

Q S X
P E

*Port Elizabeth Branch of the
South African Radio League*

P.O.Box 462, Port Elizabeth. 6000.



P.E. Repeater	145.06/65
Grahamstown	145.15/75
Lady's Slipper	145.10/70
Cockscomb	145.00/60
Rtty Mailbox	145.35

ZS2PE

Sunday bulletin: 08h40

HF - 40M--7098 KHz (lsb)

80M--3640 KHz (lsb)

VHF - 145.700 MHz (fm)

MARCH 86

We like being your branch!

Port Elizabeth Branch

NOTICE OF MONTHLY MEETING

MEMBERS ARE REMINDED THAT THE MONTHLY GENERAL MEETING OF THE BRANCH WILL TAKE PLACE AT THE SCOUT HALL, CORNER OF RITCHIE CRESCENT AND VAN HOUTENBERG STREET, KABEGA PARK ON FRIDAY 21st MARCH, 1986 at 8.15 P.M.

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Committee

CHAIRMAN:	Brian ZS2AB	303498	VICE CHAIRMAN:	Lionel ZS2DD	301770
SECRETARY:	Marge ZS2OB	303498	TREASURER:	Dick ZS2RS	302411
AWARDS:	Bill Hodges	512580	MEMBER	Trevor ZS2AE	301746
QX- PE:	ZS2OB and ZS2AB.				

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bulletin roster

For a trial period, the call-in after the bulletin is going to be changed so that all members get a chance to come in a bit earlier. However, priority is going to be given to the three or four members who leave early for Church, straight after bulletin.



16th March	Lionel ZS2DD	From the Top down.
23rd March	Marge ZS2OB	From the Middle down.
30th March	Dick ZS2RS	From the Middle up.
6th April	Trevor ZS2AE	From the Bottom up.
13th April	Bill ZS2-157	From the Top down.

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THIS and THAT

WELCOME A very hearty welcome to Peter van Zijl of Grahamstown who has recently joined the Branch and to Neville ZS2NR who has joined as a Social member. We hope you have a long and happy association with us.

CONGRATS To the P.E. Branch on coming 4th in the Field Day Contest. Well done to all those who supported the venture in any way. To: Mike Bosch ZS2FM and Sel Staples ZS6SS who came first and second respectively in the VHF/UHF Contest held in September 1985 and once again to Mike ZS2FM who achieved the longest distance on 50MHz with ZS6OB - 997km. To: Andre van Deventer ZS2BK who achieved the first Packet Radio contact from this area with his brother Pierre. The qso lasted about 2 hours and went off very well.

To: John Masters who is now sporting the temporary call of ZK2AAA but is hard at work on the CW, tutored by Langley ZS2LW.



We were sorry to hear that two of our members were in hospital recently. Grobbie ZS2JQ suffered quite a bad heart attack but we hope he is recovering well. Paul Pretorius ZS2PR had a spell in the White House for an operation, and we trust you are also on the mend, Paul.

The husband of a nurse was in hospital after a heart attack. One evening she visited him in the intensive Care Unit, wearing her uniform. When the bell rang for the visitors to leave, she bent over the bed to kiss him and they got into a clinch. Two men passing along the corridor looked in just at that moment. One of the men exclaimed, "If that's intensive care, I'm all for it".

MINUTES OF THE GENERAL MEETING OF THE PORT ELIZABETH BRANCH OF THE SOUTH AFRICAN RADIO LEAGUE HELD AT THE SCOUT HALL, KABEGA ON FRIDAY 21st FEBRUARY 1986.

PRESENT: 35 members and visitors.

APOLOGIES: ZS2RB, ZR2BL.

The Chairman welcomed all to the meeting especially the visitors and wished all a pleasant evening.

MINUTES: The Minutes of the meeting held 17th January, 1986, having been published and circulated in QSX-PE were taken as read, proposed by Bill ZS2BY and seconded by Gus ZS2MC.

ARISING: -

FINANCE: Subs had been received from a new member Peter van Zijl of Grahams-town. Video tapes and valves donated by Pete ZS2PJ had been sold for Branch funds.

CORRES: Several Branch Newsletters.

GENERAL: (1) The Chairman explained the possible new format for meetings, i.e. Opening of meeting, guest speaker (if applicable) tea and then the business of meeting. It proved embarrassing to have members leave before the speaker started.

