QSX PE

THIS NEWSLETTER IS PUBLISHED BY THE
PORT ELIZABETH AMATEUR RADIO SOCIETY

WEBSITE: www.qsl.net/zs2pe

PO BOX 10402
LINTON GRANGE
6015

AUGUST 2004

MONTHLY GENERAL MEETING

The monthly general meeting of the PORT ELIZABETH AMATEUR RADIO SOCIETY will be held on Thursday, 19 August, 2004 at the St Hugh's Church Hall, Newton Park, starting at 20:00 (8 pm).

There will be a final debriefing for comms operators in the VW Algoa Rally, when all will have the opportunity to say their say. In addition, Joe Fourie of the Rally organisers will give us a run-down about the purpose of the various official cars and other groups in the rally, as well as how the ham radio operators function.

Tea, coffee and biscuits will be provided, and remember the ***bring and buy*** table.

Wrinkly Ravers

Since I am going to EL for a few days from 9 August I have had to close this issue without knowing how many attended the August get-together. At the July do, Peggy and Viv arrived at the last moment after we had all thought they had forgotten *again!* Let's hope they remember next time.

Our next one will be on Thursday, 2 September at Barney's Steak Bar, Circular Drive, Lorraine. Summer is approaching and hopefully the weather will be warm, so let's see *every*body there*!*

NObody wants to do QSX!

Nobody wants the job! But I'll keep trying. Sooner or later, somebody will take the plunge.

PEARS *REPEATER* Contest

This is a quickie two metre ***f u n*** contest and will take place on Sunday, 29 August 2004 from 14h00 to 16h00 SAST. Anyone who can access the East Cape/Cape Town repeater system and/or other repeaters in the area may participate.

Only contacts *via repeaters* will count. A station may be contacted on the linked repeater systems as well as any other repeaters *not so* linked, but only one contact per individual repeater and per linked repeater system will count.

A contact will require the call sign of the station contacted and his six digit maidenhead locator.

Scoring

One point per contact with a station in your own locator, and two points per contact with a station in any other locator. In your log, please indicate the repeater that you used and the other operator's call sign and locator.

A station may operate fixed (base station) or portable.

Send logs to Al Akers, PO Box 10402, Linton Grange 6015. Ω

from The Chairman

The Algoa VW Rally has come and gone once again. Special thanks to Chris, ZS2AAW and his team of merry helpers for making our participation a success – and in the process, show-casing ham radio.

The financial contribution that is made to our club for this yearly event is what has kept PEARS subs so reasonable. When next you write out a cheque for your subs, give a little thought to the twenty-odd individuals who find the time to help at this event – and make a personal commitment to give of your time at future rallies.

We should, very soon, be finding a flood of ZR licensees coming onto the HF bands – generating activity on a somewhat under-utilized portion of our frequency spectrum allocation. If you have an HF rig that has been gathering dust, now is the time to apply some spit-and-polish to it and your antennas so that you can welcome these new-comers.

For you ZR's, champing at the bit, eagerly awaiting the big day, now is your time, too, to get your HF station sorted out. Take the time to listen in to HF QSO's and to familiarise yourselves with operating practice and protocol on the short-wave bands.
I, for one, am looking very forward to hearing new voices – and hopefully having to battle to find a clear frequency for my next 40m QSO.

Lionel, ZS2DD and Ken, ZS2BWB have both spent time in hospital recently. Gents, we wish you both a speedy, total recovery – and good health from here-on.

We have several "special events" coming up over the next month or two. Bill, ZS2ABZ will be setting up station for the annual Lighthouse weekend – if you can offer assistance, please give Bill a call.

We've also been invited to set up station next to the MG Car Club at the next Art In The Park, which takes place on Sunday 5th September. Al, ZS2U and Bill, ZS2ABZ will be in attendance.

The club has also been invited, as guests of the MG Car Club, to a bring and braai thereafter (starting around 13h00) at the Veteran Car Club premises in Conyngham Road. We will, at the same time, be investigating the feasibility of using the VCC as a permanent venue for PEARS.

Let's pitch up in force, folks.

73

Rory, ZS2BL

I don't think many of us are aware of the extent to which certain amateurs help the yachting fraternity. I have asked Des ZS2ABU, who is involved, to write an article on this. See the article elsewhere in QSX.

Personal

Congratulations to Serge ZR2SJE and XYL, who have just become proud parents.

73,

Al Akers,
Provincial Director:
Hamnet/ECARES

Radio Amateur Examination

Arrangements for technical classes for the next RAE have now been finalized.

The first class was due to be held on a Thursday evening, 22 July, skipping Thursday 29 July then, as from Thursday 5 August classes they will be held each week till the Thursday before the examination. This will be held on Thursday, 18 November.

Classes commence at 18h00 at the EP Veteran Car Club clubhouse in Conyngham Road, right next to the Medicross centre on the corner of Cape Road and Conyngham Road.

Here is a list of those attending classes and who plan to write the exam in November:

André Kruger
Carel Olivier
Don McGillivray
Natalie van Loggerenberg
Bruce Watt
Kendall Watson
Andrew Hoy
Rudi Goossens
Rob Mac Geoghegan
Penny Frost
Brad Johnson
Enrich Rohwer
Lars Strydom
Nico van Deventer
Trevor Lloyd
Eric Hosten
Zanne Olivier
Andrew Skowno
Rose Mac Geoghegan
Grant Mac Geoghegan

We're not sure whether any of the foregoing have become members of PEARS or the SARL.

Funny thing happened on 40 metres recently

Two chaps who chat regularly came up on "their" frequency. Op A heard "someone" in the background but he imagined they wouldn't interfere. Op B heard nothing. They decided to continue, but another station quickly came up to say they were in fact QRMing his QSO.

Ops A and B then shifted.

After a few minutes they were in turn QRMd by someone 2½ kHz away. They just could *not* understand how people can come up so close to an existing frequency!

I agree, of course. Three kHz is the minimum, four is better, or even more if you have a wide signal.

However, if you want to hear a lot of boggerols, blerrie this 'n that, kilo alfa kilo, bullsh*t and even worse, this is the QSO to listen to.

