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Editorial

This issue was delayed so that we could report the A.G.M. and include the names of the officers for the new Club year. This has meant yet again a frantic rush, so we hope too many mistakes have not crept in. A few would not be surprising as the Editor has to type it all by himself in the best one fingered manner.

Will all those who have offered copy, please send it, otherwise it may be at least another year before the next number can be produced. Hi!

Arthur Porter, G2CDX. 37,
Metcalfe Road, Cambridge.

Pen Portrait No. 2 &5DQ

Our second pen portrait is that of Peter Broom &5DQ. Peter, a bachelor, lives with his mother and is in no way connected with radio professionally, having followed his father's occupation of banking.

His first interest in amateur radio started in the early thirties. He was then living in Gilbert Road and by a strange coincidence ha had as his next door neighbour G2PL, Peter Pennell, who was mainly interested in DX working. (G2PL can still be heard from his present QTH in Surrey.) It was not long before our Peter had obtained his "artificial aerial" licence with the call 2CGO (1936). This was followed a year later with the present call G5DQ.

The first station was a very simple affair consisting of a single 59 tritet as the TX and a 1-v-1 receiver. This was later changed to a three stage transmitter with a 59-46 and E ESW20 in the P.A. The RX was now a superhet!! A kit set popular in those days called the "Tobe". This equipment continued unchanged until the outbreak of war in 1939 when along with all the other amateurs his licence was determined and the gear confiscated for the duration.

Peter joined the Suffolks in 1940 but was soon transferred to the Royal Signals and stayed with them until his demob. While in the Signals he was stationed at Catterick, becoming chief O.W.K. instructor Royal Signals Boy's Coy. for the last three years. For the benefit of the uninitiated O.W.K. stands for Operator Wireless Keyboard i.e. high speed morse. His love of C.W. must have been very strong to survive this but Peter returned with a strong bias towards the morse key, although he does occasionally descend to use 'phone.

The licence was re-issued in February 1946 while still at Catterick and then in June Peter returned to his Cambridge QTH.

Before the war Peter had been one of the founder members of the Cambridge Short Wave Club and it was only natural that when the present Club was formed, he was there to help. He was appointed treasurer and carried out his task until the present treasurer took over in 1962.

Peter's interest in working DX resulted in 1956 in the award of the H.B.G-.B. "Rotab" trophy for "outstanding work" over many years and his support of N.F.D. Other awards that he has received include the B.I.R.U. Rose bowl (as the leading G station) and Region 5's Granfield Trophy in 1957 and again in 1964. In both 1963 and 1964 he was the winner of the R.S.G.B. 7 Mcs, contest and as most of you already know has played a leading part in enabling the local stations to be highly placed in N.F.D. for a number of years.

The present station uses a LG 300 as the main transmitter with a Panda Cub for top-band. The receiver is an AR 88 modified by fitting a mechanical filter. The aerials are suspended between two 50 ft. poles. There is 180 ft. end fed for 160, a top loaded vertical for 80 while parallel dipoles are used for 40 and 20. The 40 metre aerial is used as three half waves fed out of phase on 15»

Many of us have been privileged. to learn some of the techniques of DX operating from Peter in the open air on field days. When not busy operating Peter's other hobby is bashing a poor little golf ball about. I wonder if the common link is found in the meaning of DX.

Looking through the January issue of QST I came across a photograph taken at a meeting of the International Radio Club near Geneva. On the extreme right is Mike Bowman G3PSA.

What's in the Current Journals

Wireless World for March continues the series by Mr T.D. Towers, on measuring instruments and this is continued in the April issue. Mr Towers' talk that he gave to us in March is brought to mind by an article in the April number entitled "A Feedback Pulse Width Modulated Audio Amplifier" written by G.F. Turnbull and J.M. Townsend. Two designs are given and the output is rated at 2 watts r.m.s. into a 15 ohm speaker. The power supply voltage is 16. (This seems to tie up with the sort of efficiency quoted by Mr Towers).

Shortwave Magazine

January:- Mini-halo Design and Construction. All Band S.S.B. Exciter.

February:- One Transistor Top Band Converter Speech Compressor Circuit AA11 Band Aerial Coupler,

March:- Generator- for Accurate Noise Measurement Converter for Four Metres Transistor Tx. for the L.F. Bands Receiver Unit for AM/CW/SSB using Semiconductors.

The series on the Practical Application of semiconductors is continued.

