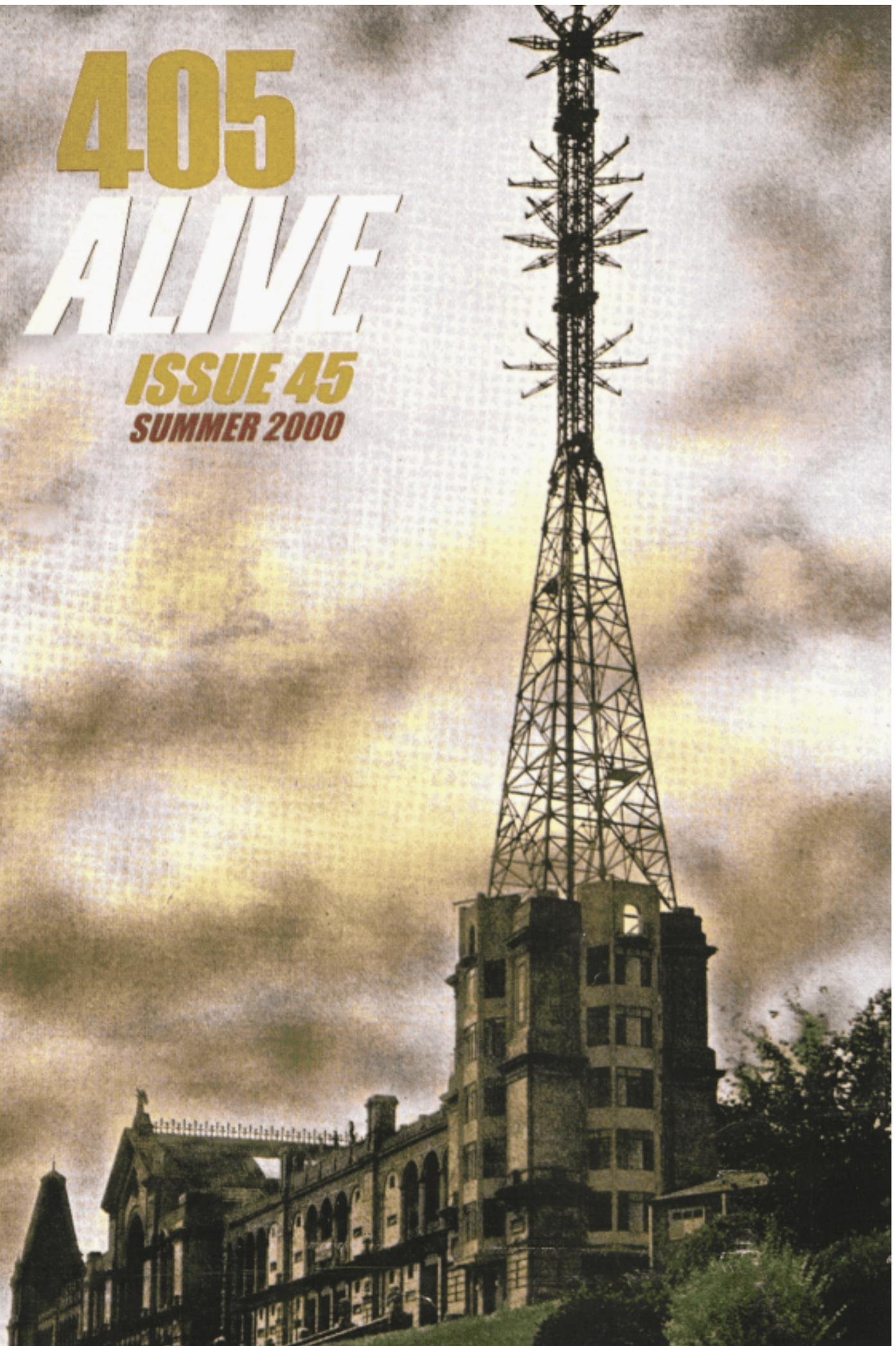


405 *ALIVE*

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SUMMER 2000



Founded 1989 by Andrew Emmerson, with title and inspiration by Bill Journeaux.

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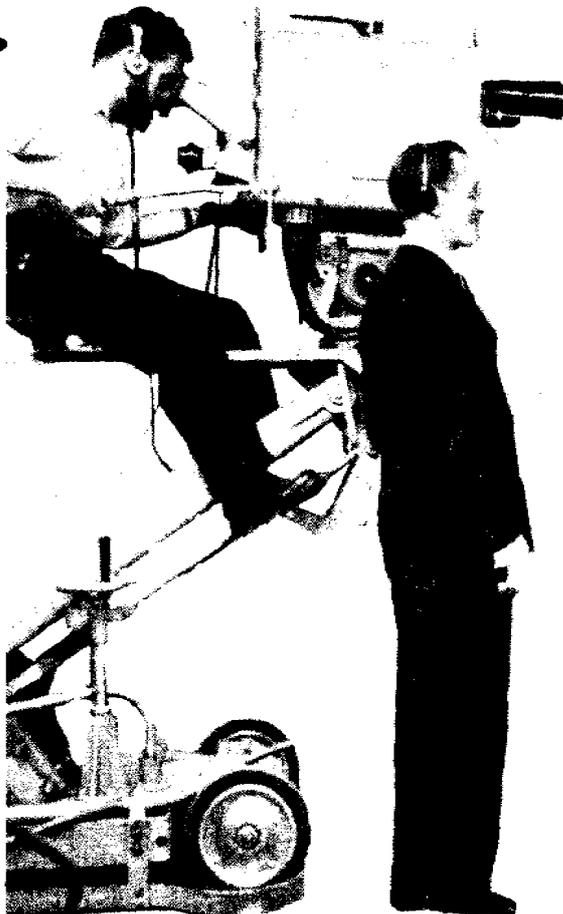
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405 Alive - Issue 45: Acknowledgements

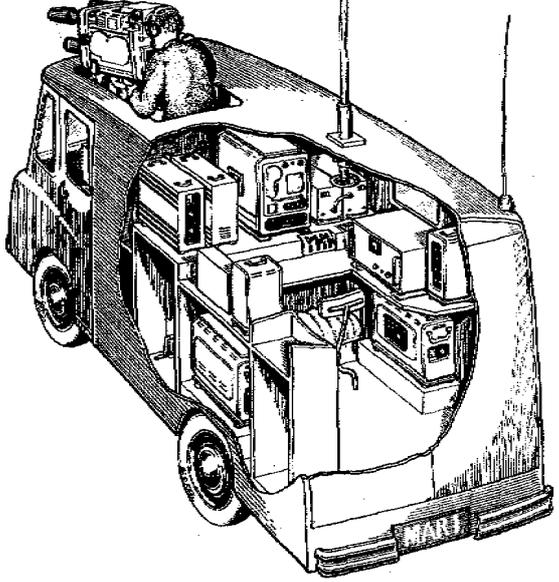
Thanks to all of the people who made this issue possible, particularly; Chas Miller for his advice and a 'made to order' article; Michael Bennet-Levy for the permission to use D.H. Munro material from his outstanding Television Collection (including some exclusive photographs); Ray Herbert for his excellent advice and the use of photographs from his own collection; Tim Jarman for his contribution on Valves; Adrian R. Hills for his definitive article and informative e-mails; Simon Vaughan for his support and ideas; Malcolm Baird for his article and kind support; Dicky Howett for the much appreciated advice, including specially drawn cartoons and interpolated articles which have added much to the magazine, and of course Andy Emmerson who started it all and had the confidence to let me loose on his creation!





Television Reporting Van Type BD 846

THE ABILITY to put a programme on the air at a moment's notice is a great advantage to any television authority. The reporting van is a fully equipped vehicle designed to pick up and transmit television programmes back to a studio centre whilst actually in motion.



405 ALIVE

EDITORIAL

Over eleven years ago the very first issue of '405 Alive' was printed. In the opening introduction Andrew Emmerson laid down what was effectively a declaration of principles:

" It is clear there is now a growing interest in old TV technology and broadcast history, without a proper outlet. To some extent the field is covered by the British Vintage Wireless Society (BVWS) and the British Amateur Television Club (BATC), and we support both these excellent organisations. However, not everyone belongs to these groups, nor can they allot a large amount of space to our specific interests. So it seemed a good idea to start a newsletter which could devote itself exclusively to these topics - your support will prove it! If 405 line television is an obsolete technique, why is there still so much interest in the subject? Difficult to say but it is clear that plenty of people get enjoyment from collecting, restoring and maintaining old TV equipment, while others find considerable interest in the history of the technology. Yet more folk are building standards converters and other equipment, using the latest technology. So this interest is far from pointless and we all need to keep in touch! "

Those words were prophetic and are entirely valid today. The early days of the magazine brought forth many subjects which had never been covered in any mainstream publication. However, the eleven years of covering a panoply of subjects has brought the spectre of increased expectations by our readership. In taking over the Editorship, I've tried to preserve the fundamental things which make the magazine so popular and meet those expectations. This hasn't been easy and its taken longer than I would have hoped. However you have in your hands the results of nearly six months planning. Let me know what you think of the new format, both likes and of course, dislikes.

I've tried to put a wide range of material in this issue. We have a few exclusives in this issue and some very rare photographs. Sadly, I am not receiving enough good, technical articles on repairing 405 line sets! This subject is a fundamental aspect of the magazine.

Andy Emmerson also mentioned in the second issue:

Lastly, people have asked me how long I think 405 Alive can be kept going. The answer is as long as you find it interesting - there is certainly enough material for two years' worth at minimum. At very worst, if things start to fizzle out after that time, we'll wind things up (but not before everyone has had all the issues they paid for). The way things look, though, I don't think this will happen! But I look to you for support ...

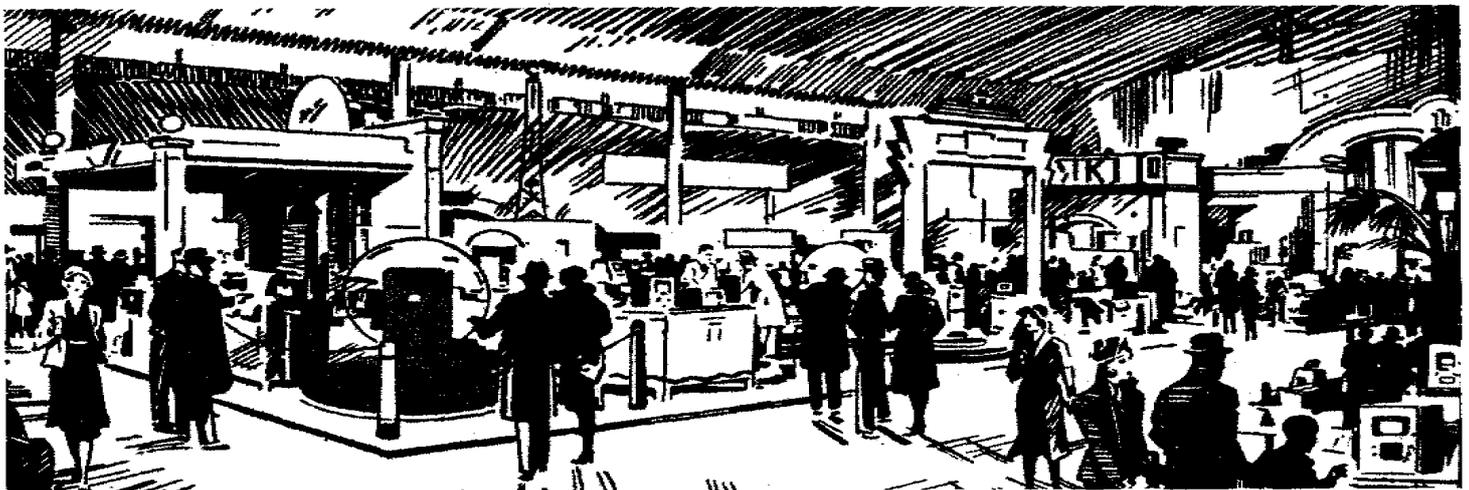
It is noticeable that good material has started to dry up (though much later than predicted!). The magazine will still be a quarterly, but to achieve this we still need your support and vitally, your articles, to contribute to what will be a continuing commitment to the story of Television.

Finally, might I pay tribute to Andy Emmerson, who started with an idea and a blank sheet of paper. From that start he has defined the whole concept of what '405 Alive' stands for. Not many will really know just how much effort he has put into the magazine. I think we all owe a debt to Andy for keeping '405 Alive' in an ever changing and supposedly sophisticated world.

Andrew Henderson.

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Pre-war Television at RadiOlympia!

With a jaundiced eye.....

Chas. E. Miller takes a look at some well-known Television receivers from an engineer's point of view.

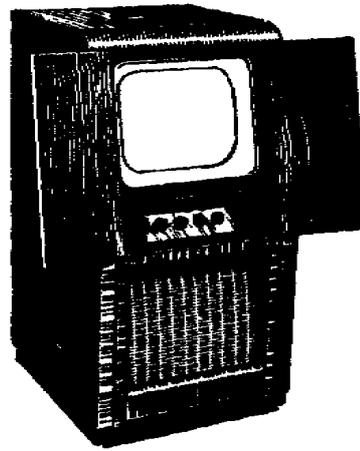
Beauty is in the eye of the beholder - may be an old saying, but it is certainly true when applied to the way in which certain vintage television receivers are seen by latter day collectors and the service engineers whose job it was to repair them in the early days of post-war television. A collector may rhapsodise about the cabinet appearance of a certain model whilst an engineer will be more likely to recall how difficult it was to withdraw the chassis for servicing and how it was heir to numerous design faults. In this series we shall look at some of those sets of the late 1940s and early 1950s through an engineer's eyes but before we get down to specifics, let's first examine them in general.

When the war ended and for some years after radio manufacture was riding high, with a huge public demand for new sets following the virtual abandonment of the domestic market from about 1940 due to the needs of the military. Television returned after a near six-year hiatus in 1945 and, although limited then to the London area, the planned expansion throughout the UK appeared to promise a rosy future for the radio firms; yet, only fifteen years later the numbers of the manufacturers had fallen to little more than a handful due to bankruptcies, mergers and take-overs, with even the survivors struggling to keep their heads above water. What went wrong? How could an apparently promising industry suffer such a devastating decline? The truth may hurt, but it has to be admitted that there were a lot of very badly designed television sets on the market in those fifteen years and it also has to be allowed that their makers demonstrated all too graphically the claim that "the only thing we learn from history is that we learn nothing from history."

Let's glance at the development of mains radio receivers from about 1930, when commercially manufactured sets first began to take precedence over the home-made article. Initially and for some years it was believed that elaborate HT smoothing and decoupling circuitry was needed to prevent inter-action between the various sections of a set, leading to some very complicated power-supply stages. Eventually it was found that sets would perform quite happily with extremely simple HT supplies having a minimum of components - say a pair of smoothing condensers and a single choke, and this was the norm by 1939. Along the way set designers had learned how to make chassis that might be removed easily for major servicing and which might be viewed via "trap doors" in the bottoms or sides of cabinets for minor repairs. Cabinet backs, too, had been simplified so that instead of being held in position by many fiddling screws which could all too easily be mislaid, they now had only a few "captive" screws. Sockets for aerial and earth connec-

*To those about
to buy Television
the obvious choice is*

"HMV"



HMV Television is designed and built by the EMI organisation, the pioneers of Electronic Television.

HMV Television sets are all equipped with aluminised tubes giving daylight viewing.

HMV Television sets are in themselves beautiful pieces of furniture.

HMV have a reputation of fifty years for high quality and reliability.



The Hallmark of Quality

Your "HMV" Dealer

tions had been virtually standardised to take conventional wander plugs. During the war the need for military radio sets that were as easy as possible to service chassis fixings and cover attachments were simplified even further to the point where sets might be taken apart by half-turning of a few "coin-slot" screws.

It might be imagined that all this accumulated experience would be employed when the radio manufacturers turned to making television receivers. Not a bit of it: back they went to make all the same mistakes over again. The power supply sections were ridiculously over-complicated with the same old elaborate decoupling arrangements; a dozen or more screws had to be removed to gain access to a chassis, which then required the removal of numerous large bolts before it could be taken out of the cabinet. As for aerial connections, every firm seemed to have its own idea on the subject, making a nightmare for aerial installer. There wasn't even an agreement on what

sort of cable to use from aerial to set, the choice lying between the conventional co-axial type, balanced twin, unbalanced twin, screened unbalanced twin, screened balanced twin...As for the connection to the set, it might consist of a small two-pin plug borrowed from mains adjustment panels (EMI), a clamp and screw (Bush), a two-pin LT battery plug (Vigor), a pair of brass pins similar to those of a 5A plug (Pye), a large tin box with two small pins and an earthing strip (Philips) or maybe even a true co-ax plug (Regentone). Turning to the general circuitry of these sets, in nearly all it was distinguished by pointless complication which aided reception and picture quality but little whilst increasing the chances of unreliability. Of all the manufacturers, even those having excellent names in radio, hardly any appeared capable of producing television sets of unqualified excellence, even EMI which had, after all, developed 405-line TV in collaboration with Marconi's Wireless Telegraph Co. Thereby hangs a curious example of history repeating itself.

The Rise and Fall of EMI.

MWT had developed radio broadcasting in the UK, having operated the first regular service from its Chelmsford works from 1920 and thereafter having been closely associated with the building up of the BBC's network of transmitters. Despite all this, Marconi could not, apparently build its own successful radio receivers and depended on badge-engineered sets bought from outside suppliers, notably Sterling Telegraph and Plessey. Even so, the exercise was far from profitable, to the stage where at one time the mounting debt owed to Plessey prompted Marconi to take over the firm. Things staggered on, going from bad to worse until the late 1920s, when RCA, owner of HMV, nee the Gramophone Company, brokered a deal in which the latter merged with the Columbia Graphophone Co. to become Electric and Musical Industries and to take over all domestic receiver production from MWT. In order to preserve the invaluable Marconi name for its own use, EMI created Marconiphone Ltd; MWT itself was barred by agreement from the domestic market for 25 years. Within ten years EMI had become the most prolific manufacturers of radio sets in the UK, on the way earning the respect of service engineers by their excellence in both electrical

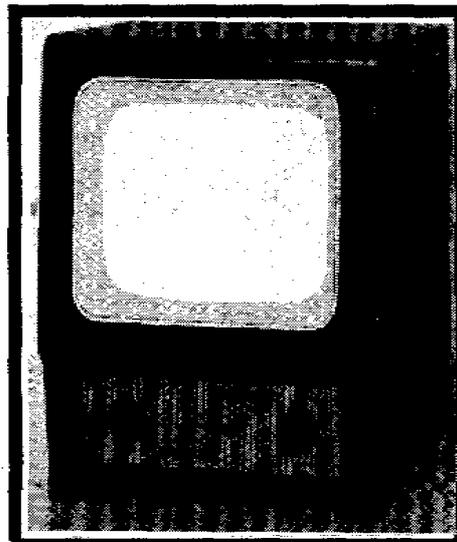
and mechanical design, and had produced the technically brilliant 405-line TV system.

With all this achievement behind it, who would have guessed that EMI proved unable to make successful TV receivers? The fact is that the same fate that overtook MWT was waiting to fall on EMI, even to the extent of Plessey having to be called in to help it through some extreme difficulties.

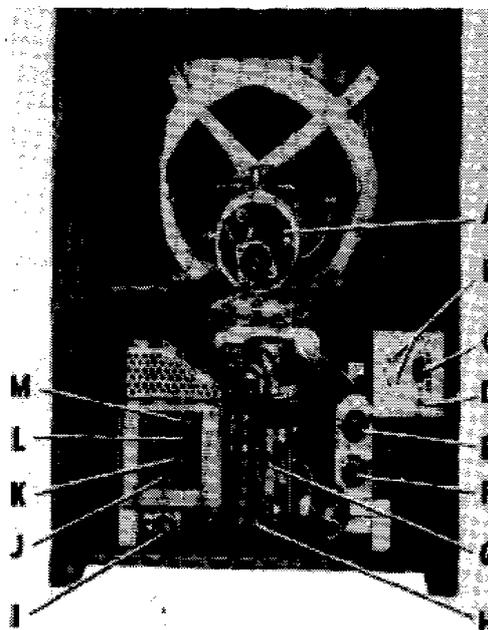
How could this be? When regular TV transmissions started in 1936, EMI had, of course, the built-in advantage of having been able to develop its receivers in parallel with the transmitters, and its early offering did indeed demonstrate all the quality of design and construction that had made its radio sets pre-eminent. With the resumption of TV after the war EMI produced a large "luxury" TV receiver in keeping with its image in the radio-gramophone field. It had a massive cabinet to house its narrow-deflection 15-inch c.r.t. and separate vision/sound and timebase/power

supply chassis, the latter being "built like a battleship" in the classic EMI manner and occupying some three square feet of space on the floor of the cabinet.

At over £150 it obviously had only limited appeal and EMI must have come to a hasty decision that it had to build cheap sets for the masses if its TV business were to prosper. Indeed, haste alone could have been the reason, or excuse, for the firm to embark on a series of small-screen models, that were, to put it gently, technically inept. The first to appear were the HMV 1803 and its alter ego the Marconiphone VT50A. Released in 1948, they used circuitry more appropriate to 1938 and employed a total of 19 valves. They used superhet receiver sections, the vision IF being 8mcs - good for gain but difficult as regards obtaining good bandwidth. Three stages of vision IF amplifiers (Z66s), all resistance-capacity coupled, followed, the first two being common to vision and sound, the third handling only the vision. Its output was fed to a single thermionic diode detector which was followed by yet another Z66 operating as video amplifier, which supplied cathode modulation to the c.r.t.(Emiscope 3/4). The video signal was also fed to the grid of the sync. separator (KTZ63) which fed pulses to the line and



The twelve inch version of the HMV 1807, which was electrically identical and had a very similar cabinet.



A—Picture shift adjustment. B—Signal Attenuator. C—Aerial. D—Earth Socket. E—Picture Interference Limiter. F—Contrast. G—Mains Voltage Adjustment Panel. H—Vertical Form. I—Focus. J—Height. K—Vertical Hold. L—Width. M—Horizontal Hold.

