

cq-tv

SPRING, 1956.

No. 28

Published for the British Amateur
Television Club at 10, Baddow Place
Avenue, Gt. Baddow, Chelmsford, Essex.



This edition, like its predecessors, is late in appearing, but we have some excuse in that the new booklet was held up by the printing strike, and also by the fact that a great deal of work has been going on at G3CVO. As will be seen, new records have been set up and broken at such a rate, particularly in S.E. England, that we are quite a long way behind with the information. As a stop press item, for instance, we hear that Ian Waters at Ely has sent perfectly good pictures back to G2DUS (36m) using a 6J6 power doubler PA.... P. Eligh at Cambridge, aided by Jeremy Royle, received G2DUS, G3KKD and G2WJ in succession, with good pictures from each. We should like to impress on all members the importance of publicising these results; the RSCB News Bulletin at 10 am on Sundays on 3600 Kc/s is glad to receive items, as is the press. By passing the word around, activity can often be stimulated in otherwise rather barren parts of the country.

In similar vein, may we emphasize the importance of choosing your sound channel wisely. For those of us with /T-only licences, there is not much that can be done. For those with full transmitting licences, however, may we suggest that the lower frequency amateur bands offer some advantages for sound communication - which we will assume is two-way duplex. In most cases, the VHF enthusiast who builds the vision transmitter will

turn naturally to 145 Mc/s as the sound channel, since this has similar properties to 70cms, the equipment is simple, reliable and probably already to hand, whilst the absence of any form of interference makes communication easy. Remember that sometimes the speech relayed from the other end of the link has to contend with blower motors, line oscillators, assistants' instructions, and the like. The next most likely band is probably 10 metres, but this may be very full of stations, especially at the moment. Of the lower amateur bands, Top Band 160 metres is not to be despised. Although noisy and unsatisfactory by comparison with VHF, especially after dark, it has the very great advantage that at least 90% of the amateur radio enthusiasts, including listeners, can tune to this band even if they do not operate on it. Furthermore, many domestic broadcast sets can be tuned down to cover the band. Assuming that there is sufficient pickup at the relevant end so that listeners on this channel can hear both sides of TV contact, it is surprising the amount of interest that is aroused. In one instance, with the sound on 2m, many months of operation were listened-in by three stations; with the sound on 70cms, the correct 3.5 Mc/s spacing, only the far end of the video link was able to hear what was going on due to the higher directivity of the 70cm aerials. One two-hour session relayed on 160m provided a major topic of conversation for some 30 stations logged within a few days. This all does some good, and is worth bearing in mind.

H. Barlow
G3CVO/T.

CONVENTION 1955

Left: Mr. F. H. Townsend, M.I.E.E addressing the meeting. Just after this photo was taken, he was elected Vice-President of the Club. At the top table, l. to r: Ivan Howard G2DUS/T; John Rouse G2AHL (RSCB); Mrs. M. Barlow; Mr. Townsend; M. Barlow G3CVO/T; Grant Dixon; D. Wheelie G3AKJ.



Now that the number of BADC members who own live cameras is increasing, there must be quite a number of people who have at some time or other drawn their own test patterns. Even for transparency work it is quite easy to draw a test pattern and have it photographed, or even to draw it directly onto celluloid in Indian ink. These notes may be helpful to the beginner.

A test pattern can give an immediate check on (i) the definition being achieved; (ii) horizontal and vertical linearity; (iii) the gamma of the system; (iv) the correct setting of Black Level; (v) the correct 4:3 aspect ratio.

For (ii), the pattern should contain horizontal and vertical bars equally spaced. The gamma is checked by including a set of "contrast bars", or scale of greys; when the Black Level is correct, black on the test card will be reproduced as black on the picture monitors. If the vertical and horizontal bars are so spaced as to form squares, incorrect aspect ratio shows up at once. Flaws in linearity and amplitude of scans are shown up even more clearly on a circle, and most test patterns include a circle.

The question of definition is one that is often imperfectly understood. Consider a spot of finite diameter passing over similar sized black picture elements spaced the diameter of the spot

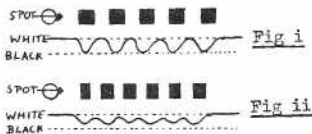


Fig v

apart (Fig i). The output waveform will be a sine wave of amplitude equal to the maximum excursion, black to white, of the signal. If the spot is larger than the picture element, as in Fig ii, then full black or white will never be reached. When the spot is twice the size of an element, then wherever the spot is, equal areas of black and white will be covered, and the output will be a 50% grey - the sine wave being of zero amplitude.

Now, there can be two definitions of maximum resolution in a tv system: (i) the frequency of the sine wave which reproduces black and white lines as full black to full white; (ii) the frequency of the sine wave which reproduces black and white lines so that they are discernible as individual lines to the eye, even though they are not full black and white. Take your choice! But note that we have considered a spot passing over a series of black and white elements. Quite a different story is apparent if we take an isolated line as in Fig iii. Even though the spot is twice the size of the element, the element is still resolved because it appears as a grey against a

white background. Remember that two such lines spaced their own width would appear as one wide

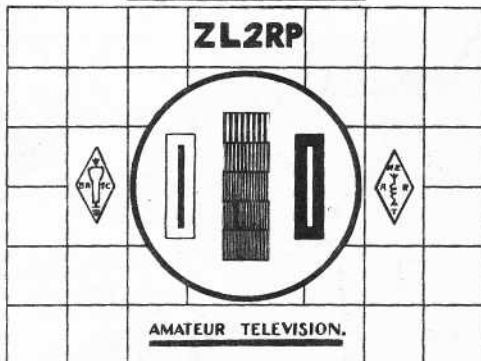


line of grey. For any real test of resolution, then, a series of lines is needed, and the spaces must be the same width as the lines, that is a unity mark-space ratio is required. A useful device is a resolution wedge (Fig iv), which is also extremely useful as a focussing aid. Vertical definition is limited by the number of lines in the picture, so the wedge is normally used vertically. Only a horizontal wedge will show up bad interlacing by producing a serrated edge along the lines of the wedge.

