

Volume 1 Number 6

- 7 JUN 1958

Editor: J. P. Stott.

Assistant Editors: R. L. Hodgson;
D. Noble;
A. M. Pomfret.

THE BRADFORD GRAMMAR SCHOOL AMATEUR RADIO CLUB,
THE GRAMMAR SCHOOL,
BRADFORD, 9

It is only a short time - or so it seems - since the last issue of this magazine was published, but here we are again, at the publication date and with no material, so the editorial staff had to set to once more to write the magazine. Please bear in mind over the summer holidays all that spare time before you, and you can write something for the magazine. I should like to suggest that various S.W.L.s start sending lists of stations heard and stations whose cards have been received to the editor so that a 'Sladder' can be organised, the competition to cease if reports dwindle too far, on finding the winner, or if someone gets a report from a station in Mars.....

Activity this term has so far been slight, but the chance offered by an amateur in Wales selling up was too good to miss, and 3 substantial orders have been sent in.

Several BGS stations have been active on the H.F. bands. Apart from the two 19 set PIRATES, G3MAL has been on 20, but has been welcomed back to the fold of Top Band on pulling down the H.F. band rig to fit a miniature 807 (from Wales) as P.A. G3LZW has been giving 80 metres the onceover, with an 829B P.A. (on loan) and G3MAW has been on that HF band 160 metres, working the East coast with only 2 watts (approx.) input. On 1 Phone. The fact that G3MAW was just South of Bridlington is, of course, only a minor consideration. The rig was a modified 18 set.

G3KEP and G3MAB were also working /P from the same area and G3LQJ/P was supposed to be around, but I don't think he was heard on the B.G.S./P net.

A very enjoyable visit was made to the ITA transmitter at Ealey moor, on two occasions to enable the whole club to go, on the last two Thursdays of the first half term.

The next D.F. contest will be held on the Saturday after the end of term: entry forms are included in this issue. It is announced that a new rule is included to the effect that Armitage (if he enters) must produce & demonstrate a working receiver several weeks before the date. It is pointed out to him that the rules do not state ".....and must construct the receiver on the site".

Well, I think that's about all, but let's have some more from you chaps..... and what about a Secretarie's report on exclusively club activities? This column is intended merely as a light hearted comment on general activities in and around the district.....

So 73 es benu later

David, G3MAW.

P.S. G3LZZ is going hi-fi - he's got a push-pull modulator, using a 6L6 pushing and pulling a 6V6 as the output stage..... Not to mention the carbon mic!

A GUIDE TO LEARNING MORSE

By David M. Pratt, G3KEP.

Members who have recently taken the Radio Amateurs' Examination will busy practising their Morse sending and receiving for the September Test in Hull. It is necessary for those learning Morse to have a receiver of some kind capable of receiving 160 metre C.W. signals. Slow Morse transmissions will be radiated every week-day evening on 1.9 Mc/s from 2100 BST until the beginning of September providing that there is sufficient demand for them. The candidate should not only listen to local stations or on 'close-circuit' for Morse practice as this is the easy way. It is recommended that some practice be done by listening to the weaker and more distant stations on which there is a certain amount of QRM, so that when the licence is obtained the holder will be used to copying stations under the more difficult conditions. A list of the more distant Slow Morse stations appears in the R.S.G.B. Bulletin from time to time.

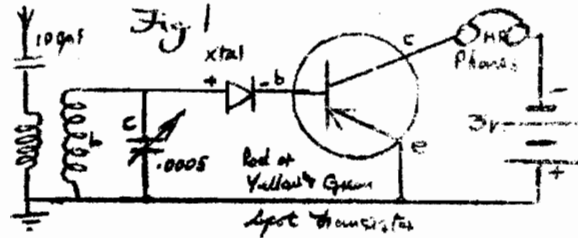
No doubt several of you like the circuit diagram of the new Morse Practice Oscillators to be found at the School and at the Bradford Society. It consists of an AF30 phase-shift oscillator, and the pentode section of an ECL80 as output; the triode section of this valve is grounded as being unnecessary. Any output valve could, of course, be used or, if valves were used, one would not be required, and the output could be taken directly from the A.F. coupling capacitor. The valve and components employed in the oscillator section are, however, rather critical, although any valve with characteristics similar to the AF30 can be used.

