Practice with the club

Martín: Tell us about your relationship with the Guayaquil Radio Club (HC2GRC). I know that your family is also a member of the club and that you also held various positions within the organization.

Victor: I joined the Guayaquil Radio Club (HC2GRC), on June 5, 1988, invited by some members at the time. I was a telecommunications technician at the time. I joined the technical committee and was involved in the recruitment of new members. Over the years I have held positions and am currently the treasurer, my two eldest sons are also radio amateurs and work with me in the activities of the club.

The Ecuador earthquake and the Guayaquil Radio Club (continued)

Victor Perez (HC2DR) with his son Ahmed Perez (HC2AP)

Martín: Next year the Guayaquil Radio Club (HC2GRC) will be 100 years old. How do you see the future of the club and radio in general?

Victor: As a club we will continue to offer courses for radio amateurs and for the aspirants of this hobby. We will continue to participate in contests. But above all, we will also continue to maintain an emergency communications system and work together with other organizations in our society.

We would like to congratulate Victor Perez (HC2DR), as well as everyone who is part of the Guayaquil Radio Club (HC2GRC), for making this hobby something incredible and supportive.

Pacific Ring of Fire

The Ring of Fire is a horseshoe-shaped region around the Pacific Ocean that is characterized by the frequent occurrence of earthquakes and volcanic eruptions, caused by various subduction zones of tectonic plates in the region. See: https://en.wikipedia.org/wiki/Ring_of_Fire

Besides Ecuador, the belt includes many countries: Chile, Argentina, Bolivia, Peru, Colombia, Panama, Costa Rica, Nicaragua, El Salvador, Honduras, Guatemala, Mexico, the United States and Canada.

The streets of Manta are deserted and destroyed after the earthquake

The Ecuador earthquake and the Guayaquil Radio Club (continued)

Conclusion (a slow reconstruction)

On April 16, 2016 at 6:58 PM (23:58 GMT), much of Ecuador, but especially the provinces of Manabí and Esmeraldas, felt the largest earthquake in the country's history. It is enough to look at the impressive photos to understand the magnitude and impact of this earthquake. In the images it seems to be a complete war scene.

The economic impact of the earthquake was huge: the damage of millions and millions of dollars. It's not easy to rebuild everything. You just have to start from scratch.

To this day, six years after the earthquake, a large part of the population is still without electricity, without a GSM network and the drinking water and sewage systems have not fully recovered.

Also, many schools and health facilities are still out of order, just as countless roads and bridges are still unrepaired.

Three presidents of the republic have already passed in Ecuador and the controversies, judicial processes, unfinished works that leave more doubts than certainties about the course of a final reconstruction. In Ecuador, however, there is a people who stand in solidarity with their community and are ready to give their all, as was the case with Victor Perez (HC2DR) and all those who are part of El Guayaquil Radio Club (HC2GRC).

Thanks to the Red Cross of Ecuador for the photos.

73, Martin Butera, PT2ZDX—LU9EFO

Martin Butera, PT2ZDX - LU9EFO
martin_butera@yahoo.com.ar

About the author

Martin Butera is Argentinian, but currently lives in Brasilia (the capital of Brazil). He is a radio amateur with over 31 years of experience and has participated in several DX expeditions throughout South America. He has both an Argentinian call, LU9EFO, and a Brazilian call, PT2ZDX.

Martin Butera is our accredited writer in Brazil for our publications and also writes for some of the most prominent international newsletters and magazines in the world radio scene.

Martin Butera (PT2ZDX/LU9EFO) along with Victor Perez (HC2DR) during an expedition in Salinas, Ecuador.

RADIO MARKETS. IT'S POSSIBLE AGAIN!

KAR Radiomarkt

Annual Radio Market of the Kempische Amateur Radio Club

Date : Sunday, July 3, 2022, from 10:00 AM – 4:00 PM

Location : Loam silage 16b, 5531 NL Bladel

More info: www.pi4kar.com or send an email to markt@pi4kar.com.

The Kempische Amateur Radioclub (KAR) organizes their annual radio market on Sunday 3 July. On the site, various exhibitors sell radio-related items such as radio sets,
antennas and many electronics parts.

The KAR radio market has become a real tradition. People from all over the country flock to it. Not only to buy or exchange something, but also to exchange experiences about the radio hobby and to get to know our association.
And that too in a beautiful setting!

