



CQ — TV

THE JOURNAL OF

THE BRITISH AMATEUR

TELEVISION CLUB.

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The British Amateur Television Club.

PRESIDENT

R.S. Roberts G6NR

CHAIRMAN

Don Reid
6 Mount Crescent
Brentwood, Essex
CM14 5DB
Tel. Brentwood 223735

GENERAL SECRETARY

Jde J. Rose G6STO/T G8CTG
Pinchbeck Farmhouse
Mill Lane
Sturton-by-Stow
Lincolnshire.
Tel. Stow 356

MEMBERSHIP SECRETARY

Brian Summers G6AJU/T G8GQS
13 Church Street
Gainsborough
Lincolnshire.
Tel. 3940

B.A.T.C. PUBLICATIONS

M.J. Sparrow G3KQJ G6KQJ/T *
64 Showell Lane,
Penn, Wolverhampton,
Staffs.
Tel. Wombourne 3037

EQUIPMENT REGISTRY

Alan Watson
"somerby View"
Bigby,
Barnetby,
Lincolnshire.
Tel. Searby 347

TREASURER

Alan Pratt
10 Grammar School Road,
Brigg,
South Humberside, DN20 8AA
Tel. Brigg 53014

CONTEST ORGANISER

Geoff Smith G8CPX
4 Monks Close,
Dunstable,
Bedfordshire.

SALES & LIBRARY

Grant Dixon (BADC SALES)
G6AEC/T G8CGK *
"Kyrles Cross"
Peterstow,
Ross-on-Wye,
Herefordshire.
Tel. Ross-on-Wye 2715

THE EDITOR

Andrew Hughes
17 Woodside Avenue,
Weston Green, Esher,
Surrey. KT10 8JQ

COMMITTEE MEMBERS

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Mike Crampton G6AHJ/T G8DLX *
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* Holder of Home Office permit to transmit SSTV in the authorised bands.

WHO TO WRITE TO

Subscriptions and changes of address should be sent to the Treasurer, and membership enquiries to the Membership Secretary. Please only address your enquiries to the most suitable committee member, enclosing a sse.

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SUBSCRIPTIONS ARE NOW £2

HAVE YOU SENT YOUR £2 SUBSCRIPTION, OR ARE YOU NOW IN ARREARS?

The Committee was forced to increase subscriptions to £2 from last January, but many members have still only sent one pound. If you are one of these please send the extra pound to the Treasurer immediately. The B.A.T.C.s Giro account number is 25 612 4000.

THIS IS THE LAST ISSUE OF C Q - T V YOU WILL RECEIVE IF YOU FORGET TO PAY.

Letters to the Editor

Dear Sir,

The letter in C Q - T V 93 from DC6VD raised some interesting points. I agree with the comments about the Warsaw plan for 70cm. Without considering systems A and E the sound carrier is always high in frequency with the VSB low. Therefore the outcome of Warsaw is a non-starter, and I feel that ATV standards should follow the normal broadcasting practice.

An article on SATV would be very interesting. What about it, Rudolf? The now almost acceptance that 70cm will again be 'pruned' down in bandwidth will require some form of modification to ATV practice, if we are still to use the band.

I personally think a ceiling channel of 145.75 is best, but with Rudolf comments and John's G3YQC, perhaps two channels will end up as the best compromise. David Long G6ACH/T G3PTU
Huntingdon,
Cambridgeshire.

Dear Sir,

I have been exchanging SSTV tapes with various people recently using a stereo tape recorder with sound on one channel and SSTV on the other. May I suggest that we adopt as standard the practice of using LEFT channel for SOUND and RIGHT channel for SSTV.

Incidentally, as librarian to the Club I have available for loan quite a number of photocopies of magazine articles etc. on SSTV. If anyone is looking for a particular circuit it is quite possible that I have it available. Payment of postal charges would be appreciated. I am also quite happy to answer any specific technical queries on SSTV as I have gained a fair understanding of the subject during the last 16 years.

C. Grant Dixon G6AEC/T G3CGK
Kyrle's Cross.

Dear Sir,

Recently I've been very busy trying to defend our tv spectrum against the installation of an F.M. repeater system in the 70cm band. I do hope that the B.A.T.C. Committee realise that per-

mission has already been sought from the Home Office, frequencies issued by the R.S.G.B. and the go-ahead given to buy crystals! This is without consultation with the members of B.A.T.C. You may have heard that there was a meeting with the R.S.G.B. Repeater Working Group at Pinner on the 17th March 1976 - protests by B.A.T.C. active members fell on deaf ears, it was a non-meeting, i.e. after the event!

Therefore I must protest strongly that the B.A.T.C. has not defended our position as regards interference from transceivers which will completely block out weak signals as the input to the repeater is within 200 - 400 KHz of most active tv carrier frequencies! A strong letter to the Home Office explaining our problems may cancel the project, especially as the European input frequencies are at the top of 70 cm i.e. 438.9 - 439.9 approx., which would not bother anyone. It would also make amateur radio a construction hobby and not a black box hobby; this being to the advantage of commerce who I've no doubt have pushed the idea anyway!

P.A Johnson G6AFF/T G8EIM
Harrow, Middlesex.

Dear Sir,

The January 1976 issue of "Radcom" asks for comments on the R.S.G.B. Repeater Working Group. This is what I have written to them.

"I have just received my Jan./Feb. copy of the Amateur Radio Mobile Societies Journal, "Mobile News", and was astounded to read therein the report of the RSGB's "RWG" and their high-handed and so-called compromise plan for 70cm. Repeaters.

With a single wave of the pen, it appears that they dismiss the activities of the Amateur Television fraternity, in effect saying that they might possibly all-

ow us to transmit video one or two evenings a week between seven o'clock and midnight.

Let us get one thing straight right from the start. I am not against Repeaters as such, - either 2m or 70cm, but I am NOT in agreement with the RSGB's present policy concerning them, or in the way they are currently being used, - or perhaps mis-used is the correct terminology.

For mobile use, - yes, for use in difficult terrain, - yes, for RAEN use, - yes, to encourage occupancy of 70cm, - yes, but don't let's start yet another "mode" war.

A letter in the B.A.T.C Journal for February 1976, from the pen of Rudolf Berg DC6VD, and President of the German Amateur Television Club ought to ring warning bells everywhere in Amateur Radio.

He refers to an article in C Q - T V "ATV and the IARU Warsaw Conference as it affects the British Amateur in connection with the 70cm band-plan proposed, and asks how is it that a single man (ON4ZN) can propose this to the conference participants and no-one to prevent it being accepted. How come, as he remarks, one man propose something which affects thousands of Amateurs, without asking them for opinions. Where was the RSGB to represent our interest?

Myself, I often wonder whose affairs the RSGB really are interested in."

L.J. O'Loughlin
Scarborough,
North Yorkshire.



1976

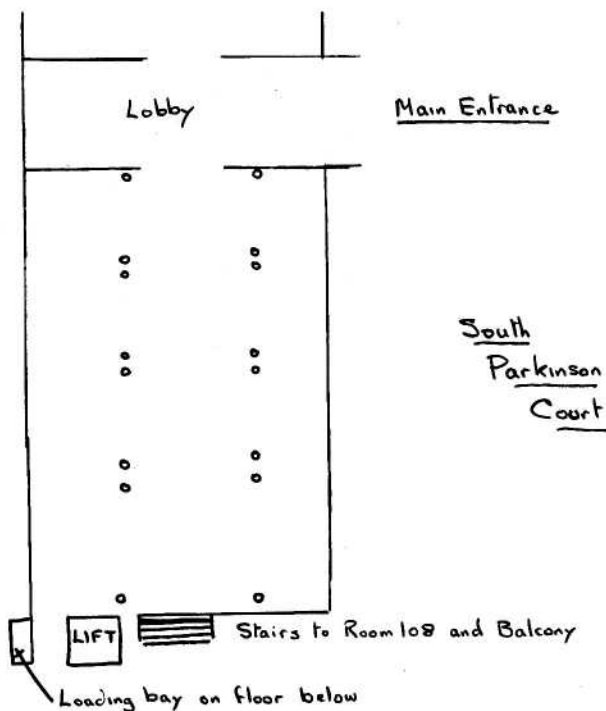
BATC Convention

PLACE Parkinson Court, Leeds University

DATE Saturday 18th September 1976

TIME 10.30am - 5.00pm

The Exhibition will be held in the Southern half of Parkinson Court, whilst the A.G.M. will be held in Room 108 in the same building. A balcony will be available as a meeting area.