(2) The use of the Mailbox has dropped and the input of info was slack. The H.Q. Bulletins had not been received recently so it was not possible to enter these. Use of the Mailbox must be encouraged especially among possible users in the Grahamstown area.

(3) Branch dinner. The Chairman checked the list and added four further names making a total of 40.

(4) The Chairman explained that we might possibly have to change our meeting venue as the Scouts would be using the hall on Friday evenings. Members would be kept well informed via bulletins and QSX-PE.

(5) A report was given on the recent trip to the Cockscomb repeater by Trevor ZS2AE, Colin ZS2AO and Toff ZR2EY. They brought back the receiver and crystal filter. The filter has proved to be faulty. The replacement of the receiver and antenna will require the help of about 6 people. There was the possibility of the use of a helicopter, more news about this later. Bill ZS2BY asked whether all the effort being put into the Cockscomb repeater was really worth it. The Chairman said that the unit had not really been able to prove itself and felt that we should persevere as the coverage should be good.

(6) Garth ZS2HB asked about the call-in procedure after the Branch bulletin and felt that there should be a random call-in as opposed to a list. ZS2VM Viv felt the list was better and that the use of a -al reversing of the list could be done to eliminate a long wait. Beaven ZS2RL felt that the call list kept proceedings orderly. Bill ZS2BY felt a random call-in was worth a try.

(7) Brian ZS2AB was nominated as the Delegate for the forthcoming A.G.M. Proposed by ZS2RS and seconded by ZS2DD. The motions were then discussed and the following was the brief for the Chairman/Delegate.

Motions 1 and 2: Carried

3: Council should be allowed to decide.

4: Carried. 5: Lost.

6, 7, 8 and 9: Carried.

10: Carried (especially in the case of where the societies were affiliated to S.A.R.L. e.g. Homelands).

11: Lost. 12: Carried. 13: Chairman's Discretion.

14: Carried. 15: Lost. 16 and 17: Carried. Chairman's Discretion re QSL Bureau. 18, 19: Lost. 20, 21, 22, 23, 24: All carried. 25: Carried - Durban Branch to submit examples.

26: Lost. 27: Carried. 28: Lost.
29: Ad Hoc Committee report.

The meeting was closed at 11p.m., there being no further business. Tea was taken and Trevor ZS2AE was thanked for the eats.

sgd: B.A. Weller ZS2AB
Chairman

sgd: R.W. Schonborn ZS2RS
Acting Secretary.

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FOR SALE.

- 1. 3-el beam, rotator (with control) and 12 m mast R850.00
- 2. 14 AVQ 4-band vertical antenna 225.00
- 3. 8-21 2m beam (not been used) 150.00
- 4. Kenwood Mobile antenna 80 - 10 m 275.00
- 5. SP 120 (two) 100.00 each
- 6. SP 100 100.00
- 7. Mobile Speaker 50.00
- 8. Power Supply PS-30 375.00
- 9. Power Supply PS-20 200.00
- 10. Akavo Power Supply (CB) 40.00
- 11. TR-9000, B0-9 base 1150.00
- 12. R-1000 850.00
- 13. TS-130S. mobile mount 1525.00
- 14. GE CB 160.00
- 15. Commodore 64, tape deck. 400.00
- 16. Kenwood HC-10 world clock 175.00
- 17. MC-60 desk mike 115.00
- 18. MC 30S Noise cancelling mobile mike 55.00

Assorted connectors, books, coax, etc.

Contact Jan van Ree ZS2JW at: Home - 041-304816 or Work 041-28703

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VIDEOTAPE OFFER TO MEMBERS.

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OUR VIDEOTAPE DONOR IS NO LONGER ABLE TO ASSIST US WITH BETA TAPES-THESE WILL THEREFORE NO LONGER BE PART OF OUR SPECIAL OFFER. HOWEVER WE ARE STILL ABLE TO OFFER BLANK 3-HOUR VHS TAPES AT R15 EACH. CONTACT MARGE ZS2OB AT MEETINGS OR ON 30-3498 OUTSIDE OFFICE HOURS.