Admission is €5, children up to 16 years old have free entry. And parking is free.
Everybody is welcome.

See you on Sunday 3 July!

The Deutsch Niederländische-Amateurfunker-Tage, or DNAT for short, is planned from 25 to 28 August 2022. The organization has since confirmed that this market will continue.

The DNAT is an event by and for radio amateurs where the friendship between German and Dutch radio amateurs is central.

The radio flea market has been moved and will take place in the Forum am Burg Gymnasium and the adjacent grounds. The Forum is 250m away from the station of
Bad Bentheim.

Camping 'Am Badepark' is available for camping from 19 to 29 August.

Check the DNAT website for the latest news.

DNAT

RADIOMARKT

Zuid Limburg

Zondag 4 september 2022
van 10:00 tot 14:00

Gratis entree

Bij Haje Electronics
Oude Kerkstraat 7
Berg & Terblijt

De gezelligste markt in Zuid-Limburg!

Een kraam kost maar €15,00. Interesse? Email radiomarkt@pi4vlb.nl

Stichting R.O.M.
Radio | Onderdelen | Markt

Radio Parts Market (ROM)

On Saturday 24 September 2022 for the 39th time the Radio Parts Market (ROM) held.

As in previous years, this market will take place at roadside restaurant “de Lichtmis” located on the A28, between Zwolle and Meppel. Entrance is free.

Parking (if possible) €2.00 on the grassland opposite “De Lichtmis”. See the website: https://stichtingrom.com

Vereniging voor Experimenteel Radio Onderzoek in Nederland

Dag voor de RadioAmateur 2022

Zaterdag 29 oktober 2022, IJsselhallen Zwolle, Rieteweg 4, 8011 AB Zwolle

Programma met officiële opening, Amateur van het Jaar, lezingen, presentaties VERON commissies en werkgroepen, radio-onderdelen markt, commerciële verkoop radio/zend apparatuur. Check voor het laatste nieuws https://dvdra.veron.nl

Internationale Amateur Radiobeurs

Toegang € 10,–.
Koop een E-ticket op
https://webshop.veron.nl.
Of maak gebruik van de QR-code
op deze pagina.
Openingstijden van 9.00 – 16.00 uur.

In de IJsselhallen is catering aanwezig.
Parkeren op terrein van de IJsselhallen is GRATIS (parkeren op eigen risico).
NS-station Zwolle op 15 minuten loopafstand.
https://www.ijsselhallen.nl

Zaterdag 29 oktober 2022, IJsselhallen Zwolle, Rieteweg 4, 8011 AB Zwolle

No SAQ broadcast on July 3 (Alexanderson Day)

On the website of the The Alexander association we read that there will be no broadcast on 3 July . This is due to difficulties in obtaining various components that are necessary for carrying out maintenance work on the 200 kW Alexanderson alternator, which is now almost 100 years old. Visitors are welcome on Sunday, July 3, 2022 from 10:00-16:00 LT. Very nice that this is possible again after 2 years of corona. The transmitters are started, but no signals are applied to the antennas. You can follow it via the Youtube channel: https://www.youtube.com/c/AlexanderSAQ

Open house Frisian Radio Amateur Group

Put it in your agenda in advance. An open house will be held at the Frisian Radio Amateur Group (FRAG) on Saturday **September 10, 2022 .** Everyone is welcome that day between 10:00 and 15:00 in the clubhouse at Avondsterweg 14 in Leeuwarden.

The open house is for everyone who wants to know more about radio (broadcast) amateurism and the FRAG as an association. A number of FRAG members have prepared a nice program, so that there is something for everyone to 'discover'. Various demonstrations are held and an EMC test bench is also available where power supplies or other equipment can be tested.

Course leader Kasper PA3FRV is present to inform visitors about the course for the N or F license that is given at the FRAG. Interested parties can immediately register for the course that day.

PI2VLI DMR QSY to 438.0375 MHz

On Thursday 23 June 2022, the Repeater Groep Walcheren Foundation (SRGW) made a change to the PI2VLI site in Vlissingen.
The Brandmeister DMR repeater PI2VLI has changed its frequency and the analog repeater PI2VLI has received a new TX mobile radio, which has made the modulation sharper. The changes at a glance:
The **DMR repeater PI2VLI** has been changed to the new frequency 438.0375MHz (previously 430.3375 MHz), shift -7.6 MHz, CC 1, TS 1 204, TS 2 2043. See also: https://brandmeister.network/?page=repeater&id=204404
The **analog UHF repeater PI2VLI went on air** earlier this year (February 2022) at 438.4375 MHz (formerly PI3VLI 145.6625 MHz), shift -7.6 MHz, CTCSS 88.5 Hz.