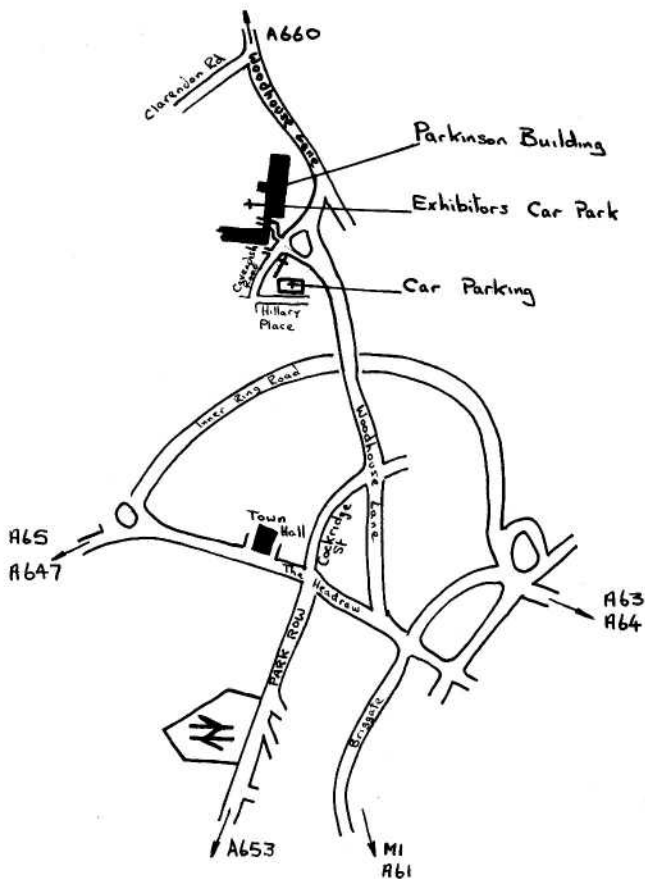


Volunteers are asked to contact Brian Summers (see page 1 for his address) if they live locally and are able to radiote video signals, both fast and slow scan. It is hoped that reception facilities at the University will be good.

A members' "Bring and Buy" stand will be run, and also reaffles with suitable prizes.

Any member who wishes to exhibit equipment should contact Brian Summers stating his space and power requirements. Trestle tables will be provided, but as only five mains sockets are available for B.A.T.C.'s use, exhibitors offering to bring distribution boards will be given a greater welcome than those without!

Those interested in joining other members for an informal dinner after the Convention should contact a committee member during the afternoon. Final arrangements will only be made when actual numbers are known.



Half of the Club officials and half of the Committee members will resign by rotation at the General Meeting on the 18th September 1976.

If you wish to nominate a member to serve on the new Committee, please send his name, together with the names of a proposer and seconder, to the Chairman. Make sure that the member you nominate is willing to stand.

Also, if you wish to place a subject on the Agenda, please send it to the Chairman in writing; notification in this way does not necessarily mean the item will be included, but every effort will be made to do so.

The Agenda will be finalised on August 31st, so please write to the Chairman before then.

NOTICE

Any member who becomes involved in Exhibitions of Amateur Television may like to know that Mike Crampton has a portable display stand suitable for advertising B.A.T.C. If you think you could use this locally, please contact him at 16 Percival Road, Rugby, Warcs., CV22 5JS.

POSTBAG

John Ingham VK5KG from South Australia is visiting UK early next year, and is hoping to visit some active television amateurs whilst over here. He is particularly interested in repeaters, so may have much to discuss with others here who are working in the same field.

Grant Dixon writes from Peterstow to tell that he has in the last six months given lectures on slow scan to Oxford University Radio Society, the Welsh Amateur Radio Convention at Blackwood and the Royal Television Society at Bristol. He is very willing to lecture to any other clubs on request, provided expenses are paid - petrol etc.

D. McConnell from Ballarat, Australia is building the C Q - T V SPG designed by Peter Delaney and the IC character generator from C Q - T V 78. He was enquiring about printed circuit boards for these designs, but the Club does not have any. Only those where the designer has produced them himself are provided by B.A.T.C. Mr. McConnell has some dichroic filters, splitting light into red, green and blue, and should by now be well advanced with his colour experiments.

R. Howard G8LDQ G6KFX/T wrote recently pointing out that many people were confused over his call sign due to an error in the RSGB callbook. He is really G6KFX/T and NOT KPC. Like many Senior Citizens, he is bemoaning the ever increasing cost of the licences for amateurs, which must be restricting much activity these days. However, as 8LDQ he is active with a Storno-Viscount on channels S20, S22, R7, S24. Perhaps some /T work to come?

K. Etherden G8BOY G6ACZ/T reports that his 68 element multibeam was bent slightly in the recent gales. Lets hope this doesn't stop you! He only transmits vision occasionally, although he has a very good site on top of the Chilterns. However, he generally looks in during contests. Lack of space ofcourse is the reason for his limited activity - a case for miniaturisation!

G.S. Baker ZL1TOF in Auckland, New Zealand, told us in a recent letter of a circle pattern generator he has built. It uses the principle that a circle is $x^2 + y^2$ and the fact that two integrating amplifiers in series produce a square law voltage with respect to time if fed with dc. These amplifiers are started at line rate for the x and field rate for the y, with the outputs combined in logic circuitry. Sounds an ideal way of doing it!

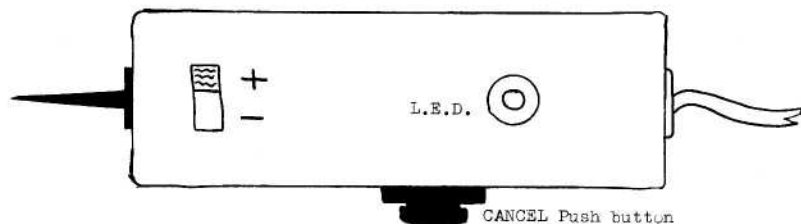
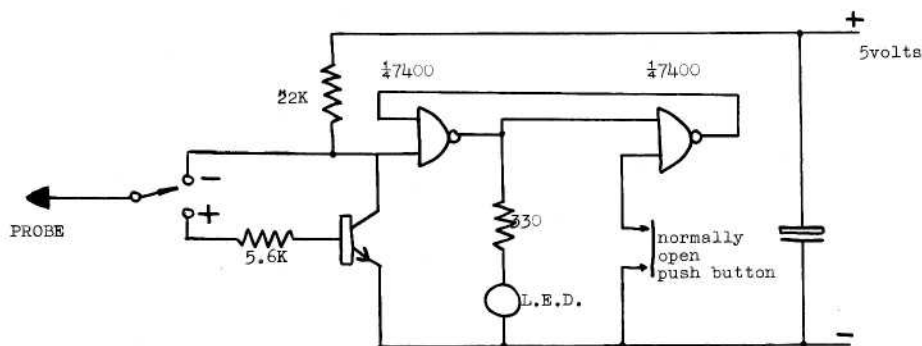
A Memory Logic Probe

By Gordon Sharpley G6LEE/T

This design is for a simple logic probe for use on TTL logic circuits. It will detect positive or negative levels, and has a memory facility which enables single short pulses to be detected.

