CQ-TV

THE MAGAZINE

for all Hams interested in

AMATEUR TELEVISION TRANSMISSIONS

Produced for the British Amateur Television Club

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Editor's Note:

The beginning of the fourth year of publication of this journal comes after a record recruiting period, and just before the Club puts on its biggest and best demonstration yet at the 1952 RSGB Exhibition. Several Club members have been on the air with television, notably G2DUS and G3FNL who did the original tests - at their own expense - for the GPO, and G5ZT and G3BLV who made the first two-way television contact on the 70 cm band. At the time of going to press, G2WJ, with a properly designed TV transmitter, is putting out test patterns and still pictures, whilst up North G3BLV and G3ACK are trying to establish TV contact over a 20 mile path. As we have found, the problems associated with wideband modulation on the 70cm band are very difficult to solve, and all praise is due to these pioneers who are working out the details.

On the more purely visual side, we can now look askance at any results inferior to a 2 Mc/s response with even the simplest of equipment; continual experiments have produced results that the pundits said could only be attained by using the best in components and test gear. There are more telestill units in action now than ever before, and in spite of the restrictions on camera tube imports, there are several new cameras under construction. And of course, down in Ross on Wye, the Chairman is busy with his colour TV experiments, whilst over in Eire, David Nolan continues to develop his stereo TV system.

All this amounts to progress of a very real kind, and there are signs that the advances we have made are being noticed by Those Who Matter. There are plenty who scoff at what the amateur can do in competition with the big radio labs, but it is in just such a field of research as this that we can score. What commercial firm would dream of developing the short cuts and ultra-economies forced upon us? If only the GPO could be persuaded to release experimental TV licences at a reasonable fee, and without unnecessary conditions, then the actual transitting side could forge ahead in a similar manner to those of us who concentrate on closed circuit equipment.

In conclusion, I should like to apologise to those of you who have written in to ask what has happened to this edtion. Owing to pressure of work, it is necessary to publish CQ-TV in March, June, October and December - and please remember, this is not a full time occupation of mine, so don't shoot too soon! Don't forget to come to the RSGB Show - from Wednesday November 24th to Saturday November 29th, at the Royal Hotel, Russell Square. We shall hope to "see" you there.

73

M.Barlow.

INDEX TO THE FIRST FOURTEEN EDITIONS OF "CQ-TV"

(Contd over).

ALL EDITIONS HAVE EDITORIALS, SHORT NOTES, AND "WHAT THE OTHER FELLOW IS DOING".

INDEX CONTINUED

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"CQ-TV" was first typed and hand duplicated by G3CVO in duplicated covers; the initial printing was for 25 copies, increasing to 32 copies with No.2. With No.3 (36 copies) the covers were changed from light blue to brown. Successive editions were printed as follows: No4, 38 copies, No 5, 63 copies, No 6, 75 copies, No 7 90 copies. At this time the covers were changed to the grey printed type. Number 8 had 75 copies, Number 9 80, Number 10 130, Number 11, 130, Number 12 150, Number 13 205, and this edition is being printed in 250 copies. This does not represent 250 members, as allowance has to be made for extra copies for the "Back Nos Available" dept, plus several complimentary copies to various Journals, Societies, and manufacturers. In addition, Nos 13 and 14 have been printed in a large edition to allow for open sale, etc at the various exhibitions at which the BATC has a stand. and covers

Of the club members, roughly 40% hold transmitting licences, and about 5% more are members of the RSGB, ISWL, etc. Only three or four hold TV transmitting licences, mainly due to the expense involved. The counties with the most members are Bucks, Cheshire, Essex, Kent, Lancashire, Middlesex, Surrey, Warks and Yorkshire. Overseas members are at present in the Netherlands, Germany, Sweden, France, Finland, Canada, Australia, New Zealand, South Africa, Eire, the USA and Northern Ireland.

THIS MONTH'S SHORT NOTES SECTION

Two VCR138s for sale @ 10/- each; post extra. John Hedges, 6, Littlejohn Rd Hanwell W7. o.oool 5kV test Micadon 3/- doz, 1µF 400V oil 6/- doz, RFCs 2/- doz o.5µF 450V tubular 2/- doz 12.5-40pF butterfly Variables 1/3 each, 1143 10 Mc/s IF transformers (see RSGB Bull Nov 51 and July 52) 1/6 each, Switch wafers 6d doz, Phillips 100pF 2/- doz, preset trimmers 6/-, 12.5 µF butterflies as above with heavy 4t silver plated coil mounted 2/6 each (these cover 2m when adjusted to allow for valve capacity - G3CVO), EC52 @ 5/- each, S130 @ 5/-, 6K8 @ 10/- each, all new and guaranteed. Spindle couplers for ¼" shafts 1d ea 1/- doz. From R.A.Lord G3DSK Oakfield Cottage, Moat Road, East Grinstead, Sussex.

951As can be obtained @ 15/- from Radio Services Ltd, Lower Bullingham, Nr Hereford. Supplies are limited; mention the BATC.

Part stripped R1147 chassis with 12 Mcs IF and o/p intact 20/- incl tubes and acorns, 2 2V accumulators, one brand new, 8/- pr, standard 21" panel with 17" chassis 10 x 3 unmarked, finished grey, 15/-. Three 1000' 35 mm film cans NO SPOOLS, 12" grey sorbo rubber TV mask, 7/6; 2 6" black masks 2/6 ea; Carbon pile VR 2/6; 6V Vibrator pack w spare vib 15/-; variable Ls one ceramic 8t 3" 150 watt job 10/- and similar tufnol type 22 turns 7/6. Offers for 35 mm film scanner panel with film transit mechanism, gun camera lens, all on 15" by 6" Ali panel. Delivery on above items depends on when G3CVO is next home. May be around RSGB show time. From G3CVO Cheyne Cottage, Dukeswood Drive, Gerrards Cross Bucks.

CONGRATULATIONS to PA0ZX on the birth of a daughter, Marietta; to Bill Cheek on the birth of a daughter, too.

Grant Dixon Ross on Wye wants 19" panels cheap, 5K + 5K pots, 2kV EHT trans cheap, 350V 20 mA selenium rectifiers; also 2" and 3" magslips and any small SYNCHRONOUS motors.

Mica and Micanite supplies Ltd Barnsbury Sq, London N1 offer bobbins and formers to any spec in an ad in Electronic Engineering.