It would also appear desirable that the pattern should contain some large patches of black or grey to test the low frequency response - a rectangular patch will serve, and this should be closely inspected for signs of shading, smear or overshoot. An addition that might be useful is a colour scale to check the spectral response of the camera tube. This can be made up from the Ostwald standard colour papers marketed by Messrs Winsor and Newton.

Charts should be drawn in Indian ink on a white or grey card, the latter being a nearer approximation to a true picture. A yellow card can be used if grey is not obtainable, since this reproduced grey in most cameras. Where the pattern is to be photographed, it may be difficult to get the grey scale correct without losing definition in the resolution wedge, so it pays to keep the charts as large as possible.

Finally it might be pointed out that charts must be used at the same distance from the camera for comparative tests.



TYPICAL TEST PATTERN made from the cover of "CQ-TV" number 21 by Graham Goodger of Wellington, N.Z.



BOOK REVIEW

"An Introduction To Amateur Television Transmission" by M.W.S.Barlow G3CVO. Published by G3CVO. 32pp, 3/6d incl. postage.

This book is the first contribution, in book form, to the art of amateur television, and it is most sincerely hoped by the reviewer that it will not be the last. The cover presents an attractive appearance with a picture of Jeremy Royle, of G2WJ/T, whose winning smile will persuade even the most hesitant to part with his 3/6d... the price charged for the book. The author in his forward says that the utmost economy has been exercised, and this explains the fact that part of the text is in duplicated typewriting (as in "CQ-TV") and part in normal type. The book has, in fact, been reproduced by a photo-litho process and the economies effected give the reader outstanding value for money. There is something to interest everyone, from the absolute beginner to the seasoned VIF/UHF "ham". In the main, the book is a reprint of a series of articles which have appeared in the RSGE Bulletin, but these are amplified in certain directions, and there is a useful list of references, tape lectures, films, etc. The text of the Amateur Television licence is also given. One wonders why 1000µF is a large condenser and 0.001µF is a small one (P11); and one notices that the "Notes and News" on page 16 are out of date and presumably appear as a page has been copied en bloc from the RSGE Bulletin. Apart from minor errors, however, the book remains an extremely useful work of reference, and it is hoped that sales will reach such a figure that commercial publishers will be inclined to back any future ventures.

- C.G.D.

Our Covers:

This month's covers, kindly provided by Messrs Ediswans, show a scene at the 1954 RSGE Show, when amateur TV had a very comprehensive exhibit. From L to R can be seen G2WJ's vision tx (extreme L) P.Bendall sitting at the G2WJ CCU, watching the 9" monitor. This is hidden behind J.Attew seated at the vision mixer, with Test Card C monoscope and high grade CRO alongside. Ian Waters is operating his own CCU to the right of the Pye 14" monitor receiver, whilst J.Royle G2WJ/T lines up his camera on G4KD in the studio. Ian's camera is just visible at the extreme R. Note that all of this equipment is not required to produce pictures! Photo from G4KD.

OWING to last minute changes in CQ-TV 27, the titles of the cover photos were abbreviated. The front cover shows the Chairman with his colour gear at the Convention. Just in front of the camera can be seen the caption box with its colour test chart, and a specimen filter disc below. The main control rack is next, and then the rack with the colour bar generator. On the rear cover, the photos of results from G2DJS's equipment have suffered in the reproduction process; the centre photois of the Asst. Ed. (W.I.L.).

FINANCIAL REPORT BY THE HON. TREASURER FOR 1955

The Statement gives a somewhat untrue picture of the Club's financial position, as CQ-TV 27 had not appeared by December 31st.

| | £ | S | D |
|----------------------------|-------------|-----------|-----------|
| INCOME | | | |
| Brought Forward+ | 30 | 18 | 1 |
| Subscriptions etc | 110 | 18 | 6 |
| Sales, badges etc | 6 | 8 | 6 |
| Convention profit | 4 | 15 | 0 |
| | <u>£152</u> | <u>18</u> | <u>1</u> |
| EXPENDITURE | | | |
| Brought Forward | 8 | 8 | 1½ |
| CQ-TV Printing | 70 | 9 | 6 |
| .. Postage* | 5 | 8 | 6 |
| Postage etc: | | | |
| Hon. Editor | 2 | 14 | 9½ |
| Hon. Secretary | 1 | 8 | 1 |
| Hon. Treasurer | 1 | 7 | 10 |
| Miscellaneous: | | | |
| Tapes | 1 | 0 | 0 |
| Microfilms** | 2 | 12 | 6 |
| RSGE affiliation | | 10 | 6 |
| Photographs | 1 | 10 | 0 |
| Cathodeon Ltd. | 25 | 0 | 0 |
| Badges | 4 | 16 | 1 |
| Stationary | 5 | 12 | 0 |
| | <u>£128</u> | <u>17</u> | <u>11</u> |
| Carried forward | 2 | 19 | 3 |
| | <u>£125</u> | <u>18</u> | <u>8</u> |
| Cash at Bank December 31st | 26 | 19 | 5 |
| | <u>£152</u> | <u>18</u> | <u>1</u> |

* Three issues only.

