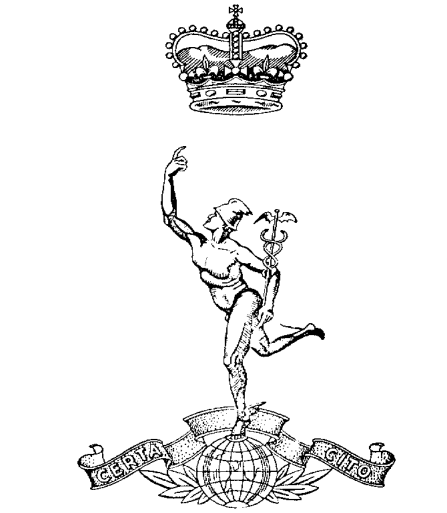

MERCURY

THE JOURNAL OF THE ROYAL SIGNALS AMATEUR RADIO SOCIETY

NUMBER 10 **JANUARY 1965**

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2 Squadron,
8 Signal Regiment,
CATTERICK CAMP,
Yorkshire.

HEADQUARTER STATION - CATTERICK CAMP - GB3RCS/G3CIO

CONTENTS

The Officers of Royal Signals Amateur Radio Society and the staff of Headquarters Station G3CIO wish all members

A PEACEFUL AND PROSPEROUS NEW YEAR

EDITORIAL

GETTING DESPERATE

When your present scribe took over the editorial chair he was fortunate enough to find a small supply of technical articles waiting to be published. A steady trickle of articles received over the last eighteen months have supplemented the original supply and we have been able to increase the size of "MERCURY" and, we hope keep you interested.

Having completed this issue the file is empty and the prospect for our April issue is pretty grim.

If "MERCURY" is to continue material is needed NOW. With membership topping the 300 mark it is not too mach to expect 5% of the membership to contribute articles each year.

We can only publish what YOU contribute, we want articles on equipment, of all technical standards, theory articles, news items etc., etc.

IT'S UP TO YOU.

73

ECHO JULIET FOXTROT

1. The Contest will be held on 31 Jan 65 in two sections from 1000-1230 and from 1430-1830 GMT.

2. Operation will be confined to any authorised form of telephony within the 3·5 Mc/s band.

3. Stations will call "CQ Royal Signals" and will exchange a five figure group consisting of RS followed by the operator's membership number. To avoid confusion Affiliated Clubs will preface their AFF number with the figure 9, thus G3LPC would send "57927". UK stations will also send their County, DL2 stations their DOK.

4. Scoring:- Only contacts between members of the Society will count for points and only one contact with a station in the contest as a whole will be allowed. The first contact with each UK county, DOK district or overseas country (including EI) will score 10, subsequent contacts 1 point. The HQ station G3CIO will operate but not compete and will score 10.

5. Logs should be kept on foolscap size paper in the following form and must reach the Field Secretary, R Sigs ARS, 8th Signal Regiment, Catterick Camp not later than 1 Mar 65.

RSARS Phone Contest

Callsign..... Location .....

Time GMT	Callsign of Stn worked	My report on his sigs and membership number	His report on my sigs & membership number	County	Pts

6. Multi-operator entries will be accepted provided each operator is a member of RSARS.

7. Stations will take care not to cause interference to the RSGB News Service on 3600 Kc/s. Any station causing such interference will be disqualified.

8. In any dispute the Field Secretary's decision is final.

Royal Signals ARS CW Contest

The rules for this event will be similar to those for the Phone contest with the following exceptions:-

1. Date 7 Feb. 65 from 1000-1230 and from 1430-1800GMT

2. Operation will be confined to A1 on the 3·5 Mc/s band

3. Stations will call "CQ R Sigs" and exchange six figure groups consisting of RST and membership number, affiliated clubs adding 900 to their AFF number. County, DOK etc. will also be exchanged.

Rules 4 to 8 as for the Phone contest.

Royal Signals ARS Listeners Contest

A prize will be awarded to the non-licenced member of the Society submitting what is in the opinion of the scrutineers the best and most useful Check Log covering both the Phone and the CW contests.

THOUGHTS ON CONTEST OPERATING

Lt Col Norman Bower G5HZ

PROs and CONs

Judging from the correspondence columns in the various amateur radio publications the transmitting fraternity are deeply divided over the merits or otherwise of contests.

The anti-contest brigade contend that only a minority take part; they clutter up the bands for most of a weekend and serve no useful purpose.

The contest minded amateurs reply that even though they may be in the minority, others are not forced to take part and if the contest is a phone one they can always try a little CW for a change (not always a popular suggestion) or they can take the family out for the day.

Whatever the pros and cons of the matter are, there is no doubt that a contest does provide a good test of operating skill and tests the equipment in a way that is not possible in normal QSOs.

Contests

Assuming- that you favour contest operating and would like to "have a go", let us consider the main contests in which you can participate.

B E R U

This is probably the main contest sponsored by the RSGB. It is CW only and operation is on all bands except Top band and VHF. The duration is 48 hours and it is divided into a high and low power section. This contest is a real test of the equipment as well as the operator.

Agenda Item 5 - Revision and clarification

A relatively new contest confined to two band phone operation. It is sponsored by the RSGB and the duration is 36 hours.

This contest is very enjoyable and (for some) does not impose too great a strain on the operator.

CQ world wide DX Contest

This contest is run by CQ magazine and is probably the most comprehensive one in the contest calendar.

Entries may be submitted for single or all band operation and multi-operator stations are also catered for. Separate weekends are allotted to phone and CW.

ARRL Contest

The main contest sponsored by the ARRL. This is an all band contest and operation is confined to contacts between USA and Canadian stations and the rest of the world.

In addition to the above there are many other contests too numerous to detail. All preferences are catered for, top band, VHF and even direction finding. Details are usually published in the amateur periodicals.

Selection of Contest

When considering entering a contest the following points should be considered

a) Is the date suitable and do the operating times suit? (It is strongly recommended that the family be persuaded to be away over the period).

b) Shall I confine my operation to a single band or am I well enough equipped to try all band operation?

c) Shall I be TVI free during the period?

d) Is my CW up to scratch? Some contests such as Top band contests demand quite a high standard.

Preparation for the Contest

Having made the fatal decision, there is little you can do until "M" day apart from ensuring that your equipment is at the peak of efficiency and not likely to let you down at the critical moment. The aerial must not be overlooked; the Tx can be repaired in the middle of the night, but not so the aerial.

A few weeks before the contest make a point of operating on the bands on which you intend to compete. You will thus be able to get an idea of the conditions likely to prevail and thus plan your operation to the best advantage.

MUF forecasts are also quite helpful. The eventual winner of most contests is often decided by the operators whose "gamesmanship" was the best. To quote an Army adage "Time spent in reconnaissance is seldom wasted".

A day or so before the event make out a callsign check list for each band. This will enable you to spot easily those stations you have previously worked and avoid that supreme time waster - the duplicate contact.

