

Radio ZS

Volume 63 No./Nr 5

September/Oktober 2010

September/October 2010



**Is Amateur Radio Only a Hobby?
QSL cards using MS PowerPoint
What does "ham spirit" really mean?**



1925 - 2010

Be Surprised by the World of Amateur Radio

South African Radio League Suid-Afrikaanse Radioliga

Founded 20 May 1925 / Gestig 20 Mei 1925
The National Body for Amateur Radio In South Africa
Die Nasionale Liggaam vir Amateurradio in Suid-Afrika
Member Society of the International Amateur Radio Union, Region 1
Ledevereniging van die Internasionale Amateurradio-unie, Streek 1

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Sundays / Sondag
08:15 CAT Afrikaans
08:30 CAT English

HF 20 m, 40 m, 80 m HF
VHF 2 m and 70 cm BHF

www.sarl.org.za/newsinbox.asp

Amateur Radio Mirror International
Sundays 10:00 CAT Sondag
16 and 40 metres AM; 7,082 MHz SSB
2 m and 70 cm FM; Echolink by ZS6FCS
<http://www.sarl.org.za>, click on ARMI and
follow the links

Mondays / Maandae
21:00 CAT - 3,215 MHz

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Suid-Afrikaanse Radioliga

Radio ZS

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Front Cover / Voorblad

Marion Island's 3 Wise Men - Simon, the Mayor of Marion Island and Minister of Health (Team Leader and Medic); Vincent, Minister of Energy Affairs and Organised Labour (Diesel Mechanic and Handyman); Pierre, ZS8M, Minister of Telecommunications (Radio / Electronics Technician)

Marion-eiland se 3 wyse manne - Simon, die Burgemeester van Marion-eiland en Minister van Gesondheid (Spanleier en Medies); Vincent, Minister van Energiesake en Werke (Diesel-werktuigkundige en Nutsman); Pierre, ZS8M, Minister van Telekommunikasie (Radio-/Elektroniese tegnikus)

Contributions to Radio ZS. Radio ZS is a forum for SARL members to share their amateur radio experiments, experiences, opinions and news. Manuscripts with drawings and/or photos are always welcome and will be considered for publication. Articles on disc or e-mail are especially welcome. Material may be submitted in rtf format. Material may be mailed to The Editor, Radio ZS, PO Box 12104, Brandhof, 9324 or by e-mail to radiozs@sarl.org.za. The SARL cannot be responsible for loss or damage to any material.

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Running a club meeting....

Some time ago I read a series of articles by Scot, K9JY, about Club Management. And it got me thinking about my own amateur radio club and other amateur radio clubs around South Africa.

Scot writes, "Meetings in the corporate world suck. They take too long; they do not have an agenda. Too many people with no interest in the meeting attend because they were invited. If the thought of an amateur radio meeting was like corporate meetings, no one would join your club.

However, membership meetings for amateur radio should not be like corporate meetings."

Meeting Objectives

Meetings are social. Hey, we joined the club to be with other radio amateurs. Therefore, the social aspect of the meeting is critical.

Meetings are places to learn about the hobby. If you were thinking of getting into a new area of amateur radio like six metres, where would you find someone who is already in that part of your hobby? Your club, of course.

Meetings expose you to all facets of the hobby. If you have great club programmes, your members will learn about different parts of the hobby even though they may not participate in that part of the hobby. I would never do moon bounce - but what a cool thing to learn about for a programme!

Agenda

Here is my agenda for an amateur radio membership meeting:

18:30 - Have the meeting room

open a good half hour before the start of the meeting - socialise!

19:00 - Start the "business" meeting promptly. If you are late, you miss it.

The business meeting lasts 20-minutes maximum. Yes, 20-minutes maximum. In two years of running amateur radio meetings, I only missed this objective 3-times over almost 48 meetings.

The business meeting consists of treasurer's report, new members, DX report, activity report, contest report and introduction to the programme for the night. After the business meeting, there is a break before the programme starts - socialise.

19:45 The programme starts - learn.

21:00 If your programme speaker is still talking, he or she gets thanked by the president/chairman and booted off the programme, done or not!

21:00 Start of the meeting-after-the meeting - socialise.

Here is the rule - the membership meeting is not about the meeting. It is about socialising with your fellow radio amateurs and learning about the hobby. What do you think?"

Is this how your club runs its meetings or is it how your club will be running its meetings from January 2011?

73 and 88, Dennis, ZS4BS



Amateur Radio – the most versatile hobby on earth

Hard-Won Amateur Radio

Victor P du Preez, ZS6EA *

The general statement; ***“Amateur Radio – the most versatile hobby on earth”*** would only be applicable if through the years and by all odds Amateur Radio survived hardships, obstacles and situations not ordinary to other hobbies. Could this be true of Amateur Radio?

There is no question about it; Amateur Radio had to struggle to survive both World Wars (though Amateur Radio was not yet official during WW1), for obvious reasons having been shut down completely by the warring parties, the military having the only right to utilise this wonderful mode of communication. Not only that; though not being at war, various countries throughout Amateur Radios past have banned the hobby completely, the radio amateurs being jailed, even executed if found having anything to do with the hobby. Even today, you will still find a country or two having a ban on amateur radio activity.

Radio amateur's will never ever speak or discuss anything to do with politics or religion and you will not hear them use foul language on the air. I believe that due to this mutual respect for the other operator's viewpoints, the general trust and camaraderie built in the hobby through the decades, causes radio amateurs all

over the world to be more open and trusting towards each other. Therefore, throughout the above-mentioned wars, conflicts, hardships and in some cases a complete ban on Amateur Radio, you will find that radio amateurs all over the world kept contacting their fellow radio amateurs despite harsh conditions, defying all odds just to make conversation and thus enhance the hobby.

However, it should be noted that hardly ever did the radio amateurs in countries where amateur radio was banned, during their DX conversations indulge in anything but Amateur Radio. The talk would be about radio; the equipment used and related interests. It should be remembered that during the years after WW2, the majority of the communist countries in the Eastern Block had some or other form of restriction or outright ban on anything to do with Amateur Radio. If there were restrictions only, the radio amateurs in those countries could not buy any amateur equipment like we had the good fortune to do in the West.

True to form, the radio amateurs in countries with restrictions on imported equipment, built their own with components painstakingly collected from wherever they could find it, even making components themselves.

(Continued on page 6)

(Proudly Amateur Radio from page 5)

Whether urban legend or fact, the story goes that some radio amateurs in western countries helped some of the eastern country radio amateurs smuggling components cross-border in order for them to be able to build their own. What I know for a fact though: when I started the hobby, it was not uncommon at all to have a CW contact with an East Block radio amateur using home-brewed equipment that sounded really awful, making the most bizarre noises; but nonetheless we could communicate. That was what counted.

Today the distinct sounds of

home-brew equipment on the air are being heard less and less. To tell the truth, I miss them - hearing them on the air made us radio amateurs realise how fortunate we were. Now that we radio amateurs, East and West, can openly communicate in freedom, should we not attach a more profound value to our hard-won hobby and carry it out to the world and tell all what they are missing? My fellow radio amateurs, let us inform the remainder of the world, those who do not know about us, or how to join us. Let us talk! #

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'Ion Lady' over the moon at new post

Shaun Gillham, Weekend Post, 20 September 2010

Grahamstown academic Dr Lee-Anne McKinnell, ZS2LAW, who is over the moon after recently being appointed to the inaugural board of the South African National Space Agency (Sansa), says there is no reason to believe that the country cannot look into space launch capabilities in the future.

"We are dreaming big, and there is reason to believe that down the line we will look into launch capabilities," she said this week.

Dr McKinnell, who has been dubbed Rhodes University's "Ion Lady," is an ionospheric research physicist at the university.

"I feel honoured to have been selected for the board, and I feel very privileged to be given the opportunity to have a significant role in the future of space science in South Africa,"



McKinnell told Weekend Post this

(Continued on page 7)

(“Ion Lady” from page 6)
week.

Boldly going where no group of South African space experts, professionals and academics have gone before, the 13-member board will be responsible for overseeing the agency, monitoring research priorities and programmes, effecting the agency’s strategy and reporting to government.

According to McKinnell, Sansa’s primary mandate will be:

- * The promotion of the peaceful use of space;
- * Supporting the creation of an environment conducive to industrial development of space technology;
- * The fostering of research in space science, communications navigation and space physics, which would advance scientific, engineering and technological competencies, and
- * The fostering of international co-operation in space related activities.

Holding no less than four degrees, all earned at Rhodes University, McKinnell has spent about 16 years conducting ionospheric research – which studies a layer of plasma located in the upper atmosphere between 85 and 600 km above the earth.