** Stock now sold.

+ This includes £25 paid in error to the Club for a camera tube.

SHORT NOTES:

PL6 phosphors are down to 10% intensity in 4.5µs; P11 in 2 ms.

The Mullard type AC2002 trimmers come in four sizes from 3 to 22p, and are 400V rating. Price about 1/6 each retail, the small one ref 3 is ideal for supporting inner lines of coaxial troughs.

The Journal of the Television Society for July/Sept 1955 has an article by BADC member Dr Patchett on his colour flying spot gear. The scanner is a Ferranti s6/20A or its Mullard equivalent 4MK13. He refers to Attew's Sync mixer in Electronic Engineering Sept 1955. Another Attew reference is "TV Waveform Monitor", E.E March 53. A useful one is C.H.Bantherpe's CRO Marker using a delay line, in E.E 1950.

Many thanks to P.Burrage, F.Steed and others for doing drawings, and D.Reid and others for folding and addressing envelopes.

Sharp-eyed members may have observed the Hon Editor's photo in the Feb 1956 Wireless World P35, and other advertisements for the same company, apparently busy "maintaining" the ITA transmitter with an AVO.

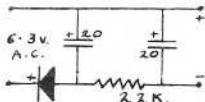
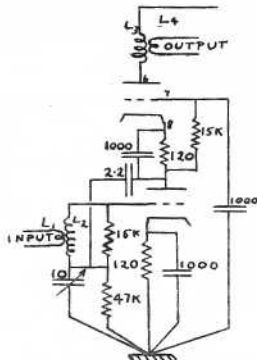
USEFUL CIRCUITS

Those members who have built 70cm TV converters will be well aware of the difficulty in obtaining sufficient bandwidth to receive the sound channel simultaneously with the vision, whilst keeping a reasonable signal/noise ratio on the vision channel. Whilst some of the trouble can arise in the 70cm aerial, RF or mixer circuits, the head IF amplifier can also be suspect. If a simple pentode is used, and broadbanded, then the converter noise level may be too high. The cascode circuit shown, from a Mullard Valve Application report, has ample bandwidth and low noise. An EBC84 is recommended, but a 6BQ7A or even a 12AT7 will do.

R.Martyr.

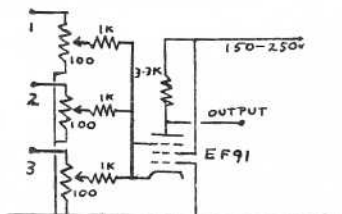
Coil Data

L1-L2 7/32" diam. former. 56t 30swg; 8t in middle over polythene sheet.
L3-L4 3/8 former. 14t 30swg with 2t 22swg at HT end on top.



Very often it is useful to have a few volts of negative bias, although no main bias supply is available. Since the current requirements are very small usually, it is convenient to use a small germanium crystal diode running off the 6.3V heater supply (one side of which must be earthed). An output of some 5-6 volts at 5-10mA is available. Suitable diodes are the OA71, GEX35, CG1C, CG4E, CV448, CV425 etc.

And now for the 10 minute three-channel vision mixer, sent in by Mike Cox. This gives a high impedance, negative going output, and has a useful gain of 3-4 times. With 3ft or less of co-ax no degradation of the picture is noticeable, but if a long length of cable is required, either a smaller anode load must be used (if necessary with a very large electrolytic condenser for DC isolation), or a 12AT7 should be used the second half acting as a cathode follower (see CQ-TV 22 F5). 100 ohm wirewound potentiometers are quite satisfactory for amateur use; purists may add 300 ohm resistors in parallel to bring the combination to 75 ohms.



