

Wythall Radio Club meets from 8pm every Tuesday and Friday evening at Wythall House, Wythall Park, Silver Street, Wythall, B47 6LZ, near Birmingham. Visitors are very welcome. **Wythall Radio Club** is affiliated to the Radio Society of Great Britain. Contact g0eyo@blueyonder.co.uk

VHF NFD this weekend.

By the time you read this VHF NFD will only be a few days away on Sat/Sun 4/5th July. VHF NFD used to be a big event for the club when we were all much younger. We used to put up four stations, 2m, 70cm, 6m / 4m and sometimes even a 23cm station. We entered the contest vigorously trying to get a good score over the 24 hour period, although we never managed to beat South Birmingham on their Waseley Hills site (the extra 50m asl really means a lot at VHF). The BBQ on the Saturday evening was always well supported and was a social highlight of the year.

Wythall RC was never a serious contest club in the same way as the top contest clubs that enter everything with almost military precision and take top place. It takes a special skill set and determination to do this and we have only ever had a few operators who have this and not all of those are VHF fans so VHF NFD at Wythall has developed into more of a social weekend where we play radio, hence the encouragement for members to bring their own HF portable stations to have a play. The site although very convenient for us in as much as it allows easy access for most of our members is not ideal to win a VHF contest.

This year the trailer versatower is going to be used. This was always the main antenna support in past years and we have used it to support two 2m yagis plus two 70cm yagis although we did suffer some cross talk. We have even hung a wire dipole from it. We have dragged linears out to the field, used caravans as the main operating stations and had lots of fun in the process. In the old days new operators learnt their craft by logging for more experienced ones. This year although we are only operating a 24 hour 2m station, it will still require your support to



get the gear across to the far football pitch, set it up on the Saturday and take it down on the Sunday and stow it all away. Phil 2E0WTH will be asking for your help and support at the pre-NFD meeting on Tuesday so either come along and give it or email the reflector to say you are available. I know Anita has some 40 members and their families registering for the BBQ in the evening and that will probably rise by the weekend.

AGM 22nd September

The club year ends on 31st of August and subscriptions will again become due. Also the AGM has been brought forward because of wedding and holiday commitments for a couple of the club's officers. The date of the AGM is now set as September 22nd. There is still plenty of time to think about whether you might want to play an important part of the management of the club through its committee. According to the last committee minutes there will be a few vacancies this year.

Planning issues

Lee G0MTN's problems (page 10) in trying to get planning permission for a decent lattice mast and antenna system again illustrate the antiquarian and unfair treatment that planning officers give to our hobby hiding behind the "impact of Green Belt" fallacy. The fact there seems to be no national standard as to what is acceptable or not with regard to masts in proximity to green belt areas is a disgrace. In the act of "simplifying" the regulations the planners seem to have ignored their own planning guidance. (PPG8) which recognised the contribution to the nation's skills set that amateur radio made. I also thought that the new Government guidance was about having good reasons to reject an application rather than just opposing it because you can. About time this was sorted out once and for all and a national policy devised and declared. Commercial organisations seem to be able to put in telecoms structures with little difficulty. Our MP is now Business Secretary with a responsibility for the nation's skills base. He is also supposed to be a friend of the club. Might be time to involve him in this problem.

Chris G0EYO

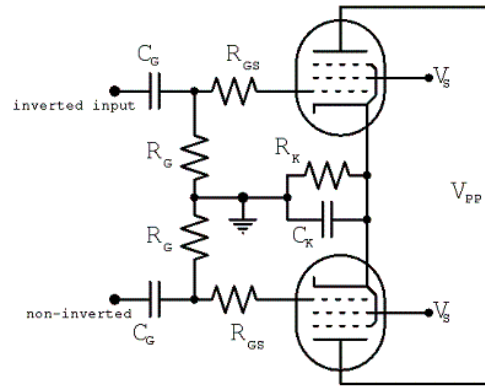
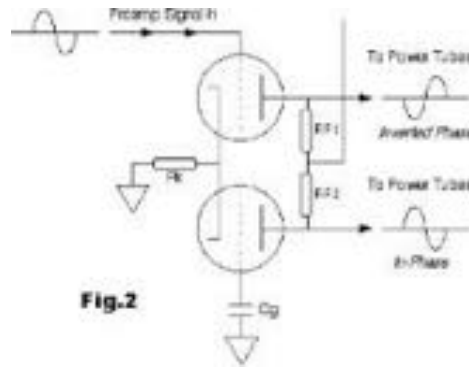
The "Classic" Linear Conchord - Part 2

"Better than factory fresh"

In the March-April newsletter we looked at the Linear Conchord and touched on the part this gutsy amplifier played with the up and coming rock bands of the day. 30 watts was a good output of course, "proper" watts that would fill a cinema, but bands demanded more and of course it ran out of steam and was no match for the much more powerful offerings available. So following some initial testing, we ended up with an amp that sort of worked but was crackly and distorted. Observing a sine wave on an oscilloscope at the control grids of the push-pull output stage revealed a good waveform on one grid and a noisy and distorted one on the other, so something clearly was amiss. Additionally, the current the output tubes were passing were very different, as were the anode voltages as supplied via the audio output transformer.