Among a range of other attributes, this atmospheric layer is important because one of its natural properties reflects certain frequencies of radio waves.

This, explained McKinnell, means that any application that uses radio waves will in some way be affected by the presence of the ionosphere.

Of South Africa’s space launch

capabilities, she said, “We are dreaming big, and there is reason to believe that down the line we will look into launch capabilities. We have a legacy to leave the next generation and I believe that we are laying the foundation for even greater heights to be reached.

“But before we get there, we have the very exciting task to develop ideas for home grown South African payloads that will assist in developing capacity in space technology, satellite design and construction, data processing and analysis, research into that data and space weather applications.”

McKinnell has already interacted with a number of foreign space agencies, including NASA, and now also wears the caps of space physics manager and researcher.

Married, “with two adorable dogs,” McKinnell spends a significant portion of her time at the Hermanus Magnetic Observatory where she also studies the earth’s magnetic field, along with other Rhodes University postgraduate students, and works in the capacity of acting managing director of the observatory.

Asked how she developed her interest in her fields of expertise, McKinnell said “I had always had a fascination with how things work, and as I grew older, I narrowed that fascination down to a distinct need to understand how radio waves propagate, and originate, and provide us with communication. Therefore, I chose a physics-based degree. Rhodes has an undergraduate programme in

(Continued on page 8)

("Ion Lady" from page 7)

physics and electronics, which allowed me to do both interests and then choose between them."

"I chose radio and physics primarily because Rhodes had a very active ionospheric research group which is an ideal way to combine both interests."

She said being a member of the Sansa board gave her the opportunity to play a major role in the space science landscape being set out in

South Africa.

"It allows me to contribute to the future that we are creating for the generation to come – an exciting future in which South Africa has the technology and expertise to make adequate and intelligent use of the space environment to satisfy the needs of the people."

Used with acknowledgement to Weekend Post. <http://www.weekendpost.co.za/PrintArticle.aspx?ID=607000> 20/09/10

Enkele Eksperimente met 'n 741 Operasionele Versterker

Deon Coetzee, ZR1DE *

Agtergrond. 'n Operasionele Versterker is 'n gelykstroom gekoppelde elektroniese spanningsversterker. So 'n versterker lewer 'n uitsetspanning wat tipies miljoene male groter is as die differensiaal tussen die twee insetterminale.

Hierdie hoë spanningswins word in die praktyk beheer deur gebruik te maak van 'n negatiewe terugvoerlus wat die grootte van die spanningsuitsetwins bepaal.

'n Ideale operasionele versterker word veronderstel 'n aantal eienskappe te besit, waarvan die volgende enkeles is:

- Oneindige spanningsgebied beskikbaar by die uitsetpoort.
- Oneindige insetimpedansie.
- Nul uitsetimpedansie.

In die praktyk word hierdie vereistes egter nooit heeltemal bereik nie, en verskeie tekortkominge en

kompromieë moet aanvaar word. By die ontwerp van 'n stroombaan moet dit alles in aanmerking geneem word, aangesien sekere parameters 'n weglaatbare effek op die werking van die finale stroombaan mag uitoefen, terwyl van die ander werklike beperkings kan plaas op die werkverrigting. In so 'n geval moet 'n volledige evaluasie van sodanige effekte gedoen word.

Operasionele Versterker gebruik as Buffer

By 'n onlangse toepassing van 'n R-2R weerstandsnetwerk het die noodigheid ontstaan om die uitset te buffer. 'n Redelik voor die hand liggende oplossing op daardie tydstip was die gebruik van 'n operasionele versterker gekonfigureer as 'n versterker met eenheidswins, deur die direkte terugvoer van die uitset na die omkeer ("inverting") inset.

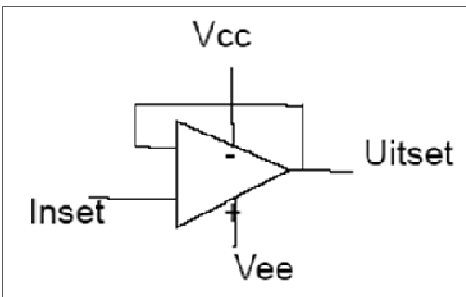
(Vervolg op bladsy 9)

(741 Operasionele Versterker van bladsy 8)

Aangesien dit van belang was dat die uitset van die R-2R netwerk presies gevolg word deur die uitset van die operasionele versterker, en dat dit bekend moet wees wat die effek van die impedansie van stroombane gekoppel aan hierdie versterker se uitset is, is daar gepoog om dit eksperimenteel vas te stel.

Verdere limiete waaraan voldoen moes word was dat die maksimum gelewerde spanning nie 5 V oorskry nie, en dat, indien moontlik, slegs van 0 V tot 5 V en nie van 'n -5 V 0 V +5 V spanningsbron gebruik gemaak moes word nie, alhoewel dit beskikbaar sou wees, indien nodig.

Eksperimentele Opset



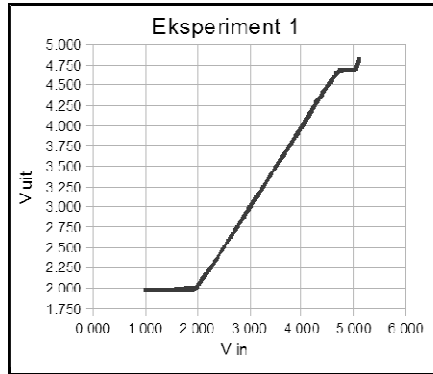
Eksperimentele Resultate

Eksperiment 1 $V_{cc} = 5,2 \text{ V}$ $V_{ee} = 0 \text{ V}$

Insetimpedansie = Oneindig

Inset (V)	Uitset (V)	U/V
0,954	1,977	2,072
1,405	1,977	1,407
1,947	2,002	1,014
2,412	2,407	0,998
2,944	2,938	0,998
3,414	3,407	0,998
3,970	3,964	0,998
3,991	3,984	0,998
4,120	4,124	1,001

4,310	4,314	1,001
4,400	4,400	1,000
4,410	4,413	1,001
4,520	4,516	0,999
4,670	4,662	0,998
4,720	4,685	0,993
4,840	4,688	0,969
4,920	4,689	0,953
5,030	4,695	0,933
5,110	4,840	0,947



Eksperiment 2 $V_{cc} = 5,2 \text{ V}$ $V_{ee} = -4,69 \text{ V}$

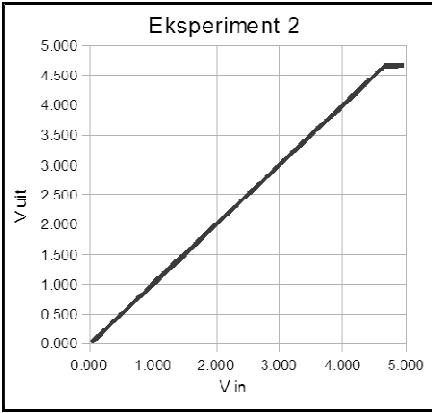
Insetimpedansie = Oneindig

Inset (V)	Uitset (V)	U/V
0,030	0,029	0,967
0,097	0,091	0,938
0,256	0,255	0,996
0,428	0,426	0,995
0,642	0,639	0,995
0,916	0,913	0,997
1,031	1,028	0,997
1,388	1,386	0,999
1,825	1,825	1,000
2,116	2,116	1,000
2,547	2,547	1,000
2,888	2,887	1,000
3,015	3,015	1,000
3,244	3,244	1,000
3,494	3,494	1,000
3,784	3,784	1,000
3,929	3,929	1,000
4,262	4,262	1,000
4,566	4,568	1,000

(Vervolg op bladsy 10)

(741 Operasionele Versterker van bladsy 9)

4,676 4,662 0,997
 4,774 4,664 0,977

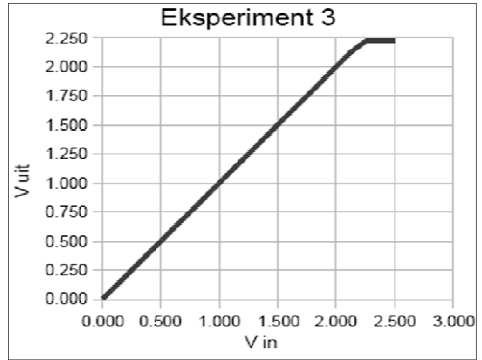


Eksperiment 3 $V_{cc} = 5,2$ V $V_{ee} = -4,7$ V
 Insetimpedansie = 179,9 Ohm

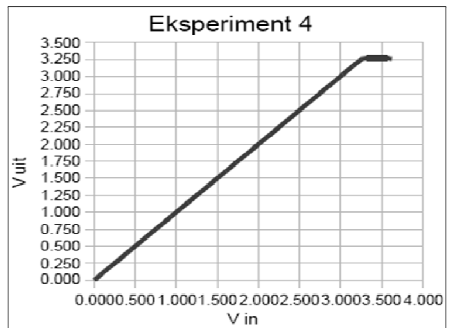
Inset (V)	Uitset (V)	U/V
0,004	0,005	1,250
0,085	0,086	1,012
0,223	0,224	1,004
0,422	0,424	1,005
0,512	0,513	1,002
0,623	0,625	1,003
0,816	0,817	1,001
0,946	0,948	1,002
1,038	1,040	1,002
1,282	1,283	1,001
1,436	1,437	1,001
1,544	1,545	1,001
1,708	1,708	1,000
1,858	1,858	1,000
1,912	1,913	1,001
2,030	2,031	1,000
2,130	2,130	1,000
2,251	2,219	0,986
2,406	2,219	0,922

