

# ANODE

## Anode Editor's Comments

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**Volume 11, Issue 7  
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So it was "Morse Day" on last Thursday. Even mentioned on 702! So I looked up "Samuel Morse" and got a surprise.

**From the Wikipedia:**

In 1825, the city of New York commissioned Morse for \$1,000 to paint a portrait of Gilbert du Motier, marquis de Lafayette, in Washington. In

the midst of painting, a horse messenger delivered a letter from his father that read one line, "Your dear wife is convalescent". Morse immediately left Washington for his home at New Haven, leaving the portrait of Lafayette unfinished. By the time he arrived she had already been buried. Heartbroken in the knowledge that for days he was unaware of his wife's failing health and her lonely death, he moved on from painting to pursue a means of rapid long distance communication.

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### My Earliest Recollections of Amateur Radio

My earliest recollection of "Radio" is listening to my father's BC342 radio. Connected to it was an RF25 converter which took the low VHF signal from Sputnik.

Radio in various ways. It helped to measure the altitudes of the F layer by transmitting on the 20 MHz frequency as it orbited the Earth in an elliptical orbit.

This was 1957 when I was nine years old. The aerial was one my father had put up between the house roof and a pole at the bottom of the garden. I can still see the shadow of the pole on Google Earth. The house was No 98 Dora Road in Wimbledon Park, London South West 19.

The signal only lasted 22 days but it had a profound effect on me. I started by listening to Radio Luxembourg on a Heathkit teaching kit tuned to the Medium Wave transmission. Later it was Short Wave and a modified two transistor reflex design based upon the Wireless World article.

The signal wasn't Morse (BTW it was Morse's day last Thursday) but a series of short CW transmissions at about a third of a Second. Which apparently alternated between two frequencies of 20.005 and 40.002 MHz spending 0.3 Seconds at each frequency.

**Sputnik's transmission frequency**  
<http://www.amsat.org/amsat/features/sounds/firstsat.html>

The 20 MHz signals from sputnik did not fall below the critical frequency of reflection by the ionospheric plasma, and it was sometimes picked up at dis-

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This satellite contributed to Amateur

**Special points of interest:**

- Contact details on back page (corrected & updated July 2010)
  - Ham-Comp Latest on web site.
- [I promise to have this updated ASAP. JB]

## My Earliest Recollections of Amateur Radio

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tances as great as 10,000 to 15,000 km. Seen above, the satellite's signal was received from the Soviet base in Antarctica. The two strong peaks show its closest approaches, while a small peak in between them demonstrates the antipodal effect known to shortwave broadcasters, a rise in signal strength when the satellite is refracted and reflected from the opposite side of the Earth.

Scientists had studied the ionosphere by measuring the reflection of radio waves sent from the ground, but little was known about the electron density above the highly ionized F layer. From hundreds of radio occultation measurements (radio rise and radio set of Sputnik), the F layer of the ionosphere was estimated to extend from 200 km to 320 km. Electron density was measured from 200 km to 3100 km.

The radio signal from Sputnik-1 was specifically meant to be heard by ham radio enthusiasts throughout the world. Soviet popular science publications described how to listen to satellites, well before the launch. The satellite signals were unmodulated, but frequencies were chosen to be heterodyned in the receiver, with exactly 20 or 40 MHz, yielding an audible tone. Variations in pitch were due to the Doppler effect.



**BC342 Radio receiver as used by my father.**

### Amusing anecdotes

News reports at the time pointed out that "anyone possessing a short wave receiver can hear the new Russian earth satellite as it hurtles over his area of the globe". Directions, provided by the American Radio Relay League were to "Tune in 20 megacycles sharply, by the time signals, given on that frequency. Then tune to slightly higher frequencies. The 'beep, beep' sound of the satellite can be heard each time it rounds the globe."

The first recording of Sputnik 1's signal was made by RCA engineers near Riverhead, Long Island. They then drove the tape recording into Manhattan for broadcast to the public over NBC radio. However, as Sputnik rose higher over the East Coast, its signal was picked up by ham station W2AEE, the ham radio station of Columbia University. Students working in the university's FM station, WKCR, made a tape of this, and were the first to re-broadcast the Sputnik 1 signal to the American public (or such of it as could receive the FM station). The next morning two FBI agents took the tape from the station. It has never been returned.