Big Ear Radio Telescope

With thanks to Big Ear Radio Observatory. Updated by Jerry Ehman.

Basic Explanation

The Big Ear radio telescope, dismantled in 1998, was larger than three football fields in size and equivalent in sensitivity to a circular dish 52.5 meters (175 feet) in diameter. The telescope consisted of a flat tiltable reflector measuring 340 feet long by 100 feet high (less when tilted), a fixed standing parabolic reflector which measured 360 feet long by 70 feet high, an aluminum-covered ground plane measuring 360 feet wide by 500 feet long, and two feed horns mounted on a movable assembly. The reflectors were not solid, but were actually covered in a mesh pattern with small gauge wires. The spacing of the wires was such that the reflectors appeared to be solid to incoming radio waves.

Flat Reflector

Parabolic Reflector

Aluminum Ground Plane

Mesh Covering

The flat tiltable reflector was pointed skyward to pick up radio waves coming in from space. The signals were then bounced over to the parabolic reflector where they were focused into a beam. This beam was reflected back across the ground plane to the feed horns. The aluminum layer of the ground plane kept the very weak signals from being absorbed into the ground and the signals generated by the ground from interfering with the desired signals.

Feed Horns

Another view of feed horns

Feed horns on movable assembly

The telescope surveyed the sky by remaining stationary and allowing the rotation of Earth to sweep its beam in a narrow circular path through the sky once each day. After a few days of observation, the beam was moved slightly up or down and the pattern was repeated. It took several years to thoroughly search the sky.

The beam of the telescope was elliptical, being forty minutes of arc in the declination (vertical) direction and eight minutes of arc in the right ascension (horizontal) direction, at 1400 MHz. This may be visualized by comparing it with the size of the Moon, which is a thirty minutes of arc diameter circle in Earth's sky.

Advanced Explanation - Not for the Astronomically-Challenged *by Herb Johnson*

The telescope was a "drift field" design: that is, the rotation of the Earth scanned it in "right ascension" or RA across the sky from west to east (so the sky looked like it was moving east to west). The flat tiltable reflector was adjusted to point to a position in the south along the "meridian" line from south to north: that position was the "declination" of the telescope.

The part of the sky at the declination where the flat was "pointed" reflected that area into the paraboloid 500 feet away; it focused that image back across 420 feet to the horn cart, where the horns "saw" two areas 8 arc minutes wide by forty arc minutes tall. Over a ten second period, small areas were scanned in frequency as they "drifted" by. One area was subtracted from the other to get rid of background noise including terrestrial noise and the sky background. This subtraction occured by switching between the two beams at 79 Hz.

The horn images were separated by about 40 arc minutes (about 150 seconds of time for a source on the celestial equator), so a distant point source would only be in one main beam at a time. The LOBES (LO-Budget Extraterrestrial_intelligence Search) program looked for "strikes" to appear first in the east, then the west horn. When a strike was found, the narrow 10 kHz channel receiver was tuned to it. For a "strong" SETI candidate, the 100 kHz scan was stopped, a 10 kHz scan was performed while the source was in the beam, and the horn cart moved to follow the source across the sky. Also, an ICOM communuications receiver was tuned to the frequency of interest and audio recordings were made using AM, FM, and SSB detectors.

The Big Ear radio telescope was extremely sensitive. LOBES could detect in the continuum channel sources down to about 200 milliJanskys. For reference, the strongest stellar sources are ~2000 Janskys. Pulsars are a few Janskys, but pulse too quickly for Big Ear to "count" the pulses. The Sun is about a million Janskys. A Jansky is 10 to the minus 26 watts per square meter per Hertz.

QUESTION: **Al asks:** *What does*

TAUMATAWHAKATANGIHANGAKOAUOTAMATEATURIPUKAKAPIKIMAUNGA=
ORONUKUPOKAIWHENUAKITANATAHA

mean?

Answer next month.

MARITIME AMATEUR RADIO NETWORKS

from ZS2ABU, with acknowledgements to ZS5MU

Throughout the world there are a number of voluntary radio networks run, for the benefit of sailors, by amateur radio operators with a knowledge of sailing – and this is extremely important: if you don't know about boats and sailing you cannot appreciate the problem experienced, and will not know the right questions to ask in an emergency, so wasting valuable time.

These stations offer various types of assistance: weather forecasts, medical advice, local coast line information and other local matters of interest, assistance in obtaining reciprocal radio licences, and in some countries not in South Africa though, phone patching to relatives and friends.

Details of the craft and crew are noted and the daily logging of the craft's position is also important as this information is vital should there be a problem for which assistance is required.

No amateur radio operator may speak to a station which is not also operated by another legal amateur radio operator; however in the case of a genuine emergency where the vessel requires assistance or someone aboard has a medical problem the "ham" will always respond whether or not the station is legal.

These maritime networks are usually recognised by the sea rescur authorities because they are efficient and reliable and when emergencies arise obtain as much *relevant* information as possible, which makes the co-ordination of rescue efforts quicker and safer.

Although many vessels have marine SSB and VHF radios, international yachtsmen will tell you time and again how they have battled to get through on these frequencies. With an amateur radio licence the safety factor for those at sea is greatly increased as at any time, day or night, you can find someone to answer your call, even if it is not one of the recognised networks and if you know the various times and frequencies used by the Nets – which most yachtsmen do – you are assured of invaluable assistance.

Apart from the safety angle, a wonderful social world is opened up to the visiting yachts people – usually before a country is reached contacts have been established and once there, what a difference it makes to be able to meet the people and get to know the country through them, or with their help.

OM Alister ZS5MU started the SA Maritime Net some twenty-five years ago, combining his interest in sailing and radio, so filling a void in the world wide maritime network. As with all these networks, there is one main operator and various other amateur stations who help, and who are able to take over from the main operator in his/her absence. Alister is the net controller, ably assisted by his wife Davina ZS5GC and OM Graham ZS2ABK when the need arises.

The network is run daily for "hams" aboard cruising yachts. It is one of several which are operated around the world, and has become recognized worldwide by the cruising fraternity.

