



# MERCURY

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## EDITORIAL

Hello once again from Blandford and welcome to the Summer edition of "Mercury" .

In the last edition I welcomed Des Barry as HQ Secretary, this time it gives me great pleasure to introduce to the Society our new President, Brigadier A.D. Brindley, MBE, FIEE. Brigadier Brindley joins us from the heat of the Far East where he has been very actively employed in the communicating field. May your stay with us as President be pleasant and satisfactory and we look forward to meeting you at the AGM later in the year.

To our retiring President, our sincere thanks for your support and guidance over the past two and a quarter years. Good luck in your new appointment.

The annual "Old Comrades" reunion is behind us once more and I would like to place on record a vote of thanks to Les Beaumont and his merry gang at Catterick who made GB3RCS so effective on Princess Royal Day. A thank you also to Dennis Bowden, Jack Cooper and Maurice Caplan for putting the Society well and truly on the map from Brunei over the Whitsun weekend. This DX-expedition following John Walker's marathon stint from Aldabra. has helped considerably to let the amateur fraternity know that the Society is not as dead as the "Activity Periods" seem to indicate!!

The next date of importance in the Society calendar is the AGM which, following the pattern of the last two years, will be held in the New Horticultural Hall, Westminster, SW1, at 1800 hrs on Friday 4th October. This coincides with the RSGB Communications Exhibition so you all have at least two good reasons for travelling to London that week!!

My shout for help about "dead wood" in the Society membership has resulted in some eighty members catching up with their subscriptions'. Thank you for your assistance! Meanwhile those who are still out of compliance have been struck off the "Mercury" mailing list and will not be included in the next alphabetical call sign list to be issued in the Autumn. I shall endeavour to keep you up to date with alterations to the QTH list by means of the quarterly amendments sheets, but please let me know if you change your QTH, call etc.

Some members have remarked that the excellent articles on transistor amplifiers which I have had the pleasure to edit, aren't really of Amateur Radio interest. It is difficult to decide where to draw the line. In my own view, anything connected with circuitry construction, be it at audio, radio model control or what have you, should be of interest to an amateur radio enthusiast and certainly from the correspondence generated over this series of articles, a large number of our members have been extremely interested. I am hoping to squeeze an SSB receiver article out of the same writer which I am confident will whet quite a few of your appetites.

Meanwhile another shout for help. The Society QSL cards have been overprinted by G3UTI since the inception of the scheme some years ago. Regrettably, due to various reasons, '3UTI can no longer cope with this. Is there any member who has an "Adana" or similar small printing press and who would be willing to take on the overprinting of Society QSL cards? If there is, please get in touch with either G3EJF or myself. The load naturally fluctuates but averages around 500 cards a week. Any offers please?

Many of you will already have realised that the Corps has it's 50th Anniversary in a year or so. It would be amiss if the Society didn't play it's part in this important milestone. Just how best we can present ourselves is open for discussion - any ideas? Never mind how grandiose they may seem, let's have suggestions please, and as soon as you like!

Your HQ Station "had a bash" in the RSGB Affiliated Societies Contest last February and squeezed 22nd (obviously missed the Caplan touch). We didn't make NFD but have every hope of joining in the new High Power HF field Day in July.

73 and good DX

G3EKL

## OUR MAN IN ALDABRA

### Being the final chapter of VQ9JW - 378)

#### Phase IV

With the arrival of the new members aboard the "Manihine", the expedition work once more settled down to the routine to which we had become accustomed over the past few months. It was now possible to move more freely around the islands as we had received an extra outboard engine for the "Zodiac" rubber boats and this meant that I was able to make the odd (and very welcome) trip to some of the other islands in the immediate vicinity. At last I was able to see for myself all the things the various expedition members had spoken about. There was the flightless rail (last of the flightless birds of the Indian Ocean) which looks very much like the English Moorhen except that the colouring is much more striking. These birds are so tame that it is possible to stand still, waggle your toes and they will come and investigate, pecking at each toe in turn! ! Quite a number of these pretty birds were caught for tagging and the method used was, to me, somewhat strange. A cage was constructed with a small entrance and a piece of silver paper placed inside it. These small friendly birds would enter the cage to examine the paper and in next to no time would be caught, ringed, weighed, measured and released. It was very amusing to find that, though having been once, they would come back for another look at the trap and time after time the same bird would be taken out, released some two to three hundred yards away only to return for yet another look.

As you may have guessed, in this part of the world fish abound in the sea and I rarely missed the chance to go out with the locals in their "pirogues" a small native craft, or in the manager's boat to try my hand at fishing. On one evening in particular I had the chance to go on a short trip, about half a mile from the base camp. We dropped anchor just as the sun set and proceeded to dangle lines over the side. The locals never use a rod, being far happier with a hand line having a breaking strain of upward of 200 lbs. Using a rod and a 150 lb. line I had the good fortune to be able to land the first bite, which turned out to be a small shark weighing around 83 kilos. Remarkably it gave no fight at all, just a snatch at the hook and then a dead weight on the line. Well, first blood to me!!! Back went the hook baited with a small piece of red snapper. By the end of an hour and a half I had

landed fish weighing in excess of 200 kilos - more than the five locals in the boat had managed to catch between them!!! But they were a cheerful lot of folk, every time I got a bite, they would quickly rebait the hook and over the side it would go. By the end of the evening's fishing we had 780 kilos of fish between us, which at 10 cents a kilo, represented their pay for one night's effort. Next morning, early, the manager sent for me to have me check my wages for the previous evening catch. I told him to share it amongst the other crew members and the men couldn't believe their ears. Within minutes I was asked to go out in other boats; one of the chaps even offered to take me out whenever I wanted to go - day or night!!

Thinking back on that time, makes me wonder just who it was who used to send a young boy down each day with some little gift of fresh fruit or some choice piece of meat or fish. One thing I shall not forget in a hurry was the way that these poor people, who owned virtually nothing, had nothing to give away except things that they made or obtained on the island, who worked for around a shilling a day with an occasional bonus from fishing, yet were so kind as to give me what they could well have made use of themselves

There was an incident in February that I shall remember for a long, long time. Early on the morning of the seventh, the manager came and woke me up at the ungodly hour of ten past five (0110 Z), he was dressed in his pyjamas. The evening before there had been a case of rape on the island and he had just been awakened with the details. As well as Island manager he was the

"Peace Officer" and so was in the unfortunate position of having to deal with this very disturbing case. He gave me a brief account of what had happened and I was upset to hear that the victim had been a twelve year old girl who was extremely pretty and also very pleasant to talk to. But I was there to run a radio station and after obtaining advice from the Royal Navy in Mauritius, a signal was sent to the Governor and also to the Attorney General in Mahe. (Later in March, the Governor told me that he had received the signal within fifteen hours - it had been routed through Mauritius, London, Mombasa and finally to Mahe - apparently quite a record) A radio sked was arranged with VQ9DH, Dave Hunter, in Mahe and the advice that had been requested was passed direct from the police there by Dave. Yet again Amateur Radio played a vital part in assisting the Expedition.

At the last phase of the Expedition settled down, Harry once again offered his services as an assistant to one of the Expedition members and settled down at the far end of the island. In February I was asked if I would like to accompany a party on a trip to Cosmoledo, one of the islands in the Indian Ocean, with a possible visit to Astove island as well. This offer, together with a request from the North New Jersey DX Association, decided me and I asked Harry if he could hold the fort from the daily met reports point of view for the four days that I would be away. Harry willingly agreed and with the assistance of G4RS (Les at the helm) and my remote letter, Ray, G3EKL, the necessary administrative arrangements were completed.

The MV "Manihine" arrived at Aldabra on the evening of March 3rd and the party sailed for Astove the next morning. We arrived at this very small island, located 10 degrees 8 minutes South, 47 degrees 45 minutes East, at noon on March 5th and went ashore to meet the owner, a Mr Veevers-Carter. After tea and the usual formalities, he was kind enough to allow me the use of one of his store sheds to use as a shack. The KW was quickly installed together with a generator (an Enfield 2.5 KVA diesel), the linear and the well proven 12 AVQ. By a quarter to three local time VQ9JW/A was on the air on CW. But not for long though as the weather quickly changed and within a matter of minutes rain, thunder and a great swarm of mosquitoes made things unworkable, For periods of up to fifteen minutes nothing could be heard but static, whilst the rig had to be physically moved to avoid the rain leaking through the roof. Luckily I had a large piece of PVC sheeting which solved the problem - it was used to wrap the KW in whilst at sea. Operation started again as soon as the storm had abated and carried on until the early hours of the next morning when I had to get back on board the boat for the next leg of the voyage.

We arrived at Cosmoledo, 9 degrees 41 minutes South, 47 degrees 35 minutes East, at about 1100Z on March 6th and the rig was on the air within minutes. It was operated without any trouble right through until the early hours of March 7th when the "Manihine" weighed anchor and sailed once more, this time for Aldabra.

Back home on Aldabra by late afternoon the same day (I say home, for the shed there had been just that for so long!) where things were much the same as when we had left. The first call to the weather bureau the next morning produced a reply at 5wpm on CW asking when was I coming back!!

March 25th saw the Government boat "Lady Esme" arrive at the island. On board were His Excellency the Governor, Sir Gordon Walker (no relation I assure you) and Mr John Todd, Commissioner, British Indian Ocean Territories. As the leader of the expedition was at the other end of the island, I was asked to meet our visitors but as the weather report was just in the process of being converted into weather code for transmission, Harry deputised and putting on a shirt, shorts, shoes and socks (things seldom worn by any of us) he did the job in style. It was only his beard that enabled me to identify him from the Governor!! It did seem strange to see Harry in clothes again instead of his black, red trimmed swimming trunks. He offered to act as driver of our "Zodiac" for the Governor on his trip around the island and was soon to be seen again in his swimming trunks, following at the regulation three paces to the rear of His Excellency.

That evening the members of the expedition were invited to the "Lady Esme" for drinks with His Excellency and to crown the day, Harry was invited to stay for dinner on board and was allocated a State room for the night. This was unashamed luxury and Harry made the most of this, resting aboard for as long as he could.

The next day, after a trip around the island, His Excellency and his party were invited to take drinks with the castaways. During the festivities I made a check of the barograph which had made a very sharp rise, suggesting some bad weather in the vicinity. Our guests decided to leave us and returned through a worsening sea to their boat. Within minutes of the party getting aboard and Harry returning to dry land, the wind was gusting up to fifty knots and the sea became extremely rough. By a quarter to nine local time, it was too rough for the "Lady Esme" to keep station at anchor, so she sailed out into the storm, keeping in radio contact with me through the night as their only set was a low power equipment which did not cover the normal shipping bands. The storm abated the next day and the "Lady Esme" proceeded on her way back to Mahe making a daily sked with me until land was made.

The end of March also saw the arrival of the island schooner "Argo" loaded with goodies for the locals cigarettes, tinned beer, cloth etc. Also on board were some new labourers, to replace some of the inhabitants who were due to leave. The "Argo" sailed on the 29th and every one of the locals who were returning back to Mahe, came and said farewell to me, including the small boy who had become one of my constant companions and assistant aerial rigger (he could climb better than any of the others, swarming up and down trees more like a monkey than a human being). I was very sorry to see him go. But with only a few days before the store boat was due, many other things occupied my time as all the stores had to be crated and addressed, equipment dismantled etc etc.

Communications with the Royal Navy in Mauritius closed on March 31st and once more the KW 2000A became our sole link with the outside world. On the same day, the "Manihine" arrived once more and took off the six remaining members of the expedition together with a large proportion of our radio stores. And so to more packing and next on the list were the diesel generators loaned by the Royal Navy which had provided both AC and DC power for the period we had been out there. One was taken out of service on 2nd April, dismantled and packed into four wooden crates whilst the other one was left running until the last minute and then hurriedly packed on April 8th, the day before the "Manihine" called to collect the last of the party and stores. I was a little sad at leaving as, on the final morning, the local inhabitants came and said goodbye to me in person, bringing small farewell gifts which I managed to get through the Customs with no trouble. The most acceptable and unexpected gift was from the young girl who had been attacked in February - two embroidered pillowcases, with the words "Souvenir from the families of Aldabra" and so we sailed from the island on April 7th, leaving behind a wealth of pleasant memories and bringing away a host of experiences.