[From Wikipedia.]

### Flash Forward to 1997

Working Model Sputnik is on the Air [from ARRL Space Bulletin 34, dated 4th November, 1997]

Reports from several places indicate the working model Sputnik PS2 satellite launched Monday, November 3, from the Mir space station is beeping away on 145.82 MHz. The one-third scale Sputnik model was built by students in Russia and France to commemorate the 40th anniversary of the original Sputnik 1 satellite. Sputnik 1, launched by the Soviet Union in 1957, was the first artificial Earth satellite. The original Sputnik 1 transmitted a

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## My Earliest Recollections of Amateur Radio

*(Continued from page 2)*

beacon on approximately 20 MHz.

The Sputnik model was launched by hand from Mir during a space walk by Cosmonauts Pavel Vinogradov and Anatoly Solovyev, who turned on the transmitter and checked out reception aboard Mir before launch with help from US astronaut David Wolf, KC5VPF. The beacon is audible in either FM or SSB mode. The beacon transmitter runs approximately 250 mW.

Several stations have reported hearing Sputnik PS2 on the nominal frequency of 145.82 MHz, Doppler shift giving slightly higher frequency on acquisition of signal, and slightly lower at loss of signal. The signal is reportedly clearly audible even on a hand-held.

On Reunion Island, a great cheer went up as hams, students and teachers gathered to listen to the Sputnik model as it passed overhead on its initial orbit and heard the beacon signal from space for the first time. Students from the FR5KJ radio club at Jules Reydellet College in St Denis, Reunion Island, and at the Polytechnic Laboratory of Nalchik Kabardine in Russia cooperated in building the mini-Sputnik. The Russian students built the satellite body, while the French students fabricated the transmitter inside. Two working models of the Sputnik were assembled and transported to Mir, but only one was launched. The 500 mm antennas are circularly polarized. Reception reports go to FR5KJ, the club station at College Reydellet.

FR5KJ radio club will publish a diploma available for listeners. It will be numerated and authenticated by the stamp of the club. The list of diploma's owners will figure in a witness book.

Diplomas will be sent after RS17 vanishing (no more signal transmission). The difference between a QSL card and a diploma : a QSL concern especially Amateur Radio. A Diploma has an idea larger of the commemoration. It addresses to people who want to keep a beautiful "memory" of the event. The format adopted

15x21 cm and will be in 4 colours on special paper.

For occasional listeners, they will have to indicate the call sign of the station and the operator will certify the accuracy of the contact.

Diplomas will be sent after RS17 emits no more signal transmissions.

Diploma request via email will be rejected.

[I don't think they could get away with that these days.]

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### **Of 'Trips' into London**

My father and I visited London on regular visits to the WWII spares shops. I can remember going to Lisle Street. My dad told me a story of a customer (We were not called Nerds in those days), being "asked for the time—love". He promptly looked at his wristwatch and told the young lady the time! This next 'bit' is "extracted" from the web site I found while looking for a picture of the BC342 Receiver.

For many wireless collectors now beyond retirement age, Lisle St. after the second World War in 1945 was a magnet because of about 8 shops. A number of things occurred which made Lisle St. so very attractive once again to so many, apart from the fact that it was now also part of the red light district of Soho!

Government war surplus radio and radar equipment etc. was coming on to the market.

Men were being demobbed from all three services and many began to take up an interest in radio, much of which had been taught them in the services.

Ham radio received a boost with surplus communication receivers. There was the R107

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weighing in at 96 lbs. and who doesn't know of the R1155 with its sister transmitter, the T1154 or the Eddystone 358 receiver?

Television, from its home at Alexandra Palace, closed down for the duration in war time, began transmissions once again in June, 1946. Less than four years later the "Practical Television," magazine began, reflecting the new demand for cheap home constructed television receivers.

Hi-Fi was the new 'in' word and quality amplifiers were being built at home. In 1947 Wireless World published the circuit and constructional details of a very high spec High Fidelity amplifier designed by D.T.N. Williamson, using a lethal HT of 450 volts! It took advantage of the new shellac records which could reproduce frequencies from 20-15000 hertz. The age of the Hi-Fi fanatic had dawned and Lisle street could supply the push pull KT66's. (ex war surplus VT 75's of course!) and much else beside.