The amplifier had suffered a burn up at some stage but had been repaired and seemingly brought back into use. Ultimately poor workmanship had ended its days (yellow unattached wire), the soldering was awful with at least two dry joints on the earth bus bar, wrong replacement components and seriously out of tolerance resistors-some by as much as 100%. The cause of the distortion had to be traced first and to save the expensive screen tapped push-pull transformer and valves from undue stress, the ht supply was removed from the output transformer, leaving just the amplifier stages and phase splitter stages operational. Re-applying a sine wave and observing it at each output valve control grid resulted in exactly the same waveforms as previously described and proved the fault must lie within the phase splitter circuit- a dual triode ECC83. The Phase splitter should supply equally the amplified signal to both control grids, one inverted and the other in phase and a typical circuit is shown here. The two outputs then feed the control grids of the two output valves and a typical circuit is shown here. (Fig2)

Not really much to go wrong you would think but the inverted signal had a smallish dc shift and what seemed to be instability or noise with the waveform occasionally settling to a decent sine wave. *Push pull output stage*



The dc shift was thought to be a capacitor leaking, but not so. Some time was spent trying to locate the source of the unwanted dc voltage and as the phase splitter components were placed on a paxolin tag board, the finger was pointed in that direction. The tag board itself was blameless and it was found that leakage from a under board sleeved wire link carrying ht that was the culprit. Certain types of sleeving became "tacky" over the years and partially conductive, but overly tight dressing of the under-board links did not help.

Clearing that partial short produced a lovely set of sine waves at the valve grids, however checking component values against the circuit showed several discrepancies and indeed missing or wrong value components. Nothing to stop the amp working of sorts but enough to upset the correct operating parameters. Connecting back the ht to push pull stages produced a much better sound but the valves were still drawing unequal current (by measuring the voltage across the cathode resistors) The voltages at the anodes were not equal either which could indicate shorted turns in the output transformer. Having had a hissy-fit at the cost of a new transformer or a re-wind I did wonder if this restora-

tion was going to stall. Mains transformers for valve circuitry are really expensive as are audio output transformers, both the single ended type and the push pull are serious money and will make or break an economical restoration.

Putting these thoughts at the back of my mind, I popped in a pair of Mullard EL34's and the voltages settled to more acceptable values, much to my relief.

The smoothing electrolytics were to be replaced and it was at that point that I discovered a further variance from the circuit. I decided to go with my chassis circuit even though it meant purchasing an additional can type capacitor. There are 5 separate smoothing capacitors, 3 of 32uf and 2 of

16uf, so the amp *should* be really hum-free

Sometimes it is easier to do a full rebuild than to patch, repair and fingers crossed especially so where the chassis was to be cleaned and resprayed and therefore I decided to do a full re-build using new components throughout. The chassis was stripped of all components (it is very useful to keep all removed circuitry handy for reference) and re-sprayed inside and out with Hammerite hammered finish Silver.

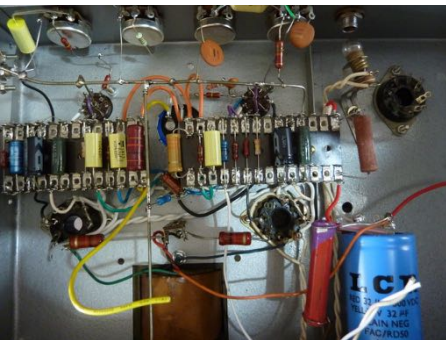
The transformer shrouds were similarly spray painted and as always a couple of light coats does the job very nicely. The transformer laminations were a bit shabby so they were given a very quick blast of Satin black spray paint, immediately dabbed with an old towel to absorb any surplus. The laminations they take on a semi-matt finish which looks close to original finish.

All these items were given several days to fully dry whilst new fixing hardware was located for both transformers, the old ones holding the transformer laminations being mild steel were very rusty and the bolts holding the transformer to the chassis were replaced with the same

The "Classic" Linear Conchord - Part 2 continued

style as used on the rest of the chassis. All the resistors and capacitors were sourced, mainly from stock and as I intended to replace the input connectors with phono sockets, I made up a suitable housing so they would fit through the existing holes.

The re-build commenced with fitting the valve holders, 3 Octal (used) and 3 B9A two of which were screened. Re-fitting the volume and tone controls followed by the speaker socket and fuse holders. Wiring commenced by connecting new tightly twisted solid core heater feeds and then logically assembling the point to point parts of the circuit. The tag boards were re-built using new components throughout with all resistors being 5% or better metal film types.



Rebuild part completed

When nearly all the construction was complete, the transformers were fitted back and connected into circuit. This saved potential handling problems as the chassis was manipulated during the building process. The transformers are heavy- the mains transformer especially so.

A check to ensure there were no obvious mistakes and a quick shake to remove any fragments of wire, washers etc. and ready to show it some mains. Surprising what falls out- a couple of washers and several small fragments of component leads landed on the bench. The valves were popped in and a temporary speaker connected. The EF86 valves were screened with the original aluminium finish cans.

Switching on gave satisfyingly glowing heaters and silence.....until an input was applied that is. ... Superb!



Glow from heaters

Took some doing, not without concern along the way about the output transformer, but it was a satisfying project and she looks so good in her shiny livery and sounds great. Better than factory fresh? The amp is as quiet as a church mouse until fed with an input so I believe so.

Tighter tolerance resistors have restored correct operating voltages and that lovely characteristic "valve" sound. Should you wonder how I twisted the heater supply



wires so neatly, here is my wire twisting tool-kit. Small vice, hand drill and two equal lengths of single core wire.

Trap both wires in the vice, tension to smooth any unevenness and trap the other ends in a chuck of a hand drill. Keep taut and gently turn the drill handle, keeping tension. When they are tightly twisted, over twist slightly as the wires will relax a little when released.