HAMNET survey

ARDC, the organization that manages HAMNET, would like to hear your thoughts on the use and management of HAMNET. How do you use HAMNET? What problems do you experience? And what improvements do you propose?
For that reason, a survey has been set up that you can complete via the website: https://survey.ardc.net. If you have any questions about this, please send an email to PE1CHL (rob@pe1chl.nl)

VRZA course material training for radio amateur

For those who didn't know yet: access to the course material has been free since March 14, 2022.
The course focuses on the F exam and consists of 19 chapters. Each chapter has a full and a very short version. The full version is for learning, the shortened for repetition of the material. Each chapter contains one or more separate files with detailed exam questions. Please send any comments or suggestions to the course editors: cursus@vrza.nl. The radio amateur course can be found at https://cursus.vrza.nl/

Stichting DLZA

Leeromgeving Zendamateurs

At the DLZA Foundation you learn to become a radio amateur at your own pace. Both for the course for the step registration (Novice) and the full registration (Full) you can register here

DLZA.NL
ZENDAMATEUR WORDEN ?

Digital Learning Environment Broadcast Amateurs

Do you want to become a broadcaster? This is possible at the DLZA. Free (10 euro deposit or donation only)

In a reasonably short time we can help you to teach the material for the N-exam or F-exam for the radio amateur.
And all this completely free. With us you only pay a deposit of € 10,- or make a donation to the foundation.
You determine the study pace yourself! You can master the Novice in a few weeks, but you can also take a few months, up to a year. It is the intention that you study with some regularity. The maximum study duration is 30 months. If this is too short, you can request a one-off extension of another 30 months.

In the learning environment we have 5 courses: N, N-exam, F, F-exam and CW. If you register for the N you get access to the N course and if you have achieved a satisfactory result in the tests, you get access to the course N exam. This is to prevent you from learning exams alone; As a radio amateur you should not only be able to take exams. The same applies to the F course.

Knowing more? Check out our website or facebook page

Board#21

Who knows which object is in this photo?

It has (obviously) to do with our hobby. Perhaps you still have good (or less good) memories of it?

Mail your reaction to magazine@daru.nu

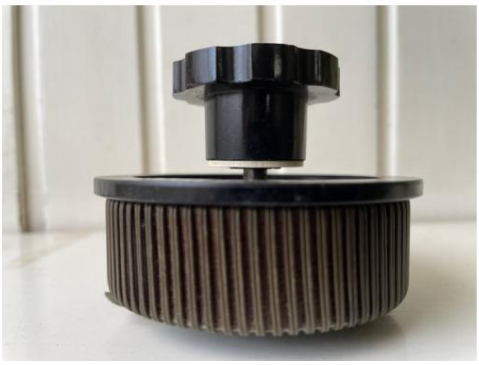
21

Board#20 from DARU Magazine#27

No, it was not a variac (control transformer). Although that answer is not so crazy. It was an adjustable power resistor, an oversized potentiometer. The windings are too far apart for a control transformer, as PA0CYS already indicated. Such a thing is also called a 'rheostat'; a low-impedance potentiometer of in this case 0-2 ohms with turns of thick nickel wire. In the past it was used, among other things, to adjust dynamos or power supplies. See also: https://nl.frwiki.wiki/wiki/Rhéostat. You can still buy them new, for example at Aliex press. For those who want to experiment with a rheostat, here is a nice website: https://www.thuisexperimenteren.nl/science/rheostaatcentrale/rheostaat.htm.

Harke PA0HRK reacts to his solution: *"I have no special memories of it, because I am more of a low-powered figure, well, usually then. These things generate a lot of heat, if possible I would use something like a triac/ thyristor or something".*

20



And the winner is ...

12 entries have been received.

The winner is Egenolf van Stein Callenfels, PE1ESC. Congratulations Egenol. Just pass on your address to the editors and we'll send a little gift that way.

No price? Another chance next month! And you might also win a nice DARU gadget!

Want to become a radio amateur?