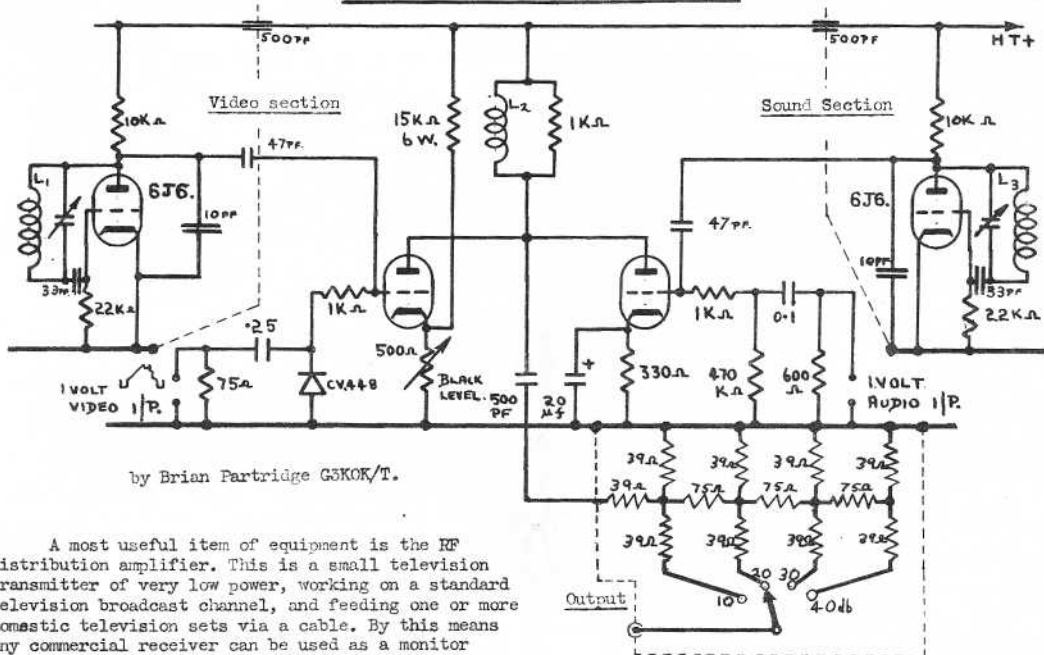
ON THE AIR RESULTS — ESSEX

This photograph is an untouched print, and was taken from the screen of a GEC 9" domestic tv set at G3CVO/T, 13 miles from the transmitter. The exposure was approx 1 second on HP3 at f4, so that picture noise has been to some extent removed. The CRT is not in exact focus at the top, and there is some line non-linearity. The small label over the "M" in "Transmission" says 436 Mc/s in fine print. This is visible on the original picture, and is just visible on the air. G3GDR at 30 miles range, however, can see this very plainly; it takes a good monitor at G2WJ to resolve it well. There were 200 lines to the picture when the photograph was taken. Note the camera tube ion burn above the "WJ". Transmitter: 4QV06/40 PA @ 500V H.T., 64 element stack. Receiver: 16 element stack, CV53 RF amplifier, G3GDR converter. The receiver does not have flywheel sync, and the sync separator has not been modified to make it more immune to noise. Noise pull-out on a vertical white bar is about 1/4" max on the 9" screen under these conditions.

Photo by C.G.Dixon.



A R.F. FEEDER UNIT



by Brian Partridge GSKOK/T.

A most useful item of equipment is the RF distribution amplifier. This is a small television transmitter of very low power, working on a standard television broadcast channel, and feeding one or more domestic television sets via a cable. By this means any commercial receiver can be used as a monitor without any modification whatsoever.

In building such a unit, several points must be borne in mind. Firstly, the RF output from the unit must be zero at Sync Bottom, or very nearly so. Secondly, the picture content must lie on a linear part of the modulation curve. The transmitter must be very well screened to prevent TVI, although this possibility will be reduced if a spare channel is used for the local signals. To prevent broadcast programmes interfering with the local signals, a high output is advisable from the unit - consistent with minimum TVI. About 1mV max is recommended. There must be no intermodulation between sound and vision transmitters.

A suitable circuit is shown in Fig 11/7. The unit is built on a 2" x 15" panel, with a close fitting metal box surrounding everything except the power input terminals, which are fed through .001mfd feedthrough condensers with small RF chokes on the inside of the case. The output co-ax socket is mounted on a frame inside the cover near to the output attenuator switch. Note that each oscillator is screened from the modulator section in the middle, and the attenuator is screened from all other sections.

The sound and vision transmitters are basically similar. Each consists of half a 6J6 used as an oscillator, and half a 12AT7 used as a modulator. In the vision unit, RF is fed into the grid of the modulator stage via a very small capacity - isolating the video input. The video is fed through an RFC, or a 1K resistor can be used; this will cut down the video bandwidth slightly (due to the input capacity

Fig. 11/7: An RF Feeder Unit.

of the valve) which will help to reduce vision-on-sound troubles. The input is restored, and the 500 ohm variable resistor is set so that there is no current in the valve when no video input is arriving. Alternatively, a composite video waveform (such as the BBC can supply) is fed into the unit, and the output (detected) is viewed on an oscilloscope. The "Black Level" control is adjusted until the bottom of sync pulses are just not clipped. The sound section is similar except that no Black Level control is needed. The anodes of the two modulators feed a common load, consisting of a coil shunted by the 75 ohm output attenuator. The coil acts as a short circuit to video and audio currents, so preventing cross-modulation, whilst at RF it appears as a high impedance. The calibration of the attenuator is only approximate, but there is sufficient range to allow for the use of a variety of types and numbers of television sets. These should be fed from T-pads or looped through.

A word of warning is called for when this unit is used with the usual AC-DC set. Many of these have the input socket isolated from chassis, but care should be taken to check this point before connecting the co-axial cables. Incidentally, this is one advantage of the RF feeder unit, for in such cases it would not be advisable to feed video in directly unless an isolating mains transformer was used.

WHAT THE OTHER CHAP

IS DOING

By Chester Draws.

WE'VE DONE IT AGAIN! Since Christmas we have had the first two-way live camera to live camera transmission AND the TV DX record has been put up to 38 miles - Ian Waters G5KDK/T receiving pictures from G2ZDU/T at Baldock. But on April 7th-8th we really made history..... see the headlines:

Colour TV—by amateurs

THE first colour TV pictures ever transmitted by amateurs in Britain were exchanged yesterday.

