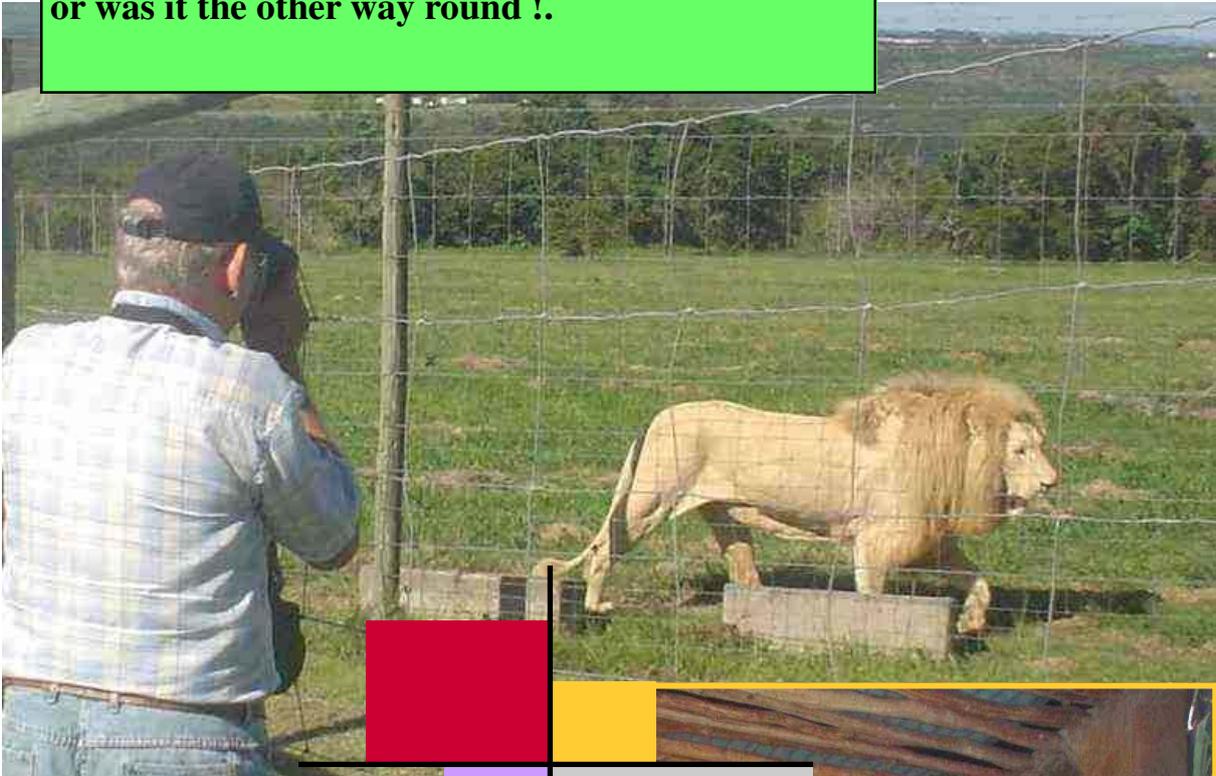
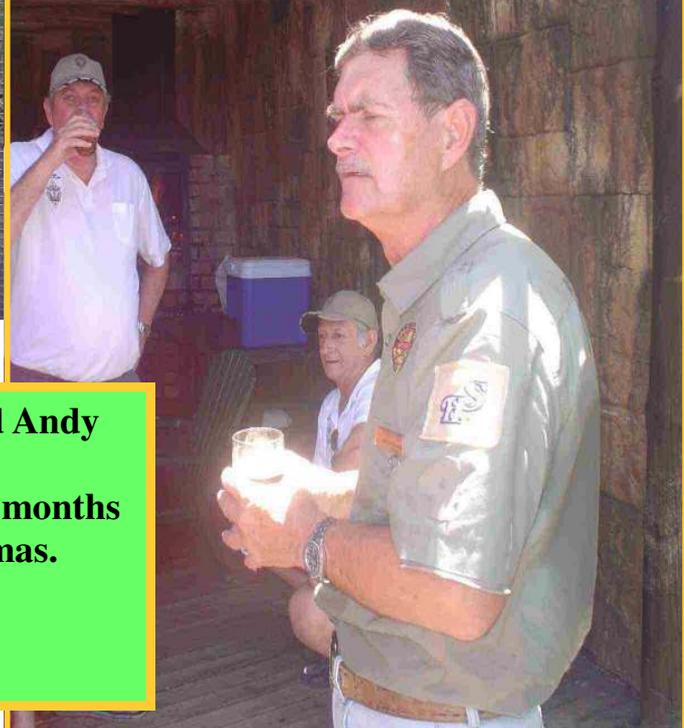