If you want to use frequency space as an amateur radio operator, you must be able to demonstrate that you have sufficient knowledge of technology and regulations. For this you have to take an exam for radio amateur level *Novice* (N) or *Full (F).*

The Radio Exams Foundation (SRE) has been organizing exams for radio amateurs since 2008 and is recognized as an examining institution. The exams administered by the SRE are compiled by the Telecom Agency.
About 6 times a year the SRE organizes an exam opportunity.

The (provisional) exam agenda for 2022 is as follows:

September 7 : NH Conference Center Koningshof, Veldhoven

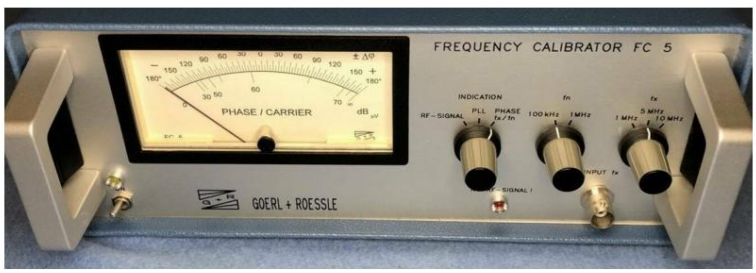
November 1 Expo, Houten

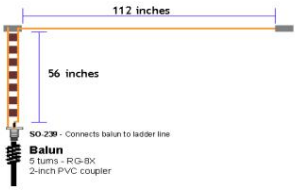
For the most up-to-date information, consult the SRE website: https://www.radio-examen.nl/examendata

WANTED WANTED WANTED WANTED WANTED WANTED WANTED WANTED WANTED WANTED

The schematic library in Wageningen is looking for documentation / diagrams of the following equipment:
1. Schomandl FN77 OCXO Frequenz Normal
2. Goerl + Roessle Frequency Calibrator FC 5

The administrator, Toine PD0MHS, emails us:
I have many schemes but now I have to sell no.
I am looking for the schematics of these meters. I did find the manual on the intranet, but no diagrams. So who oh who can help me with this? Expenses are of course reimbursed.
My email address is info@schematheek.eu



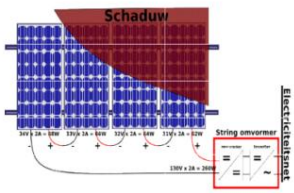


Half-wave end-fed antenna for 6-meter Larry

Nelson - K5IJB describes a simple construction of a half-wave end-fed for the 6-meter band.
Just convert the inches. http://webclass.org/k5ijb/antennas/End-fed-6m-Zepp.htm

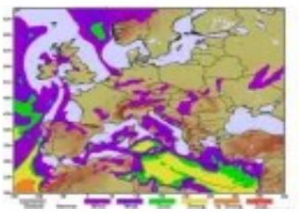
A Beginner's Guide To Ham Radio In Space

A nice video for radio amateurs who are also considering doing something with satellites. Difficult?
Oh, no. Bob K6UDA shows it to you. An entertaining look at amateur radio satellites. Bob says, “If I can do it, so can you”. And so it is! https://www.youtube.com/watch?v=dx9nbx2tKiI



Optimizers in solar panel installations

Optimizers sometimes cause (extra) interference (RFI) on receivers. Recently I came across the website of PA1JT. Jan explains in a blog what those optimizers actually do and that you should rather not want them. His conclusion: “To prevent the use of optimizers, it is better to think carefully about the location where the PV panels will be mounted”.
Read more at: https://
www.pa1jt.nl/wp-content/uploads/2020/12/ZX13122020.pdf

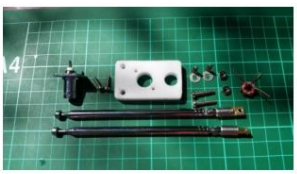


Tropospheric Propagation Forecast for EU

Sudden changes in atmospheric moisture and temperature can on random occasions cause VHF/UHF signals to propagate for hundreds of kilometers to approximately 2,000 kilometers. On the F5LEN website you can see when there is a chance of beautiful DX. http://tropo.f5len.org/
forecasts-for-europe/

Tips for amateurs who want to go out by bike or on foot

G4AKC has made it a sport to be able to use its equipment mobile, on foot or by bike. For example, he constructed a manpack (backpack) for 20m.
See https://www.g4akc.co.uk/

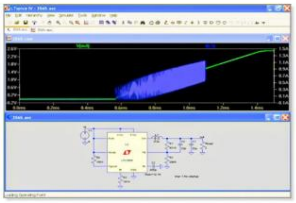


Lightweight portable dipole for 2m

It doesn't have to be all that complicated. With simple means, you can quickly fabricate something that you can enjoy a lot. SOTA expert Andrew VK1AD shows it. https://vk1nam.wordpress.com/2m-lightweight-telescopic-dipole/

What does the Noise Blanker (NB) on my receiver or transceiver actually do?