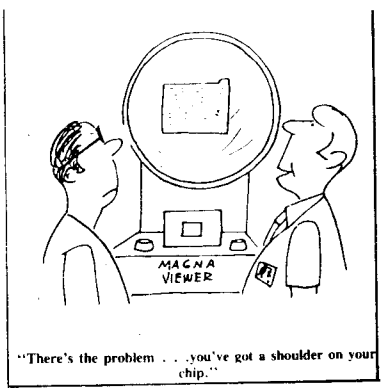
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Two men were sitting waiting to have interviews for a job as a radio announcer and one said to the other, 'Have you done much of this sort of work before?'

'N-n-n-no,' came the reply. 'N-n-n-n-n-one, actually. Th-th-th-this is m-m-m-m-my f-f-f-first t-t-t-t-try.'

A week later they met by chance in the street and the first one asked, 'Did you get the job?'

'N-n-n-n-no,' said the other. 'They s-s-s-s-said I was too t-t-t-t-t-t-t-t-t-t-t-t-t-t-t-t-tall.'



NEWS FROM AUSTRALIA.

The following letter was recently received from James Crichton ex ZR2CZ ex Grahamstown, now Australia.

I often find myself tuning across 20 metres hoping to hear a familiar ZS2-call, perhaps one of those Eastern Cape amateurs who directly or indirectly influenced and helped me in my decision to become a radio amateur. Some of the 'old timers' I had listened to on AM when I was a schoolboy in Port Elizabeth in 1960 and 1961.

I was last active in South Africa in January 1983 with the callsign ZR2CZ. At that time I was a member of the PE Branch of the SARL. Regrettably I allowed my membership to lapse while settling down in Australia and was not in fact active on the amateur bands for almost two years.

My family and I arrived in Perth in February 1983 and I immediately made enquiries about licensing. I was told that since there was no formal reciprocal agreement between Australia and South Africa my Amateur Radio Operators Certificate was of no consequence. At that time I did not think to appeal to a higher authority which I now realise should be standard practice when dealing with certain officials. I then applied for exemption from the theory portion of the AROC exam, but was told that this would only be granted for the Novice class of licence. This did not impress me as I had very little money, a 2-metre rig and very little appreciation of the delights of CW at 5 w.p.m.

At the start of 1983 we moved to New South Wales and I started to prepare for the full theory and regulations papers which in Australia are written separately. I had already made my application and paid my fee when it occurred to me that, since this is the most enlightened state in Australia and the DOC has a federal structure, I might apply again for exemption from the theory exam on the basis of my South African certificate. This time my wish was granted, but I went ahead and wrote and passed the regulations paper to show my good faith.

The next hurdle was the discovery that there were no 2-metre stations within simplex range of Young (QTH of the Crichton family) and that my Region 1 model TR-9000 did not cover Australian repeater frequencies between 146,050 and 147,950MHz. My junk box is full of gear I have worked on myself so I decided to leave my rig well alone. Kenwood Australia quoted figures over the 200db mark when I called them, so it occurred to me that for a slightly increased investment I could buy a KDK FM-2033 which does everything an Aussie 2-metre rig should do. This immediately put me in contact with repeaters on Mt. Ginini (1750m above sea level) near Canberra and Mt. Conobolas near Orange in Western NSW. The Canberra repeater has been worked from as far afield as Adelaide and is often host to stations in Sydney and Melbourne, depending on conditions. The Orange repeater would have a clear line of sight to the Indian Ocean were it not for the curvature of the earth!

There are a large number of repeaters in NSW and it is possible to find oneself accessing two repeaters on the same frequency during band openings, especially if using a high-gain vertical. Repeaters are taken pretty much for granted and are often quiet. I have heard stations calling CQ on a repeater and not getting a response unless the caller is personally known to one of the listeners lurking on the side. One of the Sydney repeaters was plagued by 'cowboys', some of whom were undoubtedly pirates using stolen equipment. The WIA put in a remote link to permit the repeater to be silenced if matters got out of hand. In the country even 27MHz is tame by comparison.

Aussie repeaters are identified by a callsign automatically transmitted in Morse at intervals when the repeater is in use. They also have time-outs to prevent the device being monopolised or jammed. When bulletins are

being read the operator has to let go the button from time to time in order to prevent the device switching itself off for a few minutes. Many amateurs (illegally) use this tactic when engaged, for example, in a long technical discussion.