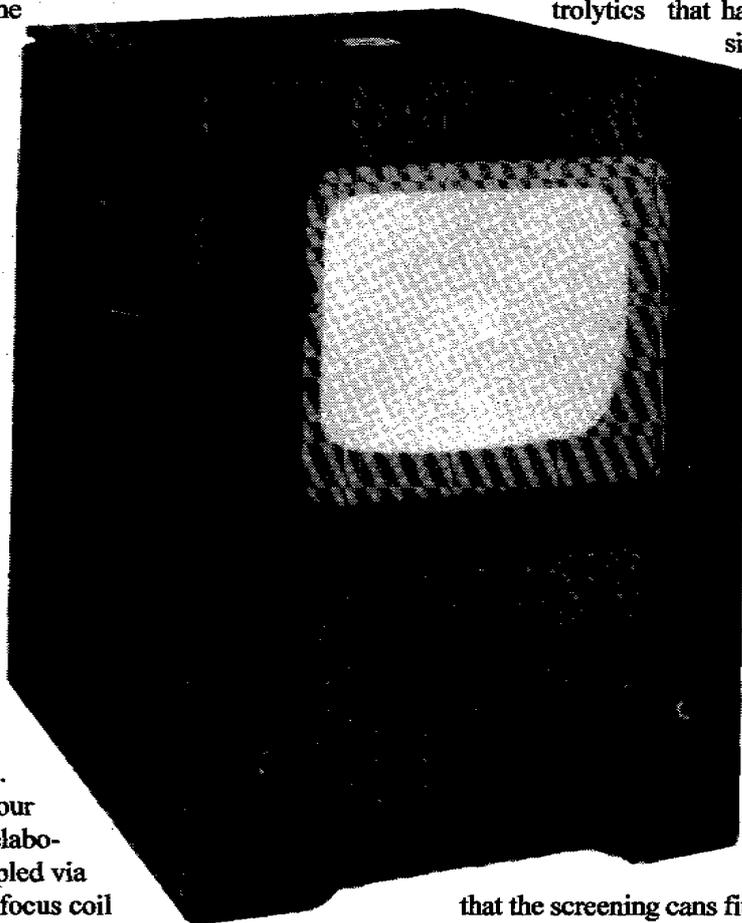
The rear view of the HMV 1807, showing preset controls. J, K, L, M are troublesome slider types.

frame oscillators, in the case of the latter via a diode (half of a D63, the other half being unused) acting as an interlace filter. Both time bases used essentially similar blocking oscillators (more KTZ63s) with the transformers working in the grid / screen grid circuits and with the outputs being taken from the anodes of the valves. The hold controls were simply variable resistors in the grid to chassis circuit of each valve whilst height and width controls were potentiometers feeding HT to the respective anodes. The frame output valve was a KT61 and the line output was a KT44. Sound signals were tapped off from the anode of the second vision/sound IF amplifier and were fed to a single sound IF amplifier (KTW61). Choke-capacity coupling was used to the double-diode detector cum interference limiter, a D63. This was followed by a DH63 double-diode-triode with only the latter section used, operating as AF amplifier and driving, via a high-level volume control, a KT61 output pentode. The power supply stage was a pure 1930s piece of work, with two mains transformers (one of them delivering, inter alia, 4KV for the c.r.t. anode, no fewer than four distinct HT lines, each elaborately smoothed and decoupled via three LF chokes and the focus coil for the c.r.t. and a welter of different heater supplies of 2V, 4V and 6.3V.

As a result of all this the chassis was packed tight with components and valves, many of them generating considerable heat and likely to cause problems. The circuit diagram was so complex that one might have thought at least one design engineer would have looked at it and suggested that there was far too much to go wrong, but it was allowed to go into production, maybe because everyone was fed up with the thing and wanted it out of the laboratory. In the event, the predictable happened and complaints started to come in, as a result of which a prodigious number of modifications poured from the designers. Initially many of them concerned changed component values, with the inference being in some cases that various values were tried out until a reasonably satisfactory performance was achieved.

This *modus operandi* was particularly in evidence with respect to the brightness control circuitry, in which four separate resistors were changed in value to others so odd

that EMI suggested the use of series or parallel connection to make them up. Then there was the occurrence of vertical white bands on the picture, traced to spurious oscillation in the line time base output valve. A very much *ad-hoc* solution was suggested; if a certain resistor was present, you removed it, or if it weren't fitted you wired it in, and maybe added a couple of others for good measure. A weird effect whereby operation of the contrast control caused the screen to jump too full brightness, to the accompaniment of a loud "plop" in the 'speaker, was, almost unbelievably due to poor decoupling in the IF amplifier stages; despite all the electrolytics that had been thrown at the HT line, a simple 0.1mfd RF bypass had been omitted.



Potentially the most awkward modification was that concerning the mains transformer which delivered the EHT, which was sometimes guilty of causing hum bars on the picture. The only cure was to replace it, and even then the mains primary winding had to be connected up in alternative ways to minimise hum. Whilst in this area we might mention that early examples of the sets had a means of switching off the c.r.t and time bases to enable owners to listen to "sound-only" broadcasts. Something must have gone seriously wrong with this device because dealers were advised to chop it out unless the customer expressly forbade this. Then it was found

that the screening cans fitted to certain valves were causing the latter to overheat so special half-size types with blacked interiors had to be rushed out. On top of all this dealers were warned that changing a faulty valve was not just a matter of taking a new one from a box and sticking it in; so critical were the operating conditions (and, presumably so lax the valve makers' quality control, that it was necessary to try a number and to choose that which gave the best results! Inevitably, the 1803 / VT50A had a short and miserable life. One might well have expected any replacement to be an improvement but against all odds EMI came up with something even worse, the 1807 / VT53DA, a set so disastrous in concept and execution that it causes one to wonder if someone in Hayes had shot down an albatross over the works.

These sets had an external family resemblance to their forbears but inside was a completely re-designed (thrown together?) chassis employing fourteen valves and a metal rectifier for the HT supply. M-OV had introduced a new miniature RF pentode, the Z77, which enabled a very considerable saving in space to be made in the vision and

Above: HMV Model 1804. It measured 21 3/8 ins high by 15 3/4 ins wide by 18 1/4 ins deep and weighed 83lbs.

sound receiver section, whilst non-lethal flyback EHT had been adopted along with AC/DC circuitry, thus eliminating the need for large mains transformers. Glory be, the HT supply had been pared down to just one smoothing device (the loudspeaker field winding) and a couple of large value electrolytics, and someone had remembered to put in an RF bypass condenser as well. That was the good news: now for the bad. Inexplicably, just as television was due to spread across the country, requiring receivers to be tunable over five channels, EMI opted for a TRF rather than a superhet, which was a bad start. The detector stage of the vision amplifier employed a new miniature double-diode, the D77, which also functioned as "vision interference limiter". This latter had a variable control and was supposed to be adjustable to remove the effects of motor car ignition interference. As a tribute to its non-effectiveness, it speedily gained amongst service engineers the alternative title of "picture ruining control". The was an interference limited in the sound detector stage as well, which employed a single diode. Since M-OV didn't make such a device, EA50s had to be bought in from Mullard. MO-V did, however, make a perfectly good miniature output pentode known as the N37, but to its everlasting shame EMI, which had gained a reputation second to none for high-quality sound reproduction, decided to use instead another of the Z77 RF pentodes in the sound output stage. *Sic transit gloria...*

Another Z77 acted as sync. separator, now shorn of fancy interlace filters and coupled directly to the anodes of the line and frame oscillator triodes, the twin sections of a B63, which was a fair copy of the American 12SN7GT. The frame output valve was an old warrior, the KT33C beam tetrode, whilst the line output stage employed a new beam tetrode, the KT36, plus another veteran, the U31 half-wave rectifier playing a new role as "efficiency diode". This device probably originated in the workshops of EMI's parent, RCA, and was connected between the primary and secondary windings of the line output transformer in such a way that some of the energy generated was rectified to produce an extra 50V to be added to the normal HT to feed the anode of the KT36. This was a genuinely useful feature which speedily was adopted by most television manufacturers.

However, it was off-set by a thoroughly nasty method of focussing the c.r.t. which employed a permanent magnet plus a control to enable the fly-back period of the line output valve to be varied and with it the EHT voltage. Service engineers could only look on helplessly and ask "why?", since all too often the EHT giving a focussed picture also gave an extremely dim one, which had somehow to be explained to dissatisfied customers. Another recurring public relations disaster concerned the frame hold, line hold, height and width controls. These consisted of horizontally mounted resistors with slider adjustments which, due to the inherent instability of the frame and line time bases, needed frequent adjustment. This in turn caused the resistance elements to fail one after another until the service engineer became so fed up with the process that he substituted a quartet of small rotary pre-set controls. Apart from this "unauthorised" modification, others, even more in number than with the 1803 / VT50A poured out from the EMI workshops, giving the inescapable impression that the firm was making it up as it went along. The most involved change again suggests to the cynic that someone in

another branch of EMI happened to remark that the firm was actively engaged in equipping a new television station in Birmingham, and what were the receivers designers proposing to do about the expected demand for sets?

What they did, in fact, was what they should have done from the start and fit a superhet vision and sound receiver in place of the obsolete-from-the-start TRF. Naturally an element of farce had to be incorporated, in the use of an X78 triode-hexode as frequency-changer. Whilst this miniature type might work perfectly well in medium / long wave applications it patently was unsuited to operation at around 60mcs, which it demonstrated by a predilection for an alarming degree of frequency drift. EMI also chose to adopt the new industry standard TV IFs of 34mcs vision and 37.5mcs sound, which entailed the complete redesigning of the two receiver stages. Any service engineer who had to deal with the result will recall with a shudder that perpetual fight against "vision on sound" and "sound on vision" that might have him visiting a customer's house with a kit of trimming tools on a regular weekly basis. As if this weren't enough, some customers, maddened by buzzing on sound or bars on the picture used to have a go at the trimmers for themselves, making the engineer's job even harder.

In some cases we took to sealing the adjustments with quick-drying paint before we left the premises, but even this did not deter the dedicated twiddlers. It's no coincidence that the very first TV set I bought second-hand from a customer was an 1807 / VT53A. Why would I do such a mad thing, you may ask, and I plead ignorance. At the time these sets were so new that I had not yet had much experience of them, and thus when one was offered to me for about a fifth of the original price I jumped at it. I should have jumped on it. In the next year or two scrap 1807 / VT53As began to pile up behind the benches in my workshop, with no prospect in view of their ever being of the slightest use to man or beast. However, eventually their day came. I was offered by a local coach operator about twenty redundant HMV model 100 car radio sets, one of the best ever made by EMI. These sets came with extras, such as PA facilities for drive commentaries and special high-power push-pull output stages - but none had its original internal loudspeaker. This was because the coaches had been fitted with special 'speakers incorporated in the inner bodywork, thus making the internal types unnecessary. This could have been a great problem because they were of a special square chassis design made especially to fit in the limited space available. In fact, the 'speakers in the old EMI TV sets were of exactly the same size and shape, the only difference being that instead of being permanent magnet types, they had field coils used for smoothing the HT. However, they had a low DC resistance (50W) and a high current rating (250mA) so they worked perfectly when wired directly across the car 12V supply. If you keep anything for long enough it will come in useful...

Television Comes to Radiolympia

Part One

If you had picked up a copy of 'The Radio Times' in the summer of 1936 you may have been surprised by the following entry:

LONDON TELEVISION STATION, ALEXANDRA PALACE. - EXPERIMENTAL, TRANSMISSIONS. - Vision (6.67 Metres 45 Mc/s). Sound (7.23 Metres 41.5 Mc/s). Noon-1.30 p.m. approx.; 4.30-6 p.m. approx - Test transmissions by the Baird System.

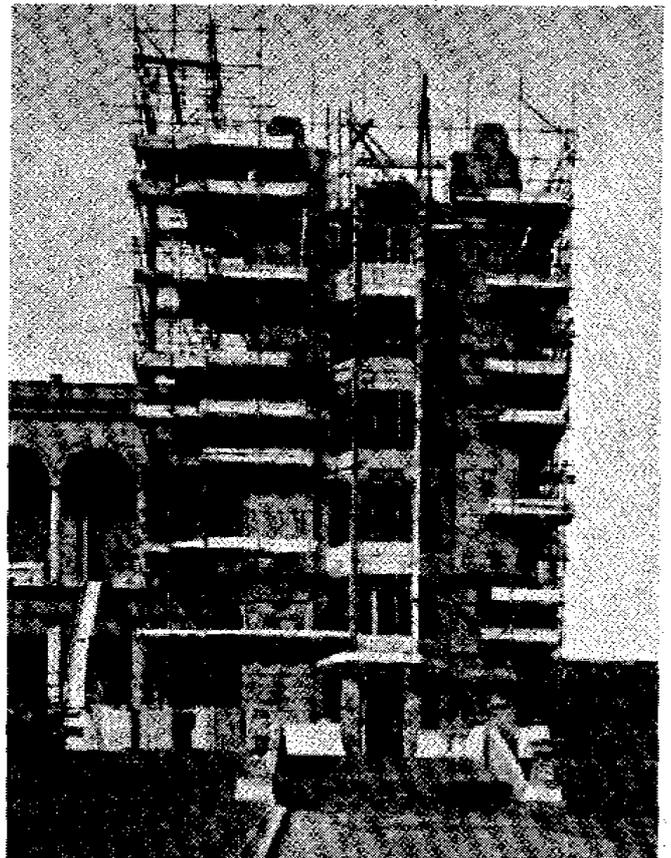
The summer of 36.

In that summer, few commuters travelling to London through Kings Cross Station could have failed to notice the stark transmitter mast which now adorned the nearest side of Alexandra Palace. This steel structure rose 300ft into the sky. A base made from 17 tons of concrete with 50 foot grappling rods at each quadrant. It had climbed into the sky until reaching its pinnacle only days before the end of August. At its peak the mast reached 606 feet above sea level. The distinctive arrangement of the alternate vision and sound aerials created a new symbol, the physical identity of the BBC high definition Television Service. Vision radiated at 45 million vibrations/sec and sound at 49 million vibrations/sec. It was estimated that a 25-mile radius could be covered (using 17 kilowatts); in practice this estimate was grossly wrong and reception could be easily achieved at double the original estimated distance. Freak reception was also possible in places such as Birmingham (90 miles) and Bournemouth (96 miles). This was in part due to the misconception that London is essentially flat in terrain. In fact, the city is spread over a series of rolling hills. Peaks and troughs created obstacles and pathways for the new Television signals.

The planned opening for the new service was November, but an enthusiastic, co-operative decision between the BBC and the R.M.A. (Radio Manufacturers Association) was made to provide twice-daily Television transmissions to the Radio Show at Olympia. This would mean twenty complete programmes transmitted over ten days. The R.M.A. was not as keen on the idea than the B.B.C. However with stand allocation not filled, this was an ideal opportunity to generate private and public interest in the exhibition.

The reasons for the apathy and lack of enthusi-

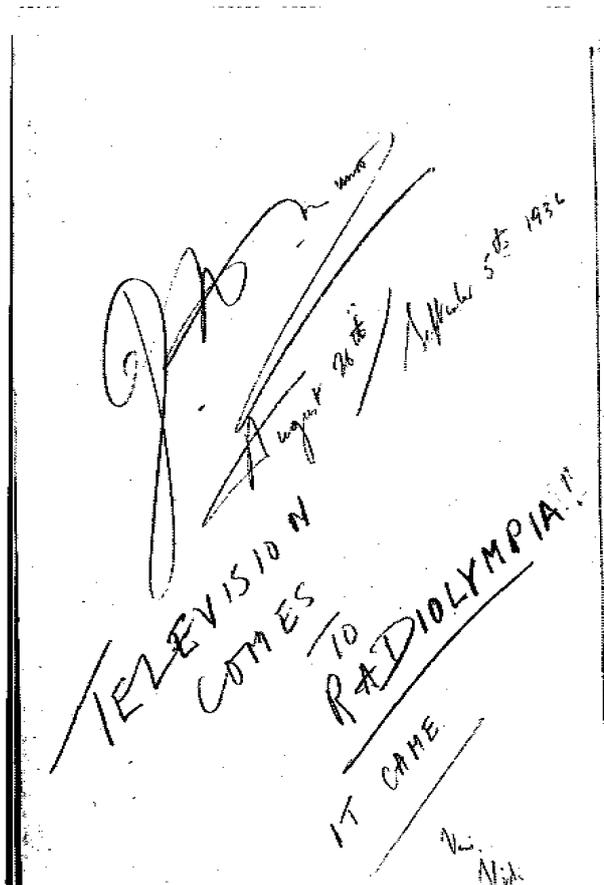
asm from the R.M.A. were deep and widespread. By 1936, sound broadcasting in Britain had ceased to be a novelty and had, in fact become a vital and integral part of daily life for millions of 'listeners'. A radio was now seen as an essential item of household furniture for



Still under construction; Alexandra Palace takes on a new look.

afford a 'wireless'. Unfortunately, this also meant that sales of radios had reached a temporary plateau level. BBC sound broadcasting was a service, which now radiated to virtually the whole of the British Isles. Television had become an unwelcome spectre, hard for the BBC to ignore as it developed to maturity. There was much debate in the popular tabloid press that it would eventually become a threat to sound broadcasting, and yet, here was the irony that it would be used to attract business and commerce for the Radio industry.

The reality of an impending problems with the 1936 Radiolympia exhibition only hit hard in the fortnight before the show would open. With a combination of intuition and daring, Gerald Cock, the newly appointed 'Director Of Television' agreed to provide twice daily Television Broadcasts to the Radio show. A Television



Opening page of D.H. Munro's 1936 Scrapbook.

staff meeting duly convened on the Council Chamber at Broadcasting House to be told that they had around nine days to prepare for these experimental broadcasts. Many of them would be working fifteen-hour days to achieve the target.

This was complicated by the need to embrace two systems, which were controlled by rival companies - Baird and Marconi-EMI. Both had been chosen to compete for what effectively was a trial period. At the end of that period (somewhat loosely specified) one system would remain in use.

To the general public, Baird was the name, which always equated with British Television. Marconi-EMI was relatively unknown. Part of the reason for this was that EMI weren't keen on promoting their technical achievements publicly. Whilst Baird was almost constantly promoting new and varied activities, EMI were conservative in nature. They were also newer players in the Television game. After a brief exercise in mechanical scanning, they had methodically developed an almost completely electronic system. Baird was still adopting a multi-faceted approach to Television using different methods of scanning for different environments. The ultimate result would be that the BBC would choose the well-bred exacting pedigree of EMI and rejecting the menagerie approach of Baird. In the summer of 1936, all this was still very much in the future.

A test broadcast had already been made on 12th August, but this was a primitive test card and music presentation compared with the expected sophistication required for the Radio Show. The target day was Wednes-

day 26th August. In just ten days, a methodical control plan was developed to harness the use of the 55,000 square feet of Palace floor space leased to the BBC. Although the centre of attention would be the actual programmes themselves, the ultimate production of live Television would depend on a strictly scheduled and planned approach to all aspects of the station. Communication was essential and this mostly took the form of memos. In reading these today, we gain insight into the minutiae that these Television pioneers had to grapple with. One of these problems, for example, which was thought of paramount importance, was the provision for service breakdowns. Such occurrences were thought to be inevitable and had to be covered by a contingency plan. Very close to the target date (24th August) a confidential memo from Donald Munro describes these 'stand-by' arrangements for the Baird system (this in reply to an earlier memo on the subject from Gerald Cock);

'If the spotlight studio is functioning then Mr Lewis will broadcast his breakdown announcements from a microphone in the I.F. Studio, or vice versa'



The 240 line Intermediate Film equipment being tested at Crystal Palace (Feb 1936).

'Mr Lewis' was Cecil Lewis the first Producer of Outside Broadcasts. The I.F. was an abbreviation of the Baird 'Intermediate Film' process.

The memo goes on;

'This arrangement has been agreed by Baird's and is perfectly satisfactory from the production angle, as in either case - I.F. or Spotlight - there is direct communication with the Baird main control room. The Baird Generators running on the balcony would seriously interfere with any sound microphone there'

This memo clearly illustrates just one of the myriad problems, which were overcome in the Production process. The previous day (23rd August), the general press were invited to visit Alexandra Palace and review the preparations (the 'Daily Telegraph' correspondent clearly equally impressed by the array of alcoholic drinks avail-

The article continues to describe;

'Then two hours after the demonstration we saw real Television. We saw a close-up, with the sheen of a woman's hair almost as clearly reflected as in photography. We saw a man in shirtsleeves in a studio with a clarity, which no previous demonstration had suggested, would be possible'

The final word is a glimpse of a standard feature of the forthcoming transmissions;

'Most impressive of all, we saw the daylight scenes shot from the balcony of Alexandra Palace in the failing light of 7.45pm on a late august evening'



The Three Admirals group together in front of the first camera to have a viewfinder (designed by Mark Savage)

able from the normal style of prohibition expected from the B.B.C). On the 25th, the press (some 70 in number) were invited to view a trial run at Radiolympia. None of the press attendees knew that the Baird spotlight scanner had only been installed on the previous day. It was on the Morning of the 26th (the official opening) that a review appeared in 'The Morning Post';

'The connection of eight viewing booths necessitated amplification. The transformer required refused to work. The result, half an hour later, was the appearance of a newsreel showing recent happenings in Spain, but liberally bespattered with dancing spots of light'

Of the two competing systems, Marconi-EMI and Baird, Baird's system had won (at the toss of a Sovereign) the chance to be the system used on the first broadcast to Radiolympia. The Baird system was more difficult to control in both the Production and technical aspects. The reason for this was that the Baird system was made up of four distinct methods of producing Television (Intermediate Film, Telecine, Spotlight studio and Electron Camera). This multiplied the chances of problems occurring on both sides of the camera. Ultimately it would be the two film based methods which would be most used by Baird's staff. This was mostly due to the limitations of the Spotlight studio and technical difficulties with the Electron Camera. Whilst the Telecine was reasonably easy to control, this was not the case with the Intermediate film process.

To give some idea of the timings necessary to achieve a fluid performance using Intermediate film the official records (in fact for 2nd November 1936) show how these were planned and how unreliable the system was;

14,45,00 1000 c/s Tone to Sound transmission
14,45,00 Caption Loop to vision transmitter
15,00,00 Tone and caption loop off, over to Spotlight studio
15,00,06 Opening annct. Spotlight, Leslie Mitchell
15,02,02 Off Spotlight studio, over to L.F.

only eight minutes later the record reads;

15,10,03 Verticle(sic) light line, at 1/3rd. of picture, due to bubble in I.F. scanning gate

then;

15,13,35 Line cleared, picture O.K.

However only seventeen minutes later;

15,31,00 Verticle(sic) light line - air bubble I.F. scanning gate

Only fifteen seconds later the transmission moved back to the Spotlight Studio. Marconi-EMI had their share of problems too. The telecine installed created pictures, which were markedly inferior to Baird's flying spot telecine. Although Baird could only 'cut' by changing lenses or switching between systems, Marconi had an eight-second electronic 'lag' when mixing between two cameras. This was improved to between one and two seconds, however the 'cut' was only achieved after the Second World War. The Emitron cameras were prone to picture distortions, which included shading and 'bending' of straight lines. They were also red sensitive and could make outdoors scenes look unnatural with dark foliage and skies which looked overcast. There was also a tendency for the picture to smear when the camera was panned or tilted quickly. The demonstrations from Radiolympia would be the testing ground as to how these technical difficulties would or could be overcome.

On the programme side, a great deal of thought and much last minute work had produced a basic twice daily broadcast consisting of a live variety show 'Here's Looking At You' and some pre-shot films. The variety component featured the Chilean dancers Chilton and Thomas (whose quick moving act culminating in a leap was initially spoiled by the slow camera mixing of the Marconi-EMI system), 'The Three Admirals' who were a male close harmony trio recruited from the then current London production of Cole Porter's *'Anything Goes'* (notably, the title song of that show features the line 'Times have changed...') and the rather less subtle efforts of Miss Lutie with 'Pogo' the 'Wonder Horse' (in reality two men in a pantomime style white horse costume). Total budget for the live artists was £300.

The film sequences were represented by the premiere of the now thought lost short *'Cover To Cover'* directed by Paul Rotha. This short film illustrated the production of a book. Added comments from such luminaries as Julian Huxley and T.S. Eliot added class.