Dependant on the position of the switch, the indicator - a simple LED - will light on logic 1 or 0. It will then remain lit until the CANCEL button is depressed; if this memory facility is not required, the button should be kept depressed whilst in use. Since normal operation of the device will be as a logic probe without the memory the button should be mounted convenient for the operators thumb.

The prototype was built in a small electrovalve box with the components mounted on a small piece of veroboard.



Recorders, Heads and Things by J. Brown G3LPB

The development of tape has made a completely different approach to modern living. Recorders have a multitude of uses, but the main concerns are one, the conveying of the spoken word, or music from one place to another; two, the conveying of knowledge and information from one source to another. With slow scan we can combine these ideas, and can send each other pictures, patterns and also knowledge and information re the subject, whilst for the rich fast scanners a complete new world awaits them; they can send video, audio both synched even in colour.

However with some 1000 manufacturers of tape equipment in the world today, of all different nations, the introduction of some form of standard has helped a great deal. In the cassette widely used, we can play tape from nearly any machine, some with different degrees of reproduction. Dependent on the setup of the machine and the quality of the recorder used, most of the compatibility rests on 1. head alignment, 2. the speed situation.

The first one here is quite easy to overcome. The record/replay head is mounted one side on a pillar, the other mounted on a spring system to give us what is known as "azimuth" or "lateral" adjustment. Plainly speaking, adjusting the screw allows us to tilt the head away from the vertical. If we now play a tape, and adjust the head for maximum output, we are on the way to the final requirements. Taking the matter further, have you ever had a tape sent by someone e.g. a CQ tape made by the chap who owns a camera, or a tape for re-copying, and on playing it we get a disappointment, all woolly and poor. This depends on two things; one, this head alignment, two, the dirty head setup.

Heads can be simply cleaned by a couple of methods; one can use a head tape cleaner, (this is a woven cloth tape which gets a certain amount of patent chemical head cleaner poured on it, and is run through the mechanism so that the pressure between the tape and head cleans the head face. Or we can do this manually by obtaining from the chemist some cleaning buds. These are little hardwood sticks with little buds at each end, these buds like cotton wool. Dip these either in industrial alcohol or B.P. methylated spirits (best grade) and clean the head faces that the tape passes over. Both the erase and the record/replay heads must be cleaned. After cleaning, allow the spirit to completely dry away. It is amazing the difference one hears after a head clean, the top notes become sparkling, the "chequer board pattern" appears near perfect HI.

The head nearest the feed spool is always the erase head, this is necessary as during recording, the tape MUST be erased first before the new recording. So switching to the play position, watching the way the drive takes up, the furthest away head is the erase.

In the case of a stereo recorder the erase head wipes TWO tracks at a time, as opposed to two separate tracks for recording. So the erase head section is twice as wide as the record section. We show this better in a diagram. The reason for mentioning this is I have made a stereo tape one track is with AUDIO the 2nd track video patterns etc. So one playing it back as stereo, one input monitor, the other to audio we can see on the monitor and listen to what we should be seeing and what to adjust on the monitor.

This is a real information tape, unconventional, but informative.

The other thing applicable to our needs is correct speed. In slow scan, the variation is

most noticeable, i.e. the frequencies are different if played on a slower or faster machine than the one recorded on, in fact, we get either poor pictures with poor sync, poor definition, or even, nothing. If our monitor has some form of visual sync i.e. a tuning eye, or LED, we can immediately see what is going on. A faster playback will give us ripples in and across the line hence the raster appears as wavy lines, video looks fair; if slower we get darker pictures with diagonal lines of darker than white, many recorders these days have a speed controller internally or rather a transistorised motor supply to allow for battery condition, whilst others have little governed motors and one or two have two speed pulleys made for mains frequency changeovers 50 th 60 Hz and vice versa. The afore-mentioned controlled ones only need a tweak of the speed pot (usually a preset pot). It is impossible to say which ones have these controls, but on receipt of a SAE with model number details of recorders, I will try to assist in its location in any model.

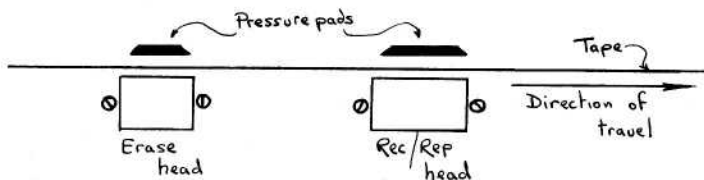


FIG. 1 shows the head setup in any normal recording setup.

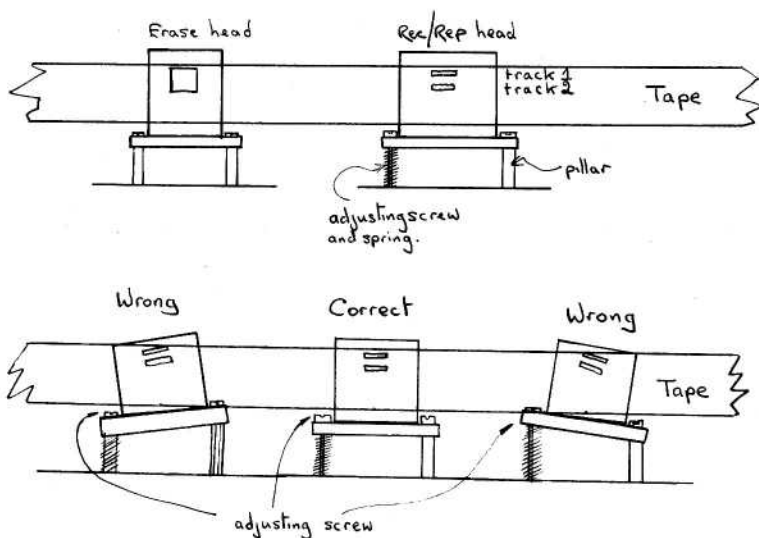


FIG. 2 shows the record/playback head plus the erase head setup, and the way the record/playback head is adjusted.

The one trouble of so many models being available is spread of speeds and head types. The original reel to reel is not so bad as cassette types, the half and quarter track reel to reel even at $3\frac{3}{4}$ " per sec. allows a fairly wide tolerance of speed, I have some LDTV on tape at $7\frac{1}{2}$ " per sec. which is quite good, probably better at 15" per sec. With our cassettes at a speed of $1\frac{7}{8}$ " per sec, we pay our money and take our pick but we can help by careful cleaning, maintenance and adjustments.

These few words are brought about by having made many tapes of patterns, some completely original and some "borrowed" for others to use, and only one complaint, after a head adjustment this was O.K.

It would be nice to have a standard tape for head setup, plus some standard tapes which we could borrow from say the B.A.T.C. Library. We could then ensure all interested parties at least could play each others tapes, the quality would be almost equal with all.

There are some tapes available with patterns in reel to reel and cassette form, these may have dried up but I have original tapes which the friend who made them would probably allow copy of without infringing copyright.

I have to admit I COLLECT PATTERNS so if you have any unusual ones, I would like a copy.

SURPLUS EQUIPMENT

John Trenouth has recently accepted on behalf of B.A.T.C. some equipment free of charge. The Equipment Registry run by Alan Watson has details of this and will be informing those members who have expressed a desire for the particular items available. The rest must be disposed of to members, as John Trenouth needs the space. He cannot accept responsibility for the condition of the gear (he also signed a form absolving Sony UK Ltd. of any responsibility. Any disposals must be on the basis of buyer collects, and initial enquiries should be to John Trenouth
9 Bank Road,
Crosshills,
Keighley,
Yorkshire. Tel 0535 32110

The gear is as follows:

1. Sony 405 line VTR Type CV2000 (complete, but no one knows if its working or not. Judging by the lack of wear on the head-drum it has had very little use).
2. Sony 12v portable record only 405 line VTR Type DV2400B (condition unknown, but looks almost brand new)
3. Sony 12v portable record only 625 line VTR Type DV2400ACE (condition unknown, but circuit diagram is available).
4. Sony Camera Wiper (625 line) CMW110CE (working order permits horizontal or vertical wipes, (circuit diagram available).