The headings on the station log can be amended to agree with the contest entry sheet and so enable a carbon copy to be submitted to the organisers. One word. of warning - do read the rules regarding the submission of the entry. Organisers are getting much tougher these days and have no hesitation in disqualifying an entry for failure to obey the rules.

Before the actual event check that your administrative arrangements are adequate, the shack is properly heated and your operating position comfortable.

Contest Operation

Listen on the bands about half an hour before the contest starts and make the decision on which bands to start operation.

Unless you have an outstanding signal it will not pay to call CQ. It will be more profitable to answer other stations, especially those that are weak or rare. Many contests require an exchange of RST plus a serial number commencing at 001. Your success or otherwise can thus be easily judged.

The most critical periods in a contest are usually the first few hours. All contestants are full of enthusiasm at the start and some after a period of not too successful operation tend to loose heart and decide to quit and if such a station has a rare prefix, that prefix may not be heard again.

Many contests last at least 36 hours and a decision has to be made whether or not to take time off for rest. In the case of the 21/28 telephony contest the decision is easy, as no profitable operation is practical during: the night. The BERU and other contests are different. To achieve a high place, very little rest is possible and reliance must be placed on copious supplies of black coffee.
A word of advice on operating - never send faster than the other station sends to you, repeat the report at least twice slowly and ensure that you really do receive R at the end. If you do make a duplicate contact, enter it in the log as "duplicate".

If you are not successful in raising a station at the third attempt it will not pay you to waste further time on him. He will probably still be there later and conditions may be more favourable. Remember also that in some contests four non bonus contacts are equal to one bonus contact.

Conclusion

The writer has consistently entered contests since 1930 both from UK and overseas location and still enjoys them just as much as ever.

Should you decide to "have a go" choose a contest in which you think you have a good chance of doing well, make good administrative and technical arrangements and above all go ALL OUT TO WIN.

NEWS OF MEMBERS

Mike Rowlands G3NKR, is a victim of the reciprocal licencing problem. At present in California he is unable to get a W ticket but is being treated very hospitably by the local W6's. He reports that despite the famous Californian kilowatts the following have great rarity value:- GC, GD, ZB1, ZB2. Whilst we do not know of any R Signals stations in Malta or Gibraltar perhaps this may persuade someone to get cracking.

Paul Scottorn G3RFI, is trying to increase activity from our affiliate G3LUN. As a dyed in the wool CW man he gleefully reports a complete absence of modulators.

POINTS FROM YOUR LETTERS

"Just been having a natter on Top Band with a couple of blokes who turned out to be ex-Royal Signals (Airborne and Armoured Div. respectively) who are members of the Society. Had. a most enjoyable time talking on old names and. places".

G3OKX

On Contests - "..... to clutter up 20 with hordes of number-swapping amateurs is a sacrilege on our only daytime DX band".

5B4CL

INT QTH

Does anyone know the present QTH's of

Cpl D.F. Wilson, DL2VC Berlin Signal Squadron in 1953

Lt (TOT) Ken Paterson, DL2VK also in Berlin in 1953

if so please drop a line to Sgt J. Akehurst, Junior Leaders Regiment, Denbury Camp, Newton Abbott, Devon.

THE HOW AND WHY OF THE REFLECTOMETER

by

Lt. Col. Sir Evan Y. Nepean G5YN

Although many ham stations are equipped with reflectometers or standing wave indicators there are still many who do not understand the operation and application of this most useful instrument.

What are standing waves? If a transmission line, whether of parallel open wire or coaxial construction is terminated in a non inductive load resistance equal to its own impedance then all the power fed in at one end will be absorbed in the load and none will be reflected back. Under these circumstances the current and voltage will be constant down the line neglecting a slight steady fall in value due to power absorbed by losses in the line. (Fig 1) If however the line is incorrectly terminated, i.e. terminated in a resistance other than the characteristic impedance of the line, then some of the power, all in the case of open or short circuited lines, will be reflected back up the line from the load to the generator. 'The reflected voltage and current will interact with the forward voltage and current to form standing waves, (Fig. 2).

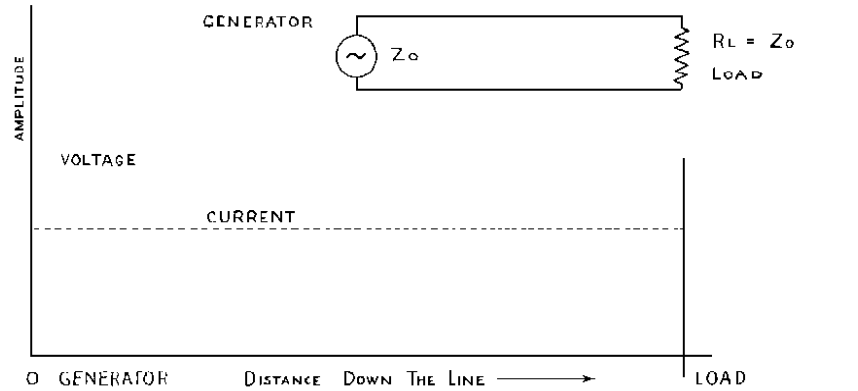


FIG 1

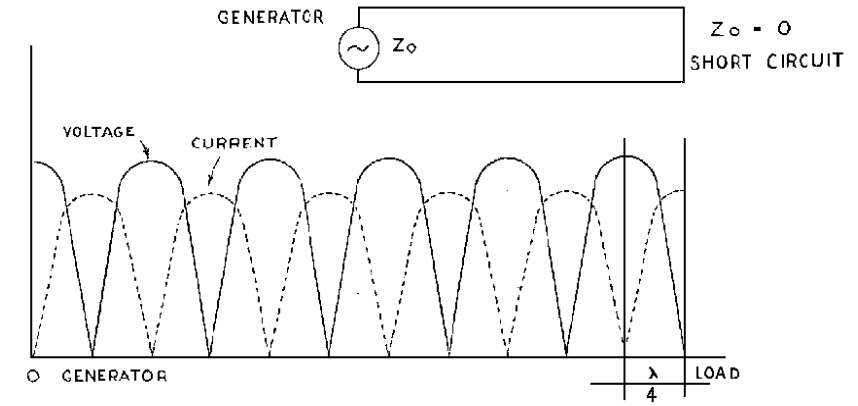


FIG 2 a.

