Talent contests?

By the time this report is printed it will nearly be half way through the year. Between my other interests I have found time to for an amateur radio related project. This has been the erection of the tilt over and rotator mast for my 10 element 2m sky beam aerial. I decided to get this complete before the start of another one of my interests, the garden. Although we now have less garden than we did, thanks to our son, who one time while we were on holiday decided to grass over the vegetable patch!

While out and about on the estate collecting football coupons I take the old handheld with me and try to get in to MH for a QSO, but seem to have difficulty even though I am on the highest part of the estate. Wonder how anybody gets on with access to this repeater? There seems very little simplex traffic these days.

I noticed in the April Radcomm that Dr John Allaway G3KFM had become silent key recently. I remember meeting him some years ago on the train, while myself and Glenys were returing from holiday. We struck up a conversation and discovered that he was returning from an RSGB meeting, which had been discussing the Radio Rally to be shortly held for the first time at the NEC, which as you all know only lasted about four years, mainly due to the high costs. So condolences to John's family, he will certainly be missed.

In the May edition of Radcomm another silent key, but this time of a former StARS member Martin Clift G3VDM. He was a member during the 60's and 70's. I had many contacts with him on 2M in my early days and he will be sadly missed by all that knew him. Again my and all StARS members condolences.

The winner of the recent Cushcraft competition which was in Decembers Radcomm was Richard G8NT who is aged 89, he had never won a competition in his life, his prize was received at the Picketts lock rally.

On Friday 26th March I entered again the Whitbread Senior Citizens talent competition held at the Civic Hall, Wolverhampton. There were about 300 in the audience and I opened the second half, despite favourable comments from Glenys and other friends in the audience I was not placed. However I had a good time with Don Mclean, from BBC Radio 2 who compared the grand event.

In September I will be taking part in a variety evening at Lower Gornal British Legion in aid of Mary Stevens Hospice. Also taking part are other fellow radio amateurs, Colin G0TOX will be doing his Max Miller impressions. Unfortunately Tony, the chairman of Wolverhampton radio club is on holiday, or he would be featuring in the line up for the evening.

During the weekend of 17th and 18th of April, Glenys and myself made a coach trip to Blackpool for another of my hobbies, ballroom dancing at the Tower Ballroom. This also involved the Theatre Organ housed within the ballroom. From out Hotel bedroom I tried to gain access to the Liverpool repeater for a QSO, but despite receiving a strong signal, with my 2.5 Watts I could not gain access, a busy repeater during the weekend I was there. On the return journey I did manage a couple of brief QSO's while on the coach, but conditions proved difficult with only the rubber duck for an aerial. I did have a listen to a morse practice session and found myself writing it down, well some of it, its 18 years since I had the last effort at passing the Morse exam, but it started to come back to me.

Finally an enjoyable presentation from Arthur on Egyptology, next month the Drayton Manor Report

Malcolm G8BOP

TVI problems

RFI FROM GB7CL REPORTED IN THE KREMLIN !!!

On Friday 12 March a telephone call was received by FourPak advising that satellite receiving equipment at the Kremlin was being affected by transmissions from GB7CL at Clee Hill in Shropshire. A team of engineers was dispatched the following day armed with test equipment, including a 26GHz spectrum analyser to resolve the issue. On arrival at the GB7CL site all tests showed that the system was well within specification. The team then travelled to the Kremlin and discussed the issue with the point of contact. An inspection of the satellite system in the inner sanctum of the building did indeed show signs of RFI. Tests were made using various hand-held radio equipment, including an UHF talk back circuit to GB7CL to instruct one of the engineers to turn the system off. With some relief, with "CL off", the RFI still appeared. As we already had our test equipment on site, we were determined to trace the source of the problem. After half an hour the cause was identified. The satellite RF output was on the same frequency as a new local digital TV transmitter. The signals were mixing and hence the RFI. The contact at the Kremlin has been advised to call in local engineers to rectify the problem.

Our thanks are extended to Nick Adams and his family for their help with this investigation. Mr Adams is the landlord of the Kremlin public house close to GB7CL in the village Clee Hill. If you are in the area, we would recommend the food and the beer!