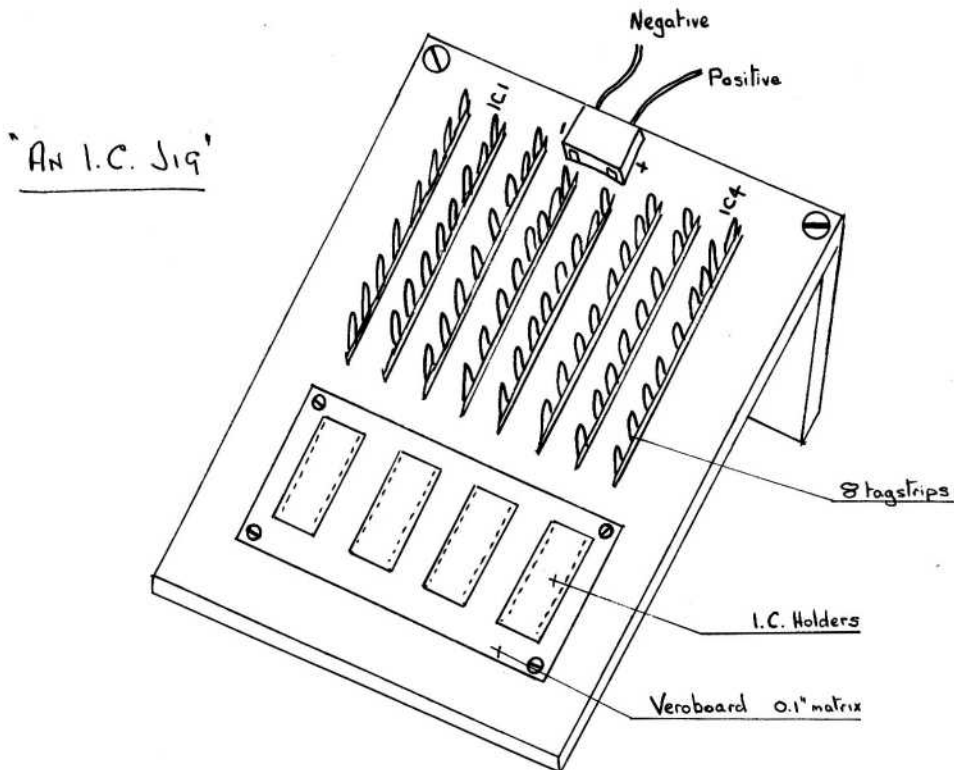
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An Integrated Circuit Jig by Eric Edwards

While 'playing around' with integrated circuits, I used to get very frustrated when soldering and de-soldering leads and components on i/c holders mounted on veroboard etc. Solder used to get in between tracks and even the tracks would disappear! Now all that is in the past.

For experimental circuits using ICs I have made a JIG. This is a very basic idea, using four IC holders and tagstrips. The whole thing could be improved upon of course, by using more holders and even 24 pin types. Also the supply to the jig could be built in. However, this one is the prototype and is useful for small project experiments. The connecting leads from the tagstrips to the IC holders could be hidden by wiring underneath the board (much neater)

Anyone can now solder components to integrated circuits with a poker (hi). It is in constant use in my shack and I hope it will be as useful to other members.



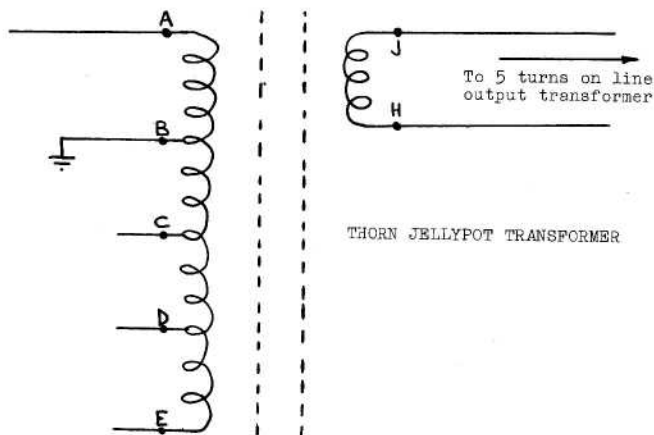
A Simple Method for Producing eht

By Cyril Chivers

This simple addition to any domestic television set can be used to produce the eht needed for an amateur flying spot scanner, or vidicon camera. The only component required is a Thorn Jellypot Transformer and a piece of wire.

As can be seen from the diagram, five turns of wire on the receiver's eht transformer (in a similar manner to a valve heater overwind) are connected to the Jellypot, using tags J and G or J and H. The output can then be taken between B, as the earth, and any of the tags A, C, D, or E depending on the voltage required.

Normal precautions should be taken when working with eht, and in every case, an earth should be firmly connected to any tag it is intended to touch, after the mains has been removed. If in doubt - DON'T



IN THE NEXT CQ-TV

A Crosshatch & Dot Generator
 A Report on the 1976 Convention
 More on both fast and slow scan tv

TV ON THE AIR

By John L. Wood G6AHT/T G3YQC

First I have information on the Watford group mentioned last time. Les Carpenter G6ALQ/T has sent very comprehensive details of the stations at present active in the Watford area. Briefly these are as follows; Len G6QDR/T. He is the father of the group and has been associated with ATV for many years. He transmits 405 line video from home built equipment and operates tv on 23 cms.

Ken, G6ALC/T and Gary, G6ALH/T usually operate as a team, both transmit excellent video and a wide variety of sophisticated effects generators make their transmissions a delight to watch.

Allan, G6AME/T radiates very good video from a 46 element multibeam, he is the group member with the bright ideas. He is at present engaged in perfecting a system of simultaneous transmission of sound and vision using a single carrier. Allen also uses a rather neat electrically operated rotating call sign/caption display.

Another Alan G6AII/T radiates an excellent picture from a pair of 4 CX250Bs and a 46 multibeam, video equipment includes three cameras and a video tape recorder.

Finally Les, G6ALQ/T. He transmits using a home built rig into a QM70 linear amplifier and receives on a variety of monitors. Les says that the group members are always available for contacts on TV and would be glad to hear from other stations.

Next comes a letter from GM6ADU/T, GM3VBE in Midlothian who has just hooked up with GM6SDB/T, GM8ARV on 70cm vision, this was the first two-way QSO with an individual station despite being active since 1968! He goes on to say that several stations in the Edinburgh area are preparing for TV operation.

Dave, G8DXD from Barbourne, Worcester, writes to say that after settling into a new QTH he is putting a TV station together. Dave uses a Mullard ELC 1043 tuner into a Sony TV9 90UB receiver and is looking for QSOs, sound operation at present is on 2 metres.

Down in the deep south (St. Leonards-on-Sea, East Sussex to be precise) we hear from S. Cowie G3KUX who is looking for other TVers in his area. He is receiving TV at the moment and hopes to construct a transmitter in the near future.

From Warley in Worcestershire comes news that G6AFV/T, G5KS is fully operational on both 70cm and 2 metres SSB. A new transmitter generates the video signal at an intermediate frequency and heterodynes it, together with intercarrier sound, to 70cm, this drives a 4CX250B linear amplifier and a pair of 46 element beams. Arthur radiates a good signal and works stations over long distances.

Another Warley TVer is of course, G6MXW/T who is active on 70cm and always on the lookout for new contacts.