**Has anyone seen Brian ZS2AU recently ?
He was last seen stalking a Lion at the Lion Park,
or was it the other way round !.**



**Xmas
Braai**



**Don't look so worried Andy
(ZR2ACJ).
You have now got 11 months
to save up for Christmas.**

HAPPY NEW YEAR



Chairman's Chirp

Here we are going into a new year. Gee, but the past one flew by so quickly that I still haven't done all the chores around the house that the XYL has been on at me about for some time now! I wonder how many others out there find themselves in the same predicament.

I certainly hope that many of you found that new rig or piece of equipment that you have wished for for so long under the Christmas tree last week. Unfortunately when Father Christmas looked for my ICASA License so he could legally leave the rig behind, lo and behold, I had forgotten to leave it out for him – result – no new rig. So if any of you are wondering why no new rig under the tree, did you leave proof of your licence out! Remember also to pay your dues, as the renewals have been sent out about two weeks ago. I have mine and my new 2009 licence as well (paid in double by error last year).

Just to leave you with some words of wisdom – for want of calling it something. To those few who are constantly having a “dig” because the packet station is not working or not updated with the current messages. To those who criticise the repeaters that are not always working 100%. Have you spared a thought for the people who actually keep these systems running – usually people who have a normal 9 to 5 job and yet still find time to do work on repeaters/packet stations. We are so lucky to have these people around to give of their precious spare time. Think before you criticise folks, better still, step up to the plate and offer your help.



To you and yours, here's wishing you a Prosperous 2009 and may all your dreams and wishes come true.

Anthony - ZS2BQ



SSTV RECEIVED PICTURE

Receiving and sending Slow Scan Pictures on the HF bands can be interesting and rewarding. With the present poor propagation you have to be in the right place at the right time to catch the signals at their peaks. This picture sent to me from UK by GOFMO shows his picture, with the one he got from me super-imposed in the bottom right hand corner. It's not bad as only 3 narrow streaks of QRM can be seen running horizontally across the picture. It was received on 14.230 Mhz during the afternoon “Grey Line” period.

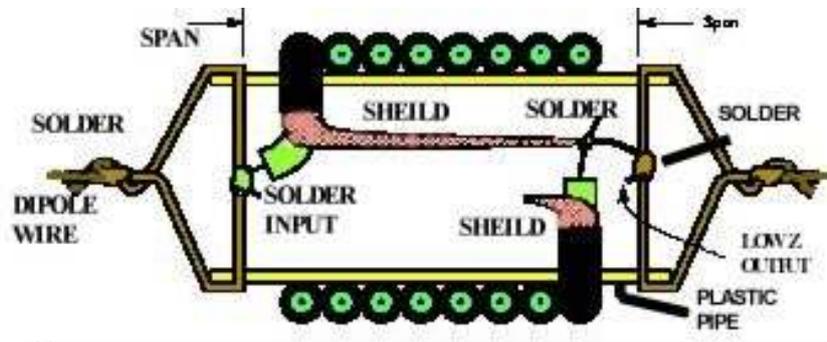
SSTV ANOTHER HAM MODE

WIND YOUR OWN COAXIAL TRAPS

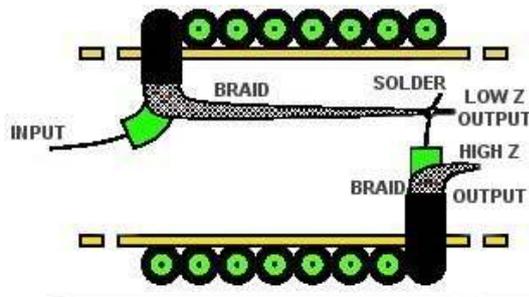
Page 4

Are you thinking about making up a multi band trapped Dipole. When money is tight the true and trusted Dipole can come to the DX rescue. It is even tolerant of being bent into various angles and, bent out of shape and it still works (but with a skewed polar diagram, but what you can't see doesn't hurt).