R.S.G.B. Bullet in

February:- Panoramic Reception
Mini-Halo Capacity Loaded Aerial.
Transistorized Charging System for Cars
Tunnel Dicde Amplifiers

March:- 10 Watt Transistorized Tx.

QRA Locatormanship

Pocket Size CH Bridge.

QST. January. 2 Metre Superregen using Nuvistors.

Noise Figure Indicator

Silicon Replacement of Rectifiers.

CLUB NEWS

There ere a number of major items to comment about this issue. The first is without a doubt the Annual Dinner, which was held this year at the University Arms Hotel on January 22nd. We were limited to a maximum number of 52 and all the places were taken. We hope next year to cater for a larger number. Apologies to all those who could not get a ticket. The dinner was a great success and a vote of thanks must go to those that worked behind the scenes.

On Jan. 29th we had a visit from some of the members of the Cambridge Tape Recorder Club. The first part of the evening was spent in pointing out some of the problems that arise. This was followed by some very effective demonstrations. The second part was a technical description of the very flexible transistorised microphone mixing unit.

The next meeting on Feb. 5th was the Junk Sale, with Arnold (G3PTB) coming over from Norwich as guest auctioneer. Masses of equipment changed hands at the usual ridiculous prices and finally the auctioneer took some of what was left to be sold at Norwich the next week. The treasurer reports that we have made a fair profit. Our thanks to Arnold for his stout effort.

Sunday, Feb. 7th saw a number of members and friends turn up to help erect the aerial poles and take part in a general clear up. This time the poles were erected without mishap and at the moment we have up a 80 metre dipole fed with 300 ohm ribbon feeder. A special word of thanks must go to Mr (Roger) Lilley, the father of one of our junior members (Stephen), who took over the splicing of the guy wires. Have a look at the ends of the guys if you want to see how splicing should be done. Our thanks as well, to the other dozen or so of you that turned out that morning.

We had to bring the Eddystone demonstration forward a week so that Jerry Walker (G5JU) could come in person. Jerry put over the details of the specs in a most entertaining way to a packed house. We had an opportunity to put the EA12 through its paces. There is no doubt at all that it would have been sufficient to let it speak for itself, It was nice to welcome an old friend of the club in Mr Layton of Baily, Grundy and Barretts, We hope that he can find, time to pop in again soon.

The committee have taken a firm decision to participate in N.F.D. this year with at least one station. Harry Biltcliffe G5HB has agreed to act as co-ordinator. Bob Warner has already promised to overhaul the club generator. Help will be wanted in many ways, but we will be, as always, short of operators, particularly during the night. Why not join in this year and once again make it one of the high spots of the year?

At quite a number of the meetings recently it has become really obvious that we have outgrown our present H.Q. We really do begin to burst at the seams. If anyone has any bright ideas (practical) of a new place will they please tell one of the committee.

We would like to welcome the following new members:-

Brian Armstrong G3EDD, Patrick Dymond, Robin James, Laurie Jones G5JO, Sant Kharbanda G2PU, Eric Papworth, and juniors:- Philip Goldstein, Alan Papworth and David Symonds.

New calls among the members are G-6AAU(Peter Long) and G8AFW (Stephen Clark).

Visitors to recent meetings include G3IVB of Melbourn and G3JBG of St. Neot's.

We want a volunteer to rebuild the top-band TX into a decent cabinet and to build the power supply in. What about it?

ANNUAL GENERAL MEETING

The 15th Annual General Meeting of the Club took place on Friday, March 19th 1965 in the Club Headquarters, when the chair was taken by the President, S.J, Granfield (G5BQ). There wore 15 members present,

After the minutes of the previous A.G.M. had been read and approved, the President gave a comprehensive report on the activities during the year. He spoke briefly about the gear that had been bought and then paid tribute to the Treasurer (G3IIT), the Editor of "The Cambeam" (G2CDX) and finally made a plea for renewed vigour in tidying the clubroom.

The Treasurer reported on the statement (already circulated) and stated that with all accounts settled, there was a balance in hand of approximately £40.

It was proposed by Harry Biltcliffe and seconded by Fred Taylor, that Rules 6, 7 & 10 be altered as set out in the notice for the A.G.M. This was agreed.

The following officers were then elected.