Finally I've received a letter which just scrapes home before closing for press,

it's from Brian Kennedy G6AGT/T G3ZUL from Droitwich Spa in Worcestershire who writes to say he is back on the air sporting a 4CX250B final and an 18 element parabeam and is looking for skeds. In the same letter a suggestion is made for a TV activity night, "oh yes" you all say, "that's been tried before" - Well, that's true, but recently there are many more regular active stations who are keen to make contacts so it is well worth trying again. Brian suggests Monday at 9.0pm. How about giving it a try next Monday? I suggest you look on 70cm and around 144.230 MHz SSB and 144.750 MHz any mode. Any thoughts and suggestions on this subject would be most welcome.

That's all the room I have this time, I hope to continue the list of active Tvers in the next issue. The address for letters is: TV on the air,
54 Elkington Road,
Yelvertoft,
Northampton. NN6 7LU

A Report on a Crossband Repeater Experiment.

John Ingham VK5ZDZ

You may remember reading in C Q - TV some two or three years ago an article I wrote proposing the concept of an Amateur Television Repeater. On the weekend of March 6-7th the ATV group in Adelaide, South Australia put up an attended experimental ATV repeater on the slopes of a hill with an excellent take-off over the city.

The uplink vision carrier was 441 MHz with an FM sound subcarrier 5.5 MHz above this. The downlink vision carrier was 579 MHz plus 5.5 MHz for sound. The relayed TV signals were brought down to video and audio before remodulation. On this occasion no video processing was carried out, however this is planned along the lines stated in the above article.

The downlink frequency of 579 MHz is in a temporary band allocated in Australia for amateur use until required for broadcasting. However, we hope to be able to obtain approval to retain the band indefinitely for tv repeater usage because of the ease of reception on standard UHF TV sets.

The repeater transmitter was provided by Maitland VK5AO and delivered 1½ watts RF output from a QQV03/20. I provided the receiver, converter, carrier detection relay and antennas, while Rick VK5ZFP and Ray VK5ZEF helped in the assembly and disassembly at the site.

On this occasion we used horizontally polarized 16 element broadside arrays on both receive and transmit. Noise-free pictures were received from all participating stations, while slightly noisy pictures were reportedly received at a number of locations throughout the Metropolitan area. Colour signals are retransmitted with some loss of chroma.

To eliminate beam turning our next experiment will use three 16 element broadside arrays on both receive and transmit spread at 60° intervals to give a good coverage over the

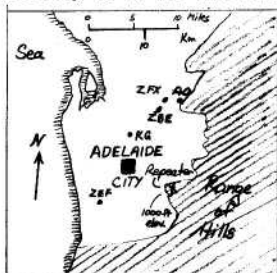
required 180°. We also intend to boost the transmitter's power output by the addition of 2C39 linear amplifiers.

Stations which use the repeater were Maitland VK5AO, Pat VK5ZFX, Howard VK5ZBE, Ray VK5ZEF and myself. In addition several listeners (or viewers) reported good signals!! Signals between Pat VK5ZFX and myself were greatly improved via the repeater as compared to direct.

Our standard communications channel of 53.5 MHz AM greatly helped in setting up the experiment and the fact that none of the frequencies used were harmonically related meant that there was no mutual interference of any kind.

I have included a sketch of the City of Adelaide and its suburbs so that you can get an idea of the layout.

The Adelaide ATV group found the article on the WR4AAB repeater project most interesting. If there are any other groups experimenting in this field we would like to hear from them, either directly or (preferably so we all can share) via these pages.



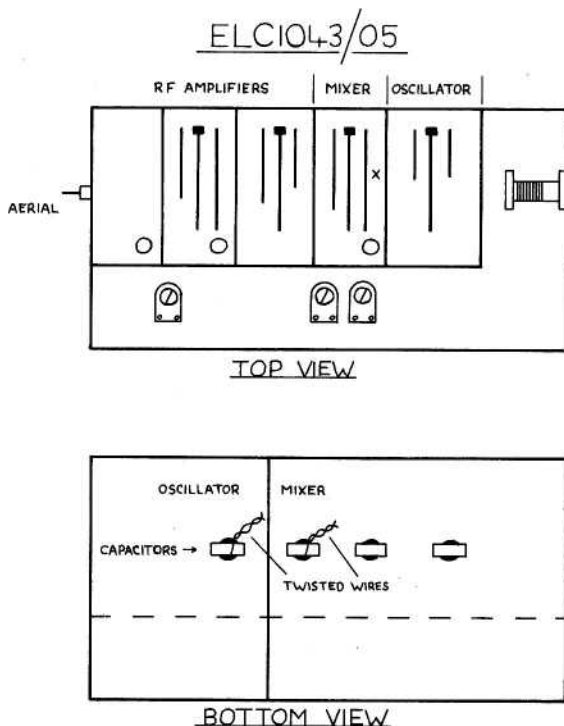
ELC1043 tuner on 70 cm

By A.C. Bevington G6AFV/T and John L. Wood G6AHT/T

Mullard ELC1043 varicap tuners have been used for some time by amateurs for 70cms TV work, these require no modification since their tuning range is sufficient to cover the amateur band. However, the more recent low - noise version known as the ELC1043/05 will not directly tune to a low enough frequency. This problem has been overcome by using very simple modifications.

Remove the bottom cover and locate the four ceramic leadless capacitors protruding through the printed circuit board (Fig. 1). Take two pieces of thin covered wire $1\frac{1}{2}$ inches long and solder one to each side of the oscillator capacitor as shown, repeat with the mixer capacitor. Set the tuner voltage at pin 3 to around +0.5v and twist together the wires across the capacitors a little at a time until an amateur signal is tuned in, this will give you a tuning range which overlaps the phone end of the 70cm band, use as little extra capacity as possible since too much capacity on the oscillator could stop it. Lay the twisted pairs against the PC board and replace the cover.

Remove the top cover and, whilst a station is being received, adjust the right hand link coupling in the mixer compartment (marked X) for maximum output, this changes the oscillator injection level to the mixer and should be carried out using a plastic trimming tool. Finally, adjust the coupling lines in the two RF tuned circuits and the input coupling to the mixer for maximum signal, for those with a noise generator the tuner should of course be aligned for best signal-to-noise ratio.

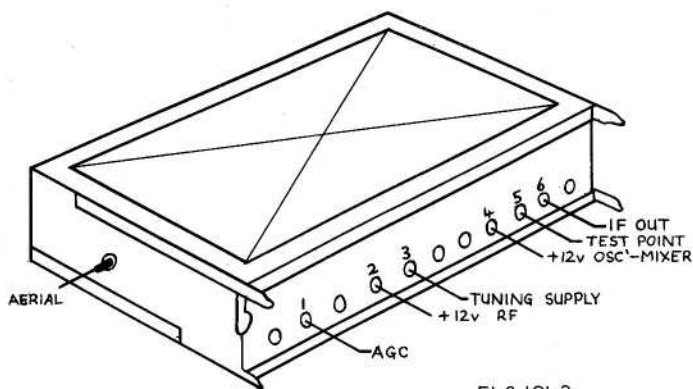
FIG 1

664HT/T

The ELC1043 and /05 tuners are wired up in the usual way (C Q - T V 84) for those without the information details are shown in Fig. 2.

On the standard ELC1043 you will need approximately $\pm 0.6\text{v}$ on the tuning supply input (pin 3) to tune 70 cms. Initially adjust the IK preset supplying the agc voltage (pin 1) to around $+2.5$ to $+3\text{volts}$. When a 70cms signal has been located this pot' is peaked for maximum signal. The IF output coil should be peaked with your TV receiver set to channel 1 VHF or connected directly into the IF. A further increase in gain can be obtained by removing three turns from the IF output coil and re-peaking, this should not be done however if you are feeding directly into the IF.