The main purpose of the net concerns the safety and welfare of the yachts and yachtsmen and for this purpose a daily log is kept of their positions in order to speed up help if this should be needed. Weather information is passed along to help them avoid, or at least be prepared for, the dangerous weather conditions which can occur between Mauritius and South Africa, in the Mocambique channel and around the coast.

This information on local weather patterns, together with advice on suitably sheltered anchorages between Durban and Cape Town, is invaluable to sailors.

Yachts crossing the Atlantic or making the long lonely voyage south to Australia are catered for in the same way and in due course we hand them on to Nets closer to their destination.

The SA Maritime Mobile Net operates on 14316 at 0630 UTC and again at 1130 UTC and on completion of traffic moves to 7045 for any further traffic about 30-40 minutes later. Regular assistance is given by coastal stations; there are about 15 of us who pass weather conditions and other information to the net controller. The area covered is from Richards Bay to Saldanha and beyond when available.

In the South Atlantic we have contact with amateur radio operators on Tristan da Cunha and St Helena Island, and vessels in the vicinity assist when conditions are not good with relays. In the Indian Ocean we have contact with VK6BO in Perth. In the Northern hemisphere contact with the UK net, Mediterranean Net as well as the Trans-Atlantic crossing nets are usually maintained by ZS2ABU in the evenings. All nets are maintained as and when necessary, propagation pending.

As you can imagine, running this type of network requires dedication and commitment and

under emergency situations the radio is monitored constantly until the situation is under control – often 24 hours or longer. It is a vast and mighty ocean out there and when someone is in trouble a very frightening and lonely place – the "ham" responding to that person's call is literally a lifeline.

During emergency situations all station assisting the Net are particular about taking their directions from the Net Controller and reporting back on any action which they have instigated on behalf of the net. This prevents duplication of any action, unnecessary phone call etc. and ensures that a calm and orderly network is maintained, that the Net Controller has all the relevant information to pass on to the authorities concerned.

If anyone here is a hams and comes on a maritime emergency, please do not hesitate to contact Alister or Davina on 039 684 6421, or the Port Captain nearest the emergency. Get the very basic information *written down* – name of vessel; current position (latitude and longitude); nature of emergency*; number aboard; EPIRB frequency/ies.

*A PAN call is an emergency where assistance is required, and a MAYDAY call is a call indicating extreme emergency needing rescue. *EPIRB,* as all should know, means *Emergency Position Indicating Radio Beacon.*

Types of emergency vary and are handled in the following manner:

Medical Problems: Medical Practitioners with amateur radio status can be contacted by the Net and requested to come on frequency to discuss the problem. On rare occasions when a "medical" ham has not been available, a local doctor will be contacted and his advice passed on – this procedure requires meticulous care in taking down details and relaying them from patient to doctor and vice versa. In severe cases the Port Captain is contacted so that he can make the necessary arrangements for the closest vessel to render assistance.

Yachts in distress: In all cases of yachts requiring assistance because of engine problems, structural damage, or whose arrival is considered to be well overdue, the Port Captain is informed and through him Search and Rescue operations can be set in motion. Often the only contact with the yachts is through amateur radio and the Net has to co-ordinate the rescue operation.

For those of you who live in cities and are planning to go cruising it is not difficult to obtain your amateur radio licences: most Technicons and amateur radio clubs run study courses (RAE), which will get you through the technical exam set by ICASA. Do not be put off by the fact that you need to pass a morse code test as the radio clubs will assist you to achieve this. Like anything worth doing it requires a certain amount of time and effort but any yachtsman who also is a ham will tell you how well worth while it is.

The SA Maritime Net has been involved in a considerable number of medical emergencies and rescues which probably, and in many instances certainly, not have had a successful outcome if the yacht concerned has not been able to transmit on amateur radio.

A completely different aspect is that of the good public relations between visiting yachtsmen and the "ham" fraternity. We, personally, have found that many visitors have read up quite extensively before their arrival and know about all sorts of things and places in the R of SA – consequently we have had to brush up our own knowledge of history, geography and current affairs!

We find ourselves trying to look at things from a tourist viewpoint – amazing the things one takes for granted when they're on your own doorstep!

In conclusion it must be said that the commitment made to this facet of amateur radio and sailing has brought many rewards – not just the deep satisfaction of knowing that one has enabled a rescue to take place or averted a medical disaster, but real and lasting friendships with people from all over the world have been made.

Alister and Davina hold a Sunday braai on the first Sunday in December every year when Durban 'hams' collect yachties from the Point Yacht Club and bring them down to the farm at Umzumbe for the day. They usually end up with between 80 and 100 people of all kinds and have a wonderful day together. They often have overseas yachties staying in their home and their family has been greatly enriched by meeting so many people from all over the world.

They receive many e-mails and telephone calls from all parts of the world from yachtsmen who have made their acquaintance. Recently Alister and Davins were persuaded to take a well earned rest and for three weeks were entertained by the coastal hams, sightseeing, staying over etc., and an enjoyable time was had by all. They now can put a face to a voice... Several pictures were taken and sent to all hams associated with the net – (now we all know who is who!!) by Alister and Davina. Thank you, and bless you both – you are truly ambassadors for SA.

Thanks to all those – you organised well.

QRN Squasher

Noise Cancellation System

from Phil Hopper ZS2PP, 1 Westcliff Lane, Port Alfred 6170

Radio Hams can be divided into two groups. Those that are plagued by Radio Interference and those who soon will be!

The answer to every Hams dream is the Noise Squasher, which was originally designed by Doug DeMaw, W1FB. I have made minor modifications to the circuit in order to use commonly available components. Also, the original antenna switching was to my mind a trifle too complicated and a simplified version is presented here.

Unlike noise-blanking circuits, the *Squasher* is fitted externally and therefore requires no modifications to the receiver. The results are also far superior.

When the unit is not required for noise cancellation it will also double as a 10 db RF amplifier.

Layout of the components appears to be completely non-critical as, so far, four units have been constructed, each with a different layout and slightly different toroids. They all performed equally well.