On arrival in Mombasa three days later, we went to the air line ticket office to collect our tickets for the flight back to G land, but found that no arrangements had been made. After a bit of delay, we managed to book a flight to Nairobi the next day but there was to be a further five days delay there due to the Easter rush. The heat and humidity at this time of the year in Mombasa is not very comfortable so Harry and I decided to take the Nairobi flight and call on some of the amateur fraternity there.

So, on April 11th we flew by Comet to Nairobi where we were met at the airport by Andrae Saunders, 5Z4KL. Andrae drove us to the "Mayfair" hotel, made all the necessary arrangements and then called to collect us for dinner in the evening. Next morning Fred, 5Z4KO, arrived to collect us and offered us both the hospitality of his home where we stayed for a couple of days before and after the start of the East African Safari rally. Andrae had arranged for us both to join forces with

him and another couple of the Nairobi boys to man two of the check point radio control rigs, which are operated each year by the East African amateurs. So off we went to the first point at Laitikitok. This was on the North side of Kilimanjaro and all through the night we (except Harry) kept awake seeing the cars through and radioing the times back to rally control in the City Hall, Nairobi.

Early on Easter Sunday morning I watched the sun rise and witnessed one of the most breathtaking sights in the world - the snow-covered peak of Kilimanjaro turning to a Blood red as the sun rose over the plains. I woke Harry to see if he wanted to try and get a photo of this beautiful sight but I'm afraid I left it a little late and all I got was a very rude answer!!! Later that day we travelled into Tanzania to a place known as "Dutch Corner" where we established the second control point. To get there entailed driving over two hundred miles of mountain roads around the base of Kilimanjaro and the scenery was certainly very beautiful. When all the cars had passed through the second check point, we returned to Nairobi and on Tuesday were taken round the National park to see the game reserves. Our host was Steve, VQ8CC, who had also been operating one of the control points in Uganda on the northern leg of the Safari. In the early evening prior to our departure, a little celebration was the order of the day and we all went for a farewell dinner in one of the well known eating places in Nairobi, and wine and dined with 5Z4's KL, KO and LG with their XYL's and 5Z4LJ and VQ8CC. Of course I must not forget the pleasant company of that happy bandit 5Z41R, Ray, who asked me to pass on his very best wishes to all RSARS members. Well dined and content we were driven to the airport by Fred, 5Z4KO, and his XYL escorted by five other cars containing the rest of the party. We boarded the VC10 and, with a final round of farewell and waves through the windows, took off for UK.

Now it is all over and I would like to express my thanks to Des, G3ONU, for acting as my QSL manager; to Roli, ZC4RB, for clearing the logs back to Des so expeditiously; to Les, G3VYZ, who helped me to keep sane with daily chatter and to our Editor for "this and that" because without their help, I would never have been able to make the expedition so successful. Finally my thanks to the Royal Society for allowing me to join their Expedition; to the Royal Navy for their assistance and guidance with official traffic over the many months and lastly to the amateur fraternity in Nairobi for their excellent hospitality.

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#### **AMATEUR ASSISTANCE**

This phrase covers a multitude of sins, from mending a fuse for the neighbour to helping to save a life.

One of our members has been instrumental in assisting to save life on at least two occasions.

I refer to Ray Vasper (418) currently DL5YT. Ray was closely involved in a deep sea drama aboard HMS Yarnton, a small RN minesweeper in the 500 ton class, during November 1966 when the ship was ravaged by a severe cyclone with wind forces gusting to 13. A full report of the voyage appeared in the Spring copy of the "Mercury" 1967 and told how Ray, using his amateur radio equipment, provided the sole means of contact from the stricken ship for a twenty four hour period following the cyclone.

Earlier this year, he was again instrumental in assisting a Yugoslavian amateur who was trying to obtain a rare drug for a Bulgarian doctor in Sofia. This time Ray was in the comfort of his own quarter, heard the distress call from the YU, took up the cudgels and eventually, after a thirty hour stretch, had the satisfaction of knowing that the required drugs were on their way.

Well done Ray.

**SIDEBAND GENERATORS**  
**by**  
**CHRONICLER**

A query has been received from Malcolm Luker, G2ANG, regarding the above article. It reads:

"I am a wee bit worried by Chronicler's notes on crystal filter design. I am comparing these with W3HEC's article "HF Crystal Filters for SSB" in QST, October 1960 and "Surplus Crystal HF filters" by W3TLN in QST January 1989.

1. Disregard of pole-zero spacing which the two W's make much of.
2. Resonating his coil at mid pass band, yet W3TLN says "... should be chosen of a high enough inductance to avoid resonance with the shunt C near the pass band".

Perhaps both ideas work, but can some one resolve this for me please?"

"Chronicler" answers:

Dear Sir,

In answer to the queries raised by G2ANG I am very sorry to hear that he is a "wee bit worried". I hope the following will be of some assistance.

In W3TLN's article, he relies on the natural "mating up" of the poles and zeros of the crystals used, to provide a flat top to the passband. To ensure this, the pole of the lower frequency crystal must line up pretty closely with the zero of the higher frequency one. In order to do this the poles and zeros must be measured accurately. Once the crystals have been chosen for the type of filter described by W3TLN, nothing in the circuit must affect these. Therefore the ferrite ring transformer must have an inductance high enough so that its natural resonance, with the circuit C, is well away from the passband frequency. The transformer only acts as a coupling transformer between the sections of the filter. This type of filter design is simple and can provide excellent results using surplus crystals between 7 Mhz and 9 Mhz because the pole-zero spacing is about 2 Khz. This means that the passband will be just less than twice this.

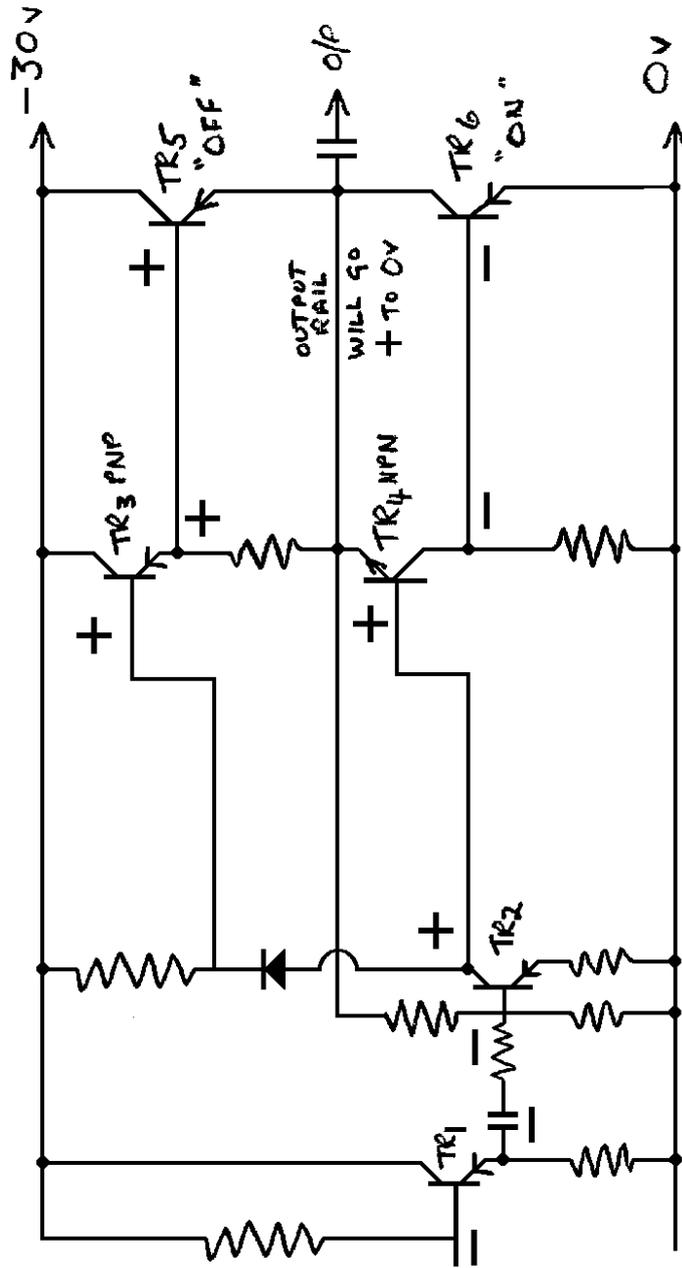
The lower in frequency one goes the less the passband will be. At 5 Mhz, using surplus crystals, the pole-zero spacing is less than 1 Khz. Therefore at this frequency the crystals have to be "pulled" so that the pole-zero spacing is OK for an s.s.b. filter. This is done by tuning the coupling transformer as described by W3HEC in his article.

With all that behind us it would seem that filters at 9 Mhz would be better untuned yet at 5 Mhz they must be tuned. However new crystals can be purchased at 5 Mhz with a pole-zero spacing such that tuning is not necessary.

The major consideration, I feel, is simplicity. Measuring pole-zero spacing requires relatively sophisticated equipment to get the accuracy required. My advice is to disregard this and tune the coupling transformer. This will take out any discrepancies in the spacing, whether it be at 5 Mhz or at 9 Mhz. All one needs then is a crystal oscillator and a receiver with a BFO to choose the required crystals.

CHRONICLER

**DIAGRAM 1 ACTION OF MAIN AMP. (SKELETON CCT.)**



## TRANSISTORISED HI-FI STEREO AMPLIFIER

### PART III

Part three of this article will describe a preamplifier using cheap silicon planar transistors, which is also suitable for driving not only the writer's transistor Power Amplifier but any transistor amplifier currently available. It is also suitable for use with valve power amplifiers as the HT supply rail can be made to be positive if required.

A germanium pre-amplifier will also be described which is suitable for use with the low output magnetic type pick-ups which some Hi-fi enthusiasts prefer.

Before giving details of these pre-amplifiers I would like to describe the actual circuitry of the main amplifier in the same detail as used for the pre-amplifier in the March 1968 issue of Mercury. Several members of the Society who are not very conversant with transistors have asked me to analyse the action of the circuit in my final article in the series.

The first transistor in the main amplifier (OC 75) is an emitter follower, providing a voltage gain of just less than unity but it determines the input impedance of the amplifier (about 100 K $\Omega$ ). The input impedance of a common collector or emitter follower transistor is approximately  $\beta$  multiplied by its A.C. load resistance, (i.e. 100 x 2000 equals 200,000 ohms) and is shunted by the 220,000 ohm base bias resistor. This stage has unity gain and phase shift. The second stage is the common emitter amplifier (OC 75) and is the only stage in the main amplifier with any voltage gain. It is very interesting in that bootstrapping and negative feed-back are used on this stage. (Bootstrapping is "in phase" feed-back and negative feedback is "out of phase" feed-back). The gain of a common emitter transistor amplifier is given (approximately) by:

$$\text{Voltage gain} = \frac{V_{out}}{V_{in}} = \frac{I_c R_L}{I_b R_{in}}$$

$$\text{as } \frac{I_c}{I_b} = \beta \text{ (current gain)}$$

$$\text{we can say: V gain} = \beta \frac{R_L}{R_{in}}$$

$\beta$  is say 100,  $R_{in}$  approximates 1000 ohms, the  $R_L$  is not the D.C. load but the A.C. load, or at least the resultant of these two. Without bootstrapping the gain of this stage would be approximately:

$$\frac{100 \times 5000}{1000} = 500$$

This gain would be modified by the shunting effect of the quasi-complementary set up of the following four transistors but not to a very great extent as the input impedance of this set up is quite high due to 100% current negative feed-back. We shall refer to this a little later.

The secret of any amplifier is the amount of negative feed-back we can use. This applies to valve or transistor amplifiers.

The gain of an amplifier is modified by negative feed-back as follows:

$$M_o \text{ (gain with NFB)} = \frac{M \text{ (gain without NFB)}}{1 - \beta M}$$

$\beta$  being the feed-back factor in this case. If we reduce the gain of an amplifier by a hundred with negative feed-back then we shall reduce the total distortion by a hundred also

i.e., if  $M = 10,000$  and distortion 5%

then if  $M_o = 100$ , distortion would be  $\frac{5}{100}$  or .05%

The ideal would be to have a very very high gain and a great deal of negative feed back. However there is a limit to both these requirements. The trouble with too much negative feed-back is the possibility of phase shift through the amplifier at extreme high and low frequencies. This is particularly troublesome with valve amplifiers as they must be capacity coupled and also use transformers which are inductive. (Older readers may remember the Williamson amplifier of years ago which sometimes produced an audio oscillation at about 5Hz): This isn't a problem in the design under consideration, as it is D.C. coupled over the entire feed-back loop (three stages) and no transformers are used either. A "Nyquist" plot of this shows complete stability over its entire range. This is achieved by applying negative feed-back over three stages and not four as in many designs. It was felt by the writer that complete stability was vital on a design which might well be the first transistor venture for many people who were really more "at home" with valve circuits.