A regulated power supply is essential since any voltage fluctuations will alter the tuning.



ELC 1043
ELC 1043/05

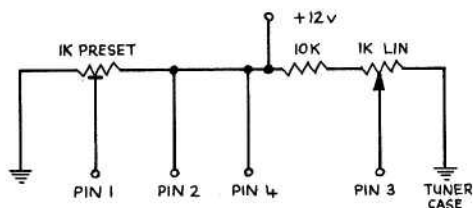


FIG 2

G6AHT/T

Slow Scan Correspondence

16.2.76. To the Editor of BATC's "CQ-TV"

FOR PUBLICATION.

FROM R.F.G. THURLOW, G3WW, 2 Church Str., Wimblyington, March, CAMBS.

Dear Mr Editor,

Representation of Active LF/HF Bands SSTV Operators ON BATC Committee.

From enquiries I have made it appears to be the policy of the Committee of BATC NOT TO DISCLOSE to members generally and /or publish in "CQ-TV" either their deliberations or decisions reached and/or the reasons therefore.

It is therefore not known to the general membership of BATC that my request for the representation of the above active LF/HF Bands SSTV Operators, either by election or co-option, on the Committee, on the grounds that the present membership of the Committee does not give such representation automatically as operation on the VHF/UHF bands bears no comparison with that on the world wide coverage bands, has TWICE been rejected by the present Committee.

Because I honestly feel that BATC without this full Committee representation cannot adequately advise the RSGB, when called upon, on ALL matters effecting sstv operating on ALL permitted bands I have written to the Council of RSGB setting forth the full facts. I understand that as a direct result of my letter it is being suggested to BATC that due to the increasing number of SSTV operators and new techniques being involved that a separate section or sub-section might be necessary to fully represent their interests. Very interesting news - I now await appropriate BATC action - as the alternative, which many ATV members would already seem to welcome alleging already too much sstv interloping, could be the setting up of a separate ~~SSV~~ Group, NOT UNDER THE AEGIS OF BATC at all, representative of ALL Active SSTV Operators.

While it must be remembered that BATC organized the first-ever-held Single Day SSTV only Convention last October in Birmingham and "CQ-TV" has twice carried my "SSTV Scene" Newsletter both these events happened only after the airing on 80m of complaints in March 1975 that BATC were doing nothing for sstvers; the idea of a SSTV Convention is clearly attributed to non-Committee member Henry Neale, G3REH, a near neighbour who had only "seen" a sstv demonstration and after hearing of the SSTV complaints, while the "SSTV Scene" only appeared some 19 months after commission "due to breakdown in communication" !

NEWS FLASH - One Committee member, so "permitted" to transmit slow scan television video signals since last summer, has recently appeared on the LF/HF bands equipped only with a commercially made Monitor as yet I = no letter from a SCL

Yours hopefully to an awakeing ? BATC Committee,

R. F. G. Thurlow G3WW.

THE COMMITTEE REPLIES TO MR. RICHARD THURLOW'S LETTER G3WW

The committee has received many letters from Richard Thurlow over the past few months and on each occasion we have tried to answer his questions and correct any misconceptions which he may have had about B.A.T.C., and the way in which it is organised. In this letter Richard has some more misconceptions and we will once again endeavour to put the record straight.

The B.A.T.C. committee holds a full meeting only two or three times a year or when a special occasion requires consideration of the full committee. As the members of the committee are fairly widespread throughout the country it takes a considerable amount of time and effort to arrange a venue and time to suit the majority of the members concerned. The vast majority of the committee business is conducted either by post or, where more urgent action is required, by telephone, largely at the members own expense. Alternatively where the occasion demands it a sub-committee of the members with the appropriate knowledge will meet to sort out a particular item. The results of these committee deliberations are published in C Q - T V, such as the recent decision to raise the subscription rates in order to keep pace with rising expenditure due to inflation or such as the SSTV Convention which was recently held at Aston University in Birmingham.

With regard to the point that Richard raises that we do not have an ACTIVE HF/LF Bands operator on the committee this was discussed and initially it was felt that with Grant Dixon G8CGK, Mike Crampton G8DLX, Lewis Elmer G8EUP, Gordon Sharpley G3LEE, Malcolm Sparrow G3KQJ and

John Lawrence GW3JGA all SSTV enthusiasts already on the committee there was no real need to add yet another as we always so far managed to answer any queries which have been put to us. Nevertheless, since Richard has pressed the point further on several occasions and informed the committee that he did not wish to do the job himself the committee have approached in turn three other leading active SSTVers but all of them have said that they were unable to spare the time to serve on yet another committee. It therefore is not true to say that the committee has done nothing about this matter.

B.A.T.C. and the RSGB have assisted and will continue to assist each other in the promotion of Amateur television in general and as space in the RSGB magazine Radio Communication is at a premium C Q - T V will continue to publish articles on both Fast Scan and SSTV together with other articles of a general nature.

The Aston SSTV Convention which was highly successful was the result of an idea suggested by Henry Neale G3REH made at the General meeting at Rugby in September 1974 and not as a direct result of comments made over the air as Richard suggests. The committee member referred to in the News Flash is Malcolm Sparrow G3KQJ who obtained his full licence only last June. He first built his own SSTV monitor and then acquired a Second hand Commercial one in December. Since then he has been on the air with a home built Fast Scan to SSTV convertor since February and this was followed by the first transmissions from his SSTV keyboard project in March.

We trust that this will clarify the position to date and has answered all the points which were in doubt as raised in Mr. Thurlow's letter.

1st "Albatross" SSTV CONTEST.

September 4th and 5th 1976

Sponsors: B.A.T.C. (British Amateur Television Club)
and A.E.C. Bologna (Italy)

In order to promote increased interest in the SSTV mode of operation I4LCF has pleasure in announcing the 1st ALBATROSS SSTV CONTEST. Sponsors of this Contest are the British Amateur Television Club and the Italian firm of A.E.C. of Bologna.

RULES

1) Period of the Contest

Part 1 1500 - 2200 GMT on September 4th 1976
Part 2 0700 - 1400 GMT on September 5th 1976

20 Bands

All the frequencies authorised within 3.5 - 7.0 - 14.0 - 21.0 - 28.0 MHz bands and via OSCAR.
Recommended frequencies are 3.734 - 7.040 - 14.230 - 21.340 - 28.670 (± 5 KHz)

- 3) Messages
Messages consist of : Exchange of pictures with a) callsign b) report (RST) c) serial number
Example IØXXX 599 ØØ1
The whole of the QSO must be conducted by SSTV. The only voice message allowable is the station announcement required by law. Competitors confirming report and serial number by voice will be disqualified.
- 4) Exchange points and multipliers
a) Points: 1 point for contact on 14 MHz - 5 points on 3.5 - 7.0 - 21 - 28 MHz. - 15 points via OSCAR.
b) Multipliers: 10 points for each continent (max 60 points). 5 points for each country (ARRL list) W areas from WØ to W9 and VE from VEØ to VE7 will be considered as separate countries.
- 5) Scoring
Total exchange points multiplied by the multiplier total
- 6) Sections
a) Transmitting and receiving video stations
b) Receiving video only
A separate table will be made for each class
- 7) Logs
The logs will contain: Date- Time- (GMT) Band - Call sign received- Report (RST) and number sent and received - Points - Multiplier and final score.

A description of the station and photos would be appreciated, but this is not obligatory.
Logs must be received not later than October 2nd 1976.
Send logs to: Prof. Franco Fanti
Via Dallolio n. 19
Bologna, Italy.
- 8) Prizes
1st. The entrant with the highest score will receive an SSTV Converter from the firm A.E.C. of Bologna, Italy.
2nd. One years subscription to C Q - T V
3rd. One years subscription to C Q - T V
- 9) Logs received will not be returned. The decision of the organiser will be final and any subsequent controversy cannot be referred to the Civil Court.

