

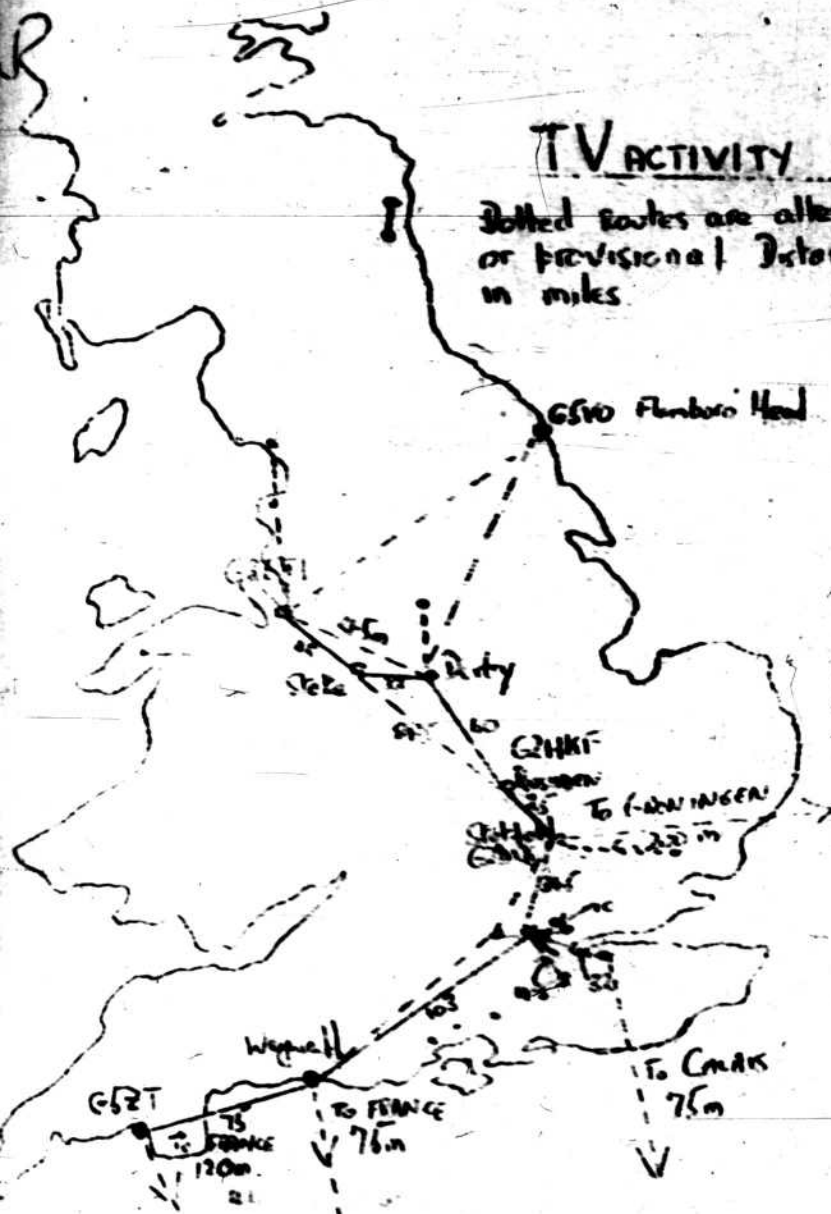
THE MAGAZINE for
ALL HAMS interested in

AMATEUR TELEVISION TRANSMISSIONS.

Produced for the BRITISH AMATEUR TELEVISION CLUB.

TV ACTIVITY MAP

Dotted routes are alternative or provisional Distances in miles



Places shown:

- G6EIT 16 Queens Ave
Dunbar Chas.
- (Stoke) G6UD - no name
- Derby Swift 92 George Rd
Avonson Derby.
- G6HKF 1 Upper Park Ave
Rushden Northants
- G6DUS 40 Regent St
Stotfold Beds.
- G6ZT "Riverside" Garage wall
11, 11 Egglands
Wymouth.
- Wymouth 14. East Hyld Rd
Wymouth Dorset
- High Wycombe (Lane E) Bucks.
- Genes Cross Bucks
- Denham Bucks
- Harrow Weald Middlesex
- Stammore Middlesex
- Barley Heath Kent.
- Total mileage (excluding 6-5/10)
= 374 miles
with 6 relays

OCTOBER 1946

NO. 1

" CQ TV " NO 1.

Published at Cheyne Cottage, Dukes wood Drive, Gerrards Cross, Bucks.