An original off-screen photo from Radiolympia of the title of 'Cover To Cover', the now lost Rotha film documentary.

Surprisingly, clips from then current Hollywood films were included too. London Films (Alexander Korda) provided a preview clip of *'Rembrandt'* with Charles Laughton. Universal Pictures provided Paul Robeson singing "*Ol' Man River*" from their recent 1936 James Whale re-make of *'Showboat'*. Even sport was not neglected. Film footage of the 29/08/36 Arsenal/Everton match at Highbury was shown.

That basic format was fixed, but over those ten experimental days, the announcements would vary and the final day would bring something new -the first real outside broadcast.

At Radiolympia a viewing area had been prepared with eight booths which featured which contained initially eight and ultimately in total twenty sets, provided by eight different manufacturers. These were GEC (with a set containing a 12 inch electrostatic deflected tube), Ferranti (tube details unknown), Phillips (set with a 11 inch Electrostatic tube), Cossor/Ediswan (set with a 13 1/2 inch Electrostatic tube), Pye (a 12 inch combination Electrostatic and magnetic tube), Scophony (projection receiver with a 16 X 12 inch picture), Baird (a 15 inch magnetically deflected tube and in fact manufactured by Bush) and EMI (with a 12 inch magnetic tube). A general check was made at all viewing sessions to ensure that a standard of picture quality was maintained. Those sets which were



proving 'difficult' and therefore below standard were removed. A supplementary area in the 'foyer' was also arranged with tiered seats facing sets. Each set had been disguised with curtains so that the Public (and press) would be prevented from getting a chance to compare and conclude which manufacturer's sets gave the best performance. Technically these sets were on show to induce the public to buy. To do so, they could expect to pay from £85 to £105. In the case of HMV, this price included an aerial, free installation and a 12-month parts replacement guarantee. The 12 months only applied to the cathode ray tube. Ordinary valves had a standard 3-month guarantee. The price did come down gradually and HMV marketed a set for 1940 sales (the 1800) which was priced at 31 guineas. This would probably been a breakthrough in public acceptance of the medium. The Second World War, of course, shattered any prospect of this.

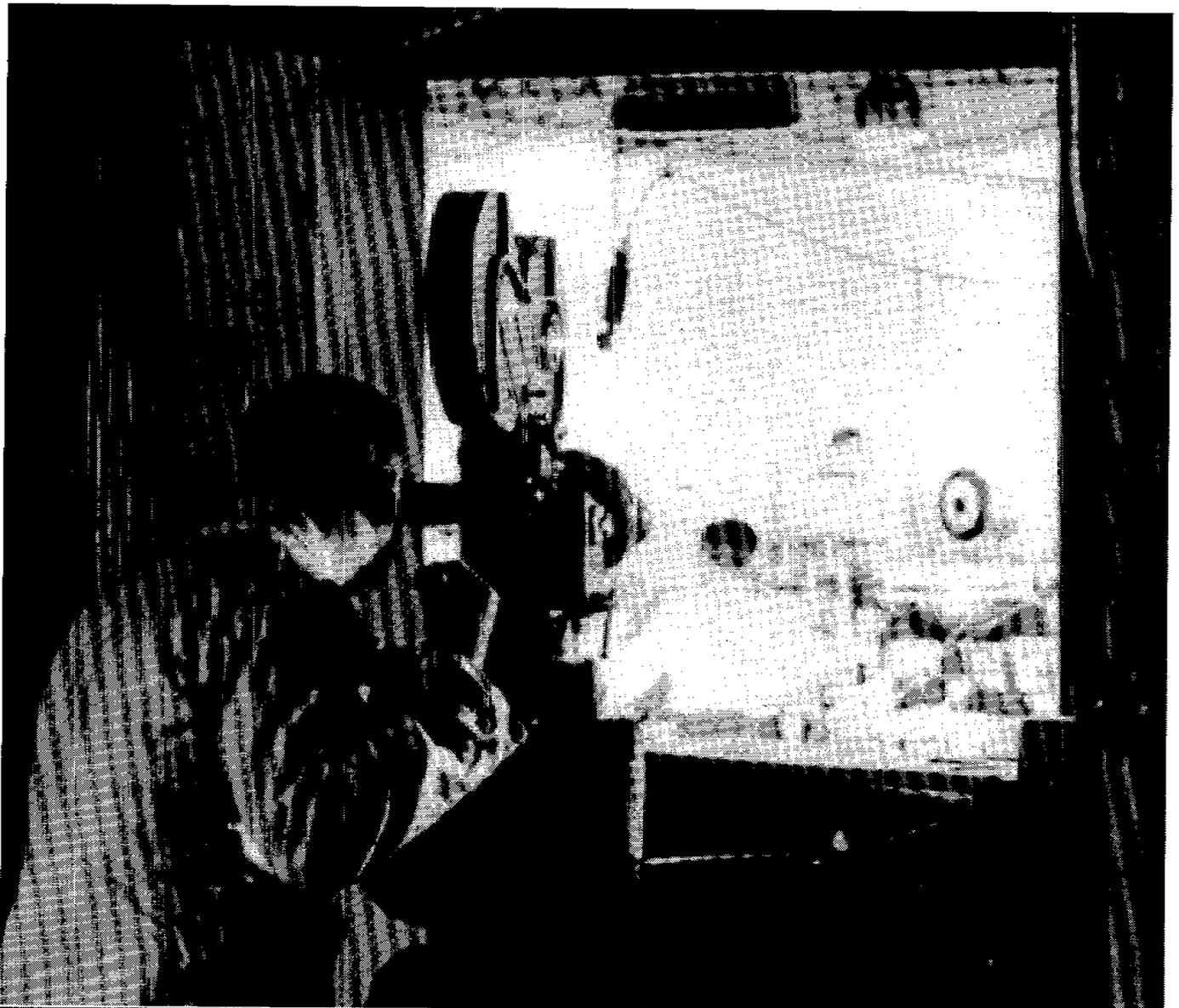
During the ten days, which followed an average of 6150 people, passed through the viewing booths in each 90-minute programme. This meant that by the end of the radio show. Over 123,000 visitors had sampled high definition Television. Queues formed for up to an hour

before each performance. Even when admitted to the blacked out area, the public was encouraged to keep moving through continuously. In addition to this discomfort the sets were kept fixed at up to 12 ft away.

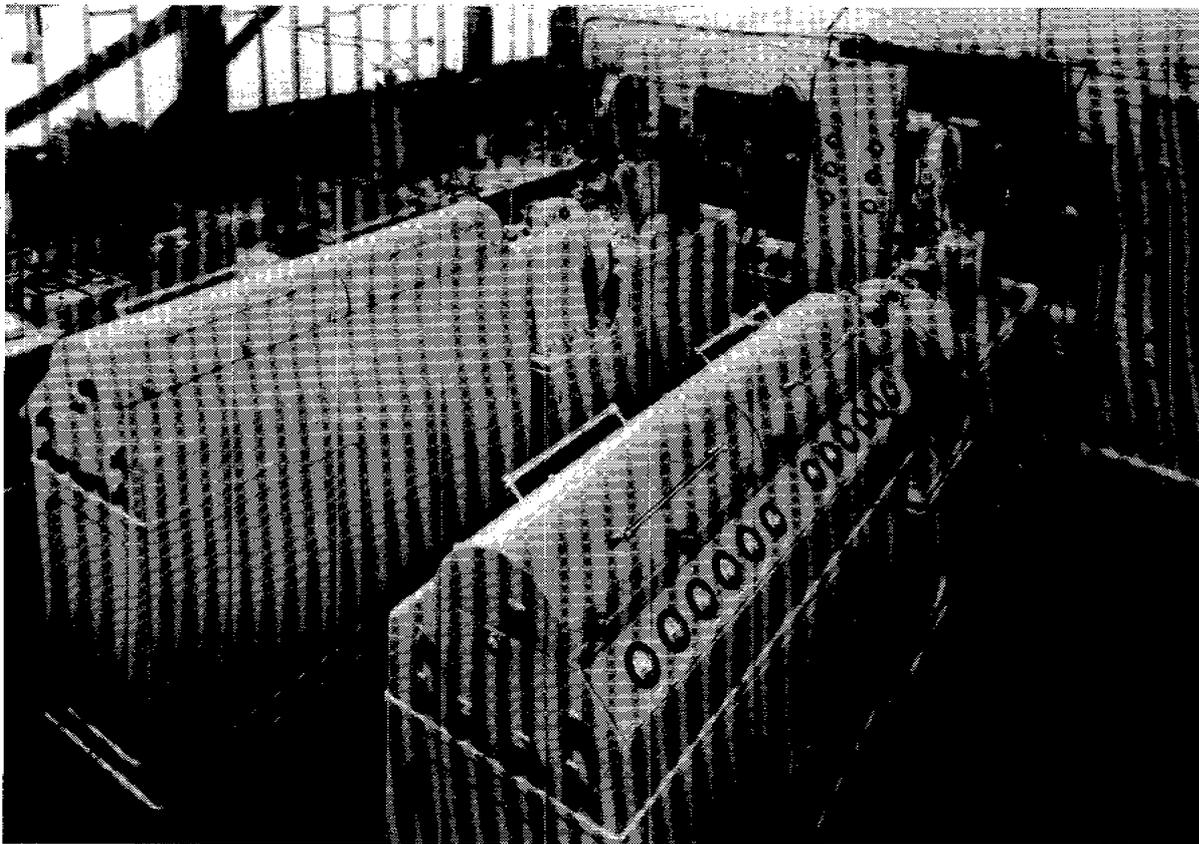
In addition to these, even more saw the programmes courtesy of the Southern Railway. A waiting room at Waterloo Station was converted into a Television theatre and any passenger with a train ticket could watch the Radiolympia shows before catching their train.

On the actual day of the 26th, the trio of original announcers had been reduced to Leslie Mitchell. Both the female announcers were indisposed (Jasmine Bligh recovering from appendicitis and Elizabeth Cowell from a throat infection). Leslie Mitchell even managed to throw comment live 'on air' about the absence of his colleagues in the days, which followed. All three had been chosen after rigorous tests.

During the long twelve to fifteen hour shifts preceding the Radiolympia show, there was a forth-physical presence for the cameras to focus on. This was the stationary shape of a shop window dummy known as 'Television Tilly'. She was inert, patient and showed none of the heated after effects her human counterparts displayed following a period under the hot lights. The costume allocation was simple. The women wore white.



The Baird Intermediate Film camera as set up in the film studio at Alexandra Palace.



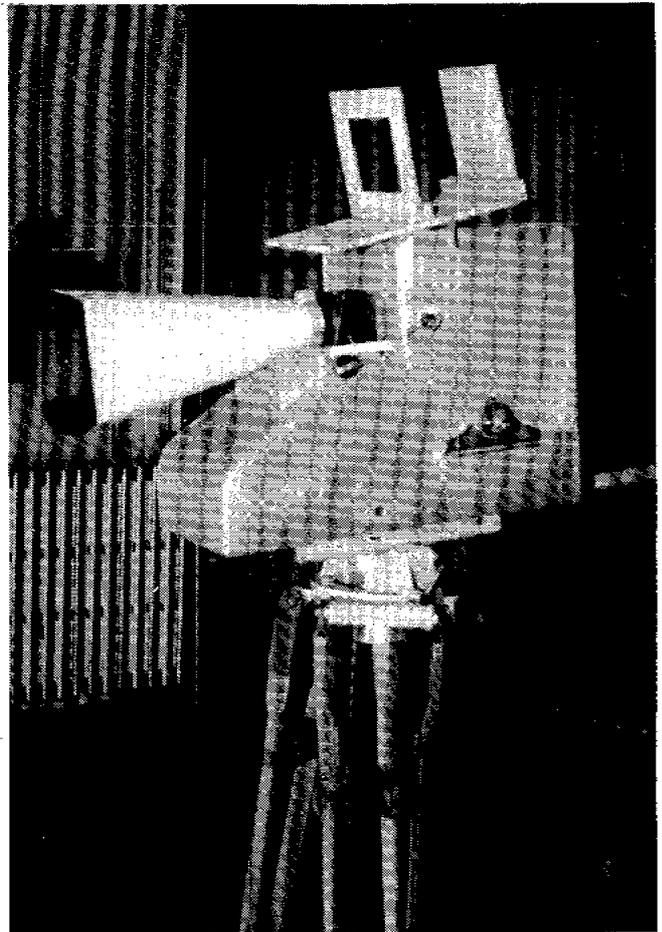
The twin telecine equipment for 240 nipkow disc scanning. This photograph was taken in the Spring of 1936 at the Baird Crystal Palace Laboratory.

The men wore black and orchestra wore grey (as did the 'Three Admirals'). The BBC specifics for the archetypal female announcer were much stricter than for the token male. For example, anyone with red hair was immediately rejected on the grounds that the red sensitivity of the cameras would produce poor reproduction. In reality and a certain amount of hypocrisy, the singer Helen McKay, who had stunning red hair, would sing the title song of the Radiolympia shows. She would receive two pounds and ten shillings for each performance. The theme tune sung by Miss McKay was quickly written by Ronnie Hill - 'Here's Looking At You';

*This wonderful age goes to show,
That all the world's a stage,
First you heard, now you see,
As you wonder what the next thing,
On the list will be,
What hullabaloo!,
We're just peeping through,
To say 'how do',
Here's looking at You.*

Each broadcast would end with these closing words and the 'cast' pointing at the camera and thus to the audience at Radiolympia. The two weeks of demonstrations would stretch the staff to the limit. The predicted breakdowns both accidental and deliberate did appear. The deliberate sabotage of the Radiolympia description was covered in the national press. It is this press coverage and the public reaction to the demonstrations that I will cover in the second half of this article. One incident in particular was to prove a defining moment - the first true outside broadcast.....

Left: First BBC camera with any sort of viewfinder (late 1936) devised and built by Mark Savage.

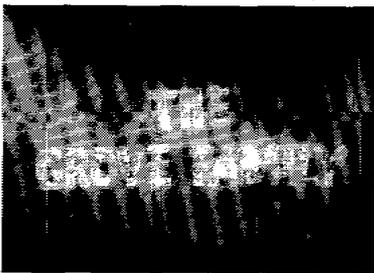


WHERE THERE'S SMOKE—Part 2

Bernard Wilkie



Perhaps Dry Ice or 'Brit' Smoke? Which is being prepared by Bernard for a 50's Television production.



Above: The opening title from 'The Grove Family', one of many programmes Bernard worked on.

Mr Tate, the Security Supervisor and Chief Fire Officer responsible for Lime Grove, TV Centre and Riverside studios wore smart suits befitting his rank and was diligent at finding transgressions and flouting of the rules. He was disabled and walked with some difficulty using a walking stick for essential support. He found this stick very effective in pointing out things that were wrong.

Amazingly for a man so handicapped he would appear out of thin air whenever Jack and I were engaged in a bit of flouting. Nevertheless, although our interests were as far apart as those of poachers and gamekeepers, we were friends and Jack and I, while trying to outwit him at every turn, respected and liked him.

Knowing that the odds were on our side (how could anyone expect to outsmart someone whose job it was to think up wheezes and dodges?), he probably spent more time and effort in trying to nail us than he afforded any of his other transgressors.

We cheated and admit it, but to balance, the odds he had an army of firemen to pounce on us whenever we unloaded our bits and pieces in the studio. They would stand around us looking into the cardboard boxes, examining suspicious cans and sniffing anything that appeared to contain inflammable solvents. On the whole, I think that at the end of our careers the honours were more or less even.

The sort of tricks we got up to might be exemplified in our tactics where, to ensure that certain inflammable materials such as cloth or canvas (which we had either forgotten to fireproof or had had no time to process) was treated at the last moment with an application of fireproofing liquid around the edges. A fireman visiting a studio had authority to test any material and, if necessary, to have it removed, but the only way of testing was to apply a match to one edge.

I'm sure Tate knew what we were doing, but short of destroying suspect material by trying to ignite it in the middle there was little the firemen could do.

Jack and I were not deviants; we were, in fact, as safety-conscious as the firemen and never once did we flagrantly ignore the rules. However, occasionally it seemed to us that the regulations, which were probably drawn up years ago for old fashioned theatres by people who never lived to see a modern TV studio, were nonsensical. Nevertheless, knowing that we would be held responsible for anything untoward we were extremely careful not to take risks.

Oddly enough the one thing we were permitted to do was to smoke in the studio, a perk we shared with actors who had to light up as part of the action. For everyone else smoking was strictly forbidden. Our reasons for lighting a cigarette were invariably to produce small amounts of smoke on

models, or around things like soldering irons to add a touch of realism; effects which could be achieved at that time in no other practical way.

Sometimes this rare privilege backfired on us as in the case of *The Grove Family* and the smoking flat iron, which in the course of the action was to be left on the ironing board—scorching a garment. To achieve this we blew cigarette smoke through a thin rubber tube which, painted black, simulated the power cord. If the action had to be repeated or sustained for long periods we would, even when sharing the puffing and blowing, finish the sequence with tongues like kippers and eyes artistically red rimmed. After such a session we would vow never ever to smoke again. I sometimes wondered if Mr Tate was up in the control room urging the director to replay the scene over and over again. A director (also forbidden to smoke) might just see the justice in such a request.

The time when we really shook Mr Tate, however, was when we were demonstrating our new brass smoke gun at Riverside Studios. Its performance was still unpredictable and despite our many attempts to tame it we never overcame its tendency to either over-heat or under-heat. On that day we were booked to create an atmospheric mist across the surface of an artificial lake and Tate had demanded that before we could even take our gun into the building, it must be demonstrated to him personally. Accordingly we had arranged for this to be carried out on the concrete walkway alongside the river at the rear of the studios.

We were worried because if during this test it were to suddenly flare, Tate would condemn it instantly—and then Jack and I would be truly in the midden, wallowing in failure and despair. Very few TV directors will listen to excuses and this one was not one of the few.

We could see ourselves working like maniacs with bee smokers in either hand. Lying alongside the wall at the rear of the studios were some scaffold tubes and one of us hit upon the idea of discharging our smoke down a seven foot length of it. Brilliant! Smoke, deprived of oxygen and cooled by seven feet of steel jacket could not possibly ignite. We tried it and were proved right. Quickly, because the time for Mr Tate's visit was drawing close we wiped everything down with rag, re-filled the oil container and stood by to show him that his visit had been quite unnecessary. Mr. Tate arrived punctually and we showed him the rig, explaining away the scaffold tube as the means by which we directed the mist across the water. He looked it over and seemed reassured, but even so he was not prepared to stand near it. Stories of flame-thrower smoke guns had evidently reached his ears and not being as agile as other people, he had no intention of being incinerated. Sensibly



An unknown device producing snow and powered by a hair-dryer!

he took up a position at the far end of the scaffold tube—and even then, prudently stood to one side. We primed the gun, checked it for working temperature and pulled the trigger—it worked perfectly. The effect looked almost as good as had done when we'd first tried it on the roof. Spreading along the



Left: Gran Grove (Nancy Roberts) gives the Family a piece of her mind! Only two editions of the Grove Family were ever recorded. A feature film version was made called 'It's a Great

concrete path and drifting out over the River Thames was the finest mist you can imagine. But Tate required the ultimate test; would our smoke support fire? Taking a cigarette lighter from his pocket (he didn't smoke) he bent down to apply a flame to the end of the tube, but before he could operate the flint wheel, there came a strange sort of hollow rumble up the tube, followed by a sheet of flame that would have scared the wits out of a stunt man clad in an asbestos suit. There are those who believe that Mr Tate, incapacitated as he was, could not move quickly. We proved this to be untrue!

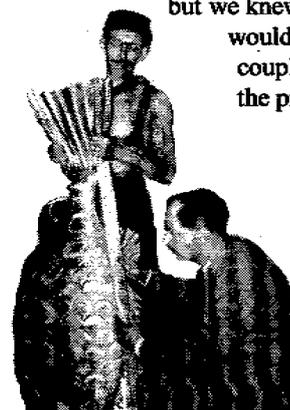
He grew from a bent five foot four inches to an astounding six foot eight, moving at the same time to a position yards behind the two of us. Jack and I were horrified, our lovely gun had let us down. But the authoritarian Mr Tate was also a compassionate man and noticing our stricken expressions, gave us permission to use the gun for that one performance providing that it was



employed only for the mist over the lake sequence. To ensure that we complied he brought in two firemen, equipped with fire extinguishers, explaining that they must stand beside us throughout rehearsals and transmission. He smiled broadly as he left because he knew that the additional costs would be charged to the production. The sequence went perfectly, the effect of low-lying mist over the water gave the director ample opportunity for tracking and craning shots—which he used to full advantage. Jack and I were pleased, particularly when he thanked us afterwards, but our satisfaction was overshadowed by the knowledge that his budget would have to include additional overtime payments for two firemen that hadn't been revealed to him.

Jack Kine (above) and Bernard Wilkie (below) measuring a fish of some description and proportion for an unknown production.

Some you win—some you lose, but we knew the full costs wouldn't surface for a couple of weeks and if the programme had been a success the producer might forgive us for the overspend!

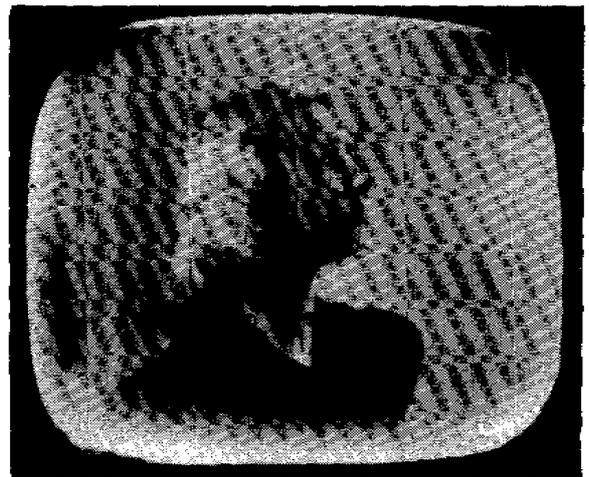


The *VIDEOSONIC System* as featured in the Illustrated London News article on November 17th 1945:

Television programmes are to be resumed in a few months' time, and a large number of enthusiasts are looking forward to looking-in at broadcast pictures accompanied by sound – a pastime which gave so much pleasure and interest in many British homes prior to its abrupt termination on September 2nd 1939. Much progress in television technique has been made during the last few years, and the one word Radar, now familiar to everybody, sums up the miracles of British achievement in the science of electronics. Television as broadcast by the B.B.C. from Alexandra Palace before the war, was transmitted on two wave-bands, one for the pictures and the other for sound, and as far as is known at present the same system may apply when the programmes are put on the air again. At the present moment, prices of new television receivers have not been announced, but it is expected that costs will not be lower, at first, than in 1939, when a good one could be obtained for about £45.