Anyone know what screen the VCR526 has please?

Copies of CQ-TV Nos 12, 13 and 14 are available, price 1/6d each. Please note that I prefer not to lend out the file copies back to No 1, but these can be inspected at the RSGB Exhibition.

BATCs are reminded that a bi-monthly commentary appears in the Bulletin of the RSGB. This is a general review of amateur TV doings, as the RSGB feel that technical snippets would not be of value. That series of articles on TV has been proof corrected for some time, but still has not appeared. As the BATC is affiliated to the RSGB, we do get a Club copy of the Bulletin, and this can be borrowed from the Chairman at 23 Wye St, Ross on Wye, on payment of postage.

Members will notice that an index has been included with this edition. If there is a demand for them a series of Abacs may be produced for inclusion in future editions, and subjetcs for such will be welcomed.

Das DL-QTC (of the German ARC) and the "Mohawk Journal" may be borrowed from the Chairman and Hon Sec respectively. Many thanks to the Editors of these for their kindness.

The Hon Sec is preparing a loose leaf folder of clippings, photos, etc tracing the history of the BATC, for loan to lecturers, etc. Gifts of copies of CQ-TV earlier than No 10 will be welcomed to complete the story.

Has anyone used a CV52 on 70 cms please? 6V 0.75A Va 200 Wa 12 µ12 Gm 8 Ra 1500 Ia 60mA 27% effic @ 50 cms, 4% @ 25 cms, all interelectrode capacities 2.5 pF.

IF there was a Technicians licence, tenable on 420 Mcs and up only, and involving a written technical test but not a Morse exam, how many BATCs would take advantage of it?

Anyone got any CV53s cheap?

Note: Membership certificates are not always sent out, but can be picked up at the RSGB show or direct from M.B.

mslml

THE BATC STAND AT THE RSGB EXHIBITION: HELP WANTED.

As already reported, the Club will have a stand at this year's show, to be held from November 24th to November 29th at the Royal Hotel, Russell Square. In addition to George Short's camera and control console - which also carries the 16mm telecine and the telestill equipment - there will be G2WJ's 70 cm tx relaying the vision to a receiving point near the entrance, and a display of TV gear. It is expected that the Club will be able to move in on the Tuesday afternoon, ready for the opening on Wednesday at noon. Offers of assistance over this period of 24 hour will be welcomed. In particular, we shall need people with small screwdrivers, rolls of Cellotape, drawing pins, string, etc. If any artists can come along with their tools in case of last minute poster production, or members with sign-writing stencils they will be very welcome. The exhibition is in the usual hall, and no difficulty should be met with in obtaining entrance. Cars can be left in the street outside, and the nearest tube station is Russell Square.

We are particularly anxious to locate the following: a carpenter who can produce a title roller to take an endless belt of 12" wide paper for titling; any large blueprints or drawings of amateur TV equipment or circuits; a couple of 10' wooden poles suitable for fixing the 70 cm aerials to; two banners 6' long saying "The British Amateur Television Club"; small items for display, eg telestill units, miniature amplifiers, photocells, disc scanners, opened up CRTs or camera tubes, 13cm units, etc. Please, though, make them look nice, and if possible supply a card giving the full details! At the moment of going to press, we do not require lighting equipment, but would like to borrow an amplifier and gram unit, plus microphone and stand. This is rather urgent, and private transport could, at a pinch, be found. May we also ask all those who have volunteered standby equipment to hang on; George has not yet finished the camera due to coil troubles, so it may yet be necessary to call on Ian Waters or Doug Wheele, or any of the other telestill types, etc.

Don't forget to sign the Visitors' Book; there will be plenty of opport--unity for a good natter, so bring your circuits and photos with you!

THE TELEVISION SOCIETY'S TRANSMITTER

Members who visited the 1952 Radio Show may have taken the opportunity of introducing themselves to Mr Clack, of the Television Society Engineering Group. If so, they will have heard details of the TV Society's TV transmitter, which is being built for instructional purposes, and will be operated from the top floor of the Norwood Technical College, in South London. Scarcely designed as an amateur project, cost is no object, and the units are being made up by a firm specialising in such jobs. Valves (including the VHF transmitting ones, and the camera tube) are being provided gratis, and the design is in the hands of "eight of the leading TV people in the country"! The circuits shown, therefore, follow standard commercial procedure, and do not bother with our makeshift short cuts. The transmitter has been designed to use a grid modulated QQV06/40 in the PA, driven by a similar tube as a trebler. Unfortunately the carrier is on 432 kc/s, which will cause chaos on the 70 cm band, but no doubt this will be quickly altered to one of the two TV sections of the band. Aerial power is estimated to be in the region of 12 watts, which should be ample to cover the London area with a high-gain stacked antenna of slightly forward-firing field pattern.

No other picture source apart from the camera is contemplated, surprisingly, neither telestill nor monoscope units being provided. A full discussion on the whole transmitter will take place at meetings on Dec 11th and 17th. BATC's wishing to attend should write to Mr Clack at 43 Mandeville House, Notre Dame Estate, SW4.

FLYING-SPOT SCANNER VIDEO AMPLIFIERS

From Jeremy Royle, G2WJ/2.

The circuit on the opposite page shows a video amplifier for use with an ACR1/2X scanner, run at some 3 or 4 kV, with a 931A PEC. The resolution attainable with a normal lens system and 35mm transparencies is in the region of 3 Mc/s. It will be seen that the decoupling components etc are designed to give a high degree of HF lift to counter afterglow problems, and this circuit should not be used as a camera amplifier, where the compensation required will be different. No difficulty should be experienced in construction, but it is absolutely essential that the HT end of the 1K PEC anode load should be returned to the point marked, and not direct to HT. Otherwise hum bars will be seen, no matter how well smoothed the HT supply may be. In any case this value of load resistor will be found to be quite critical. A cathode follower stage should be added if the output cables are more than a few inches long. Two outputs are available, either positive or negative, to allow for either type of transparency to be used, and for effects, etc. Once again, due to differences in stray capacities due to different constructions, some experiment with decoupling values may be called for to get a really good response.