Remove from drill and vice, stand back and admire! Nothing new in this, just perfect results every time. A hand drill is preferable to a power drill for this task.

Browsing through old practical Wireless mags from the early 1960's I found an advert from RSC who were in the Great Western Arcade and they produced their version in built or kit form named the A10. Early kit versions used the 807 as the

output valves as they were plentiful on the surplus market. Pre-built and later kit versions used the EL34 valve with just a couple of component changes. The chassis was finished in a bronze crackle paint which looked really good and was similar to the finish used by high end manufacturers like Leak.



Quiet as a church mouse indeed- during the prolonged burn in of all the new components, the amplifier started to become a tiny bit "hissy". this hiss gradually got worse until it became quite noticeable. There is a lot of amplification (gain) in this amp with two EF86 valves as preamplifiers and a ECC83 as phase splitter. The phase splitter itself has a



gain factor of 20 if you are to believe the discussions on the various websites dedicated to this popular amplifier. Swopping over the two EF86's proved most of it was a noisy Mullard EF86 which was confirmed by replacement. Some unwanted noise still remained and it was traced to a new metal film 68K ohms resistor feeding HT to the first pre-amp. Replacement restored silence once more.

Ian M01DR

One of My Favourite Wireless Sets—The Pye Mite

The Pye Mite was released in 1939 and was a very compact (by the standards of the day) 2 wave band 3 valve +valve rectifier AC/DC TRF. Employing American type valves the line-up was 6K7G as RF amplifier, 6J7G as grid leak detector and AF amplifier, 25A6G as AF Output and 25Z6G as half wave rectifier. All heaters were rated at 0.3A. We have here a set requiring some 68v for the valve heaters which are



The cabinet itself was plywood with a very thin veneer applied to the front and sides only and was generally a dullish brown colour. The dial as viewed through the circular window was of the very attractive two sided swing line type reminiscent of aircraft level instruments.

On my example, the speaker had been replaced with a fairly modern permanent magnet type with audio output transformer attached to the speaker frame, the original I expect had gone open circuit.

Modifications were done to replace the coil with a standard resistor and whether this worked or not is unclear as there were several unsoldered components and signs of a capacitor blowing its guts out and the 25Z4G rectifier heater being open circuit, and having a cathode to heater short.

Where do we go from here?



years these went brittle and were many a cause of fires or singed curtains. The metal chassis of the set was directly connected to one side of the mains and therefore this imposed an additional risk for straying fingers. If all that was not bad enough, one set of the twin gang capacitors fixed vanes are at HT potential! The chassis is held by two deeply recessed screws and the control knobs were usually Bakelite with a thankfully recessed and waxed in grub screw. In those days safety was not such a high priority, thankfully you

strung in series and what normally would be done is use a dropper resistor to drop the 240v nominal mains to 68v. This would require a very substantial wire wound resistor of 575 ohms rated at 52 watts and would radiate so much heat it would be unsafe.

As the set was based loosely on American designs, the designers were left with the dilemma of how to run a set designed for 117v off UK mains of 240v nominal. This is where the dreaded "line cord dropper" resistance, where the description equates precisely to its function. A specially made cable containing two conductors which overall have the correct resistance within them to deliver the correct voltage to the set. This lead must not be laid under carpet or shortened and was a real potential fire risk. Over the

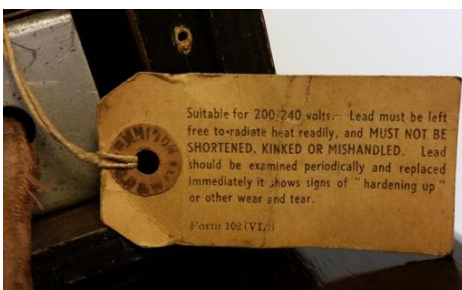
would never get away with that today.

Post rectifier smoothing was accomplished by a combination of capacitor and choke, the choke acting as the electromagnet field coil on the loudspeaker, as permanent magnets were still expensive and inferior. Volume was a variable potentiometer in the antenna coupling coil stages and fed a variable ht voltage to reduce or increase gain. It was a fiddly and critical but obviated the need for a reaction and a standard volume control, saving a control and more importantly space in a tight chassis.



This set is a rarity nowadays.... But worth saving. Firstly, how to safely tackle the dropper resistor issue. This picture is from another example where the dropper was replaced by two sections of RS wire wound "build your own dropper" sections

There is a very neat way to sort this out with virtually no heat being produced- the capacitive dropper. Basically you have a AC rated capacitor of calculated value in series with the heater chain and a small surge resistor is included to limit any current inrush.



The Pye Mite cont'd

The maths and theory behind this method is fairly complex but fortunately there is a calculator provided by the good folk at UK Vintage Radio which does all the work for you. It also provides the 15 or so stages and formulae should you wish to do it yourself!

Keying in the data required resulted in a capacitor of 4.2uF, a surge limiter of 33 ohms at 3 watt rating and a discharge resistor of 100K ohms at 1 watt. AC rated capacitors are used widely as motor start items now but are available from our far eastern brethren at very reasonable cost.