So we have decided that we are in a position to apply a lot of negative feed-back, what about the other requirement? Large gain without feed-back! Remember we have only one stage with any voltage gain at all! The first transistor has a slight loss, the last four transistors (a quasi-complementary set up) also have a slight loss as far as voltage is concerned. The secret is in the second stage and it's bootstrapping in the collector circuit. Bootstrapping is not a new technique, it was used by Phillips years ago in valve circuits to produce a very high gain with pentode amplifiers when preceding phase splitting stages. It has come into common use now with transistor circuits for producing high impedances.

We have already said the voltage gain of transistor 2 (the common emitter amplifier) is roughly:

$$V = \beta \frac{RL}{R_{in}}$$

If we can make RL very very large then voltage gain will be very very high. We cannot change  $\beta$  or "R in", only insofar as picking a transistor which has a high  $\beta$ . Even then, transistors are notorious in their gain spreads and we might end up with a  $\beta$  at the low end of the scale unless we measure a number and select for high  $\beta$ . Not to worry, we can make "RL" very large very easily by bootstrapping the collector load. In effect we make it large A.C. wise only, as we cannot make its resistance D.C. wise larger or we shall run into distortion due to shifting the operating point. Referring to the circuit, a sine wave applied to the transistor base will cause a sinusoidal voltage to be developed across the collector load. Now, if we could apply exactly the same voltage in exactly the same phase to the other end of the resistor to that connected to the collector, the transistor will "see" an infinite A.C. load and would have a voltage gain of infinity. Such a voltage is available at the output of the amplifier and is fed to the top end of the collector load by the fifty micro-Farad electrolytic capacitor. The bootstrapping voltage is developed across the 1000 ohm resistor in the collector feed circuit. Obviously there are practical limitations and we do not in fact get infinite gain. The voltage feed-back isn't quite as much as the voltage developed due to voltage loss in the quasi-complementary arrangement of the four final transistors. Nevertheless, a sufficiently high gain is achieved in this single common emitter amplifier to be able to apply 20 dB of feed-back over the three stages of the amplifier proper. The 100 pica Farad capacitor between base and collector of this stage provides a gradual roll-off in gain starting at 30 Khz, and quite a large drop in gain at 100 Khz. The high frequency gain could have been extended but providing response is flat up to about 20 Khz there isn't any need for much more. Stability over the required range is more important in the writer's opinion.

The rest of the amplifier is quite conventional. Bias for Transistors 3 and 4 (the phase splitter) is developed across the forward biased diode and its series resistor of 88 ohms. This diode also provides a good degree of D.C. stabilisation as being germanium (like the transistors) its

conductivity increases and resistance falls with increase in temperature, thus the forward bias on transistors 3 and 4 is reduced as temperature increases. The bias for the two output transistors is of course the collector currents of the driver transistors, thus, in effect, the static current of the whole amplifier is controlled by the voltage developed across the diode.

The bases of Transistors 3 and 4 are driven in phase by transistor 2 collector. The PNP OC 71 is an emitter follower so its emitter will be in phase with its base. The NPN OC 139 has the load in its collector so there will be a phase change of 180° between its input and output. Thus if transistor 5 has its base going negative, transistor 8 will have its base moving in the positive direction, i.e. one output transistor "cuts off" as the other goes "on". This will make the junction of the output transistor move from minus fifteen volts towards zero volts (positive) or towards minus thirty volts (negative).

It will be seen that (going through the entire main amplifier) if we move the base of TR1 negative, its emitter goes negative, the base of TR2 goes negative and its collector positive, thus both bases of the transistors 3 and 4 go positive. The OC 71 emitter will go positive taking the base of TR5 positive. The OC 139 collector will go negative taking the base of TR8 negative. TR5 will go "off" and TR6 will go "on" and the output rail will go from minus fifteen volts to zero volts.

If the base of TR1 is made positive by the same ruling, the input rail will go negative. If we move the base of TR1 sinusoidally then the output rail will move sinusoidally also but 180° out of phase.

**NOTE** NOTE The output rail is in phase with the collector of TR2 so is OK for bootstrapping, the output rail is out of phase by 180° with the base of TR2 so is OK for negative feed-back. The 39 K ohm resistor in the base circuit of TR2 provides correct D.C. bias and also 20 dB of NFB. The 1.2 K ohm resistor between the base of TR2 and the coupling capacitor to the emitter of TR1 prevents the loss of NFB.

With maximum sinusoidal drive to the input of the amplifier, the output rail will develop a peak to peak Voltage of thirty volts approximately, this is fifteen volts peak and about ten volts RMS. Ten volts RMS applied across ten ohms will develop ten watts of power.

Readers who are at all familiar with transistor circuitry will, I hope, forgive me for giving this long analysis of what is in fact a very simple circuit. This explanation is given at the request of many readers of "Mercury" who are more at home at the moment with valve circuitry. If this article has helped them to understand the transistor a little and persuaded them to build a transistor circuit then it will have served its purpose. Only by using transistors will the Amateur find out how useful and easy to use they are.

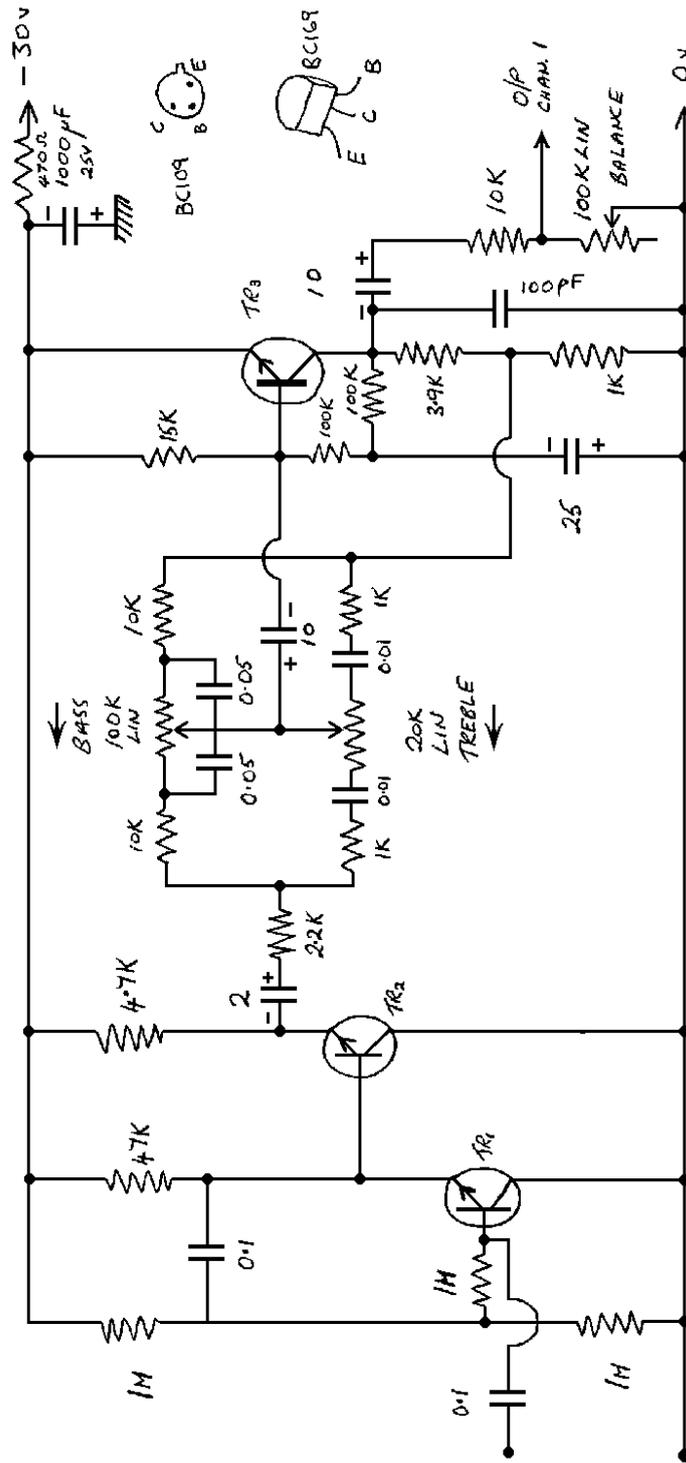
(See Diagram 1 for action of main amp).

### **SILICON PLANAR TRANSISTOR PRE-AMP**

Recently silicon planar low noise transistors have become available at quite reasonable prices. The best known of these is the Mullard BC 109 for audio application and this is currently advertised around five to seven shillings each. However, a silicon transistor with exactly the same characteristics as the BC 109 is currently being sold at half a crown - this is the BC 189, and the pre-amplifier shown in Diagram 2 was designed using these transistors. Due to the very low leakage current and very high current gains of these silicon planar transistors, an even simpler design is possible.

The output resistance of these transistors is so high that bootstrapping the collector is no longer necessary, the input resistance is also very high so the only bootstrapping which is necessary is the bias chain at the base of Transistor 1.

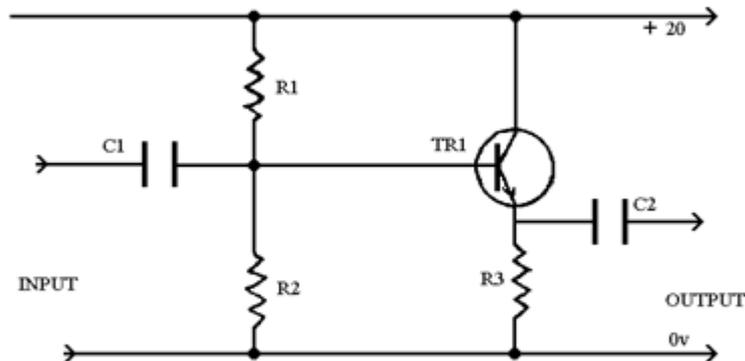
**DIAGRAM 2 CCT. OF SILICON TR. PRE-AMP**



All caps. in. microF if not marked

All res. K = KΩ, M = MΩ

Looking at Diagram 2, the base of TR1 is fixed at half the supply voltage by the two one megohm resistors in series. The current flowing in the collector circuit is decided by the value of the resistor in the emitter load. By normal emitter follower action the collector will settle at a voltage 0.9 volts more negative than the base, as the BC169 is an NPN transistor.



If R1 and R2 are equal in value and  $I_b$  is very small then the base of TR1 will be at + 10 volts. The emitter will "follow" the base and settle at plus 10 volts minus the forward bias on the base.

i.e.  $V_b - V_e = \text{forward bias}$

The forward bias on a silicon transistor is about 0.7 volts so this means  $V_e$  will settle at  $10 - 0.7 = 9.3$  volts. The current flowing in the emitter circuit will be a function of Ohms Law and R3, the transistor will not affect this value at all. If R3 was 10 K $\Omega$  then  $I_e$  would be about 1 milliamp and the base current would be this current of 1 milliamp divided by  $\beta$ . For the BC169  $\beta$  is about five hundred so  $I_b$  would be two micro-amps. This is not possible with a germanium transistor as the leakage current is so much greater. One normally could design a germanium transistor amplifier to have a collector current of no less than one milliamp, the base current then being about 20 to 30 micro-amps. The germanium transistor, having a leakage current of the order of one hundred micro-amps ( $I_{jo}$  typical is two micro-amps,  $I_{io}$  typical is one hundred micro-amps), the leakage current with the BC169 or BC109 is not measurable with ordinary equipment to which the amateur might have access. Thus it is possible to work the BC169 or BC109 with collector currents of two hundred microamps or even less.