- 4 -
THE USE OF TRANSISTORS - G3LZW

Part 3 Audio amplification

Members who are following this series will have seen how to make use of a transistor as a means of making a m.c. meter up to 50 times as sensitive as originally. It is now time to turn to audio amplification which is a function that transistors can perform very well.

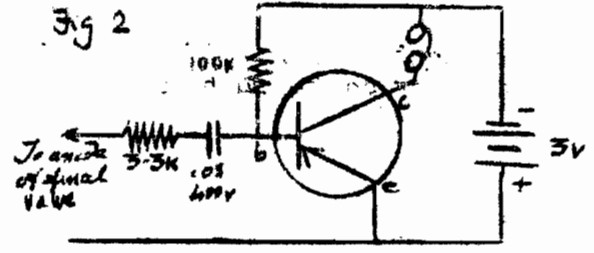
The simplest application is to render a crystal set more sensitive, and this circuit requires a minimum number of components. (N.B. a similar circuit was given in a previous "Ham" but a number of important errors were made and should be watched for.)



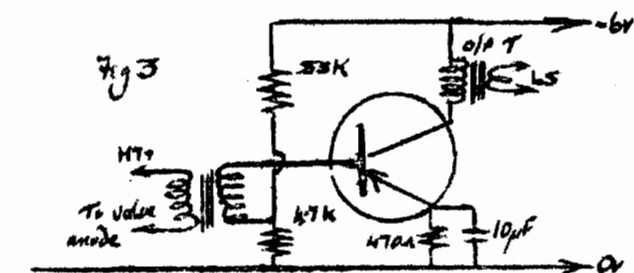
The slight negative bias required on the base of the transistor is provided by the rectified signal the system is so efficient that given a good signal the set will run a loudspeaker connected with its output transformer where the fones are. Selectivity will of course be lacking, but Home, Light, Third, and Luxemburg come through at reasonable speaker level.

For coupling a transistor O.P. stage to a valve circuit eg a 1-valver, the following circuit may be cheaply constructed. The phones in the original circuit are disconnected and a 10K resistor put in place of them. The anode is then connected to the base of the transistor as shown.

The O.P. stage can also be coupled to the valve circuit more efficiently by use of a transformer with a very high primary impedance & medium secondary impedance. An intervalve transformer connected backwards way round would do. The 470 ohm gives safety from "thermal runaway" and the 35K & 4.7K give the excess neg bias needed to counteract the pos. bias effect of the 470 ohm.



Should it be necessary to couple a transistor O.P. stage to a previous transistor like the one in fig. 2, the circuit of fig. 2 may be repeated with 10µF replacing the .05 µF & 3.3K and connection being made to the previous collector fed with "H.T." by



3.9K replacing the 'fones'. This arrangement would also prove useful as a gramophone amplifier, the pickup being connected into the 10 µF condenser, but a xtal P.U. might prove troublesome due to its high impedance.

From these hints & kinks on transistor audio work, it should be possible to improve your battery receivers etc greatly & it will be noticed that all steps to keep costs down have been taken & should enable those with small funds to have a go. For the more ambitious, more expensive circuits are published by Mullard Ltd and these will undoubtedly give better results - but costs are high. The final article of the series will be concerned with simple R.F. & oscillator applications of transistors.