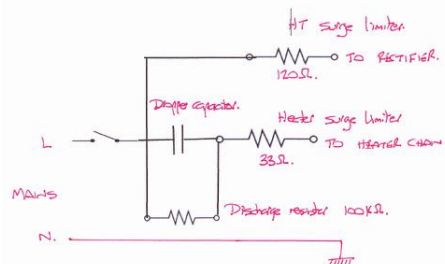
An order was placed for the nearest available 4uF and the additional was made up with a smaller wire ended component. Both are rated at 440v for safety, although their fail mode is usually short which of course will destroy the heaters. A failsafe measure could be to include a 6.3v 0.3a dial lamp which almost certainly bear the brunt of the fault surge. The 25Z4G valve needed replacing and sadly the one I had in my man cave was also open circuit in the heater department, so a substitute was sought. I have lots of 35Z4's which have 35volt heaters at 0.1A and so I thought of pressing one of those into service, using a resistor to pass the extra 0.2A.

The extra heater voltage required made for an unobtainable value of capacitance and so that idea was abandoned. However a thorough search of my valve listings located a Brimar Boxed NOS (new old stock) in Valve box 1, so the next step is to leave out the rectifier and temporarily hook up a suitable AC supply for the heaters of around 37v and a ht of around 160v from my variable ht supply.

Initially not much happened and whilst investigating I found that the fixed vanes of one section of the tuning capacitor were indeed at HT potential! I also found that the insulation had perished on the grid connection (the top cap) to the detector and was shorting to earth via the screening can-hence no results. I carefully moved the lead to clear the short and the wireless sprang to life and proved to be very sensitive picking up lots of stations on both LW & MW. The inevitable then happened - complete loss of signals but a slight hum showed all was well in at least the audio stages.

An unsoldered connection was found in an inaccessible crevice which might explain how it got missed at the factory and it was only me prodding around that disturbed it. The rest of the construction seems good but difficult to get to as all the valves were right along the back edge of the chassis.

Work can now commence in wiring up



the new "mains dropper" The original "volume" control contained only a single pole switch which switched the neutral which is not ideal on both accounts. Retaining the original control, the switch was re-wired to interrupt the live connection and the new circuitry is shown here.

The chassis remains live and is always to be treated with respect. This arrangement would not be allowed now but was almost a universal practice at one time. Not just in wireless sets either, nearly all of the Dansette and similar record players from the 50's and 60's that used valves employed the live chassis method but standards had by then improved and safety was of primary importance.

The Americans who generally have 117v or 120v 60Hz domestic supplies, introduced a range of valves that had high voltage heaters that could be connected in series directly to the supply. The All American Five series used 3 valves with 12.6v heaters, one with a 50v heater and one with a 35v heater, neatly adding up to 121v! Must have saved the set manufacturers a fortune but safety then was a low priority. Arvin and others introduced a range of economy radios, all metal construction, no isolation and yes....the metalwork including the case was connected to the mains neutral.

Very nice sets these particular Arvin's, I have a superb Cherry red painted one but always power it through an *isolated* 240v to 117v converter and have fitted a polarised USA plug to doubly make sure.



With the new circuit finalised, it was time to search for a 25Z4G rectifier. An earlier search found a lovely clean & shiny Brimar one- but the heater was open circuit. Seems to be a bit of a pattern developing here.....

Digging deep into my stock, I found another, rather battle weary but at least it had heater continuity. In to the valve holder it went and I gingerly switched on.

Result! A near spot on set of voltages when compared against "Trader" service sheet 602 and a soak test of a couple hours proved all is well. Theoretically the mains dropper capacitor having a discharge resistor of 100K connected



across it should be safe but of course

Continued on p8

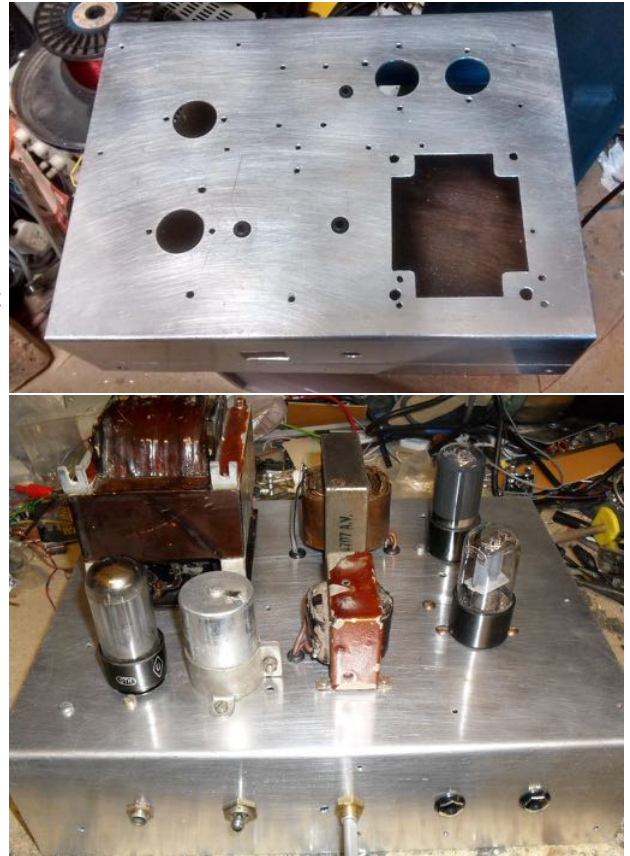
Fender Champ guitar amplifier

Here is nice sounding guitar practice amplifier, a "clone" of the very popular and now sought after Fender Champ. There is much info on the web regarding this amplifier so its history will not be discussed here.

box. The cabinet is made from scrap wardrobe shelves and a coffee table, both of which are chip board. A vinyl cloth material was used to cover the cabinet, this was purchased from Ebay at a cost of £15.00, but there is enough material to cover two of these cabinets.