If R3 is of fifty thousand ohms then the collector current will be about two hundred micro-amps

$$I_c = \frac{V_e}{50,000} \text{ A} = \frac{10 \times 10^6}{50,000} \text{ micro-amps}$$

$$= \frac{10^3}{5} = 200 \text{ micro-amps}$$

$$\text{with } \beta \text{ of } 500 \text{ then } I_c = \frac{200}{500} \text{ micro-amps}$$

Even if R1 and R2 were as high as one megohm each then the current flowing through them would be much greater than the base current to TR1.

$$\text{e.g. } I = \frac{20 \times 10^6}{2 \times 10^6} \text{ micro-amps} = 10 \text{ micro-amps}$$

As low as this is it is about twenty-five times as great as  $I_b$  thus  $V_b$  will be stabilised at 10 volts irrespective of any small change in  $I_b$ .

The input resistance of TR1 in the preceding diagram would be:

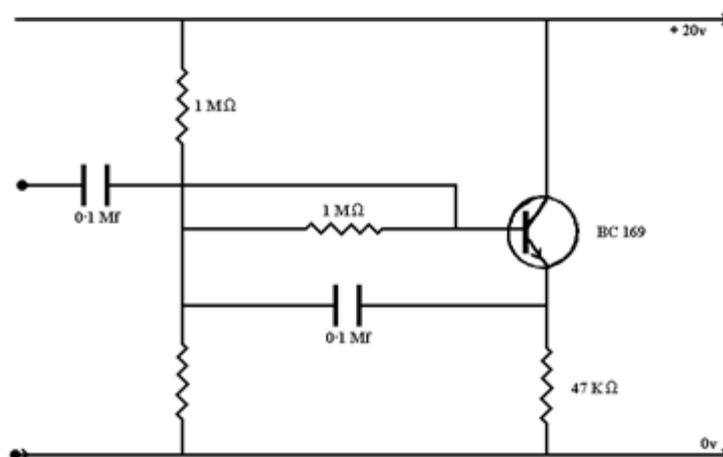
$$R_{in} = \beta R_L \text{ in shunt with the bias chain}$$

$$= 500 \times 50,000 = 50 \text{ megohms in parallel}$$

$$\text{with } \frac{1}{2} M\Omega \quad \Omega \quad \frac{1}{2} M\Omega$$

We can ignore the output resistance of the transistor which in the case of a silicon planar transistor is very very high. It can be seen that the effective input resistance is the resistance of the base bias circuit.

$R_1$  and  $R_2$  could have been made larger in value but this has its drawbacks and the easiest way out was found to be in bootstrapping the bias chain as shown in the following diagram.



This circuit is just about the ideal for a ceramic pick-up of the Derram type: With a boot-strapping capacitor of 0.1 micro Farad as shown, the input resistance is higher than six megohms and a plot of frequency response shows a very slight lift in response at about sixty cycles per second then a very sharp fall off below 40 cycles per second. This is ideal as a "built-in" rumble filter.

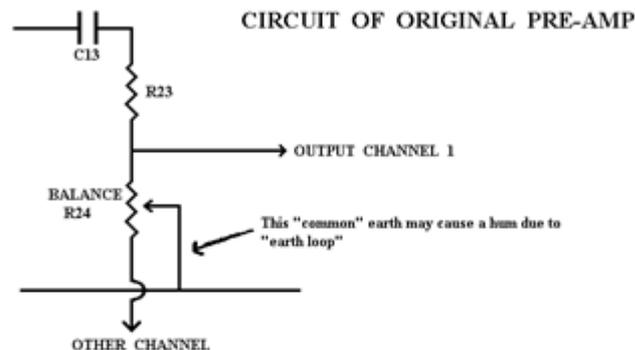
Referring now to Diagram 2 which shows the complete silicon preamplifier, TR1 is as described above. It is D.C. coupled to TR2 which is an emitter follower again giving unity voltage gain but an impedance match from the 47 KΩ load in TR1 emitter to the low impedance of the tone control circuit, which is substantially as it was in the previous pre-amp using germanium transistors.

TR3 is a common emitter amplifier which makes up the whole of the voltage gain of the preamp. It has a large amount of negative feed-back but even with the loss in gain in the tone control circuit, still has enough voltage gain to provide an overall voltage gain for the whole preamp of four times. With the main amplifier requiring an input of 200 milli-volts then an input to the preamp of 50 millivolts would drive the main amp to maximum power. Any ceramic cartridge is easily able

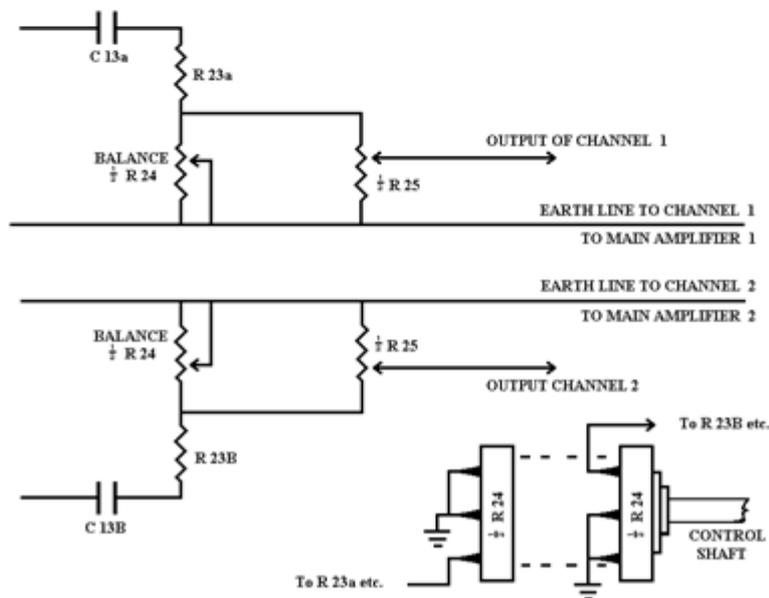


to provide this drive. The pre-amp has an overload factor of about 10. That is to say, a voltage of half a volt RMS would not cause distortion in the pre-amp itself but it would overdrive an amplifier which could not stand an input voltage of 2 volts RMS.

It will be noted that the balance control on the silicon pre-amp is slightly different to the balance control of the previous amplifier. It is possible in some cases to get trouble with hum from an earth-loop caused by 'commoning' the two earths of channels 1 and 2 in the original balance control.



To avoid any possibility of an "earth-loop", R24, which was a single potentiometer of 100,000 ohms linear, is replaced with a 100,000 ohms plus 100,000 ohms linear double potentiometer. These are wired up the opposite way to each other so that channel one gain is increasing as channel two gain is decreasing. The earths can be kept separate from each other as shown in the following diagram.



Whilst only one case of this "earth-loop" trouble has been brought to the notice of the writer it is as well to avoid this trouble even if it is only a vague possibility. It is a pity to spoil the very quiet performance of the amplifier by an earth loop hum although to hear it, it is necessary to listen quite closely to the speaker enclosure with no signal at all into the pre-amp. As a rough guide as to the silent background of the amplifier, it should be possible to put one's head right up to the speaker with the gain control set to 50% travel and no signal into the amplifier and it is difficult to tell if the amplifier is on or not. Operating the base lift to maximum should not increase the hum at all with no signal into the amplifier. With the pick-up connected of course, the noise one hears with the gain control 50% up and the pick-up on the rest (not the record) is a function of the quality of the turntable. Some rumble badly, some don't. It is a matter of luck and £. s. d. The more costly the deck usually the quieter it is - but not always. The writer has an SP 25 which is as quiet as a 401.

Diagram 3 shows the input circuit arrangements for a magnetic cartridge which has a sensitivity of about 10 to 15 millivolts. The average output of magnetic pickups is about this value although it is difficult to produce a simple circuit which would suit all magnetic pick-ups. These cartridges have internal inductances of up to about 700 mH and resistance of the order of four thousand ohms so it can be seen that the input resistance of the pre-amplifier must be at least forty-five thousand ohms to obtain constant voltage drive up to 10,000 cycles per second. A cartridge rated at 3 mV/cm/sec would provide a drive voltage of 10 to 15 millivolts into the input of this pre-amplifier.

A little more care must be taken with this pre-amplifier (due to its higher gain) to avoid hum due to earth loops but otherwise the circuit should provide no difficulty at all. The original was built on tag strip and each stage earth taken right through to the main amplifier earth. In the case of the stereo amplifiers, the earths of each channel must be carried through separately and firmly connected to chassis at one point.- the positive of the 5,000 micro--Farad smoothing capacitor.

The 0.25 micro--Farad capacitor on the input of the amplifier is a protection circuit for the magnetic pick-up in case of failure of the electrolytic coupling capacitor. No DC must ever flow through a magnetic type cartridge.

This circuit has been given for the sake of completeness and because some people would only use a magnetic cartridge (the writer used to be one of these), but ceramic pick-ups have in recent years been so improved that in the writer's opinion now there is no point at all in opting for the more expensive magnetic cartridge. In the final analysis records are produced for entertainment and some compromise must be accepted, even if it is only the response of a small room (everything else being perfect) and with this in mind, the writer is convinced that a good ceramic cartridge with the appropriate pre-amp and main amplifier provides a quality of reproduction that should satisfy the most fastidious audio enthusiast.

The writer carried out many tests using laboratory equipment and also a number of tests using records in a normal sized lounge with a variety of critical listeners. Perhaps one of the most convincing tests of all was not a very scientific one. Using the preamplifier shown in Diagram 3 and the main amplifier as described in the first of these articles, with a Decca "Derram" cartridge and the "Deccadec" turntable, the output was fed to two Wharfedale "Dovedale" speakers and the Decca test stereo record SKL 4861 was played through. No criticism of any kind could be made of the amplifier.

The writer is working on a transistorised FM tuner with provision for receiving the stereo transmissions that the BBC will be transmitting soon in the North of England and it is hoped to give (by kind permission of the Editor) details of a companion receiver to go with this stereo audio amplifier some time in the not too distant future.

## HQ STATION

As is often the case with a predominantly Service society members come and go far too frequently. You may remember from the Field Secretary's report at the last AGM that most of the push and hard graft that was required to get the HQ Station off the ground here at Blandford was supplied by John Grigsby (470). The basic conception of the equipment layout was decided by about half a dozen local members headed by Roy Walmesley (37) but the detailed technical backing came from John. He put many hours of his time into getting the station on the air and ensuring that visitors and new members had a warm welcome on Club evenings. John was the power behind the scenes at the Society's stand at the Communication Exhibition last year and also the year before. He will be greatly missed and I for one am extremely sorry to see him leave the area. He is bound for Germany and hopes to be active once he gets there. Congratulations on your promotion John and thank you on behalf of the Society.

Another old society stalwart is also leaving the area, not on posting but on retirement from the Service. I refer to Ted Philp (7) who was the Society's first "General Secretary and Editor". He held this important post during the formative years of the Society from the time that it was just a "pipe dream" until early 1963 when he was posted out to VS1 land. It was Ted who gave the final secretarial backing to our Vice President, G2EC, during the time that Eric Cole was fighting a losing battle trying to form an Army Amateur Radio Society. This proved so difficult that it was agreed to get the Corps Society off the ground instead, and the first meeting was held at Blandford in May 1961. From that the Society as we know it at present was created, and the first "Mercury" came off the presses in December '61. Membership then was around the hundred mark.

Ted has contributed regularly to our quarterly journal, both technically and in humorous mood, and I hope we shall hear even more of him once he settles down in "civvy street". I am sure all of our members would like to wish you well in your sphere of activities as a Sales Engineer with Redifon, Ted. Our sincere thanks for the help and guidance you have offered the Society since its inception and may it not be long before you are once again active as G3NJM. Good luck!

After those who are going, to those who have visited Blandford. Since the last "Mercury" the visitors book here at '4RS has been reasonably quiet, but three well-known members have called to pay their respects and to see just what makes the place tick!!

The first was Bill Horniman, G2WH (146) who dropped in early in May and presented the Headquarters Station with twenty three bound volumes of various radio magazines harking back to a volume of "Modern Wireless", 1923 vintage!! Other "oldies" were Volume 1 of "Amateur Wireless", Volume 1 of "Wireless Weekly", Volume 1 of the "Experimental Wireless", and a complete set of "T and R "Bulletins" from Volume 1 to 17!! Add "Bulls" from '42 to '51 and that completes the gift. A very fine set of extremely interesting radio and amateur magazines. Thank you very much indeed Bill and I am sure your gift will give many hours of nostalgic reading to all who call here at Blandford.

