SHACKNEWS

HIGHVELD AMATEUR RADIO CLUB

PO Box 1111, Bedfordview, 2008 **January 2003**
E-MAIL = zs6bfl@telkomsa.net

COMMITTEE

Office		Call sign	Telephone number
Chairman :	Left vacant		
Secretary / Treasurer:	Berridge Emmett	ZS6BFL	011-893-1291
Repeater/Packet Radio/Technical	Ton Van Dijk	ZS6ANA	011-683-2424
Shacknews-Print & Posting:	Harry Lautenbach	ZS6LT	011-888-5362
Shacknews Editor: This Issue	Berridge Emmett	ZS6BFL	011-893-1291
Shacknews Complier: This issue	Gene Marais	ZS6TA	
Website manager	Yvonne Van Dijk	ZR6TBL	082-623-3704
QSL Manger & membership list:	Reg Hartslief	ZS6ALH	011-902-1432

Sunday morning BULLETINS - 145.7875 MHz & 7062 KHz @ ±08h45.

COMMUNICATION IS THE NAME OF THE GAME

MEETING: - Being January, there was no meeting this month - so there is nothing to report . However, I am sure we all look forward to the coming meetings. Please try to bring someone with you so that we can see new faces, Hi!
The first meeting will be on February 1st at the usual venue. Om Berridge has arranged a practical demonstration of the conversion of old vinyl LP music to CD. I hope that this will be of interest to all.

Errata In the December issue, "Latinisms" was not part 1 but part 3. Oops, sorry. (Ed.)

YOU KNOW YOU LIVE IN SOUTH AFRICA WHEN….

- *You can do your monthly shopping on the pavement.*
- *Police stations demand security guards*
- *You can drink tap water.*
- *You have to hire a security guard whenever you park your car.*
- *You can pay your tuition fees by holding up a sign at a traffic light.*
- *You can buy freshly slaughtered chicken in the city centre.*
- *The petrol in your tank may be worth more than your car.*
- *Police have to call for a taxi to go to arrest a criminal.*
- *The rule of thumb while driving is to use your middle finger.*
- *More people vote in a local reality TV show than in a local election.*

A BIT OF HISTORY….

The time of the year when we have to renew our licence .has arrived again so it is interesting to see what the Postmaster General required in the past. The following is an

extract from the Government Gazette dated 3rd August 1923. In those days we were known as " Amateur Wireless Experimenters" . (A transmitting licence cost all of 5s!)

PART 3.

Amateur Wireless Experimenters.

19. No person shall be entitled to experiment in wireless communications within the distance specified in the licence of any broadcaster without complying with the regulations in this part.

20. Any person, being a British subject, who wishes to experiment in wireless communications within the said distance (herein after called an " experimenter ") may enter into a contract with a broadcaster and pay him such charges, not exceeding one-third of the ordinary charge made to listeners, as the broadcaster may demand. Such contracts shall be on a form approved by the Postmaster-General.

21. An experimenter desiring to make use of any apparatus for the receiving of wireless comunications shall make application to the Postmaster-General for a receiving licence, and shall, when making such application, produce to the satisfaction of the Postmaster-General evidence that he is a bona fide student and experimenter in the science of wireless communication. The Postmaster-General may issue such a licence for one year on payment of a fee of 5s.

22. The apparatus for receiving placed in use by an experimenter must be of such a kind that it will not cause waves to be emitted by resonance or otherwise which may interfere in any way with any listener.

23. An experimenter shall not be entitled to transmit wireless messages or waves of any kind whatsoever unless he obtains a transmitting licence under regulation No. 24.

24. An experimenter may, on complying with the regulations in this part obtain from the Postmaster-General an amateur transmitting licence for one year, subject to the following conditions, and to payment of a fee of 5s.:—

(*a*) Such licences shall be limited to such a number in any area as the Postmaster-General may decide.

(*b*) The periods during whcih the experimenter shall be allowed to operate shall not be more than two per week to be specified in the licence.

(*c*) The power and wave lengths of the transmission and any other technical conditions shall be laid down in the licence.

(*d*) The aerial used by any experimenter for transmission shall be:—

(1) Not greater than the following maximum dimensions—

With a single wire:

Height above ground	40 feet.
Length	60 feet.
Total length of wire	100 feet.

With a double wire:

Height above ground	40 feet.
Length of each wire	70 feet.

(that is, a total length of wire of 140 feet.)

(2) In such a position that it is easily seen from a public roadway.

Unfortunately I have not been able to locate a copy of the licences which were issued at that time. It should be very interesting as details of frequencies and power would have been specified as per paragraph 24 c of the Regulations.

In case anyone is wondering where I was able to obtain a copy of the Government Gazette of August 1923. (Before my arrival in the world!)
I found a reference to the early regulations in Radio ZS of November/December 1993. A phone call to the National Library in Pretoria and payment of a fee was all that was

required. I received it by e-mail the same day. Unfortunately, the e-mail quality was not good enough for scanning. Another phone call and a photocopy was posted to me. I must say the lady in the Reference section of the National Library was most helpful .

SWAPS

This column is still FREE for you to advertise anything that you would like to. Just give ZS6BFL a call.

Some interesting facts about the times we live in …..