Include with the Log 1 dollar or the equivalent in the local money. This will be used to send the final score and the rules of the next competition.

CIRCUIT

NOTEBOOK

No 25

J. Lawrence GW6JGA'T

Video Distribution

There are two units which are essential to any TV system, the picture source and the monitor or receiver almost invariably contain a cathode ray tube which displays the television picture but the picture can originate from a number of different video sources, for example:

- | | |
|------------------------|----------------------------|
| 1. Camera | 4. Pattern generator |
| 2. Flying spot scanner | 5. Alpha-numeric generator |
| 3. Monoscope | 6. Video recorder |

Even in the most basic TV system it is useful to have two sources of video signal, one giving a 'picture' and one giving a test pattern. This will provide an alternative source of vid-

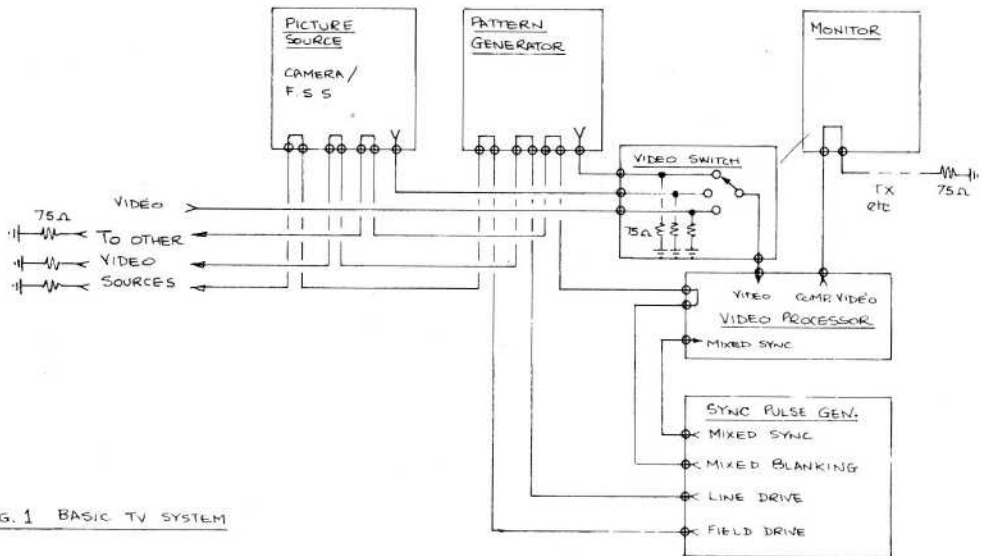


FIG. 1 BASIC TV SYSTEM

eo signal whilst experimental work is being carried out on say, the camera.

All the video sources, with the exception of No. 6, have a common requirement in that they need synchronising signals from the station Sync Pulse Generator (SPG). This is to ensure that all the pictures will be correctly synchronised with the blanking and synchronising signals when these are added later in the vision processor.

It is usual to generate all the pulse signals in the SPG and then feed these to the various units by 'looping through' as shown in Fig. 1.

All the cables are 75 ohm coaxial and after looping through as many units as required, a 75 ohm terminating resistor is connected to the last coax socket to terminate the coaxial cable. Sometimes the terminating resistor is built into the equipment and is switched in when required.

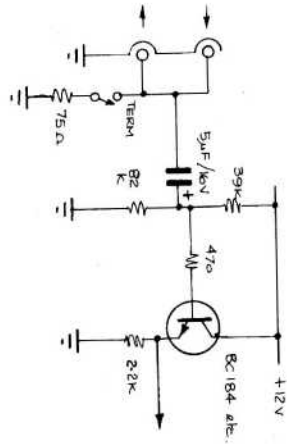
In each unit a buffer amplifier, with high input impedance, picks off the signal without mis-matching the coaxial line. A simple emitter-follower stage is quite adequate for this. The usual pulse amplitude is 2 volts peak-to-peak when the cable is terminated in 75 ohms.

Video signals and composite video signals are usually 1 volt peak-to-peak, again into 75 ohms.

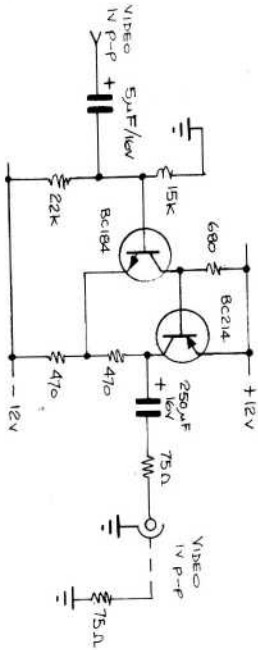
The output stage of the video source must be capable of providing a signal of this amplitude and have adequate frequency response for the video signal. A pulse input stage and a output stage are shown in Fig.2.

Where it is inconvenient to distribute the signal by looping through, a video distribution amplifier is required. A circuit for this is shown in Fig. 3. This was the subject of an article in the American 'Electronics' magazine, Feb. 1976 to whom acknowledgement is made. This amplifier uses two I.C.s, an LM318 high speed Op Amp and an LH10002 CN current driver and its frequency response is flat to about 4 MHz. The compensation trimmer is adjusted for equal gain at 10 KHz and 1 MHz. The 6.8uF capacitors should be tantalum and installed close to the LH10002 pins. The National I.C.s are available from DTV Group, 126 Hamilton Road, West Norwood, London, S.E. 27.

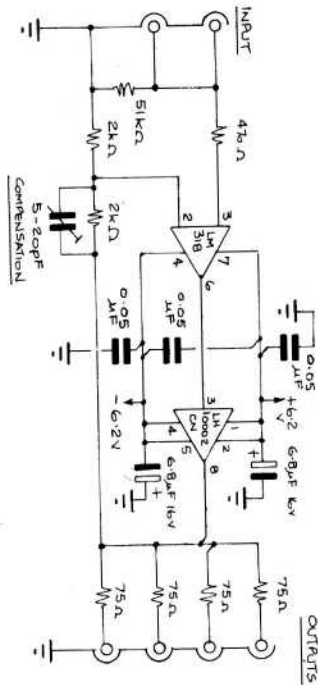
continued on page 23



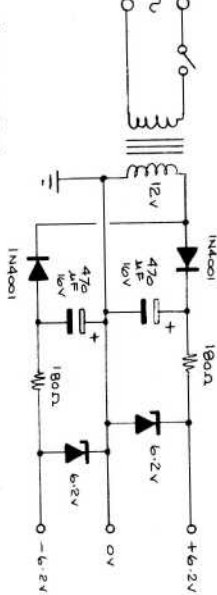
PULSE INPUT STAGE



VIDEO OUTPUT STAGE



VIDEO DISTRIBUTION AMPLIFIER



POWER SUPPLY

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INC. 1976

Fig. 3.

Fig. 2.