Transmitter and receiver were 13 miles apart, said Mr. M. W. S. Barlow, of Great Baddow, Essex, secretary of the British Amateur Television Club. And he claimed it was a world record.

One of the amateur stations is operated by Mr. Barlow, the

other by Mr. R. L. Royle and his 21-year-old son, Jeremy, at Great Canfield, Essex.

The colour equipment was built by Mr. C. G. Dixon, of Ross-on-Wye, Herefordshire.

Discarded

Results in both directions were excellent, said Mr. Barlow. A short wavelength in the 70 centimetre amateur band was used. Mr. Barlow explained: "The

pictures were seen on a domestic TV set in black and white and on a home-made colour receiver, using a rotating colour wheel.

"The system we use is one discarded by the American stations some time ago. It is nothing like the one used experimentally by the BBC. This has a colour-receiving tube which costs about £400."

The club has 450 members all over Britain, 21 of them licensed to transmit pictures.

AMATEUR USE OF COLOUR TELEVISION

PICTURE 13 MILES AWAY

British amateurs yesterday transmitted and received television pictures in colour. Transmitter and receiver were 13 miles apart.

Mr. M. W. S. Barlow, of Great Baddow, Essex, said that station G2WJ/T, at Dunmow, transmitted various colour patterns to station G3CVO/T, near Chelmsford, by means of home-made colour equipment built by Mr. C. G. Dixon, of Ross-on-Wye, Herefordshire. The pictures were seen on a domestic television set in black and white, and on a home-made colour receiver, using a rotating colour wheel alongside.

"Results were excellent," Mr. Barlow continued: "For these experiments a very short wavelength in the 70 centimetre amateur band was used for transmitting. Later in the day colour signals were sent in the opposite direction."

G2WJ/T is the transmission station operated by Mr. R. L. Royle and his son, Mr. Jeremy Royle, at Haydens End, Great Canfield, Essex. G3CVO/T is the station operated by Mr. Barlow, at his home in Baddow Place Avenue, Great Baddow.



(above): excerpt from The Times.

(left): excerpt from the Daily Herald.

Other national newspapers carrying the story included: Manchester Guardian, News Chronicle, Daily Mail, Daily Express.

Many provincial papers have also carried the story.

Grant brought the colour bar generator over from Ross - regrettably there was no room for the camera - and left it with G2WJ/T. Ralph, Jem and Ian Waters (on a visit) quickly learnt its operation, and Grant brought the colour monitor back to Baddow. On mono-chrome the transmitter and receiver were checked, and then Jem put up a specially printed title: "Colour Test Transmission". This faded down, and then the B&W monitor went out of sync as the colour bars came up (150 line, 100 fields sequential). First results were very encouraging, although noise was causing the vertical bars to tear a little. Tony Sale and Grant hastily overhauled the sync separator in the colour monitor to make it more immune to noise, and another check showed that the colour bars were now excellent. B&W and colour photos were taken to celebrate. On the Sunday, an extra meeting of the Chelmsford group was devoted to a lecture by Grant. This opened with reception of colour bars from Dunmow and then Grant started the lecture whilst Jeremy and Ralph brought the CBG to Baddow in time for the demonstration at the end of the talk. Those present were thus able to compare directly the closed circuit and live results. Later, G2WJ took the monitor home and colour bars were sent in the reverse direction. The bars were green, black, red, yellow, cyan, blue, magenta and white, and could have a step waveform superimposed so that the colours were graded from top to bottom in saturation steps. The equipment worked perfectly, and is a great credit to Grant.

Publicity Note: if you have something like this to report, ring Associated Press or other News Agency, and tell them. They will do the rest. B&W photos of the results should be in Wireless World and the RSGB Bulletin.

OTHER NEWS

Here's a new member in S. Africa. Mr A. Bannister of Johannesburg has a 5527 camera built, and is pressing on with sound and vision transmitters to work S.Lief some miles away. G8PX at Oxford has made no progress on the picture side, but has been improving the 70cm RF side. He has found that two stacked slots, full wave spacing, with four reflectors do a good job, and is now trying out a 4XL50A. B.L.Twist is still on the move, but returns to Sydenham at weekends to work on the video gear.

In Birmingham, Paul Essery G3KFE/T has the FSS unit operational, and has put pictures over 7 miles to a bed-bound colleague. At the moment Paul is only sending photo negatives and transparencies, but no doubt a camera will follow in due course. Well done, on P.Harrison (Dinnington) is trying an MW6-2 tube for FSS (will it??) into a cascode amplifier. Results so far are not too good. An industrial camera is to hand.... John Hogarth G3ACK/T (Blyth) lost his aerials in the gale, but is still trying to get pictures through to G3ELV/T (Sunderland). Jimmy Brett, now in the RAF, (see Ch. of Address) wants to meet BATOCS within 35 miles of Glasgow. He is also keen on 16mm telecine, and wants the gen. How about the lecture tape, on R.W.Johnson is now at Romford, and after he has settled in hopes to be active in the area. Martin Lilley and Ted Mitchell are also new recruits in the Romford area, the latter being G5GZV and busy building a station camera and various other TV gear. Sid Wilson has been to several Chelmsford meetings, but otherwise the Romford and Dagenham crew have been very quiet.