The BBC FM transmitter at Wrotham in Kent was being constructed in 1949 to enable 13 million listeners to receive high quality broadcasting within a few years.

Many were to build their own FM receivers, and to construct reel to reel tape recorders too!

Radio Astronomy was becoming of interest, much surplus optical equipment was also being bought. Even Boy Scouts were taking their Wireless and Radio Mechanics badges (test No. 26) in 1948. The next generation of home constructors was being trained, maybe to become surplus enthusiasts too.

So all these things coming together during this post war period resulted in big demands for everything radio, audio, mechanical and television and the surplus market was there to help meet that demand.

Thanks to Gee airborne radar etc. some items coming to market could easily be adapted at home to enable television sets to be built fairly cheaply. The surplus Pye IF strip (unit 153) had its IF at 45 megacycles, this coinciding with the vision frequency from 'Ally Pally'. The VCR97 CRT at 35/- (£1.75 for the uninitiated!), another surplus item, was a cheap entry into a green 6 inch diameter world of home constructed TV, commercial 9 inch tubes at that time being around £12. Recently a VCR97 was sold on eBay for £5.50.

The surplus type 62 unit for £4 was convert able as the video strip for home built television as were many others such as the 1355 with an RF 25 unit. Indicator unit 6 formed the tube assembly with the VCR97 at 90/- all boxed and in makers crates!

I wonder how many surplus EF50's were warming up just before 8 o'clock every evening in the vision strips ready to show BBC Television Newsreel's Ally Pally's radiating aerials during this period? The sound units ready to blast out, Charles William's, "Girls in Grey," the signature tune of the news reel. Many surplus units were also bought just to be stripped down for cheap component parts and valves too.

'Centre Tap' writing in Radio Constructor in 1949 said, "The home construction of 'televisors' is now well and truly in its stride." Yes, we were all at it! Those were exciting times when the first flickering pictures appeared on the CRT at home as the sets were aligned up.

Lisle St. offered much of this equipment and more and all within a stone's throw of Leicester Square tube station. How many tons of radio and television equipment were carried down the escalator on to the Piccadilly Line platforms over those post war years? I certainly carried my share as a young teenager soon after the war ended.

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## My Earliest Recollections of Amateur Radio

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Prior to the outbreak of war in 1939 there were wireless shops in Lisle St. Will Day's shop at No. 19, then boasted, "The best in the West," and was well advertised in the *Wireless Worlds* during the 20's, selling such items as, 'The Band Box,' a six valve receiver at £16-16 shillings. At one time the shop was called, 'The Wireless and Gramophone Saloon.'

Further up Lisle Street, towards Charing Cross Rd., at No. 27 and 28a opposite the rear of Daly's Theatre, K. Raymond tempted one with the Kay-Ray variable condenser of the future at 6/6d. and many other items, all advertised in the *Popular Wireless* in the 1920's. "Two shops, so you will always find one open," said the adverts.

The Wet HT Battery Company sold permanent LT batteries at No. 26 at one time. During the war London Central Radio advertised regularly in *Practical Wireless* as did Southern Radio.

But the ending of the war saw the popularity of Lisle St. reach its peak. G.W. Smith had his brightly illuminated shop with its long counter at the bottom of the street at No. 3, next door but one to The St. John's Hospital for skin diseases, with its highly picturesque frontage in the early Renaissance style of northern Europe. This was previously occupied by *Pathe Films of France*.

Mr. Smith opened another shop on the opposite south side, further up at No. 34. Both windows of each shop were always full as were the brightly lit interiors and one was amazed to see how much equipment could be strung up around a shop.

As a young lad I was not only excited to visit Lisle St. and G. W. Smith to buy my components but especially to gaze upon Mr. Smith's well endowed wife who always served at No. 3! How wonderful it was for a youthful lad just

to speak with this attractive mature woman about radio items on his wanted list! In later years Smith stores sold the Lafayette brand of ham band receivers and more new equipment as the initial war surplus market began to dry up in the late 1950's.

The Southern Radio Supply Co. at No. 46, Service Radio Spares at No. 4, West End Radio at No. 14, University Radio at 22 and London Central Radio Stores at 23 were other Lisle St. shops to be visited.