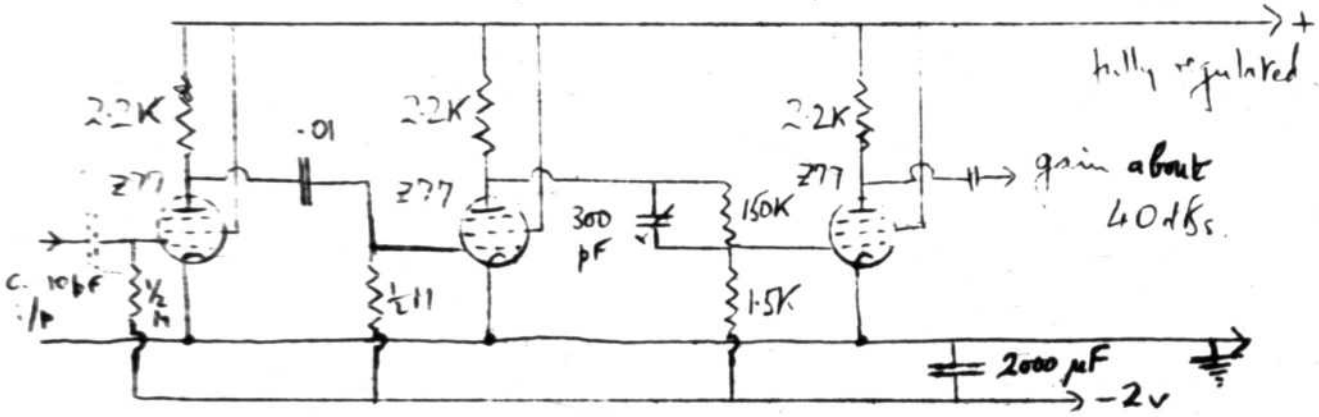
From Ron Oakley:

The circuit for a video amplifier built from the parts of a radar jammer unit, as given in CQ-TV No. 5 (June 1950), is quite satisfactory as it stands, for use with an ACR1 or 2X scanner. Some modification is necessary if a 5FP7 scanner is used instead, due to the different afterglow characteristic.

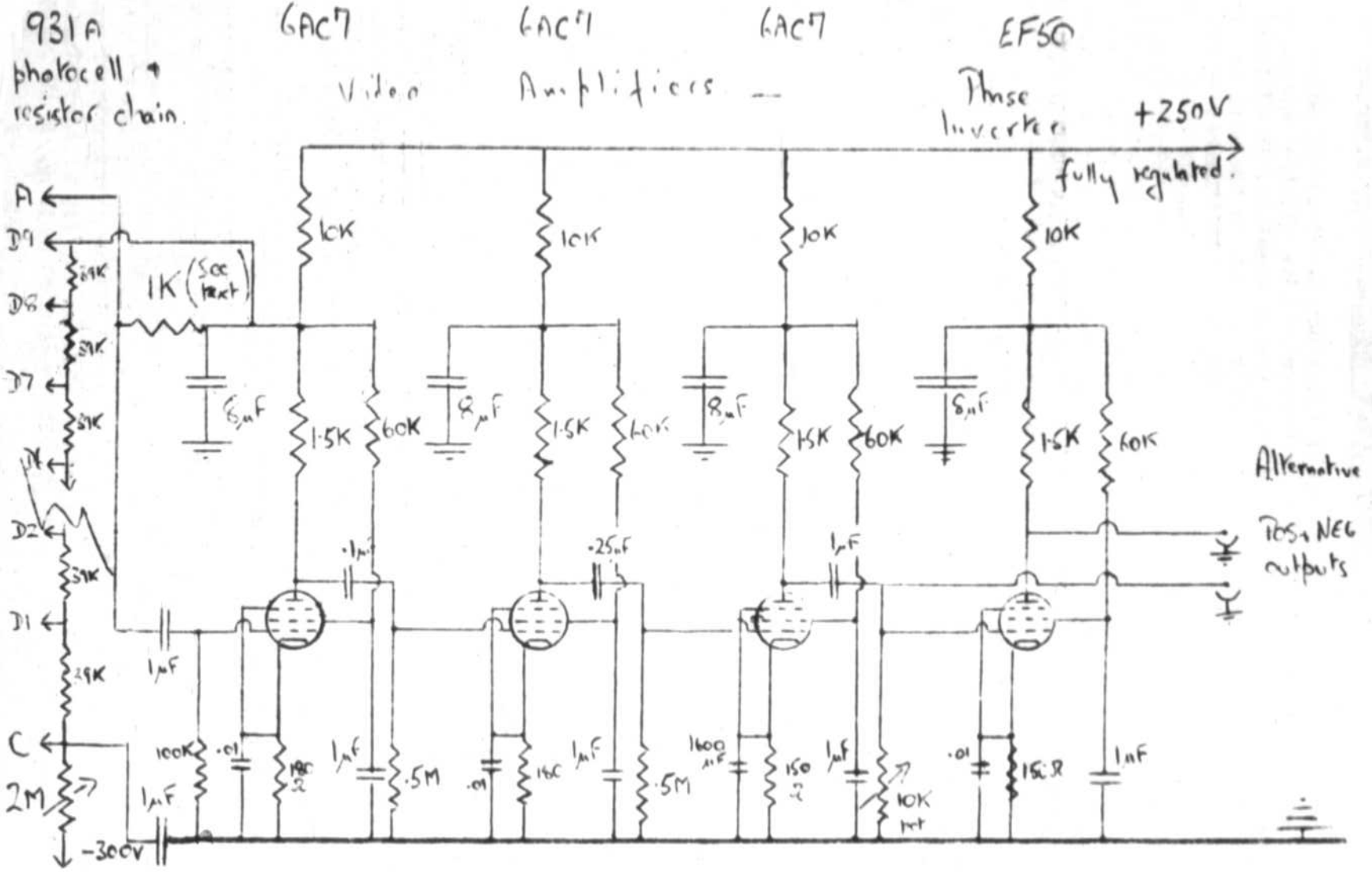
And from elsewhere:

Negative feedback for the entire scanner unit can be obtained by feeding some of the output back to the scanning tube so as to give a negative picture on it. This forms a convenient way of controlling the gamma (contrast) of the system, besides generally cleaning up the picture, but does not alter either the definition or the signal to noise ratio. Ref Journ Brit I.R.E XII No 6 June 52.