NEW MEMBERS

Supt. W.H.R. Armstrong Police HQ, Bridgetown, Barbados
 A. Bannister 5 Malopo Rd, Emmentaria Wt'n /B.W.I.
 Johannesburg, S. Africa.
 Pat Blaney New Straitsville, Ohio, USA.
 G.S. Chatley 188 Albany Pk Ave, Enfield, Middx.
 G.A. Frampton 6 Springwell Close, Streatham, SW16.
 D. Greenhalgh Marconi College, Arbour Lane, Chelmsford.
 A. Lilley 25 Hetherpark Drive, Romford, Essex
 S.P. Mason G5IX Nant Bos 71 Melrose Ave, Sutton
 Goldfield, Works. tel 1207.
 E. Mitchell G3GZW 18 Southcote Crescent, Fryerns,
 Basildon, Essex.
 C.A. Rouse 10 Troonville Ave, Mt Albert, Auckland NZ.

Changes of Address:

463

J. Brett 4180556 J/T Brett, Room 6 C Spider, 127 S.U
 RAF Gailes, Dundonald Army Camp, Nr Troon, Ayr (!).
 D. Butler G3DMJ C.A.S.T.E, M.T.C.A, Block D, Bletchley
 Park, Bucks. K.A.J. Russell, 52 Woodbury Ave, Stroudlen
 Park, Bournemouth, Hants. B.H. Twist 32 Thornewood
 Ave, Sydenham, SE26.

Mike Cox (Brampton, Suffolk) has acquired a choice selection of old TV sets for use as monitors, and now has the slide scanner and Test Card "G" monoscope fully operational. Mike takes his finals this year, and then is coming to join the Chelmsford BADC group. In the meantime he is giving several lectures to RSGS clubs etc in the Norfolk and Suffolk "TV Wilderness". He finds standard receiver BO transformers rather better than those out of the English version of the AFM4 unit for BO counters of the CQ21 type. He finds that GEX34s and CG12Es are quite satisfactory as counter diodes (so are CG4E/CV448s). Pete Burrage is temporarily at Bromley, Essex, but has had time to design the cavities for his 4X150A PA. The power supplies are all to hand.

Ivan Howard G2DUS/T has as usual been very active. The vision transmitter has been considerably improved, and test transmissions are made on 435Mc/s every Wednesday. A new 24 element stack of very good performance has been made from Aerialite fittings - expensive, but the whole aerial, reflector and Aii scaffold pole is very rigid, fairly light, and cost about £6. It took two hours to assemble! Pictures have been sent to G2WJ (15 miles) and G5KRD/T (38 miles). Ivan says he can push a very strong signal into Cambridge if only someone there was sufficiently keen to put a converter in front of his TV set. As ever, Ivan has given several more excellent lectures and demonstrations, many at considerable distances from Baldoek. Well done, on and many thanks too. The vision equipment is now complete, consisting of monoscope, bar generator, 16mm telecine and studio camera, the whole works being in three TU5B boxes.

Brian Partridge G3KOK/T (Bishops Stortford) has also been very busy. Signals have been exchanged with G2WJ/T (6 miles) and G2DUS (12 miles). A new aerial to the G2WJ design has just been put up, and two new recruits found in the town. The image orthicon camera is now complete bar the frame scan circuit, and should be operating by the time these notes appear. A recent acquisition was a heavy duty pan and tilt head in perfect order for 10/-! Brian has also built a very successful converter, which will be the subject of

a special article in CQ-TV. Tony Sale at Rayleigh has been inactive of late, but is now rebuilding the 5527 camera for use with G3CVO's transmitter. He is also working on a design for an aerial diplexer, so that either sound and vision may be transmitted on one aerial, or so that both transmission and reception are possible on the same aerial simultaneously (with suitable channel spacing). The Butchers of Rettendon have made one attempt to receive G3CVO/T (4m) without any luck so far, and the converter is having an overhaul. G3KRA/T (Chelmsford) has been inactive due to school work, but the G3SK type tx still waits for power. R. Greenfield (Southend) has been testing the drive stages of his vision transmitter. R. Martyn (Chelmsford) has progressed further with the pulse generator, which will use binary counters and some 36 12AT7s! T. Pegram (Chelmsford) is also thinking about the /T licence.

Grant Dixon (Ross) has started building a small colour monitor into the main rack. This uses a Cintel tube mounted behind the panel, viewed through a 45° mirror. A small colour disc is driven by a motor controlled by a saturable reactor. The slide scanner has been held over pending either a supply of cheap dichroic mirrors or a better scanning tube for use with half-silvered mirrors and filters. The colour camera now has an f2.8 lens which helps a lot, and it has been fitted with an iris from Messrs English of Brentwood. Grant has recently been over to Birmingham to give a demonstration of his gear, and is toying with the idea of transmitting to them from his new QTH at Ross when built. He reminds any other BADCs interested in colour that he circulates a Colour Newsletter. Is he in fact the only member with any colour gear working?

Fluff Plowman G3AST at Luton now has a most impressive amount of video gear, and the results from the FSS are first class. A steel lattice mast is being put up, and as Fluff is already on top of a hill, G3AST/T should be a pretty potent signal in the area. John says that it is just a matter of time now.... Doug Wheeler G3AKK has been very busy, and all his spare time has been taken up with BADC mail. Do please write to your Committee member where possible to relieve the strain on the Hon Sec. 74 letters in one month is a bit much. Doug says that the Romford group is rather in abeyance at the moment. What abt the two cameras, om? Can we borrow them? Alwyn Stockley G3EKE (Bournemouth) has also not had much time for ATV, and may be moving back to Norwood shortly.