In his original article, Doug claims 50db's of noise reduction. I lack the equipment to make accurate calculations of my own model but indications are that the unwanted noise can be reduced by at least six to seven S-points. A slight reduction in the wanted signal is also noticeable but it makes for Q-5 copy at all times.

The unit is especially useful in suppressing computer and mains borne interference. In my own shack, on 80 metres, I had a mains noise level of S-9+10db and was able to reduce this to S-4. A further S point was achieved by attaching the end of the noise antenna directly to the cover of the 15 amp outlet box via a 0.01 capacitor.

Theory of operation

The principal of operation is very simple. The wanted signal is picked up by the normal station antenna, amplified and fed into a combining transformer in anti-phase to the noise received via the noise antenna, where cancellation takes place.

The external antenna picks up the wanted signal at a far greater amplitude than the internal antenna, while the noise ant. receives predominantly local interference.

The **Noise Antenna** consists of about ten metres of thin wire draped around the shack.

Setting up takes a bit of experimentation but start with the **gain control** at a very low setting and the **phase control** at minimum. Now rotate the phase control and listen for a null in the noise level.

Once you have found the null you may want to raise the gain setting a smidgen.

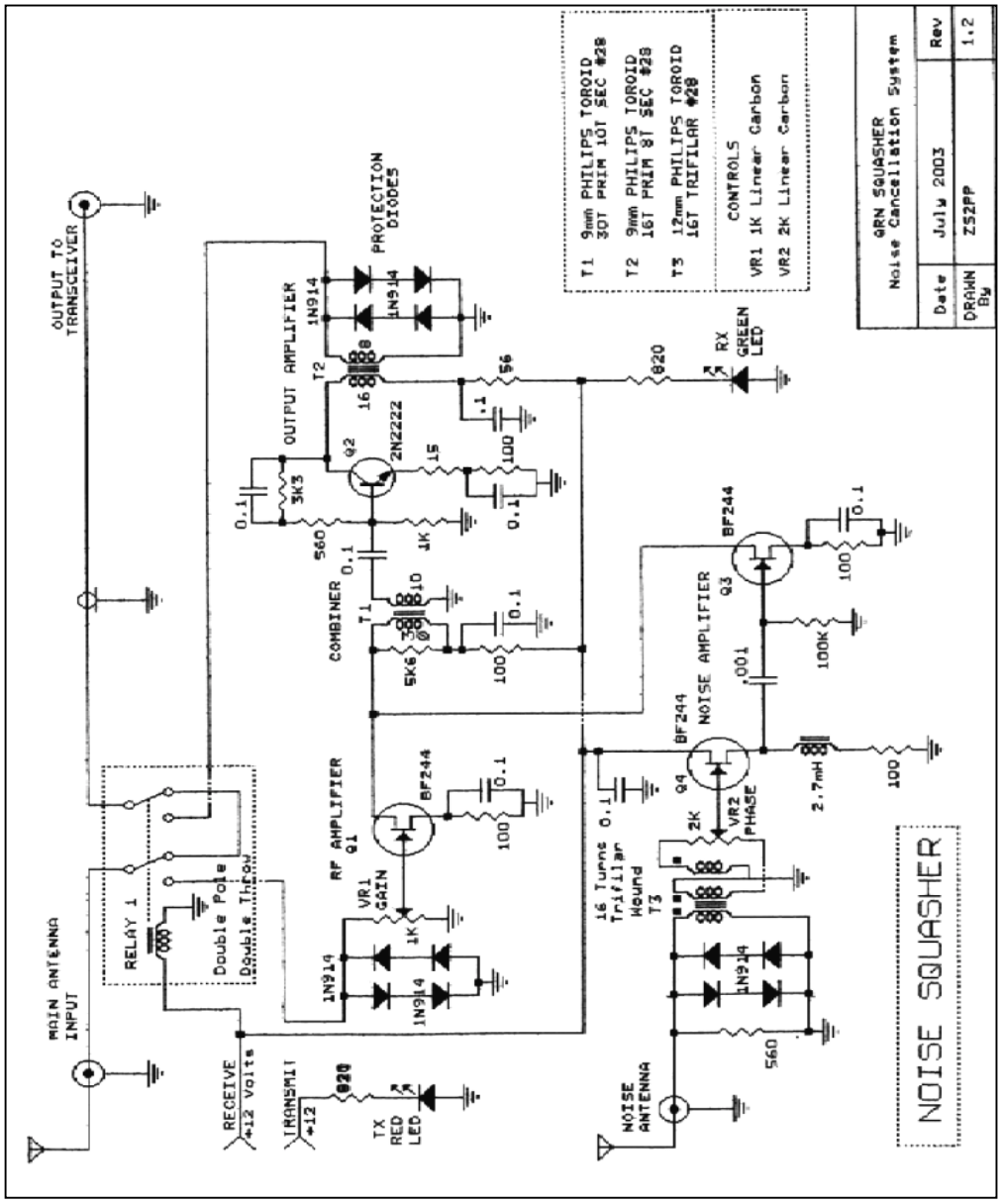
Each station will obviously have its own characteristic noise levels so there are no hard and fast rules for this procedure.

Antenna switching has been arranged so that the receiver 12 volts pulls the relay in during receive and drops out during transmit periods. Thus if the relay should lose voltage for any reason the relay will automatically route the RF around the unit and not destroy the sensitive transistors.

If you do not have the exact toroids or

transistors specified do not despair, use what you can get your hands on. Two ferrite beads glued together into a binocular form would also probably work in this application but the gauge of wire would have to be reduced to accommodate the right number of turns. Don't be afraid to experiment!

If you do decide to build the Squasher I would be more than pleased to hear from you.



DEVIATION METER

from JOHAN TERBLANCHE ZS1I

This meter will allow measurement of peak deviation up to 5 kHz and is sufficiently accurate for amateur radio purposes. The unit will also allow measurement of frequency offset although the accuracy will only be as good as that of the receiver it is connected to.

The circuit consists of a frequency discriminator running at 455 kHz that feeds a full wave precision rectifier. This produces a dc output voltage which is directly proportional to the deviation of the incoming signal.