Among the notable advances made in television, the most recent is the one brought into being by Pye, Ltd, who, by their Videosonic method, have made it possible to transmit both sound and vision on one wave-band instead of on two. The new system embodies far-reaching improvements and makes possible considerable simplification of the present type of transmitting equipment. With its adoption, television receiving sets would be correspondingly simplified and produced at a reduced cost. Before the war, it was necessary to use two transmitting units at the television

station, one for the pictures and the other for the sound. In the home receiver, provision had to be made for tuning-in the two wave bands before the pictures and sound could be enjoyed. Now it is possible for a televised programme to be effected by a single transmitting unit and thus the home receiver will give pictures and sound based on the reception of only one wave-band. The adoption of this system would, therefore, reduce the cost of television both for the broadcasting authority and to the buying public, since, with the new dual-purpose transmitter, a station would be less costly to erect, and the new receiver would be less costly to manufacture. With regard to the transmitting station, a major reduction would

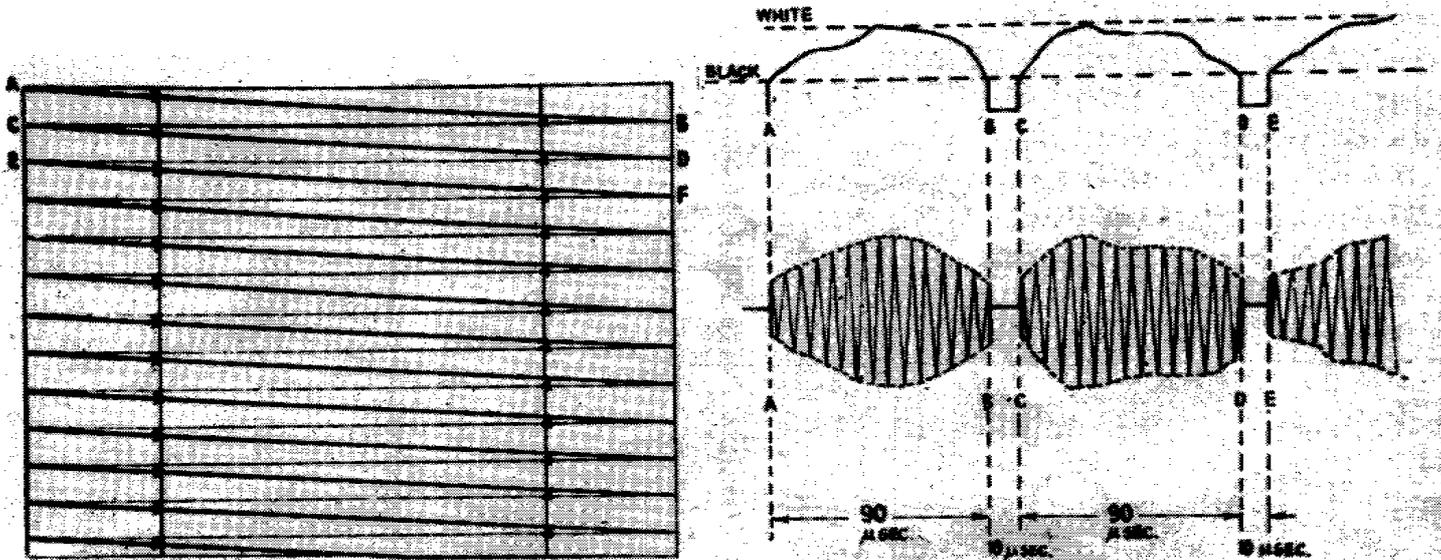


Original, untouched 'Off screen' photograph from the Videosonic Television Receiver.

be achieved in the amount of equipment to be provided and maintained, with relative reductions in both initial outlay and running costs. There being in the new system no separate sound transmission, the sound receiver as such would disappear, the new vision apparatus being in itself a sound-with-vision receiver. This would mean a considerable saving in valves and other components, as well as a saving in engineering man-hours, and it is also estimated that, if every radio licensee bought a television receiver, the saving in expenditure on television sets would be approximately £30,000,000. A demonstration of the Pye system was given a few days ago at Cambridge. Visitors saw on the screens of the new Videosonic television receivers the moving images of a small dance-band, comprising pianist, saxophonist, string double bass, and drummer, plus a lady singer. The pictures, music and voice were reproduced most faithfully – all based on the transmission and reception of the programme on a single wave-band. How is this accomplished?

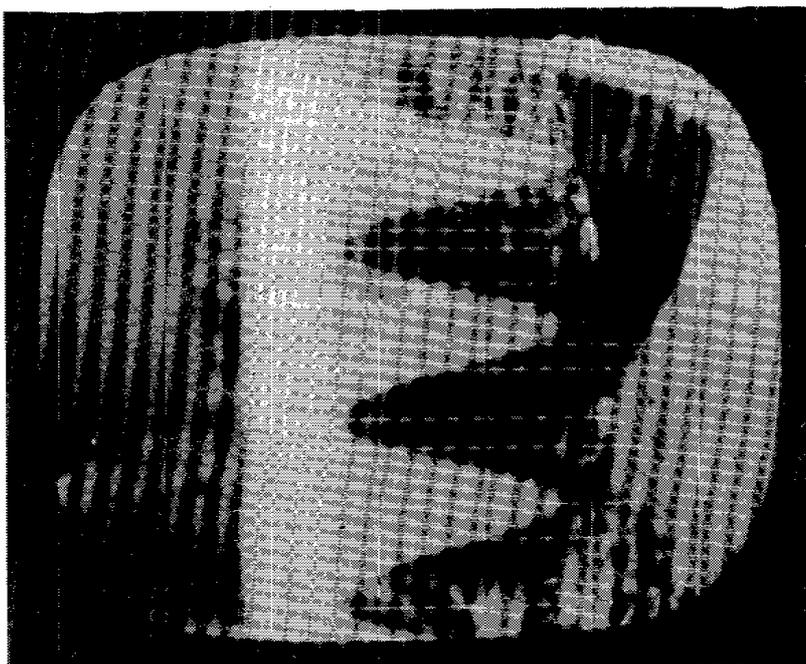
The televised picture is created on the receiver screen by an electronic scanning spot which sweeps from left to right of the screen in a series of lines which fill the picture space when 405 lines have traversed it. Twenty-five complete picture phases are built up on the

screen in one second to re-create the speed of natural movement. Each individual line, from left to right, is scanned by the spot, in ninety-millionths of a second, and ten-millionths of a second are allowed for the spot to return to the beginning of the next scanning line. This means that for one tenth of the time, the vision transmitter is idle – a kind of black-out intervention. Herein lies the secret of this wonderful new system, for it is the idle period which is made use of to transmit the sound programme. This is done by inserting in these idle periods a sound pulse which has been picked up by the microphone. The width of each pulse varies according to the sound which is being transmitted at any particular fraction of a second. At their widest the pulses



(LEFT.) THE LINES A—B, C—D, E—F REPRESENT THE DIRECTION FROM LEFT TO RIGHT OF THE SCANNING SPOT WHICH TRAVERSES THE VIDEOSONIC SCREEN. THE FAINT HORIZONTAL LINES REPRESENT THE "IDLE" PERIODS, AS EXPLAINED IN THE ARTICLE. (RIGHT.) THE AREAS A—B AND C—D REPRESENT VISION PERIODS, AND THE NARROW INTERVENING SPACES B—C AND D—E REPRESENT THE "IDLE" PERIODS WHEREIN THE SOUND PULSES ARE INSERTED ON THE SINGLE WAVE-BAND.

are five-millionths of a second wide and they narrow down to one-millionth of a second. If there are enough of these 'snapshots' of sound per second, then the original sound programme can be reconstructed. There are in this case, 10,125 snapshots or pulses per second. If the 'sound snapshots' are passed into a suitable receiver at a rate of 10,125 per second, the individual pulses may be heard as a connected sequence, and thus the original sound programme is recovered. With regard to the saving of £30,000,000, already referred to, Pye Ltd, say that the true importance of such a saving would be the effective release of that amount of materials, purchasing power and engineering man-hours, which could be directed in our export effort, at the same time giving the country television, with all its scientific, industrial and social advantages, at a reduced cost. Under



The shape of the Videosonic sound pulsations

the present economic conditions there considerations are of vital importance. Additional advantages claimed if the new system is adopted are: elimination of the possibility of interference in the receiver between sound and vision; receiving aerials could be made simpler: less frequency space would be needed for each television transmitter, because only one wave-band would be needed for each station; automatic gain control could be incorporated to ensure that the picture would be held steady even during severe fading periods; clearer reception of the television sound programme in localities distant from the transmitting station, because there should be less noise and interference. In regard to the future, at a later date, the Pye system could transmit Stereophonic sound by inserting into the idle periods two sound pulses from two microphones, thus giving Stereophonic sound from two loud-speakers fitted in the receiver. Further developments should lead to colour television by varying the height of the pulses.

A CLOSER LOOK AT VALVES

with

Tim Jarman

With a few notable exceptions, all the sets that we are interested in and are restoring use valves. The strange but common fascination with them has drawn many people to old radios and TVs. There is also currently a revival of interest in valves in the audio world, though it has to be said that much of this is based on clever marketing and false assumptions. In a series of regular articles I will be dealing with many aspects of valves, my main aim being to assist those of you restoring sets, who perhaps have not had much dealing with valves before.

Part 1.

What do the numbers mean?

All valves are identified by a series of letters and numbers printed on the side. The system used varies with different makers, and many are quite impenetrable. However, the most common system, later adopted as the international "Pro Electron" code, was first used by Philips / Mullard just before the war, and continues to be used today, though over the years a few changes have been made, which are explained below. Lots of sets old TV sets that survive have valves coded in this way. The code consists of two or more letters followed by one, two or three letters and possibly another letter:

First letter: represents the main heater characteristic.

A: the old code for 4V, mostly seen in connection with rectifiers, such as the AZ31, which has a 4V heater.

B: the old code for 180mA series supply, not seen in domestic equipment.

C: the old code for 200mA series supply, seen notably in one of the "round Ekco" radios. An example is the CCH35, a frequency changer with a 200mA heater.

D: 1.4V for series or parallel supply, normally for battery radios, though there are some in TV, e.g. the DY87 is an EHT rectifier with a 1.4V heater

E: 6.3V parallel supply, e.g. the EL84 is a pentode with a 6.3V heater

F: The old code for 12.6V

G: Various, such as some of the valves used in colour TV, such as the GY501, and some rectifiers, like the GZ34 which has a 5V heater.

H: 150mA series supply, seldom seen in domestic equipment, e.g. the HF93 is an RF pentode with a 150mA heater.

K: the old code for 2V.

L: 450mA series supply, never used in domestic equipment.

O: no heater (!). The best example is the OZ4 cold cathode rectifier used in some car radios, and early Mullard semiconductors such as the OA70 diode and the OC44 transistor.

P: 300mA series supply. The most common type found in TV sets, e.g. the PL36 line output valve has a 300mA heater.

U: 100mA series supply. used mostly in AC/DC radios, but appears also in the multiple heater chains of some of more ambitious TV sets, in particular some Philips models

V: the old code for 50mA series supply.

Y: the old code for 450mA series supply, replaced by L

Second letter: Indicates the intended use or internal construction of the valve. In valves with more than one section, these letters are arranged in alphabetical order, e.g. ECL82, UABC80).

A: single signal diode, e.g. the UAF42 contains a single diode. Also used to denote a double diode with separate cathodes, such as the EAA91. also used for early germanium diodes, such as the OA90

B: double signal diode with a common cathode, such as the EB91, or the diode part of the EBF89.

C: low power triode, e.g. the PCC85, or the triode part of the PCL805. Because of their three electrode connection, early transistors also use this letter, like the OC71

D: power triode, such as the PD500 found in early colour TV.

E: low power tetrode. seldom used, though a rare example is the EE50 secondary emission valve used in some pre war sets.

F: low power pentode. frequently used to describe high frequency valves such as the pentode part of the PCF80 and the EF50, but also describes audio frequency voltage amplifiers like the EF86, sometimes found in tape recorders.

H: hexode, or hexode connected heptodes. almost always applies to frequency changer valves in radios, such as the heptode part of the UCH81, but does appear in TV in the EH90, which is a small heptode used in the FM sound detector stages of some early dual standard sets.

K: octode, or heptode of octode type design. again most often seen applied to radio valves, such as the DK96 heptode frequency changer used in battery radios.

L: power output tetrode or pentode, such as the PL509, or the pentode part of the PCL86, and the power output side of the PFL200.

M: Magic eye tuning indicator as used in radios and tape recorders, such as the EM80 and EM87, or the tuning indicator part of the EFM1.

Y: Half wave rectifier or single power diode, examples being the UY85 rectifier used in AC/DC radios, and the PY81 boost diode seen in many TV sets. Also of interest here is the BY100, a single silicon diode that was used in sets throughout the '60s, and as a replacement for failing selenium stacks in older sets.

Z: Full wave rectifier or double power diode, such as the EZ80 which is a full wave rectifier with a common cathode. can also refer to double power diodes with separate cathodes, like the PZ30, which was used by Bush in the TV22, with one half as the HT rectifier and the other as the boost diode.

First number: indicates the type of base.

1: various unclassified types.

2: early use of this number indicates a B8G 8 pin octal base, such as the EBL21, later it was changed to mean the B10B miniature 10 pin base, as used on the PFL200, and some continental push pull output valves, like the seldom seen ECLL200.

3: international octal, such as the EL33.

4: B8A 8 pin all glass base with a locating spigot on the side. some early examples have a metal reinforcing collar around the bottom, but the dimensions are the same. an example is the EL41 output pentode.

5: early use was for the B9G, similar to the octal but with 9 pins, such as the EF50, and for wire ended soldered in valves like the EY51. later used to indicate the B9D nine pin magnoval base used for valves in colour TV sets, such as the PL509 and PY500, and later monochrome sets, in the PL504.

7: more modern reference for wire ended valves, such as the DM70, a miniature tuning indicator for battery radios.

8: the very popular B9A 9 pin noval base, used in, for example, the PCL82 and the ECC82.

9: miniature 7 pin B7G base used in valves for battery portable radios, but also seen in TV in VHF tuner valves, like the tiny PC900, and the EF91, a popular RF amplifier in the early '50s.

Remaining numbers and letters: these have various meanings, but there are a few rules that are occasionally adhered to:

Regarding HF pentodes (F coded), an even number tends to represent a linear (straight) characteristic, whilst an odd number is a vari- μ type. A good example is the EF85, which is a variable- μ RF pentode, whilst the EF86 is a very similar looking valve but is in fact a "straight" low noise voltage amplifier. As always, there are exceptions, the most obvious being the EF91, which is straight, and the EF92, which is variable- μ . With all types of valves, zero at the end tends to indicate the first in the series, for example a UBF80 was the first double diode / HF pentode with a 100mA heater and a B9A noval base to be introduced. Later in the series the numbers normally increment, though by the '60s most had been taken, for example the new version of the PY81 boost diode could not be called the PY82 as this already existed (it was an HT rectifier), so the new valve was called the PY800. Also confusing are the EF183 / EF184 frame grid valves used in the IF stages of dual standard sets. Both of these had B9A noval bases (hence the 8), but the presence of the 1 can confuse the unwary.

Valves introduced after the latter part of the '60s tended of have three numbers to try to ease the problem, such as the special colour TV valves, the PL508, PL509, PY500, PD500 and GY501. Strangely again, when the PY500 was updated it became the PY500A, but the new improved PL509 was called the PL519!

Notes on heaters:

You may have noticed that some TV sets have both "E" and "P" type valves all in a 300mA series chain. This is because some 6.3V valves have 300mA heaters (like the ECL80). There is obviously no point in there being a PCL80, as it would be the same valve. Remember though that not all 6.3V valves have 300mA heaters, or heater-cathode insulation good enough for series connection. Where this is the case, special versions are made, for example the PL509, a line output valve with a 300mA heater, is also made as the EL509 (used in some imported French colour sets), which has a 6.3V heater. Also beware if you would like to try to exchange valves which seem the same

apart from the heater voltage, for example, let's consider the EL84 / PL84 / UL84 B9A noval output pentodes. The EL84 and UL84 were used throughout to '50s as the output valve for AC only and AC/DC radios respectively. They look identical, and looking at the numbers, one may think that if the different heater requirements could be met, they would work in place of each other. A look at the ratings shows many differences though, for example, V_a and V_{g2} (anode and screen voltage) are 250V for the EL84 and 200V for the UL84. This means that even though p_a (max) (maximum anode dissipation) is 12W for both types, $P_{out(max)}$ (maximum power to the anode load) is 5.7W for the EL84, and 5.2W for the UL84. One can raise the power of the UL84 to 5.6W by reducing V_a and V_{g2} to 170V, but this is a big change to make. Other differences include R_a (anode impedance), which is 4500 ohms for the EL84 and 2400 ohms for the UL84, and different recommended values for R_k (the cathode resistor), 135 ohms for the EL84 and 170 ohms for the UL84 (when operated at V_a , $V_{g2} = 170V$). It can be seen from this that to properly adapt a circuit to change from one to the other would be a considerable task! As for the PL84, that's a video output pentode with a $p_a(max)$ of 9W, and completely different characteristics. The differences can be put down to the fact that sets for AC only tend to have higher HT voltage than AC/DC ones, and that the heavy heater-cathode insulation of AC/DC valves tends to slightly reduce the cathode temperature, with de-rates the valve.

Lower power valves do tend to be more consistent though. A typical example is the EABC80, which is a triple diode triode used in AC only AM/FM radios, that also appears as the UABC80, an identical valve but with a 100mA series supply heater for AC/DC use, and as the PABC80, with a 300mA heater, for televisions with built in radios. The latter is a rare valve, and if a set you are restoring needs one, it may be easier to fit an EABC80 and a discreet transformer for the heater, and fit a 33 ohm 4 watt resistor to maintain the continuity of the heater chain.

A CLOSER LOOK AT.....

In each issue I will be looking in detail at a particular valve used in TV sets. They will all be common types, and the information may help with repairs and restoration. So lets have a closer look at.....

THE EF80.

This is an RF pentode used extensively in TV sets for many years. Its ratings are:

V_h	(heater voltage)	6.3V
I_h	(heater current)	300mA
V_a	(anode voltage)	170V
V_{g2}	(screen grid voltage)	170V
V_{g3}	(suppressor grid voltage)	0V
R_k	(recommended cathode resistance)	160 ohms
I_a	(anode current)	10mA
I_{g2}	(screen grid current)	2.5mA
g_m^*	(mutual conductance)	7.4mA / V

**this figure gives an idea of the gain the valve can achieve. It is expressed as mA/V, or the change in anode current caused by a 1V change in the grid voltage. It tends to be measured statically, e.g. at DC, the figure de-rates considerably with frequency.*

History:

The Mullard EF80 is the third valve in a line of RF pentodes designed specially for the receiving stages of television receivers, following the EF50 and the EF91. Whilst the EF91 was a good valve, it needed 250V on the anode and screen grid to work properly, which was difficult to generate in AC/DC TV sets running on low mains voltages. The EF80, as can be seen above, needed only 170V, a far more easily obtainable figure. The appearance changed over the years, the most common variant being a tall slim valve with a small internal assembly, surrounded by a mesh, near the base end, and heavy silver gettering at the top. The EF80 is a "straight" valve, an identical looking vari-mu version was made, the EF85. The EF80 was replaced with the "frame grid" EF184, and the EF85 was replaced by the EF183.

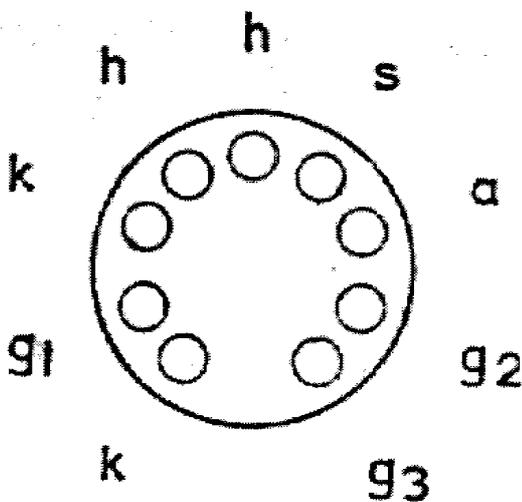
Applications:

The EF80 was used by most makers who used Mullard valves, a typical example being the later version of the Bush TV22. This used 7 EF80s, as the RF amplifier, frequency changer, common IF amplifier, vision IF amplifier, 2 stages of sound IF amplification and as the video output valve. It also appeared in some FM radios, an example being the Pye FenMan II, which used two of them as an FM RF amplifier and limiter, and an EF85 as in one of the IF stages. The last use of the valve in a television set was in the Philips G6 colour chassis, which had one as a line sync amplifier. This set was discontinued in the early '70s.

What goes wrong:

These were reliable valves, but they did suffer from inter-electrode shorts, which will intermittently burn out the screen grid and cathode resistors. With age they can lose gain, but as any surviving sets using them will probably not be asked to perform from distant transmitters via poor aerials, but from directly connected standards converters, this is unlikely to cause serious trouble unless they are really bad. The EF80 and EF85 look the same, and could cause problems if a previous owner had fitted the wrong valve in error. You may say it would never happen, but the numbers rub off very easily..... Also remember that when you change an EF80 in a RTF set, such as the Ferguson 968T, you may have to re-align the RF transformers in the affected stage.

Substitutes: There should be no problems in obtaining an EF80, but just in case, try: 6F41 / 6BW7 / 6BX6



EF80
B9A

REVIVING AN EMI 203 CAMERA CHANNEL AFTER NEARLY 40 YEARS

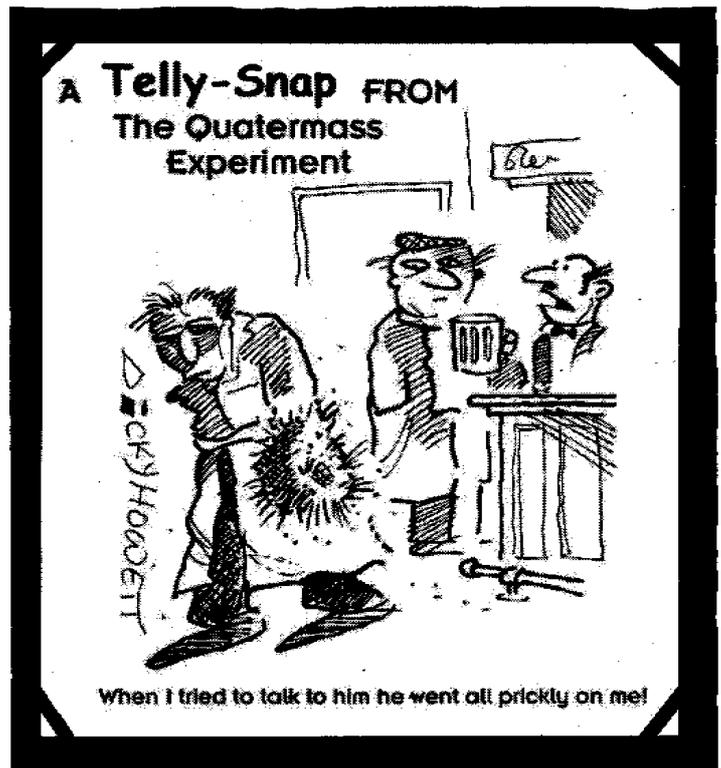
Janos Koreny

Hungarian Television (Magyar Televizio, MTV) purchased five outside broadcast vans from EMI in Hayes, Middlesex during the sixties, all of them were equipped with model 203 b/w camera channels and all of these were in working order up to the eighties. One channel has been preserved for the Technical Collection of MTV. The broadcaster has a permanent exhibition in

Budapest open to the public on every Sunday for the past seven years. As for me, a pensioned engineer, I am the trustee of this tiny museum. As well as the 203 camera also displayed are an EMI model 2001, a Pye Mk 3, Marconi Mk IV, RCA, Ampex, Thomson and other equipment. Last year my kind English friend, the journalist, trustee and collector Dicky Howett visited the museum and gave the missing schedules and drawings of the EMI camera. The missing interconnecting cables have been got from a Hungarian collector. These granted me the possibility to attempt putting the 203 camera into working order.