Eksperiment 4 $V_{cc} = 5,19$ V $V_{ee} = -4,69$ V
 V Insetimpedansie = 357 Ohm

Inset (V)	Uitset (V)	U/V
0,003	0,004	1,333



0,021	0,022	1,048
0,049	0,050	1,020
0,075	0,076	1,013
0,103	0,104	1,010
0,133	0,134	1,008
0,189	0,190	1,005
0,398	0,399	1,003
0,540	0,541	1,002
0,763	0,764	1,001
1,041	1,042	1,001
1,394	1,395	1,001
1,605	1,606	1,001
1,857	1,858	1,001
2,018	2,019	1,000
2,501	2,502	1,000
2,630	2,630	1,000
2,864	2,865	1,000
3,028	3,029	1,000
3,259	3,260	1,000
3,330	3,269	0,982



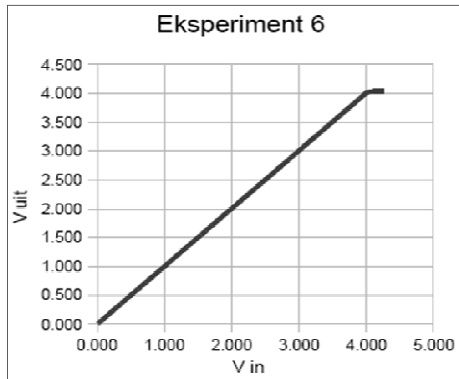
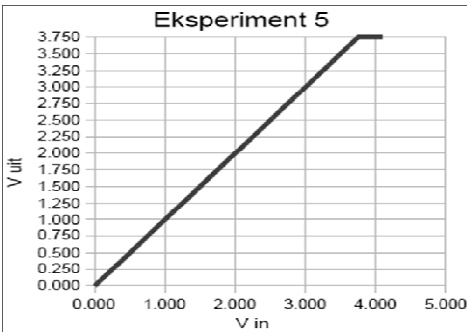
(Vervolg op bladsy 11)

(741 Operasionele Versterker van bladsy 10)
 3,422 3,269 0,955

Ekperiment 5 $V_{cc} = 5,2 \text{ V}$ $V_{ee} = 4,7 \text{ V}$
 Insetimpedansie = 536 Ohm

Inset (V)	Uitset(V)	U/V
0,001	0,002	2,000
0,011	0,012	1,091
0,036	0,038	1,056
0,081	0,082	1,012
0,187	0,188	1,005
0,301	0,302	1,003
0,502	0,503	1,002
0,710	0,711	1,001
0,919	0,920	1,001
1,102	1,103	1,001
1,448	1,450	1,001
1,780	1,782	1,001
2,001	2,002	1,000
2,364	2,365	1,000
2,647	2,648	1,000
2,938	2,938	1,000
3,320	3,320	1,000
3,525	3,526	1,000
3,617	3,618	1,000
3,755	3,750	0,999
3,863	3,750	0,971

0,169	0,169	1,000
0,285	0,287	1,007
0,450	0,451	1,002
0,612	0,613	1,002
0,925	0,926	1,001
1,343	1,345	1,001
1,548	1,549	1,001
1,797	1,799	1,001
2,006	2,007	1,000
2,337	2,338	1,000
2,721	2,722	1,000
3,030	3,031	1,000
3,416	3,417	1,000
3,814	3,816	1,001
4,016	4,017	1,000
4,122	4,039	0,980
4,191	4,039	0,964



Ekperiment 6 $V_{cc} = 5,19 \text{ V}$ $V_{ee} = -4,68 \text{ V}$
 V Insetimpedansie = 716 Ohm

Inset (V)	Uitset (V)	U/V
0,011	0,013	1,182
0,032	0,032	1,000
0,075	0,075	1,000

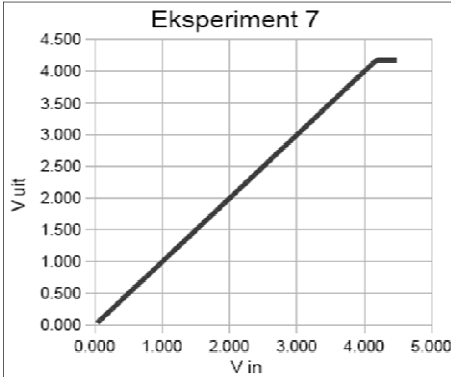
Ekperiment 7 $V_{cc} = 5,19 \text{ V}$ $V_{ee} = -4,69 \text{ V}$
 Insetimpedansie = 896 Ohm

Inset (V)	Uitset (V)	U/V
0,032	0,033	1,031
0,071	0,072	1,014
0,253	0,254	1,004
0,441	0,443	1,005
0,663	0,664	1,002
0,843	0,844	1,001
1,067	1,068	1,001
1,324	1,326	1,002
1,708	1,710	1,001
2,043	2,044	1,000
2,377	2,378	1,000

(Vervolg op bladsy 12)

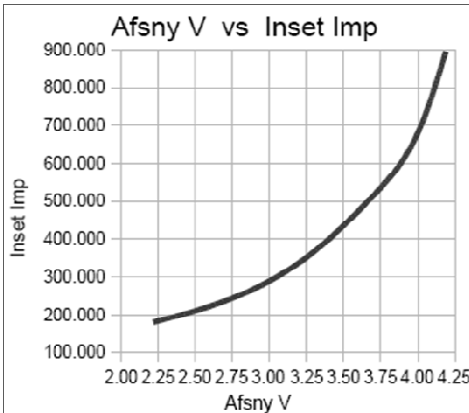
(741 Operasionele Versterker van bladsy 11)

2,638	2,639	1,000
2,809	2,810	1,000
3,131	3,132	1,000
3,427	3,429	1,001
3,740	3,741	1,000
4,034	4,035	1,000
4,125	4,126	1,000
4,210	4,190	0,995
4,331	4,190	0,967



Afsny uitsetspanning vs Insetimpedansie

Afsny V	Insetimp
2,22	179,7
3,27	357,0
3,75	536,0
4,04	716,0
4,19	896,0



Resultate

Indien daar van 'n 0 tot 5 V spanningsbron gebruik gemaak word is die uitset slegs linieër vanaf 2 V, en vind afkapping plaas by ongeveer 4,7 V.

Indien van 'n -5 V 0 5 V spanningsbron gebruik gemaak word is die uitset prakties gesproke linieër vanaf feitlik 0 V.

Die afsny- of afkappingsspanning is 'n funksie (nie-linieër) van die impedansie van die ontvangerstroombaan.

Soos uit die grafieke se hellings (U/V in die tabelle) gesien kan word is die inset- en uitsetspannings prakties dieselfde. (Eenheidsversterking deur die operasionele versterker)

Deon explains a series of experiments he has carried out using a 741 Operational Amplifier with graphs and tables of the data.

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Amateur Radio Satellite to be "Pushed" into Space

Hans van de Groenendaal, ZS6AKV *
EngineerIT, August 2010

Early in 2011, an amateur radio satellite will literally be "pushed into space by a Russian cosmonaut from the international space station (ISS) during an extra vehicular activity planned for February.

The project was originally called SuitSat 2 as it was planned to have a satellite embedded in an expired Orlan space suit. However, 18 months ago the Russians decided to get rid of the space suit as the ISS was running out of storage space. This sent radio amateurs in the USA, who were working on the SuitSat 2 project, into a flurry of new activity to design a new structure which by this time was re-designated as ARISSat – 1 (Amateur Radio on the International Space Station Satellite)

Speaking at the AMSAT UK Satellite Colloquium held in Guildford last month, Barry Bains, President of the US based AMSAT group, said that the project is part of the amateur radio satellite fraternity educational outreach to provide a vehicle for student experiments and science activities in the classroom and at home. "The project will involve students in telemetry analysis and an opportunity to learn about satellites and orbital tracking in the classroom and then listen for signals from ARISSat – 1 using basic radio equipment", he said.