During the summer months, 2-meter contacts between Australia and New Zealand are common, usually via repeater but also simplex between suitably equipped stations. I plan to spend three weeks on the NSW South coast at the end of February and will be hoping for an opening.

This year I hope to cross the CW barrier and start listening in earnest for those ZS2's. 5 w.p.m. earns one limited HF privileges and a combined limited and novice, or 'K' call. 10 w.p.m. is required for the full call. Sending and receiving may be examined separately, which makes things a little easier. I think the New Zealand licence is 12 w.p.m. and closer to the SA qualification.

I am enclosing a press cutting which might be of interest to some of the Eastern Cape amateurs I knew personally. I have given our telephone number as Anna and I would really love to hear from any South Africans, amateurs and their families, who may travel to this part of the world.

Thank you for your attention and our very best wishes to all the members of the P.E. Branch.

James Crichton. VK2XFC. 34 Murringo St. Young NSW 2595. Phone 063-82-1808.

Editor's Note.

Unfortunately the cutting from the "South West News" Young, N.S.W. dated Friday 29th March 1985 was not suitable for re-printing. It will be available at the next Branch meeting and will also go into the Branch scrap book. Also available for viewing will be the magnificent envelope which the letter was sent in. This was a First Day Cover celebrating the 75th Anniversary of Amateur Radio and issued by the Wireless Institute of Australia. The picture shows a Morse key in front of a circuit diagram, a map of the World, with a satellite dish and headphone, and at the right the printed 33c cent stamp depicting an amateur transmitting on phone. The cost of Airmail postage to P.E. was 90c. On the back of the envelope is the following write-up.

75th Anniversary of Amateur Radio: The Wireless Institute of Australia. Guglielmo Marconi sent a wireless signal across the English Channel in 1899 and the world advanced into the age of radio. Amateur experimenters showed an immediate interest in the new medium and soon clubs and associations began forming as enthusiasts banded together. Dozens of clubs emerged in Australia. By 1910 the Postmaster-General's Department was advocating the formation of a body to represent the interests of amateur radio groups in this country. The ensuing Wireless Institute of Australia is now claimed to be the oldest national radio organisation in the world. The envelope theme emphasises the personal involvement and world-ranging scope of amateur radio. The operator, in the stamp area, is depicted against a pattern of amateur radio "call-signs" - the VK prefix indicating that they are Australian.




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R. S. G. B. 50MHZ RESEARCH PROJECT.

by Ray Cracknell G2AHU. Continued.

(4) Meteor Scatter.

The reports from Scottish stations during the period ending February 1985 are most interesting for their Meteor Scatter results, and the commencement of 50MHz activity from Norway caused a spurt in MS activity in the next six month's period i.e. ending August 1985.

The weight of these reports points to the excellence of 50 MHz for Meteor Scatter working, and underlines the fact that MS is the most reliable of all DX propagation using natural phenomena. It is particularly significant that MS is equally good in the winter months when other modes are not operable and that QSO's were in the main made on SSB using the simplest of techniques. 50 MHz is an ideal band for the development of more sophisticated methods of MS working. Duplex 28/50 MHz should be workable to every country in Europe and bursts occur simultaneously on both bands and so this is an obvious development. However G3NOX highlighted an even more exciting development with colour SSTV transmission by MS to GM3WOJ and LA6QBA. Jeremy's report and colour photographs of the signals received in Norway and Scotland from Saffron Walden during the Perseids meteor shower on 7 May 1985 provide an impressive record. The importance of these tests lies in the amount of information that could be transmitted during one meteor burst. A burst of at least 36 seconds was required (the frame scanning speed). Such bursts are fairly frequent in major showers but a faster scanning speed would be required for sporadic MS working.

Although high effective radiated power is a distinct advantage for MS work since particularly with under-dense trails, the duration of the usable signal is a function of power, nevertheless several stations in the 10 watt class worked MS very successfully and there were widespread reports of MS from GB3NHQ beacon (15 watts to cross dipoles). Further too narrow a beam width or too much energy directed at a low angle of radiation can be counterproductive in MS work. By a stroke of good fortune the 3 to 5 element yagi antennas used by 64% of those reporting, provide a sufficiently broad catchment cone to take advantage of any usable trails and sufficient gain on both transmit and receive to make MS workable.

(5) Auroral Propagation.