My hope was fading, as the camera channel had been in stored in less than perfect circumstances and we foresaw corrosion of wire in H.T. coils, irreversible contamination on the socket and plug surfaces, damage to the image orthicon pick-up tube, etc. But fortunately the worries were baseless! After careful cleaning of all the 500 base contacts of plug-in panels and relays, subsequent to repairing a few "wicked" intermittent contact faults, the camera began to live again after near twenty years! The potentiometers, gas-filled relays, coils and other components so were tested and considered excellent. The fault finding was facilitated as the printed part numbers were well legible. All these facts confer praise on the firm EMI's careful and durable work.

The orthicon's horizontal resolution was circa 550 lines in its best years, and even now it remains 500 lines. I used a Fernseh sync pulse generator (of 1971) as the EMI one was missing. The 203 camera still needs four drive pulses: mixed sync, mixed blanking, line drive and field drive.



Television on the West End Stage in 1935

Malcolm Baird

Andy Emmerson in the last issue of 405 Alive has skilfully chronicled Hollywood's treatment of television in the 1930's. But how many readers are aware that television was also featured in a very successful musical in London's West End?

"Glamorous Night" was the creation of Ivor Novello with lyrics by Christopher Hassall, which opened at the Theatre Royal, Drury Lane, on May 2nd 1935. The hero, played by Ivor Novello himself, is Anthony Allan, an engineer who has invented a new television system. The opening scene is in a drab suburb where Anthony bemoans the fact that no one in Britain will support his system financially. Then he departs on a pleasure cruise and ends up in the somewhat Ruritanian land of Krasnia. Here he meets Militza, a prima donna with whom King Stefan of Krasnia (played by Barry Jones) is infatuated. At this point the plot moves into the usual mixture of adventure and romance which went over well on the stage 65 years ago but seems flat and trite on the printed page today. Anthony of course falls in love with the glamorous Militza but by the time the plot works itself out, Militza has to marry King Stefan in order to save her country from anarchy. But at least the King has adopted Anthony's invention, so he travels back to England where, in the last scene, he sadly watches the royal wedding broadcast on his own television system.

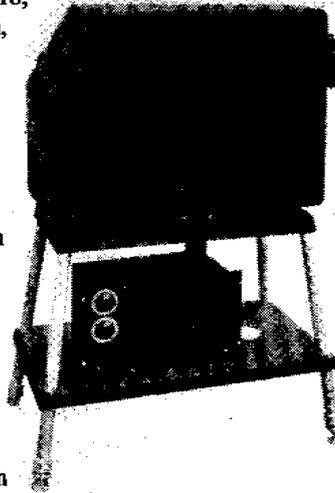
The production was a huge success financially and in popular esteem. The critics were grudgingly favourable and one com-

ment was "if it is nonsense, it is glamorous nonsense, and for those who are ready to be entertained, it is the best show of its kind Drury Lane has had for years." A few weeks after the opening, King George V and Queen Mary attended a performance. Afterwards, the King remarked to Ivor Novello, "We enjoyed ourselves tremendously, with one reservation - we could have wished a different ending. We found it a little sad, the Queen and I; in fact you made the Queen cry. Make the next one with a happy ending please."

In the final scene of Glamorous Night Anthony Allan is dwarfed by a huge television image of Militza's wedding. This is rather at odds with the real world of television, as the B.B.C. was still broadcasting on the 30-line Baird system which gave an image a few inches in size.

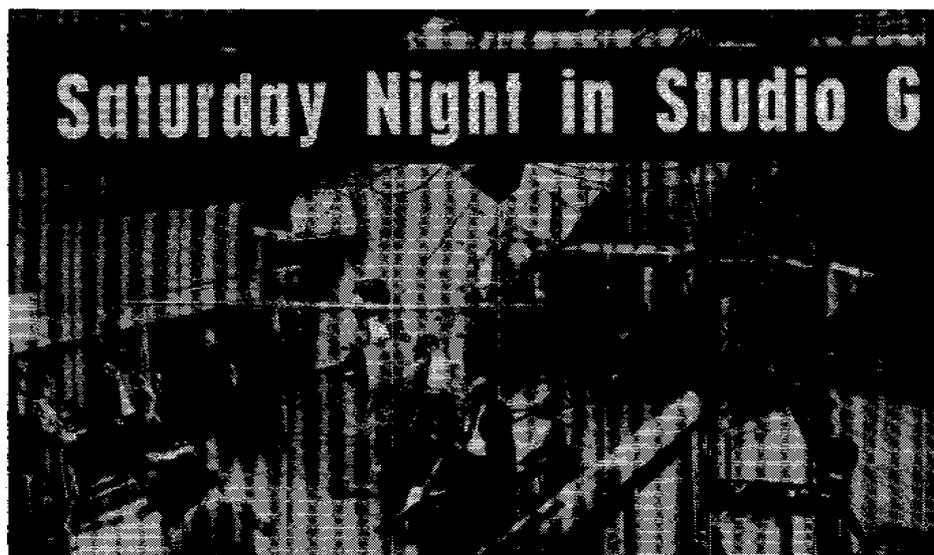
But my father had occasionally demonstrated large screen television in London cinemas as early as 1930. Everything changed in November 1936 when the all-electronic Marconi-EMI 405 line system was introduced and it was to endure for nearly 50 years. It is not on record that anyone in our family went to see Glamorous Night or was even aware of it.

At the time, my father and his company were working feverishly to upgrade their mechanical system for the competition for the first high definition television on the B.B.C., and my mother was expecting a baby (me). But the great success of the show is a sign of the grip that television had on the public imagination, back in the 1930's.



I should like to acknowledge useful information from "Ivor Novello", a biography by James Harding (W.H.Allen, 1987)

Above: Baird Electronic Cathode Ray Theatre Television projector as used in the mid 30's for practical demonstrations.



So reads the heading from a November 1955 edition of the defunct popular magazine TV Mirror. Prof Quatermass is bottom left. The space rocket which fills the entire end of Studio G took a hefty slice of the £7,552. 6-episode budget. Apart from John Robinson as the Prof, the series featured also, Hugh Griffith, Rupert Davies, Wilfred Bramble, Melvyn Hayes and Roger Delgado. The timings of live tv were elastic. For example, episode One ran 31' 58", episode Four 29' 26" and episode Six 33' 53". However, any chance of a repeat Mr Dyke? - *Dicky Howett.*

The Baird Holding and Development Trust

By Adrian R. Hills

John Baird started his research during the war with capital of approximately £15 000.¹ However, despite receiving his consultancy fee of £1000 per annum from Cable and Wireless (C&W), by 1943 his funds were seriously low. There were various attempts by the Scotsman to obtain the funding necessary to continue his research. None of these attempts seem to have included involvement with his original company and instead he tried to form another company as well as requesting greater funding from C&W and other consultation work. J.L.Baird approached a General Whittaker and Robert Watson-Watt regarding possible consultation work for radar.² He also approached C&W for greater funding and is recorded in the company minutes as stating that "...he had been approached by a Syndicate with an offer of £7000 a year for 2 ½ years; the Syndicate would then have the right at the end of that period to form a company to take a fifty-fifty interest in Mr Baird's inventions".³ After discussion C&W were not prepared to increase their financial outlay and perhaps thought that this was simply a ruse to get more money. This was not the case, as evidence recently discovered shows that there was an interest in J.L.Baird's inventions by a syndicate.

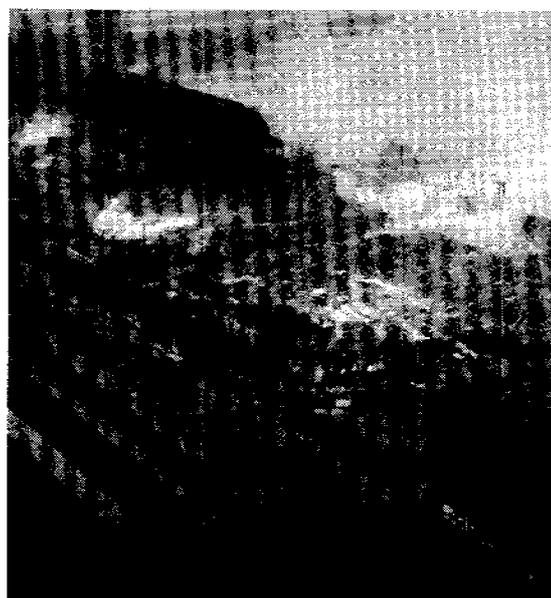
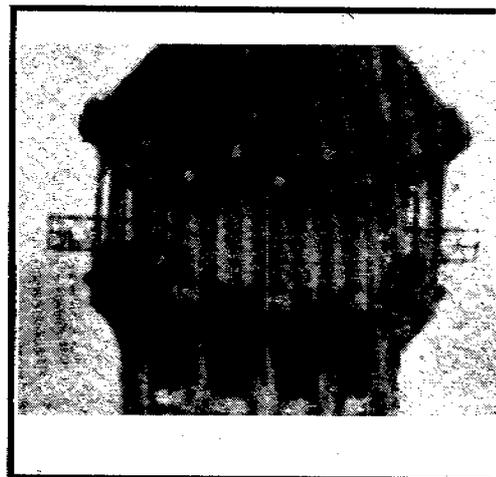
A series of documents lot BKS 8761 sold at auction on the 19th of May 2000 record a proposal for the formation of the Baird Holding and Development Trust (HDT). Mr Tom King, a journalist and mentioned regularly in J.L.Baird's diaries, and Mr Irving Harris, also a journalist and owner of an entertainment business, communicated on the 18th of January 1943 regarding this proposal. Negotiations between the two then lapsed but were continued on the 21st of August when King wrote to Harris mentioning a Daily Mirror report that said after the war there would be "...no BBC monopoly..." and that "*The wings for victory are flapping stronger & stronger, let's be in ready together when the curtain falls*". Clearly it was thought that the war would soon end and that television broadcasting independent of the BBC would be possible. This fact was probably also mentioned by J.L.Baird in the various telephone conversations with King in the previous months. With this renewed enthusiasm a Mr Loftus was involved as a third financier in September.

It was proposed that the Holding and Development Trust, having as few subscribers as possible, would purchase the entirety of J.L.B's patents, past present and future. An initial investment of £50 000 would then be used to develop these patents and produce production facilities. A company would then be formed, initially titled as The New Baird Television,

but after further consultation it was decided that although the name of Baird could be used, it could not directly refer to the original Baird Television. Television receivers was the first product to be investigated as it had already been proved with the original Baird Television Limited that this was the product most financially remunerative. Negotiations became more intense in March of 1944 as J.L.Baird refers in his diary to his agreements with both Baird Television Limited and Cable And Wireless.⁴ This note probably refers to the concern that these agreements would be affected by the formation of the HDT. Two weeks later he writes "*Ring Tom King, I think we are at the beginning of a very big thing*".⁵

At this time John Baird was very ill and the day after writing this note he travelled to Bude in Cornwall to convalesce with his family during the Easter holidays. This hiatus did not help with his business negotiations and Mr King informs Harris that J.L.B had "gone into hiding". A second letter, written on the last day of the month records that J.L.B could not supply detailed written information at such an early stage in negotiations and preferred a

Below: the aftermath of the Crystal Palace fire (composite)
Right: detail showing the sound aerials fitted to the top of the tower.



personal interview. He was also unwilling to sign legally binding documents until all implications of such documents had been assessed. King's letter notes "[J.L.Baird] has a strong antipathy to putting things down on paper because of his previous experiences". At the beginning of a new stage of business Baird probably remembered his earliest problems when he separated links with his television business partner Wilfred Lytton Day in December of 1925. The correspondence of this first television company have been purchased at much cost and are displayed in Hastings Museum.

In March of 1944 John Baird was fifty three years old, had already suffered one mild heart attack and was again suffering a debilitating illnesses. These illnesses, which were probably associated with deep depression, had often damaged the forward progress of his efforts. This business venture was no exception and in the only letter surviving from him about this subject he writes "I have been far from well and am under strict medical advice" and "As I don't want to appear discourteous, or you to keep these other people hanging about any longer, perhaps your suggestion to discontinue negotiations is the proper course".⁶

A letter from Tom King to Baird was written the same day and demanded an explanation for John Baird's behaviour and lack of communication. An offer of a meeting between prospective financiers and J.L.B was also given. The letters crossed in the post and on receipt of Baird's letter King apologised and rallied his friend with the words "...matters are only at a standstill for health reasons and as soon as you are better we will 'strike up the band' again".

Not one to linger, the ensuing days saw John Baird very busy arranging the submission of patents as

well as preparing a lecture on facsimile television by someone called Angwin on the 21st of April. On the 9th of May he returned to London and a week later had lunch at 1pm in Scott's restaurant with Tom King.⁷ The Grosvenor Hotel near Victoria Station was the chosen venue for a dinner meeting on the 24th in which further detailed discussions with some of the prospective financiers was held. Television for public broadcast was not the only thing on John Baird's mind during this meeting. His diary records his intense enthusiasm for facsimile television, one of his alternate projects being developed for Cable and Wireless. He writes "A speed undreamt [sic] of by other methods became possible by Fac Tele", "Facsimile Television opens a new era in communication. Messages sent by television and received on continuously moving [?]", "Communication will give us the newspaper man's dream The International Daily Paper".⁸ As Tom King was a journalist it was not unreasonable to suppose that he was aware of this new adaptation of television media. Whether this fact was mentioned to the financiers is only a matter for speculation..

How or why business negotiations for the Holding and Development Trust collapsed is not known. In late 1945 John Baird formed a company to broadcast television now that peace had broken out. This company was called John Logie Baird Limited and was registered at 4 Upper Grosvenor Street.⁹ Jack Buchanan, John Baird's old school friend and an accomplished actor, was now his new business partner. It is not known if there was any connection between the Holding and Development Trust and John Logie Baird Limited, but as this second company was an agreement between just Baird and Buchanan, any connection is thought unlikely.

This text is slightly modified from the PhD dissertation by Adrian Hills about John Logie Baird's military investigations.



¹ Personal correspondence with Professor Malcolm Baird 7th May 2000.

² J.L.Baird personal diary 14th April 1943, 26th May, 3rd June, 7th June and 9th June 1943.

³ Cable and Wireless minute book 4-6, 8 June 1944, minute 2679.

⁴ J.L.Baird personal diary 13th March 1944.

⁵ J.L.Baird personal diary 26th March 1944.

⁶ Letter from J.L.Baird to Tom King 4th of April 1944.

⁷ J.L.Baird personal diary 17 May 1944.

⁸ J.L.Baird personal diary 22-27th May 1944.

⁹ Ray Herbert *Seeing By Wireless* (2nd edition, Croydon: PW Ltd 1997) 26

The 1953 Show and All That

Dicky Howett visits the National Museum of Photography, Film and Television and talks to John Trenouth.

John Trenouth leads a variegated working life. Primarily he is in charge of all television development at Bradford's famous National Museum of Photography, Film and Television (henceforth referred to as the NMPFT). John also serves his turn in a humbler capacity, at the Museum's Information Desk. This involves variously keeping a steely eye on parties of sticky-fingered French school kids as well as re-uniting mislaid children with parents. John's 'Duty Officer' duties entails evidently, much high-profile mixing with the masses.

(On some days the museum masses can total twelve thousand). It doesn't end there. If a projectionist is ill, then John takes over, perhaps running part of the NMPFT's unique installation, the three-projector Cinerama theatre. Never a dull moment at the NMPFT. If John Trenouth seems to be seriously overworked, he is definitely understaffed. It's all a question of numbers. The Museum has twelve curators for film and photography but only one curator for television, namely John Trenouth.

Apparently, the reason for this arbitrary imbalance is that 'Television' is considered but an infant 'art' clocking in at a mere (from 1926) 74 years of age.

This is in contrast to 'Film' at 112 years of age and 'Photography' at 165 years of age. A total figure of 277 years against 74. Ageism notwithstanding, John has also the task of overseeing the television collection at the Science Museum in London. Lumped together on both sites, his job is to acquire, organise and arrange material for South Kensington's and the NMPFT's ever-expanding television exhibitions and teaching courses. As an example of John's valuable work, displays have included an ex-BBCtv type 2 o.b. colour scanner van complete with a roof-mounted EMI 2001 colour camera. The van was presented on the Museum's forecourt as a 'walk through' display with banks of monitors, control units, waveform monitors, U-link racks and mixing desks described by helpful video commentaries on the van's monitors. Sensibly, all vital switches and valuable bits were protected from fidgety fingers by thick Perspex!

Within the Museum proper there are gallery-reconstructions, for example a recent display recalled Coronation year and was natively entitled 'The 1953 Show'. Artefacts displayed included photographs, newsreels, and news movie cameras. On the television front, two glass cabinets displayed respectively a Pye Mk 3 image orthicon camera (ex-ABCtv) and a rare Marconi Mk2 image orthicon camera.

Both these camera types were used by BBC Television for the Coronation outside broadcast. In this instance the NMPFT had cheated slightly because the Pye camera was an ITV interloper with an added 'BBC' badge but the ex-BBCtv Marconi Mk2 camera was actually there! Although the NMPFT is basically photography and film, aspects of television are creeping in all over the building. A popular section is 'TV Heaven'. This is a free facility where anyone can access a favourite programme from the 'library' (currently 1,000 pre-selected items) and watch it, wearing headphones in a booth.

Elsewhere, the NMPFT routinely displays some of its un-themed or uncategorised 'treasures'. These have included Victorian family photo albums, a Le Prince movie camera of 1889, and an oversized Sony HDTV colour set. (Rather too big for the average living room, indeed the Sony set was as BIG as the average living room!) But I wonder how many people spotted the Baird 'Telechrome' electronic colour camera tube from 1946? A very rare item indeed. It was the last thing Baird 'invented' before he died.

Very much alive, John Trenouth's interest in television was sparked at the age of nine when his father (a wartime radar technician) built his own 'green screen'

TV set. John watched the Coronation on this. Later, John built his own tv camera out of cardboard and proceeded to 'film' the world around his Yorkshire Dales home. Always fascinated by television, John eventually acquired his first operational camera. This was a redundant surveillance vidicon begged from Rediffusion (cable-company division, not the broadcast dept). John found that if the camera's beam current was turned up and the camera was pointed at a white card, the street was still visible, imprinted for eternity on the photo cathode. So the video bug had bitten, and thereafter John sought out redundant video equipment. This led him, initially to a Marconi Mk 3 camera (ex-BBC Leeds), but John balked at the size of the kit (a heavy-weight outfit consisting of a camera control unit, power supply, vision and waveform monitor, cabling etc) plus the even heavier weight of a £400 BBC price tag. John was only a poor student in those days (1960's) and the enormous sum of £400 was something he didn't have. Reluctantly he had to let the Mk 3 slip through his fingers.

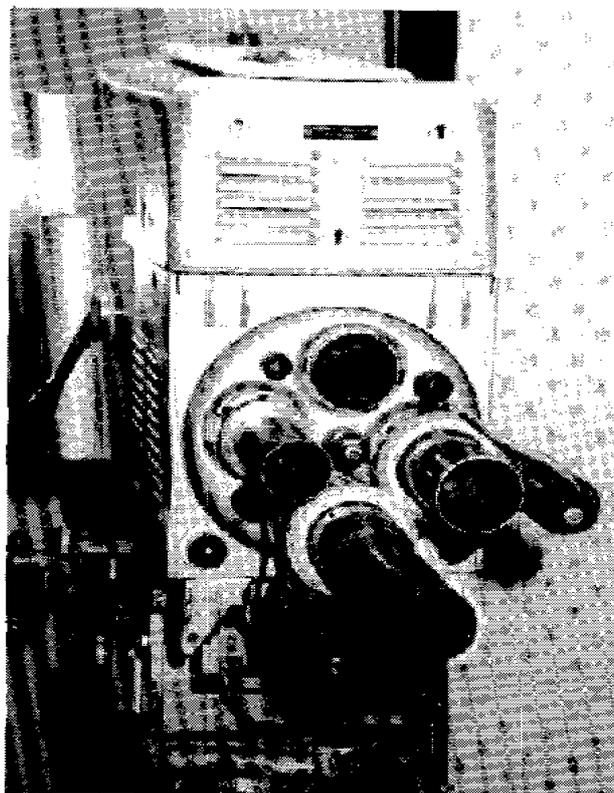


Ultimately, the Collection was donated/loaned to the NMPFT. By that coincidental route, John Trenouth's Pye camera was returned to him. He knew it was his old camera because he recognised the paint job. (It still embarrasses John that the blue of the Pye is rather too vivid for comfort!)

In 1970 John became a teacher and he set up a video studio (equipped with a Marconi Mk 3 image orthicon camera and two Sony vidicons) to make 'teaching videos'. These short but academically valuable programmes were 'crash-edited' in between fades onto a half-inch Sony reel to reel machine. By all accounts these primitive tapes were very successful. Later, to demonstrate a theory for a graduate thesis, John asked his class to watch, for half an hour a recording of a monochrome BBC test card with music. This, the class did with admirable patience. And the theory? Well, perhaps John was stretching a point when he maintained (at the time) that kids would watch anything on tv. Officially, John Trenouth is not a collector of television equipment. When he became Head of Television Development at the Museum he had to declare his interest and itemise his personal camera collection. This, today includes two Marconi Mk 3's, a Marconi Mk 7 (which displays a red, a green and a blue picture but not all at the same time) and two EMI 2001 cameras, plus various mounts. John has also an immaculate Watson 5 to 1 zoom lens which was used by the BBC at the 1953 Coronation. (The interior casing is actually annotated to this effect). Occasionally, John augments Museum displays with his own camera gear.

The NMPFT's camera collection is large and it includes examples (and duplicates) of cameras from Marconi (Mk2, 3, 4, 7, 8, 9), EMI (CPS Mk3, 201, 203, 204, 206, 207) Pye. (Mk3), Philips, Link, (including the last Link 110 model made, ex-Thames) plus Sony and RCA.

However, the stuff still rolls in, and John Trenouth is now getting selective. Storage space is unfortunately not infinite, but items of equipment the Museum doesn't possess are always welcome. For example the present writer donated recently a German Fernseh K4 OK91B. 4 1/2" image orthicon camera head that had migrated from Belgium tv. The BBC book '70 years of Broadcasting' features several (unaccredited) photographs of NMPFT preserved equipment. Also 'Opening The Box', a recommended NMPFT publication features several items of preserved consumer and studio equipment. Cameras donated to the Museum's collection are never subsequently 'tarted up'.