The first SuitSat was launched from the ISS in 2006. The outreach, press requests and visibility of SuitSat was absolutely amazing and appears to have been unprecedented for a amateur radio event. The team had over nine million hits on the www.suitsat.org web site. Quite impressive indeed!

Many schools around the world participated in the SuitSat operations. One example of this is the R Tait McKenzie Public School in Almonte, Ontario. Neil Carleton sent a thank you message to the SuitSat 1 team. It read "Thank you to the SuitSat team for the opportunity to have students involved in such an exciting space project. It's been a week of adventure, and I'm happy to report on the involvement of my class as part of our grade 6 science studies of space." No doubt, ARISSat will receive similar responses

SuitSat 1 carried images of artwork done by students worldwide. Among them was a full colour drawing of a leopard by Marisca de Beer of the Chelsea Preparatory School who at the time was 12 years old and in grade 7.

ARISSat is far more sophisticated than SuitSat and will carry many more activities. Students will be able to receive video and images digitised from four video ports on the satellite.

(Continued on page 14)

(Amateur Radio Satellite from page 13)

The processors on board will analyse the video material and only send frames with actual images. Commemorative and educational voice messages from students in various languages will be transmitted. The satellite also has four ports that can support school experiments. One of the ports will be dedicated to the experiment developed at the Kursk State Technical University to measure vacuum as the satellite de-orbits.

ARISSat measures 52 x 52 x 27,3 cm and weighs 25,5 kilogram. The satellite has two handles, which will enable the cosmonaut to launch it into space from the cargo door by pushing it downward in order to ensure that the satellite will be launched into an orbit below the space station to avoid any possible collision.

ARISSat will arrive at the ISS with covers over the solar panels but minus the battery, which will be fitted, on the space station. The satellite will

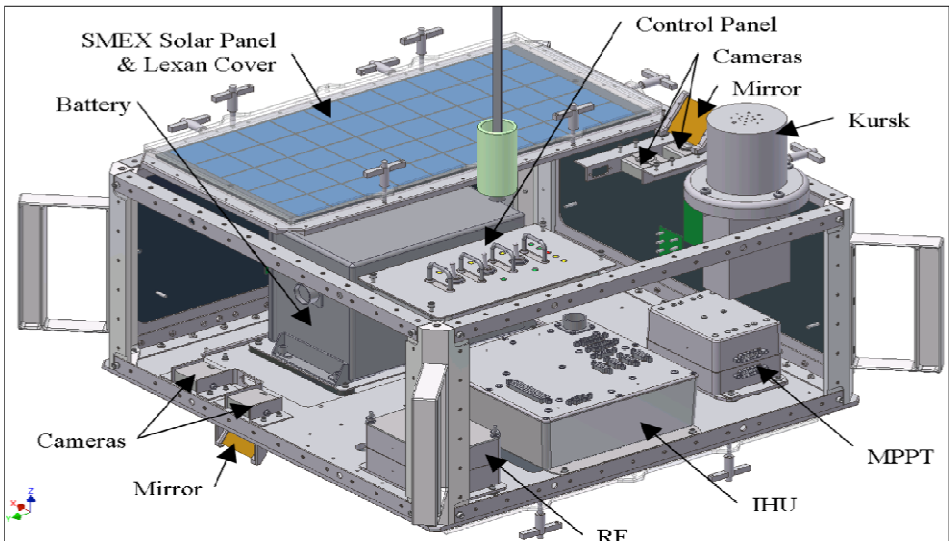
be in the off mode during the first 15 minutes in orbit and be switched on by self-timers.

A team of radio amateurs in the USA are currently assembling ARISat and expect to have completed all the tests and flight qualification procedures in time for shipment to Russia later this year from where it will be flown on a supply mission to the ISS. This is the first time that a software defined transponder (SDX) will fly in space.

SA AMSAT will support South African schools to participate in the project and learn more about space. As ARISSat get closer to launch you can follow progress on www.amsatsa.org.za.

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An artist impression of ARISSat and its payloads.



Amateur Radio in Space [ARiS]

APRS via the International Space Station

Eddie Leighton, ZS6BNE *
2010 NSN Radio Amateur of the Year



It has been a while since I used APRS especially in conjunction with the ISS and I thought this may be an ideal topic for discussion.

The first mission: To determine if APRS is presently active on the ISS

According to Ham Radio Deluxe (HRD), there was to be a very low pass to the North East at 14:00 on 3 October 2010. In fact, the ISS would fly just south of Madagascar! I set my Kenwood TH-D7A on 145,825 MHz, which is the ISS' Packet frequency, and checked that all the controls were correct that I would be able to receive a signal. (Namely the balance control specially used with the two VFOs (A/B) during LEO Satellite communications).

For what it was worth, I activated the internal TNC only really to practice using it, useless without a computer to see what is decoded. At about 14:03, I heard a strong packet signal, which could only have come from the ISS! So it was proved, the ISS was active on Packet/APRS at the moment of writing. Note I used an Arrow Yagi as an antenna.

In the meantime, I had been setting up UI-View32 for use with my Alinco DR135 Mobile 2 m radio with built in TNC. All was working well and I wondered what software I used a

long time ago typically for ISS Packet communications. I browsed the Net and came across this URL <http://users.belgacom.net/hamradio/uiss.htm>, this was the software I used then. I downloaded and installed it. UISS has a number of plug-ins you may be interested in looking at, please consult this URL <http://users.belgacom.net/hamradio/uissmodules.htm>

According to HRD, the next pass for the ISS would be at 15:32, a high elevation pass of maximum 50 degrees coming in from the North West, which made me think of that one opportunity I had to talk to Richard Gariot when he visited the ISS for two weeks. Then the ISS flew by in very much the same orbit. From that experience, I knew Doppler has an effect from AOS (Acquisition of Signal), it may have an effect on the Packet signal.

Back to UISS

On installing the software, I was made aware of the need for the old AGW Packet Engine. UISS makes a link available for download; I downloaded and installed AGW in a folder on Drive C: (C:\AGW). I then made a shortcut from the desktop to the AGW executable. AGW needs to

(Continued on page 16)

(Amateur Radio in Space from page 15)

be configured and fortunately, I have had experience with this software. I chose 9 600 Baud, TAPR TNC and KISS mode and in no time at all, AGW was talking to my DR135's (Simple) TNC tested by sending messages from UISS via AGW (In the background). Note, if you switch off your radio, you will need to reset AGWPE, it initialises the TNC inside the radio, otherwise you will find nothing works! Note, if you do not have a TNC or a radio with a TNC, AGWPE can make use of your PC/Laptop's sound card as a TNC!

The second mission: To decode packets transmitted by the ISS using my HP 210 Netbook running UISS, AGWPE talking to my Alinco DR135's TNC. The antenna, a 5/8th magnetic mount, the radio powered by a Waeco battery unit, all outside in the back yard. The weather was overcast but in no way prohibitive for satellite communications. It was time to practice using UISS.....

The third mission: To send an APRS position message via the ISS using the same configuration as the second mission, in fact these missions would follow each other during the same pass.

Back to UISS practice, there is no time to wonder what to do in a very short time. At such a high elevation pass, the maximum usable time will probably not be more than 10 minutes! One needs to configure a few things in UISS, go to Setup / UISS, your call is probably all that is there by default (entered at installation). Go to the APRS section and set

up your APRS co-ordinates. After that, save. Click on "Enable APRS."

Go to the Beacon section and activate (60 Seconds). Check "Use TX Data," save and go back to the main screen of UISS. I made my TX Data "Experimental RaDAR SatGate" for after all we will be deploying this setup rapidly! BTW, my To: setting was set to APRS and my Via: setting was set to ARISS. That should be fine and the ISS should respond. My "TX APRS Position" text was set to "73 via the ISS de Eddie." Double click the "Beacon" text box to switch it on; it will have a red background thereafter.

Now it is just a matter of using F5 (Text data TX), F6 (Send Position data) and F7 (Send message to BLN, EMAIL, NWS or SAT). After a little more practice on UISS, I deployed rapidly (RaDAR) in the back yard. I noted I did not need the rig's microphone and unplugged it. "Now," I asked myself, "What to use for the 5/8th as a ground plane?", "aha, a braai grid, laid on the ground!" and did just that! Using a vertical eliminates the need to track the ISS, sure, we will get a NULL at high elevation but the signal is so strong it should not make much difference really. With the 5/8th and heavy battery unit, installed outside, I moved the rig and Netbook outside too and did a quick test before the pass.