It filters out the audio content of the signal and replaces one arm of the rectifier with a voltage reference. Frequency offset from 455 kHz may be measured. It is by virtue of this facility that calibration can take place without having to worry about Bessel functions or have another Deviation Meter to calibrate it against.

All that is required for calibration is a signal source that can be tuned fairly accurately to give two (or preferably three) spot frequencies 5 kHz apart. A 2 meter or 70 centimeter transmitter would be ideal for this purpose.

In order to be able to make useful measurements, the FM discriminator needs to be able to sniff the IF output of a receiver for the band that measurements are to be taken. The final IF of this receiver must be 455 kHz.

A synthesized transmitter could be used on one spot frequency. The receiver does not need to be FM, it just needs to have a final IF of 455 kHz (as most sets do). Construction of the meter is straightforward and I am not going to go into detail here.

ALIGNMENT

Step 1

Connect the circuit up to the IF of a suitable receiver and connect pin TP 1 to an audio amplifier or oscilloscope. Set SW1 to OFFSET, P2 to maximum resistance and adjust L1 for maximum noise.

Step 2

Radiate an unmodulated carrier on the same frequency as the receiver is set to, and adjust P1 for a mid scale reading on M1.

Now move the transmitter's frequency by 5 kHz either way and note the meter readings. If the meter reads past FSD or less than zero then the meter movement is too sensitive and either P2 needs to be increased or a shunt resistor can be connected across M1.

Step 3

What we are trying to achieve is a zero reading at –5 kHz and a full-scale reading at +5 kHz of nominal frequency. Assuming the meter readings are not as far apart as this then decrease P2 slightly, radiate a carrier on the nominal frequency and adjust P1 for a mid scale reading.

Now move the transmitter's frequency by 5 kHz either way and note the meter readings. If the readings are less than we require then go back to step 3.

The meter is now calibrated and

when set to the DEV position, will read 5 kHz peak modulation FSD (10 kHz peak to peak).

FINAL WORD FROM ZS1I

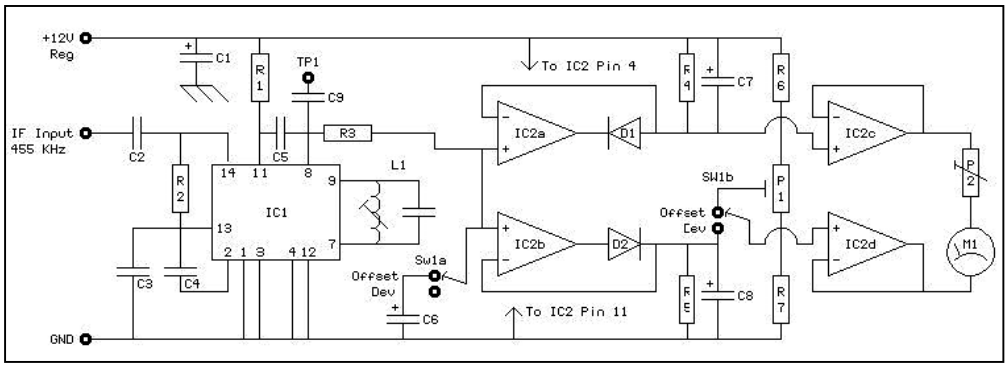
If you struggle to find a TBA120S IC, don't despair. Old TV sets is a good source for obtaining this IC. Haul out that old TV set and scrounge the IC from it.

A 455 kHz IFT was obtained from an old two way radio set.

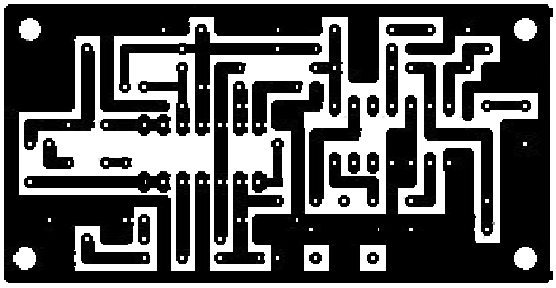
That's it for this month. I trust that this article will assist you in building this useful test instrument to check your 2M radio's deviation.

***COMPONENT LIST*:**

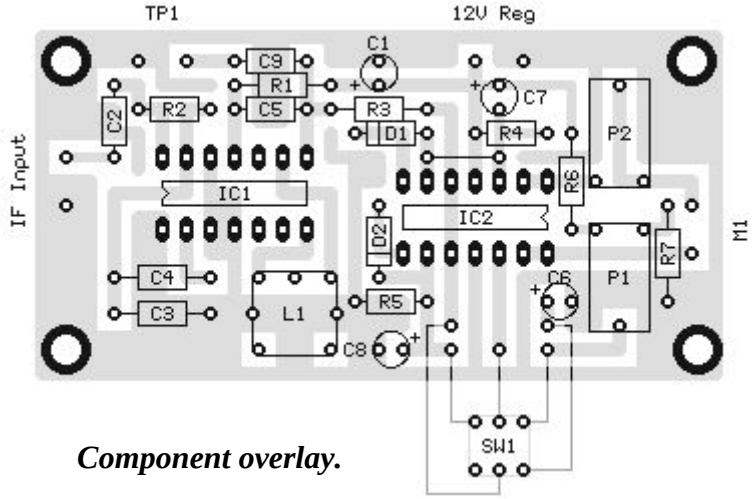
IC1	TBA120S	L1	Any 455 kHz IFT with internal Cap.
IC2	TL074, TL084 etc.	C1	10 mF 16v electrolytic
D1	1N4148	C2	22 nF Disk Ceramic
D2	1N4148	C3	220 nF polyester
R1	120 ohm	C4	220 nF polyester
R2	2,2 K	C5	10 nF Disk Ceramic
R3	47 K	C6	1 mF 16v electrolytic
R4	100	C7	10 mF 16v electrolytic
R5	100	C8	10 mF 16v electrolytic
R6	10 K	C9	100 mF polyester
R7	10 K	M1	Moving Coil to suit, the one used had coil resistance of 390 ohms and FSD of 300 microamps.
P1	22 K		
P2	2,2 K		
SW1 DPCO toggle switch			



Circuit diagram of the deviation meter.