Auroral propagation is dependent upon solar activity and at this stage of the solar cycle activity is very low. Notwithstanding many reports were received. The above all show that even at this late stage of the solar cycle auroral propagation at 50 MHz is still possible on many occasions and one would very much doubt that the above openings were exhaustive. 50 MHz is obviously an excellent band for auroral research also.

As with MS, high ERP is likely to be an advantage, but it is also very clear that it is not essential at 50 MHz and good results are attainable with powers of 10 watt to a yagi antenna. Patience, careful observation and watching solar data for rises in magnetic flux are much more valuable tributes than simply transmitting away with high power. The new power restrictions will not be welcomed by the auroral enthusiasts but certainly need not curtail their activities.

(6) F-Layer.

No reports of F-layer openings have been received. For the next few years this is to be expected. However, watching the 28MHz beacons is a pretty sure guide to what can be expected when solar activity rises in solar cycle 22. GB4BPY is currently doing excellent work in this direction. Of special interest is the reception of VK 28 MHz beacons around 08h30 on several mornings in October and November 1985. During the same period, African beacons were frequently received with strong signals and, through the summer, they were frequently received when the last hop was presumably by Es. Tests from ZS6PW on 50 Mhz over the noon-at-midpoint-of-circuit

period proved negative however. These were only conducted on a few Sunday mornings and may be considered conclusive. Late news from ZS is that the ZS1STB beacon has been reinstated on 50 MHz with a 4 element yagi antenna, and hopefully other beacons with reasonably high ERP may be operational next summer, so keeping a lookout for possible F plus Es or TE plus Es signals may pay dividends.

Although Cyprus is ideally placed for 1 hop F as well as 2 hop Es (approximately 3500 kilometres to the centre of Britain) the 50 MHz 5B4CY was only received by Es. Tests from SZ2DH in the mornings proved negative but G4JCC operating as F/G4JCC worked him by Es cross-band as well as several G stations.

(7) Back Scatter.

Several reports of back-scatter Es as well as MS were received. We know that MS back-scatter is from the trail itself and that F-layer back-scatter is only obtainable from the ground at amateur power levels. Any time delay measurements of Es back-scatter would be most informative.

(8) Conclusions and Recommendations.

50MHz will be on general release for 24 hours working to all British Class A licence holders from 1st February 1986, but it will be on very restricted power; 14dbw (25 watts) FM and CW, and 20 dbw (100 watts) pep effective radiated power. The reason for such a stringent restriction is that Continental countries are strongly opposed to an amateur 50MHz allocation as they continue with TV on the low frequency channels. Belgium using 48,75/53,25MHz are the chief worry. The present regulations will be reviewed after 12 months.

The granting of permits in Norway provided a great stimulus to activity and we look forward to other countries following Britain and Norway's lead in the future. In the meantime the extension of cross-band 28/50MHz into Europe as a means of stimulating interest over there is strongly recommended. To implement this, two suggestions are made. Firstly I suggest that although 28,885MHz is not relinquished as a cross-band frequency, we change to working exactly 22 mHz up or down as this would greatly facilitate matters for the many one-transceiver stations. I should also suggest that 50MHz operators 'adopt' a European friend, if necessary providing a converter and working regular cross-band skeds with him. At present there is a notable dearth of French, Italian and German stations and these are the countries where we should most readily be able to arouse interest.

R.G. Cracknell, G2AHU.

26 December 1985.

Compiled on behalf of the PSC and VHF Committee, Radio Society of Great Britain.

Many thanks to Mike Bosch for this article.

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ARRL BULLETIN NR 15 FEBRUARY 20, 1986.

A very large Russian spacecraft called MIR was launched February 19. It will be a manned space station forming the core of Soviet manned space flight for the next several years. A small manually deployed satellite called Iskra 4 will be one of the first ham in space activities from MIR. Previous Iskras containing amateur radio equipment were manually ejected from Saluyt 7. The first crew should reach MIR in the next week or so. Several cosmonauts are licensed amateurs and operation from MIR by them is thought a likely prospect. The 10 meter signals recently thought to be from RS9 have now been positively identified as those of RS1. RS1 ceased regular operation in 1980, but comes to life occasionally when conditions are right. RS9 and RS10 are scheduled for launch in late May.

Thanks to Buck ZS2RM for this item.

