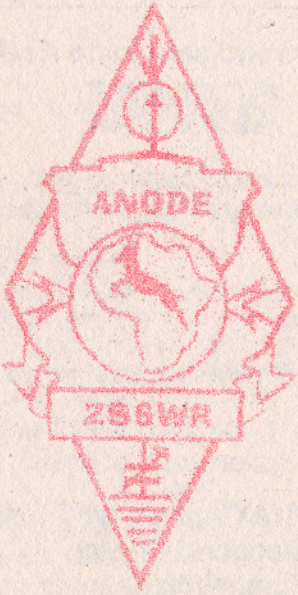
ANODE

WEST RAND RADIO CLUB NEWSLETTER



WESRAND RADIOKLUB NUUSBRIEF

July 1999

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BRANCH DETAILS

Postal address: P.O.Box 562, Roodepoort 1725
Street address: Stand 2447, Kroton Street, Weltevreden Park

Bulletins: **Sundays**

11:15 Start call in of stations
11:30 Main bulletin start

Frequencies

145,625 MHz (West Rand Repeater)
7,066 MHz (HF Relay)

Meetings:

Technical / Special interest group:	1st Monday of the Month
General Branch meeting:	2nd Monday
Committee meeting	Last Thursday
RAE Classes	Every Wednesday
Morse Classes	Every Tuesday on 145,625

All meetings start at 19:30

Birthday list for July:

1 Trevor (son of Chris ZR6AVA)
2 Bronwen (daughter of Keith ZS6AGF)
2 Henk ZS6ENK
5 Philip ZR6PD
4 Lindsay (wife of Chris ZR6AVA)
8 Chris ZR6AVA
17 Samantha (daughter of John ZS6WL)
20 Sheralee (daughter of Dave ZS6CC)
23 Susan (daughter of Theuns ZS6MJR)
28 John ZS6WL

Treasurers Note:

Now is the time of year that the treasurer by tradition will nag one and all for their subscriptions. If you don't pay your subscriptions soon then you will not be part of the greatest club in this part of the woods. The club needs you and this is your last chance of this century to belong to, and to make this the greatest club of the next century. At its first meeting the committee decided that the subs will stay at R50 per member. This however can only be kept this low if we have sufficient income from membership. The previous committee managed to reduce expenses and the current committee has to follow this example and squeeze every cent to the limit. The alternative will be to increase subs to balance the books. The fixed cost to run the club is around R2500. This means that we need a membership of around 50 to maintain a positive bank balance. If we can't get to the magic figure we will need to embark on special fund raising exercises to keep the wolf from the door. Included with this ANODE is a Pro Forma invoice for subscribing to the West Rand Amateur Radio Club. Please join today and enjoy amateur radio with friends that will go into the next millennium with you.

73 de Dave ZR6AOC

SATELITES AND THINGS IN THE SKY

Ever wondered what happened to P3D the almost super amateur satellite that would have been in orbit a long time ago, but then the launches got postponed and eventually cancelled. Here is mail from Peter Guelzow DB2OS regarding the latest preparations to get P3D where it should be.

Date: Fri, 02 Jul 1999 00:57:52 +0200
From: Peter Guelzow pg@tasma.aball.de
To: amsat@AMSAT.org
Subject: [amsat-bb] P3-D: ready for vibration testing

On behalf of the P3-D Team and the P3-D Integration manager Lou McFadin W5DID, I would like to thank all for the positive mail and reactions we got to our recent P3-D status reports.

Over the last three weeks we have successfully tested all subsystems, the bus and the electronic modules of P3-D. All receivers and transmitters were tested again with the satellite high gain and omni antennas during the rollout, including the 10GHz TWT and the 21MHz and 24MHz short-wave receivers.

One of the last things was the installation and testing of the YACE camera and the microphone for the experimental IHU-2 (YAHU), performed by Lyle Johnson WA7GXD, Chuck Green N0ADI and Peter Guelzow DB2OS. This will enable us to make visual and audible recordings of the separation during launch. The microphone will also pick-up the mechanical noise in the structure. The camera will later be used for other experiments, including imaging the earth. James Miller, G3RUH was able to obtain a license from ARM Technologies Ltd. to use their assembler JPEG coding library for P3-D. Compression of a typical YACE picture will take only 56ms at an IHU-2 speed of 133MHz using the StrongARM processor. With a compression factor of 25, the original 256Kbyte image will be reduced to about 15-20 Kbytes file size, depending on the image contents. Thus, downloading will be drastically improved without too much loss of image quality. With the 8MB bulk memory of the IHU-2, we will be able to take a "movie" of the separation, probably including sound. P3-D will be the first amateur satellite to use on-board JPEG compression software.