President:	S.J. Granfield	G5BQ
Secretary:	H. Waton	G3GGJ
Treasurer:	J.B. Poster	G3IIT
Committee:	P.A.E. Porter	G2CDX
	T.J. Chapman	G3PTQ
	F, Taylor	G3RFP
	H. Biltcliffe	G5HB
	J, Carter	G30WB
	P. Simpson	G3GGK
	H. James	G3HZP
Auditors:	D. Wiles	G3HBY
	F.J.W. Walters	G3LIE.

The President again reminded the members of the possibility of the club premises having to be demolished to make way for the spine relief road,

The meeting closed at 9,20 p.m.

EVENTS DIARY

Friday,	May	14th	NFD Discussion.
Thursday,	"	20th	Visit to Shefford Club. Talk: "Laser Beams"
Friday,	"	21st	Quiz Evening.
Friday,	"	28th	(G2MI)
Weekend	"	29/30th	432 Mc/s Contest.
Friday,	June	4th	Informal (Whitsun).
Sunday	"	6th	Wethersfield Mobile Rally.
Friday	"	11th	NFD Final Arrangements.
Weekend	"	12/13th.	NFD.
Friday	"	18th	Post Mortem on NFD.
Sunday	"	20th	Hunstanton "Bucket and Spade Party",
Tuesday,	"	22nd	Visit to I/uton Radio Club Debate "HP v VHF",
Friday,	"	25th	Hints and Kinks.
Friday,	Jul	2nd	(G3LTF)
Sunday,	"	4th	Two Metre Contest
Friday,	"	9th	Activity Evening.
Friday,	"	16th	(Mr Towers)

Fixtures in brackets n«t yet confirmed.

Newcomers to V.H.F. are Doug. G3NBP and Fred G3RFP. Ron G3TAG who writes about his 160 metre experiences in this issue has finished a Two metre Tx and is busy putting the final touches to a VQ4EV type converter.

G3CZA, Bill, has moved from Manea and is already putting in an excellent signal from his new QTH in Ely. He is at present on 160 and hopes soon to get back to completing his 2 metre gear.

Another "local" station worked on 2 is G30HC/A Graham who is operating from his digs' in the city. His home QTH is Birmingham. He is here on a course and normally travels home on Friday nights so we are not likely to see him at the Club.

Frank G2ET still puts in a good signal on "top-band" and we hear that he also is about to come on Two.

There are a number of stations in the area with equipment for 4 metres. We are told that the best time for contacts is Sunday mornings.

Brian, G3EDD is still steadily constructing the mechanism for his new tower, while Jim G3HJF of Burwell occasionally breaks off from his boatbuilding to put out a signal. We wonder if he intends to go /MM.

Harry G5HB took his modified commercial mobile equipment down to Weston-Super-Mare over Easter and operated portable. Although he did not have a contact with Cambridge, he did have a number of good semi-local contacts in the area. The best DX being int6 Southampton.

The Editor has just received from G3PTB the latest issue of the N.A.R.C. which is the mag of the Norwich Club.

The Club now receives regularly "Ham Tips" from R.C.A; Copies are kept at H.Q.

On Changing QTH. Arnold Tomalin G3PTB.

As most of you are aware I have recently moved from Histon to Norwich, being given about six months notice of the move. Naturally much of this time was taken up by the search for the new house and consideration was obviously given to amateur radio activities without being unreasonably biased by these factors. One estate agent recognised my RSGB badge and promptly produced only details of properties above the 400 ft. contour with appropriately high prices. No consideration was given to properties with snail gardens - both from the aerial point of view and also the horticultural, as "no space" aerials, while common in the literature, seem rather less common in actual use. Fortunately a suitable QTH and price was found easily and quickly.

The removal contractor was warned that household goods, in my case, included two 20ft. light poles, a 22ft. length of 2" dural and a 25ft. telegraph pole Prior to this much attention was paid to the equipment. Fortunately most of my test gear (ten items in all) were already securely mounted in a rack and could be removed bodily. The main transmitting gear was already housed in a similar rack. I took the receiver (SX28) and modulator (no case) myself by car but everything else went in the removal van and nothing was damaged in any way.