(Although this was in the April issue of the FourPak Bulletin, it's all true. GB7CL is a new FourPak packet node providing coverage into the Ludlow, Leominster and Hay-on-Wye area on 2m. - Richard G0EWH)

rambles

Well folks, the talk scheduled for the main meeting in April was cancelled as **Bill Moorhead G3CAQ**, was stranded in San Francisco, where he had been on vacation, visiting his son and attending an HF convention It seems that he picked up an infection (possibly on the flight) causing acute pain and swelling in his feet, rendering him temporarily hors de combat. However, had a call from one of his pals, **Gordon Meddings G4DGM**, to confirm that Bill wouldn't be able to come along and at the same time offering to give a talk on **"Beacons" on July 19th**. Have since been in touch with Bill and seems he only arrived back home last Friday (30th. April), and is still not fully recovered. However, he seemed in good spirits and maybe giving the talk at a later date. Says he will probably come along with Gordon to the July meeting. We wish him a speedy recovery.

All was not lost, however, as **Arthur G2DVI**, stalwart that he is, stepped in to fill the gap, at very short notice, with his talk on the history of Egypt and hieroglyphics.

This was the third occasion that Arthur had come to the rescue and, once again, he did a superb job with his unique presentation and rhetoric

Arthur was unaware that we have access to such modern contraptions as overhead projectors and brought along his "illuminated mirror" to show the photos and manuscripts. This was framed by a very colourful selection of hieroglyphics the meaning of which Arthur explained, and supplemented by a "Time Board " going back to pre-history times, tracing the history of ancient Egypt.

Arthur described how the Pyramids were gradually developed from the MASTABA, a low, rectangular stone structure erected over a tomb. The oldest pyramid known, the Step Pyramid of King Zoser at SAQQARA (c.2650

BC), has a large mastaba as its nucleus and consists of six terraces of diminishing sizes, one built upon the other The accuracy of their construction was based on the 3-4-5 triangle

Tutankhamen ("living image of Amen") is one of the most famous Egyptian kings because his tomb was the richest of the few royal burial chambers that survived comparatively intact.

It seems that the very rich decided that they couldn't be bothered to go to the temple every day to worship their Gods so they employed lesser beings to carry out these chores for them. However these lesser persons got themselves organised and worked in shifts, so to speak, so each rich person needed 3 poor people for the job. This resulted in an all-powerful monotheistic cult which King Tut's vizier decided to get rid of. They got a bit upset about this and tried to wipe king Tut from the face of history when he was buried at the age of 18.

Some of you may have heard of King Tut referred to as Tutankh amun (pronounced Ahmoon). This also puzzled me. I thought it was just another of those "IN" words used by the BBC. They don't always pronounce words like wot we do …hi. However Arthur put me right on this one. The latter is the correct one as it means "Sun God", the status to which all Egyptian kings were elevated when they departed this life.

Arthur dispelled some of the myths about Pyramids and showed how easy it was to align them with a particular star by observing the rising and setting points and marking the positions on a wall and then bisecting the angle to find the zenith.

The Egyptians also invented papyrus, the forerunner of parchment and paper, but never got round to writing as we know it. They used hieroglyphics, had no vowels so it was impossible to speak. However Arthur managed to make up the one of the Society's callsigns G6SRS, which is now atop one of the rigs in the shack.

Arthur rounded off the evening by treating everyone to a tot of genuine imPORTed Egyptian wine (the label said1351BC) and some date cakes like wot Tut's mom used to bake … hi.
Many thanks Arthur, for a most entertaining and informative evening

Volunteers required for
June 12th. Old Swinford Hospital Induction Day.
July 3rd. Old Swinford Hospital Summer Fayre
July 4th. SES Stourbridge Town Carnival

And don't forget to let **Eric JWJ** (Hon Pres.) know if you are going to the **BBQ and On Air Portable on Monday July 5th**.at **Stuart's (G7KKC) QTH Kinver**.

By the way, if you have an E-mail address and would be willing to receive "Starlite" by that method or download it from the website, please let me know. It might save a little on postage.

Wayne, Richard and James started to clear the old shack on the top floor out, already Eric IVQ has made some lucky finds in return for donations to club funds namely a brand new set of FT101 PA valves and for Don ESR a set of valves for his KW2000. If you are interested in having a look at the surplus then let James or Gordon know. At the next availble opportunity some of the items will be sold or disposed of.