John Adams (Iver) has been busy on the 16mm telecine side. He also found time to visit G3CVO and to take a lot of film of G2WJ/T. A sound track (non sync, on tape) has been recorded for the BADC newsreel, and John asks that anyone, at home or abroad, who can do so should send him a short 16mm (16 fps) film for adding to the newsreel. In time we shall make a copy of this for circulation overseas, but some re-titling is called for first. NB John can copy your 16mm if you do not want to part with the original. Construction of the telecine unit proceeds slowly now that Gardening is here.

PAGEX still holds his Saturday afternoon TV skeys on 80m at 1530 GMT. He reports that their TV Convention was very successful, and that the Groningen group are to try colour. They much

appreciated the lecture tape on Amateur CTV by C.G.Dixon. O.M.Storm is now PAOSW; Philips have replaced one of the group's 5527s by an image ike after accidentally breaking the 5527. PAOLQ and PAOVT both have CCIR waveform generators in action but no cameras as yet. 'ZX is very busy professionally but now he has a new house perhaps we shall make the first G-PAO TV contact soon.

Mr W.H.Armstrong is with the police in Barbados; just as we thought we could surprise him by introducing him to fellow enthusiasts with L.C.Vallis, it turns out that LCV is no longer there and no-one knows his address. WHA is wading through the lecture tapes and reference books at the moment. Paul Egger at Geneva is also trying CCIR with FM intercarrier sound, and says there is quite a bit of ATV interest in Switzerland. Eddie Barrall G2CBG is now at Marconi's, and may move to Chelmsford. His ATV gear is still laid up, but at least Eddie can now get to Club meetings.

Surprise letter from old member Fred Pilkington, who is now radio officer on the MV "British Earl". At home in Littleport, Cambs, Fred lives only 5 miles from G3GCD/T and hopes to receive pictures from Ian. He reports that on a trip to Durban he met the lads, and they say they have transmitted TV 25 miles (on 2m?). Fred is very keen now, and is after back copies and all the gen. Robert Torrens G13FW/T is still the only licensed TV amateur in N or S Ireland, though Bill Stapleton may have something to say about that. R.T has been very busy constructionally, and suggests that we print data on photos used in "CQ-TV". (Done, on). G.Chatley (Enfield) has an AFQ9 transmitter and hopes to be on the air by September with 40W PW. He hopes to build an FSS. The Enfield RSGS group is very active on 70cms steam, and their monthly magazine "The Lea Valley Reflector" often contains some good 70cm articles. G3D00 will put you right. G.A.Frampton (Streatham) is busy with exams, but hopes to be more active soon. G.Couzens (Wirral) has a 6" e.s scanner and 9" monitor built up, and a 931A to hand for the FSS unit. W.Essinger (Haifa) now has his camera in action, and writes to thank all members who helped with information and data.

Frank May G3BAY/T (Leicester) says he has been inspired by the sight of G2DUS/T's equipment in action. He sometimes sees old BADC member Tony Leaverland. The counter circuit has been giving some trouble, and the vidicon appears to have died. Frank is most anxious to contact other BADCs in the neighborhood. E.Bassett has G3GOP to help him, and the new semi-portable gear is very stable. Ron Eyles and Jim Rackett continue to sustain the ITA at Wembley, whilst Mike Rawley (Brighton) was last seen installing a monoscope at Crystal Palace. Other BADCs concerned with the latter station include Roy Lartyr, Don Reid, Fred Steed, T.Pegram, E.Lawley and G3GVO. (Minor parts played!).

Carlos Reyes has sent a photo showing him with his camera at San Jose, and very well built it appears to be too. Janko Vasilic (Belgrade) was married at the beginning of the year, so he is having to ease up on the ATV activity for a while. He now has back copies of CQ-TV, and wants to exchange Philips DG or Telefunken IB type CRTs or double beam type NRE/100 for a 931A and 5PPT.

He also has an EFF51 and LS50 for disposal. C.A.Rouse (Auckland, N.Z) has written with news of Jack Mason's activities, which the latter has amplified by sending over a tape. Jack has now tried one of almost every type of camera tube: 5527, 1849, Station and so on. The monitoring and pulsing equipment works very well, and Jack is now building a 16mm telecine unit. The vision transmitter is on 96.4Mc and the sound on 99.9. An experimental licence is held.

Bill Stapleton (Dublin) has also sent in some photos of his gear, which at the moment fills a 7' rack in a most impressive manner. Bill had trouble with the binary counters; to get them to trip he had to go to 100p coupling Cs, and this imposed too great a load on the MC stage. A buffer cured this one - after 2 years swearing! Bill is not too keen on binaries owing to the difficulty of viewing the output on a normal CRO when FB is applied to count by an odd number. A quick lash-up of BTH cine projector reflected from blank recording disc(!) onto 1846 camera gave quite excellent results and Bill is going to build this gear properly. The Resistor tube (£30 5th grade) has not yet arrived. With all this building, Bill has not yet had time to get the first Dublin group meeting under way, but he says this is in mind. How about a transmission to G13FW/T, Bill?