Opposite brightly illuminated Smiths was dark and drab, London Central Radio Stores. Bare wooden dirty floor boards greeted one on going inside. The floor was littered with boxes of not very attractively arranged goods, and these boxes extended right out to the pavement forming a lined path to the dark depths within. There were always plenty of items for sale but no buxom wench in there to gaze upon!

University Radio, further down, where many odds and ends were festooned around the entrance. Two windows each side of the entrance vied for one's attention.

At the top of Lisle St. at No. 15 Little Newport St., two brothers ran, Gee Radio, where ex surplus government soldering irons were part of the stock at 25/- and surplus 2v Exide accumulators at 3/11d in a rather cramped shop. There was also another small radio shop in Newport Place on the left but I just cannot recall its name.

Ex surplus Naval, ex surplus RAF, ex surplus Army and ex surplus Government stock, it was all there in Lisle St. If I had to pick a small icon of this period it would be the elegant slow motion Muirhead dial with its AM (Air Ministry) logo.

Although Lisle St. was the centre for radio surplus it did have its competitors in other parts of

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## My Earliest Recollections of Amateur Radio

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London. In nearby Tottenham Court Rd. in 1946 the Proops family set up shop, also selling surplus equipment, much of it medical, engineering and instruments from aircraft. The Spitfire's 16 mm film camera ( and rolls of 16 mm film) were other items for sale. Ex aircraft Gyroscopes too.

Who can remember Radio Clearance Ltd. at No 27. Tottenham Court Rd., Alec Davis Supplies at No.18 or Charles Britain in Upper St. Martin's Lane, selling RF24 units for 27/6d?

Two miles away over in Fleet St., then home to the Newspaper industry, one could find Sterns Radio down the bottom on the left near to Ludgate Circus at No's. 109 and 115.

Premier Radio had their first shop at No 169, moving to 165 and then on to No. 152/153 (Electronic Precision Equipment taking over here eventually), later to be followed by a further branch at No. 207 Edgware Road right on the corner of St. Michael's Street.

In 1949 at this shop, during TV transmitting hours only, could be found a working open demonstration model of their own kit built television receiver using the ex surplus VCR97 CRT to make some green with envy! I cannot recall though how they prevented the public from getting hold of the lethal EHT connection! No health and safety in those risky days! At the same time Teleradio, at No. 177 near the corner with Sussex Gardens, was selling all the components for the Williamson amplifier. The expensive and weighty Partridge output transformer for £5-13-0 and all the parts for the Electronic Engineering Televisor, although cheaper surplus components could be used.

Many will remember Lasky's (307 Harrow Rd. opposite Paddington Hospital) and Henry's (5 Harrow Rd.), near to what is now the big Flyover in Edgware Road at the Underground station, selling the Pye IF strip for 45/- and the No 18 set for 17/6d. Winter Trading, the big wholesaler

who stocked all the components for the home built Viewmaster television receiver, among many other items just a hundred yards down the Harrow Road on the right. A tiny entrance and counter hid the enormous stock they carried at the rear. Lasky's were also at 33 Tottenham Court. Rd . and at 152/3 Fleet St. (same shop as Premier Radio!) at one time.

Who can remember too, big red painted Samson's Stores (now a supermarket site), again in Edgware Road just on the right past the junction with Sussex Gardens going towards Hyde Park?

It was probably the biggest stocked window of any surplus store in London. Packed from the front of its two enormous plate glass windows right up high to the back it seemed to take hours to look at everything they had to offer. Then inside to be further amazed. Truly like an Alladin's cave with the counter at the back with Mr. Samson poking his head through all the gear and components. This was the place to buy all those odds and ends in one big shop as well as surplus stock. Tag strips/valve holders/terminals/insulators/Cs and Rs/chassis, not forgetting the 1 1/8 inch international valve holder chassis cutter which we all used.

Eventually on closing Samsons moved to a smaller shop just off Chapel Street nearby in the 1960s. Still with packed windows right next to the Edgware Rd. Met. Line station and if memory serves me, this shop too closed in the 1980s.

H. L. Smith at No's. 287-289 Edgware Road, opposite Bell St. with its double fronted windows going right down to within 1 foot of the pavement. Massive wooden counters within and all along the left hand side of the deep shop, trays upon trays of components to help yourself with. Latterly they had a Hi Fi section on the left hand part of the shop.