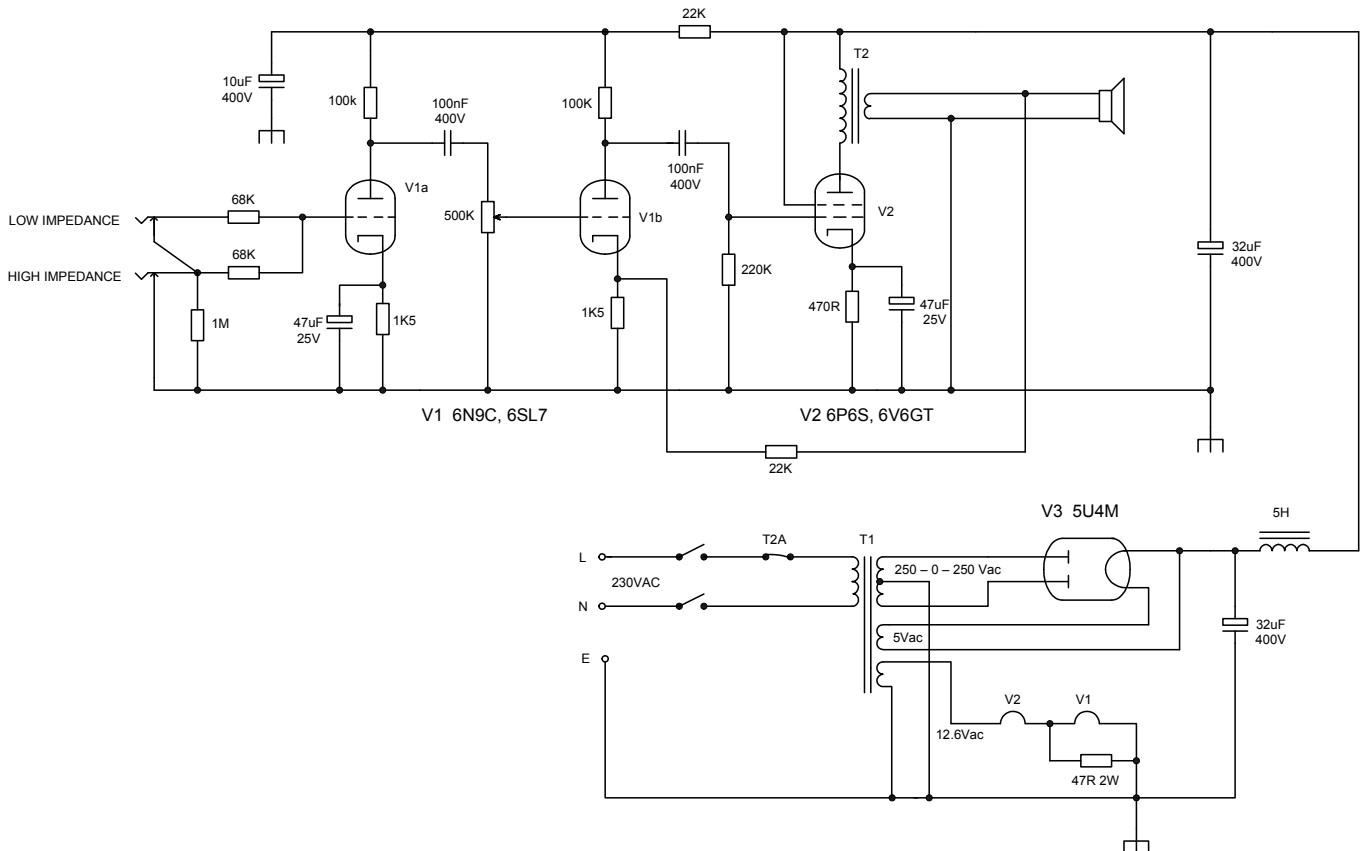


The speaker used came from a redundant pair of stereo speakers, its diameter is roughly eight inches or 200mm and is rated at 25W.



It consists of a cascade twin triode pre-amplifier using a 6SL7 followed by a 6V6 beam tetrode final power amplifier. Most of the components came from the junk

or 200mm and is rated at 25W.



Fender Champ guitar amplifier cont'd

Circuit Description

The guitar signal is fed to the preamp stage via one of two quarter inch jack socket, one is low impedance (68K) and the other is high impedance (1 Meg ohm). V1 is configured as a cascade self biased pre amplifier with a volume control between the two stages. The inter stage coupling capacitors used are 100nF as these were to hand, however 22nF as used in the original am-

a 22K resistor and the output transformer secondary. Power output is approximately 4 - 5 Watts, ample when used with a 8 inch speaker.