On the subject of video amplifiers in general, Tony Sale points out that the fewer components employed per stage the easier it is to get wideband response. He suggests the circuit below for camera amplifiers; the correction circuit at A is to correct for the camera output capacity, the values given being a good guide under normal conditions. A flat overall response to 3 or 4 Mc/s should be obtained.



Mr I.J.P.James, G5LJ discussed, in a paper read to the Inst. of Electrical Engineers, camera head amps, and recommends either cath foll inputs, or cascodes.


931A
photocell +
resistor chain.
6AC7
Video
6AC7
Amplifiers
6AC7
EF50
Phase
Inverter
+250V
fully regulated
A
D1
D3
D7
D2
D1
C
2M
-300V
69K
39K
39K
39K
29K
1K (See text)
10K
10K
10K
10K
6μF
8μF
8μF
8μF
1.5K
60K
1.5K
60K
1.5K
60K
1.5K
60K
.1μF
.25μF
1μF
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100K
.01
1μF
.5M
.01
1μF
.5M
1600 μF
150 Ω
1μF
10K int
.01
1μF
Alternative
Pos + Neg
outputs

A SIMPLE MASTER PULSE GENERATOR By M.Barlow and A.E.Sale.

This design, which is being developed by the authors as they go along, is an attempt to make a pulse generator to give all the necessary pulses for sync and blanking in as economical a way as possible. In addition, the number of controls that need to be adjusted are kept down to the minimum; so far, in fact, there is only one knob on the pulser panel, marked "Number of Lines".

It was decided that the frame pulses should be derived from the mains, and the line pulses from any one of three sources: a separate pulse timing unit, in conjunction with a divider chain, for interlace or other high stability requirement; an internal crystal; or a free-running multivibrator. This last is for use where it is required to run at an unusual number of lines for some reason; in actual fact, on the "Xtal Lock" position, the multivibrator will lock in at several different frequencies, and crystal control of several line frequencies is possible. Fig 1 shows the block diagram:

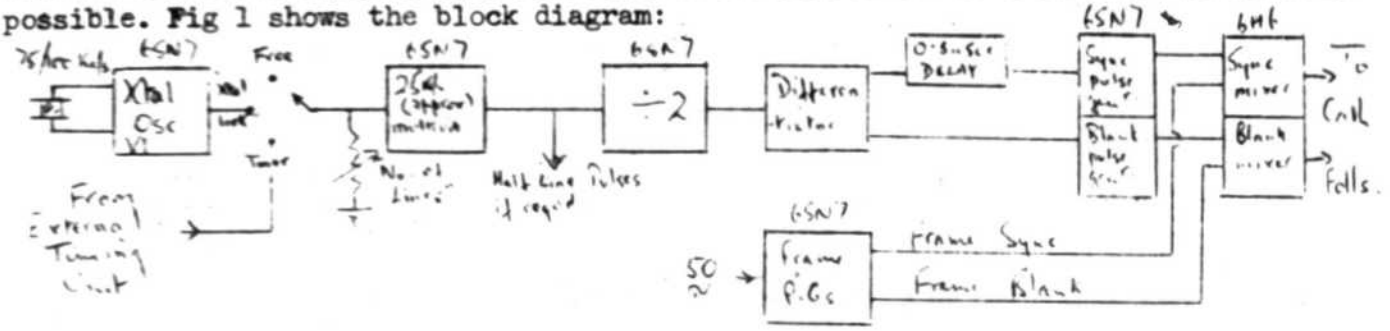
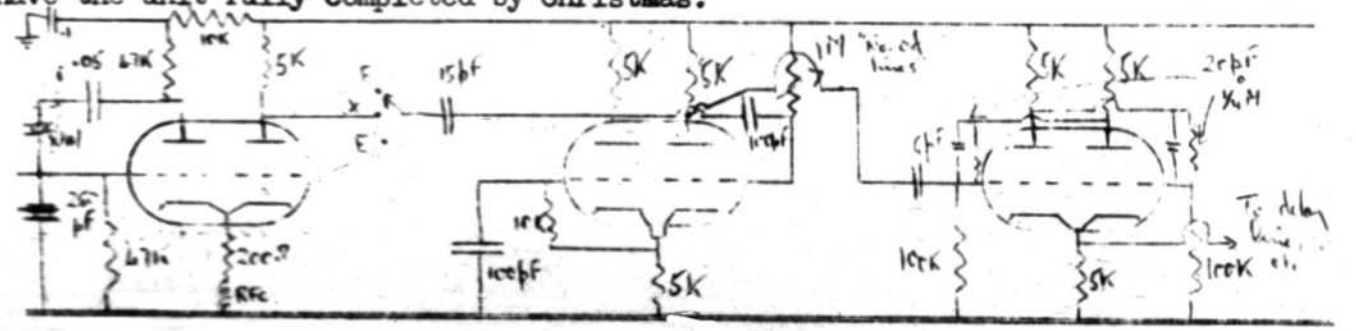


Fig 1 Block Diagram of pulse generator panel

V2 is the master multivibrator, which normally runs at 25 kc/s, but which can be varied over a wide range by the control already mentioned. On "Xtal Lock", the output from the CO stage, V1, locks the multivibrator. Either 75 or 100 kc/s Xtals can be used. The 25 kc/s pulses, which are used for half-line pulses if required, lock an Eccles-Jordan switch, which is independent of frequency, and gives a square wave output at half the input frequency. These 12.5 kc/s square waves, then, are differentiated, and split into two paths. One path triggers the 16.5μSec line blanking generator direct, but the other passes through a 0.5μSec delay line before triggering the 10μSec line sync pulse generator.

The frame pulse generator is to any design, but at the moment the one given in this edition under "Simple Circuits" is being used. Diodes are used to mix the two blanking signals, and also the two sync pulses. Two 6SN7s act as twin cathode followers so that either polarity of sync or blanking is available at the output.

The circuit of the first stages is shown below in rough; it is hoped to have the unit fully completed by Christmas.



REPORT FROM ABROAD: AMATEUR TV OVERSEAS

From FINLAND, Borje Cederqvist OH2NL reports that after the hard work he put into the 5527 unit, he has sold it complete to his old technical college for instructional purposes, and so has got his money back ready to make a fresh start! First, though Borje is taking the family on a TV-less trip through most of Western Europe. Borje is very anxious to try out a Vidicon, and is doing his best to get one for experimental purposes.