1975 International atv Contest Results.

Section A

| | |
|---------------|-------------|
| 1. DL 1 LS | 2504 points |
| 2. DC 8 QQA | 2360 points |
| 3. DC 6 MR | 867 points |
| 4. DL 3 DK | 770 points |
| 5. DC 2 FF | 766 points |
| 6. DC 2 DR | 752 points |
| 7. DL Ø VR | 728 points |
| 8. DC Ø NK | 694 points |
| 9. DJ 6 PI | 604 points |
| 10. DL 3 CZ | 562 points |
| 11. DK 3 AKA | 544 points |
| 12. DC 6 LC | 540 points |
| 13. DJ 7 HY | 509 points |
| 14. DJ 2 LF | 446 points |
| 15. DK 1 XE | 444 points |
| 16. G6AHT/T | 325 points |
| 17. DJ 7 YJ | 317 points |
| 18. ON 4 UB/T | 282 points |
| 19. ON 6 BM/T | 190 points |
| 20. ON 4 ZK/T | 178 points |
| 21. G6ALC/T | 139 points |
| 21. G6ALH/T | 139 points |
| 22. G6GDR/T | 126 points |
| 23. G6ALQ/T | 125 points |
| 24. DJ 5 KH | 98 points |
| 25. ON 5 VG/T | 82 points |
| 26. DC 6 CF | 72 points |
| 27. G6APF/T | 68 points |
| 28. DK 1 HJ | 66 points |
| 29. DL 2 BC | 64 points |
| 30. DJ 3 WS | check log. |

Section B

| | |
|--------------|-------------|
| 1. DJ 1 YI/P | 2713 points |
| 2. DJ 9 FF/P | 1343 points |
| 3. DJ 6 TE/P | 510 points |
| 4. DC 2 DI/P | 280 points |
| 5. DC 2 DV/P | 257 points |

Section C

| | |
|--------------------|-------------|
| 1. DC 3 QSA | 1136 points |
| 2. DB 2 YC | 678 points |
| 3. DJ 4 XT | 620 points |
| 4. DK 2 CP | 496 points |
| 5. DE 0 Ø1-19607 | 470 points |
| 6. DC Ø QI | 344 points |
| 7. ON 6 LM | 314 points |
| 8. DC 9 GB | 308 points |
| 9. DL 6 WA | 228 points |
| 9. SWL Edith Mazur | 228 points |
| 10. ON 6 BI | 224 points |
| 11. DK 7 SN | 222 points |
| 12. ON 6 VX | 170 points |
| 13. DC 9 EI | 144 points |
| 14. DK 1 QR | 88 points |
| 15. ON 6 JK | 64 points |
| 16. ON 4 OH | 24 points |
| 17. DL 8 PO | 10 points |
| 17. ON 6 KN | 10 points |

The next Contest will take place on 11/12th September 1976

"Circuit Notebook" continued from page 21

References

- "Two ICs make low-cost video-distribution amp"
 M.J. Salvati, Electronics, Feb. 5. 1976. Page 91. Copyright © McGraw-Hill Inc. 1976
 National Semiconductors Linear IC Data Sheets, LM313 LH10002CN
 National Semiconductors U.K. Ltd., 19 Goldington Road, Bedford.
 Video Line Amplifier C Q - T V 80 Nov. 1972 Page 3

WANTED

1. C912 type Monoscope Tube. Preferably Test Card "C" or "D" but any other test card considered.
2. 1" or 1½" Plumbicons, preferably with scan/focus assembly. Three required for colour camera project.
3. Set of dichroic mirrors
4. Colour monitor

R. Taylor G6AIO/T G3YJM

24 Redwood Avenue
Leyland
Lancashire PR5 1RN
Tel. Leyland 33651

.....

FOR SALE

Marconi Mk 111 Image Orthicon TV Camera complete with lens, viewfinder, picture and waveform monitor, cable, CCU, and PSU
£50

Also a large number of spares for the above camera.

Sound and vision RX £7.00

Simple Mixer £10.00

21" monitor £10

Pye Telecine Camera £10.00

250v PSU £3.00

Zoom for Mk. 111 Camera £25.00

405 SPG £5.00

Line Clamp Amplifier £3.00

B. Summers G6AJU/T

7 Orchard Close,

Morton, Gainsborough.

Tel. Gainsborough 3940

.....

FOR SALE

Two ½" Helicon scan 625 line videotape recorders (Sony type CV2100ACE)

Both in reasonable working order.

(One has a slightly worn head-drum and although it will record and replay satisfactorily the recorded tape is not fully

compatible with other CV2100a).

Prices £120 and £90.

Prefer buyer collects

John Trenouth

9 Bank Road,

Crosshills, Keighley,

Yorkshire Tel. 0535 32110

B.A.T.C. Equipment Registry exists to help members of the Club who have equipment for disposal, or who have specific requirements. Send a list of your "wants" and "disposals" including suggested price to the address shown on page 1. During the six months for which your application is valid, the Registry will attempt to put you in touch with another member who will buy your surplus or sell you your needs.

.....

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B.A.T.C. LIBRARY

The Librarian Grant Dixon, wishes to acknowledge the gift of two books from B.A.T.C. Member B.W. Beesley. The books are published by Marconi Instruments and are

"Television Video Transmission Measurements" by L.E. Weaver.

"Television Measuring Equipment" describing Marconi instruments. These may be borrowed on payment of postage - each weighs 450 grams plus packing.

If any other members have technical books which are surplus to requirements, the B.A.T.C. Library would be glad to receive them.

Club Sales Price List

| | | | | |
|--|------------------|---------------|--------------|---------------------------|
| Camera tubes 1" P849 | English Electric | Amateur Grade | | |
| | | | <u>Price</u> | <u>Post & Packing</u> |
| Camera tubes 1" P849 | English Electric | Amateur Grade | £11.55 | nil |
| 9677 | E.M.I. | Amateur Grade | £11.00 | nil |
| 9728 | E.M.I. | Amateur Grade | £11.00 | nil |
| $\frac{3}{4}$ " 9831 | E.M.I. | Amateur Grade | £11.00 | nil |
| $\frac{1}{2}$ " Image Orthicons | E.M.I. | 9565 | £10.00 | for two buyer collects |
| Coils 1" B.A.T.C. coils | | | £ 9.00 | 48p |
| $\frac{3}{4}$ " E.M.I. coils | | | £11.00 | 48p |
| Paxolin vidicon sockets | | | .20p | 8p |
| C mount for lens | | | .50p | 10p |
| Lapel Badges | | | .40p | 8p |
| Adhesive Badges | | | .15p | 8p |
| Paper and envelopes | | | £ 1.00 | 46p |
| Reporting Charts | | | . 6p | 8p |
| EEV Camera Chart | | | £ 1.65 | 30p |
| B.A.T.C. Test card | | | .50p | 6p |
| Film strips of past CQ-TVs | | | £1.20 | 10p |
| Windscreen Stickers | | | . 6p | 8p |
| CQ-TV SPG printed circuit boards undrilled | £1.75 | Drilled £2.75 | | 8p |
| CQ-TV SPG genlock pc boards undrilled | £1.75 | drilled £2.75 | | 8p |
| Rapidly increasing postal charges have compelled us to quote the above post and packing charges. | | | | |
| Will overseas members please ask for a quotation before sending cash. Obviously for small items | | | | |
| such as lapel badges, adhesive emblems, windscreen stickers etc. one can send several items for | | | | |
| the same price as one - please try and estimate the right amount. Our thanks go to those members | | | | |
| who estimate on the high side and suggest that any balance can be put to club funds. | | | | |

Please send orders to C.G. Dixon (B.A.T.C. Club Sales)

"Kyrles Cross"

Peterstow,

Ross-on-Wye, Herefordshire.

CLUB PUBLICATIONS

This is a separate department of the Club, do not send orders for publication to Club Sales, send orders to B.A.T.C. Publications

64 Showell Lane

Penn

Wolverhampton

Staffordshire.

Slow Scan Television by B. J. Arnold G3RHI published by B.A.T.C. 2nd edition. 35p + 8p p&p

Slow Scan Television Handbook by Don Miller & Ralph Taggart £2.50 + 35p p&p (overseas post rates on request)

C Q - T V back issues are post free in U.K. Currently available Nos 66-71 & 73-92 25p each, current, (93 onwards) 50p.

Any article which has appeared in C Q - T V can be supplied in photo copy form at 5p per sheet. (One sheet will reproduce any two facing pages of the magazine.) A list of all the main articles which have appeared in C Q - T V giving details of how many sheets are required to reproduce it is also available on request. Please send a 9" x 3" s.a.e. when using this service.

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