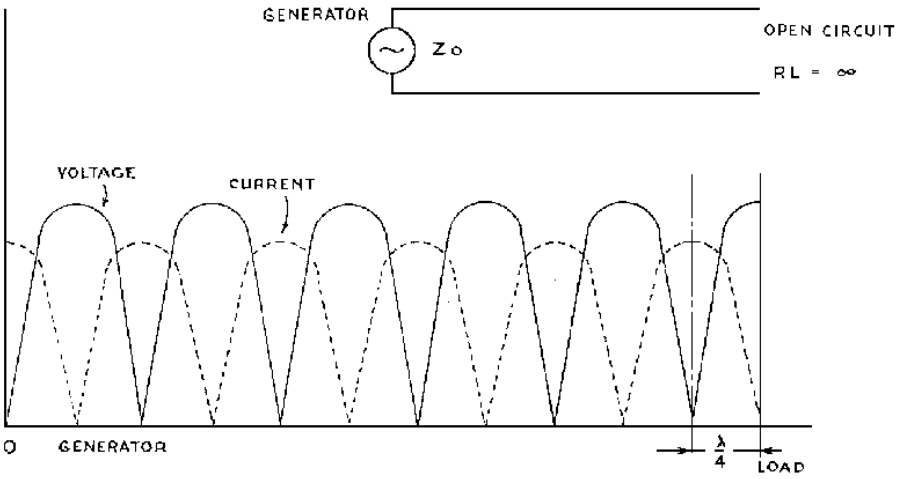


FIG 2 b

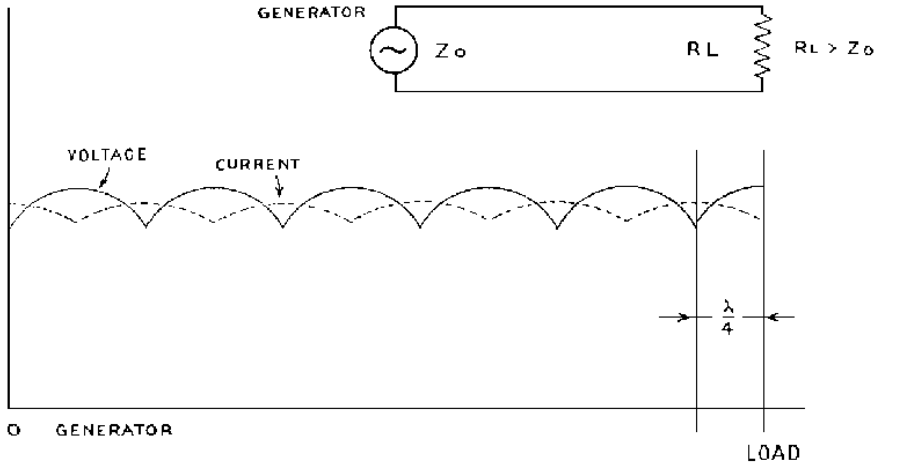


FIG 2 c

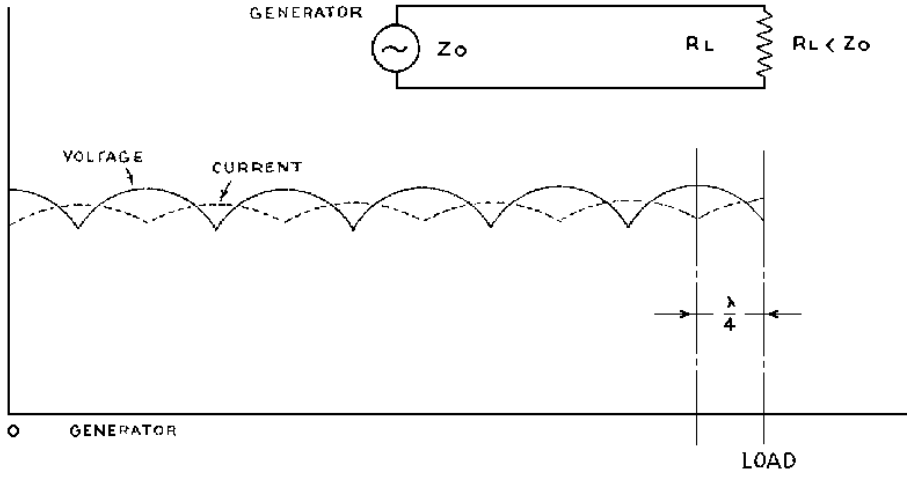


FIG 2 d

In this condition the impedance seen by the generator at the input end of the line is a matter of luck determined by the length of the line. In addition the high voltages and currents developed on the line will cause additional power losses in the dielectric of the insulator and the ohmic resistance of the conductors. A generator, in our case the final stage of a transmitter, delivers maximum power into the load when the impedance of the load is equal to the internal resistance of the generator. Most transmitters, particularly those with "pi" output tank circuits, are designed to work into a 72 ohm resistive load. These output circuits can usually be adjusted to transfer power with reasonable efficiency over four to one impedance ratio. But maximum efficiency is only realised at the design optimum impedance. It is generally believed that the centre impedance of a half wave dipole has a value of 72 ohms resistive. This is only true when the dipole is accurately cut to resonance and when it is a multiple of a quarter wave above ground. At other heights, particularly below a quarter wavelength, the value will depart considerably from the nominal value thus causing unexpected standing waves to appear on the feeder.

In order that our transmitter may work as efficiently as possible and the losses in the feeder be as low as possible we must be in a position to adjust our equipment so that the standing waves on the feeder is as low as possible. The device which tells us of the existence and extent of standing waves is the Reflectometer. There are several types. The most commonly used one is the parallel line type as it can be designed to pass any amount of power and absorbs no power. It can therefore be left permanently in circuit.

The construction is shown diagrammatically in Fig 3. It consists of a long narrow case of square or rectangular cross section with coax sockets at each end. A heavy centre conductor CC is supported between the centre contacts of the coax sockets. This constitutes a section of the coax feeder and the ratio of the outside diameter of CC to the internal dimension of the case should be such that the impedance of 72 ohms is preserved. This is difficult to achieve but a short discontinuity of this sort has little harmful effect. PW is a wire parallel to CC supported at each end on insulating pillars. At one end it is terminated to the case, earth, by a 100 ohms resistor R2. At the other end it passes through a diode detector D via a feed through capacitor C, sensitivity control R_1 and galvo G whence the circuit is completed back to case.

When power is being fed up through the feeder and through the reflectometer there are two fields between the central conductor and the case. One is the electromagnetic field due to the current in the centre conductor. This induces a potential difference between the ends of the parallel wire. The other is the electromagnetic field due to the voltage between the central conductor and the case. The connections are so arranged that these voltages oppose and the voltage appearing at D is their difference. The voltage induced electromagnetically is proportional to the current in CC, to the frequency and the length of PW. The spacing has no effect as the electromagnetic field is uniform within the case. That induced electrostatically is proportional to the potential of CC the frequency and the capacity between CC and PW. This capacity is proportional to the length and thickness of PW and the spacing between PW and CC. The last two factors are under our control. Thus, to adjust the reflectometer we terminate it with a 72 ohm non inductive resistor. Fig.4 shows a suitable design for such a load. We feed power through the reflectometer to the load and adjusted the thickness of PW and its distance from CC until the galvanometer reads zero. The reflectometer is now adjusted for the voltage to current ratio appropriate to 72 ohms.