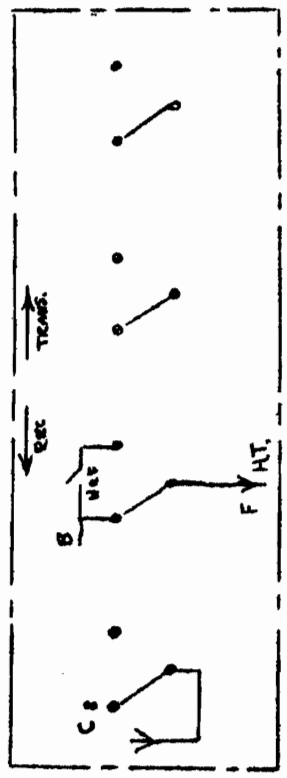
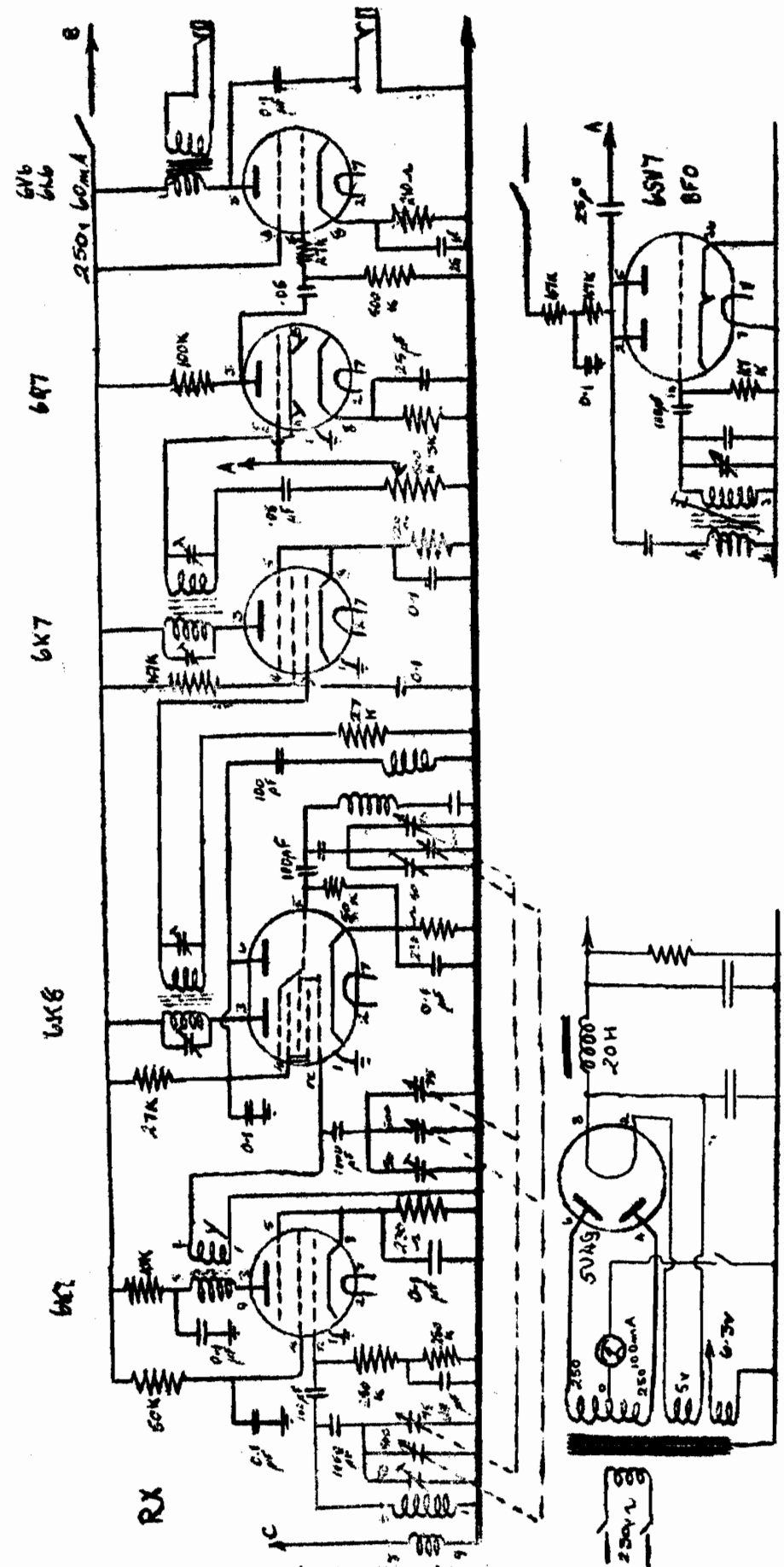
THE HAM HELP-OUT SERVICE

Advertising Manager: David Noble, G3MAW
 Charge: 2d. per line of 6 words

For Sale - Slewing. Any quantity, 3 yards 2d. or 20 yards 1/-. Heilmann and Stott.