OH YES. DON'T FORGET THOSE SUBS PLEASE. HON. TREAS. HAD ONLY RECEIVED 11 RENEWALS BY THE MIDDLE OF APRIL..
That's about it for now. 73 de Gord

Letter from Arthur Ex G2DVI

Dear Editor,
I am a collector of vintage radios. However, I am now 79 years of age and have developed a serious heart condition and am no longer able to maintain my collection so have decided to dispose of same.

1 x Avo Valve Voltmeter Pre – war.
1 x Avo Signal Generator Pre –war.
1 x Avo Valve Tester and books, circa 1960.
1 x Marconi 200 Meg generator. Ex Radar.
2 x Linear Amplifiers 100Watt.
1 x Ferrograph type 633 with test certificate.
2 x Brenell Tape recorders.
1x Ferguson Tape recorder.
1 x Rogers Stereo Amplifier. Ravensbrook.
1 x RCA VHF Tuner.
1x Garrard Belt Drive deck in box less pick-up.
1 x Armstrong Stereo chassis type 55.
1 x Tandberg Tape Recorder.

Arthur Parkes, ex G2 DVI

If you are interested in purchasing any of the above items, please contact Arthur on 01384 896809

A SMILE

A Smile costs nothing, but gives much. It enriches those who receive, without making poorer those who give. It takes but a moment, but the memory of it sometimes lasts forever. None is so rich or mighty that he can get along without it, and none is so poor but that he can be made rich by it.
A smile creates happiness in the home, foster good will in business, and is the countersign of friendship. It brings rest to the weary, cheer to the discouraged, sunshine to the sad, and it is nature's best antidote for trouble. Yet it cannot be bought, begged, borrowed, or stolen, for it is something that is of no value to anyone until it is given away. Some people are too tired to give you a **SMILE**. Give them one of yours, as none needs a **SMILE** so much as he who has no more to give.

Author unknown

PROPOSED REVISION OF RULES 1999

(This has been re-worded and supersedes the previous letter on this subject)

At the 1999 AGM it was agreed to introduce the post of Vice President to the list of Officers of the Society. This will entail a change to the Rules of the Society.

Namely: -
Rule 17. Which will now read

"17 THE OFFICERS OF THE SOCIETY SHALL BE **PRESIDENT*, VICE PRESIDENT***, **HON TREASURER** AND **HON. SECRETARY**, WHO SHALL BE ELECTED AT THE ANNUAL GENERAL MEETING EACH YEAR.

NOTES -

(1) THE PRESIDENT MAY, IF RE-ELECTED, SERVE FOR A MAXIMUM OF 3 CONSECUTIVE YEARS WHEN HE / SHE WILL BE REQUIRED TO STAND DOWN FOR A PERIOD OF ONE YEAR BEFORE SEEKING RE-ELECTION.

(2) THE ***VICE PRESIDENT*** WILL BE REQUIRED TO TAKE OVER THE DUTIES OF THE PRESIDENT ELECT IN THE EVENT OF HIS / HER ABSENCE DURING THE PRESIDENT'S TERM OF OFFICE.

(3) THE VICE PRESIDENT WILL ALSO BE REQUIRED TO ASSIST THE SECRETARY IN THE DAY TO DAY RUNNING OF THE SOCIETY.

Also to section **(III)**
(III) CHEQUES, AUDIT AND ASSETS

9 DRAWING OF CHEQUES

Every cheque drawn on a Bank Account of the Society shall be signed by any **TWO** of the following:
Hon. President, ***Hon***. ***Vice President*** ,Hon. Secretary, Hon. Treasurer

An EGM will be convened to accept these alterations after confirmation at the next committee meeting which is scheduled for Monday 12th. July.