Here's how to make up the traps made from RG58 coax.



Other views of a W8NX coax-cable trap.



Construction details of the W8NX coaxial-cable trap.

To ALL owners / users of TinyTracks in East London

Since the introduction of TinyTrack GPS-driven beacons to East London (an event that got me on packet and APRS) the OM's using AGWPE with soundcards have not been able to decode a direct transmission emanating from TinyTracks.

I investigated and was not happy that I had to rely on a re-transmission via digipeater. Often the mobiles disappear out of digipeated range – but their signals reach my receiver. One of these places is the Nahoon Valley. Large parts of the N2 and many parts of EL are in the same position.

First I approached Richard, ZS2CLI. The deviation on the TinyTrack beacons looked far too high on my soundcard tuning aid oscilloscope. Richard assured me that the deviation was right.

Then Ivan, ZS2ILN gave me the documentation on TinyTracks and I found that the mark and space tones emanating are never 1200 / 2200 Hz, the international standard tones for modems.

Nick, ZS2NB re-programmed the PCI, the heart of TinyTrack. The problem became worse. A 1000 Hz difference between mark and space can not be achieved since the clock frequency is at 4 Mhz

Some time last month Fred, ZS2AP, gave me the e-mail address of OM Henry, ZS1AAZ. Henry was very involved with TinyTracks but was unaware of the soundcard incompatibility. He personally uses a modem for APRS. He referred me to ZS2ND, OM Neels.

Neels took the matter up with Chris, ZS2AAW and Jim, ZS2JF. They became involved and contacted me.

We established that TinyTracks in PE are working together with soundcards using AGWPE. I asked them to look out for ZS2ILN's beacon when he is in range of one of their receivers. It would be interesting to find out if they can receive Ivan. We are still not 100% sure if the same version of AGWPE is in use by all of us. Peter ZS2ABF, Henry ZS2AHL and myself ZS2HJ can not decode East London's TinyTracks.

I have now reverted back to my first suspicion: The deviation on all TinyTrack beacon's is too high.

Is one of you (or yours) willing to turn the deviation down to ZS0ELD's level?

I am available most evenings to assist you on the air, at 144.675 MHz or any other 2m frequency. Just call me on the EL 145.650 MHz repeater .

CONTINUED

I want to thank Ivan, ZS2ILN for keeping his beacon on the air.

He is presently the only one with an active TinyTrack in East London. The other TinyTracks seem to have been uninstalled from the mobiles and locked away.

I looked yesterday in another way at Ivan's signal. I used AWG Packet Engine's Soundcard Tuning Aid and switched to the WATERFALL frequency spectrum.

This facility should be used for tuning in SSB signals, but we use FM on 2. So it is of no use for tuning purposes and I ignored it so far. But yesterday I used it with very interesting results.

I observed the following different spectra and made a sketch. The TinyTracks directly received car signal into the sound card produces a long yellow band, the one on top (Signal 1). **No decoding** by soundcard is done.

The digipeated signal from ZS0ELD-1 shows a narrower yellow band as indicated by Y's in the second line. **Decoding is** 1 **done** (Signal 2) .

What can be concluded from this observation? I don't have a TinyTrack to play around with and would appreciate a reply with an explanation that will help to solve the problem of incompatibility. Maybe one of you has solved the mystery?

2

De ZS2HJ — waterfall Heinz.

(Please send your replies to Heinz via packet: ZS2HJ @ ZS0ELD)



**In the layback mood over the Christmas holidays
Anthony ZS2BQ & Len ZS2LEN
You will have to come right, it's January now**

Radio amateurs provide disaster communication

Whether it a tsunami, huge forest fire or a devastating twister like Katrina or the Volkswagen Motor Rally in Port Elizabeth, radio amateurs are always ready to lend a hand to provide communications. In South Africa the SARL's Hamnet maintains a core of trained emergency communicators who can be mobilised at short notice to provide emergency communication even when cell phones fail

Having Fun while still doing research

The Hermanus Magnetic Observatory and the South African Radio League recently launched a joint propagation research programme by establishing a large number of radio beacons distributed around South Africa.

But Amateur Radio is not just for old people!