For the British Amateur Television Club.

Editors Note:

Hi there, ones,

here is no. one of what I hope will be a series of issues of your mag. Note that I say your mag. - well, so it is. Inestl chaps, I'm just about browned off with writing and re-writing the same things over and over again, hence the Circular letters. These take a lon to get around though, but we all tend to get out of touch.

I'm sorry this has taken so long to be produced, but Ie had some trouble in obtaining spares for the Duplicator. However, in the future you should get a copy every few weeks or months - depending on how much material you blokes send in, and also of course on my own will (or otherwise) to work. Please note that: I must have contributions from eve one of you - what you're doing, how and why you're doing it, results obtained, etc. A few notes, an article, circuit diagrams, photos (preferbly with negatives if for reprinting, otherwise for line reproduction or anything will help, so ring, write or QSO anything you have.

As regards finance, the copies go by Printed Rate post, even so they work out about 3d each copy, so if you would care to forward

a few Stamped Addressed Labels, it would be of great help.

And so, cme, 73s and my apologies for any errors, rollin the mail, and let's get on with that First TV QSO!

Mike B.

G3CVO

Owing to lack of gen from you, this edition may be rather -all. Remember, that Circular Letter went off at the beginning of August and hasn't returned to base yet.

Glad to see some of you at Radiolympia, and sorry to miss others, but even I have to eat!

Welcome to Mr. E. Erasmus, 286GX, of 17, Third Ave., Lambert Germiston, S Africa, who has written in for details, and is receiving A. transmissions in S.A. fairly regularly during the summer days. He is using a 6J4 6AK5 into four 717as in the Video, with a similar arrangement but with only three I.F.s in the sound Rx. He can put out 100 watts on 6 and 2 metres to an 829. Rather a long stretch for 420 mcs, but still.

73s too, to our good friends in Holland, especially PAOZX and PAOXN who have taken a great deal of trouble to help us get started.

G3CVO is on 145.116 mcs every night 2230 to midnight when on leave. G2BUS is active on Top Band CW, as is G3ETI. When are you chaps going to get Fone tickets? Its no fun swapping Pulser details by CW! PAOZX is in the states - do I smell 5527s? Anyone else on the air, pee? Don Bradford, having done the necessary, now awaits his call.

Anyone getting any results with 420 mc gear?

Information Wanted:

Has anyone any idea of the persistence and intensity of nominally green and/or blue trace C.R.T.s?

FOR SALE: Clut note paper, as sample, @ 2/6 for 50 sheets, incl. post. Guaranteed to impress manufacturers, etc. Maybe even the GPO

PUBLICITY: Did you see that bit about us in the Daily Herald a while back? That is a start, but leave off the pressure until we a final "NO" from the GPO. Then we can all write.....

For 2nd. Ops and Y.L.s (and others), it should be explained that a Fr Scan is not what a Yank does when a pretty girl passes by.

TV AT RADIOLYMPIA - HAM VIEW.....

The accent, we are told, was on T.V. at Radiolympia this year. Be that as it may, there were a considerable number of T.V. sets in nice, expensive cabinets, and a fair selection of T.V. rxs and aeri's mostly just nice and expensive. However, by virtue of being at the show every day, your contributor had more chance to see various bits and pieces of equipment that the casual visitor may have missed.

Early on - before the Exhibition opened, to be exact - a good look at the Marconi stand was had. Two cameras were on view, one of which was being used to show The British Public its beautiful Face (a 12" tube just below the camera. Lighting was very weak - a fluorescer tube (80) only, giving a very good picture. The cameras were actually 625 line jobs of the latest type, and had been put back to 405 lines as "not to embarrass the B.B.C.".

The other camera was mounted on a normal film studio dol capable of finger-tip control in any direction. The cameras are fitted with 4 lens turrets operated by a large knob on the rear panel, focuss being by means of racks and pinions inside the case. A small C.R.T in a kind of horizontal periscope arrangement served as a viewfinder. All the valves seen were button base types, the image orthicon itself being an R.C.A. 6867 (?) costing a mere 6600 ea. before devaluation.... The best production figures obtained for these tubes is a 45% reject. E.M.I have built four, and rejected the lot. Camera controls, apart from pure mechanical ones associated with moving the camera, were Focus (Optical Intensity (monitor?) and Gain (Pre-amp). Provision is made for Ops. head and a small carbon mic. is built into the frame for talk-back during rehearsals.