The second was an old friend of the Editor (yes he does have some!!), Mike Dransfield (139) who was on a spot of well-earned leave from 5N2 land. It is quite on the cards that some of you may have worked him by the time you read this as he intends to operate whilst over here with his G call--'3JKO. Knowing how Mike travels, expect to find him as /A or /P from GM, GI, GW and you never know, maybe GC.

Last, but by no means least, was Doug Yerxa (196). Doug is best known to members as G3SJB when he operated from Catterick during the period Sept. '63 to August '65. He was also a very active member at G3CIO, at that time the HQ Station, and the quad that used to adorn the 10 set tower up at Vimy owed a lot to him! Doug was passing through G on his way to Tanzania and

spent a short but well filled stay in Blandford and London. As yet no news of a call sign for him, but I am sure Doug will radiate if he gets a chance.

Hope all has gone well with your harmonic Doug and trust you have lost no more weight!!!

00000-----00000

### ONE OF OUR MEMBERS WRITES TO SAY

36 Winston Gardens.  
Branksome,  
Poole,  
DORSET.

To the Editor,

15th May '68

RSARS "Mercury".

Dear OM,

Listening over 80 metres lately, both on and off the Society net, I have heard the Awards scheme mentioned quite frequently.

This, together with the financial figures given by the Treasurer at the last AGM, has prompted me to write this letter and offer the following suggestions:

1. **The Award Scheme:** Leave the Scheme as it is up to 50 confirmed QSO's, above this add a dark blue, light blue and green star for 100, 150 and 200 respectively. (If anyone makes 250 then he should, at his own expense, arrange to take the Awards Manager and the HQ Station operators out for a slap-up do to thank them for the pleasure he has received through their efforts!).

My reasons for this are:

- a. Whilst the award is not difficult for some, it is for others - lack of facilities, cash, etc., (but not lack of enthusiasm), so if we make it more difficult for those who find it easy, it will be impossible for the others. What other club ever gets the nets going that we do? Why? Because of the award scheme; take it away, or make it difficult and the activity will dry up! If we do this then:
2. **Finance:** Let us assume that Class I costs the club 50 bob, (I know it looks a hell of a lot better than this). Now, for the moment, let us say that 'Mercury' and all else that is done, costs nothing, and we hope that all members in time will get the award. Now at 5/- a year we must on average take 10 years to get it!! I would, therefore, propose a subscription increase to at least 10/- a year for the next two years, (the price of ½ a newspaper a week) and then up to at least £1.

Life members £5 for the next two years and, say, £10 afterwards - all right, so I'm a life member already, but like the rest of the members, I'm a Ham (& proud of it) and try to live by that code, I get more out of RSARS than I do from other organisations where I pay far more a year than I did for my life sub, so can I, and my fellow members be allowed (if we wish) to make it up by a donation? If you argue we are going to lose members by putting up the subs, then those members are not very keen, are they? If the crowd is smaller, let it be select!

73  
G2ANG

G3IDG  
96, George Street  
Basingstoke  
Hampshire

28 March, 1966

Dear O.M.

Thank you for MERCURY, received this morning. The pages on the Society Awards are very thought provoking.

Working members seems to be one thing, but what about the QSLs when you've worked them? MERCURY for July 1967 carried a note to those members owing me QSLs, nine of 'em, in fact. Well, here we are eight months later and THREE YEARS after the QSOs concerned, and still no cards from six of the members concerned. In case there should be those who imagine I'm sitting back waiting, without having initiated the QSLing procedure, I can tell them that every one was QSLed via the RSGB Bureau. And, before cries of "I'm not a member of RSGB" come pouring forth, let it be known that **ANYONE** (member, or not) can collect cards from RSGB - just for the cost, and trouble, of sending a SAE. In any case, have all these people been waiting for my card to arrive before sending theirs? If we all did that there would be no QSLing at all! Three years is a long time to wait for a card (especially G cards, which five of the six outstanding are), especially when it is perfectly obvious from reading MERCURY (does everyone?) which people particularly want them for Award purposes. We should include in our Rules one which makes it obligatory for members to QSL on request. Perhaps it is significant, though, that two of the six members who have yet to oblige are outstanding with their subscriptions!

Which brings me to that particular subject.

The current MERCURY lists 263 members & clubs overdue with their subs. of these 117 were also listed in the October 1967 issue. April 1967 MERCURY showed 158 of that 263 overdue (so presumably some of them are overdue a second time). 40% of the total membership is a heck of a lot to be outstanding, but it must be perfectly obvious that the vast percentage of that 263 cannot be any longer interested. At sixpence a time postage, the Society laid out a total of over £6 sending MERCURY to 283 people who probably won't read it, renew their subs, or resign in a decent fashion. We should have another rule which says "No sub - no MERCURY". Reminders should go out with the penultimate and final issues of MERCURY (thus giving 6 months warning), then if no renewal received, the big chop with **NO** extra issues **AT ALL**..

Regarding WHY all these people see fit not to renew could raise serious issues. You could try a questionnaire to the whole membership but, if 40% aren't going to renew, that same 40% probably won't answer a questionnaire. My guess is that in a lot of cases somebody talked 'em into it (especially where Clubs and Units are concerned), and the people concerned aren't really interested in amateur radio at all. Perhaps the romantic picture of the hobby (make friends with people 12,000 miles away from your fireside, kind of thing) appealed to them. No, t'would be far more sensible to kick out all those laggards, even if it means being left with only half our numbers. At least the hard-core would be enthusiasts. And think of the financial saving!

I suppose it's no good going on about the re-issuing of membership numbers, but one solution would be to suffix them with the letter R (for re-issue). I would like people to know I was the genuine, original No 24 (perhaps No 524 might not be so fussy). As for re-issuing call-signs, I don't think much of that either! It savours rather a fraud to find that G4MH (for instance) is not vintage 1939 but a post-war bloke issued with his grandfather's call!

My Awards score is 22 worked and 14 confirmed. and the cards I need are G3DSS, G3LUN, G3OLE, G3RCJ, G3SJZ and ZC4TJ. Via RSGB will be fine.

73

G3JDG(24)

D.C. Mather 9V1MS/9M8MS/G3KAM  
237 Sig Sqn  
GPO SINGAPORE  
19 May 1968

Dear Sir,

Re correspondence on Activity Sunday, April produced a NIL return SSB or CW! This in spite of the fact I was active during the whole periods. Chatting to Les, G4RS, later he affirmed there were membership stations active, Ron GM3NKO agreed. A strange thing here, as I get into G land S7-9, the majority of RSARS stns worked have themselves been DX. Some are as follows VS6AA (albeit he has a ropey dipole) ZC4RB, WA8CEB, PY2PA (who came up and asked me to QSP some DX news to Dennis 9M2NF, neither being aware of membership status of each other hi) ZC4CN etc etc. On my return to UK (in June) I hope to qualify for a Class 1 award with DX QSO's only, whether I succeed or not will not be for lack of trying.

Les did mention your suggestion of spot freqs for set times which I personally think would be a better arrangement, (see Activity Periods- Ed) with the proviso that all freqs at all times could be utilised for the benefit of world-wide contacts, depending on condx. But whatever the outcome, more activity would be appreciated by overseas members, bearing in mind I am averaging 500 QSO's per month and have yet to qualify for a Class III!

Finally a bouquet for Mercury, a journal which ranks high with all readers here, members and "borrowers".

73

9VIMS

### SUBSCRIPTIONS ACKNOWLEDGEMENTS

Subscriptions are gratefully acknowledged from the following members between 1st March and 31st May 1968:

13	60	131	187	271	305	376	451	518	558
14	65	135	202	277	311	377	453	520	560
34	67	137	220	278	337	378	476	524	561
37	77	147	225	290	345	407	478	529	562
38	82	158	230	293	346	415	490	530	563
55	87	161	232	294	348	431	495	537	567
57	90	163	265	296	351	444	497	540	572
58	101	165	266	303	354	449	516	549	575
59	105	170	269	304	374	450	517	557	594

AFF 7, 12, 20, 38 AND 42.

I have received a 5/0 postal order purchased in Elworth, Sandbach, Cheshire on 19th April 1968 and posted from Middlewich at 5.30 pm on 20th April, but no identification!!! Could the sender please let me know and I'll sort out the books. (I have sent "Mercury" to all likely members).

*If you have trained as a Tg Op, Comcon Op or Radio Tech, or any other R. Signals trade and are interested in hearing more about us, write to G3LOV:-*

CAPTAIN M.J. FRANCIS ROYAL SIGNALS (TAVR)  
39 th (CITY of LONDON) SIGNAL REGIMENT (V)  
8 HOLLIES CLOSE,  
NEWTON SOLNEY,  
BURTON - ON - TRENT  
STAFFS

*Why not call in on the Club net G3LUN on 3525 KHZ, from  
2100A EVERY THURSDAY (EXCEPT 4th AND 11th JULY)*

HARD UP?

FED UP?

JUST PLAIN

NOSTALGIC?

*If you are hard up, fed up, or just plain nostalgic for the old days, why not join up again? Two weeks Camp and a couple of weekends is all you have to do each year.*

*With all the hams in our Unit it is doing your hobby and getting paid for it!*

*It does not matter where you live in the U.K. We have chaps from Lands End to John o'Groats (well, Truro to Stranraer actually!)*

## ON THE AWARDS FRONT

by  
G12DZG (6)

Congratulations to Alan Aston (271) on being the listener member to gain a special award in the form of a cup suitably engraved, similar to that awarded to Bill Windle, G8VG. From correspondence received (as well as personal experience) I know just how difficult it is to get the QSL's required for the awards, but to be a listener member and collect a hundred cards is no mean achievement well done Alan.

Mention of Bill Windle reminds me that his score stood at 155 worked, 143 confirmed on 10th April, whilst Ron Ford, GM3NKO, is over the two hundred mark!!

By the way, the DX expedition in Brunei over the Whitsun weekend, VS5RCS, counts towards the award scheme if you were lucky enough to QSO.

I see from a scrutiny of QSL's submitted with claims that the Society awards are being referred to as the "Mercury" award. This is incorrect as the "Mercury" is that issued by the RNARS and we do not wish to be accused of misappropriating their title, although it would seem to be more appropriate to our Society!!

### RSARS AWARDS LIST

#### Class I Awards

No.12 G3POY

No.13 G3WET

No.14 G3LHJ

No.15 G3ORY

No.16 G3UIW

#### Class II Awards

No.25 ZC4LK/DL5YK/G3XEE

No.28 G3FTV

No.27 G3UXH

No.28 VE3CLV/G3ONU

No.29 GW2OP

No.31 G4QD

No.32 G2AVR

No.33 G3WXX

No.34 9M2NF

No.35 .....This space reserved for the Field Secretary who has the cards but who has not put in his claim!! In the last issue he was reported to be sweating at 24 confirmed. By now he may have gone up in smoke!!! (No such luck - Ed)

Member 271 Special award for the first listener member to achieve one hundred confirmed listening contacts

### PROLIFIC PROFILES

#### RAY VASPER (VS9ARV, VS9HRV, VS9KRV, G3VIY, DL5YT)

Ray joined boy service with the Corps in 1948 and in 1952 was posted to Malaya where, besides service with Royal Signals, he also served with 22 S.A.S.

Leaving Malaysia in 1955 he went to Germany where he met Maurice Caplan who injected into Ray an interest for amateur radio resulting in the issue of the VS9ARV ticket whilst in Aden in 1964. The trips to Kamaran and Kuria Muria gave Ray further valuable experience and on returning home in 1966 he obtained his G3VIY call.

Now as DL5YT he works DX whenever possible but is usually to be found around 3788 Mhz on the DL5 net most evenings of the week and has worked 100 member stations to date.

### **JOHNNY HODGKINS (G3EJF)**

Johnny is employed as a civilian instructor at 8th Signal Regiment, Catterick Camp. and lives in an old stone house in a small village a few miles south of the camp. He finds one of the main attractions of the job is being able to live away from the so-called benefits of urban life.

Operation from G3EJF is a mixture of CW and AM, the former being the main Interest. He threatens. if the urge is strong enough, to build an 888 rig one of these days, but after a chronic attack of DX-itis in the 50s he has now recovered and preference is for long rag-chews on the LF bands with a distaste for the rubber stamp type of QSO.

The shack, which is an alcove in the living room, is shared with the XYL, Jean, (G3JZP) and a Samoyed called CQ. The transmitter runs 50 watts to an 807 and the antenna is an end fed Zepp with the ATU upstairs... good for the figure, according to Johnny!