More and more projects are aimed at the younger generation. Becoming involved while at high school gives learners insight into the world of radio and technology and often becomes a catalyst to choose a career in the Science Engineering and Technology (SET) field. An introductory amateur radio license has been introduced to encourage more young people to take up amateur radio. It is taking off

and some schools have already started radio clubs to get their learners involved.

The SARL also broadcast a weekly one hour programme called Amateur Radio Mirror International. Dust off the shortwave receiver and tune in on Sunday at 10:00 on 7205 kHz (41 metre band) or 17570 kHz (16 metre band), on Monday at 21:05 on 3215 kHz (90 metre band) or listen to the web cast (www.sarl.org.)

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AMATEUR RADIO

A FOUNDATION FOR TECHNOLOGY

Making Science, Technology and
Electronics fun
Connecting you to the world



It is amazing that many people when they talk about amateur radio still have the image of a dingy dark room full of dusty equipment, a man sitting with huge earphones on his head pounding away at a Morse code key. How wrong can one be? Radio Amateurs are ordinary people .They may be lawyers, doctors, accountants, engineers or technicians or learners or students but they have one thing in common, a love for electronics, technology and communication.

So what do the Radio Amateurs of the twenty first century dabble in?

Moon bounce and Meteor scatter are two exotic experimental communication modes that are attracting some serious experimenters. In Moon bounce or Earth -Moon-Earth communication (EME) the moon is used as a static reflector bouncing signals back to earth. In the early stages some very high power and huge antennas arrays were required to achieve results. Then came a long the bright ideas of Prof Jo Taylor, a professor in astronomy and a Nobel Prize winner. In his spare time he developed special software that allows communication under very weak signal conditions.

A UK Radio Amateur, Peter Martinez G3PLX, developed an alternative to RTTY, a system once used to send telex messages around the world. The teleprinter of yesteryear is still in use in some developing countries but generally has been phased out in the commercial world. Peter Martinez turned the teleprinter into a true digital mode and called it PSK31. When he set out the development he had some clear ideas. He wanted to create a mode that was as easy to use as RTTY, yet much more robust in terms of weak-signal performance.

Radio amateurs gave the world radio

It is true that radio amateurs were the first to experiment with radio after Marconi made the discovery that he could use Hertzian waves to communicate. The first radio station in South Africa was 2OB, operated by one of the early radio amateurs Toby Innes. There were no callsigns then, so he called himself 2OB – in the vernacular Toby. He broadcast music programmes from his house in Observatory in Johannesburg. The



early experimenters, they weren't called radio amateurs at that time, were not content with using long and medium waves and started experimenting with short waves and soon discovered that they could communicate with other experimenters on the other side of the world. The rest is history.



Radio Amateurs had to fight for their space in the frequency spectrum as commercial operators became hungry for frequency space, something that has not changed and it still a big topic today, so much so that nations get together every few years to debate the frequency spectrum and to which service various segments should be allocated. In this fray Radio Amateurs are represented by

the International Amateur Radio Union and in each country by a national society joining forces to keep the spectrum allocated to them and seeking additional spectrum to meet the growing needs.

SARL the national body

In South Africa, the government has recognised the value of Amateur Radio to the country and has appointed the South African Radio League as the National Body for Amateur Radio.

Communication technology in action

Amateur Radio – Communication Technology in Action describes exactly what Amateur Radio is today, forever exploring new opportunities and technologies to communicate and experiment.



When the Russians launched Sputnik I on 4 October 1957 it fired the world's imagination. Radio Amateurs had been talking about putting radio repeaters on mountain tops or sending them up with balloons. Sputnik indeed fired their imagination and on 12 December 1962, a group of US amateurs launched a satellite aptly named: OSCAR – Orbiting Satellite Carrying Amateur Radio. From these simple beginnings over 70 satellites followed, some long gone silent, other still operating after many years in orbit. South

Africa has contributed one satellite with an amateur radio payload on board and is about to add another one when SumbandilaSat is launched by the Department of Science and Technology. Radio Amateurs designed and constructed an experimental payload that will allow radio amateurs to talk to each other on VHF frequencies.

Digital is the new name of the game

One of the digital technologies making its appearance in amateur radio is digital voice. It is called D-STAR. D-STAR is the acronym for Digital Smart Technology for Amateur Radio. The purpose of D-STAR is to allow radio amateurs to speak further and clearer using digital voice while sending data at 1200 bps at the same time. The D-STAR system covers communications on the HF, VHF, and UHF bands while defining interfaces for both radios, repeaters, Internet interconnections, and PC interfaces.