(The ABCtv Pye camera in the '1953' exhibition is ex-o.b. and is quite chipped and scratched). However, all equipment is checked out and cleaned efficiently, but any dents or marks are left in situ. John Trenouth emphasises that it is not the Museum's policy to recondition or cosmetically improve their stock. Ultimately, it's only the better examples that are exhibited. It's an entirely different matter if equipment is sympathetically reconditioned *before* it is donated to the Museum, but as soon as it passes the Museum's portals it is frozen in time. *Also the Museum does not hire its vintage camera equipment (for use as props in movies; pop videos etc). Recently, some valuable gear was heedlessly damaged and parts were stolen. John Trenouth despairs of trying to make film makers understand that the Museum is not primarily (and now not at all!) a theatrical props hire company. Its tv collection is there in trust for future generations. Any dent or scratch carelessly added in the cause of 'art' depreciates the preservation. Even with insurance running at, in some cases several thousands of pounds, the simple fact is that the Museum can't afford the time to send along personnel to guard the irreplaceable gear. Although the NMPFT has many cameras, there are a few vital missing links. John Trenouth would like very much to hear of the whereabouts of any of the following: EMI Super Emitron, Pye Photicon, Pye Pesticon, and a Pye Mk 4. John would also like to know the location of a reputed balsa wood mock-up of the EMI 3001 colour camera design. But sensible enquiries only please. Recently, a modest collection of television sets and video recorders was offered to the Museum by a Scottish collector. The asking price? A mere three hundred thousand pounds!*



The small 'green eyed' Television

John Grabbe

Things were not improving much after the war, infact in 1947 food was still rationed and the weekly ration was actually reduced. The previous winter had been very cold with a shortage of fuel and power cuts, and television transmissions had been closed down on some evenings to save fuel.

By the summer of 1947 things were slowly getting better and the radio magazines were full of war surplus goodies at ridiculously low prices. These were still too much for a 16 year old schoolboy, so after passing my School Certificate (equivalent of GCE's now) I decided it was time I earned some real money. Acting on advice from my father, young people did in those days, I applied and got a job in the civil service. Boring you will say, and you are right. The only thing in favour of it was that the office was within walking distance of Leicester Square, Lisle Street and Tottenham Court Road.

Some of you will think, why was a young innocent lad so interested in this area of the West End with its questionable reputation for sleaze. Well I didn't know anything about that of course (likely story) but what I did know about was its proliferation of war surplus radio shops, so most of my lunch hours were spent there. *Practical Television* magazine had published several designs for making televisions out of old radar units at this time so I decided to have a go. New television sets were very expensive, if you could get one, as most were sent for export to boost our failing economy and payback the Americans who had bailed us out during the war. My father, who had been interested in building radio sets before the war, thought television circuits far too complicated, and said I would never get it working, but this time I ignored him and pressed ahead.

I was now earning real money, so after I gave my mother 10 shillings a week for board and lodging and 10 shillings for my weekly fares I had some left to purchase what my mother called junk, but I called valuable research material. So every Saturday afternoon, after work, yes we worked on Saturday morning then, I visited all the Radio emporiums of Lisle Street for parts. There was GeeRadio, G.L.Smiths. West End Radio, and H.L.Smiths all within 100 yards of each other. They had so much stock that you had to pick your way over the junk which spilled out over the pavement, also avoiding the "ladies", if you know what I mean!

What I was looking for was a Unit 6H which contained a VCR 97 cathode ray tube used during the war as an air to surface radar set. This tube was 6 inches in diameter and had a green screen, so all TV programs were presented in varying shades of green being very restful to the eyes. The only other tube available was a VCR 517 with a yellow glow and a slow response which

made any moving object leave a ghostly shadow behind it, so not very suitable. So I purchased a 6H unit at the astronomical price of 89/6 (448p) which was about 2 weeks wages, so I very carefully took it home on the tube and smuggled it into my house without mum knowing. This was quite good value in fact because not only did it contain the tube but also several valves and components and a chassis all ready punched to take the valves. The first thing to do was to strip the whole thing down and start rewiring it for a tv. This took some time, which was just as well as it gave me time to save up for the next bit. Meanwhile the next issue of *Practical Television* came out, and in it was a new design using the same tube but built on a purpose built chassis and using some of the components I had. These were supplied by Premier Radio who had shops in Edgware Road and Fleet Street, so more Saturday afternoons were spent on junk expeditions.

The first unit to be made was the vision receiver which was a 4 valve "straight" receiver tuned to 45 Mcs using EF50 valves. At that time only Alexandra Palace was transmitting TV pictures (the new station at Sutton Coldfield in Birmingham was just being built). The receiver didn't have to be very selective. As I lived only 4 miles from Ally Pally I had no problem with signal strength, the antenna was 2 pieces of wire 5ft6in long. Once again some time was spent building this while saving for the next bit. My spare time activities were not all radio and tv; I had joined the Air Training Corps, as I knew I would be doing my National Service in 2 yrs time and I didn't want to go in the Army. One of my friends in the ATC was also building a TV set and we made it into the local paper. Two more units were built, the sound unit, another 3 valve unit using EF50s and the timebase unit.

This was new circuitry to me using pulse circuits generated by pentode valves for line and frame (EF50s) and amplified by double triodes 6SN7s to feed the saw-tooth waveforms to the electrostatic plates of the VCR97. A few weeks later it was time to tackle the last unit, which was the power supply. This was the most expensive at 6 pounds! The reason for this was it used two heavy mains transformers, smoothing chokes, rectifier valves and electrolytic smoothing capacitors.

One of these transformers supplied 2000 volts for the cathode ray tube anode at 5mA. That doesn't sound much current, but still lethal in the wrong circumstances, so I was very careful. We were all very aware of high voltages in the valve age, and always had one hand in pocket when adjusting circuits etc.

It must have taken me about a year to complete all these units and the total cost was about £17, a lot of

weeks wages and many happy hours, so it was with considerable apprehension that I finally wired all units together and switched on. Yes, you guessed it, a loud bang, and this was in the living room where mum and dad were listening to Dick Barton on the Light programme. Remember that? What had I done wrong? Well it turned out to be some old paxolin tag strips that I had used from the old radar unit that couldn't stand the strain of 2000 volts after having been stored in some RAF stores since wartime. Replacing that with a new piece cured that and next time I switched on, I couldn't believe my eyes! There was some dim square on the screen with ghostly moving objects on it. I had to view it behind some thick curtains because the room lighting was too bright and apart from the fact that the picture was upside down, back to front, everyone looking 4ft high and 5ft wide and a sickly shade of green, it was a picture.

Dad had to agree that he could just recognise Tommy Cooper doing his tricks in a programme called "Cafe Continental". From then on he was one of my favourite artists, but why was he performing as though he was in *VKland*? After further reading of *Practical Television* I discovered that all I had to do was to reverse the connections to the X and Y plates of the tube and adjust the height and width controls to get things right. I still had one problem which I never did cure and that was non linearity of the line timebase which made everyone on the screen look fat at the left hand side of the frame and thin on the right! I couldn't do much about the colour though, it was a bit like Henry Fords first cars, "you can have them in any colour you like provided its black". In my case it was green.

The family watched that screen every night for 6 months, thankful that transmissions only started at 8pm and closed down at 11pm. What a contrast to now, only one channel and only 3hrs of programs plus 2 hours of test card in the morning! Nice music though. By this time I was called to serve my King and Country, so one cold November morning I found myself on Euston station with a bag containing clean socks, pants and toiletries and a one way rail warrant to a place called RAF Padgate. Anyone remember that? But that's another story. Oh no not another boring lecture from an old G3! This 2 year episode put paid to any more TV capers except to say about a year after my entry as a "sprog" and passing out as an Air Radio Mech, I was posted to RAF Watton in Norfolk. We were all called into the Signals Officers office for a pep talk and what did I see in the corner, but a green screen TV just as I had made, with a weak noisy picture fading in and out.

The Signals Officer had been building this out of old radar units but since it was about 100 miles away from Ally Pally was very lucky to get anything! I later told him I too had built one so we became friendly and found he was a Ham. No promotion for me though! While serving there doing some interesting work on Radar Countermeasures I discovered that another airman was making a TV at home but using a 9 inch black and white tubewith magnetic deflection and flyback EHT. This once again was sold by Premier Radio in kit form, and as he lived not far from me, we spent our weekend leave building a set. I also set to rebuilding my old set since I could use

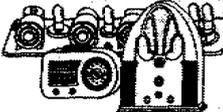
the sound and vision receivers and some of the power pack. Once again pay as a Senior Aircraftsman was not in the supertax bracket, it was not until I was demobbed I could afford to buy a new 9 inch tube and scanning coils. These were not components available from war surplus shops but there were small firms winding coils and making focus magnets etc. e.g. Haynes Radio of Queensway Enfield and Elac of Tottenham. So returning to my boring Civil Service job I was able to save up and buy these components. After about 6 months I had built a reasonable set that you could view in the room lighting with a picture that you didn't need viewing binoculars and natural looking shades, only in black and white of course.

The EHT was increased to 5000 volts, which gave you quite a jolt if you poked your fingers in, but not likely to put you six feet underground! When all was working, I even made a wooden cabinet and stained and polished it, so it became a part of the furniture in the living room. Later I bought a magnifying glass which was filled with a transparent liquid and very popular at the time. This was screwed directly in front of the TV screen and made the picture look like it was about 15 inches wide, provided you looked straight at it, otherwise all the actors looked like Tessie O'Shea.

This set served us well and we were able to watch the Queen's Coronation in 1953 together with half the neighbour-sall squeezed into one room trying to get right in front of the screen! By this time I was turning my attention to other attractions - not of the electronic type! I was 23 and single and the girls looked great in the fifties, Elvis was beginning to Rock and Roll and *Supernac* was telling us we have never had it so good! It was time to lay down the soldering iron and we bought a 14inch rectangular screen Ferguson which I was warned not to touch, So ends this saga until ITV transmissions started, but that's another story!

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A Tribute to Dennis Gifford -

Presented on the following pages, his last articles submitted for use in 405 Alive.

Denis Gifford recalls the career of DERYCK GUYLER

"I always say," said the gruff old gentleman, "it's only by listening to I the other fellow that you get the other fellow's point of view."

The answer came from a mild, soft-spoken old gentleman. "Well, I always say, it's only by listening to the other fellow that you get the other fellow's point of view..."

Fade out to music and another ten minutes with the two old gentlemen, nameless but known to each other as the "Old Friends" was over until next week. The two old friends who seldom if ever listened to each other were created and scripted by Eric Barker, once the star of *Waterlogged Spa*, the Navy's contribution to the all-service series *Merry-Go-Round*, and now contributing a quieter kind of chuckly comedy for audiences at home rather than in the BBC studio, and Deryck Guyler.

He played the gruffer, grumpy old gent who formed a catchphrase from his exasperated cry of "Oh glory!" Guyler was almost unique in comedy in that he had begun with serious dramatic stuff on the Third Programme, narrated documentary films, played jazz on the drums and spanned radio, television and films as a brilliant character comedian. His role as Police Constable Wilfred Turnbull, "Corky" to his chums, in the long-running television series *Sykes*, starring Eric of that ilk, will remain long in the memory.

Deryck Guyler was born in Wallasey, Cheshire, in 1914. His first career was expected to be in music; he was given his first drum-kit at the age of nine. One year later he began to collect jazz records, a brand new thing to do in the Twenties. His favourite was the hot trumpeter Louis Armstrong, at the time leading his Hot Five. As a boy he preferred going to the pictures to the theatre, where he fell in love with the Hollywood star Laura La Plante. He wrote to her for an autographed photograph, which he treasured for the rest of his life despite his marriage to Margaret Lennox in 1941. His favourite schoolboy reading (he went to Liverpool College) was Tom Merry in the *Gem* and Billy Bunter in the *Magnet*.

No great scholar himself—he left school and worked in his father's jewellery shop, later turning rather religious and studying at Clifton Church of England Theological College in Bristol. Meanwhile he bought his first washboard, formed a band with some school chums and played the odd gig at local boys' clubs. His drumming improved after he had a few lessons with Henry Hall and his Gleneagles Band.

Show business began to attract him more and more. He took lessons in elocution to tone down his Liver-

pool accent, little realising it would be the very thing that would bring him national fame. In 1935 he joined the Liverpool Playhouse repertory company, first as a student, then as a full member. The first play in which he appeared was *Richard of Bordeaux*, speaking his first lines to Michael Redgrave.

With the declaration of the Second World War he joined ENSA, and whilst touring service stations in Wales via a lorry he met his wife to be. "Paddy", who was one of a singing group, the Lennox Three. After a year he was called up into the RAF, becoming a corporal in the air force police. "I was the only NCO to lose 200 men!" he often recalled. "I was marching them across the airfield at Uxbridge in the fog, then realised I was on my own." He found them later in the NAAFI.

Invalided out through eye trouble in 1942, he joined the BBC Drama Repertory Company at the Manchester studios. In 1943 he moved down to Broadcasting House in London, then went freelance spending 15 months in *The Shop at Sly Corner* at the St Martin's Theatre supporting Kenneth Kent and Cathleen Nesbitt. Broadcasts continued to fill his daytimes, and he was frequently used for documentary narrations and story readings. His acting roles included *Barchester Towers* and *Framley Parsonage*, whilst his best documentary was probably *The Battle of Britain*.

The phone call that changed his life came from Francis Worsley in 1946. Worsley was the famous producer of the top radio comedy series *It's That Man Again*, handily known as ITMA. The star, Tommy Handley, was a Liverpoolian who had heard touches of his home-town accent listening to Guyler's broadcasts.

From their meeting came "Frisby Dyke", named after a Liverpool furniture store from Handley's boyhood. Dyke would pop in every week demanding to know the meaning of Handley's long words. "What's a concentrated cacophony?" he would ask in thick Liverpoolian brogue, departing satisfied with a "Ta-ra well!" Other comedy characters he created included Sir Percy Palaver, joint Governor of the Isle of Tomtopia, whose service in the outposts of Empire had reduced his speech to unintelligible inarticulations; Sir Short Supply the strangulated civil servant; and Edward Byegum, a Huddersfield industrialist with bags of brass modelled on J.B. Priestley. He was still raising the laughs in ITMA when it ended with Handley's unexpected death in 1949. "What's ridiculous rhetoric?" was Frisby Dyke's final question.

Guyler's own favourite show of the many he broadcast in was *Just Fancy*, the Eric Barker series, which ran from 1951 to 1962. Apart from the Old Friend he played the manager of the Cranbourne Towers Hotel where the Lillian Forsdyke Trio played during mealtimes, wooing Miss Forsdyke with his cream horns. Yet he never forsook his more dramatic side, playing Inspector Scott from 1957 to 1962, in a half-hour detective series closely modelled on the pre-war Scotland Yard episodes starring Inspector Hornleigh. Small wonder; they were written by the same author, who had slyly changed his name from Hans W Priwin to John P Wynn.

His last and most successful radio series was *The Men From the Ministry* (1966-77), in which he played Mr Lennox Brown to Richard Murdoch's Mr Lamb, taking over from Wilfrid Hyde-White when he returned to Hollywood. Thus he was in not quite but almost this show's 15-year run, which concluded in 1977.

Guyler's television career began with his friend in *The Eric Barker Half Hour* (1953) and continued two years later with a move to the new ITV, appearing with Reg "Confidentially" Dixon in the series called, yes, *Confidentially*. Back to the BBC for *The Charlie Chester Show* (1958), and a reunion with Barker in *Something in the City* (1959). He supported the ex-Goon Michael Bentine in his own series *It's a Square World* (1960), and among the many more series were *The Dick Emery Show* (1965), *According to Dora* (Bryan, that was), and the two series that truly made his name as a

television comedy star. First came *Please Sir* (1968-71) for LWT, in which he played Potter the porter at Fenn Street Secondary modern for 57 episodes, and then *Sykes* (1971-79), 68 programmes as the dim-witted busybody bluebottle PC Turnbull.

There were along the way many turn-ups in chat and game shows, including my own radio series *Sounds Familiar* and television series *Looks Familiar*. In both appearances I ensured that he brought along his much-bashed washboard and gave us a jazzy scrub of skiffle. I also wrote his children's series for Yorkshire, *The Laughing Policeman*, produced by the later controversial religious figure Jess Yates.

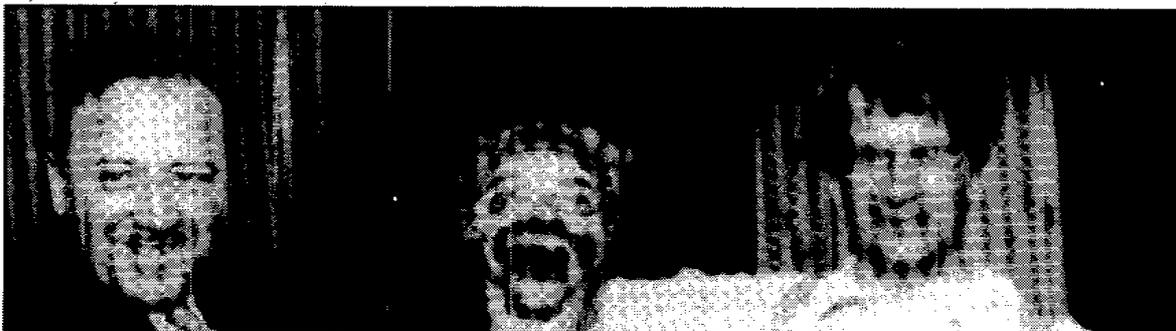
In 1974 he was honoured in *This Is Your Life*. There seemed to be little he could not do: in 1971 he made a record of "You Can't Kill an Old Desert Rat", and even played his beloved washboard in support of the Spinners on their disc "Coney Island Washboard".

Deryck Guyler, actor; born Wallasey, Cheshire 29 April 1914; married 1941 Paddy Lennox (two sons); died Brisbane, Queensland 7 October 1999.

The fascinating item following is from the Rangoon Gazette Weekly Budget from the 17th January 1927. It's a tribute to the effectiveness of the Baird publicity machine.

SEEING BY WIRELESS.

The technical experts of the British Broadcasting Company are keeping in close touch with the latest scientific developments in the direction of television, and although no extension of the wireless service to include visual as well as sound impressions is immediately contemplated, such an extension is not outside the bounds of possibility within the course of a year or so. Much interest has been aroused in the meantime by the latest discovery of Mr. J. L. Baird, the young Scottish inventor of the "Televisor", with which the first demonstrations were given at the beginning of the present year. Certain secret tests have already been given with the new invention before Service experts—Naval, Military, and Aerial—and the Government are interested in the new device, which may have great potentialities in warfare. If adequately developed, it would enable enemy movements under the cover of darkness to be clearly observed by the other side, and would therefore revolutionise all plans of battle. The invisible rays might be utilised to penetrate fog more effectually than any other known form of light, and could thus facilitate the movement of all forms of transport in foggy weather. Mr. Baird's latest discovery marks an almost complete inversion of his earlier methods of television. Originally it was necessary for the object whose visual impression was to be transmitted to be placed under the rays of an intensely brilliant light, almost sufficient to blind a human being. A television projector which he believes will result in the realisation of radio-cinematographs was demonstrated this week in St Luis by Dr. Alexanderson, an engineer of the General Electric Company and Radio Corporation of America. He stated that he had accomplished the wireless transmission of a single photograph in two minutes, and that what was now needed was the reception and reproduction of pictures in one-sixteenth of a second. A transatlantic conversation in which it would be possible both to hear the voice and see the face of the speaker was, he thought, feasible with the means already to hand.



This remarkable photograph was provided by Ray Herbert.

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The BFI (British Film Institute) has announced its support for the draft Masterplan for the re-development of the South Bank complex. The new BFI Film Centre will be based on what is currently Hungerford Car Park (next to the B.A. London Eye Wheel). This will be an integrated facility covering all the BFI's activities. This will include a larger NFT (National Film Theatre) and a more accessible BFI library. Also to be included are an improved Museum Of The Moving Image.

RESTORING BAIRD'S IMAGE

Donald McLean, the leading low definition Television restoration expert is to publish a new book this summer called 'Restoring Baird's Image'. In this book he will relate the story of Baird's Television achievements in the light of his own discoveries. The restorations were undertaken in a completely new field, with even the software having to be hand crafted to suit the task. From recording ranging from vinyl to the rare aluminium records of the early 30's, Mr McLean has built up an image bank which is worthy as the first and earliest surviving Television video recordings.

THE BFI 100

Recently, the BFI has been promoting its definitive list of 100 films thought worthy of preservation and study on a regular and permanent basis. 100 show prints are now kept of these titles for both London and regional screenings. The conception of this list drew much publicity from the Press and public. To follow on from this, the BFI has taken a survey to compile a similar list for surviving British Television. A questionnaire was sent to people who worked in or had a connection with archive Television. The results of these have now been counted and will be announced on September 5th this year. The voting ranged from the programmes of today, right back to the dawn of recorded programmes. We hope to publish the full list later this year.

ALEXANDRA PALACE TELEVISION SOCIETY WEBSITE

An update on progress: DOWNLOADS section has now been included on the APTS web site. This can be located by following the link from the main index page. This section includes:

- Test cards & tuning signals
- Opening & closing announcements

These can provide a change to the standard 'wallpaper' and 'sounds' on your PC. Files can be downloaded individually or as ZIP files, (evaluation copy of WINZIP available to download). More files will be up-loaded once they have been processed. Check it out today and bring your PC to life!! **Simon Vaughan Archivist** (For and on behalf of Alexandra Palace Television Society)
Tel/Fax: +44 (0)1509 265609
web: <http://www.apts.freemove.co.uk>
e-mail: apts@apts.freemove.co.uk

DENNIS GIFFORD

It is with great regret that we must mention this issue that our valued contributor and friend Dennis Gifford has passed away, following a short illness. Most of you will be familiar with the prodigious output of books and magazine articles by Dennis over many years. He defined aspects of collecting Comics, books and magazines as well as exploiting his encyclopaedic knowledge of British and American Cinema. He broadcast on the subject and many others on radio and Television, also scriptwriting for the early days of both mediums. A permanent record of his work will always be his definitive British Film Catalogue. His writing style was always warm and informed. We are indebted to him for literally creating a Public image of what we now know as 'British Nostalgia'.

May he rest in peace.

HYPERION CD RELEASE

Hyperion Records have released a new CD number A67148 called "British Light Music Classics"- volume 3. This is played by the New London Orchestra cond conducted by Ronald Corp. See weblink; <http://www.hyperion-records.co.uk/details/7148.html> for futher details.

DICKY HOWETT RECORDED ON 625 LINES!

The Seriousness Of Long Distance TV Camera Collector. Dicky Howett as he will appear (in colour) in an edition of the next series of Channel Four's estimable 'Collectors Lot' programme due to be aired in November:



MEMOIR CD RELEASE

Fiddle Fiddle—The Cream of Light Music Favourites (Memoir label) :
Cat. Number: CDMOIR 539
Price: £7.99 / Format: CD / Released: 2000

In the last issue I mentioned a marvelous CD for people who enjoy hearing the light music tunes of the 1950s again. Now here comes another—and again at bargain price! A total of 24 memorable tracks that will bring back the memories have been compiled by Jim Palm to provide a bonanza of radio and television theme tunes and incidental music. Although a few numbers are duplicated from the Queen's Hall album (Melody on the Move and Devil's Gallop for example), the versions on this CD are different and just as good. Many listeners familiar with these pieces as theme tunes may be surprised that the numbers contain much more melody than the familiar snatches and are really very balanced melodies. Again great value for money and highly recommended - A.E.