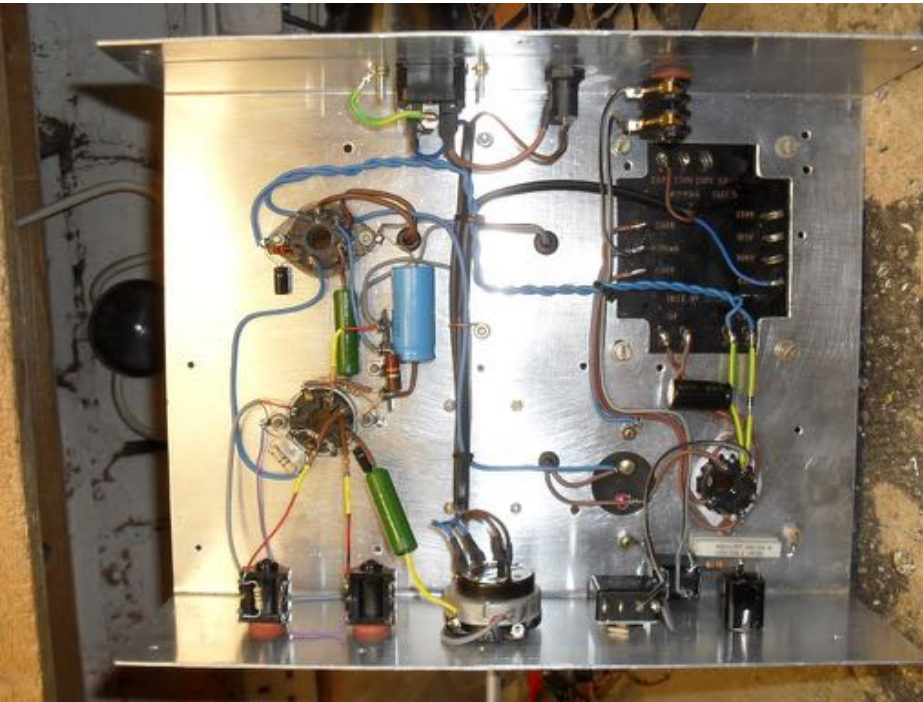
The output transformer T1 is specifically for a 6V6 and was picked up at a rally for a couple of pounds, however a EL84 output transformer will work fine here.

loads the amplifier with a 10 watt 10 Ohm wire wound resistor across the secondary. The secondary output is then fed to headphones through a 100 Ohm resistor. A front panel switch is used to energise the relay coil, a single spdt "vintage" switch was not to hand so a spst switch and relay was used.

The amplifier does sound good, with the volume advanced to 80% of travel the output stage just starts to produce that wonderful soft clipped distortion. At 100% the amplifier does not sound any louder than the 80% setting but more soft clip is produced giving that distinctive valve fuzz as used by so many rock guitarist's.

Below are some photos of the amplifier being built, as you will see only the finest materials have been used :)

Barry M0DGQ



plifier are perfectly OK.

V2 is the power amplifier valve, a 6V6 one of my favourite little beam tetrodes. Negative feedback is applied to V1b cathode via

A headphone output is also provided although not shown in the circuit diagram. The headphone output when activated



(from page 5)
the HT capacitors can still give a nip even after some time after the set is turned off.



Here we have another Mite that had been "restored" by someone else and was purchased at the Stockwood Park Rally for a very modest sum. Complete with original back and the little loop through antenna wire label, it was squeezed into my car boot. Guaranteed working, the man said. Having a modern shielded pin mains plug fitted inspired confidence and the seller was a very knowledgeable tall individual in a battle weary white lab coat who described the work he had done. Turning the chassis over revealed the chassis had indeed received attention from a workshop at least twice in its 75 year life. Yes..75 years!

As can be seen, all the original large wax covered capacitors have been heaved into the bin and modern replacements fitted. The original large black electrolytics having met the same fate, but earlier in the sets history judging by the Ra-



dioSpares replacements (mid 70's?) What intrigued me was the parcel wound round with red electrical tape- it was of course the capacitor dropper. Not wishing to unwrap it yet, it seemed to be two capacitors without any surge limiting or discharge components, but the wireless worked very well indeed and the heater voltage was spot on - so leave well alone - for the time being.

In contrast, the original wax capacitors proved to be OK in mine and the only change made was to replace the HT electrolytics with a neat wire-ended dual can type 8uf + 16uf.

The extra circuitry can be seen here on a small tag board placed just in front of the dropper capacitor. The resistors do run hot especially the top one (the heater surge limiter) but they are as



specified in the calculation and so should be OK (famous last words).

Although all the resistors in both chassis are all original, they are still OK and measure within 20% of stated value. Ideally in a full restore, many would be replaced and indeed there are those restorers who would automatically replace ALL passive components to ensure reliability. I sort of sit half way, replacing the dud ones but giving the rest a chance. Whilst writing this I am listening to a tribute to Richie Benaud on Five Live and all seems well with the Mite.

Ian M0IDR

As some of you may know I will be embarking on a Dxpediton to the heart of the Brecon beacons in South Wales to take part in a Youngsters On The Air week. Activating the call sign MC0RYC, the team of about ten youngsters will be on air for one week in July. This is of course along with participating in many other activities. Such as SOTA (Summits on the air) and IOTA (Islands on the air). Whilst at our accommodation (Brecon Bunkhouse) for the week we will take part in many activities involved with getting youngsters more involved in the hobby. One of which is ARDF or Fox hunting (as some of you may know it as).

At the base station in the bunk house we plan to have a permanent station set up to allow possible 24hour operation of the brand new call sign. With radios provided by Kenwood Communications we shall enjoy some prime DXing, working some of our first pile ups from around the world.

Camb-Hams will also be present on the Dxpediton with Flossie (Their DX Van) on site to help with operations and setting up, as well as running some of the main activities themselves. such as EME, HF and VHF. One of the activities is SOTA. This will be a great activity being in the heart of south Wales. As mentioned in Radcom we hope to conquer Pen-y-fan. As some of you may know this is quite a high summit rising to 886m above sea level. Some equipment for this has been provided by SOTA UK. This includes radios and suitable SOTA antennas for HF and VHF operation, and I will operate as 2W0SDV/P here if I can. I will be notifying you of any frequencies via the G4WAC yahoo groups page.