Fortunately, HRD is on the Netbook so it was easy to quickly Alt / Tab and check the ISS' position and to know when to expect signals. The operation was a success! The follow-

(Continued on page 17)

(*Amateur Radio in Space from page 16*)
ing was displayed in UISS' main text display.

Fm ZS6BNE To APRS Via ARISS
<UI pid=F0 Len=53 >[15:35:44]
=2609.05S/02609.50E&73' Via the
ISS de Eddie {UISS52}

Fm ZS6BNE To APRS Via RS0ISS-
4* <UI pid=F0 Len=53 >[15:35:47]
=2609.05S/02609.50E&73' Via the
ISS de Eddie {UISS52}

Fm RS0ISS-4 To CQ Via SGATE <UI
pid=F0 Len=51 >[15:36:38] >ARISS
- International Space Station
(BBS/APRS on)

Fm ZS6BNE To APRS Via ARISS
<UI pid=F0 Len=47 >[15:36:50]
=2609.05S/02609.50E&Good after-
noon ISS {UISS52}

Fm ZS6BNE To APRS Via RS0ISS-
4* <UI pid=F0 Len=47 >[15:36:52]
=2609.05S/02609.50E&Good after-
noon ISS {UISS52}

Fm ZS6BNE To APRS Via ARISS
<UI pid=F0 Len=23 >[15:37:07]

:SAT :Test message

Fm ZS6BNE To APRS Via RS0ISS-
4* <UI pid=F0 Len=23 >[15:37:09]

:SAT :Test message



Here you can see that the ISS sent a beacon notifying us that their Packet BBS and APRS Digipeater were active. The * after RS0ISS-4 designates the reply from the ISS. I hope this article has been an inspiration to use the ISS' facilities and to generally play with our toys up there in space!

CU on the Sats!

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Universal PC / Radio interface for digital operation

by Frank van Wensveen, ZS6TMV / PA3GMP

Most digital mode software programs that use a PC soundcard utilize one of the pins on the PC's serial or parallel port to operate the transceiver's PTT line. This requires extra

cabling and opto coupler circuitry. It also makes it difficult or impossible to use a modern laptop computer, as serial and parallel ports are becoming rare on modern laptops and amateur

(Continued on page 20)



Little Tarheel

6 - 80 Metres

Enjoy local or DX contacts while on the move ...

Fully Automatic Mobile Antenna for mobiling fun, anytime, anywhere

Lowest price HF transceiver with general coverage receiver Alinco DX SR8



Not simply an entry level transceiver but a feature filled rig with detachable front panel, 3 power level settings including super low power setting (0,1 - 2 W) built-in electronic keyer (just add CW key). Extra heavy duty for severe operating conditions

(PC/Radio Interface from page 17)

radio software often will not work with USB-to-RS232 converters.

This interface presented here solves both these problems by means of a simple VOX circuit. It will let you connect most amateur radio transceivers to just about any PC soundcard. It is suited for any digital mode that uses standard audio with more or less constant amplitude, such as 300 or 1 200 bps soundcard packet, PSK31, RTTY, AMTOR and a host of other digital modes.

A note on galvanic separation

If you only work on VHF and UHF, you can probably get away with not having any galvanic separation. The once-popular "Baycom-style" packet modems do not have any galvanic separation either, and they work just fine. On HF, though, RF power levels are usually higher, and larger antenna's pick up a lot more grief when there is a lightning strike (or even sheet lightning) somewhere in the neighbourhood. In addition, the PC's soundcard is designed for microphones and headphones or speakers, and is not nearly as robust as the RS-232 port traditionally used for packet radio. For these reasons, galvanic separation is strongly recommended.

Circuit description

The interface consists of three main sections: the RX audio section, the TX audio section, and the VOX section.

RX audio section

20

The RX audio section is little more than an audio transformer and an attenuator. The transformer can be any old small audio transformer. Many hams have a few of those small plastic audio transformers (salvaged from an old Japanese transistor radio) that have been sitting in an old pickle jar somewhere for ages, waiting to be used. These will work just fine. Unless you happen to have a 1:1 type (which is rare), connect the low impedance side of the transformer to the soundcard side of the circuit, and the high impedance side to the radio's loudspeaker or headphone output. Any transformation ratio (within reason) should do.

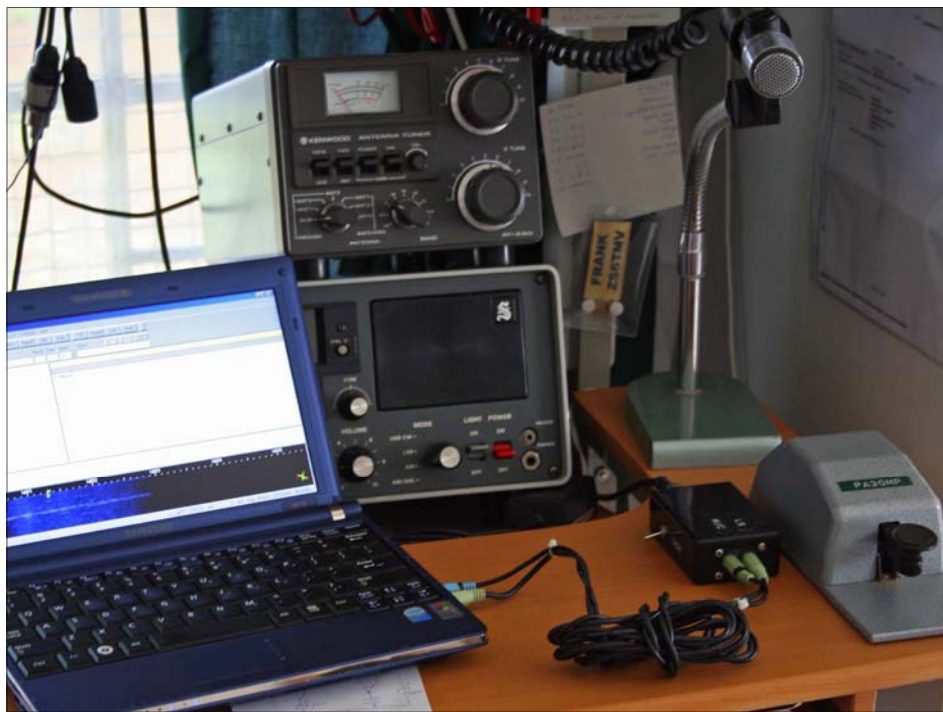
Jumper J4 can be closed if a "Line In" jack on the soundcard is used and the volume of the audio signal fed into the Line In input is too low. Of course, this also depends on the type of transformer that is used. When the soundcard's microphone input is used, this jumper should be left open (or may be omitted altogether). The signal strength going into the soundcard can be set with trim pot meter P2, which forms an attenuator circuit together with R4. Jumper J3 is used to select the left or right channel on the soundcard input. Depending on the soundcard make and model, the microphone input may (but usually will not) be a stereo type. Line inputs will usually be stereo.

TX audio section

This section is essentially a mir-

(Continued on page 21)

Radio ZS



Universal PC / Radio interface in use.

(PC/Radio Interface from page 20)

rior version of the RX audio section. Jumper J1 is used to select the left or right channel. Depending on the software used, the TX audio signal can be on either one, or on both. Again, the transformer is a small audio type from the junk box. However, in this case it should have at least a 1:5 transformation ratio or higher (again, within reason - something like 100:1 or 1 000:1 is too much). As in the RX audio section, the low impedance side of the transformer is connected to the sound-card side of the circuit, the high impedance side goes to the attenuator formed by R1 and P1. If the radio's microphone input is used, jumper J2

should always be left open (or may be omitted), but if another input (say, the 1 200 bps AFSK packet radio input) is used, it may be necessary to close this jumper if the signal is too weak. (This will also depend on the type of the transformer used.)

VOX section

The VOX section takes its audio input from the high impedance side of transformer T1. This signal will already have higher amplitude because of the up-transformation by T1. It is then fed into a voltage doubler formed by C1/2 and D1/2, until the resultant DC voltage across R3 is high enough to drive

(Continued on page 22)

(PC/Radio Interface from page 21)

transistor T1, which then triggers the PTT line. Switch S1 is used to deactivate the VOX circuit and prevent your PC from keying the radio inadvertently.

General hints

T1 should be the specified type MOSFET. Normal transistors will NOT work, and most other MOSFETs will not, either, unless their specifications are sufficiently close to those of the BS170.