A long letter from Bill Cheek, in Hamilton, Ontario, tells that CQ-TV is read by the boys there, who find some of the 430 Mc/s information of particular value. Apparently co-axial mixers, etc are quite a rarity out there (well, what DO you use, Bill?). Bill has TVI trouble too, the local (local? 80 miles!) TV station being on 72 Mc/s; at the time of writing CBC's Toronto TV station on Channel 9 had not commenced transmission,but Bill hopes for a good signal as it is 38 miles airline Southern Ontario and the New York area are very VHF conscious, it seems, and Bill's 420 Mcs tx starts at 12 Mc/s and fetches up with an 829 trebling to 420 Mcs, where and 832 buffer drives a pair of 8012s. Details, please, om. Bill keeps up the job of editing the "Mohawk Journal", and copies of this cab always be borrowed from G3CVO.

Also from CANADA, a letter from D.W.Davidson in Ottawa, who emigrated from Cheshire eighteen months ago; he says that his job takes him all over Canada, but that "there seems to be little interest in amateur TV, as the only chap" he has met is in Calgary. (What about THAT, Bill?). D.W.D says that 5527s are about £22 there, and no restrictions!

From SOUTH AFRICA, Alan Achurch ZS5PA writes that he has been in touch with ZS6GX and ZS5HZ, but that the latter is moving shortly from Durban to Jo'burg. He is going to contribute some notes on amateur TV activities in ZS land.

Eddie Collins, W4MS, says that several Ws are active, and keep in touch by mail and 20m skeds, They are using a 262 line 60 picture standard, transmitting on the 430 Mcs band (what are the licence restrictions, Eddie?). W1BHD/TV has the sound combined with the vision so that the converter plus TV set gives the sound as well. W6VSV/TV has been viewed at 90 miles with an 8 watt carrier, over mountains too. Eddie's own rig is a 5527 camera, 6SJ7 video (!) 3 x 6AC7 vid amps, 6L6 modulator (!) 6AC7 line osc 6SN7 frame osc 6SN7s as scan o/p stages and sync and blanking amps. A 2AP1 is used as a viewfinder, the lenses are f1.9 to f3.5. Only one co-ax and the power lead trail from the camera.

Eddie says that with 5527s so easy to come by, FS scanning has not received much attention, but W5MUD in New Orleans is having a go. He wants to start the A.A.TC over there on the lines of the BATC. (And the best of luck to you.....!).

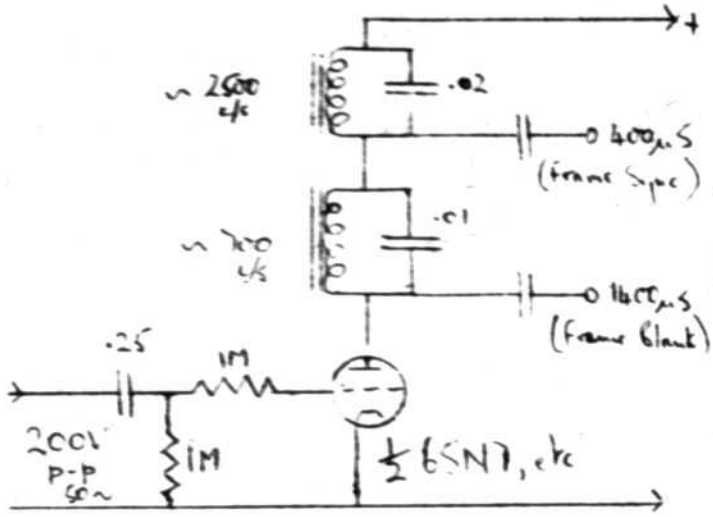
Graham Goodger ZL2RP in Wellington NEW ZEALAND reports that CQs-TV continue to arrive and be read.... His own activities have been curtailed due to house-moving, but he enclosed a cutting stating that the first TV transmissions have already been accomplished by Mr T.B.Withers of the Canterbury University College, under call ZL3XT. 405 line standards were employed, and a range of 2 miles was attained, although the operating frequency was not stated.

In HOLLAND, Hendrik de Waard has been busy with the new Junior Op and also reading Learned Papers to Learned Bodies in the radio-activity field. We hear that Alain Decavel in FRANCE is gracing the Army with his presence, and so is temporarily out of the "picture"! No news this time from SWEDEN or GERMANY, but in Eire David Nolan is still experimenting with stereo in between making films. In Northern Ireland too, Robert Torrens is getting on with his image iconoscope, and also some 3 colour experiments. We are hoping to hear of the first GI-GM TV contact - how about that, Robert?

SIMPLE CIRCUITS DEPT: A ONE-VALVE FRAME SYNC AND BLANKING GENERATOR.

By Tony Sale.

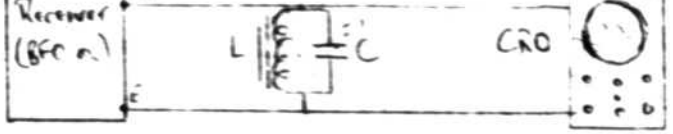
This circuit is the result of some doodling by the author in an effort to reduce to an absolute minimum the number of tubes required in a TV pulse generator. The circuit given below gives the idea; a straightforward amplifier working from a large 50 cycle swing input has two tuned circuits in the anode (more could be used if further pulses are required).



The Circuit

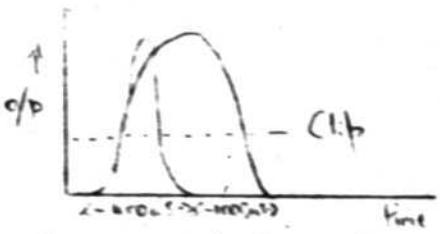
The tube is cut off by the large input swing, causing a sharp change in anode current. This causes both tuned circuits to ring at their resonant frequ--ency. Now, for the frame pulses, we require a sync pulse of 400μSec and a blanking pulse of 1400μSec; as no "front porch" is normally transmitted, these two pulses start at the same instant. (In actual fact, with this circuit they may not coincide, but the front porch is pretty small, and this is no disadvantage).