I did however take the opportunity of ensuring that all cables and interconnections were labelled and that all plugs and sockets were standardised. This meant the end of the mixture of Pye and Belling-Lee plugs and sockets, barrier strip and connections of the twist and tape variety. The Belling-Lee type became the standard for all co-ax cables, the 5A-3-pin for all power connections and the five-pin open type for all multiwire interconnections. This last may explain my large scale purchases at recent junk sales. Each connector was fitted with plug or socket at each end - no trailing wires hanging from the TX to trip the carrier, all interconnections were changed to the same pin system, as were all power units and ancillary equipment thus eliminating most of the spectacular

As most of the gear normally lived in one of two racks an appropriate number of mains outlets was fixed to each rack so that only one lead had to be taken to the main outlet panel in the shack. This lead was fitted with a 13 Amp. fused plug top, thus localising to some extent the result of an overload.

The various aerials were lowered in turn and each was carefully rolled onto an old cable drum and the feeder connection inspected and tested for insulation. The poles and tabernacles were uprooted and repaired but creosoting and painting was, for obvious reasons, left until we arrived in Norwich.

G3PTB was active on 2 metres with the aerial temporarily rigged in a tree the night before removal began and was again on 2m 48 hours later at the new QTH. The installation of the gear in the new shack took half an hour, having decided the placing of all major items before moving, thus not causing any noticeable diversion from the more usual activities involved in settling into a new home. This would have been impossible without the preparations of the previous weeks. Activity on the other bands was possible about a week later.

The stock of junk (sorry, useful components) had been rigorously sorted and relocated in two old chests of drawers, resulting in a monumental heap of (real) junk at the gate in Winders Lane. All resistors and capacitors were checked on a bridge and all valves, both spares and those in use, were tested.

It had been hoped to provide enough material for a junk sale but casual conversations around Norwich revealed a dearth of such material and it may have been noticed that at the last junk sale before I left, the auctioneer was bidding frequently.

The obvious conclusion to be drawn is that the preparation was well worthwhile, the enforced tidy up and check over of everything made for easier operating

and better performance, for the time being at least it has made construction and repair much quicker and easier as all components can be found identified and are known to be serviceable (!).

The radio value of the new site has only been properly explored on 2 metres and has proved n» worse than the previous one, and partly due to the enormous T.V. field strength no T.V.I, has been encountered on any band or mode.

Both in the domestic, professional and radio sense we are well pleased with the QTH and all that I can ask now is that beams should be turned east occasionally - with a view to G3PTB qualifying for the "Worked all Cambridge" certificate,

o-o-o-o-o-o-o

A Beginners View of Top-Band

Having read the article "160 in Brief" by one of the "top brass" in the latest issue of the Cambeam, I would like to give a beginners impression of the same band.

I have now been on the air for about twelve months using a homebrewed Tx. the line up of which is EF91 V.F.O., EP91 buffer, EL91 buffer, into a 5763 as the final.

The modulator is rather beefy for a Tx. of this size but it does mean that everything runs well within its ratings. The line-up is EF91 speech amplifier, EB91 - ECC91 speech clipper, ECC81 phase splitter, and a pair of 6BW6's in the output stage.

Power supplies for all this are obtained from a stabilised power unit using a 12E1 (purchased at a Club junk sale for 1/-) as the series valve.

The Tx. side of the gear is a "Mohican" which works quite well on 160 although the selectivity is rather poor for C.W. work, also the frontend transistors have been badly bent due to the changeover relay going on strike.

By far the biggest problem on 160 is the aerial and the wire at G3TAG- is far from ideal. Only 132 ft

could be accommodated and of this 40ft. doubles back on the main run. The main 90ft. run is only 17ft. high and the odd 40ft. even lower, being a mere 10ft. This "piece of wet string" has its many dispositions ironed out with a series tuned A.T.U. and a recently built strip-line S.W.R. meter. As a matter of interest the latter produced TVI and came through on a F.M. tuner worthy of 150 watts on 20 metres until it was carefully screened.

Until October '64 all operating was on phone but at the onset of winter conditions on the band and the increased QRM it was decided to have a go with the key. Let me say now to anyone using top-band who has never tried CW that they are only getting about 10% of the fun to be had on 160. This is a band crammed to bursting point with every kind of R.F. emitting device ever invented, all *of* them fitted with a special amateur station tracking gadget so they can come up on your frequency as soon as you have made contact. CW is the only way to play sardines with this lot and still get through.

Once on CW about 40 counties and a host of OK's DL's, and PAQ's were worked with good reports all round. No DX of the W or VE variety has been worked yet but these have been heard at good strength during clandestine operating sessions in the small hours of the morning.