"Nothing too large - Nothing too small." "Everything you need under one roof." "You'll probably get it at Smith's," ran their adverts.

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## My Earliest Recollections of Amateur Radio

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They even had a chassis dept. to make any sized chassis one required. Sadly, all now gone.

But Henry's, still soldiering on, selling Sinclair's calculator kit of parts in 1976 for £5.40 then onto computers and modern Hi Fi gear but you will not find any R1155's for sale there now. To this day (2006) they are still in the Edgware Road, at No. 404 and now with a web site selling disco lighting etc., but it's not ex war surplus! Henry's, now the last of the many.

In Lewisham, East London, Galpins were selling off ex RAF 10 valve IFF (Identification Friend or Foe) units for 30 bob and ex Naval spark coils for 8/6d.

Over in South London, Mr. Huggett and his wife opened at 2 o'clock on a Friday and men could be seen hanging around outside before then waiting to enter the old shop, with its wooden floors and stacked shelves. He always had a new line each week to tempt us all with items like a large bag of a few hundred surplus 6BA screws and nuts, all very cheap. (maybe slightly rusty!)

Over in West London, Lyon's Radio, run by two brothers, was a small shop in Goldhawk Road, selling surplus rotary converters at 42/- and ex RAF power units for 39/6d, all advertised in The Radio Constructor. Just around the corner in Hammersmith Road was Bernards in the Grampians where many little radio booklets were published over the years of ex war surplus valve equivalents and other radio subjects.

VR53, VR65, VR91 etc. will be known affectionately to many. I don't have to tell you what the equivalents are I hope!

In Shepherds Bush market one could find John Gilbert's radio shop open every Saturday. John was a friendly, pipe smoking audio engi-

neer working for H. J. Leak amplifier company in Acton during the week. His shop, just about 9 foot square boasted an early balloon PX4 push pull Leak amplifier which blasted out old music all day on a 12 inch loudspeaker mounted just on a large wooden baffle outside the shop. The Leak amplifier was not finished in black crackle paint but in a dark mauve colour! I seemed to recall that this was a Leak prototype.

The shop packed quite a lot of surplus stock into its four cramped walls including large boxes of ex surplus Erie resistors and held many a chatting enthusiast too on a Saturday afternoon, including me. One guy specialised in getting the maximum volts out of home built crystal receivers tuned to the then BBC Home Service, using all the various types of surplus diodes on the market just after the war with his experimental tuning coils. Gilbert closed this shop in the late 1950s.

All over Britain similar shops could be found all selling surplus equipment after the war. Radiomart in Birmingham, Wireless Instruments of Leeds, Clydesdale of Glasgow, and Wireless Supplies Unlimited in Bournemouth, to name only four.

The UK dealers list could go on, as can the list of surplus equipment being sold including such units as number 184a, 74a, 62a (the indicator unit for airborne Gee radar), 6a, 18, 3132, 1147, 145, w1095, 526, 142, 7, 1355, 231, Q fiver, 1481, 74 and hundreds more! The RAF 10/C series numbering seemed far more complex in numbering than those previous GPO numbering of wirelasses in the 1920s ever was!

For example, Resistor numbers running from 10/C 1042 to 1050 were 51k, 50k, 20k, 75k, 12k, 5k, 350 ohm, 15k and 30k!

But slowly, one by one, many of these old shops began to close because the surplus market was

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## My Earliest Recollections of Amateur Radio

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beginning to dry up and many of them, run by ex service men who were now retiring - or worse.

Thirty years after the start of Lisle Street's popularity the British Vintage Wireless Society was formed and 60 years on many of its members now collect the very same items that were sold in those war surplus days.

Home construction faded away because factory built equipment became relatively cheap to buy and much too complicated to make at home. Who would venture to design and build a modern colour television, a DVD player or a PC mother board at home these days?

But many will still have very fond memories of those wonderful times when browsing in the old surplus shops was a weekly adventure, from the old gardens of.....

From:

<http://www.retinascope.co.uk/lislestreet.html>  
Leicester House, Lisle Street, and beyond.