The input frequency is 50 cycles, representing a recurrence time of 20 mSecs. Pulse times of 400 and 1400 μSecs therefore represent the 20,000/400 and 20,000/1400th harmonics of 50 cycles, eg 2500 cycles and 700 cycles approx. The tuned circuits must be tuned to these frequencies, and the best way of doing this, in the absence of a calibrated audio oscillator, is to beat the receiver with the VFO, or say, the Light Programme, until the beat note obtained is in tune with the 4th E above middle C, and the 2nd F above middle C on the piano in turn. The variable C across the tuned circuit is altered until maximum output is seen on a CRO connected across the tuned circuit, with the receiver speaker leads being connected on the other side (see diag). If the tuned circuits are damped by following circuits, or diodes, or (temporarily) by resistors, damped oscillations will be seen when the CRO is connected between tuned circuit and ground. Variation in C (or L) will act as a pulse width control; the amplitude of the pulse is of the order of 200V, so that if it is clipped, it is substantially independent of mains voltage variations, etc, as is the pulse width.



Checking the tuned circuit

With the value of C shown, L requires to be about 6 Henries for the 1400μS pulse and 200 mH for the 400μS pulse. A good look in the junk box will probably turn up an old transformer, 400 cycle choke, etc of about the right value; aim for a fairly high Q, though, so not too much capacity should be used.



Approx. output waveforms

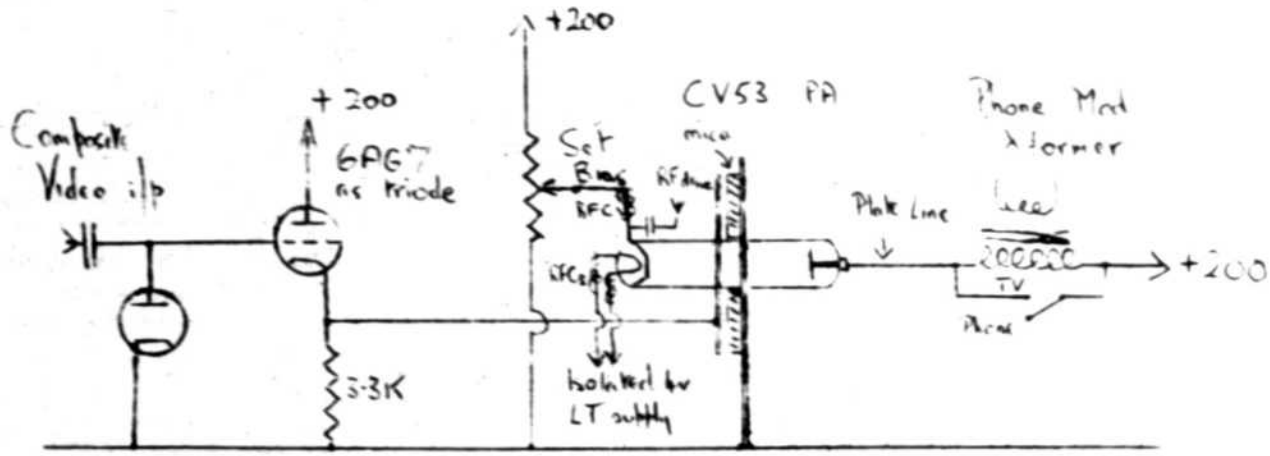
Although the circuit is experimental, no-one can deny that it is economical in components, and the author will be glad to hear of anyone else with similar "short-cut" circuits.

READ "CQ-TV" REGULARLY, AND KEEP UP WITH NEW DEVELOPMENTS. SEND IN YOUR IDEAS, TOO.

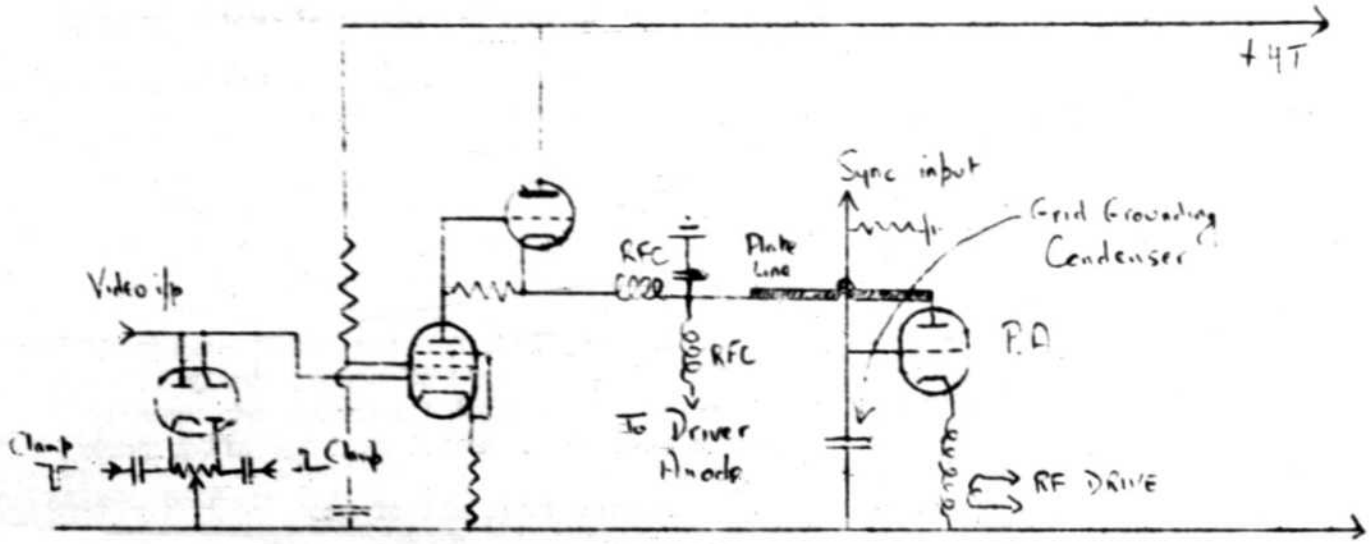
A MODULATOR FOR 70 CM TV TRANSMISSIONS

By Ralph and Jeremy Royle, G2WJ/T.