How to become a Radio Amateur?

There is no age restriction. Anyone can become a licensed radio amateur by passing an examination and do a practical operational test. The entry level license (callsign ZU) gives access to a limited number of frequencies at low power. It requires 10 hour of study. The ZR license gives access to more frequencies and at a higher power. After some more operational or practical construction of equipment experience the ZR licensee can qualify for a full license (ZS). For both a ZR and ZS license some 30 hours of study is required. Study material is available from the SARL web free of charge.

Join the SARL



The South African Radio League is the National Body of Amateur Radio in South Africa and a direct interface with the Department of Communication, The Independent Communication Authority of South Africa (ICASA) and other government and non-government organisations. In every day life many people belong to associations, some because the law requires it others because the benefits that accrue to individuals and the profession, sport or hobby. Here are three of many good reasons to join the SARL.

Three Good Reasons

REPRESENTATION AT NATIONAL LEVEL

The SARL represents all radio amateurs when working with the authorities to ensure that the amateur spectrum is protected. *It is the number of members that gives the SARL the muscle to speak representatively*

INTERNATIONAL REPRESENTATION

The SARL is a member of the International Amateur Radio Union, representing Radio Amateurs at the International Telecommunications Union (ITU), the organisations that looks after frequency spectrum allocation and usage. The IARU works constantly at World Radio Conferences and behind the scenes to ensure that amateur allocations are protected and even expanded. *The IARU derives its muscle from National Members Societies, such as the SARL, who have strong representation in their country.*

KEEPING ABREAST OF TECHNOLOGY

Through an interactive website, weekly news bulletins, Radio Technology in Action symposia and a bi-monthly publication – Radio ZS – the SARL keeps Radio Amateurs breast of new technologies. *Wouldn't it be great to know that you are part of it and not an onlooker?*

WSPR - Distant Whispers One of the things that makes communicating with amateur radio more fun than using the Internet or the phone is that you never know where your signals will be received. Short wave radio propagation is never completely predictable, and can often surprise you. If this is an aspect of radio that fascinates you, then you'll enjoy using WSPR.

WSPR is a piece of software that enables you to participate in a worldwide network of low power propagation beacons. It enables your radio transceiver to transmit beacon signals, and to receive beacon signals from similarly equipped stations in the same amateur band. Because participating stations usually upload spots that they receive in real time to a web server, you can find out within seconds of the end of each transmission exactly where and how strongly it was received, and even view the propagation paths on a map.



If you left WSPR running while you were doing something else, you can also search the database to find out later where your signals were received during the day. You can analyse past signal reports to see the effect of seasonal propagation changes or antenna improvements.

What is WSPR? WSPR stands for **Weak Signal Propagation Reporter**, but it's pronounced "Whisper" - quite an appropriate name as it is all about sending and receiving signals that are barely audible.

WSPR is a software application written by Joe Taylor, K1JT, and a Nobel Prize-winning Princeton physicist. It was first released in April 2008. It uses a transmission mode called MEPT-JT. The "JT" stands for Joe Taylor, while MEPT stands for Manned Experimental Propagation Transmitter.

MEPT is not something specific to WSPR. MEPTs are very often simple home-built QRP transmitters that send beacon messages using very low-speed Morse (QRSS). Their very weak signals are copied visually using software called a "grabber" - a horizontal waterfall display capable of detecting and highlighting signals of a transmission is determined - as with many other weak-signal QRSS modes such as EME (moon bounce) - by literally reading the dots and dashes as they are displayed on the waterfall. The "manned" aspect of MEPT simply relates to the operator's license conditions.

WSPR itself does not use slow Morse, and it does not require your constant supervision either. Once set up, operation is completely automated. The software logs every transmission you make, as well as all the "spots" (decoded MEPT-JT signals) received. So this is something you can do when you are otherwise engaged and not able to get on the air and make normal QSOs.

Principles of operation Each MEPT-JT transmission lasts for just under two minutes, and starts at the beginning of each even-numbered minute. It is important that transmitters and receivers are in sync, so one of the fundamental pre-requisites of success with WSPR is an accurately set computer clock.