IOTA was one of the other activities on the agenda. Some of the contesters amongst us will know that this weekend (25th and 26th July) is the IOTA contest. We will have a station in this contest also activated as MC0RYC. For some of us it will be our first contest outside of club ones. I know I will enjoy this part especially. Finally as published in Radcom this team of youngsters is as follows:

Milo Noblet, 2E0ILO; Matthew Bunting, M0MBU; Yours Truly, Jamie Williams, 2E0SDV; Will Davies, 2W0WOD; Connor Bruce, M6LNE; Ross Wilkinson, M16WKE; Taylor Matterson, M16RXC; Josh Morison, M16MKI.

This is of course along with our leadership members, who are as follows:

Mike Jones, 2E0MLJ; Mark Dumbleton, M0NCG; Rob Chipperfield, M0VFC; Gavin Nesbit, M1BXF; Dominic Smith, M0BLF; Jonathan Kelly, GW2HFR

I look forward to working you all on the bands! Remember the dates--- 23rd-30th July put them in your diary

Jamie. 2E0SDV

Sporadic E—a summer phenomena

An e mail from Tim M0URX on the clubs's Yahoo reflector to newly licensed members about Sporadic E propagation and how it can enable DX communications on, prompted me to provide a slightly deeper explanation of this summer phenomena.

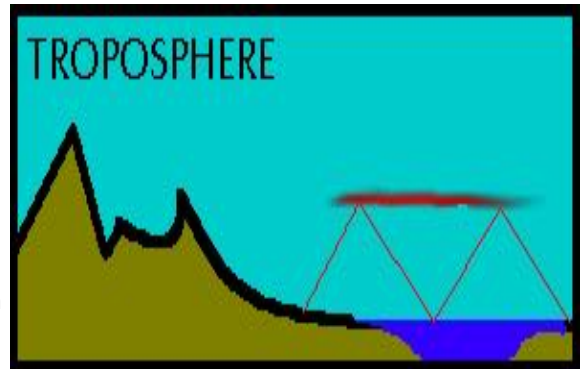
We all know that VHF-UHF communications is essentially line of sight with typical maximum distances being 80-100km, depending of course, on the height of the transmitting and receiving antennas and obstacles in between. For HF (30MHz and below) we use the layers of the ionosphere to multi-hop our signals around the earth for long distance (DX) communications. The layers are shown below and the layer below the D layer is known as the troposphere.

The ionosphere works because UV rays from the sun ionise the layers during day-

tense the ionisation, the better the refraction, and the higher the frequencies that can be refracted. The level of ionisation is determined by the time of day; time of year and sunspot activity (SSA), (high SSA is good, low is bad). The D and E layers when ionised during the day will tend to absorb lower HF frequencies making DX difficult. The F1 and F2 layers, being the most ionised will usually support HF communications 24/7 although the variable level of ionisation will make some bands more useable than others.

During the summer months, small areas of the E layer can become very highly ionised so that VHF signals can be reflected and this allows the

should pick up back scatter signals from the Sporadic E or even F layer, and you should be able to work them but if you beam directly towards them you will probably not hear them. Don't get this confused with Multi path or long path it isn't, it is "back scatter"



Tropospheric ducting

There is another summer phenomena known as Tropospheric ducting. This is when high atmospheric pressure can cause ducting in the troposphere to extend the range of VHF and UHF signals to beyond the normal line of sight. The basis of ducting is that the wave is trapped vertically either between two atmospheric layers or between the ground and a layer and this occurs at relatively low heights. Tropospheric ducting is the most common mode of dx communication for UHF signals. It is rare but when it happens it is possible to work European stations on 23cm SSB. Now that is exciting.

So remember

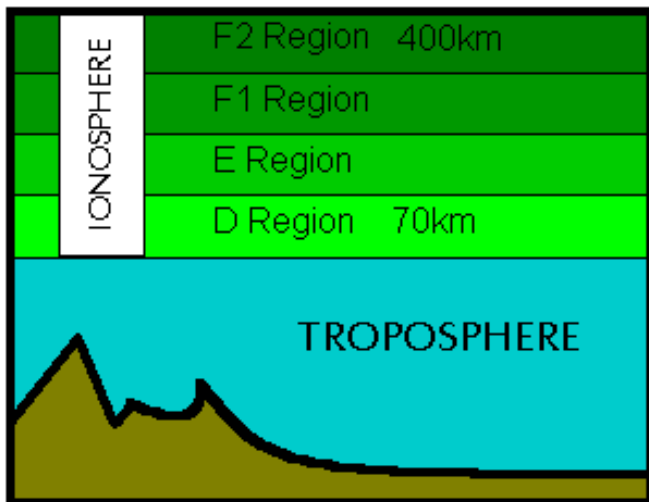
HF – Ionospheric reflection gives fairly reliable international communications up to thousands of km, best during the daytime

VHF/UHF – usually line of sight, local contacts (up to 100km)

VHF/UHF – Can be enhanced by Sporadic-E (thousands of km) and tropospheric ducting (hundreds of km).

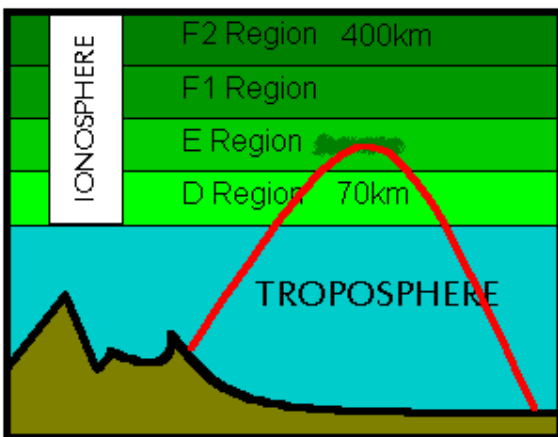
Happy DX hunting.