Printed Circuit Board for the meter (actual size)



Component overlay.

Here's an Interesting Anecdote, *as told by Charles M. Vest, President of the Massachusetts Institute of Technology.*

In the early years of last century, Steinmetz was brought to General Electric's facilities in Schenectady, New York. GE had encountered a performance problem with one of their huge electrical generators and had been absolutely unable to correct it. Steinmetz, a genius in his understanding of electromagnetic phenomena, was brought in as a consultant - not a very common occurrence in those days, as it would be now.

Steinmetz also found the problem difficult to diagnose, but for some days he closeted himself with the generator, its engineering drawings, paper and pencil. At the end of this period, he emerged, confident that he knew how to correct the problem.

After he departed, GE's engineers found a large "X" marked with chalk on the side of the generator casing. There also was a note instructing them to cut the casing open at that location and remove so many turns of wire from the stator. The generator would then function properly.

And indeed it did. Steinmetz was asked what his fee would be. Having no idea in the world what was appropriate, he replied with the absolutely unheard of answer that his fee was $1000. Stunned, the GE bureaucracy then required him to submit a formally itemized invoice.

They soon received it. It included two items:

1. *Marking chalk "X" on side of generator: $1.*
2. *Knowing where to mark chalk "X": $999.*

HAMNET Simulated Emergency Contest

There were only nine entries in this contest held on 11 April 2004. Perhaps it had something to do with the long weekend.

The following were the results, and we congratulate the chaps concerned:

Single Operator Stationary Mobile	ZS5SK	568	points
Portable	ZS2U	1944	points
Base station	ZS6BUU	1876	points. Ω

MINUTES OF THE MONTHLY MEETING OF THE PORT ELIZABETH AMATEUR RADIO SOCIETY HELD AT THE St HUGH'S CHURCH HALL, NEWTON PARK, PORT ELIZABETH ON 15 JULY 2004

Welcome:
Rory ZS2BL welcomed all who had made the effort to attend. A special welcome was extended to all those attending for the Rally briefing.

Present and Apologies :
As noted in the attendance register.

Acceptance of Previous Meetings Minutes :
Proposed : ZS2BY Seconded ZS2U.

Matters Arising:
Nil

Correspondence:
In: newsletters from other clubs
Out: None

Finance:
Savings A/C R2 304
Investment A/C R36 348
A cheque for R6 500 has been received from the VW Rally organisers for communications services..

Social: *VW Rally organisation* – handled by Chris ZS2AAW.

September 5 : The Society has been invited by the MG Car Club to set up a station at the Cars in the Park display at Art in the Park, to be held at St Georges Park. The society will operate a station during the morning's activities at the park, and then return with the MG Car Club to their clubhouse in Conyngham Road for a bring-and-braai. Barry ZS2H has arranged that the committee will have the opportunity to view the clubhouse facilities and discuss the prospect of sharing the clubhouse with members of the MG Club's committee.

Upcoming Lighthouse weekend : Ewalt ZS2EHB to coordinate activities.

The business of the meeting being concluded, Chris ZS2AAW took the floor and conducted the briefing for the VW Algoa Rally, to be held over 16-17 July.

Following the briefing, tea and refreshments were laid on as usual by Bill ZS2ABZ. Ω

FOR $ALE ★ WANTED ★ SWOP

FOR SALE

* **Two-metre handheld,** Kenwood TH22A, very good condition – R1600; **Nassi inverter** 12V → 200V, 1 kW – R1580 — tel. Johan ZS2Z, 045 952 9051 or 084 500 9051

WANTED

* Copy of **book "Contact"** regarding Rhodesian war; **Military medals** and badges (all types) — tel. André ZS2ACP, 379 2058 or cell 083 404 9881

(Some of these items are from SARL bulletins and ZS4BS Dennis Green's HF Newsletter)

AMSAT ECHO

AO-51 (AMSAT-Echo) was turned on for general use in FM repeat mode on 30 July at about 02:15 UTC. This will be for a trial period of about three weeks during which the command stations will be watching the power budget and adjusting the UHF transmitter B power as needed for good management of the battery.

Initially, the transmitter will be running at about 1 W. If power allows, it will be slowly increased during the trial period. They will also be adjusting settings on the satellite, so if the signal changes slightly from time to time, do not be alarmed.

The TXB transmitter will be on 435,300 MHz, which is also a trial frequency. The original frequency of 435,225 MHz is now in regular use by GO-32, so the alternate is being tested to see if it can be used long term.

To work Echo in this mode you need the following information: Uplink: 145,920 MHz FM voice with 67 Hz PL. Downlink: 435,300 MHz FM voice.

The downlink transmitter will come on when it hears an uplink signal with a 67 Hz PL tone for about 1 second. It stays on for 10 seconds after that signal goes away. This operation is just like a terrestrial FM repeater with a 1 second kerchunk filter and a 10 second hang time.

The command stations will be watching the AMSAT-BB email reflector for reports on how Echo is working. If you do not subscribe to Amsat, you can let Barry Murrell know at zr2dx@mweb.co.za. He will pass your comments on to Amsat.

AMATEUR RADIO IN RSA 100 YEARS OLD

(from Mike Bosch ZS2FM)

On 12 December 1901, Marconi spanned the Atlantic Ocean on long waves, by transmitting the letter 'S' from Poldhu, Cornwall to St. Johns, Newfound-land. It was headlined in newspapers worldwide.

This inspired electrical enthusiasts from all over the world to also experiment with spark transmissions. In 1904 a small local group; J.S. Streeter, A1A, W.E. Dixon Bennett, A3V, and several others pioneered Amateur Radio in the Union of South Africa.

Of course, a spark transmitter could not be bought from the shelf and had to be constructed from scratch. Most experimenters started off with a Ford car ignition coil and a large umbrella antenna to cover a distance up to 100 miles (160 km) on a wavelength of 600 metres.