The problems associated with modulating grounded grid PAs with wideband video modulation have been discussed in these columns before. The circuit shown below is an attempt to compromise on all points. Grid modulation is employed from a cathode follower, and consequently the efficiency suffers. As the CV53 PA employed at G2WJ gives about 5 watts on cw, and some 3½ watts on plate modulated phone, the input has to be reduced to 2.8 watts on TV. This is a very small signal, granted, but it will put 3 µV into G6YP at 35 miles range. In any case, the modulator is quite successful, and in addition is simple. No loss of definition can be attributed to the modulation process. It should be noted that it is essential to short out the modulation (phone) transformer when running on TV, and at G2WJ/T an extra 64 µF is placed across the HT line at the anode feed as well; under these conditions there is very little difference between the picture seen on the rack monitor and that received over the air.



The Bootstrap Modulator: 'Pluff' Plowman G3AST sends in the circuit culled from RCA Review, also for modulating GG PA stages with TV; the circuit is used in the RCA "Walkie-Lookie" portable TV camera.



DAGENHAM GROUP PUT ON SHOW SEEN BY 17,000 VISITORS

Doug Wheele, G3AKJ, and the reat of the Dagenham group of the BATC put on a very fine show at the Dagenham Town Fair on August 22nd last. A 5527 camera was in use most of the time, both in the studio and outside some 50 yards distant from the control rack. Ron Oakley supplied a telestill scanner, which proved its weight in gold at a show of this sort. The CWS lent 5 Invicta TV sets for use as monitors, 3 of these being placed on the viewing stand, and the others being used as studio and rack monitors. The studio was constructed of hardboard and hessian, with a partitioned section for the control rack. The telestill and gram departments were alongside. The audience could see the entire studio and the "works", besides seeing the results on the monitors. A static display of TV gear was also provided.

Although this brief note only gives an outline of the show, (fuller details have appeared in the RSGB Bulletin), several points of great value to BATCs were found out. These will be summarised below, but anyone contemplating a similar show might well contact Doug to borrow the detailed notes and minutes of meetings, etc. Monitor sets MUST be dark-screen if they are to be viewed in daylight under exhibition conditions; a 2½" viewfinder is not large enough nor bright enough for accurate optical focussing in outdoor conditions. An improvement is to use a contact lens with a colour filter, but a 3" or larger tube, eg 5FP7 would be better. The viewfinder hood MUST be tested outdoors beforehand for leaks, etc. (These points do not usually become apparent, as camera focussing, etc is often done on a large screen monitor in a dark room; this was the first time the camera had been used out of sight of any such monitor). The camera tripod MUST be adjustable in height, or the camera op's back will rapidly be broken.... Preview facilities are very useful where more than one picture source is in use. Two cue lights, one for sound and one for vision, are advisable if the camera is to be operated some distance from the control rack. Full intercom facilities for camera op, control, telestill, gram, sound, and producer are very essential. Calling systems were not employed, and this was quite satisfactory as long as someone was at the control rack. The studio must be long rather than wide - and it is advisable to check that the camera will focus at infinity if the unit has previously only been used in the front room! Sound and vision were piped in over low impedance cables to the output stages of the TV sets, but a modulated RF supply would be more convenient. Owing to slight changes in the line frequency employed, full scan was not possible, there was some fold-over, and slight loss of focus on some sets. Although at the show, sound and vision mixing was performed by one operator, this led to some hectic moments, and it is suggested that a separate sound mixer be used, who can also look after the gram, leaving the telestill operator free to make stills on the spur of the moment; for this reason a ¼ plate direct scanner was used rather than a 35mm film gate, owing to the limited supply of titles available with the latter. It is a good plan to let the telestill operator have his own 6" monitor for preview, independent of the main rack preview. With electrostatic scans, it is quite permissible to send the deflection voltages up cables from a unit at the base of the camera, rather than to have them built into the camera. The camera must have both coarse and fine focussing controls, and the controls must be related to whether the operator is right or left handed. A peak program meter is essential for the sound engineer, who cannot judge the volume required, on headphones. Some form of camera dolly is useful, but the wheels must move in unison when steering! Insurance can usually be arranged by the exhibition organisers. A variac is useful for use after dark when the loading on the mains increases.

It was a good show, chaps - congratulations from all of us.

"WHAT THE OTHER BLOKE IS DOING....."

As there has been a long gap since the last issue of CQ-TV, there is a vast amount of mail to be digested, so here goes:
Michael HILL (Sidcup) asks if anyone has tried a U/V filter on the telestill unit? Grant Dixon tried a blue filter without much noticeable difference. Up North, Bernard Whitty G3HWX is temporarily bed-bound, but has been stirring up activity in the Liverpool area (see new members list). Between them, the gang have sufficient to start on a telestill unit, and are collaborating with G3ETI at Gt Meols with regard to TV transmissions. In the Bradford area, G3FX G2FCL and G3AZU have begun work, making a very good nucleus in this area. Jack HARGREAVES at Bempton has been busy building a tx for the school, but is still there..... John HEDGES at Harwell is trying for his ticket in between telestill units. Johnny WOODFIELD G3HXK was up at the Northern Radio Show and at Earls Court, but is still busy with 2m and exams. Back in Bradford, Al BEVINGTON G5KS has signed on three more members and wants a 5527 - any offers?? Harry Wills of Rushden has just done his G service but reports No 5527s....

In Ely, Ian WATERS and two friends showed amateur TV at the March Town Fair. An annoying streaking effect was eventually traced to standing waves in the camera cable, and a delay network was incorporated to cure things completely. Maurice SWIFT at Derby has almost got the necessary Morse w.p.m, and then will appear on the air. He wants 3 1N34s, please. Maurice WILD is redecorating the house, but with the arrival of another BATC in Leeds hopes to move this winter. Edwin Barrall, G2BCB at Colchester is active on 2m 145.08 and 70 cms, and is looking for G2WJ/T. He also hopes to get TV under way soon. Robert BUCHANAN of Newark has had three months to get his new 5FP7 scanner into operation, so we await great things. He recommends that article in Electronics, Aug 1950 on telestill apparatus. Dalton RABY G3IDR/DL2SR paid a visit to Groningen to see the PI4 TV results. He is busy getting on the air over there, and would like to know a source of CV53s. Jimmy BRAMHILL G2BMI has come back to the fold; he built his first TV TX in 1935, and is now building up a 3FP7 scanner. He is fully equipped on all bands, of course. Ralph ROYLE G2WJ/T has been carrying out extensive tests on 70cm TV with G6YP, and would like reports from stations within 20 miles of Dunmow. Jeremy has the telestill unit up to a fine pitch now (see article P4). G3JST at Luton has finished the tape deck, but is now preparing to move QTH. He points out that when he has done so, he will be almost within shouting distance of G2DUS at Baldock, and TV on 70 should be a cinch. Up in Carlisle, J.OSTLE has an ACR2X unit in action... Ted Hardy G3GMZ at Tolworth has a rest during the holiday season (?). Alan LORD G3DSK of the East Grinstead Radio Club has acquired an Image Iconoscope, as has G2WJ. He hopes to get some action in his area. Dr L.D.PHILP G4RL lives just 20 miles from G2DYV at Carlisle, and they have their eyes on 70cms.... R.E.DIBBS G2RD of Wallington has a fb converter for both 2m and 70 cms at the flick of a switch. and is anxiously awaiting signals from G2WJ/T or G3FNL/T. Dick GRUBB G3FNL/T at Dulwich now has a fine 65 valve pulse generator, and can transmit a 405 line double interlaced raster. The next stage is to build a picture source. John WATTS and G.BELLAMY in the Bristol area have been pretty busy since Wenvoe started up, but hope to get their camera in action soon.