Plans for the future include raising the aerial to about 35/40 ft. when poles and WX permit and the construction of a decent double conversion Rx when the depth of the pocket allows. These improvements may help to get across the "pond".

Summing up, I would say that 160 is a most satisfying band to work on. The low power and the natural bent of 160 to be awkward means that all your gear must be in first class condition, and this adds gilt to the gingerbread of that elusive contact,

Ron. Gouldstone G3TAG.

Handy Hints 5.

Cheap Metal Boxes. A.W.Tomalin G3PTB

Why use expensive die-cast boxes for sub-chassis or small instrument cases when you well know that it won't work first time and will need more holes drilling and by the tine you've finished it looks like a die-cast colander? Use inexpensive easily obtained steel boxes as used by electricians for flush mounting switches and socket outlets. All standard sizes e.g. single switch box 2-7/8 x 2-7/8 x 1-3/8, two-gang socket box 5" x 2-3/4 x 2-3/4 deep (MK type 880). All are liberally sprinkled with knockouts 3/4" dia. - just OK for B9A valveholders and will take most B7G's. The single switch box has 7/8" knock-outs as well as 3/4".

Uses include V.F.O's, G.D.O's, filters, multipliers etc., and I use the larger 4 gang boxes for 2 or 4 metre converters.

Price for the 2 gang version is 2/1d, and lids are easily obtained under the name of blanking plates,

Handy Hints 6.

Single Handed Mast Erection, by S.J. Granfield G5BQ

If the "pole gang" is readily available, the raising and lowering of a mast is comparatively easy, but this idea was worked out so that e tall metal pole can be raised and lowered single-handed.

"Dural" scaffolding, obtainable from any S.G.B. Depot (The Cambridge one is on the outskirts of Milton), at about 3/8d per foot, is best for the purpose. Occasionally second-hand lengths are available at a reduced price, so it is worth while to ask about these.

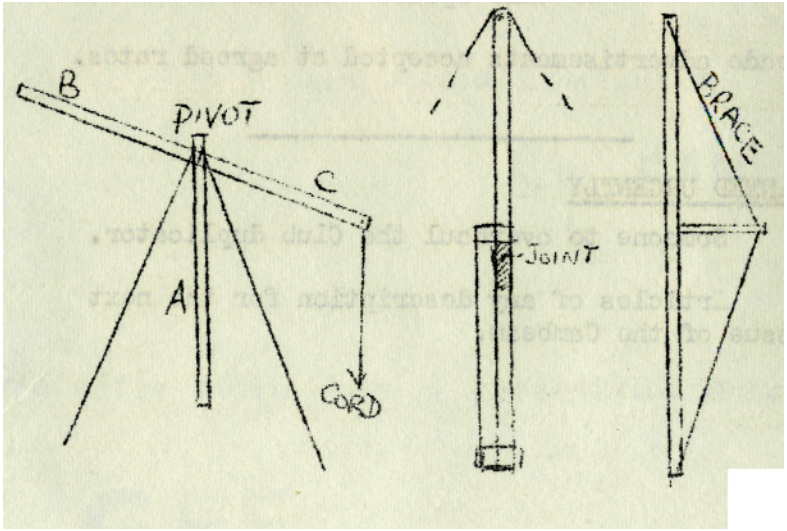
For a 36 ft. mast we require a 20ft. length (A), and two 18ft. lengths (B&C), a swivel joint (about 7/6d.) and a fixed coupler (about 6/-.).

A jointing sleeve can be bought from "J Beams" for 11/6, or from Shelford Building Supplies.

The swivel joint is fixed to one end of the 20ft length (A). The two 18ft lengths (B & G) are joined by the coupling sleeve, then fitted into the other half of the swivel joint, as near as possible to the mid-point.

The length (A) is raised into a vertical position, and securely guyed. If a length of strong cord is tied to one half of the pole, it can be raised by a gentle pull on the cord or steadily lowered for servicing a bean etc. Guys should be fixed to the upper half of the pole, but with proper orientation, only one of these needs to be unfastened to lower the pole as required.

At my QTH the fixed pole is bracketed to the garage wall, making a perfectly rigid fulcrum. There is considerable bending of the pole with a T2.D.R. Rotator, a 6 over 6 Two metre beam and a 70 cms, beam, but it goes up all right, and is positioned so that the beams lower on to the garage roadway for attention. A bracing wire could be added quite easily if there is too much bending.



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All enquiries to Bernard Foster G3IIT

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