THE NEXT VOLUME OF THE HAM WILL HAVE 12 PAGES PER ISSUE PROVIDING SUFFICIENT MATERIAL

SUITABLE FOR PUBLICATION IS RECEIVED BY THE EDITOR BY THE END OF TERM



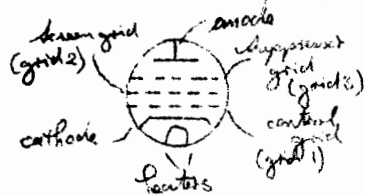
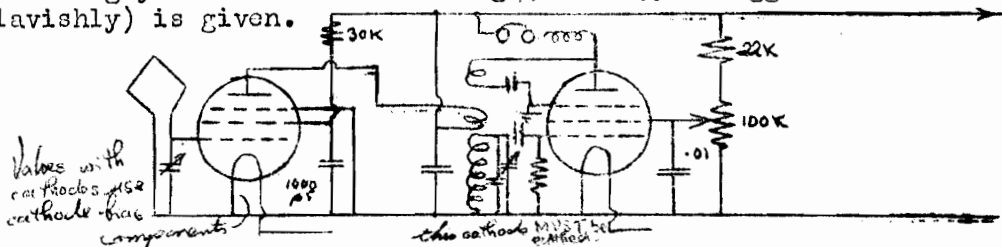
Circuit Diagram of G.51 Q.J.'s receiver described on the previous page

DIRECTION FINDING

The next D.F. competition will be held on the first Saturday after breaking up, in order not to interfere with the exams. and to allow competitors a little time to construct equipment. The use of intermittent modulation on the carrier will give competitors using superhet. receivers with A.V.C. and tuning indicators a much better chance; what price the modification of a domestic battery portable & the addition of a DM70?

The party will meet at the school gates, & further details are withheld to minimise the danger of a security leak.

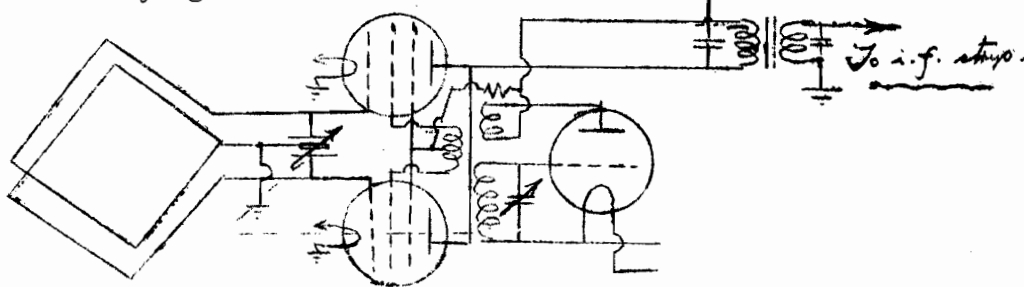
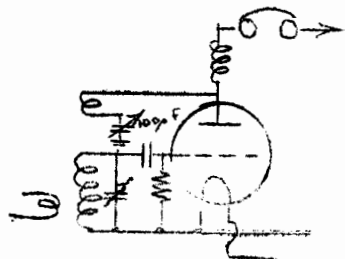
It is suggested that the RF stages of a receiver would operate more efficiently & give better results if a pentode is used. It should be remembered that the best of triodes needs neutralizing at such frequencies (and also that the prototype design was merely a suggestion) and the use of a pentode R.F. amplifier will give higher gain. A suggested repeat SUGGESTED (and I accept no responsibility for any lack of efficiency, reminding you that this is one again merely a Suggestion which need not be followed too slavishly) is given.



Alternatively the screen grid could, to save components, be connected to the H.T. line. This does not, of course, preclude using a triode detector stage, using circuits similar to those pinned up in the Radio Club room.

Op, if you want to do some really ambitious & worthwhile experimenting, what about a superhet. with a balanced input circuit? The balanced circuit is the job for a frame aerial, and even if it doesn't work the description should impress people.

And if you build all that lot in, you are going to have fun carrying it a round.....!



Or perhaps you will decide to do it the easy way and employ an unmodified 1155N. Either way, good luck in you experimenting, good fun, and with a receiver like that you deserve to win - if you get it built.....!

73 es gud luck.

GJMAW.

TRUTH AND FICTION

Submitted by Graham F. Firth

reproduced by kind permission of Short Wave Magazine

Sprog's (RAF. term for beginner) Guide for the beginner.

This short article is addressed mainly to the beginner to Amateur Radio and I hope it will be of some use.