Up in SUNDERLAND, Fred ROSE G3BLV/T demonstrated the telestill scanner to the peasants at the Northern Amateur Radio Show; Fred's latest is a portable TV TX using less than 12 valves IN ALL! He hopes to go up the local mountain and work the fellows in Bradford, beside his co-worker Johnny HOGARTH G3ACK at Blyth. Fred will be down to the RSGB show, as will many other BATCs, to meet and discuss TV topics. R.A.Gower of Croydon says he has never been inside A.P, and has had Junior Op QRM to keep him busy! Colin FOX G3HII of Liverpool writes that he is well on the way, but queries whether Tony Sale's CRO circuit last edition was complete; it was - barring the omission of the X plate connection to the anode of V8.

New Members This Quarter:

A.Thompson G2FCL (for G5FX and G3AZU) 83 Manningham Lane, Bradford.
R.A.Lord G3DSK Oakfield Cottage, Moat Rd, East Grinstead, Sussex.
E.Miller 30 Forest View Rd, East Grinstead, Sussex.
A.Cook, A.M.I.E.E Sunbridge Rd, Bradford.
J.C.Thom, Denique, Stow Heath Lane, Wolverhampton.
Mr Morris, 3 Victoria Terrace, Kirkstall, Leeds 5.
Jock Smith G3EMJ Rowditch Place, Derby.
Jimmy Bramhill G2BMI 27 Oakleigh Rd Hillingdon Middx.
Edwin Barrall G2BCB 3a Short Wyre St, Colchester, Essex.
Bryan Phillips GW3GVB "Wingate" 25 Pentyla Rd, Sketty, Swansea, S.Wales.
Bernard Whitty G3HMX 46 Argo Rd, Waterloo, Liverpool 22. Tel Waterloo 5962.
Laurie Reid 175 Church Rd, Litherland, Liverpool 21.
Colin Fox G3HII 69 Feltwood Rd, West Derby, Liverpool 12.
Charles Curtis 1 Brooke Rd West, Great Crosby, Liverpool 23.
T.V.Attwood 32 Park Lane, Netherton, Aintree, Liverpool 9.
Dr L.D.Philp G4RL "Rivershill" St Georges Crescent, Stanwix, Carlisle.
J.Ostle G2DYV 2, Outgang, Aspatria, Carlisle.
Brian Henniker GM3FUU 15, Bonaly Rd, Edinburgh 11.
Brian Ellis GM3GUC c/o 22496174 Sigmn Ellis B., Cyprus Signal Sqdn, MELF3.
R.F.E.O'Connor 27 Thackeray's Lane, Woodthorpe, Nottingham.
Derek Stenson 25 Oakwood Gardens, Seven Kings, Ilford, Essex.
Frank Jackson 14, Glendale Avenue, Chadwell Heath, Essex.
T.H.Atherton "Wayside", Swanlow Lane, Winsford, Cheshire.
W.G.R.Bowden "Elm Bank", Finstall Rd, Bromsgrove, Worcs.
Alan Achurch ZS5PA 70 Clancy Avenue, Puntans Hill, Durban, S.Africa.
Eddie Collins W4MS/TV 1003 East Blount Street, Pensacola, Fla. USA.
W.G.Storm Goeverneurlaan 298, Den Haag, Netherlands.
A.E.Read G4RO "Ottershaw", 6 Upton Avenue, St Albans, Herts.
Dick Grubb G3FNL 64 Deyncourt Gardens, Upminster, Essex.
Ch.G.Hadjipaschali, 5 Byron Villas, Bounds Green Rd, New Southgate, N11. (160)
S.Horne G3IXL 7, Newland House, Avignon Rd, Brockley, SE4.

Changes: M.A.Hill 47 Beech Ave, Sidcup Kent; Edwin Barrall perm address 42 John Kent Avenue, Colchester; R.L.Buchanan, The Lodge, South Collingham, Newark, Notts.

Other Blokeisms Contd.

As usual, our various stalwarts have much to contribute. Doug WHEELE's effort at the Dagenham show is described elsewhere; the Dagenham chaps are forming a local branch of the BATC there, and will hold regular meetings in the future. Ian MACWHIRTER G3ETI has finished his camera unit and ancilliary equipment, with the exception of the usual few bugs still to be ironed out. Someone tipped the camera over accidentally, driving bits of the case through the focus coil and shattering the viewfinder 5FP7; fortunately the camera tube was not in position! The large scan requirements of the tube is causing a little trouble as yet. George SHORT is busy building a similar unit for the RSGB Exhibition, and has also Phillpotts cases round the telestill and telecine units. Grant DIXON's colour camera is well on the way, the colour monitor and pulser being nearly complete. M.BARLOW has moved shack, and been busy with 70cm gear. The camera pulser is now on a 15" rack, with an ACR2X monitor at the top plus an EM1/4 waveform monitor. A 35mm scanner has been built, but will be used separate from the rack in the interests of flexibility. The camera focus coil is being wound on a lathe - 22,000 turns of 34 swg in 11 pies!

And that is that - highly compressed - for this time. May we remind you that the RSGB carries news and views of the BATC in alternate editions of the RSGB "Bulletin"; (see "Short Notes"). mlml