The receiver is a 'souped-up' Heathkit RA--I, details of which have been described in "Mercury".

Other interests are: growing vegetables, listening to bagpipes and Beethoven (but not the Beatles), most aspects of country life and drinking beer in congenial company.

### **JOHN G. EVANS (G3WET)**

John served in the Royal Engineers from 1952-54, and last year was invited to the Guest Night at his old unit - 12 RSME Regiment, RE. Being a DX visitor he was allocated a bedroom in the Mess. In the early hours of the following morning, which was Friday 13th October, he tumbled out of bed and broke his ankle. What really caused this is not mentioned by John... can his call be a sign?

John, a consulting public health engineer, often returns to his birthplace. Criccieth, on business.

Using a KW 2000A he operates as GW3WET/M and recommends the G-whip system and promises to check into the Society net to give the boys a chance to work him,

### **WALTER E. CAUGHEY (GI2DZG)**

When Welter arrived home from his then office one March evening in 1939 he found a leaflet asking him to consider joining the Signal Company of an Anti-Aircraft Brigade then being formed as part of the Supplementary Reserve (T.A.). A reading of the leaflet showed that, as a wireless operator, he would receive a bounty of £15 (no means sum in those days) plus £2 for completing 40 drills of an hour each. Welter, who then was the holder of the artificial aerial call 2DZG talked it over with a friend 2BNM, with the result that they both presented themselves at the local T.A. HQ. On arrival there they were asked to go home and return with their artificial aerial licences. Boarding a tram homewards to get the licences 2BNM remarked that he thought they should give the whole thing a miss. Waiter thought otherwise, visualising the gear he could build when he collected his ~15 bounty later in the year and got his radiating licence. Already he had passed his GPO morse test and was an operator of the local club station, GI6YM. So, armed with their artificial aerial licenses 2BNM and 2DZG returned to the T.A. HQ and were duly enlisted and subsequently found themselves serving in a section under the command of GI5DX, who is also a member of RSARS.

As events turned out Walter paid dearly for his decision to join, for 2BNM was recalled from the unit whilst it was in France in 1940 and discharged on medical grounds whilst Walter went on transfer to another section of the company and was taken prisoner at Hazebrouck by the Germans.

Spending 5 years behind the wire 2DZG returned home in 1945 and was demobbed in March, 1948, when he was serving with No.1 War Office Signals in Eaton Square, London.

Presently he is an Executive Officer in the Northern Ireland Civil Service and is active mostly on CW, which is his main interest. Using a VFI-U and DX40 and W3EDP he has worked 120 countries to date. RX is an AR88D. Walter is also, besides the Society's Awards Manager, a member of Tops CW Club, CHC, and is Press Officer of the Belfast and District RSGB Group and Press Officer of the Northern Ireland Branch of the Royal Signals Association..

Other interests, time permitting, are amateur movie making and stamp collecting.

**OPERATION VS5RCS**  
**BY**  
**CAPTAIN (TOT) D.A. BOWDEN (85)**  
**9M2NF, G3PNF, VS5RCS ex DL2AB**

The whole project started really way back in August 1967. Whilst talking the usual DX gossip with some W6 friends, the country of Brunei (VS5) was mentioned. Laughingly, I said I might go there one day to put in a few days operating. The idea then lay dormant for some time, during which I found that there were many amateurs throughout the world who did need Brunei for a new country. Early in November 1967, I wrote to Mike (VS5MH) as he was the only station operating from Brunei, though not too active on the bands. Explaining my ideas for a dx-pedition to VS5, I sought his aid and indeed "blessing" for the trip. He welcomed the idea in fact feeling that we might take some of the weight off his shoulders!

The planning thus began to shape. Originally, I intended taking four operators for a weeks operation. The team was to be Jack (9M2XX), Bernie (9M2BD), Don (HS3DR) and myself. Since we are all family men (except the wild bachelor of Thailand), we naturally enough did not want too large a drain on our pockets. Whilst quite prepared to meet our weeks' expenses in Brunei, plus the incidental expenses of the trip, we were not really prepared to find the US\$1200, which was the sum necessary for transportation costs for four including the excess baggage charges. After many enquires, it became evident that no such sum could be expected from any source. Accordingly, I "trimmed my sails", cut the party down to just Jack and myself, and arrived at a figure of US\$400. Even this could not be managed, and at this stage I almost gave up. About this time, 5000 blank RSARS QSL cards had been despatched to me; Bill May (W3RX) wrote volunteering to airfreight a POLYQUAD antenna to Brunei; Sako Hasegawa (JA1MP) offered the use of some of his excellent YAESU equipment and I received several letters of encouragement for the trip. In view of all these factors, I decided that, come what may, I would go over myself in any case and worry about finance latter!!

The dates for the trip were at this time quite flexible, so I took a good look at my 1967 log to see the dates of maximum propagation on both 15 and 20 metres, and found that April, May and June were the best months of the year. The new Sultan of Brunei was to receive his Coronation in June and I was to attend a Regimental Camp on the East coast of Malaysia the first week in May, so the last week in May/first of June were chosen, as most convenient. We next explored the possibility of Jack going over by military aircraft and taking some of the gear to cut down the expense of

excess baggage by commercial airline. The Royal Air Force came up trumps and could see no objections. They were running twice weekly schedules on Thursdays and Mondays from Singapore to Brunei, so we could plan a four day operation. Maurice (VS6AA) had by this time arrived in Hong Kong and expressed his willingness to join us if this could be managed.

The operation was by now well under way. The equipment had arrived (by devious means) at my QTH, the Polyquad was in Brunei and Mike was busy getting it up on a 70ft pole. The RSARS cards were overprinted locally, rubber stamps and supplies of envelopes etc. placed on order. YAESU had also offered some of their very attractive cards, and agreed to have them overprinted in Japan. A minor catastrophe occurred when the printers shop burned down in Tokyo, and I had to send another proof in a hurry! I had several offers from many kind people volunteering themselves as QSL manager for the trip. However, since my QTH was OK in the call book and both my two daughters and I collect stamps, I decided I would do that task myself!!!

Into May now, and advance publicity in the various magazines and news-sheets, plus many QSO's on the DX bands ensured maximum interest in the trip. Frequencies were decided upon together with timings etc. One minor problem then arose.. What of all the boys in UK and elsewhere, who owned KW2000's which would not go down to the chosen 21 Mc/s frequency? It was decided to divide the time spent on 21 Mc/s both below and above 21,300 and so keep everyone happy. Meanwhile Corps Headquarters in Singapore set about arranging our accommodation in Brunei and in Singapore for our overnight stays in both directions and also took care of the transport arrangements to and from the airports.

Finally the Collins Radio Company kindly agreed to supply a 312B-5 remote VFO, so I could take my KWM2A and 30L1 along, and be able to work them split-frequency', and this just about completed the ground work.

Early morning. 29th May, I set out for Singapore, picking up Jack who is stationed with Gurkha Signals at Seremban. On arriving at Singapore we were met by Maurice, and talked over operating tactics; the three of us being too excited for much sleep. Next day May 30th, we flew to Brunei, a pleasant 5 hour flight and were met at the airport by Mike and Major (QM) Frank Stubbs (also Royal Signals) who was commanding the Brunei Garrison. Made my number with Cyril Parrott, the State Controller of Telecoms for licence, proof of presence etc. and back to Mike's QTH which was to be the centre of operations. Mike had done a grand job and we looked over the magnificent array of antennas he had erected for us.. These were besides the POLYQUAD for 10/15/20, dipoles for 40 and 80 metres at 70ft & separate no-compromise verticals as well - what luxury!! Then followed a quick check of the gear and its installation, and, very important, we met Ann, Mike's charming XYL, who did so much to make us welcome and who kept us supplied with food and drinks during our 18 hours of operating each day.

And so to action - 1100 GMT Thursday 30th May - contact and VS5RCS was on the air. The first QSO was with KR6NR, a good friend in OKINAWA. Next a few of the local South East Asia boys. Then the SEA-NET at 1200 Z to give all members a chance to have a contact with Brunei. From then on. when the bands were open, we didn't have a spare moment. The noise on our receiving (and very often transmitting) frequencies had to be heard to be believed. There must have been thousands calling us, and so on through the night, QSYing to 15, up to 10, back to 20, down to 40 and then 80. Due to minor troubles the CW rig was not getting out so well during the first evening, but the fault was soon located and thereafter all rigs never faltered. The score for the first night was 450 on SSB and about a 100 on CW. Ten yielded very little throughout, likewise Forty and Eighty produced absolutely nothing. This was despite calling CQ "ad nauseam" on these three bands on both modes. However 15 and 20 were nearly always open in one direction or another.

The total score for the operation was 3350 contacts of which 2176 were SSB and 1174 CW. Maurice says I can talk quicker than he can send!! But to be fair, the SSB rig always had the POLYQUAD antenna - and we had a wider range of listening frequencies. The FT DX 100 has only  $\pm 5$  Kc incremental tuning on its receiver.

The number of 'G' contacts was disappointing. There were only 96 on SSB and 44 on CW! Total RSARS members worked was 24. Perhaps the Whitsun weekend weather in UK was too good!

Total countries worked on SSB was 96 and on CW 66 - but this made a combined total of 106, and thus DXCC was worked in the four days operation.

During our short stay in Brunei, we were extremely well looked after by Ann and Mike during operating hours, and by Major Frank Stubbs and his staff during our hours at Bolkiah camp. We usually operated from about 3 p.m. local through to 8 a.m. then back to camp for breakfast and bed. Sleep was at a premium, although Ann very kindly put down a makeshift bed under the living room fan, so that we could snatch an hour or so each during the nights.

On reflection we had a wonderful four days of ham activity. Annoying and frustrating at times, it was nevertheless well worthwhile, a unique experience & one which we could not repeat in a hurry - but one which will always remain in our memories.

Come Monday morning, we closed down the station, re-packed all the gear and made ready for our return flight to Singapore. After farewells at the Camp, and a small presentation ceremony for Ann and Mike, we left, with the thought that there are now 3350 amateurs less needing Brunei for a new one!!!

The hard part now has arrived - QSL'ing. To date (13 June) over 525 cards have been received (and answered). To those who have not yet sent, please, get your dates/times bands etc. correct and in GMT!!

Just for the record, a few statistics:

	TOTAL	CW	SSB
Operating Time 85 hrs.			
QSO's	3350	1174	2176
Countries	106	67	95
RSARS stns. worked		9	14
G stns. worked		44	98
W stns. worked		188	902

(An excellent effort indeed and my thanks to Dennis for finding the time to send me the write-up in time for the Summer edition.

But there are always two sides to any story, and I'm sure Dennis won't be upset if I follow his report with a letter I received from Maurice Caplan - suitably censored!! Editor).

Singapore

4th June

Dear Ray,

Dennis and Jack left this morning. I'm staying in the 18th Regt Mess until my plane leaves on Thursday and as I have an hour to kill until the bar opens I thought I'd let you have my first impressions of the expedition.

Dennis is producing the "authorised version" for you and, from what I read on the Andover going across to VS5, is making an excellent job of it.

Dennis and Jack arrived on the Wednesday afternoon. That evening we went down to the Islamic restaurant for a curry and natter (it beats curry and rice!)

Up at 5.30 Thursday and off to Seletar in a Staff Car which had been arranged by Joe Crocker. By the way, Joe did a first-class job on our behalf. He's wasting his time as an SO III; he ought to be working for Thos Cook! His arrangements were immaculate, even down to the map of Borneo which he provided so that we could study the terrain as we flew over it!

On arrival at Seletar I had my first mild heart-attack. A notice board announced that as from 2nd June, passenger in FEAF aircraft would travel in uniform, and 2nd June was the date of our return flight! As the only piece of uniform we had between us was a khaki handkerchief I thought we were doomed. All the other passengers were in O.G. We finally convinced a most sceptical RAF WO that we had come from points far and wide and blamed our respective orderly rooms for not informing us about travelling in uniform (At that point I was prepared to blame anybody, including my grandmother).

We touched down in Brunei about 1 p.m., after a most comfortable flight and were met by the F of S and Y of S of 648 Tp, who humped our 400 lbs of kit into their LWB Land Rover and drove us to Bolkiah Camp, where we were warmly welcomed by Major Frank Stubbs, the Camp Commandant, and Mrs Stubbs.