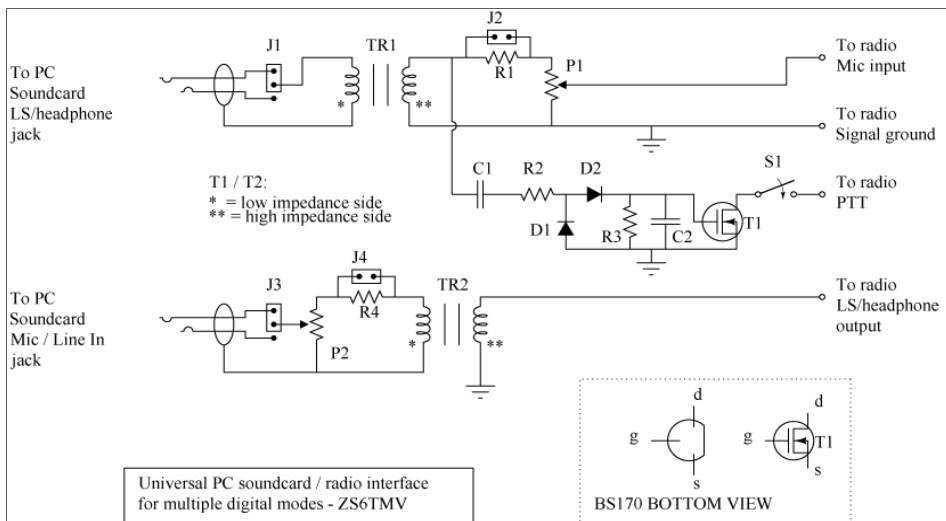
Signal levels depend largely on the equipment used, and on which transformers you can find in the junk box. Audio levels produced and required by both transceivers and soundcards vary greatly. Some experimentation and, in some cases, modifications of the attenuator circuits around P1 and P2 may be necessary. The resistor values given are general starting points; your mileage may vary.

Note that the circuits connecting the low impedance sides of the transformers to the soundcard should not be grounded. There should be no galvanic connection to the PC ground (i.e. the shields of the audio cables going to the soundcard) and the radio ground.

Remember that overdriving your audio inputs is the leading cause of problems when using digital modes, so make sure you do not. When adjusting P1 and P2, start at their lowest setting (i.e. zero) and slowly work your way up to the minimum level required for digital operation. It is best to set the PC's master volume (the fader in the system tray) to maximum before adjusting P1 and P2. Also, note that the microphone input is often muted by default in MS Windows. Make sure that it works properly before you connect the interface to the soundcard.

If you find that, your radio is be-

(Continued on page 23)



(PC/Radio Interface from page 22)

ing keyed when it should not be, or after finishing your audio transmission remains keyed, this could mean that the audio cables between the PC and the interface pick up RF from your transmitter and/or antenna system. Some ferrite usually solves this problem. In extreme cases, it might be necessary to fit the audio input with a choke and capacitor. (Alternatively, you could of course address the problem of having too much RF in the shack!)

IMPORTANT: disable all Windows sounds for any other software that you might have running during operation! If you do not, your PC will broadcast every error sound or incoming e-mail notification on whatever frequency you happen to be on at the time!

Good luck!

R1, R4 - 22 k
R2 - 2k2
R3 - 470 k
P1, P2 - 22 k trim pot meter

C1 - 100 nF
C2 - 22 nF

D1, D2 - 1N4148
T1 - BS170

J1, J3 - 3-pin jumper (select two out of three) - see text

J2, J4 - 2-pin jumper (open or closed) - see text

TR1, TR2 - Small audio transformer - see text

S1 - On/Off switch

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Is Amateur Radio Only a Hobby?

By Mike Bosch, ZS2FM *

If you compare the accumulation of DX QSL cards by Radio Amateurs with the collection of foreign stamps by enthusiasts, then both are only hobbies. However, is there perhaps something more to Amateur Radio than just the label of being a hobby?

Amateur Radio did not start as a hobby. When Marconi successfully transmitted the letter S in Morse code across the Atlantic, it inspired many electrical enthusiasts to also experiment with this new science of

“wireless telegraphy.” The latter term referred to the absence of wire connections between the transmitter and the receiver, unlike the landline telegraph system that has been in use for many years. Amateurs constructed their own spark transmitters, coherer and crystal detector receivers from scratch, because radio spares were unknown at that time; thereafter, they triggered their transmitters with a Morse key and communicated via the Morse code with each other.

(Continued on page 24)

(Amateur Radio a Hobby from page 23)

After World War I, the Radio Amateurs were relegated to the wavelengths below 200 metres, to keep them away from the local AM broadcast stations on long and medium wavelengths, such as 2LO in London, KDKA in Pittsburgh, USA and many other commercial stations. Radio Amateurs successfully pioneered two-way Morse code contacts across the Atlantic at night on 160 and 110 metres, using undamped waves, i.e. continuous waves (CW). They discovered shortwave propagation, and caused commercial broadcast stations to rush down to the shorter wavelengths too. KDKA on 100 metres, was the first shortwave broadcast station on the air, and could be received in South Africa around midnight; it was followed by WGY from Schenectady, USA on 108 metres.

Their next discovery was Daylight DX propagation on 20 metres, when amateurs on the east coast of the USA worked amateur stations on the west coast at noon. In 1934, Ross Hull of the ARRL pioneered communications on the "Ultra High Frequencies" over a distance of 160 km, between West Hartford and with amateurs in Boston on 56 MHz; during these experiments he discovered Tropo propagation. In the post war era, amateurs once again discovered two new types of VHF propagation on 50 MHz, namely Trans-Equatorial (TE) between Argentina and Venezuela, and more recently, JE1BMJ discovered Short-path Summer Sol-

stice Propagation (SSSP). Therefore, Radio Amateurs were great experimenters and pioneers in the past.

Today many people still believe that Amateur Radio is only a hobby for chatting with their friends locally or to DX stations. When cell phone operators talk to their friends locally or overseas, it is not regarded as a hobby; it is a commercial communication service. Therefore this should also apply to Amateur Radio, and be accepted as an amateur non-commercial communication service.

VHF contests were introduced as a radio sport to encourage long distance VHF tests and the improvement of equipment, it is similar to athletics where the idea is to win and to establish new records; HF contests in turn can be compared with ball sports where the main purpose is to achieve the highest score.

In several countries, Amateur Radio also provides an emergency service, especially in the USA during disasters such as hurricanes, floods and tornados. Just like commercial Radio and TV stations, Radio Amateurs too have to abide by international regulations as laid down by the International Radio Union (ITU); they were licensed to conduct experiments with radio. The question is whether it is a hobby or a non-professional amateur radio service.

Amateur Telecommunication has advanced from LF and MF through HF up to the VHF and UHF bands; it is now spreading into the Microwave spectrum. The frequency range from

(Continued on page 25)

(Amateur Radio a Hobby from page 24)

VHF and above is the high tech side of Amateur Radio! Likewise, they have progressed from CW to AM, RTTY, SSB and FM modulation modes, and are now confronted with the latest Digital modes. Radio Amateurs of AMSAT-DL have shown that the amateur pioneering spirit is still alive and well, by bouncing the first amateur microwave signals off the planet Venus on the 13 cm band. Some Radio Amateurs are already experimenting with "Optical Wireless" in the light spectrum.

For the uninformed Amateur Radio might be only a hobby, similar to CB Radio; but for others it covers a

very much wider field, and could be both depending on its application. In reality, it is the non-professional side of radio science and communication that features experiments, pioneering and research, and is now focussing on the new frontiers of Microwaves, Digital modes and Space!

Incidentally, if you wish to learn more about the high tech side of Amateur Radio, then have a good look at the VHF Forum on the SARL website.

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Moxon-Yagi beam antenna for 20 and 15 m

Built by John Green, ZS1JHG *

Les Moxon, G6XN, was an innovative antenna designer and published an excellent antenna book "HF Antennas for all Locations." In this book he made experimental improvements to the Fred Caton, VK2ABQ, beam antenna. LB Cebik, W4RNL, has improved further on Les Moxon's work and credited his design with the Moxon name.

I have built many antennas but none of them performed as well as the Moxon on 20 m. The front to back is at resonance over 30 db and forward gain close to 6 dBi.

My antenna is built from four heavy-duty fibreglass fishing pole



blanks. The centre support is a plastic compound; marine multiply (12 mm) can also be used but needs to be painted with an outdoor paint. The fishing rods are attached to the centre

(Continued on page 26)

(Moxon-Yagi from page 25)

support with shimmed galvanised conduit saddles and stainless steel bolts and nuts. The feed line support pole is PVC electrical conduit.