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MURPHY'S LAW NO. 12. The more ridiculous, stupid and dumb an idea is, the better chance it has of catching on'.

WHAT DO YOU KNOW ABOUT VIDEO?

Suddenly, before you could say "Tomorrow's World", the video age had arrived. With the comparatively new medium of video recorders and the fact that salesmen have a way with words, especially those that neither you nor they understand, this is likely to be a bit of a problem, so Paul Benson has outlined various aspects which you should know.

With various countries launching various formats, i.e. Philips VCR, National VHS, JVC VHS, Beta and LVR (not to mention other names as well) there could be some confusion. Five formats, all incompatible with each other and all at about the same price. What a cock-up you might think - and who am I to argue with you? However, rather than labour the differences it is instructive to have a look at the similarities - the operating principles. Although incompatible, they all, except the LVR format, use fundamentally the same techniques and it is on these technological tricks that this feature will concentrate. Here the intention is to give you the information necessary to understand what they are talking about.

A video tape recorder allows you to record video information and the description - the 'time machine' - gives the best clue as to their main use. That is, recording transmitted television programmes for later viewing.

Thus the main signal source for a VTR is the aerial signal that normally feeds the TV set. The signal that comes down the wall from the aerial on the roof is an amplitude modulated carrier. It is normally UHF and between 400 and 800 MHz in frequency. The audio signal is completely separate and in fact, is treated completely separately by both TV engineers, TV sets and VTRs. The video waveform which is modulated onto this carrier and the type of modulation used is known as negative modulation.

Video intensity information is essentially a dc signal and the more positive it goes the brighter will be the picture. The level of intensity that can never be exceeded is known as peak white and this corresponds to twenty per cent modulation of the carrier. You can't go less than this otherwise the set would close down. One hundred per cent modulation is the bottom of the sync pulse, according to the dictates of the negative modulation system.

A UHF TV picture is made up of 625 lines and the waveform is for one line only. It starts off with what is known as a sync pulse which tells the set that a new line is starting that thus that the electron beam has to fly back from the end of the last line to the left hand side of the screen ready to start again.

The entire waveform for one line lasts 64 microseconds and the actual active picture time is 52 microseconds. The set scans 312½ lines - called a field - then a different pulse is put in the waveform which triggers the beam back to the top of the screen to do another field. Two fields make up a complete frame (625 lines) and they are interlaced so that field one consists of odd lines if you are numbering from the top and field two of even numbered lines. Fifty fields (i.e. 25 frames) per second are used in TV, which means a lot of lines per second and each line information has a frequency response from dc (i.e. uniform background) up to 5,5 Megahertz. And we want to store this on a cassette! Obviously no mean feat, but we haven't even considered the colour information yet.

In the flyback time between each line a short colour burst at 4,43MHz is transmitted 5µs after the sync pulse and this provides a reference for the colour oscillator in the set to lock onto for the line that is coming up next. The actual colour information for the line is modulated onto a 4,434 Megahertz sub-carrier transmitted simultaneously with the intensity information. It is thus high frequency and also fairly high energy - it has quite a lot of information on it. It is added to the luminance signal which is the name usually given to the intensity information. So, if you want to turn your mid-grey into mid-blue then the luminance signal has a 4,434 Megahertz signal sitting on top of the luminance signal.

The amplitude of this sub-carrier determines the amount of colour and its phase determines the colour it actually is. (If you think this is unlikely wait until we come to how a video recorder works!)

AUDIO.

In television, audio and video information are completely separate and are not combined until they get to the transmitter to which they travel on completely separate paths.

The audio signal is a standard type and it is frequency modulated onto a separate carrier six Megahertz away from the vision carrier. The transmitted sound is of exactly the same specification as FM radio sound and has a frequency response up to 15kHz. The limitations in the transmitted sound come from having to cover up the inevitable studio sounds and also from not being able to place mikes in ideal positions as they have to be out of camera. This is, the limitation are to do with the practicalities of the operation and not the characteristics of the medium.

Of course, when it reaches the home it is put through a lousy amp and minute speaker on a domestic TV set, which is why the 8 kHz response of video recorders is not that much of a problem unless you feed the sound through your hi-fi system. On most sets, though, you will still hear some difference, but how much depends on how good your set it.

RECORDERS.