After a meal and a natter, into town to the Telecoms Dept to pick up the licence. Dennis bowled straight in to see the State Director of Telecoms, Mr Porritt, (ex NS Line Tech at 1 TR, 1948!) who told him that the licence wasn't ready (2nd mild heart-attack), but was in the Mentri Besar's office awaiting approval. However, he said that it was OK to operate and that the licence would possibly turn up sooner or latter!

Back into the Rover, which Frank Stubbs had placed completely at our disposal, and off to VS5MH's QTH. He lives in a police married families patch, in an extremely spacious bungalow surrounded by a large garden. Three 70 foot masts were in place and on one of them was erected the Polyquad which Dennis had had shipped over from the States. Mike's own shack is in one of the rooms in the Amali's quarters which are in an annex at the back of the bungalow. He had completely stripped down his rig to make room for ours and had also cleared an adjoining room. Jack and I set up the FT DX 100 in one room, and Dennis the KWM2A/Drake 2B next door.

By 1700 we were QRV, Dennis with the quad and Jack with the dipoles (which Dennis had brought). I suppose we shouldn't really have been surprised, but the comprehensive break-through between the rigs when on the same band came as something of a shock! However, with Dennis on 15 and Jack on 20 (working JAs!), things were just bearable.

Dennis had used the FT DX 100 for a week or so in KL and said he had found it a great little rig. Unfortunately Jack and I didn't find it so: With Jack reading from the handbook and me turning the

knobs we spent half an hour trying to load the thing! The next thing we discovered was that there was no sidetone from the RX. so we lashed-up '5 MH's RME 890 as an expensive CW monitor. Meanwhile, in the next room, Dennis was in full cry.

By midnight the FT DX had developed a T3 rasp and I was prepared to sling it through the window. We did actually switch over to Mike's Viceroy, but that wouldn't wear the linear, so we went back to the transceiver. I must admit that Jack and I weren't particularly intelligent in our approach to solving the problem of what was wrong with the transceiver and after getting T8 from a UA9 I just lost all reason.

By breakfast time Friday morning Jack and I had reached QSO Nr 105 (Dennis was up to 450) and weren't very happy. It was apparent that the bands were going to be dead from about 0130Z to 0700Z, so we went back to camp, had breakfast and went to bed.

Back at tea-time for the next session to discover that the transceiver note was T9 except when we loaded it off resonance! By midnight, when we worked you, we were in full flow and everything went like a dream from then on.

Meanwhile, Dennis had discovered that the quad was sadly in need of tuning. The SWR on 15 was almost 3:1. He persevered with it for the first night and we decided we would forgo our sleeping period on Friday morning and try and resonate the thing. But how do you adjust a quad that's on top of a 70 foot mast? Quite easily - you get the local fire brigade to turn out their fire engine with a 100 ft extending ladder! This is what Mike Heincen did. At 10 o'clock on Friday when Dennis and I returned from breakfast, there was this huge, gleaming fire-engine in Mike's garden, with a crew of 7 and the Chief of the Brunei Fire Service!

Mike had no qualms about going aloft, so Dennis and I volunteered to stay down below and watch the GDO and the SWR meter. Dennis took a couple of photographs to perpetuate this momentous event (it was the first time the fire engine had been on a 'live' job) and with the SWR no worse than 1.5:1 on all bands we all retired to Mike's verandah to celebrate, the fire chief included.

Back into the shack and off we went again. We had hoped for a fair amount of activity on 10 metres but in the event we worked exactly 2 VKs and 2 TA's (on Sunday morning) on that band. 40 was also unworkable. I think I worked a ZS5 on CW and Jack had about 6 SSB contacts with Pacific stations, otherwise nothing. 80 was out of the question, with just about the highest noise level I've ever heard, so we were confined to 15 and 20. As it turned out this was probably a good thing. Had we persevered on 80 and 40 we would probably have averaged a couple of QSO's an hour and no more.

After that it was just one pile-up after another. I'm afraid the FT receiver just couldn't cope. Even when the skip was favourable for G there was still a layer of UA9s and 0s on top of a layer of OHs and SMs on top of the DMs and DJs on top of the Gs. In desperation we were forced to work a whole string of East European lids just to get them off the frequency, which still left us with the West European lids?

Occasionally I would call QST and rollock the breakers but how do you rollock people in 10 different languages at once? We called G3 IMI and DL5 IMI at frequent intervals, invariably without success.

It was even more chaotic on SSB. Rarely could Dennis copy a call in full. It was just a question of taking the strongest signal and trying to identify one or two call letters ("Go ahead the question mark, Charlie yankee station!") On one of my rare ventures on the 2A I said "Go ahead the YL signing EW" and got the reply "This is OE2MEW- Name is Ed" in hurt tones!

It was a great pity that so few society members came through the barrier. This, to me, was the only disappointing aspect of the whole operation. I don't think I've ever been in a place from where it is more difficult to work into G - even allowing for the QRM. In Les Dicker's shack last night UK stations were booming in on 14 until 1930Z.

A few words about Mike Heincen. I don't think I've ever met such a generous chap in any life. He just couldn't do enough for us. We had the complete run of his house and instructions to butcher the whole of his rig should it have been necessary to keep us on the air. He put a fridge full of beer at our disposal (the foolish fellow), kept rushing into the shack with cups of tea and on one occasion wheeled in an evening meal on a trolley so that we could eat and operate! We had all our evening meals at his place and on the Saturday evening he brought several friends along to meet us. I'm afraid they must have thought us an uncouth lot, returning their greetings with "How do you do? QRZ" When we finally said goodbye on Monday, Dennis presented Mike and his wife with a very nice Selangor pewter wall plaque suitably inscribed, and Jack gave them a splendid Gurkha Signals plaque, also inscribed. They were so touched that Mike, a fairly garrulous chap, almost stopped talking. Mrs Heincen is a charming person and accepted our obvious intrusion into their domestic life with good humour.

Having packed the rigs into the Rover we went back to camp and said farewell to Frank and Ruby Stubbs. Frank, also, had been the essence of co-operation and had taken a genuine interest in the operation. He brought Ruby along to the shack on Saturday evening and, as an ex-operator, was fascinated by my gleaming new Vibroplex, which he had never seen before.

And so to the airport for the final mild heart attack. A fairly truculent RCT sergeant said he knew nothing about the excess baggage of 160 lbs which Dennis had asked for and which had been agreed - one way only. "I'm sorry", he said "The planes full". Dennis had resigned himself to an additional 3 days in Brunei when the sergeant went off to lunch. His 2IC immediately grabbed the cases and put them on the baggage truck!!

We slept like dead men on the return flight. Arrived at Seletar and found one of Joe Crocker's Staff Cars waiting to whisk us back to Dover Road.

So there we are, Ray, one or two of the highlights of a memorable experience. I finally made a DX-pedition and enjoyed every moment of it.

Looking back there are several things we could have done which would have made life easier. We badly needed a good receiver for use with the transceiver. Something like a 2B, which Dennis had with the KWM 2A. We should have taken steps to ensure that we could operate both modes on the same band simultaneously, and we found that a beam is essential. It might be a good thing if we produced a sort of SOP for dx-peditions!

Dennis did a vast amount of work in getting the thing off the ground and deserves a worthy vote of thanks. I was fortunate enough to get in at the last moment and contributed nothing apart from operating. Thanks also to you and to Des Barry, to VS5MH and his XYL, Frank and Ruby Stubbs and Joe Crocker, the chief of the Brunei Fire Brigade, the Ws who supplied the Polyquad and Mr Hasegawa of Yaesu Musen, who loaned us the FT DX 100. Finally our apologies to all the RSARS members we didn't work. We really were trying fellers! 73 Ray. The day after I get back to HK I'll be involved in the HARTS NFD weekend. CQ 20!

Maurice.

**CATTERICK GARRISON AMATEUR RADIO CLUB  
(AFF 43)**

G3CIO, at long last, appears to have gone full circle and once more the Clubhouse can be found in the old School of Signals lines at Messines, Room 38 to be precise. We sincerely hope to get down to a spot of serious business and win back the members who "fell by the wayside" and/or never were able to keep up with our numerous changes of QTH.

Basically the station comprises a SOMMERKAMP FR 100B and the companion 200B Tx with the FR 1000 linear, a DX 100U and DX 40U together with an Eddystone and an AR 88. For the Top band boys a Codar AT 5 is under way. The aerial farm comprises a 3-element Thunderbird, a trapped vertical (kindly donated by G3RXX) and a G5RV trapped dipole, at long last airborne.

So G3CIO should once again be heard loud and strong.

The Club station, using the Society call GB3RCS, was established on the local sports ground at MESSINES over the Old Comrades weekend 22/23 June 1968. This "Field Day" certainly drew the crowds and we were delighted to meet so many members of RSARS, both "eyeball" and on the air.

The operators who helped to keep GB3RCS going were:

80 & 40 metres	G3VIS	20,15 & 10 metres
	G3XBA	

Whilst GI2DZG, G3EKL, G3PNM and G3RUS acted as stop gaps as and when required.

Thanks to the perseverance of G4RS and GM3NKO, a most enjoyable QSO was had with Dennis, 9M2NF, late on the Sunday afternoon. Conditions were extremely poor with short skip the order of the day.

It was particularly pleasant to see our President, G2EC, at work with a microphone. Eric Cole had a QSO with Louis Varney (G5RV - of antenna fame) and thoroughly enjoyed himself before having to leave.

(A more detailed report of the "At Home" will be in the next edition).

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**OUR FRIENDS THE GPO ENGINEERS**

The following is an extract from one of our members letters:

"I had a rather amusing case of TVI - I had been active on 70 cm for about two weeks when one evening a familiar little green van rolled up outside the QTH. The gist of it all was that I was blotting out BBC 2 through sheer overload of the TV front end of one set only in the vicinity.

The GPO engineers said that they had previously checked on my radiated signal and found it OK and that further checking with the complainant had produced the fact that the chap didn't have a TV licence yet had had the nerve to call in the GPO!!

It turned out that he was using an indoor aerial "so that the GPO wouldn't know he had a set" - unfortunately this is a bad area for all TV channels and an outdoor aerial is a must and without it TVI resulted.

The chap in question was fined £25 and had to buy an outdoor aerial to boot!!"

Which leads me on to our friends in the interference department in general. I have had the pleasure of being inspected by three different area engineers during my twenty odd years as a licensed amateur. In each case it was a routine check, not one brought about by a complaint, and in each case the visiting engineer could not have been more friendly or helpful.

I have also been involved with the same gentlemen when, operating high power Service equipment, I was responsible for TVI (imagine running about 10 KW on 5005 Kc/s - and in a channel 4 built up area well away from the BBC transmitter!) Again the engineers were extremely helpful and did everything in their power to reduce the harmonic radiation. From various press reports this is their usual routine when dealing with amateur interference also and I am sure we can be very grateful in knowing that we have such helpful people to assist us with our problems.

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### ACTIVITY PERIODS

The last Sunday in each month is a particular time for you all to get out and about on the bands and work fellow members. Judging from the activity heard and reported on over the last few months, RF is at a premium!

Frequencies are: 3505, 7010, 14020, 21030 and 28040 for CW

and 3750, 7050, 14180, 21380 and 28880 for AM or SSB.

Have a go please - the dates are:

28th July    25th August    29th September

The HQ Station, G4RS, will try to adhere to the following schedule on these dates, all times GMT.

0900 hrs 7010: 0930 hrs 14020: 1000 hrs 21030: 1030 hrs 28040 for CW  
1300 hrs 21380: 1400 hrs 28680: 1445 hrs 14180: 1530 hrs 7050 for AM or SSB

In addition, G4RS will be running slow morse transmissions each Tuesday and Thursday evening at 2000Z on 1865 Kc/s. The morse speeds are 8, 12 and 15 w.p.m. and are intended for members and SWLs who are trying to work up to the GPO morse test speed:

G4RS and/or G3CIO will be active on Tuesday and Thursday evenings on 3780 plus or minus from 1900Z

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### STOP PRESS            STOP PRESS

Dave Llewellyn, DL9XE(268), will be operating from LIECHTENSTEIN (HB0) probably during the period 2nd to 13th September 1968. Full details will be made known over G4RS and GB2RS during August.