Having learned what a reflectometer is for, how it works and how it is constructed and adjusted we can now put it to use. Our object is to terminate our 72 ohm feeder in a 72 ohm non inductive load. In the case of the simple dipole we connect the reflectometer between Tx and dipole as in

NOTE :—
BEST RESULTS ARE OBTAINED IF THE CASE IS SCREWED TO THE TRANSMITTER CASE OR CHASSIS.

C	FEED THROUGH CAPACITOR - ·001 μF
D	DIODE RECTIFIER
R1	SENSITIVITY CONTROL - 10 KΩ
R2	TERMINATING RESISTOR - 100 Ω
G	GALVANOMETER - ½ m'A
CC	CENTRAL CONDUCTOR
PW	PARALLEL WIRE
IS	INSULATING SUPPORTS

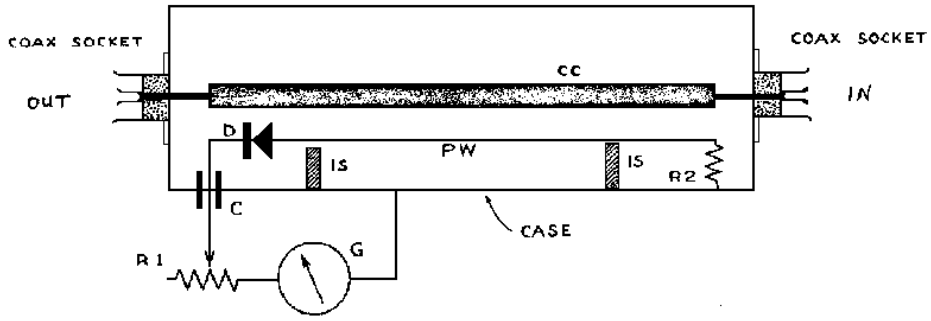


FIG 3. REFLECTOMETER.

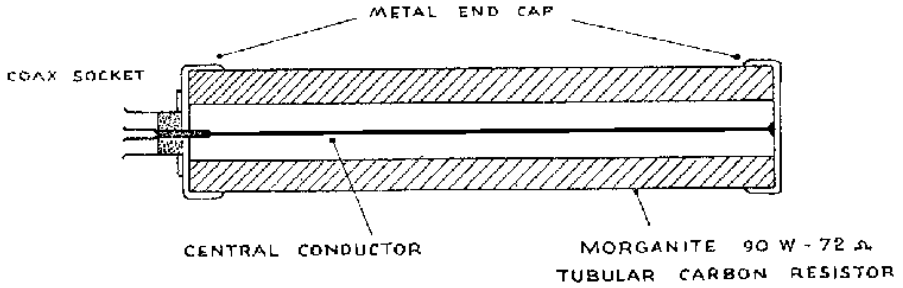


FIG 4. 72 Ω NON-INDUCTIVE LOAD.

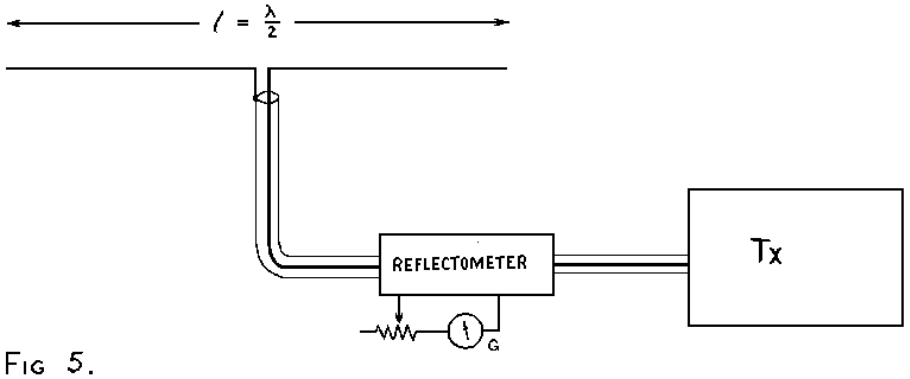


FIG 5.

Fig 5. In theory we can adjust the length of the dipole and its height above ground until its centre impedance is 72 ohms non-reactive. You might succeed at one spot frequency in the band, but would be lucky! In practice you would get close enough to work quite satisfactorily although the transmitter loading would undoubtedly vary across the band.

However you might be using a two wire folded dipole with 300 ohm feeders, a three wire folded dipole with 650 ohm feeders, an end fed wire which might be anything from 35 ohms to several thousand ohms or a commercial beam which should be close to 72 ohm; but is not under your control. In these cases you will require a tuneable transformer, usually referred to as an ATU, to transform the effective impedance at the bottom of the feeder to 72 ohms and tune out any reactance which may be present due to the load, aerial to you, not being at resonance. At Fig 6 are shown simple ATUs for unbalanced loads, end fed wires, or balanced loads, twin feeders. Coax is rather a problem. It is usually used as a badly balanced load as in Fig 5. It should be used with a "balun" at the aerial and treated as an unbalanced load with the outer conductor earthed and the centre conductor tapped up the coil.

L and C tune the ATU to resonance in the required band and tune out reactance. The position of the tap or taps and ratio of link turns to turns in L decide the impedance transformation ratio. Thus to make G read zero you

i) Tune L/C to resonance.
ii) Adjust the position of the tap.
iii) Adjust the number of link turns.

When all three are right the Galvo will read zero and the transmitter will "look into" 72 ohms non-reactive. This adjustment is not particularly laborious. The tap and link adjustments do not interact but you will have to retune when the tap is changed. Once the work is done only slight retuning is necessary when moving from one end of a band to the other. A great advantage is that you can log the tuning and loading settings on the transmitter so that setting the transmitter up on a given frequency at a later date is much simplified.

Another important consideration is that filters are designed to be terminated in a definite Z. Most people use an anti TVI low pass filter in the output of their transmitters to suppress any residual harmonic output. These are usually designed for 72 ohms and will therefore work much more efficiently in a properly terminated line with a low S.W.R.

The most important object of this exercise which you will have achieved is to ensure that apart from feeder losses, all the power leaving your transmitter is being radiated from and none reflected by the aerial.

SOCIETY NOTEPAPER

We have been asked to make a Society notepaper available. This is likely to cost about 7/6d. for 100 sheets, size 8" x 10". If you would be interested, please drop the Field Secretary a line. We need to gauge the demand before ordering.