The receiver consisted of a variometer tuning circuit, a detector such as the Branley coherer and a set of high impedance headphones. The insensitive coherer, a glass tube filled with iron filings, was later replaced by the more sensitive galena crystal with cat's whisker type of detector.

Since there were so few amateurs around it was often difficult to find someone close enough and within range to contact. Morse code signals from official stations located on the Bluff close to the lighthouse in Durban, and the German and Portuguese stations at Swakopmund and Delagoa Bay respectively, as well as occasional ship stations in South African waters were about all that amateurs could hear outside their own towns.

There were no enforced restrictions on either power or wavelength, but a PMG's licence was required to operate any wireless apparatus, either transmitting or receiving.

At the outbreak of World War 1 all Amateur Radio activity came to a halt. At the time there were around 20 amateurs operating in the entire Union of South Africa. It was also the end of the spark transmission era.

100 YEARS OF THE DIODE

The 100 years of the Diode presentation at the SARL Hamfest on 21 August promises to be another Tony Voorvelt special. Tony, ZS6CCD, is well known for the animated way he lectures using many special effects and practical demonstrations.

He will be exploring the question *is the diode valve only a hundred years old?* Did Fleming develop the concept or did he build on a patent of Thomas Edison of many years before?

Join Tony at the SARL Hamfest at the National Amateur Radio Centre on Saturday 21 August.

RADIO REGULATIONS

Under the proposed new Radio Regulations, the Morse requirement for a ZS license will be replaced by a number of assessments. Candidates wishing to obtain a ZS license will have to complete any one of these assessments, and the choice of which assessment to attempt will be up to the candidate him or herself.

Council published a draft list of proposed assessments for comment on 31st March. After having considered the comments received, Council has agreed on an amended set of assessments and has published these for comment. The proposed assessments are:

1. Confirmed contacts with 100 different stations on any band and mode.
2. The construction of a direct conversion or superhet receiver or a crystal controlled transmitter for any amateur frequency and mode.
3. 50 hours of public service communication at sports events, disaster preparedness exercises and educational stations.
4. A professional tertiary qualification in electronics or radio.
5. Morse code proficiency at 5 words per minute.

Prior achievements will be recognised, so anyone who can show that they have already fulfilled the requirements for any of these assessments will be able to apply for a ZS license as soon as the new regulations come into effect.

HELP THE SARL TRACE AMATEUR RADIO HISTORY

On August 15, the SARL Intecnet will feature the history of Amateur Radio in South Africa. Do you have a story to tell?

Please search your records and old magazines stored in your storeroom or garage and share the heritage during the special Intecnet feature.

PROBLEM WITH YOUR TOWER?

Having problems with the local authorities in your area about tower heights?

Well one VK'er had such problems recently, the municipal "do gooders" arrived, tape measures and digital photographic gear in abundance.

Our thoughtful ham, after being told to "pull it down", walked the Authorities over the property and quietly said "well if I am to pull this one tower down, I will need to erect *seventeen* legal 10 metre poles over the yard to get the same deal...

Council Replied: “Oh that would be ugly and we would get complaints.... How about we let sleeping dogs lie..."

Chalk up one for the "good guys".

ISLE OF MAN DXPEDITION

Members of the Wrexham and District Amateur Radio Society will be operating from the Isle of Man, during the period 1–8 September 2004. The site that will be used is Scarlett Point, a disused Coast Guard

lookout tower, approx 1,5 Miles South of Castletown, Isle of Man.

Operation will be on all HF Bands, 50Mhz, 70Mhz, and 144Mhz, at full UK power. It is envisaged that the team will operate on at least two HF Bands simultaneously, and will be operating CW, SSB, RTTY, PSK and some SSTV.

It is currently planned that operation of the Stations GB4IOM and GB4SPT will commence on Wednesday 1 September 2004, at 18:00 UTC.

HAMFEST UPDATE FOR 21 AUGUST

Three more subjects have been added to the lecture programme for the SARL Hamfest on 21 August which promises to be the greatest Amateur Radio event South Africa has seen for many years.

Dominique Toldo will demonstrate and talk about solar flare monitoring, Dave Long, ZS5FR, will talk about Weather Satellite reception and its application in education and Thomas Abbott will lecture on three novel antennas for VHF and present complete design and construction details.

In addition there will be a two hour session on kit building with several projects being demonstrated and kits being available for purchase.

Entrance to the event will cost R20 which includes participation in the attendance draw with the main prize, an Icom IC-V8000 2m Mobile, donated by Multi Source. Learners and students enter free but do not participate in the draw.

AMATEURS SHOULD REPORT PLC TESTING

At SATCON 2004 held at the University of KwaZulu Natal recently, amateurs were urged to report any unusual, consistent interference to the SARL and to be vigilant about any PLC testing taking place in their neighbourhood.

Following Pretoria's example, several other metros have shown an interest and may soon be starting trials. The President of SA Amsat said that PLC interference could affect satellite and VHF weak signal communication.

NEWS FROM THE QSL BUREAU

The QSL Bureau requests members to ensure that they have sufficient A5 sized self-addressed stamped envelopes lodged with the bureau. The stamps on the envelopes must cover postage of about 200 grams at least.

Very few members have done so to date and the incoming QSL cards are piling up. Get your envelopes to the bureau as soon as possible.

The guys at the SARL QSL bureau carried out an experiment the other day. They counted 500 random QSL cards of different thicknesses, etc. and had them weighed. The weight – 1.5 kg. They then went around to the Post Office and determined the cost of overseas postage – surface mail is approximately R97.00 per kg.

One thousand QSL cards would weigh in at 3 kg, multiplied by R97.00 = R291.00. And we pay R290.00 annual subscription.

(Which is more than enough reason why heavy QSLers should pay a lot more than others! – Ed.)

MARLON BRANDO SK

The name is synonymous with the movies. However, many did not know that Marlon was also a very keen Amateur Radio enthusiast. In his later life, which he spent on his own Island, situated 50 km north of Tahiti, he enjoyed the hobby until he took ill and passed away this week. He was wheelchair bound for the last two years of his life due to pneumonia in 2002.