The control equipt. is very neatly built in unit constrn each unit about the same size as a Coesor Double beam 'scope. One unit containing the line amp, 9" monitor and 3" waveform monitors, plus all the Orthicon focussing controls, gain controls, etc., is used for each camera, connections being by way of a 267 way cable. The outputs from any number of these units are taken to an output monitor, containing a 12" Picture-Out tube, with an input selector switch and further gain and balance controls. The arrangement is very flexible in use, there being one engineer to each camera monitor, and one to the output monitor. The function of the former is evidently to look after the picture shading when Emitrons are in use, and just to look when the C.P.S. Super Emitr is in use. Pye's also had a T.V. camera on view, but except in minor details such as an "Ops. Headset Volume" control, it appeared to be little different physically to the Marconi model. No control equipt. was on show, so the next visit was to Pye's Colour T.V. demonstration. This was claimed as the first public demonstration in England - previous efforts by Baird, etc, presumably counting as "Trade" shows.

The demonstration took place in a special little studio

and intense illumination from banks of 6 fluorescents was used. The system was the usual rotating three colour filter method, and the results were quite good as viewed on five 12" screens in front of the audience. Some pulling was noticeable on vivid colours, the overall effect being rather like an early (or even some recent) Technicolour film. A very trying point - to me - was the colour flash seen when one blinked or looked away from the picture suddenly. The apparatus is really only designed for use in hospitals etc, where the colour would be an advantage, but is not for normal transmission. The number of lines appeared to be about 500, with presumably treble interlace, but this was only a guess from the back and not the result of diligent enquiry.

The Radiolympia T.V Control room, containing main monitor equipt. and output amplifiers (to A.P.) consisted of five large racks the centre three having 12" monitor tubes giving, apparently, Picture In (from studio control), Picture out (to line), and possibly Picture received (over the air). The other racks contained what seemed to be the sound equipt. - plus two R1132s for purpose unknown! Pulse and pattern generators were in the main panels, and the black "cross" obtained was nothing to write home about, the cross-bar being about two-thirds of the way up the picture most of the time.

An I.F.T was also in use playing test films, but apart from the fact that the film gate was illuminated by a pretty power-source (not a C.R.T), nothing further is known about it. A very pleasant hour was spent in the actual studio itself, watching the rehearsals of a Ballet, but this is very similar to the occurrences in a film studio, and nothing of great value was discovered. Normal make-up and lighting was used, as was obviously a lot of planning. There was not much else of interest to B.A.T.C. members in the show, though a working model of an Emitron, using neon tubes to illustrate the path of the beam, proved absorbing to the general public. It is to be hoped that next year 625 line equipt. will be on show, especially as it seems reasonably certain this will be adopted as an International standard in the near future - in spite of the B.B.C.'s vows to the contrary.

M.B.

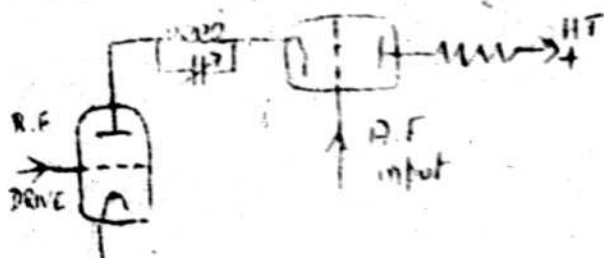
A Useful address: Radio Corporation of America,
43, Berkeley Square,
London, W.1.

For all Technical Gen etc.

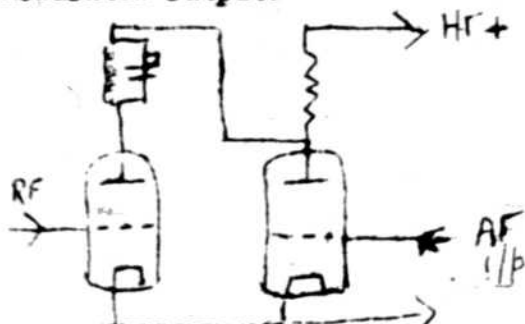
A WIDE-BAND MODULATION SYSTEM FOR HAM TV WORK.

When designing a T.V. modulated rig, a problem sooner or later encountered is that of a suitable modulation transformer, capable of handling frequencies from about 30 cycles to around 2 or 3 Mc/s.

It is, of course, quite possible to use series or parallel modulation with another valve connected to the P.A. electrodes in such a manner that as the input to the modulator varies, so do the potentials at the modulator electrodes, and these P.D.s will appear on the corresponding electrodes of the P.A., thus giving a modulated output.