Even Boy Scouts were taking their Wireless and Radio Mechanics badges (test No. 26) in 1948. The next generation of home constructors was being trained, maybe to become surplus enthusiasts too.

The surplus type 62 unit for £4 was convertible as the video strip for home built television as were many others such as the 1355 with an RF 25 unit. Indicator unit 6 formed the tube assembly with the VCR97 at 90/- all boxed and in makers crates!

### **When Transistors became reasonably priced**

My first real radio circuit built by myself was a two transistor design from Wireless World. It had an OC44 as the R.F. device followed by a D. C. coupled OC71. I remember buying the transistors separately two or more weeks apart as

the OC71 cost thirty shillings. Way above my pocket money grade! Try as I might, I still cannot find either the magazine or the circuit anywhere. It was a "reflex" design using the R.F. transistor both for R.F. amplification as well as A. F. amplification.

Advised by my father, I added some R.F. feedback to increase the gain of the OC44. He also regaled me with stories of 'super-regenerative' valve receivers that oscillated madly and interfered with all the neighbours radios. So I kept a careful control of the positive feedback. The radio had only sufficient output to drive an "ear plug". This was a ceramic transducer that had a bulbous driver end and a small plastic tube that just fitted into your ear. The tube unscrewed and could be cleaned of ear wax.

Similar attempts to make the radio "louder" in the thirties were to take the SG Brown headphones and put them in a bucket facing up. So that two or more could hear the radio. My transistor audio amplifier I built to listen on a loudspeaker caused acoustic feedback and howled!

A little while later, my father and I constructed a Heathkit 6/7 transistor radio. It had a lovely leather case and went together in a few evenings. This really worked well and prompted Dad to buy a few more kits made by Heathkit. One of which was a large HiFi loudspeaker. He never bought or built the second one.

JB 2011-01-12

[Sorry for so few pictures or circuits. But all my collected magazines and papers could provide are from a later 'era', when I was working for Rediffusion Engineering. Also most of the 73 Magazines and Wireless World's are from the 70's when CB peaked in SA. My earlier collection of Wireless World's was lost in a move in 1975. When my memory finally remember it was a BC342, I replace the 347 with 342 and found a picture.]



## Editor's Comments (contd.)

*(Continued from page 1)*

Morse encountered the problem of getting a telegraphic signal to carry over more than a few hundred yards of wire. His breakthrough came from the insights of Professor Leonard Gale, who taught chemistry at New York University (a personal friend of Joseph Henry). With Gale's help, Morse soon was able to send a message through ten miles (16 km) of wire. This was the great breakthrough Morse had been seeking. Morse and Gale were soon joined by a young enthusiastic man, Alfred Vail, who had excellent skills, insights and money. Morse's telegraph now began to be developed very rapidly.

Morse also at one time adopted Wheatstone and Carl August von Steinheil's idea of broadcasting an electrical telegraph signal through a body of water or down steel railroad tracks or anything conductive. He went to great lengths to win a lawsuit for the right to be called "inventor of the telegraph", and promoted himself as being an inventor, but Alfred Vail played an important role in the invention of the Morse Code, which was based on earlier codes for the electromagnetic telegraph.

In addition to the telegraph, Morse invented a marble-cutting machine that could carve three dimensional sculptures in marble or stone. Morse couldn't patent it, however, because of an existing 1820 Thomas Blanchard design.

{—}

"As an adolescent I aspired to lasting fame, I craved factual certainty, and I thirsted for a meaningful vision of human life--so I became a scientist. This is like becoming an archbishop so you can meet girls."

-- Matt Cartmill

{—}

### LA8AK in Her Majesty's Service.



Here is Yours Truly as GW5BFV with Jerry Llewellyn photographed for the local newspaper in Cardiff in 1973.

The picture caused great waves in London, and I was called onto the carpet and sent to International Telecomm. Maritime Services, (IMTR/Labs at Bearly/SOA) in the middle of Midland (as G5BFV) where wearing at tie wasn't so important for a PO Technical Officer, my efforts to explain that it wasn't suitable at Norwegian Telecomms went to deaf, but rather angry ears in 207, Old Street. The other colleague in Cardiff was GW4AMV, Steve. Later learned that Worcester & DARC was just as good radio club as Barry College for further education Radio society..., and I found another friend who was interested in experiments - G3NUE.