Following on Mr. Pomfret's R & S codes, here is the T code:

T1 to T7 are hardly ever used

T8 - I do not wish to work you

T9 - Same as RSqv

xxx I shall be visiting Ur QTH soon

Other important abbreviations are:-

- FB - could U please lend me.....?
- OM - I have forgotten your name.
- R - if U think I bothered to take that gen on Ur rig.
- K - my wrist is tired.
- QRX - XYL QRM
- Hi - I hope my last remark did not offend.
- I can't think of anything to say.

And now for those who have built Mr. Hodgson's receiver, here are some checks for determining the band you are on:-

- 160m. Unmodulated carriers running continuously, with a separation of about 10 kc., and spasmodically modulated with unintelligible gibberish, probably about sheals or kippers.
- 80m. Modulated carriers continuously modulated with intelligible gibberish, Several hundred OW signals at every point on the dial.
- 40m. Super QRO stations giving interesting output statistics of factories in 'Omsk', 'Tomsk' and 'Plonsksk'.
- 20m. FB dx all the time !!!!! (Except when you are on.)
- 10m. They say it has been open.
- 2m. Motor ignition and trolley buses all S9.
- 70cm. One QSO per annum.

I hope these will help you in your Short Wave Listening.

=====

TOP BAND CONTESTS

3rd Contest -	2nd March, 1958			
	G3LZW	-	-	27 points
	G3MAW	-	-	21 points
	G3MAB	-	-	19 points
4th Contest -	5th April, 1958			
	No logs received			
5th Contest -	4th May, 1958			
	No logs received			
6th Contest -	8th June, 1958			
	No logs received			

Up to present, top band contests have been held on alternate first Saturdays and Sundays of each month. The Sunday evening seems to be the most popular, and British 160 metre activity seems greatest. Contests will, therefore, be held in future on the first Sunday of each month from 7 pm to 9 pm after which there will be a sked. on 1.9 Mc/s to discuss results. The next contests will, therefore, be held on

SUNDAY,	6th	JULY,	1958
SUNDAY,	3rd	AUGUST,	1958
SUNDAY,	7th	SEPTEMBER,	1958

Logs should reach the organiser, David M. Pratt, within 14 days after each contest, and should be set out in the following manner:

TIME GMT - STN. WORKED - HIS RST - MY RST - NAME - QTH - POINTS CLAIMED

All contacts must be on C.W. using standard(non-Contest)procedure. Points may only be claimed if the log entry can be filled in completely.

Points will be scored as follows: B.G.S. Members - 3 points

Other stations within 10 miles radius of G3MHB
- 4 points

Other English stations - 5 points

Stations other than English Stations - 6 points

=====

T H E H A M
DIRECTION - FINDING - CONTEST

26th JULY, 1958

PRIZE: ASSORTED COMPONENTS PRESENTED (OFFICIALLY) BY
MAINS RADIO GRAMOPHONES, LTD.

I wish to enter for the Second 'HAM' D/F Competition:

NAME _____ CALL/SIGN (if any) _____

ADDRESS _____ TELEPHONE (if any) _____

Signed _____

ASSEMBLY POINT: Outside B.G.S. main gates at 9 a.m.

FREQUENCY: 1901 Kc/s EMISSION: Interrupted M.C.W. on 10 minutes

CALL-SIGN: G3MHB/P in every quarter of an hour.

(Power input = 7 watts)

BRADFORD GRAMMAR SCHOOL AMATEUR RADIO CLUB

"THE HAM" HELP-OUT SERVICE

Charge: 2d. per line (op part of a line)

This form should be completed and returned to David Noble

For office use: _____ lines @ 2d./line. Charge _____

G.O.E. I would like to offer my best wishes to all readers of this magazine who will be taking examinations in July.

David M. Pratt

===== DATES TO REMEMBER: =====

- 7th June This "HAM" published.
- 7-8th - National Field Day St. Bede's G.S. Playing Fields.
- 17th - B.A.R.S. - BCI & TVI - lecture by G.P.O.
- 1st July B.A.R.S. Oscillator discussion (which VFO is best)
- 7th July G.O.E. Examinations commence.
- 6th July Top band contest
- 25th July End of term & Next "HAM" deadline.
- 26th July D/F Competition.
- 3rd August Top Band contest
- 1st September R.A.E.N. Activity in the area commences.
- 7th September Top band contest
- 28th September National R.A.E.N. Rally. (details next "Ham")