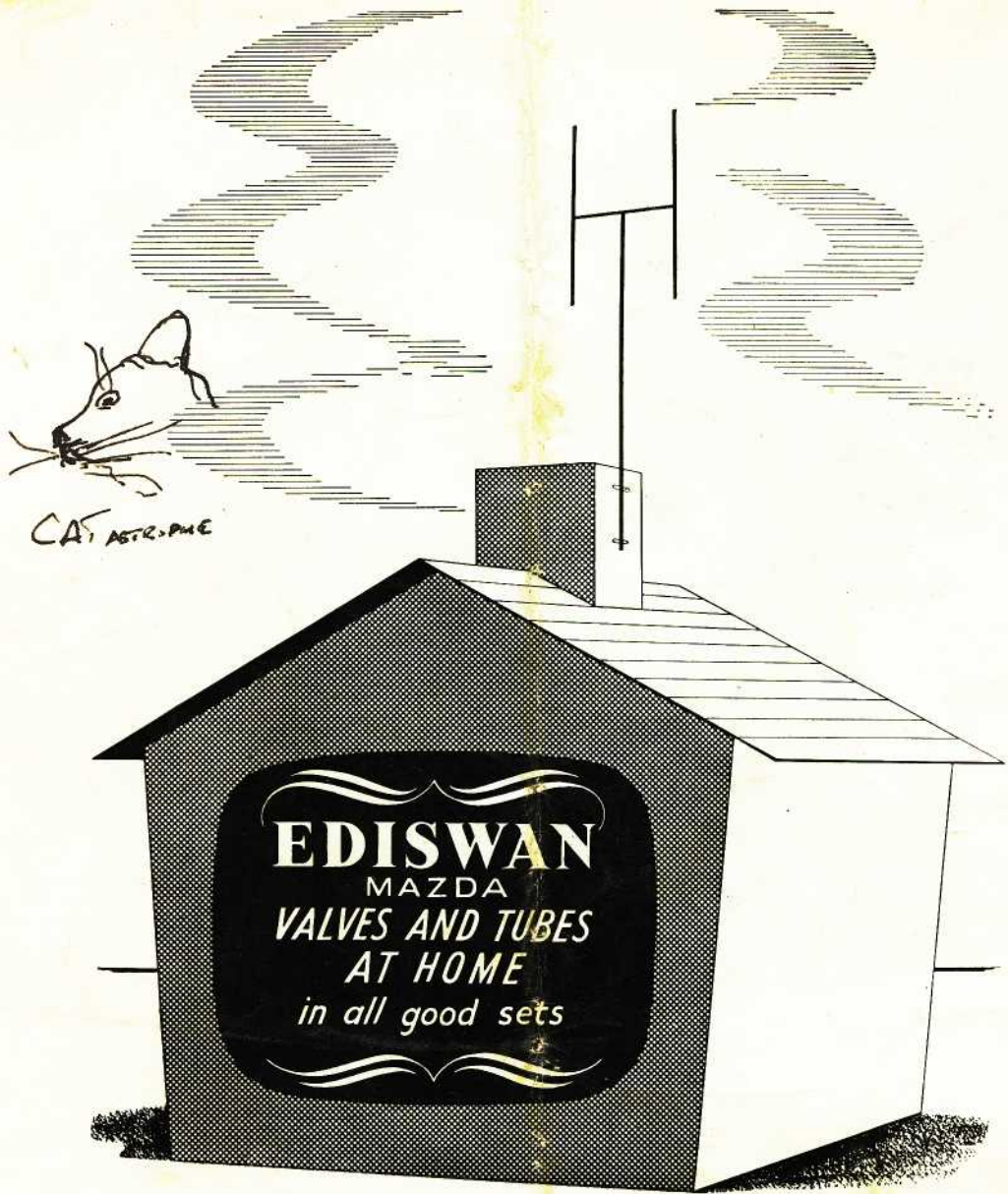
G3GVO/T on 430.3 Mcs came on the air on Feb 26th and was received by G2WJ. At another meeting of the Chelmsford Club, live pictures and telecine from Ivan Howard's gear were transmitted to Dumfrow, this being the first British two-way live QSO. Since then many transmissions have been made with steadily improving results. Jeremy of G2WJ/T reports that he is starting on a miniature 405 line rig for portable use, probably with a Staticon camera. A complete mobile 70cm TV receiver and aerial is available to plot field strengths around the transmitter. Pictures have been received from EBC, ITA, G3GDR/T, G2DUS/T, G3GVO/T and G3KOK/T, with G3KKB/T trying hard. How's that for alternative programmes?

Owing to pressure on space, Club notes have been held over to the next edition.

THIRD AMATEUR TELEVISION CONVENTION 1956

As there is to be no RSGB Exhibition this year, we are hoping to hold another ATV Convention in the autumn, although as a general rule we shall only hold Conventions in alternate years. We shall invite the London IUT Group to exhibit, and propose at the moment to hold the meeting at the same hotel in London as last year, and at about the same time. Certain of the equipment that was shown last year is not available this year, and so we ask that all groups agree now - and start work - to send at least one item of equipment. If you have any suggestions, please contact Don Reid, 4 Bishop Rd, Chelmsford. Please send 16mm snippets for the newsreel as soon as possible to G3GVO.

.....
Have you bought your copy of the booklet yet?



THE EDISON SWAN ELECTRIC COMPANY LIMITED
155 Charing Cross Road, London, W.C.2, and branches

Member of the A.E.I. Group of Companies