PAT HILDRED

Many of you will remember Pat Hildred. Although not a BVWS member when he died, he belonged to the Society for many years. His enthusiasm for 405 line television was infectious. On Thursday 10th February he was working under one of his beloved 1960s Fords when the car collapsed on him. He was killed instantly. Pat was collecting 405 line televisions before most of us were even interested. His collection of sets ranged from the early post-war Pyes with mains EHT through to the first generation of dual standard receivers. Although born in the mid sixties he lived as though a true child of that decade. Classic Fords, scooters (definitely a mod, not a rocker), a home decorated true to that era with "Homemaker" plates, and much else besides. His wife, Fiona, not only tolerated all this but actively supported him. Pat spent many happy hours at the Vintage Wireless Museum where Gerry Wells was teaching him the tricks of vintage wireless restoration. Fiona has asked for any donations in Pat's memory to be made to the Vintage Wireless Museum.

Jeffrey Borinsky

HARRY MATTHEWS

Born: 30th November 1918, Vauxhall, London
Died: 15th February 2000, Falkirk Royal Infirmary

The death of Harry Matthews will come as sad news to radio enthusiasts world-wide and to former students, academic colleagues and associates from the museum world. The combination of technical ability and daredevilry that marked his early life was to serve him well during his period of military service. At the outbreak of World War II, the army overlooked his undoubted technical skills and sent him to France to serve as a driver with the British Expeditionary Force. After escape from Dunkirk, he began training as a radio operator. Late in his career, Harry embraced an activity that was to propel him into a typically energetic retirement. In 1973 an abandoned round Ekco wireless, a set which he had helped to design, triggered Harry into starting a "Wireless Collection". Intended to save fast disappearing equipment it rapidly became a vast collection of historic communications technology, encompassing telegraphy, telephones, military systems, television, printing and photography. The

original Wireless Collection was displayed within the university on two tables. It soon expanded to fill a lab and two crush halls and was used and admired by students, staff and visiting academics. Retirement in 1982 channelled his energies into studying, collecting, preserving and exhibiting artefacts to illustrate and explain the development of communications technology. He moved to Bo'ness, a de-industrialising town on the Firth of Forth that seemed destined to host an open-air museum of the kind established at Bearnish, Co. Durham. A more permanent exhibition was hosted by the communications company Scottish Telecom until a change of management policy required the use of the space, it occupied the spirit of Harry Matthews - ingenious, inspirational and indomitable - will live as long as his collection performs the educational role he intended for it. Harry is survived by his wife, Jean.

David W. Brown, Museum of Communication

(the above is a respectfully edited version of the original official text).

LETTERS

From Bill Journeaux, Dorset:

As one of the founder members of the 405 Alive Society. I would like to express my own personal thanks to Andy Emmerson for his magnificent effort over the past eleven years, in editing and producing our magazine.

- ◆ *I'm sure all readers would agree with Bill's compliment. See the Editorial for more on this subject.*

From Harold Fisher, Stoke:

When are you going to cover some of the Thirties TV sets in detail. I for one, would welcome some information on these sets. It seems as if no-one is interested? Can anyone also tell me how many editions of the BBC 60's Jackanory Programme survive?

- ◆ *We do plan more on thirties television. You can be assured that it's a topic which will be covered in depth later this year. On the Jackanory front, the answer to your query is that only six programmes survive. Four of these are the first story. These exist on their master 405 line tapes. It is, sadly, a programme with almost 80% of episodes destroyed.*

From Jim Pople, Bucks:

Slight typographical corrective. I discovered that I actually cut six of the 'War In The Airs', not five as I has always thought.

- ◆ *This excellent 1954 BBC series is currently available intact and complete on DD Video (two double tape packs).*

From Jim Hensall, Leeds:

I made a trip to the BFI recently with my Grandchildren (to see the MOMI exhibition). I was annoyed to find it has closed. Why can't they publicise this better. It was a completely wasted day. There seems to be no hard evidence that it will re-open. This is a shame as I first saw it when it was new and greatly admired their collections.

- ◆ *Please see the Telenews page for the official news concerning the BFI. Sorry your day didn't go well, perhaps you should try the BBC Experience another time?*

From Brian Renforth, Wallsend-On-Tyne:

I noticed the criticisms over articles relating to 625-line and transistorised sets. Well, I'm impartial, but Andrew Redding does have a point, although I personally found the articles very interesting! The BRC 2000 is a dual standard set and, John Wakeley correctly states they would've been used on 405 BBC-1 and ITV until duplication to UHF started. I suppose the BRC 3000 is historic in it's own right, being the first UK produced set solely designed for 625 lines. I've purposely withheld contributions about some fascinating sets of the early 70's, such as the Sanyo CTP370 valved portable, as they are 625-line only; yet if anyone's interested I'll certainly do one!

Long term readers may recall my articles on the Phillips G6 chassis. It's still going strong, though a couple of minor faults have occurred in recent times: the colour off button no longer removes the colour and, following a period in storage, the purity has gone haywire. Grey scale and convergence have retained their very high standards. Despite the purity problem, the pictures are really superb on both systems. I was able to retain the sets original feature, though the only change was the EY51 focus diode which was changed to an EY87 and valve-holder, this being the plug-in version of the same valve. Steve's GEC 2028 is now back with him. Like the G6, the pictures really are superb.

- ◆ *Do readers think we should cover early colour sets? It's recently been a topic, which has resulted in my pulling one article from this issue until the reaction is decided. Your comments please.*

From Dicky Howett:

The transmitter mast at Alexandra Palace has been saved from dismemberment by English Heritage who (on advisement) put the block on Castle Transmission International (as then was) from lopping 17 ft off the top of the historic mast and replacing it with a fibre mock-up. This in order to mount yet more money-making antenna. The cast-iron cast-off was then supposed to grace Alexandra Park as a 'climbing frame' sculpture. Such is history and the peril to which we put it.

- ◆ *Thanks for this Dicky. What do readers think of this? Vandalism or sign of the times?*

From Adrian R. Hills:

Recently I viewed some letters on sale at Christies regarding J.L.Baird's activities in trying to set up a company during WWII with journalist Tom King. I was fortunate to obtain a complete photocopy of them and have since assessed them in relation to Baird's own diaries as well as contemporary company minutes from Cable and Wireless for whom JLB was a consultant. I have simplified the section from my thesis to a readable form and have attached it. I would be pleased if you put this info' in the next 405 Alive - something new for the record as well as pointing to a company that could have been a major post war television supplier. Iain Logie Baird, J.L.B's grandson has recently put up a new website:

<http://tor-pw1.attcanada.ca/~antenna1/Baird.html>.

It is in its first stages right now but we expect big things, should be good to watch it develop. If you are mentioning websites Simon Vaughn's APTS has a new address and has been vastly improved, impressive to say the least.

- ◆ *Adrian's definitive article is in this issue. For more information on Simon Vaughn's APTS site. please refer to the Telenews section.*

From Bob Fells:

Everybody knows the I LOVE LUCY shows were performed before a live audience but recently I realised that the laugh track was sweetened there too. The give-away is where some lady out in the audience says, Uh-oh. It was used in cases where one of the characters unwittingly does something that the audience knows will cause complications in the story line, hence the uh-oh reaction. Whenever I hear it, and it was used in a lot of the LUCY shows, I say to my wife, There's the uh-oh lady again. Either it was a sweetener or that lady must have attended a lot of LUCY filmings through the years!

- ◆ *Has anyone else spotted this?*

From Steve Ostler:

I understand from Andy Emmerson that you are now editor of 405-Alive. Perhaps I can direct you to my site at www.radiocraft.co.uk which contains material of interest to television enthusiasts, including a Band I modulator. Any chance of a mention of this URL in the next 405-Alive ?

◆ *Of course, but you've done it yourself!*

From Malcolm Baird:

Please find enclosed a short piece for 405 Alive. I sent a slightly earlier (less polished) version to Andy Emmerson a week or so ago, but I realise he is no longer Editor. I hope you can use this piece. Best wishes in the editorship.

◆ *Many thanks for those kind words. Malcolm's interesting article appears in this issue.*

From Steve Pendlebury:

Looking forward to the new look 405 Alive. May I add my name to the list of people offering a vote of thanks to Andy Emmerson for the last 10 years!!

◆ *Thanks for this, Steve.*

From Simon Vaughn:

(this letter was part of a continuing discussion on a mysterious set of film negatives - taken by D.R. Campbell 'Father Of Television Lighting' - the discussed question was - why was the Television equipment restarted at Alexandra Palace in 1943?)

The lady's name is given in quotes on the negative packet and this may be her performance name. Miss Fuller (the lady arranging flowers) has the same name as one of the men filming. Mary Allen (in quotes) was the make-up and wardrobe Mistress. She was in fact married, and as Isabel Winthrop recalls in her written account of Wardrobe and Make-up "our boss, Mary Allen, had been creating the department of Make-up and Wardrobe from its beginning at Alexandra Palace. She was married, but at some stage she divorced her husband."

Could this be why her name appears in quotes - she was known as Mary Allen, (her maiden name), but was really Mrs 'X'? Was it anything to do with the Hankey Committee (appointed September 1943)? Perhaps demonstrating the quality of the 405-line system as against proposals for colour, 1000+lines and stereoscopic television (which were all set before the committee). Bernard Greenhead (EMI engineer) remembers taking an Emitron tube out of storage at EMI to A.P for the demonstration. I questioned him to make sure that he was referring to Aug 1943 and not Feb 1945, and he was quite definite that it was Aug '43. But the annoying thing is he can't remember why the demonstration took place! But he said that it was his responsibility, along with Paff, to ensure the studio equipment was operational, so that television could be demonstrated. You never know we might crack this elusive puzzle!

◆ *One of these fascinating photographs is reproduced above (this is one of several off screen shots). Can any reader shed more light on the purpose of this 1943 demonstration?. We hope to provide a full photo-display article in the next issue.*

From Ian Watson;

Good to talk to you and thanks for the info on submitting articles. All the best for the success of your editorship of the magazine. I have attached an image from the screen of my newly restored 1956 NTSC 405 line colour set we discussed. The colour effect is unfortunately only the purity and convergence errors of a newly fitted tube. Should you wish to check out the rest of my 405 line TV collection the URL is <http://www.jdwn.freemove.co.uk/>



Before you lift the phone...

...please do not ring up to enquire about the status of your subscription or the availability of service data/technical information.

- ◆ Subscription information is handled exclusively by Graham, our resident genius, in the Administration Office. The Radiophile, publisher of *405 Alive*, also has a huge library of service information which is available to readers at very reasonable prices. Please address your requirements, with SAE, to Graham at the Admin. Office, *The Radiophile*, Larkhill, Newport Road, Woodseaves, STAFFORD, ST20 0NP or fax them to 01785-284696.

On the other hand, there is absolutely no point in sending small ads, readers' letters and other editorial contributions to the Admin. Office. They may be delayed there and will incur extra postage, so please send them direct to the editorial address in *Edinburgh*.

Your kind co-operation will make it much easier for us to produce your favourite magazine on time with remarkably slender resources.

Have you bought YOUR copy yet?

ELECTRONIC CLASSICS: COLLECTING, RESTORATION & REPAIR

Only this book reveals secrets such as...

Can broken valves be mended? - Now that obsolete ICs are more difficult to find than valves, where do you get all those hard-to-find parts? - Can noisy volume controls be silenced permanently (without using a big hammer)? - How do you finish off apparatus to museum display standards? - Are fakes easy to spot? - Can you really destroy an item's value by crummy restoration? (You bet you can!) - Why do some collectors have all the luck and what's their secret? - How do you tell the rogues in this hobby and what remedy do you have against them? - Where do people get archive programme material? - Is it worth joining a society and if so, which one? - Can you really make a living out of your hobby? - Are there easy ways of restoring old sets? - Which books and materials do you need? - How can YOU score repeatedly at auctions and antique fairs? How come the dealers always get hold of the tastiest stock? ... and this book doesn't mince words!

This book will encourage you in your hobby and build up your confidence at tackling those restoration tasks yourself - and save you a fortune in the process.

Published by Newnes at £19.99 (ISBN 0-7506-3788-9) and available through amazon.com and all good bookshops.

THE TEST CARD CIRCLE

This society was founded in 1989 with fewer than twenty members. Since then it has grown in membership to well over one hundred, and has certainly grown in stature. The various broadcasting authorities acknowledge the wealth of information and expertise possessed by the membership, and regularly refer inquiries direct to the society.

All aspects of television trade test transmissions are included within the interests of The Circle: Test Cards and patterns, accompanying music, slides and still pictures, Service Information bulletins, Trade Test Colour Films, and, of course, the BBC Demonstration Film.

A quarterly 48-page magazine with colour cover, is issued which contains lively and interesting articles on all of these topics. Each spring, a convention is held in the little market town of Leominster, where members can meet for a delightful weekend of wonderful music and pictures, good companionship, and pure nostalgia. It is also a great deal of fun.

If you are interested in this fascinating subject, write to the Secretary, 20 Seymour Road, Wollescote, Stourbridge, DY9 8TB, and if you send a 12.5" x 9" self addressed envelope with a 50 pence stamp, we will be pleased to send you a sample copy of the Circle's magazine.

ASK YOURSELF THREE QUESTIONS...

1. Bored with the same old dreary, overpriced merchandise at collectors' fairs and antique marts?

2. Do you collect any of these?

*Stamps and Postal History
Picture Postcards
Cigarette and Phone Cards
Cameras and Photography items
Coins and Banknotes
Military, Naval and Aviation items
Pop, Stage and Screen memorabilia
Autographs
Things to do with Sport and Transport
Old Toys
Ephemera, Documents and Prints
Books
The weirdest kind of Collector's Items*

3. Would you like to be offered a selection regularly, often at less than dealers' prices?

Yes? Then it's time you got in on the secret and discovered DALKEITH AUCTIONS, an established company in Bournemouth who hold auctions of all these items every month and issue detailed 56-page catalogues in advance. Can't get down to Bournemouth? No problem! Just fill in the bid form and send an open cheque or give us your credit card number. You set an upper limit for your bid and we don't abuse your trust (proprietor is a 405 Aliver!). The system does work! Contact us too if you wish to sell items to a broad range of interested and motivated people. Enquiries to Philip Howard on 01202-292905. The catalogue of the next auction costs £2 (annual subscription by post £22) but you can phone or write for your first copy FREE.

DALKEITH AUCTIONS, Dalkeith Hall,
81 Old Christchurch Road, BOURNEMOUTH, BH1 1YL

405 Advertisements

REPAIRS

"We do three kinds of job - quick, cheap and good. You can have any two of the three. You can have a good, quick job but it won't be cheap. You can have a good, cheap job but it won't be quick. And you could ask us to do a quick, cheap job but it wouldn't be any good."

REPAIRS: vintage TVs, radios and testgear repaired and restored. Personal attention to every job and moderate prices. Estimates without obligation - deal with an enthusiast! (BVWS and BATC member) Please include SAE with all enquiries - thanks. Dave Higginson, 28 High Street, Misterton, Doncaster, Yorks., DN10 4BU (01427-890768) (T).

TV & RADIO REPAIRS: Bruce Adams, 53 Red Leasowes Road, Hasbury, Halesowen, West Midlands, B63 5SE (0121-550 0019). Painstaking repairs and overhauls of old sets, which have won awards for technical excellence and attention to safety details. Collect/deliver throughout West Midlands. (T)

SERVICE DATA

The Radiophile, publisher of *405 Alive*, has a huge library of service information which is available to readers at very reasonable prices. Please address your requirements to Graham at the Admin. Office, The Radiophile, Larkhill, Newport Road, Woodseaves, STAFFORD, ST20 0NP or fax them to 01785-284696. Don't forget the annual volumes of TV & Radio Servicing at most public libraries.

COMPONENTS. Here is a brief list of suppliers; you can have a much extended two-page list by asking for FAQ SHEET 3 and sending one first-class stamp loose plus a SAE to the editorial address. Most valves and other components are not hard to find: we can mention Billington Export (01403-784961, £50 minimum order), Colson Ltd (01403-786559), Kenzen (0121-446 4346), Wilson Valves (01484-654650, 420774), Sound Systems of Suffolk (01473-721493) and PMF Components (01474-560521).

A good non-commercial supplier of hard-to-find types is Phil Taylor, 3 Silver Lane, Billingshurst, Sussex, RH14 0RP. For hard-to-find transistors we have heard of - but phone numbers may have changed - AQL Technology (01252-341711), Mashroon Components, Unit 3 Bradford Road, Finedon Road Industrial Estate, Wellingborough, NN8 4HB (01933-275345, fax 01933-275245), The Semiconductor Archives (0181-691 7908), Vectis Components Ltd. (01705-669885) and Universal Semiconductor Devices Ltd. (01494-79289). NB: Several of these firms have minimum order levels of between £10 and £20. For American books on old radio and TV, also all manner of spares, try Antique Radio Supply. (phone 00 1-602-820 5411, fax 00 1-602 820 4643). Their mail order service is first-class and they have a beautiful free colour catalogue (or is it colour catalogue?). Would you like to recommend other firms? If you think a firm gives good service please tell us all!

STANDARDS CONVERTERS. Building your own is not a realistic proposition unless you already have seriously advanced design and construction facilities. It's not a task for amateurs, not even for gifted ones. Many of the parts needed are available only from professional sources and not in one-off quantities, whilst some previous designs for converters can no longer be copied because the custom chips are no longer made. Unfortunately the production of these marvellous devices has now ceased. Note also our two advertisements in this section for a conversion service.

MODULATORS. Two designs for modulators have been published in *Television* magazine but we don't recommend either today. One uses hard-to-find components, whilst the other one is good but requires you to make your own printed circuit board and wind your own coils very accurately. There was an excellent ready-built modulator from Dinosaur Designs but production has ceased until further notice.

This is the area for buying and selling all kinds of things to do with television, new or old. Want to join in? Then send us your advertisement: there is no charge, although if space is short we may have to 'prune' out the least relevant adverts or hold them over until next time.

WHAT'S IN AND WHAT'S OUT

These advertisements are primarily for private sales but traders are also welcome. The Business Advertisements (Disclosure) Order of 1977 requires people who are commercial dealers to make this fact clear in their advertisements. The letter (T) at the end of an advertisement indicates that the advertisement is trade (and (NS) that the advertisement has been placed by a non-subscriber.

Test card music and old TV programmes are subject to the same rules of copyright as other recorded works and it is unlawful to sell amateur or professional recordings of same. Any adverts submitted which breach copyright will not be published. Swapping some for no gain is possibly not illegal but *405 Alive* does not want to test the law on this subject so we will only accept advertisements from people who will indemnify us in this respect.

IMPORTANT DISCLAIMERS ELECTRICAL SAFETY

1. Rules intended to protect public safety now place heavy responsibilities on those who sell electrical appliances. Note that all electrical items which are in 'working' order must be fitted with a plug.

We suggest that any untested items are labelled 'Collector's item, not to be connected to the mains without examination by a competent electrician' or something similar.

2. This magazine takes no responsibility for equipment which may not conform to today's electrical standard. In this these aspect and related aspects, we advise readers to take their own precautions.

General points

Whilst care is taken to establish the bona fides of advertisers, readers are strongly recommended to take their own precaution before parting with money in response to an advertisement. We do not accept any responsibility for dealings resulting from these advertisements, which are published in good faith. That said, we will endeavour to deal sympathetically and effectively with any difficulties but at our discretion.

Fortunately we have had no problems yet. In related collecting fields, replicas and reproductions have proven to be difficult to identify, so beware of any items 'of doubtful origin' and assure yourself of the authenticity of anything you propose buying. And try to have fun; after all, it's only a hobby!

HOW TO WRITE CLASSIFIED ADVERTISEMENTS THAT WORK

1. Start by mentioning the product or service you are selling or want. By doing so, you make it easier for the reader.
2. Always include the price. Research has shown that 52 per cent of people who read classified ads will not respond to ads that fail to mention a price.
3. Keep abbreviations to a minimum. Will the reader know what a NB207 is? If it's a 12-inch table model TV from 1956, say so!
4. Put yourself in the position of the reader. Is all the information included?

NOTE: Thanks to referrals and mentions in the press we are now receiving a fair proportion of advertisements of sets for sale from members of the public. We print their descriptions in good faith but their descriptions may not be as accurate or as well-informed as those made by, say, a keen and knowledgeable enthusiast.

A PLEA! When sending in your advertisement please do put a date on it. We don't normally type in your advertisement on the day received and instead all small ads go into a file ready for typing later. But what happens then if I come across three undated ads all from the same person and one of them says 'This is my new ad, please cancel previous ones'? It does happen, so please be kind enough to date your ad.

IS IT VALUE FOR MONEY?

It's unwise to pay too much but it's also unwise to pay too little. When you pay too much, you lose a little money, that is all. When you pay too little, you sometimes lose everything because the thing you bought was incapable of doing the thing you bought it to do. The common law of business balance prohibits paying a little and getting a lot. It can't be done. If you deal with the lowest bidder, it's well to set aside something for the risk you run. And if you do that, you will have enough to pay for something better.

Attributed to John Ruskin, 1819-1900.

FOR SALE:

THE ART OF TELEVISION Jan Bussell. 1952. Photo-illustrated tv production at Alexandra Palace by Muffin's dad. No d/w. ex-libris. £5

HANDBOOK OF BROADCASTING. McGraw-Hill 1957. Lots of pictures of US cameras, lights, mics, studios etc. £5

ITV ANNUAL 1964. ed Hwa Thomas. Nice pictures of ITN's Kingsway studio, plus making Fireball XL5, ATV Pye cameras etc. £5

UNDERSTANDING TELEVISION. Ed. Robert Hilliard. USA Hastings House 1964. Many photos of tv equipment - vt-mics-cameras-lights from the period. A last century 'How To' book. £5

TELEVISION: The First 50 years. Geddes/Bussey. 1986. Well illustrated booklet produced by the National Museum of Photography, Film & Television. £3

UNDERSTANDING TELEVISION. John Howkins. Studdal Books 1976. Large format, well-illustrated sections including 'Upstairs-Downstairs', ITN, History of TV etc. £3

INDEPENDENT TELEVISION IN BRITAIN. Bernard Sendall. 1982. Vol 1. Origin & Foundation 1946-1962. How ITV began. Invaluable history for the TV scholar. £4

GIRL FILM & TELEVISION ANNUAL No1 1957. No d/w. £5. 1st of this attractive series

FANTASTIC TELEVISION. Gerani/Schulman. Titan Books 1987. Lots of US/UK fantasy tv shows listed. Illustrated. £3

EAGLE COMICS from Vol 2 no.2 1951. £2.50 each. All with centre spreads intact! List available. All VGC. Postage minimum on all items £1.50

Contact Dicky Howett. 01371 820155

Email: dicky.howett@btinternet.com

FOR SALE: Sony SL8000UB Betamax Recorder (original UK Model), £50. Phillips 'Skiscope' cassette autochanger with DNL unit, £50. Bush TV75 17 inch TV (Circa 1958), running order, offers. AVO valve tester (pre war model) with book £55. Ediswan AF oscillator, high grade model with floating output and neon regulator £10. Advance Advac valve AC millivolt meter, max 300V, later type case, £5. Wanted: Head cover casting for Bang & Olufsen Beocord Open reel tape recorder, such as 1500, 1800, 2000DL, 2400 (they are all very similar). Contact: Tim Jarman on 01252-816938 (evenings).