Inverter

I GOT THIS OFF KIDDER BBS. PERHAPS AN IDEA TO GET FRANK'S G0RXOTHOUGHTS [AND MODIFICATIONS?] BEFORE USE :-

The following is the description of a circuit for a 12v -> 240v inverter that can be constructed very cheaply and is effective for running non-inductive loads such as lights, switch-mode PSUs, computers, soldering irons, etc. Being a square wave 240v output, it does not work well with inductive loads such as an electric drill or a linear PSU (the latter being as the square wave output is 240v peak whereas 240v RMS mains is 360v peak. It is also possible to get 24v from this circuit by tapping off the outer tappings of the 12-0-12 winding and rectifying/smoothing. This is useful for running 24v Weller soldering irons. The circuit is the idea of G0FVT @ GB7BST. I am circulating it as I think it will be of general interest to readers. Multi-purpose 12v inverter The 100hz timebase, I run this from a 7805 to minimise drift with battery voltage, you may run it straight from the 12v supply if you wish. References below will assume you have incorporated the 7805. Pins 4 and 8 of the CMOS 555 connect to the +5v suppl, pin 1 goes to 0v. Pin 5 goes via a 0.01uF to 0v. Pin 6 goes to three different points: a) via a 0.1uF to 0v. b) link to pin 2. c) via a 2.7k resistor to pin 7. Pin 7 also goes via 120k (see note below) to +5v. Pin 3 is the 100hz output used to drive the next stage. Note the 120k is a nominal value, it determines the frequency, you may prefer to use a fixed resistor in series with a pot to enable you to fine tune the frequency. The flip-flop stage use to generate the drive to the power fets with perfect 50/50 duty cycle. The IC is a 4013. Pin 14 connects to +5v. Pins 7,8,10 go to 0v. Pin 11 goes to the output of the 100Hz time base. (pin 3 of the 555). Link Pin 9 to Pin 12. Pin 13 goes via 4.7k to the gate of Q1. Pin 12 goes via 4.7k to the gate of Q2. Connect the source of Q1 to 0v. Connect the source of Q2 to 0v. Transformer wiring and spike protection. Connect the centre tap of the 12-0-12 winding of the transformer to +12v. Connect the drain of Q1 to one end of the transformer winding. Connect the drainof Q2 to the other end of the transformer winding. Also connect the anode of a 1N4001 to each end of the winding, connect the cathodes of the 2 1N4001s together. Take the 2 cathodes to the Anode of a 1w or greater 33v zener diode. Connect the cathode of the Zener diode to 0v. Parts List. 100hz timebase. Cmos 555, 2.7k resistor, 0.01uF capacitor and a 0.1uF capacitor, also a resistor of roughly 120k see note in part 1. Flip-Flop 4013, 2 off 4.7k resistors. Transformer and spike protection. Mains transformer of a suitable VA rating, 240v primary, 12-0-12 secondary. 2 off 1N4001 diodes 33v Zener diode, 1w or greater Transistors 2 off BUZ11 Miscellaneous 7805 regulator and a couple of decouplers for the input and output, for instance a pair of 4.7uF 25 tantalum bead capacitors. Notes. The 0.1uF capacitor in the timebase is best polystyrene or similar, ceramic will work fine though. The power transistors mentioned give good efficiency, they are 30A devices with very low on resistance, suitable alternatives includ: BUZ10 which is a 20A device or many of the IRF range of N-channel power fets, note however that the BUZ11 is better and cheaper! (œ1.50). Note the power fets can be paralleled up for higher power, connect additional transistors as required but be sure to incorporate seperate gate resistors for each device, the flip-flop can drive many transistors. Also select a suitable transformer. An inverter to this design but with 8 BUZ11s ran a 1kW fan heater with no trouble, however the printed circuit failed at 2kW! (It wasn't me that put the fan heater on it) As an additional refinement, the inverter can be made switvhable between 50hz and 400hz. The latter is more power efficient for non-frequency critical loads (such as light bulbs). All components available from Maplins