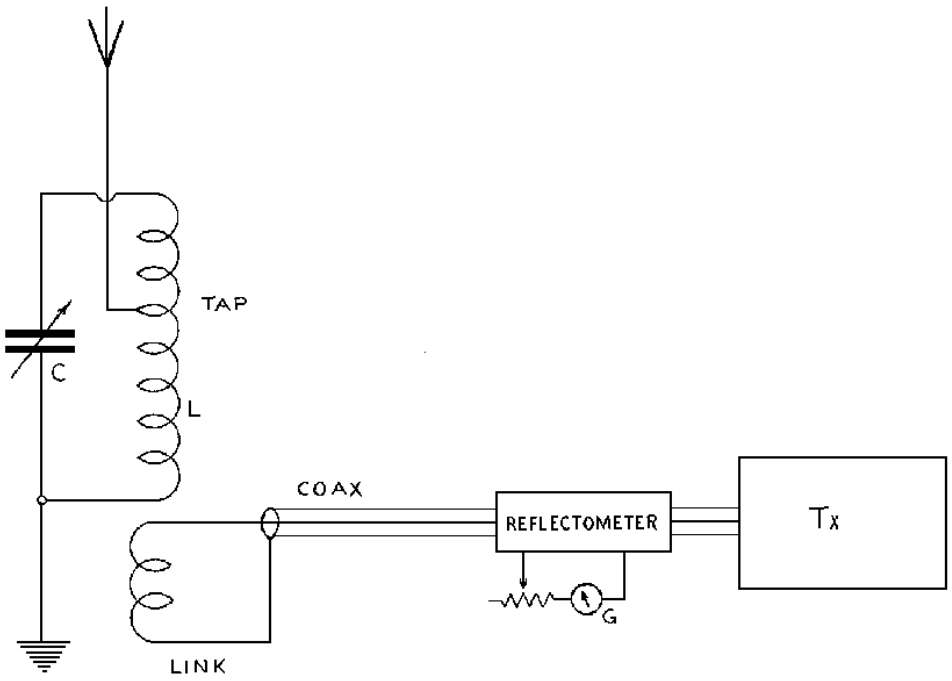

TAP
C
L
COAX
REFLECTOMETER
Tx
G
LINK

FIG 6 A.

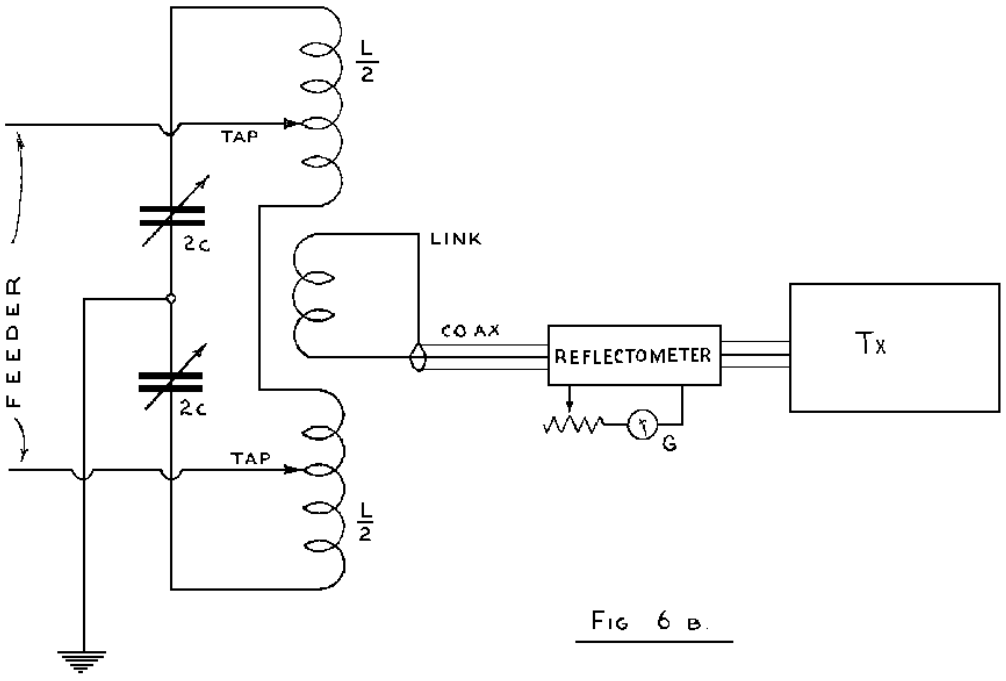

L/2
TAP
2C
LINK
FEEDER
COAX
REFLECTOMETER
Tx
2C
G
TAP
L/2

FIG 6 B.

TWO FOR THE PRICE OF ONE

L. Buckley - G3OBB

Appreciating that the present trend in Amateur Radio is to cut down the bandwidth by using SSB it still remains that not all stations have sideband facilities, even SSB reception is a problem to some less well equipped amateurs. A standby A.M. rig is therefore a good thing. Whilst many hams keep an A.M. rig handy in the shack many others for lack of space have to make do with one transmitter. When they feel the need for A.M. they reinsert the carrier and transmit one sideband plus a carrier. The difficulty with this method is to get the correct balance of power between sideband and carrier; failure to do so produces a distorted signal.

Whilst it is difficult to modify an A.M. transmitter to produce SSB the reverse does not apply. Any SSB transmitter is capable of radiating a carrier which only needs to be modulated to produce a conventional A.M. signal. The P.A. of the SSB transmitter will not of course be in Class "C" but the difference between Class "B" and Class "C" is merely one of bias and drive.

So to use an SSB transmitter we only have to:-

1. Ensure that the drive is adequate.

2. Provide a bias supply sufficient to run the P.A. in Class "C".

3. Provide a suitable modulator and its power supplies.

Bearing in mind cost and compactness the writer decided to modify his Mk II Viceroy to give the additional facility of 150 watts of A.M. In order to make a neat job a Viceroy cabinet was purchased from the manufacturers and the power supplies for both TX and modulator together with the modulator itself were built into the cabinet. The two cabinets were interconnected by multi-way plugs and sockets and control switches were mounted on the modulator/PSU cabinet.

Three simple modifications to the Viceroy itself were necessary:-

1. The 6CL6 driver was replaced by a 5763 in order to obtain sufficient drive for Class"C" operation of the P.A.

2. The meter shunt used when measuring grid current was replaced to enable the full scale deflection to be increased to 10mA so that the Class “C” grid current can be accommodated.

3. A separate “Net” switch for A.M. was fitted adjacent to the Balance control. This switch is wired so as to remove the -200v muting bias (i.e. in series with the original switch) although the Send/Receive switch is at “Receive”.

A complete circuit diagram of the modulator, power supplies and control switching is given overleaf. The modulator follows conventional design and incorporates speech clipping, a useful facility in any A.M. transmitter. The power supplies are as follows:-

A bias supply capable of giving up to about -120 volts.

2. A 250v HT supply at 175mA for the Viceroy on low power.

3. A 350v HT supply at 100mA for the A.M. speech amplifier.

4. A 750v HT supply at 250mA for the A.M. modulator valves and for the Viceroy on high power.

The bias voltage should be adjusted so as to give -110v 0n A.M. and -50 to 80v 0n SSB.