FOR SALE: Fully working Sony 7 inch dual standard b/w portable TV set model 9-90UB Serial Number 56751. Reasonable offer. Please write to Peter Carlton, 44 Morwenna Court, Northam, Bideford, Devon, EX39 1EQ or Email: pcarlton@tdn.co.uk

FOR SALE: Radio Times from the 1950s. Most are in good condition and have only slight yellowing. Some editions however have the occasional piece clipped from the pages and this will be reflected in the price. Postage at cost. Tel: 0131-477-1343
email: mike@peantandmedia.co.uk
1953 (16) 4.50 each
23/8/53 - 29/8/53 30/8/53 - 5/9/53 - £4
6/9/53 - 12/9/53 13/9/53 - 19/9/53 - £3.50

20/9/53 - 26/9/53
27/9/53 - 3/10/53
4/10/53 - 10/10/53
11/10/53 - 17/10/53
18/10/53 - 24/10/53
25/10/53 - 31/10/53
1/11/53 - 7/11/53 - 3.50
8/11/53 - 14/11/53 - 3.50
15/11/53 - 21/11/53
22/11/53 - 28/11/53
6/12/53 - 12/12/53
13/12/53 - 19/12/53

11/5/58 - 17/5/58
18/5/58 - 24/5/58
25/5/58 - 31/5/58
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8/6/58 - 14/6/58
15/6/58 - 21/6/58
22/6/58 - 28/6/58
29/6/58 - 5/7/58
6/7/58 - 12/7/58
20/7/58 - 26/7/58
27/7/58 - 2/8/58
3/8/58 - 9/8/58
10/8/58 - 16/8/58
17/8/58 - 23/8/58
24/8/58 - 30/8/58
31/8/58 - 6/9/58
7/9/58 - 13/9/58
14/9/58 - 20/9/58
28/9/58 - 4/10/58
5/10/58 - 11/10/58
12/10/58 - 18/10/58
19/10/58 - 25/10/58
26/10/58 - 1/11/58
2/11/58 - 8/11/58
9/11/58 - 15/11/58
16/11/58 - 22/11/58
23/11/58 - 29/11/58
30/11/58 - 6/12/58
7/12/58 - 13/12/58
14/12/58 - 20/12/58

1954 (10) 4.50 each

10/1/54 - 16/1/54
28/2/54 - 6/3/54
2/5/54 - 8/5/54
9/5/54 - 15/5/54
15/8/54 - 21/8/54
22/8/54 - 28/8/54
29/8/54 - 4/9/54
19/9/54 - 25/9/54
26/9/54 - 2/10/54
3/10/54 - 9/10/54

1955 (8) 4.50 each

3/4/55 - 9/4/55
10/4/55 - 16/4/55
17/4/55 - 23/4/55
24/4/55 - 30/4/55
1/5/55 - 7/5/55
8/4/55 - 14/5/55
29/5/55 - 4/6/55
19/6/55 - 25/6/55

1957 (5) 4 each

17/11/57 - 23/11/57
24/11/57 - 30/11/57
1/12/57 - 7/12/57
15/12/57 - 21/12/57
29/12/57 - 4/1/58

1958 (46) 4 each

12/1/58 - 18/1/58
19/1/58 - 25/1/58
26/1/58 - 1/2/58
2/2/58 - 8/2/58
16/2/58 - 22/2/58
23/2/58 - 1/3/58
2/3/58 - 8/3/58
16/3/58 - 22/3/58
23/3/58 - 29/3/58
30/3/58 - 5/4/58
6/4/58 - 12/4/58
13/4/58 - 19/4/58
20/4/58 - 26/4/58
27/4/58 - 3/5/58
4/5/58 - 10/5/58



4/10/59 - 10/10/59
8/11/59 - 14/11/59
15/11/59 - 21/11/59
22/11/59 - 28/11/59
29/11/59 - 5/12/59
6/12/59 - 12/12/59
13/12/59 - 19/12/59
27/12/59 - 2/1/60

WANTED: Head cover casting for Bang & Olufsen Beocord Open reel tape recorder, such as 1500, 1800, 2000DA, 2400 (they are all very similar). Bang & Olufsen BEOvison 600 17 inch mono portable, also tuner for earlier hybrid, mono B&O TV, model 1400 etc. Contact: **Tim Jarman** on 01252-616938 (evenings).

WANTED: IIT / KB hybrid colour CVC1 or CVC2 sets. Any condition considered. Please Email Mikey at mdb@permanent.co.uk or phone 01395 274227.

WANTED: Video copy of any of the Buzby telephone adverts or earlier GPO advertisements, also the series "Washes Whites" shown a few years ago about the history of television advertising. All costs covered obviously. Also wanted single channel 405 line TV set, console or tabletop, any condition, make or age. Please write to **Peter Carlton, 44 Morwenna Park Road, Northam, Bideford, Devon, EX39 1EQ** or E-mail: pearlton@bt.com

WANTED: English Electric Model T40/T41 - will pay / swap for other 405 Line set/s. Contact **Rob. Walsh, 0161-4286269**

WANTED: 7 inch C.R.T. for 1938 EKCO. The tube numbers are CRM.71 or MW18.2, or any round 7 inch C.R.T. with narrow neck would help. Contact **Geoff Holden, 013398-82979**

WANTED: Any literature on the EMI L2A battery reporter's tape recorder circa 1955. Ikegami 79D top-mounted viewfinder. Contact **Dicky Howett, 01371-820155, e-mail: dicky.howett@btinternet.com**

WANTED: Head for a Philips N1502 video recorder and a technician who can repair a Grundig Video 2000 VCR, model number 800. Please telephone **David Goodsell** on 01473-413223.

HELP! WANTED! ANYONE! frame scan output transformer for a Pye model BV30 or a substitute to couple ECL89 to frame coils on 9-inch tube. **Eric Hadley, phone 0171-612 6329 day or 01273-739947 evening or e-mail e.hadley@joe.ac.uk**

WANTED: Philips N1460, N1500, N1501, N1502, N1512, N1520, N1700, N1702, Grundig SVR and Toshiba/Sanyo VCORD video machines. Any condition considered. Also wanted: Literature, tapes and spares for any machines listed above. Phone **Mike** on 01395-274227, or e-mail to mdb@permanent.co.uk

WANTED: TOP DOLLAR PAID for WWII or older U.S. Navy Gear, THE BIGGER & HEAVIER THE BETTER! - U.S. NAVY TRANSMITTERS (400-HL) TA > JDY - SMALL U.S. NAVY TRANSMITTERS TB & TAV - U.S. NAVY RADIOS MODELS RA> RZ, RAG & RAH - U.S. NAVY RADIOS MODELS GA > GN, GP & GO - U.S. NAVY RADIO SE OR C SERIES - U.S. NAVY TEST EQUIPMENT LA> LN - ANY SIGNAL CORPS EQUIPMENT WITH A "BC" NUMBER BELOW 200. Will trade RCA 1850A Iconoscope for Image Iconoscope or Farnsworth Image Dissector. Trade RCA Image Orthicons for Orthicon. **Maurice Schoedter, 590 Willis Avenue, Williston Park, NY 11596, USA. Phone/fax 00 1 516-294 4416.**

WANTED: Wanted old British televisions from the 1940s-1950s any condition, working or non working is ok. I will buy them or trade American televisions from 1940s for them. I currently have 60+ sets and looking for more. Send pictures or e-mail with a description. I will pay the shipping naturally. Thanks, **Ed Ed Dessau, 40 Verna Road, Monroe, CT 06468, USA. E-mail ed_essau@aol.com or phone 00 1**

203-452-1981.

WANTED: Dead or alive, Pye FV1 console telly (it's the set I watched the Coronation on!). Phone me, **Mick Kay, on 01777-700951** or write to me at **Glen Rosa, Welham, Retford, DN22 0SJ.**

WANTED: CRT for Bush TV22 (type MW22/16) or complete chassis for same including CRT. **Michael Ray, 67a Manor Road, North Lancing, BN15 0FG, tel: 01903-753102.**

WANTED: Dead or alive, any set using the BRC 2000 chassis. Incomplete sets and Boxes of parts also wanted. Your price paid. Collection possible from much of UK. **Mike Arnfield 01565-722262 (Cheshire) or e-mail mikarng@bt.com**

WANTED: U-Matic portable tapes 30 minute length only. Must be VGC or better new. Contact **Dicky Howett 01371-820155, e-mail: dicky.howett@btinternet.com**

FREE TO GOOD HOME
KB Aristocrat 19" telly (405/625) circa 1964. Model no. KV026, serial no. 8666. Screw-in legs, not working but what do you expect for nothing? Fault is probably something trivial. Ring **Mrs J. Angel (non subscriber)** in Upminster, Essex on 01708-226633.

PROGRAMME WANTED: Programme shown on BBC2 a couple of years back called *The Telephone Exchange (?)*. This included interviews with ex-operators, repairmen, etc. as well as vintage footage. All expenses covered. **Peter Carlton, 44 Morwenna Park Road, Northam, Bideford, EX39 1EQ.**

SERVICES:

Obsolete format video tapes copied free of charge.
can convert any tapes from the following formats to VHS or S-VHS. Philips VCR (N1500 etc.); Philips VCR-LP (N1700 etc.); Philips V2000; IVC 1-Inch (IVC700,800,900 etc.) and soon Philips EL3400; Philips LD1200; Sony half-inch; Akai quarter-inch. Please phone **Mike Bennett** on 01395-274227 for details, e-mail mdb@permanent.co.uk

I will convert your 625-line tapes to broadcast-standard 485 lines on my digital line-store standards converter.
Free of charge to subscribers of *405 Alive*. Please send blank tape (VHS only) for output and return postage. Input tapes can be accepted on Philips 1700, EIAJ, Video2000, Beta or VHS. **David Looser, Maristow, Holbrook Road, Harkstead, IPSWICH, Suffolk, IP9 1BP. Phone 01473-328649.**

(Publisher's note: These offers are most generous and users may care to send a free-will donation towards costs as well. There may be a delay in handling conversions if many people take up these offers.)

HOW TO GET YOUR NAME IN 405 ALIVE

The chief glory of every people arises from its authors.

WE WANT TO HEAR FROM YOU!

Letters are always welcome and nearly all of them (unless marked *Not For Publication*) get published. Lengthy screeds may be edited for clarity. Electronic mail is also welcome. Address this to andy@emitron.demon.co.uk

Advertising rates. Classified: free. Display ads, using your artwork: £5 per half page, £10 full page. Charges must be pre-paid.

Notes & Queries (for publication in the magazine). Keep them coming... and your answers to them.

Enquiries requiring an individual reply. These are answered when time permits. You must include a stamped addressed envelope and preferably also your telephone number (in case it is quicker to telephone a reply). Please be patient—thanks.

Articles are also most welcome. We get so many good ones that publication can take sometimes up

to a year or so, but don't let that deter you. They can sometimes be held back when we group two or three together when they support a common theme.

Payment. We're not a commercial magazine so sadly we cannot pay for material. On the other hand, full-length feature articles do earn the author a place in immortality so that's an incentive. You retain copyright of your article so you are free to offer it—probably in a revised version—to other, mainstream periodicals to earn some money. At least one of our contributors does this very successfully.

But I can't write like the big names do! Don't worry. We can sort out your grammar and spelling. It's the facts and your ideas that count. **How to submit material.**

If at all possible, please TYPE your contributions using a dark, black ribbon. This enables them to be read straight into the word-processor by a document scanner. Magic! Contributions on 3.5" PC computer disk are also welcome and your disk will be returned. Please process your words in some popular word-processing format, ideally as an ASCH or Word file. If in doubt please ring first on 07000-405625—thanks. You can also fax your letters, ads and articles on 01604-821647.

What else?

We cannot guarantee the safety of materials submitted through the post, so please keep copies of your work, which should be accompanied by return postage if you would like your materials returned. Be sure you have written permission for any copyright photos or words used.

BACK NUMBERS

Some recent back issues are available from the Staffordshire address; send SAE with enquiries. In a few cases the editor can lend originals for photocopying.

FAQ FILES

FAQs are frequently asked questions, so we are keeping three files of FAQs and their answers ready for printing out on request for readers. These files will be updated as new information comes in. The files are already quite lengthy and contain material already published, so it would not be fair on established subscribers to reprint them in the magazine. FAQfile 1 runs to 57 pages and covers general points about old TV and how to get old television sets working again. FAQfile 2 is a reprint on all the articles on test card music and ITV station ident themes; it covers 15 pages. FAQ file 1 costs £3.00 and file 2 costs £1.00 (both post paid). These prices cover just the cost of copying and postage plus the horrendous cost of banking your cheque (68 pence!). FAQfile 3 covers suppliers of hard-to-find electronic components and service data; for this one send one first class stamp and a SAE. (Available from 11/2, Murano Place, Edinburgh, EH7 5HH. Cheques payable to Andrew Henderson.)

WOULD YOU LIKE YOUR OWN COPY OF 405 ALIVE?

Perhaps you are reading a friend's copy—now you can't wait to receive your own copy four times a year. Send a cheque for £16 (inland and BFPO) or a Eurocheque or sterling banker's draft for £20 (all other territories) made out to *The Radiophile*, which will pay for a year's subscription (four issues). We regret credit card transactions can no longer be handled. Send money to 'Larkhill', Newport Road, Woodseaves, Stafford, ST20 0NP, not to Edinburgh.

ENQUIRIES REGARDING SUBSCRIPTIONS

Please write, marking your letter for the attention of the Admin. Office, *The Radiophile*, 'Larkhill', Newport Road, Woodseaves, Stafford, ST20 0NP. We regret we can no longer handle telephone calls. Please do not ring the Edinburgh (0131) number either regarding subscriptions since all business details are now handled from Staffordshire.

EXCHANGE PUBLICATIONS

You may wish to contact the following allied interest groups and publications (please send SAE with all enquiries).

BRITISH VINTAGE WIRELESS SOCIETY: (for collectors of old radio sets) **Mike Barker, 59 Dunsford Close, Swindon, Wilts., SN1 4PW.**

BRITISH AMATEUR TELEVISION CLUB: **Dave Lawton GOANO, Greneburst, Pinewood Road, High Wycombe, Bucks., HP12 4DD.**

NARROW BANDWIDTH TV ASSOCIATION: **Doug Pitt, 1 Burnwood Drive, Wollaton, Nottingham, NG8 2DJ.**

TEST CARD CIRCLE (TV trade test transmissions and test card music): **20 Seymour Road, Wollescote, Stourbridge, DY9 8TB.**

BBC TEST CARD CLUB, **Keith Hamer, 7 Epping Close, Derby, DE3 4HR.**

PROGRAMME PRESERVATION SOCIETY: (aims to help members lend each other copies of old television and radio programmes) **Richard Berry, 230 Sealdon Road, Croydon, Surrey CR2 6PL.**

SAVERS OF TELEVISION AND RADIO SHOWS (S.T.A.R.S.): now incorporated in PPS (above).

ANTIQUÉ RADIO, Mose' Edizioni, Via Bosco 4, 31010 Maser (TV) Italy - Tel. 00 39 423-950385; Fax 00 39 423-529049; e-mail: mose@tv.shineline.it

ANTIQUÉ RADIO CLASSIFIED, P.O. Box 802-A12, Carlisle, MA 01741, USA.

IRISH VINTAGE RADIO & SOUND SOCIETY: **Henry Moore, 9 Auburn Close, Killiney, Co. Dublin.**

RADIO BYGONES (vintage radio technology): **Allen House, East Borough, Wimborne, BH21 1PF (01202-881749, fax 01202-881692).**

THE RADIOPHILE (vintage radio): **Chas. E. Miller, 'Larkhill', Newport Road, Woodseaves, Stafford, ST20 0NP.**

TELERADIO NEWS (current radio and TV transmitter news, long-distance reception): **Keith Hamer, 7 Epping Close, Derby, DE3 4HR.**

TUNE INTO YESTERDAY (Old-Time Radio Show Collectors Association): **Membership secretary: John Wolstenholme, 56 Melbourne Avenue, Dronfield Woodhouse, Sheffield, S18 5YW.**

VINTAGE RADIO PROGRAMME COLLECTORS CIRCLE, **Roger Bickerton, 3 Park Edge, Harrogate, Yorks., HG2 8JU (01423-887452).** Caters for collectors of spoken word and other radio broadcasts.

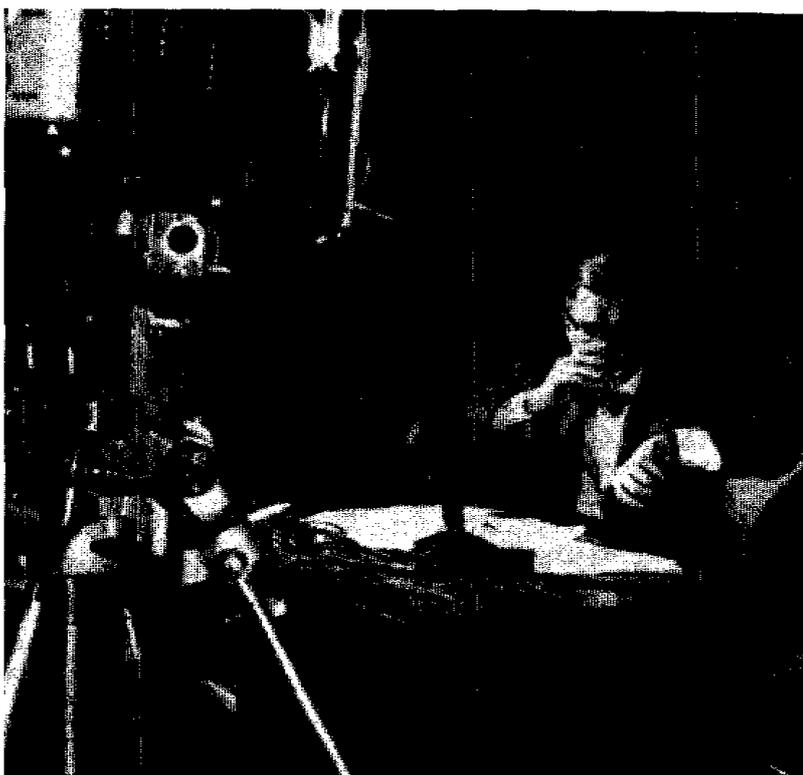
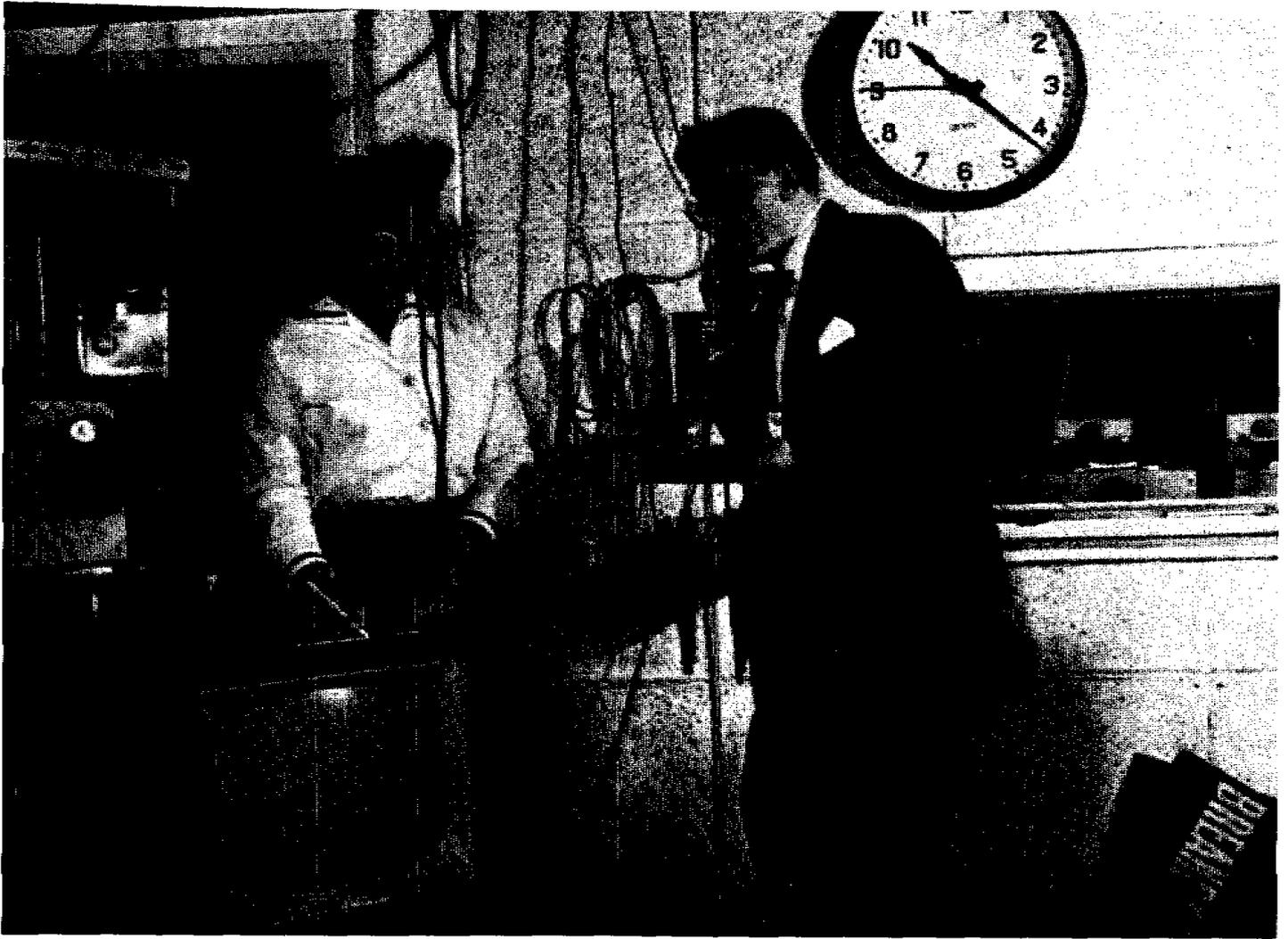
VINTAGE LIGHT MUSIC SOCIETY: now wound up following the secretary's unfortunate death.

ROBERT FARNON SOCIETY (light music by all composers): **David Ades, Stone Gables, Upton Laec, Seavington St. Michael, Ilminster, Somerset, TA19 0PZ.**

MEMORY LANE (78rpm-era popular music): **Ray Pallett, P.O. Box 1939, Leigh-on-Sea, Essex, SS9 3UH.**

IN TUNE INTERNATIONAL (music of the years 1935-1960): **10 Collingwood Drive Mundesley, Norfolk, NR11 8JB.**

MEMORIES OF ROBIN DAY



(Sir) Robin Day died recently. Here we see him, looking remarkably youthful, in the early days of ITN. In the larger picture he is exchanging notes with a studio assistant, 38 minutes before the then 11 o'clock news broadcast. Note also the rather fine Ekco TV receiver which the young lady is using as a desk and the "Breakdown" caption lying negligently on the floor. In the other picture he is winding down at the end of the broadcast.



A Glamorous Young Lady, but Who is She?



The other picture (left) is much more characteristic and should enable you to recognise animal photographer Michela Denis