Series Mod.

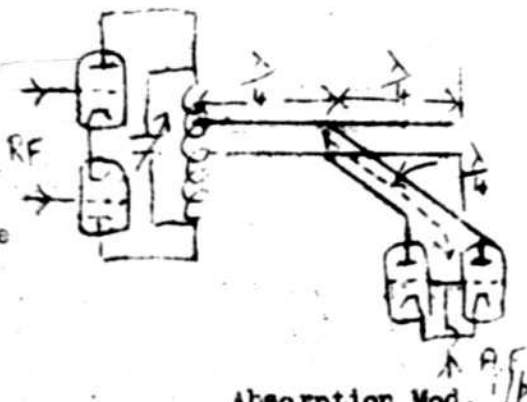


Parallel Mod.

Both systems, though fundamentally sound, have an obvious disadvantage for V.H.F or U.H.F applications, namely the fact that long wires are needed to join modulator to P.A., which will obviously seriously hinder the efficiency of the P.A. as regards R.F.

Another method, very suitable for V.H.F., is that of Load Impedance, or commonly Absorption Modulation. This is one of the simplest and incidentally oldest, methods of modulation in existence. The anodes of the mod. tubes are connected, through a quarter wave section of feeder, to the main antenna feeders, the junction being an odd no. of quarter wavelengths from the transmitter tank coil. When the

modulators are non-conducting, the mod. stub is "open-ended", and the antenna feeder is nearly shorted, thus letting very little R.F. reach the aerial. As the mod. current varies, the effective impedance of the stub is also altered, and the A.F. variations become translated into R.F. variations in sympathy. At 100% mod., the stub appears to be shorted



Absorption Mod.

and max. R.F. is applied to the antenna; an arrangement of link coils could be used to overcome the disadvantage of H.T. on the feeder.



WHAT
THE OTHER BLOKE
IS DOING.....



(O! Chaps, this really is ur dept., so wot sa to sam gen?)

IAN MACWHIRTER, G3ETI. Has a pulse generator functioning, and can produce a Black Cross. Is continuing work on his I.F.T using a 931A P.E.C. More news, and quickly, pee on.

IVAN HOWARD, G2DUS. Is a real spiv, having TWO 5327s in operation. Is apparently getting some FB pictures with them, and after visiting Radiolympia, wants to start colour TV expts. Can we have a few more details, Ivan, for the next issue?

H.O.WILLS, G2HEF. News from him is presumably in the C.L.; we have nothing from him in the line of a progress report, and do not know if he has started construction yet. What about it, em?

PETER PARKIN, BRS14061 Again nothing to report, except that Peter is known to be designing an I.F.T. Any luck, oo! get out that pen.

DON BRADFORD, GSWL 415 Has been rather busy at night school and also passing the Ham exam, which, with his Two-metre activities (RX) has only left him enough time to almost completely rebuild his T.V. Rx. Don is going to concentrate on the reception side for the present, and is having a fine time building 420 mcs Rxs.

HAROLD JONES, G3ZT. NO news from Harold. Is thought to have been on holiday.

FRED WOOD, BRS 1 Fred has just been demobbed from the Signals in Germany, but is not properly organised yet. Is building an I.F.T and also hopes to have a tape recorder in action by now. Is with the G.P.O.

TONY SALE and BILL NORTH have been doing great work on I.F.Ts. Bill has an AN/AQ4 Radar jamming unit (Conversion data in future edition) and Tony has a VCR130 and 931A into three EF50s. They have sent the letters A.E.S. - Tony's initials- over a closed circuit, but are having trouble overcoming the persistence of the tube, which at the moment limits the definition to about 70 lines. They hope to try Ultra Violet filters to improve matters. Bill has sent a Black Bar tuning signal over a short distance (in his own garden, G.P.O!) on 420 mcs, but can't get a complete cross over yet due to modulator difficulties. Bill's tx is an SEO using 2 388As in a Concentric line cct amplitude modded (yeah?) by 2 807s

and he reckons that at the moment he is getting roughly equal parts of A.M and P.M. Tony's rx uses an RL18 L.O using parallel line grid tuning the anode cct being a CC line arrangement going direct to the grid of a 955 mixer. he says that he finds a 955 is much better than either a valve diode or crystal diode, though he doesn't say anything about the Sig - Noise ratio. The I.F is at 45 mcs and feeds straight into his normal vision rx. I'm hoping to inveigle Tony and Bill to write an article on their progress, just in case Ivan doesn't cough up!