The system switch S1 alters the bias to the P.A., applies power to the A.M. modulator and by means of a relay switches the microphone from the SSB speech amplifier to the A.M. speech amplifier. Having switched to A.M. all that remains to be done is for the carrier to be reinserted until the P.A. draws the required anode current.

Care should be taken with the screening of the microphone leads and relay to prevent feedback and distortion but otherwise the writer has encountered no difficulties.

Results have been very encouraging and all reports speak of a good clean A.M. signal whilst the SSB operation of the transmitter is unaffected by the modification.

The ability to change from SSB to A.M. by simply throwing a switch and inserting carrier with no further adjustments gives great flexibility of operation permitting quick changes of mode whenever necessary.

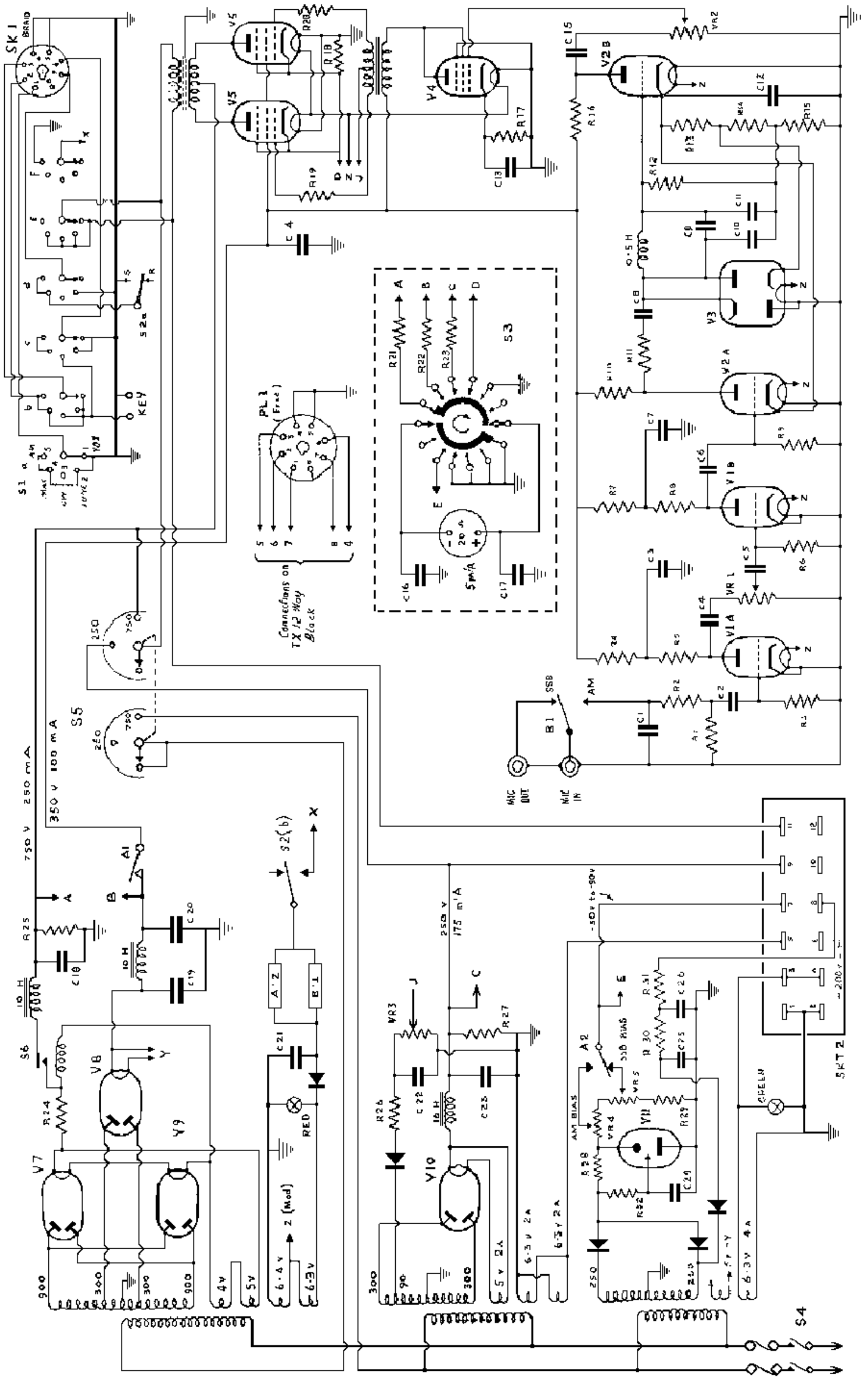
Component Values

C1	220pF	C6	510pF	C11	270pF	C16	0·005mF	C21	100mF	C26	64mF		
C2	0·005mF	C7	0·01mF	C12	10mF	C17	0·005mF	C22	100mF				
C3	1mF	C8	0·01mF	C13	2mF	C18	16mF	C23	50mF				
C4	510pF	C9	20pF	C14	0.1mF	C19	16mF	C24	0·1mF				
C5	0·005mF	C10	270pF	C15	0.1mF	C20	32mF	C25	8mF				

R1	470K	R7	47K	R13	330ohms	R18	0·4 ohms	R23	60K	R28	15K
R2	4·7K	R8	100K	R14	680ohms	R19	1K	R24	15 ohms	R29	10K
R3	3.9Meg	R9	470K	R15	680ohms	R20	1K	R25	30K	R30	1·5K
R4	100K	R10	100K	R16	100K	R21	180K	R26	5K	R31	470 ohms
R5	47K	R11	100K	R17	680ohms	R22	60K	R27	10K	R32	300K
R6	3·9Meg	R12	100K								

VR1 500K Gain Control	S1 System Switch
VR2 500K Level Control	S2 Send/Receive Switch
VR3 10K	S3 Meter Switch
VR4 5K AM Bias	S4 On/Off Switch
VR5 5K SSB bias	S5 Tune Switch
	S6 Thermal Delay Switch

V1A - V1B	12AX7	V4	6BY7	V7	5R4G	V10	5U4G
V2A - V2B	12AU7	V5	6CA7	V8	5Y3G	V11	CV186
V3	6AL5	V6	6CA7	V9	5R4G		



Record of the Annual General Meeting of the ROYAL SIGNALS AMATEUR RADIO SOCIETY held at the Ministry of Defence, Whitehall,
on Monday 28th September, 1964, commencing at 1500 hours.