- 116 DL5XHL** Look forward to hearing you from 9VI land just as soon as you can get weaving  
**G3XAV** Jim. I bet Dave Llewellyn is champing at the bit with your QSY and his cancelled  
**MP4TBU** trip to SM2 - never mind, it's all the luck of the draw!!
- 376 G3ZC** Thanks for your sub Hugh - sorry to hear that you have been under the weather. Hope all is well now and look forward to hearing you on the bands again
- 135 G3RGF** Very sorry to hear of your loss Ron. Can well imagine just how hectic you are. Ron is on 1980 Kc/s each evening at 1900 hrs clock time with G3RHO, should any member feel like a QSO on Top - just call in.
- 268 DL5XE** Congratulations on your promotion Dave but hard luck missing out with your posting to 9M2 land. You mention the lack of activity on March 31 - why only then!! It seems the same every month. The HQ Station is on, I can vouch for that, but seldom does an RSARS QSO show up.
- 575** Hope you were lucky with your RAE in May om. Let's have your call sign just as soon as it is issued.
- AFF 36** Thanks for your news George'. Hope you enjoyed NFD. Glad to know that '3NKO  
**GM3TLR** is giving you assistance.
- AFF 7** Very please to hear from you Bill and to hear that you are whipping up enthusiasm once again. Hope you have successfully completed your mast maintenance and sorted out all your antenna problems.
- 540 G3WRY** Thank you Tony for the report on the HQ Station slow morse xmissions. They seem to be getting out very well and G4RS has quite an audience each evening.
- 213** I hope you have managed to find out what was wrong with your Trio by now. Morse should be no problem for you when you try again for your ticket - the very best of luck.
- 476 G3BHC** It was a very pleasant surprise to hear from you Richard. I was running as VS1BA when we last met, over twenty odd years ago (you shouldn't remind me of my youth!!) Hope you have been successful with your battle over the BXI telescopic tower - sounds a nice piece of gear. Two or three members join with G4RS using AM, so don't be frightened!!
- 497 G8PL** Thank you for your letter and subs om. There is quite a bit of activity on 80 metres, although the DX bands seem somewhat sparse of RSARS members. But there are five active boys out in the Far East at present, so perhaps you may strike lucky.
- 121 G3TUM** Sorry about your call boob John. Quite easily done and obviously my brick! It seems that you and I have something in common other than amateur radio - a third party described me to someone who had to meet me the other day as "A tall bespectacled gentleman, comfortably corpulent" - ah well.

Maurice is active daily on CW, either 21025 or 21075, around 1000 Z. He is running Sommerkamp gear (or was when this went to print!!) and seems as industrious as ever. Knowing the way Maurice goes about things, it did not surprise me to hear that he had a station organised for NFD. Also for the new edition

- 139 5N2AAF** Mike has been back In G on leave and was a very welcome visitor at G4RS. By the time you read this he will be back in Nigeria, active mostly on 10 metres with an occasional excursion on to 40. Mike comments on the lack of interest in amateur radio with his local friends and says that there only two Nigerian citizens licensed out of a population of 58 million - not much worry of mutual interference!! Apart from these two, there are a further nine stations actually active, although apparently not very!! Mike hopes to get the Ahmadu Hello University club station weaving this term using the call 5N2AAU with an SB 101 and a TA33 beam. Thanks very much for your welcome letter and it was a great pleasure making your acquaintance again.
- 202** How nice to hear from you Paddy - sorry to have to put you on the "baddies" list!!! Yes I'm the brat you taught morse back in '39!! Unfortunately I'm the only one of 8 Squad in the Society, although one of the same intake who became an ES is G3FGN, (68), Olly Earle. There are a few of the gang still knocking around, Mike Ham, Harry Haw, Tommy Swales, Paddy Ford and others. Happy memories - or were they!?!?
- 301** Thank you for your letter OM and your query regarding morse xmissions. There are NO slow morse xmissions from Royal Signals sources at all at present. There has been talk of a world wide service but it has never quite got off the ground!! I am sure you are aware of the slow morse xmissions put out each Tuesday and Thursday by G4RS on 1865 starting at 2100 hrs clock time. These vary between 8 wpm and 15 wpm. Listener reports from all over the country report very favourably on the reception of these transmissions. Could you not utilise these? If they are too fast, recording and playing back at a slower speed might help you.
- 178 G2AYQ** I have dropped a short line to the two amateurs you mentioned Ted. Neither of them had made the plunge.
- 24 G3IDG** Hope you have made some progress on 2 metres CW with that xtal Allan!! I have used most of your letter elsewhere in this issue, but will bring out one very useful point that you made here. Allan wishes to remind one and all that after 30th June envelopes used for the QSL cards will have to fall between two sizes, 3½" x 5½" and 4¾" x 9¼" in order to fall into the lowest postal rate. (Watch this as there may be yet another change from September - Ed) Allan suggests a suitable size is the envelope 4½" x 7".
- 183 G3SYW** Iain, after a short stay in Blandford, has moved down to London (the hot seat?) and at long last has received his wandering MFO (it had been adrift for twelve months). With a little bit of luck his SB 100 will soon be percolating again and we shall have the pleasure of hearing Iain once more.
- 474 G3XFV** Congratulations OM on getting your call and thanks very much for the change of QTH. you hadn't been forgotten, your last letter reached me the day after I had knocked up the amendments list!!
- 478 G2FYT** Hello Eric. Thanks for the nice remarks about the Mercury. Hope it stays that way!! Good luck on the bands.
- 163 G3UTI** Hope your SSB building is progressing favourably. One thing Urban, you have an excellent teacher within a stones throw of you (JXL). Don't worry about his blasts, he has a heart of gold really!!!

- 225 **G3XBA** You'll have a devil of a job overcoming the poor TV reception in Barnard Castle  
**DL2AH** John. Better get around the locals and try to persuade them that a slave repeater is needed in your area, same as Richmond has fiddled!! But in a serious vein, hope you manage to spark to your heart's content soon. We often here Dave, GB0FV, but he pops up all over the place more like a "will o' the wisp". OK about holding on to DL2BB - looking forward to hearing you from over there later in the year.
- 31 **G3OFV** You make excellent copy on sideband Dave and it is good to hear you from all over  
**EI3AH** the place. But I expect there are some of the members who will be wondering just  
**DL5XX** where to send QSL's for you! For me, I'm playing safe and keeping your QTH in sunny Ireland. Good luck in your travels and maybe we'll have the pleasure of meeting you again at the AGM.
- 469 **9HIBE** Glad to hear from you again Harry and hope you have got your QSL cards by now. From your second screed, you seem to be very active on CW on the HF bands and I'm sure members will be on the look out for you each day.. Harry is active Monday, Wednesday and Friday afternoons, each evening after 2300 Z until the small hours - bands? 20, 15 and 10 metres depending upon conditions.  
 Harry says that he has worked all sorts 6Y4, FG7, CO, KP4, PJ2 and so on but has only worked one member. DL5XE, (now promoted WO 11 Y of S) although he has heard '8VG and '3RWF but was unable to break either of them, (Another one missed Bill!!)
- 275 **VP1DW** Tks for your letter Don and all your news. VP1DW is on the look out for members on CW on 28100 between 1600 and 1700Z each Sunday but suffers terribly from W QRM.
- 59 **G3VBL** Thanks for your note Chris and OK about your eventual QSY to GM land. Let me know pse when you do get there. Meanwhile good luck on your travels this summer and hope to hear you from PX1 and EA6 and possibly GD3 in the autumn.
- 299 It was nice to hear from you Harry and I trust that the cards were to your satisfaction. I could not agree more that amateur radio is a delightful hobby. As you say, the world is at your finger tips and you can make many dear friends from the hobby. Again my sincere thanks on behalf of the Society for your donation.
- 130 **G3DBU** Thanks for your letter Bill and sorry about your Club. (AFF11) Everything sorted out now - how about a bit of RF from up that way.
- 567 **G3VVH** Hello again OM.. You are dead right - life membership is a bargain particularly at your age!! Hope you have your transistor transceiver finished and working OK by now. You stand a much better chance of getting the beast finished while you are off the air, so perhaps losing your rx and having the tx fault was really a blessing in disguise!!!
- 13 Thanks for the nice letter Jim. That is a good old number, (2325539), made me blush, but as you say, the trade of ES pre war was one worth having, and took a lot of getting, and you had morse under your belt also. Hope you find the time to take the GPO morse test and the perhaps another old hand will join the throng. Wilf welcomes callers, his work QTH is West Ham Farm, Worting Road, Basingstoke and the home QTH as per members list.  
 No trace of Vigurs or Hatton but Freddie Spearpoint is looking after the various types of operators the Corps now boasts, at Records Reading..

RULES FOR THE ROYAL SIGNALS AMATEUR RADIO AWARD

1. The object of this award is to encourage activity amongst the transmitting and listener members of Royal Signals Amateur Radio Society.
2. The award is available to all individual members of the Society and the affiliated clubs subject to the conditions laid down in these rules.
3. The award will be made in two classes and will consist of a certificate for the Class II award and a Royal Signals plaque for the Class I award.
4. Transmitting members must furnish proof of contact and Short Wave Listener members proof of having heard, member stations as detailed below:-

For the Class II award:

25 member stations including the Society's HQ

station G4RS/GB3RCS

For the Class I award:

50 member stations including the Society's HQ

station G4RS/GB3RCS.

5. Members may either submit QSL cards or other written confirmation or a list certified by two licensed radio amateurs, an officer of a National radio society or an Officer of Royal Signals. Such a list must take the following form:

"This is to certify that I have examined QSL cards or other written confirmation from the stations listed below which confirm contacts made by/reports station  
 .....

Signed .....

Appointment/Callsign .....

Signed .....

Appointment/Callsign .....

Date	Time	Freq. Band	Callsign of Member station contacted/heard
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6. Member stations contacted/heard after 1 Jan 1965 will count towards this award. For the purposes of the Award the same member operating under different callsigns from different countries will count separately under each callsign. Thus G3NJM and 9M4MB although operated by the same member count as two member stations.

However, contacts made by this member (either callsign) will count towards his own award.

7. Claims together with the supporting evidence should be sent to:-

Mr. W. E. Caughey, Awards Manager RSARS,  
 Gilnahirk Park, Cherry Valley,  
 Belfast 5, Northern Ireland.

8. Details of awards presented will be published in **MERCURY**.
9. Transmitting members of the Society are asked to scrutinise all listener reports received and to assist by issuing QSL cards to listener members of the Society. Listener members are asked to ensure that their report cards are clearly marked "Member Royal Signals Amateur Radio Society".

**AVAILABLE FROM HQ**

**MEMBERS' NOTEPAPER**

This is a good quality white paper and costs 8/4d. per 100 sheets post free.

**MEMBERS' QSL CARDS**

The basic card cost 37/6d. per 500 post free. We can overprint your callsign, Name and address in black, red, blue or green for a further 15/- per 500, making a total price of 52/6d. per 500, less than a penny farthing each.

**ORDER FORM**

(Block letters please)

NAME ..... CALLSIGN.....

ADDRESS.....

I enclose Cheque/Postal Order for ..... Please supply:-

..... sheets of Members Notepaper at 8/4d per 100

..... Basic QSL cards at 37/6 per 500

..... QSL cards overprinted in .....(State colour) at 52/6 per 500

Cheques and Postal Orders to be crossed and made payable to

**ROYAL SIGNALS AMATEUR RADIO SOCIETY** and post to:-

Captain (QM) R.A. WEBB, R. Signals  
30th Signal Regiment,  
Blandford Camp,  
BLANDFORD FORUM,  
Dorset.

**APPLICATION FOR MEMBERSHIP OF THE  
ROYAL SIGNALS AMATEUR RADIO SOCIETY**

I wish to apply for membership of the Royal Signals Amateur Radio Society as under:-

**ANNUAL MEMBERSHIP** (5/- per year) **SUM ENCLOSED** \_\_\_\_\_

**LIFE MEMBERSHIP** (£2.2.0d) \_\_\_\_\_

**CLUB AFFILIATION** (10/- per year) \_\_\_\_\_

**SURNAME**..... **CHRISTIAN**

**NAME**.....

**ADDRESS FOR CORRESPONDENCE** .....

**CALL** ..... **SIGNATURE** .....

(Give brief details of your service on reverse of form)

**PLEASE RETURN TO** : Captain (QM) R.A. WEBB, R. Signals  
30th Signal Regiment,  
Blandford Camp,  
BLANDFORD FORUM,  
Dorset