Chris GOEYO (based on an e-mail from Tim M0URX)



light hours and these slowly de-ionise during the night. Ionisation makes them partly conductive which is how they refract the HF radio waves back to earth. The more in-

Sporadic E can be great fun to work, it is very unpredictable and signals will show lots of rapid fading or rapid rise in signal strength.



Tim also gave another piece of sound advice "You may know radio friends travelling to Cornwall, Channel Islands or Scotland for holiday and if you want to work them on HF and you are lucky enough to have a beam, here is a tip. Much of the UK falls in our "dead zone" where it is either too long a distance for groundwave line of sight or too close for propagation paths to reach so try turning your beam either East or West and try. Your antenna

Trying to Build a Successful HF Contest Station; Episode 8,712 – June 2015

I've only sent a couple of recent updates to the saga via the private club email list, or just to individuals, as it didn't feel appropriate to make a public "running commentary" via the newsletter when things were a little delicate. So after a small hiatus here for the newsletter is an update on recent news on the planning permission application.

In April my case officer said that my application was due to be rejected. I could submit a revised application instead, or go to appeal where an independent planning inspector reviews the case. The problem with appeal is that this result is largely final, and a failed appeal in effect could bar me from having any form of tower in the future as other applications I might make would be not be accepted. In order that I could understand what might be acceptable with a revised application, I went to the council offices for a face to face meeting, armed with pencil and paper, Rad-Com, my old planning permission documentation, and lots of examples of masts and antennas found online etc. The meeting was disappointing from my viewpoint. I'd expected to spend some time in discussion to work out a compromise solution, but effectively was told 3 things: No lattice mast would be permitted. No rigid aluminium antennas would be permitted. The mast would need to move to be against the house or against the trees at the garden boundary. All of

this due to 'the Green Belt effect.' From comments the scale of what would be permitted appears to be based on a previous planning investigation case in the Redditch area.

This would leave me with an antenna system much worse than I had at my last house (with the much smaller garden and the many more nearby neighbours.) Essentially I was now considering whether to appeal or not. If I lost the appeal, I would expect to still put up a de-minimis 'wire in the tree' that would have the same height and efficiency as what was suggested as being permissible by the council. The RSGB Planning Advice Committee have been providing guidance for a while, and suggested the option of having the Planning Committee (made up of Councillors) decide upon the case, instead of the Planning Officers.

I'd not realised this option exists. I contacted local District Councillor Geoff Denaro who could understand my concerns with the feedback that I'd been given. I had to wait until after his re-election so we could move forward. Geoff spoke with the Chairman of the Planning Committee and it was hoped that we would have the opportunity to have the case reviewed by them. This would give me the opportunity to present my case verbally at a planning meeting, albeit within a 3 minute time window.

However, this option to have cases

brought before the Planning Committee normally only exists for brand new applications, and it was felt that as mine had been running for so long there would be an unwelcome precedent set. My official Refusal notice was issued 24 hours later. The RSGB Planning Advisory Committee have suggested asking a Planning Consultant with a speciality in Green Belt applications and policy for help with the Appeal, although this would incur extra cost as you would expect for their professional services. Even then there is no magic wand to be waved nor guarantee of success.

I have several ideas of my own already which I'm writing up into an Appeal statement. The Planning Inspector that will ultimately decide the case will be impartial and judge the case on its merits. I am in a much better position than other cases I have read about where the proposed tower and antennas would dominate a suburban area, or be clearly visible from numerous close by neighbours. I just need to finalise some arguments to subdue any overriding aspect of the Green Belt itself.

The Appeal process takes a few months after the application is submitted, and I see online that there is also a backlog of cases to review adding an additional few months. A temporary antenna is looking more likely to help me at least remember what the bands sound like.

Lee G0MTN

Training Notes

Our intermediate class is nearing its end with just the mock exam and the real exam to do. We are expecting six of the original class of eight to take the exam on Monday 6th July and we wish them all well. We have three students doing their Advanced exam on Tuesday 30th June, one two first time candidates and one resit. We wish them well also.

Over the past months there appears to be a demand for another Foundation course. The timetable doesn't allow for a classroom before the start of the 2015 Advanced course in September so I am offering an on-line Foundation course start-

ing the 20th July and finishing on 21st August. We plan to run practicals on Sunday 23rd August with the exam on Sunday 6th September. Currently four people have signed up for the course out of an initial 14 who showed interest. We are currently advertising the course on the RSGB Tutors and G4WAC Yahoo groups.

I am in the process of scheduling the Advanced course which will take the exam on Monday 7th December. Working backwards gave us a first lesson on 31st August which is a Bank Holiday so I have started in on 7th September and

introduced a second Saturday session into the programme. Because the exam is after 1st October we also have to introduce the changes to our licence conditions which came into force in April.

Last year's Advanced course was not a great success with only two out of 10 starting the course passing the exam. Some of our current intermediate students will most certainly want to move onto the Advanced course rather than wait another year. Certainly those who get good scores in the Intermediate should be OK to do the Advanced.

Chris G0EYO

The next issue of the Wythall Radio Club Newsletter will be published at the beginning of Sept 2015

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