So the TV system has presented us with a complicated waveform to say the least. Coping with an audio signal up to 15 kHz is stretching the abilities of most domestic audio recorders, so how do the VTRs manage to reproduce pictures?

Well they do it by a series of electronic tricks that are unbelievably cunning (and thus devastatingly interesting). A VTR accepts the aerial signal which is why you can watch one channel while recording another or even record while the TV set is switched off. As in a normal TV set, the signal first goes to a tuner which selects the required station and then demodulates the signal off the carrier to produce the video waveform.

Then it does something for which it never quite makes up and which is responsible more than anything else in the machine for the difference between an off-air picture and a recorded one. The video signal is put through a filter at about 3 to 3,5 Megahertz (the exact frequency varies with the format).

This is a very significant frequency as below this frequency is purely luminance information and what's left above it will be the colour information on the 4,434 Mhz sub-carrier. The filter thus cuts the signal into two - the colour and luminance - but in so doing limits the original 5,5 mHz response of the transmitted luminance signal to 3 or 3,5 mHz which can be seen. They do use a trick later on to try and restore this missing top end but we'll come to crispening (as it is known) later. Professional machines record the video signal as it comes - a technique known as direct colour - but they cost thousands instead of hundreds of rand.

Then the luminance information, including the vital sync pulse is frequency modulated onto a sub-carrier. Sync bottom corresponds to a frequency of around 3Mhz and peak white is around 5mHz. (Again these figures vary from machine to machine). Frequency modulation is used as this technique allows what was originally a DC to 5MHZ (well, after the filter, 3MHZ) bandwidth to fit into a fairly narrow bandwidth for a small amount of frequency allocation on the tape. Remember here the importance of the DC signals as these are responsible for even colour tones, and so they have to be faithfully recorded.

Meanwhile, back at the chrominance stage.....and there we have to leave this interesting tale until next month! Many thanks to Alan Smith ZS6BTI who sent the original article.

S.S.T.V. WITH YOUR COMMODORE 64.

These highly advanced machine language programs provide you with a low cost capability to view amateur radio Slow Scan TV using nothing more than your 64 and easily built interfaces.

SSTV 1 is for the newcomer who wants a very inexpensive way to view SSTV. The interface uses 1 resistor, 1 capacitor and 1 I.C. The resolution is however, limited to between 4 and 8 levels of grey.

SSTV 2 uses a 'full' demodulator and therefore resolution and sync performance is vastly superior. Over 12 levels of grey plus full control over picture brightness and contrast. Tuning is by an LED indicator. This interface uses a total of 5 chips plus 1 transistor and is very easy to construct. A separate +5v -5v supply at 20 mA is also needed.

Full construction details and circuits supplied with the programs. (Cassette version only)

For more details phone Colin ZS2AO at 041-312471

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WANTED

To complete the sets in the P.E. Branch Library:

RADIO ZS: 1977 - April. 1978 - August. 1982 - August.
1983 - January to June inclusive.
1984 - November and December.

PRACTICAL WIRELESS: 1977 - December. 1976 - November.
1980 - July, November. 1981 - May and July.
1982 - April.

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50 MHZ IN THE UNITED KINGDOM.

As from 1st February, the 50MHz band has been opened to Class A licences in the UK. The band allocated is 50 - 50,5MHz, and among the conditions are that the allocation is primary, only Class A Licences will be allowed initially; maximum power is Carrier 14 dBW erp and PEP 20 dBW erp, antenna height restricted to 20 metres above ground and horizontally polarised. No mobile, portable, temporary or repeater operation allowed. However, all modes are allowed.

The S.A.R.L. welcomes this relaxation of 50MHz as a result of the closure of the last television station on this band in the UK. With the recent spate of activity on 50MHz, the time might be approaching when trans-equatorial propagation with the north might prove most interesting.

It should be noted that there are three beacons presently operating on 50MHz in the UK.

GB3RMK on 50,006 MHz from Inverness.
GB3SIX on 50,020MHz from Locator 1073IT.
GB3NHQ on 50,050 MHz from Locator 1091VQ.

This item of news from Headquarters Bulletin
16th February, 1986.

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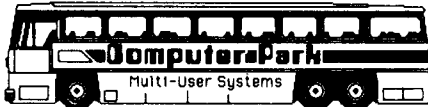
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