The feed line used is foam 300 ohm heavy duty ribbon which close to the radio room is fed into a 4:1 balun and short 50 ohm coax to the transceiver. This enables the antenna to work on 12 and 17 m via the rig's built-in auto ATU. The driven element spacer/feed line connector is made from Perspex as shown in the drawing. The spacers between reflector and driven element are also from Perspex. For good performance, this gap must be maintained accurately. The antenna wire used was 1,8 mm solid copper, but I would recommend using black plastic coated stranded wire as it is more robust in windy conditions.

Total Driven element Length 10,06 m
Freq 14,150 MHz

Total Reflector Length 10,58 m
Freq 14,150 MHz

The gaps between the two held to 0,22 m on the Perspex spacers

The Reflector for 15 m 21,200 MHz length 7,01 m spaced 0,78 m from the 20 m reflector.

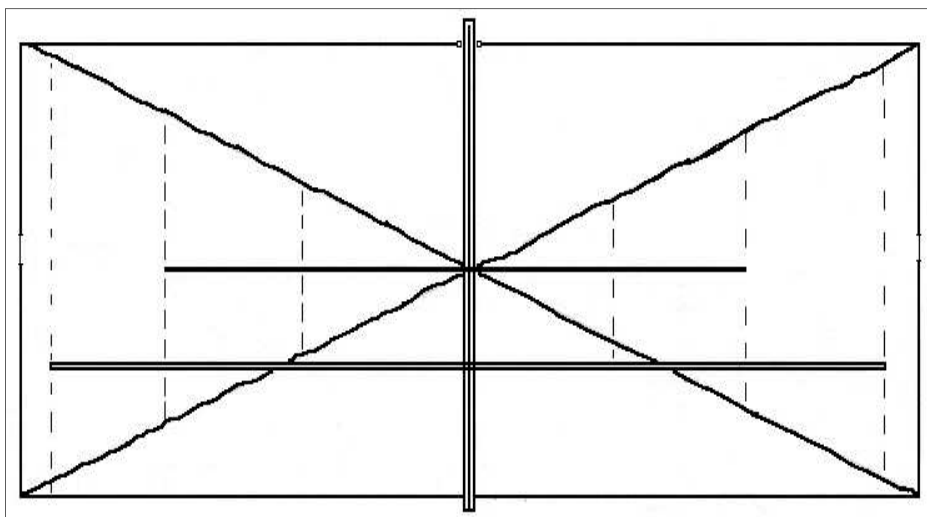
Readings taken with an MFJ 259B analyser, antenna at 12,192 m

Freq	SWR	R	X
14,250	2,3	121	0
21,250	2,8	159	0
18,150	2,6	43	50

For further information on Moxon beams and a frequency/length calculator programme see the Moxon Project website.

A rough drawing of my antenna which is minus the 10 m reflector is shown below.

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What does the term "ham spirit" really mean?

Laurie Devereux, ZS5DL *

I have heard this expression many times since becoming a radio amateur too many years ago but seldom actually felt what it was all about. Have you experienced Ham Spirit?

Well recently, I had unwanted visitors to my Radio Room in the early hours of the morning, somewhere between 03:15 and 04:30. Using bolt cutters with just one small "click" they cut the lock and opened the door. First they took care to turn the Trip Switches off using a piece of electrical conduit pipe I had carelessly left lying around before going into the room and so turned the Alarm off. They then removed my computer, monitor, keyboard, printer, my Patchbox, two 2 m transceivers and a host of this and that and disappeared into the night.

I was devastated and felt quite sick. "What the hell," I thought, "can they do with my sophisticated Patchbox, built with dedicated care by Louis, ZS5LP, and developed over many years for producing Amateur Radio Mirror International and News Bulletins, etc?" What could they use the 2 m rigs for? My computer was full of information. A book that I have been writing on Old Durban and my Division 5 Call Book that has been kept up to date on a daily basis were lost. And so much more.

The next day I went over to Louis and said, "My Patchbox has been stolen" and waited for some outburst. It did not come. He simply said, "Then we will have to build another one won't we. I will get busy right away – how much time do we have before your next turn to do the Mirror." "Two weeks," I replied, "and then Hans will be in Australia for seven weeks."

Then Charley, ZS5DU, phoned to say he had a 2 m rig and some aluminium sheeting to house the Patch Box for me. Alan, ZS5ADP, said he would make the box in his workshop. Help came from all quarters.

Louis made the new Patchbox. We tested it and I took it home and connected it up. After some seconds, there was the smell of burning. I had connected the power cable incorrectly. Hell, was this never going to end. So I went back the next morning to Louis, almost in tears, and told him what I had done. He looked at me and said, "do not get upset over material things – they can be fixed. Just sit down and let us see what has happened." He got to work and an hour later, it was back in working order.

When the chips were down Ham Spirit prevailed, and got to work. My two sons, both radio amateurs – Bryan in Kuwait and Wayne, ZR5ABT, in Brisbane, Australia, also

(Continued on page 28)

("Ham Spirit" from page 27)

helped to get my new computer up and running. Bryan stayed up with me on Google Talk until 03:20 my time, to ensure all worked well. Wayne on Skype and with lots of patience was a star.

Thanks to all of you for your Ham Spirit – I think I would have gone mad without your unselfish support.

And to all who read this article – that is what Ham Spirit is all about.

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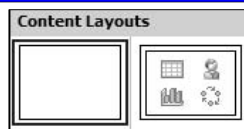
Creating a QSL card using MS PowerPoint

Nico van Rensburg, ZR6QL *


There are numerous ways and various tools to create your own QSL card. I found the use of MS PowerPoint easy and useful. The following tips will assist you when using MS PowerPoint to create your own QSL card.

Waste no time, open MS PowerPoint on your PC and lets start with your design.

New slide
When starting with a new slide select from the toolbars "Format" then "Slide Layout" and under "Content Layouts" click on the blank block to clear everything off the slide.



(Continued on page 29)



1

2

3

4

Confirming QSO with:	Date	SAST	MHz	Mode	RST

Background

Once you have a clear slide you may now start with the background.


From the toolbars select "Format" then "Background" and below *Background fill* the drop down arrow will give you the option to select colours or a fill effects option.

Once decided what background you would prefer, either just a colour or a picture as background you may commence to add detail to the card. A bit more detail on using a picture as a background later.

The basic card


1. Call sign: This was created with from selecting "Insert" then "Picture" and then "Word Art."

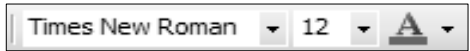



The short cut is the  symbol on the toolbar.




Choose any format from the gallery. All colours are selectable from the button on the toolbar. Once placed on the slide it can be stretched, turned and re-sized to your own preference.

2. The postal address Block
Postal address info (if required) is done with the selection "Insert" and "Text Box" or the  button on your toolbar. Click and drag on the slide the size required for the address block. For font selection, size and colour use the buttons on the toolbar.



3. Photos. Photos can be copied and pasted / shifted around quite easily on the slide. The basic way is to select "Insert" then "Picture" and "From File" on the toolbar. Select and click the insert button at the  bottom.

The photos can be resized and moved to where you like on the slide.

4. QSO information block. The  table was created with "Insert" then "Table" and the quantity of columns (5) and rows (2) selected. Typing in the table is straight forward and the colour, size and font selectable from



Therefore, that should be easy and you can play around with various ideas to your hearts desire!

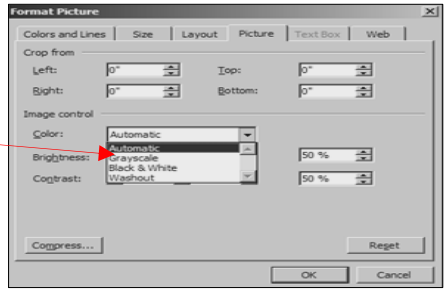
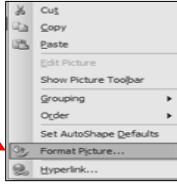
A few tips as follows:

A "washed" background can be created by means of selecting a picture and paste it on the slide. Click on the picture and right click again. Select "Format Picture" and on the drop down list of the "Image control" select "Washout" and click "OK"

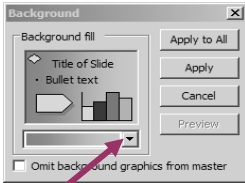
(Continued on page 30)



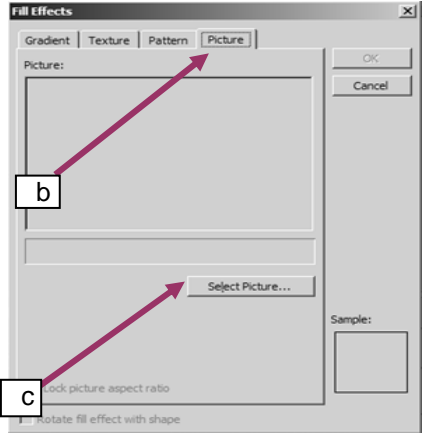
Example



Result



a



b

c



d

e

(QSL Card and MS PowerPoint from page 29)

You then need to save the picture. Right click on the "Result" picture and select "Save as Picture" to save the image. Please note that not all pictures makes good "washout" backgrounds, you will have to experiment a bit.