PRESENT

Brigadier R.H.E. Robinson
(President and Chairman)

Lt Col (Rtd) Sir Evan Y. Nepean	Southern Command
WOII T.G, Richardson	8th Signal Regiment
Major P.S. Toombs	Western Command
Sgt. I. Akehurst	Junior Leaders Regiment Royal Signals
Major G.S. Symons	30th Signal Regiment
L/Cpl P.F. Scottorn	65th Signal Regiment (TA)
Lt (QM) R.A. Webb	COD Donnington
WO 1 R.C. Evans	14tth Signal Regiment
Major J.C. Garlick	Eastern Command
Lt Col (Rtd) N.I. Bower	Royal Signals Records
Major M.H. Priestley	School of Signals
Mr. J.E. Hodgkins	8th Signal Regiment

Major B.D. Elsmore
HQ Secretary

Agenda Item l - Opening Address

1. Brigadier Robinson, the Chairman, welcomed members to the meeting and thanked them for sparing time to attend. He regretted that the Vice-President General Cole was unfortunately not present - (HQ Secretary's note: The President received a letter from General Cole - which though dated 26th Sept. arrived on the morning following the meeting - in which he said how sorry he was for being unable to attend due to an important business engagement in California USA).

The Chairman explained that although he himself was not a radio amateur and unlikely to become one, he was nevertheless most enthusiastic about the well being of the Corps Society and intended to ensure its continued good progress. In mentioning the keen interest of the Signals-Officer-in-Chief in the Society, he went on to say that a directive had been sent by the S.O. in C. to the Commander Training Brigade making him officially responsible for the day to day management of the of the HQ station as well as co-ordination of the work of the Field Secretary and Treasurer. He read out a copy of this directive which also included arrangements to be made for the rehousing of' the HQ station on the move of the HQ School of Signals to Blandford, the inclusion in the Training Brigade training programme of visits by telegraph and radio operators to the HQ Station and finally, arrangements made with AAG AG11 to try and ensure that at all times at least one officer qualified as a radio amateur is posted within the Training Brigade to act as Field Secretary. The Chairman thought that news of this directive would please all members. He went on to thank the Field Secretary for his hard work on behalf of the Society and then called for his report

Agenda Item 2 - Field Secretary's Report

3. The Field Secretary, Mr J.E. Hodgkins said that during the past year the Society had increased its membership but that he would not steal the Treasurer's thunder by quoting figures. He went on to say that after one year in office - as a temporary measure until a serving officer became available as Field Secretary - he had found it difficult to keep abreast of' the work using spare time only. Despite this he had enjoyed doing the job.

4. He referred to the Society's journal MERCURY and said he considered this regular 'newsletter' an important means of reaching individual members throughout the world. The journal had been issued regularly each quarter during the last year and had now reached 22 pages of copy for the. October issue due shortly. This latest issue would contain what was believed to be the first article on a practical Log Periodic antenna published in a British Amateur Radio Journal. He also drew attention to the fact that diagrams in the journal are now produced by a draughtsman from 24th Signal Regiment. He thanked all members whose articles had helped in the preparation of the journal and asked for more. He mentioned that an article in the July issue had been reproduced in the Short Wave magazine for which the author received a fee. This he felt sure would be an inducement to other members to become authors

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5. He thanked Major Beaumont - now in Aden - and Major Priestley the present Treasurer for their help in stapling and posting some 300 copies of the journal each quarter.

6. He reported that during the year the Society's Headquarters Station had been very active. Although there had been no regular schedules with other Royal Signal Amateurs, some had been worked quite frequently. As most members were already aware, G3CIO was the winner of the multi-operator section of the Radio Society of Great Britain 21 and 28 Mc/s Telephony Contest, the outright winner of which was Lt Col Bower G5HZ.

7. Referring to Princess Royal Day he said the Society's activities on that day had been fully reported in the "Wire" and again in the October MERCURY yet to be issued.

8. As agreed at the last AGM a contest for Society members was held last February and although the numbers taking part had been small, there was no doubt that they had enjoyed themselves. He said it is hoped to organise a similar event during the coming winter. The winners of the 1964 contest were S/Sgt Quinn G3RCJ (CW Section) and Lt Col Bower G5HZ (Telephony Section).

9. Referring to visits made to the HQ Station he mentioned the recent visit of the Society President, Brigadier Robinson as well as those made by the Chief Signal Officer of the US Army and a party of Swedish Army Officers, one of whom was Lt Col Per-Anders Kinnman, SM5ZD.

10. Several affiliated clubs had been loaned AR 88 receivers and WS 36 transmitters during the year and he thanked Lt Col Sir Evan Nepean for his assistance and that of COD Aldershot in this matter. He said there are still sets at Catterick available to affiliated clubs able to arrange packaging and collection. Despite difficulties it had been possible to supply affiliated clubs all over the UK and also in BAOR and Aden.

11. The Field Secretary then produced a sample of a Society QSL card, available at a cost of 31/- per 500, post paid, and reported that the card was selling well. (HQ Secretary's note: In discussion later in the meeting it was agreed that the Field Secretary should arrange for the overprinting of individual call signs at a small increase in cost. This it was thought would make the Society card more popular).

12. Concluding his report the Field Secretary again stressed that without being allowed to do some Society work during normal working hours he felt it almost impossible to cope with his duties as Secretary. With ever increasing membership it was likely that this position would worsen. He then asked the Treasurer for his report.

13. Before allowing the Treasurer to proceed the Chairman thanked the Field Secretary for his report and referred to his closing remarks. He said that as a result of the S.O. in C's directive it was likely that an officer would eventually be found to become the Society's Field Secretary and that in these circumstances he hoped Mr. Hodgkins would continue in the job for the time being if invited to do so later during the meeting. Mr. Hodgkins said he was prepared to continue. The Treasurer was then asked by the Chairman to give his report.

Agenda Item 3 - Treasurer's Report

14. The Treasurer, Major Priestley, produced the Society's Balance Sheet-(attached. as Annex A) and in his report summarised the financial position as follows :-

a) On the 15th January 1964 the Catterick Amateur Radio Society amalgamated with the Royal Signals Amateur Radio Society bringing with them assets of £475.

b) During the period from 15th July 1963 to 14th July 1964 the assets of the Corps Society increased by £449 to £796 due mainly to the inclusion of the assets of the Catterick Amateur Radio Society. There is therefore an excess of expenditure over normal income of about £26.

c) This excess of expenditure was due mainly to the increase in property depreciation, since the value of property increased from £100 to £431.

d) The sources of income in the period were :-

		£
(1)	Subscriptions	96
(2)	Profit on sale of stock	11
(3)	Donations etc.	3

e) The expenditure during the same period was :-

(1)	Insurance, bank charges, licence fees, postage	11	
(2)	Stationery, accounts books, QSL cards		24
(3)	Grants, donations etc.	18	
(4)	Property depreciation	46	
(5)	New property	23	
(6)	HQ Station maintenance	12	

f) At the time of audit the liquid assets were about £154. This is likely to increase somewhat as QSL cards are sold.

15. Audit Board Observations

a) The property and stock have been revalued and result in an increase in property value of £8 and a decrease in stock value of £24.

b) All other observations have been cleared except authority for the grant to 92 Signal Regiment (HQ Secretary's note: This was put to the meeting later and resolved - see paragraph 20 below).