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## Editor's Comments (contd.)

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It was also a quite good radio club at Rugby, while it wasn't so much activity in Coventry and Stratford-on-Avon. And I shouldn't forget the discussions I had at work with G8ART, Steve (who later became G4FRE).

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**For those who need a 160 metre antenna system.**

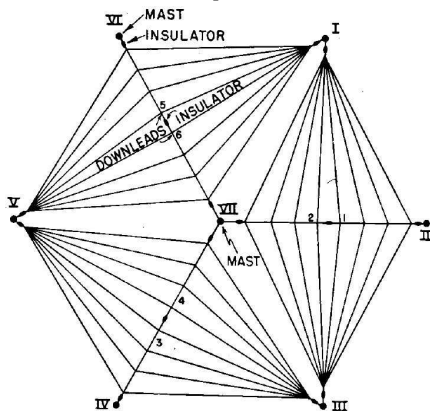


FIG. 1.8. An arrangement of three diamond sections to form a flat-top for a very low frequency antenna.

{—}

Does your 'station' look like this? [top right]

A 'portable' radio of yesteryear—note the headphones.

Compliments of the season to all our readers. Hope the new year brings you all you hope for.



**The West Rand Amateur Radio Club**

Established in 1938

KG33XU 26.14122 South - 27.91870 East

P.O. Box 5344  
Weltevreden Park  
1715

**Phone:** 083 267 3835 (Chairman)**Email:** [zs6wr.club@gmail.com](mailto:zs6wr.club@gmail.com)**Web page:** [www.zs6wr.co.za](http://www.zs6wr.co.za)**Bulletins** (Sundays at ...)

11h15 Start of call in of stations

11h30 Main bulletin start

**Frequencies**

439.000MHz 7.6MHz split

Input: 431.4MHz (West Rand Repeater)

145,625 MHz (West Rand Repeater)

10,135 MHz (HF Relay)

## Radio Amateurs do it with more frequency!

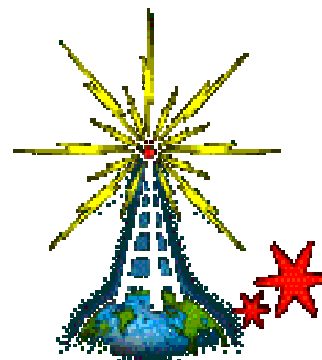
Chairman (technical)	Phillip van Tonder	ZS6PVT	083 267 3835	<a href="mailto:zs6wr.club@gmail.com">zs6wr.club@gmail.com</a> <b>OR</b> <a href="mailto:zs6pvt@gmail.com">zs6pvt@gmail.com</a>
Vice Chairman	Geoff Levey	ZS6GRL	082 546 5546	<a href="mailto:glevey@gmail.com">glevey@gmail.com</a>
Secretary	Rory Crouch	ZS6RBJ	082 448 4445	<a href="mailto:rorycrouch@mweb.co.za">rorycrouch@mweb.co.za</a>
Treasurer	Craig Woods	ZS6CRW	083 449-4886	<a href="mailto:zs6crw@gmail.com">zs6crw@gmail.com</a>
Member	Romeo Nardini	ZS6ARQ	082 552 4440	<a href="mailto:roshelec@global.co.za">roshelec@global.co.za</a>
Member (Anode)	John Brock	'PieRat'	011 768 1626	<a href="mailto:brockjk@gmail.com">brockjk@gmail.com</a>
Member (technical)	Ron Eva	ZR6RON	082 902 8343	<a href="mailto:zr6ron@webmail.co.za">zr6ron@webmail.co.za</a>
SARL Liaison	Willem Weideman	ZS6WWJ	082 890 6775	<a href="mailto:willem@zs6wwj.co.za">willem@zs6wwj.co.za</a>

## West Rand members - we need your input!

To make this the best ham radio magazine in South Africa we need your input. Please submit articles, comments, suggestions etc.

Please send plain text with no formatting to the email address below.

See Club website at [www.zs6wr.co.za](http://www.zs6wr.co.za) for all ANODE back issues.



**We need your input! Email us articles, comments and suggestions please.**  
[zs6wr.club@gmail.com](mailto:zs6wr.club@gmail.com)