From the toolbars select Format then Background and under background fill, the drop down arrow will

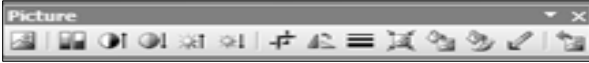
give you the option to select a fill effects option.

Select the dropdown box (a) then select "Fill Effects" then "Picture" (b). On this page, you choose "Select Picture..." (c). From there you go to click on the photo or picture that you picked (d) and "Insert" (e).

Select "OK" and then "Apply" (not apply to all!)

(Continued on page 31)

(QSL Card and MS PowerPoint from page 30)

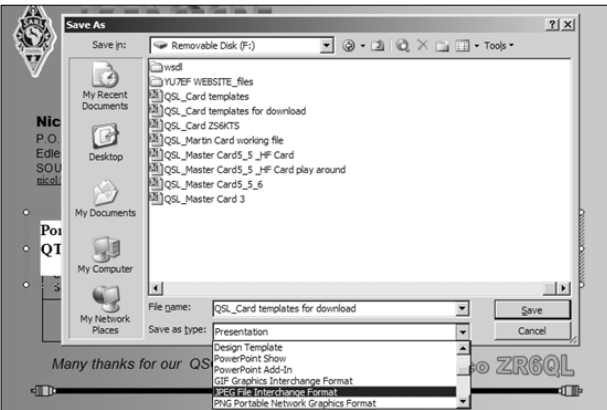


Hint: Before you saved the washout picture you may choose to change the brightness of the photo as some of them are quite dim, you can do so by right click on the photo and select the photo toolbars and use the buttons to make the photo a bit darker and then save the photo.

Printing

Once completed I normally save the slide in a photo format for printing purposes.

Click in the slide that you would like to save as a photo. Select "Save as" from the toolbars. On the "Save as" page select from the "Save as Type" the "JPEG File Interchangeable Format" format. Choose a name for it and save.



As photo's

I normally save the file to my memory stick and take it to a reputable photo printing outlet and ask them to print a few cards as standard photos in

matt NOT glossy as you will not be able to write on it!

Please note that the size is slightly smaller than a "standard postcard. It is not a show-stopper as the QSL cards I have received to date comes in various sizes. In addition, there is the "Imperial" size versus the "Metric" size debate as well!

[The standard size is 140 x 90 mm. Ed.]

Colour printer

When printing myself I use the selection of '4 per page' on the properties selection of the printer.

Here you will have to play around to achieve the best results. Use a guillotine to cut to size.

You could also go to places like Post Net or Minute Print to get them to print a few cards for you.

Best of luck with creating you own QSL cards! It is great fun and you will definitely enjoy it

Trust that the above information is of some use the more you play around the more you will discover the powerful capabilities of PowerPoint.

Making your own QSL card is easy! Working the contact is fun! Getting the QSL card is the real challenge!

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Radio Scouting

Jamboree-On-The-Air

16 and 17 October 2010

Dave Gemmell, ZS6AAW



It may interest many of you that the first JOTA was held on the 10 and 11 May 1958. It was reported on in the July 1958 edition of The Short Wave Magazine.

The first SA JOTA report (sun spot number 110)

The first SA report to be published in the World JOTA Report 1967 was taken from the Radio-Scouting section of the JOTA library at www.jota.sub.cc

“.....A really tremendous effort on the part of the Boy Scouts of South Africa resulted in 141 stations being active over the week-end. They report that, with so few contacts were made with Jamboree stations outside Africa, it seemed that the centre of activity was Africa! In spite of undoubtedly adverse conditions their stations worked scouts in the USA, Luxembourg, Great Britain, Ceylon, Tanganyika, Nigeria, Kenya, Malaysia, Mozambique, Southern Rhodesia, Northern Rhodesia, Australia and Swaziland. No contacts were made in Canada, unfortunately although every station was anxious to work VE3WSB in particular.

(We were please to say that, during November and December, VE3WSB has talked to quite a number of South African stations who were active during JOTA).

ZS6AQ

in Stilfontein reports having contacted 69 stations representing 77 patrols, Troops or Guide Companies. Is that a record?

The report concludes, “The radio hams have shown great interest in the event, and, from all reports, will queue up to take part next year. They all got a great kick out of it”

Natal province, using the slogan “a scout badge in every shack” issued Jamboree pennants to every troop taking part; one for the troop HQ and one for their operator’s shack. A good idea, which could be usefully adopted by others.....”

When visiting the JOTA website at www.jota.sub.cc have a look at the Radio-Scouting Library. Go into the Radio-Scouting library and search for the World JOTA Report section. All World JOTA Reports. Reports for the 1958, 1959 and 1960 JOTAs are not published on the JOTA website.

If you think there is too much about JOTA in these columns chaps! Please send me any suggestions and items you have.

It is the number of amateur operators and Scouts that attended these functions that amazes me! Do not let the fact that we are only just coming out of a minimum put you off!

(Continued on page 33)

(Radio Scouting from page 32)

Get cracking and be on the air during JOTA. Don't forget to practice your

vuvuzela!!!

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The Museum Piece

Dave Gemmell, ZS6AAW,
and the Old Timers

I have included this story below not just for its historical value but it does illustrate a good point.

How many of you realize that the Jamboree-on-the-Air was the outcome of a special event station? The following details were taken from the history of JOTA, CQ Jamboree written by Les Mitchell, G3BHK, Len Jarrett, VE3MYF, and Richard Middekoop, PA3BAR.

In 1957, the World Jubilee Jamboree was held at Sutton Park in Central England, with 35 000 Scouts from 62 countries attending. For the first time at any World Jamboree local radio amateurs installed and operated a large station under the call sign GB3SP.

Communications were mainly using AM (but I suppose, a bit of CW must have been sent as well!) More than 60 operators operated this station for the 12 days it was operational making contact with 1 712 stations in 71 countries. I might add, all this was taking place during Solar Cycle 19 maximum or pretty close. If my references are correct, this was the highest solar maximum (200) for a month or so. In fact, it does not seem as though maxima 20 to 23 were even as large.



Operating at a solar peak is handy but does not detract from the fact that amateurs have to keep their abilities and procedures in top form.

Please note that the "less efficient" AM (amplitude modulation) equipment and CW were probably used. SSB (single sideband) equipment only came into general use on amateur frequencies in the mid 1960s. Secondly, the 1950s was a period in amateur radio history when much of the equipment used was homebrew! This point makes you think! How much better are the modern rigs when compared to those old homebrew or ex-military sets? Especially from the operating point of view.

The next milestone in the scout/radio amateur scene was 60 years celebration of scouting when GB3BSI came on the air in 1967. It was located on the site of the first ever Scout Camp of 1907 on Brownsea Island, Poole, Dorset. This station was completely organized and operated by nine scouts, six of whom

(Continued on page 34)

(The Museum Piece from page 33)
were licensed amateurs.

The Brownsea Island station was re-opened again to celebrate 100 years of Scouting with the Scout Sunrise Ceremony on 1 August 2007. The station was actually operated from 24 July to 6 August 2007 using the call signs GB100BI and GB100S. Unfortunately no details of the QSOs made were given.

Keep an ear open for the following nets, especially if you are interested in the older equipment.

A set of field telephones, in working condition, is of course, a show-

stopper! Demonstrating how to send Morse using a flash light “gets their attention” but it is the actual Aldis lamp that really “turns them on.” This is especially true if the young chaps are allowed to operate the museum piece. Even the adults are intrigued!

ZS0AWA AM net on Saturday at 06:00 on 3 615 kHz, the main SSB net at 08:30 on 3 615 kHz and 7 070 kHz and the CW net at 14:00 on 7 020 kHz.

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Silent Keys Stil Sleutels

They shall grow not old as we that are left grow old
Age shall not weary them nor the years condemn
At the going down of the sun and in the morning
We will remember them.”

Hulle word nie oud soos ons wat bly vergrys,
Die jare sal hulle nie raak nog die tyd se eis
En, soos die son sak of die more ontvou,
Eer hul herinnering – ons sal onthou.”

Louw du Plessis, ZR6ATZ
Francesco Cossiga, I0FCG
Jac Roux ZS6QA
Hennie Smit, ZS6ASS
Johan Koster, ZS3JMK
Rennie van Rensburg, ZS6RAN
Hill Mason, ZS5HL
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