What does the NB do and what does it not do? And in which situations can you use this circuit effectively?
Kevin KL9RLW explains. https://www.youtube.com/watch?v=6s737yOXCTU&t=1s



LTspice simulation software, free to use

High-quality SPICE simulator software, including a graphical schematic recording interface. Schemes can be examined by producing simulation results. The new version of LTspice makes the simulation of analog circuits even easier. https://
www.analog.com/en/design-center/design tools-and-calculators/ltspice-simulator.html

Something completely different: looking at satellites…

We have probably all seen it: the flying ISS. Every two months there is a period of two weeks where we can see ISS. In the morning, but rather in the evening twilight, a bright light sweeps across the firmament. You can see for yourself when that happens on Chris Peat's Heavens Above website. Always enter your location first, only then will you receive all the information correctly. Lots of nice details, also for amateur satellites, for example. https://www.heavens-above.com/
main.aspx

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THE GOALS OF THE DARU

The world around us is changing rapidly. As radio amateurs we should be better prepared for the future of our beautiful hobby. Prepare well for developments and changes that have a major impact on our radio hobby. Becoming 'future-proof' requires a different organizational form in which *focus, cooperation* and *clout* are important keywords. The best form of representing the interests of Dutch radio amateurs is that of a federation: one national union of radio amateurs. Our objectives are:

1 Representing the interests of radio amateurs in European and Caribbean Netherlands;

2 Representing the interests of radio amateurs with local, regional, national and European government;

3 To promote the radio hobby, interest the youth and improve the image of the radio amateur;

4 Promoting radio technology/telecommunications in general and within education in particular;

5 Providing communication by radio amateurs in emergencies (natural disasters, etc.) This especially for the BES islands (Bonaire, Sint Eustatius and SABA);

6 Publishing a free magazine (as PDF);

7 Provide assistance with antenna placement problems;

8 Putting a stop to interference that increasingly hinders radio amateurs in the exercise of their hobby (by eg solar panels, powerline communication and other, especially non-CE marked, disruptive products).

SUPPORTING FUNCTIONS

Contact person for the Caribbean Netherlands: Peter de Graaf, PJ4NX, bes@daru.nu

Award manager: Martin Moerman, PA0KGB awardmanager@daru.nu

Contest manager: Frank Laanen, PE1EWR, contestmanager@daru.nu

Website: webmaster@daru.nu.

There are vacancies. Something for you?

ICT: Martin Moens, PJ4MM, ict@daru.nu

There are vacancies. Something for you?

The Netherlands Antenna Placement Support Office: BOAN is one of the DARU's spearheads.

For any questions, please contact by email: boan@daru.nu

"Scientists dream of doing great things. Engineers do them."

James Albert Michener (1907 - 1997), American writer

This was another edition of DARU Magazine

A publication that came about through 5% inspiration and 95% perspiration. And we still like it!

Let us know what you think about it. What can be done differently and better? Mail your reaction to: magazine@daru.nu

You too can publish in DARU Magazine

Any contribution to the DARU magazine is greatly appreciated. Together with you, our editorial team will turn it into a pleasantly readable and informative article. Send your contribution with some loose pictures and/or photos and we'll get started!

Recommended data formats: .doc, .docx, .rtf, .odt and .txt. Preferably no .pdf, that makes editing a bit more difficult. Photos make the article airy, so: yes, please!

Send your contribution or ask your questions to the editors: magazine@daru.nu

Join the DARU

And enjoy all the benefits we offer you have to offer!

SAVE THE DATE

Online DARU MEMBERS CONSULTATION

Wednesday, July 6, 2022, from 7.30 pm to 11 pm

It is time again to exchange ideas with our members about a number of issues. It is mainly about where we stand as a young radio association and what the topics are with which we struggle. We want to share this problem with you and ask you to think along with us. Because we are the DARU

after all together?

We will combine this consultation with an interesting lecture about the Smith-Chart, given by Arie PA3A.

Put this date in your diary and keep an eye on your mailbox!