16. Membership

The membership is at present :-

Affiliated		29
Life members	89	
Annual members	196	

This represents an increase of 119 over the last year. There are however 19 annual members whose subscriptions have lapsed and may be considered as having ceased their membership.

Purchasing Scheme

17. This had proved popular and in the past year equipment to the Value of £668 had been bought by members. This concluded the Treasurer's report.

18. The Chairman then asked for comment on the balance sheet and the general financial position. There being no comment, it was proposed by Major Garlick that the balance sheet be passed, seconded by Sgt Akehurst and carried unanimously.

19. The Chairman said he thought the general financial position should be improved to provide more scope for the Society. He proposed that as a start a raffle should be held with a good transistorised radio receiver for the prize. He said he was prepared to underwrite the cost of the prize in the unlikely event of this venture being a financial failure. The raffle could be world wide and he thought books of tickets at about 1/- a ticket sent to CSOs would be the simplest method of organising the raffle. It was proposed by Major Priestley, seconded by Lt Webb that a raffle of this sort should be tried. The proposal was carried unanimously and the Chairman invited the Treasurer to arrange the raffle. The Chairman reiterated that in his opinion the basis of a sound and flourishing Amateur Radio Society was to have adequate reserves of funds.

Agenda Item 4 - Election of Officers of the Society.

20. It was proposed by Lt Col Sir Evan Nepean and seconded by Lt Col Bower that Mr. Hodgkins should continue as Field Secretary. This was carried unanimously. The Chairman at this point mentioned that he would write to the Commander Training Brigade asking if Mr. Hodgkins could perhaps be allowed some time during normal working hours to attend to the affairs of the Society. (HQ Secretary 's note: Such a letter was sent by the Chairman on the day following the meeting). It was proposed by WOII Richardson and seconded by Major Symons that Major Priestley should continue as Treasurer. This was carried unanimously.

21/28 Mc/s Telephony

21. Rule 2(a) - It was sought to clarify the authority for making grants. After general discussion and direction by the chairman it was proposed by Lt Col Sir Evan Nepean and seconded by Major Toombs that the Treasurer be permitted to make grants up to a loan of £10 to any Club. Such grants to be limited to a total of £40 in any one year. Grants over these amounts would only be made by the President of the Society who would call a meeting of selected Society representatives to consider the application unless the request could be conveniently considered during an annual General Meeting. This proposal was carried unanimously. An amendment to the rule is to be issued.

22. Rule 5(a) - The amendment sought to allow serving members of non-signals army units to become members of the Society. After much discussion it was proposed by Major Garlick and seconded by L/Cpl Scottorn that serving members of non-signals Army units should NOT be allowed to become members of the Society. This proposal was carried by a majority vote.

23. During discussions on this proposal the Chairman was called away by the S.O. in C. who had called in to the Ministry of Defence although on the sick list. On his return he said the S.O. in C. sent his best wishes to the Society for a successful Annual General Meeting.

24. Rule 5(c) - It was proposed by the Treasurer and seconded by the Field Secretary that this rule be amended to allow affiliated clubs to be eligible to take part in the bulk purchase scheme and to affiliate for LIFE at a cost of £5. This proposal was carried by a majority vote. A suitable amendment is to be issued.

25. Rule 12 - This amendment sought to give the Treasurer powers to strike off the rolls any members who after three reminders allowed their subscription to fall 12 months in arrears, whilst the Council remains the sole authority for striking off the rolls any member or affiliated club bringing discredit on the Society. With no discussion this proposal was made by Lt Col Bowers, seconded by Lt Webb and carried unanimously. A suitable amendment to the rule is to be issued.

<u>Agenda Item 6 - Finance of' HQ Station</u>

26. There was discussion on the finance of the HQ Station with particular reference to its maintenance. It was suggested that additional funds could be raised by increasing the profit on goods sold in the HQ Station shop and using this increase for the HQ Station. The Chairman directed that even if the profit could be increased it was wrong in principle that this should benefit the HQ Station solely. He pointed out that under the amendments to Rule 2(n) just made, the Treasurer had been given limited powers for making grants and that; any increased profits could be increased up to 10% so long as this will make such trading advantageous to members.

Agenda Item 7 - Policy for disposal of donated equipment

27. The Chairman said he hoped that in this context the word disposal meant distribution. The Field Secretary said that of six equipments donated by the Marconi Company, two were earmarked for the HQ Station and four were available for distribution. After lengthy discussion the Chairman directed that the four equipments be used as annual prizes in Society competitions.

Agenda Item 8 - Bulk Purchase Scheme

28. Discussion was centred mainly on the possibility of better % rebates from suppliers and more profit from the scheme. The Chairman finally directed that the HQ Secretary, Major Elsmore, approach the Royal Navy and Royal Air Force Amateur Radio Societies with a view to possible joint bulk purchases being made if advantageous.

Royal Signals ARS Phone Contest

FUND RAISING DRAW

We shall shortly be sending you a book of tickets for our Fund Raising Draw. This draw was suggested by the President as a means of increasing the Society's funds. The tickets will cost 6d each and we ask you to return the counterfoils with the cash as directed on the tickets. If you can sell tickets around your unit or among your friends please do so, we shall be pleased to send extra books to any member who wants them.

The first prize will be a £30 credit voucher with Heathkit so please give the Society your support by selling as many tickets as you can.

THE SOCIETY QSL CARD

We can now get your callsign name and address overprinted on the Society QSL Card. It is regretted that no blocks are available. The overall cost of 500 cards with overprinting is 47/6d post paid. When ordering please state the colour of print you require.

SOCIETY NOTEPAPER

If there is sufficient demand we can make Society notepaper similar to that used for official Society correspondence available. The paper is a good quality white 10" x 8" with the figure of Mercury and the words "Royal Signals Amateur Radio Society" printed in blue. It is estimated that the cost would be about 7/6d for 100 sheets.

Please let the Field Secretary know if you are interested so that we can gauge demand.

MEMBERSHIP LIST

The list of members issued with this MERCURY is correct at 23 Nov. 64. Amendments will be published in each issue of MERCURY. Please check that your details are correct and notify the Field Secretary of any errors.

PRIZES FOR MERCURY ARTICLES

The Society was recently given a number of HR51 receivers by the Marconi Company. These are crystal controlled double superhets designed for use on three spot frequencies in the range 3 -27·5 Mc/s. Complete with internal power supply units these excellent receivers are in new condition and are-complete with manual, circuit diagram, etc.

It has been decided to award these receivers as prizes for the best contributions to MERCURY. The first will be awarded for the best contribution to the four issues October 1964 - July 1965 inclusive.

TAILPIECE

"No TVI problems (with the modified WS36) but local transistor fanatics complain bitterly of interference of Radio Caroline only, feel I have the support of the GPO in this matter".

G3TIA 58 Sig Regt.