Known to hams world-wide as KE6PZH and FO5GJ, Brando is listed on the FCC database as Martin Brandeaux. He was on the air occasionally through the years with his FO5 call sign.

In an interview with Larry King on CNN recorded in 1994, Brando confirmed his continued interest in amateur radio. He said amateur radio provided him with the opportunity to "just be himself". Ω

To those celebrating special days ***(22.8 to 18.9)*** *we say*

Have a Happy Day...

... on your birthdays

August

24 Graham Griggs ZS2ABK
26 Vic Plumridge ZS2VP
29 Teresa Joubert, XYL of Tim ZR2TW

September

2 Renette van Deventer, XYL of Andre ZS2BK
2 Mel Gwilt, XYL of Beavan ZS2RL
2 Johannes Geldenhuys ZR2JG
7 Gert Schwarz ZR2GPC
7 Merle Thomas ZR2MP
7 Liz Lubbe, XYL of Allen ZS2AEG
8 Phil Hopper ZS2PP
9 Jack Koen ZR1JAC
10 André van Deventer ZS2BK
11 Barry Jackson ZS2H
11 Joan Bowes, XYL of George ZS2QN
11 Jane Fife, XYL of Clive ZS2RT
12 Pam Hopper ZU1PAM
12 Libby Hanslow, XYL of Mike ZS1RMS
12 Jo Akers ZS2W
13 Dick Schönborn ZS2RS

... on your anniversaries

August

31 Jean and Phil Kauffmann-Sorensen, ZS2NP

September

2 Joan ZR2ABA and Allan Bowles ZS2BO
3 Yvonne and Chum Rhodes ZS2VU
14 Daphne and Paul Galpin ZR6ACV

Congratulations also to Nina and Serge Smetryns ZR2SJE, who have become proud parents.

In Hospital – Ken Tremeer

ZS2BWB was in hospital during July for a pretty serious operation and, after some days in CPU and a few more in the general ward, he is now recuperating back at home.

Lionel Coombe-Davis ZS2DD also entered hospital for a couple of days due to a clot in the leg. This has been suitably fixed.

We've also just heard from XYL Pam that **Jack Koen,** ZR1JAC had quite a severe stroke in February.

Vicky **Ansell** also called to say that **Allen** was admitted to hospital suffering from a bleeding ulcer.

We wish all of you chaps well!

New Member – Dr. Tom Wilm,

ZS2BBG (DF1OC), of Port Elizabeth. We are glad to have you among us, Tom. Ω

Your Society's Committee

Chairman, Awards.....	Rory Norton ZS2BL	585-9330	rory@commco.co.za
Vice Chair, ...	Chris Scarr ZS2AAW	368-1344	cvscarr@intekom.co.za
Secretary, Internet Website	Barry Murrell ZR2DX	083 717 9210	zr2dx@mnet.co.za
Treasurer; Assets Control.....	Clive Fife ZS2RT	367-3203	cfife@absamail.co.za
Repeaters, packet,.....	Chris Scarr ZS2AAW	368-1344	cvscarr@intekom.co.za
Social, Refreshments,.....	Bill Hodges ZS2ABZ	581-2580	whodges@absamail.co.za
Special Events	Ewalt Bouwer ZS2EHB	933-3482	ewalt.b@freemail.absa.co.za
QSX printing and info.....	Ashley Goosen ZR2AG	372-2052	ashleygoosen@xsinet.co.za
QSX Editor (ex com).....	Garth Laaks ZS2HB	368-1101	glaaks@iafrica.com
QSX distribution (ex com)....	Trevor Scarr ZS2AE	367-1746	t&j.scarr@intekom.co.za
Technical Classes (ex com)...	Al Akers ZS2U	360-2983	makers@firestone.co.za

PEARS' VHF/UHF & Other Services

REPEATERS

Town VHF .....# 145,050/650
Town UHF .....# 431,050/438,650
Cockscomb 145,000/600
Colesberg ..... * 431,075/438,675
Cradock ..... * 145,050/650
Grahamstown ..... * 145,150/750
Knysna .....* 145,075/675
Lady's Slipper.....* 145,100/700
Noupoort.....* 431,150/438,750
Uitenhage..... # 145,075/675

* These form the PEARS long-range 2-metre repeater system, also linked to which are East London 145,775 MHz, George 145,700, Danabaai 145,600, Stilbaai 145,750, Butterworth 145,725, King Williams Town 145,625 and Umtata (438,725 duplex). It is further extendable to Cape Town via the WCRWG system. # These can also be linked as required.

OTHER SERVICES

Packet Bulletin Board (ZSØNTP) 144,625
Packet Rose Switch ZSØGHT-3,046101 (144,675 in/out) or 046102 (UHF out to BBS)..... 144,675
2m Beacon (ZS2VHF CW ID, FSK) (horizontally polarized, 160W ERP,) 144,415
6m Beacon (ZS2SIX CW ID) (horizontally polarized, 25W ERP) 50,005
6m Simplex Link with Lady's Slipper 2m Repeater (vertically polarized) 51,400

Sunday Bulletins

PEARS bulletins are transmitted on Sundays immediately after the SARL English transmission, i.e. at about 08:45, on 7098 kHz as well as the 2 metre linked network that provides coverage from East London to George as well as Cradock and environs. PEARS' 7098 or 3640 kHz transceive facilities are also remotely linked as needed. In addition, the SARL's 40m operations on 7082 or 7066 kHz or Hamnet's 7070 kHz can be remotely patched to the 2m network, in receive-only mode or with full transceive capability for interactive events.

Date	'repare and Read on 2m Repeater Link
15 Aug	ZS2EHB
22	ZS2AAW
29	ZS2RT
5 Sept	ZS2ABZ
12	ZR2DX
19	ZS2BL

DIARY DATES

AUGUST

19 **PEARS MONTHLY MEETING** & info on VW Rally
21-22 Lighthouses on the Air
29 SARL HF CW contest

SEPTEMBER

2 Wrinkly Rave
5 Art in Park station and MG Club braai

*** We like being *your* Society ***