C.M. SWIFT of the Derby club is planning an I.F.T, and complains that out of a hundred or so hams at the club, he is the only one actively interested in TV xmissions. What about it, Derby? He has, like most of us, given up the idea of getting an interlace and just sticking to 200 line 50 frame work at the moment. By the way, Tony Sale says he has a cct for producing an interlace using only four 6SN7s. Details, PLEASE.

MIKE BARLOW, G3CTO has been a little pre-occupied with Radiolypia and Two metres, and so has got no further than building a Pulse Generator, and making minor mods. to his rx. The Pulser refuses to generate a test pattern and will be rebuilt. Activity at the moment is concentrated on 420 mc rx and tx work.

Our two Dark Horses, GEOFF EVANS and the chap who lives at 27, Elms Rd. Harrow Weald, Middx. (who wrote but forgot to sign his name) possibly haven't received the Circular Letter, and therefore don't know what's happening. Geoff probably doesn't even know there is anyone interested in Ham TV! Sorry to break it like this, om.

Of our overseas friends, PAOZX is in America with a student Drama group, PAOXN and PQMH are keeping quiet about their activities. ZS6GX has an Rx in action for A.P. Xmissions, and is hoping to build an I.F.T

So that's all the news I have for this time, chaps. I must point out though that I have only seen either C.L. once since July - what do you do with it? Experiments to see if it will go mouldy if left long enough before you pass it on!!! Please remember, there are other people who may be in urgent need of a look at those QSTs or something, so **DON'T KEEP THE CIRCULAR LETTERS ANY LONGER THAN ABSOLUTELY NECESSARY.** And now I hope you will all write in and tell me what you think of the Mag, any constructive criticisms, your own news, etc, etc, and we'll see if we can't make the next issue very much better.

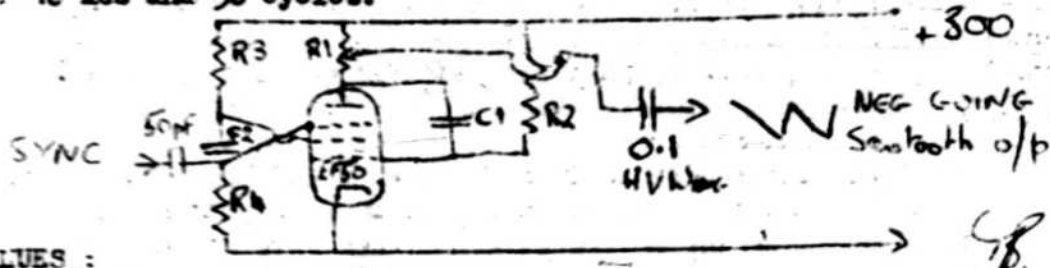
Date of next issue— don't ask me yet. I'm still O.H.M.S at Catterick. Will do my best though, so write, amigos, write.....

SIMPLE CIRCUITS DEPARTMENT.....

(Do you know a good circuit for, say, a Pulsar, or maybe a camera pre-amplifier, that someone else might be able to use? Send it in for inclusion in this space).

1. THAT TRANSISTRON TIME BASE

The circuit is given below, followed by tables of values for 10 kcs and 50 cycles.

VALUES :

	50 cs	10 kcs	
R1	22K	47K	Increase to increase AMPLITUDE.
R2	3M	2M	Decrease to " FREQUENCY.
R3	20K	47K	" " " BOTH.
R4	50K	500K	" " " BOTH.
C1	0.01	75pF	" " " FREQUENCY.
C2	0.01	165pF	" " decrease flyback time.

These figures are only guides, and I have found changes of up to about 200% necessary when the physical layout of two bases is considerably different - i.e., you move a component, and you may have to alter its value. The base gives a very good linearity, and may be used with VCR 97s with about 1500 volts E.H.T. No trapezium distortion is present even when only using one valve for the entire time base. It is advisable to use another 6X5 in a paraphase cat if Push Pull deflection is required, although it is possible to take an output from the cathode by inserting a suitable "bias" resistor. This will also help to make the base start correctly if by-passed - sometimes the base will not start without switching off and on the H.T. switch. Incidentally, pulsers, don't forget you can get a square pulse at the screen during flyback.

Rather surprising: E.M.I. have no protective relay on their FB cameras to cut the E.H.T. should the sawtooth voltages fail. Seems an unnecessary risk to take with that 2660 tube?

STILL NO NEWS OF OUR HAM TV LICENCES. KEEP WISHING.....