Stacey Mills, W4SM was able to almost complete his telemetry decoding software, which is also used for commanding purposes. A general version and detailed specification of the flight telemetry format will be made available soon.

Another major event was the successful completion of the SBS (support bearing structure) load testing by Rick Leon KA1RHL, Bob Davis KF4KSS and Jay. The SBS will carry the P3-D satellite inside during the launch and needed to be tested according to the specification of the launcher agency.

After a few more close-out items and the spin balance test, P3-D will be ready for the vibration and shake test, which is scheduled for later this month at NASA facilities in Washington. The test will be performed according to specifications from the launcher agency. A final check-out of all electronics and visual inspection will follow when P3-D returns to Orlando, before it will be shipped to the launch site.

73s, Peter DB2OS

FREQUENCIES OF SOME OF THE EASIER SATELLITES TO WORK

SAT	UPLINK	DOWNLINK	MODE
AO10	435.03 – 435.18	145.81 – 145.98	SSB
AO27	145.850	436.800	FM
FO20	145.90 – 146.00	435.80 – 435.90	SSB
FO29	145.90 – 146.00	435.80 – 435.90	SSB
RS13	145.96 – 146.00	29.46 – 29.50	SSB
RS15	145.86 – 145.90	29.354 – 29.354	SSB
UO22	145.90, 975	435.120	9K6 FSK
KO25	145.890	436.500	9K6 FSK
TO31	145.925, 975	436.925	9K6 FSK
GO32	145.85, 89, 93	435.225	9K6 FSK
SO33	145.915, 975	437.910	9K6 FSK

For Keplerian data visit your favorite Packet BBS. On the ZS0HTN BBS you can get satellite pass prediction data as follows:

Connect to ZS0HTN on 144,700MHz
Enter the command ***F*** and then press the ***Enter*** key
Enter ***T*** and then press the ***Enter*** key
Again enter ***T*** and press the ***Enter*** key
To see the list of Satellites enter ***L*** and press ***Enter***
Choose the Satellite from the list and enter its number.
Remember should you need help just enter ***?*** and press ***Enter***

NEW COMMITTEE FOR 1999 – 2000

At the AGM held on 19 June the following committee members were elected:

Chairman:	Bill Van Zyl	ZS6REV
Vice Chairman:	Tom Van Rooyen	ZR6BHV
Secretary:	Stephen King	ZR6SJK
Treasurer:	Dave Cloete	ZR6AOC
Members:	Keith Liddle	ZS6AGF
	Chris Botham	ZR6AVA
	Philip Van Tonder	ZR6PD
	John Brock	ZS6BZF
	Sarel Rossouw	ZS6APO

REAL SPREAD FOR 80Mtr VXO

From QSX PE December 1998

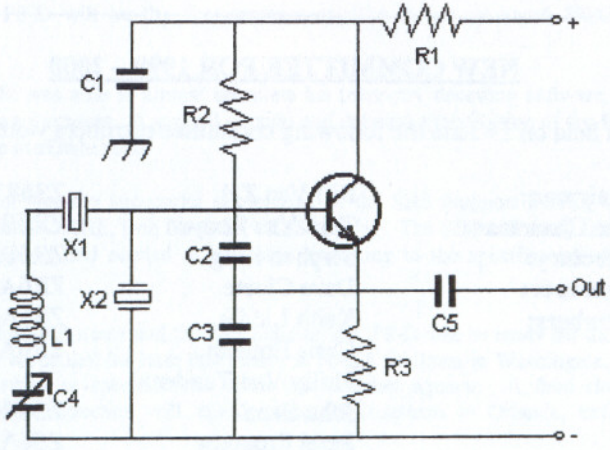
The problem with trying to pull the frequency of an 80 meter crystal oscillator is that it can only be moved 2 or 3 kHz. Higher frequency crystals can be shifted much more, so why not take two high frequency crystals, one fixed and one variable, mix them and, by subtraction, get a low frequency generated with a larger swing?

With the circuit shown, the difference is 3582 kHz and in the test circuit tuned from 3509 to 3587 kHz with a rock steady output, drawing 7,5 mA from a 9 volt supply. X1 is a 17642 kHz crystal, and X2 oscillates at 14060 kHz, but any suitable combination can be used.

The transistor oscillates on two frequencies simultaneously and the difference is taken from the emitter. A filter to remove the undesirable mixtures should follow.

C1	0,1 micro farad disk ceramic
C2,C3	220 pico farad polystyrene
C4	3 – 30 pico farad variable
C5	100 pico farad polystyrene
R1	100 ohm
R2	Select 470k – 1M ohm resistor for best oscillation
R3	560 ohm
L1	10 micro henry choke

Transistor is any HF silicon (e.g. 2N2222A)



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