Friday, January 25, the 25th day of 2003

JULIAN DATE:	2452664.98
SEASON:	Summer 54.6 days until beginning of Autumn (vernal equinox)
SUNRISE:	05:37 47 seconds later than yesterday
SUNSET:	07:03 19 seconds earlier than yesterday
DAYLIGHT INTERVAL:	13 hours 26 minutes 66 seconds less than yesterday
DECLINATION OF SUN:	-19.0 degrees (sun south of equatorial plane)
EQUATION OF TIME:	12 min 16 sec (clock time later than sundial time)
DISTANCE TO SUN:	91,538,698 miles 98.4741% of mean
DISTANCE TO MOON:	230,230 miles 96.3889% of mean
AGE OF MOON:	22.5 days of its 29.53 day cycle 7.0 days until next new moon
PHASE OF MOON:	47.4% waning

- This fountain of information is provided by program called “Earthwatch” which I believe is available on the Internet .It also displays a map of the earth complete with a lot more information such as local and standard time. One needs to enter your co-ordinates to get the program going. And, yes, I did notice that the day of the week at the start of the page does not agree with the date. Presumably, this is a fault in the program, but perhaps one of our computer boffins could explain. (I entered the date shown so that the information displayed would be near to the actual date when this newsletter is distributed.) It is interesting to run the program every day and to see how the length of the days changes by some seconds every day, and the number of seconds also changes daily as the season progresses.

And finally, some satellite news

Perhaps you haven't been able to keep track of our near-space happenings, so here is an update on the ESA's INTEGRAL instrument.

INTEGRAL = Four synchronous cameras, to look at Gamma rays (2), x-rays and Optical wavelengths. This investigator was launched in October 2002. When it was launched it orbited between 600 miles and 153000 miles from earth, however after five small squirts of gas power, it gained it's final orbit which is now an orbit that takes it from 9000 miles above earth to 153000 miles from earth. But this adjustment took some time to do, so it is only recently that it has been able to give us useful information.
It was originally planned to work for two years, but with the economy shown when they corrected the orbit, it will now have enough fuel for an estimated five-year lifetime.
So, what does it do?
It is primarily a gamma-ray observing satellite. Your next question will probably be "What's so special about gamma rays?"

Most of Earth's population doesn't know that the 'high-energy Universe' is a violent place of exploding stars and their collapsed remnants such as the ultra-compressed neutron stars and, at the most extreme, the all-consuming black holes. These celestial objects create X-rays and gamma rays that are many times more powerful than the optical radiation we can see with our eyes and optical telescopes.
So, this means that we generally remain ignorant of the high powered happenings in space.

Integral's Principal Investigators - the scientists responsible for the instruments on board - explain the crucial role that high-energy missions like Integral play in astronomy.
X-ray and gamma-ray astronomy is a pathfinder to unusual objects. At optical wavelengths, the number of stars is staggering. At X-ray and gamma ray wavelengths, there are fewer objects, but the ones that remain are the really peculiar ones.

As a first test, what the astronomers call 'first-light' images, Integral observed the Cygnus region of the sky, looking particularly at that enigmatic object,
Cygnus X-1. Since the 1960s, we have known this object to be a constant generator of high-energy radiation. Most scientists believe that Cygnus X-1 is the site of a black hole, containing around five times the mass of our Sun and is busy devouring a nearby star. Observing Cygnus X-1, which is relatively close by in our own Galaxy - 'only' 10 000 light years from us - is a very important step towards understanding black holes. This will also help understand the monstrous black hole at the centre of our Galaxy. about three million times the mass of our Sun.

During the initial investigations, scientists had a pleasant surprise when Integral captured its first gamma-ray burst. These extraordinary celestial explosions are unpredictable, occurring from random directions about twice a day. Their precise origin is contentious: they could be the result of massive stars collapsing in the distant Universe or alternatively the result of a collision between two neutron stars. Integral promises to provide vital clues to solving this particular celestial mystery.

To study these peculiarities, Integral carries two powerful gamma-ray instruments. It has a camera, or imager, called IBIS and a spectrometer, SPI. Spectrometers are used to measure the energy of the gamma rays received. Gamma-ray sources are often extremely variable and can fluctuate within minutes or seconds. It is therefore crucial to record data simultaneously in different wavelengths. To achieve this, Integral also carries an X-ray and an optical monitor (JEM-X and OMC). All four instruments will observe the same objects, at the same time. In this way they can capture fleeting events completely.

Integral sends the data from all the instruments to the Integral Science Data Centre (ISDC) near Geneva, Switzerland, where they are processed for eventual release to the scientific community.

"We have been optimising the instruments' performance to produce the best overall science. We expect to be ready for astronomers around the world to use Integral by the end of the year, (2002)." says Arvind Parmar, acting Integral Project Scientist at ESA. "These images and spectra prove that Integral can certainly do the job it was designed to do, and more", which is to unlock some of the secrets of the high-energy Universe.

If you would like to see some of what has been captured, look at: http://sci.esa.int/integral

This insert kindly provided by Ken ZS6BLI

****

Old age is like a bank account. You withdraw from what you have already put in.

Some usefill "Latinisms" used in the legal process: Final

Word	Definition
Pro forma	As a matter of form
Pro rata	For a proportion
Quid ro uo	Something for something
Quod est demonstratirn	That which has been roved (Q.E.D.)
Ratio decidendi	The rounds of deciding the case
Res	A thing
Res ipsa lquitur	The thing speaks for itself
Res judicata	Has been decided. (In reference to a judicial decision) the thing
Restitutio in integrum	Restitution or restoration in full
Simul et semel	At one and the same time
Sine die	Without a day fixed
Socius criminis	An accomplice in the commission of a crime
Solatium	Comfort
Spes	Hope or expectation
Stare decisis	To stand by the decision. (In reference to judicial precedent)
Status quo	The position as it was before
Sui generis	Of its own class
Turpis causa	An immoral reason
Uberrima fides	The utmost good faith
Ubi ins ibi remedium	Where there is a right, there is a remedy
Ulta vires	Beyond the power
Vis major	Irresistible force
Viva voce	Orally, by the living voice
Volenti non fit injuria	That to which a man consents cannot be regarded as an injury

END

73
Gene ZS6TA