Hello to anyone contemplating such a project as described by G4UDT, I feel a cautionery note should be made concerning the use of 50Hz mains transformers (which are designed for *SINE WAVEFORMS*) with 50Hz *SQUAREWAVES*. Since all such transformers are essentially mutually coupled *CHOKES*, they draw what is refered to as magnetisation current, normally about 5 to 10% of the full load current. Since this current is essentially a lagging current approximately 90 deg out of phase with the supply voltage, it represents zero net power drawn from the supply (apart from the small I squared loss in the copper and the hysteresis loss, usually refered to as the iron losses). You might ask what determines the upper limit for this magnetisation current. Well this depends on the desired volt amp *throughput* or for a purely resistive load the maximum power delivery at the secondary winding(s). For a given voltage output,

the more power required the thicker the wire has to be, this in turn determines the aperture or spae required for the windings to fit. For a given magnetic material, the larger the cross-section of the core, the less turns required per volt (this assumes a fixed frequency). If we reduce the turns on a given magnetic core in order to fit a thicker guage of wire, we reduce the inductance and hence increase the 'magnetisation' current. This increases the strengh of magnetic flux until we reach 'saturation'. Under this condition, the inductance dramatically drops at the peaks of the magnetisation current which in turn increases the current severely. Mains transformers are designed with the minimum number of turns required to just avoid this condition at the upper voltage tolerance limit of the supply. This keeps the copper losses to the minimum for any given transformer design. Although the peak voltage of a 12 volt RMS supply is about 17, when a SQUARE wave of 12 volts peak is applied to a mains transformer 12 volt winding, the magnetisation current can peak as high as twice what would be expected with a SINWAVE input (neglecting saturation effects!). If you operate such a transformer under these conditions, it could overheat on no load and draw a hefty current from your 12 volt battery. If it is important to generate a 50Hz supply, you might have to reduce the duty cycle of each pulse of square wave by as much as 50%, in other words the output switching transistors should only be conducting for 50% of the time for each half cycle, or, in the case of a 50Hz PSU, 5 milliseconds on time versus 15 milliseconds off time for each of the devices connected to the outer connections of the bi-phase 12 volt winding. Alternatively, if frequency is not important, then use a frequency of at least 100Hz or ideally 150Hz to eliminate saturation effects. In this case, you will not be able to use the supply to power conventional ballasted fluorescent lamps designed for 50Hz mains use. In fact, if you plan to power anything that uses a power factor correction capacitor, then a 'squarewave' mains voltage inverter at whatever freqency will overheat and very likely fail. Most 'analogue' PSUs should work ok from this source of power, as should switch mode psus as used in computers, and, of course, incandescent lamps. The electronically regulated compact fluorescent lamps (the light weight ones as opposed to the heavy choke ballasted ones) should work ok, provided the output voltage is high enough. In fact the ballasted compact fluorescent lamps should not present a problem load since, unlike the conventional fluorescent light fittings, they do not incorporate a power factor correction capacitor. However, this inverter may not supply sufficient voltage peaks to allow the lamp to 'strike'. However, you will suffer problems from the spike filter capacitors used in all SMPSUs used in the typical PC. Whilst the values of these capacitors are measured in fractions of a microfarad(typically .05 to .1 microfarad) as opposed to the microfarad values used by most fluorescent lamps, these still represent an extra adverse loading. Some commerciall made UPS units actually generate a square wave output, but these are designed to provide the necessary backup power for only a short period (typically 5 to 10 minutes at most) in order to allow an orderly shut-down of the protected PC. In this case, they use a specially designed inverter transformer which avoids the saturation problem and are specified as only for use as a backup for computer equipment. By all means have a go at G4UDT's project, but please keep in mind the observations made above. You could run into problems with certain transformers, especially if you use a 9-0-9 volt mains transformer in order to achieve a peak voltage more closely approximating the 350 volt peaks found in 240v rms mains voltage supplies. 73 de John G0JOQ @GB7OAR PS you will need 'clamp' diodes to prevent the 12 volt windings from going more negative than the zero volt rail (assuming a negative 'earth' supply, ie positive feed to the centre tap of the 12 volt bi-phase winding). This is done by connecting the 'negative' ens of a pair of suitably rated rectifier diodes to the zero volt rail and the other end of each diode to the outer connections of the 12-0-12 volt windings. Each diode will only conduct when the outer connections of the 12-0-12 winding try to go more negative than zero volts (and hence limits the opposite end from going more than a volt above twice the dc supply voltage). This is especially important if you decide on a reduced duty cycle in which *BOTH* switching devices are *NOT* conducting for part of each cycle as per my suggestion above for 50Hz operation.

Any one going to attempt this??? James