The beacon transmission contains the transmitter's Callsign, locator and power (in dBm). It is modulated using FSK with a very narrow bandwidth (about 6Hz) and at a very slow rate. To my ears it sounds just like a single tone. Forward error correction is used to improve the chances of copy even under adverse conditions while eliminating false "spots".

The WSPR software incorporates both a receiver/decoder as well as a transmitter. How much transmitting you decide to do is up to you. It is not necessary to transmit at all, so this is an activity that even SWLs can participate in - and many do. Most operators set the software to transmit once in every four or five two-minute segments. This is a random probability, so that two stations which start off at the same time with the same probability will not always transmit in the same segment.

I tried it and after the set up was completed I went on the air. At first nothing happened and 30 Mts my first choice of band was dead.

I changed to 20 Mts and after patiently waiting for the timed cycle to be completed, stations appeared in the receive window. Stations heard were : PD0CDD - PD2ATG - PD9FJ - OE1IFM - M0ZAF - VK6AAL - DJ8LG - WA2YUN(He is over 15,500 km from my QTH and I was only using 5 Watts). Not bad for a first attempt I thought. I also connected to the WSPRnet.org and was able to see on line the stations listed in the DX Spot. I had been listed as heard by the Austrian and the Netherlands stations. This prompted me to also submit my received log and list all the stations that I had heard.

This was great, as you are able to actually know that your signal is getting out and to were. You can also log on to WSPRorg.net and see who is online on which frequency. You can even have a keyboard conversation and arrange Skeds. Will I be seeing your beacon?.

It's another new mode to keep Ham's up to date, interested and to keep in the forefront of technology. Whether you like it or not this is the way Amateur Radio is swinging towards the future.

A few day's ago I was able to coach Chris ZS2CH in the art of WSPR and his WSPR Beacon/call sign can now be seen on the band. The only other ZS station that I have observed at the time of writing was ZS6WN, I wonder how many others are out there whispering?.

Happy hunting. De - ZS2ABF.

QUESTIONS THAT HAUNT ME!

- If you have sex with a prostitute against her will, is it considered rape or shoplifting?

 Can you cry under water?

 How important does a person have to be before they are considered assassinated instead of just murdered?

 Why do you have to "put your two cents in"... but it's only a "penny for your thoughts"? Where's that extra penny going to?

 Once you're in heaven, do you get stuck wearing the clothes you were buried in for eternity?

 Why does a round pizza come in a square box?

 What disease did cured ham actually have?

 How is it that we put man on the moon before we figured out it would be a good idea to put wheels on luggage?

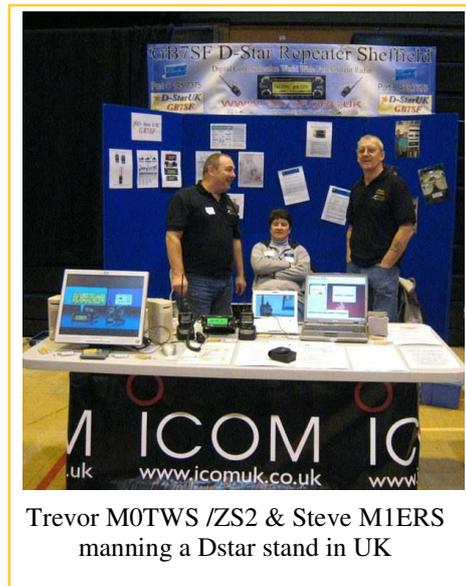
 Why is it that people say they "slept like a baby" when babies wake up like every two hours?

 If a deaf person has to go to court, is it still called a hearing?

 Why are you IN a movie, but you're ON TV?

 Why do people pay to go up tall buildings and then put money in binoculars to look at things on the ground?

 Why is "bra" singular and "panties" plural?



Your Committee

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Honorary Life Members

ZS2BV Trevor Foxcroft
 ZS2KW Ken Wood

The Border Radio Club holds monthly General Meetings every third Tuesday of the month at The Gatehouse, Eskom's Sunilaws Office Park, Quenera Drive, Beacon Bay at 19:30 for 19:45. Anyone is welcome to attend. The Club can be contacted via e-mail to ivan3@telkomsa.net. Listen to our Sunday bulletins at 07:45 on 145.650 Mhz Visit our website at www.sa-eastcape.co.za/brc. The South African Radio League's website can be found at www.sarl.org.za.

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