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NOTE: Recommended screen resolution **800 x 600**. Designed for **IE5** (fairly good in Navigator 4.5 too)
(If only all browsers displayed pages the same!)

DIRECT TELEVISION from ALEXANDRA PALACE

*by Arthur
Dungate*

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The purpose of this website is to provide information, much of which may be unavailable elsewhere, on my personal experiences of the early days of BBC Television when it was broadcast from Alexandra Palace on the heights of North London. The period covered is post-war from **1952** to **1963**. In addition there are some experiences of **Lime Grove** and **Riverside Studios** in the mid-1950s.

Please note

This is a personal, private venture with no commercial content or sponsorship. Some uncredited illustrations appear on this website, although most are of BBC origin. Every effort is made to avoid infringing copyright and the compiler trusts that any unintended breach will be notified to him so that due acknowledgement can be made.

Also

While I am pleased to have been able to put such information online, with reference to those people I have encountered or referred to, this is the only information I have, and I cannot undertake to do any research for readers.

Since this has been designed as a sort of "e-book" in chapters, it is recommended that the pages be viewed in sequence, although this is not essential. Specific pages and topics can be found in the [Index](#).



A Request

If you should find anything wrong, either with the content, or with site itself (eg broken or non-working links) I would regard it as a favour if you would kindly let me know.

[Arthur](#)
[Dungate](#)



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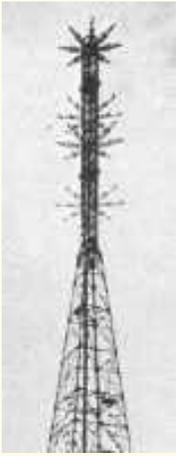
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This is Direct Television.....

INFORMATION

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related sites.

It was in 1996 that I was asked to prepare a talk on my personal experiences in BBC television and so I started to think back, and many memories came back about things I hadn't thought about for over 40 years. Thus a script for the talk began to be formed, and research started on pictures to illustrate it.

After giving the talk to one audience, it was remarked that they hadn't realised how much **fun** it had been, working in BBC Television in those days. To which I can reply - **Yes - it was!**

I called the talk "**This is Direct Television from Alexandra Palace**", mainly because that is how "high definition" television began, with that announcement by Elizabeth Cowell, in August 1936. (However I was not involved with it, being only 5 years old at the time!).

This is an expanded Internet version of that talk, though without the audio clips.

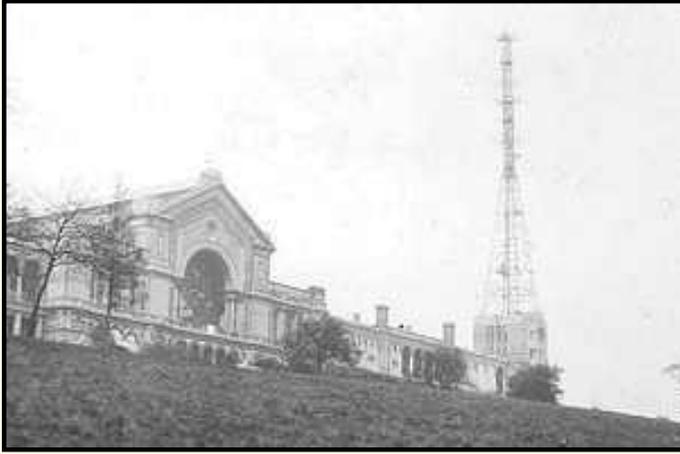


What Elizabeth Cowell actually said was "**Hello Radiolympia - this is Direct Television from the studios at Alexandra Palace.....**".

It was the first transmission from the studios with the EMI 405-line high definition system, broadcast for the benefit of visitors to the annual radio exhibition at Olympia in London. The regular television transmissions did not start until November that year. However it is not the purpose here to relate the history of television, that has been done in other places, but to reveal some "inside information" in a personal way, not published elsewhere.

Anecdotes

Before leaving pre-war television, I am pleased to be able to include some [anecdotes](#) about those early days, pre- and post-war.



I started with the BBC in Central Television at Alexandra Palace in 1952 and that's when BBC Television was just "Television" - there was no other in this country at that time. This picture was taken by my Dad in April 1953 while on a visit. The great hall, on the left, has its original roof which would be destroyed by the fire in the summer of 1980.

The roof of the great hall can be seen more effectively in this shot, taken by a BBC News cameraman in the late 1950s.



The BBC had a habit of using initials for almost everything, and that meant that Alexandra Palace was referred to as "AP", and "BH" meant Broadcasting House, in central London. Somehow, though, the television studios at Lime Grove never got "initialised" verbally - "Elgee" didn't seem to work, so we used to refer to it as "the Grove"). And although after buying the famous Ealing Film Studios the BBC called them the "Television Film Studios", or "TFS", it was always "Ealing" to me, and to a lot of other people as well.

Even memos were full of BBC initials. In 1953 this one was circulated -

From: Engineering Establishment Department.

Room No. &

Building: BROADCASTING HOUSE. **Tel Ext.:** 405 **Date:** April 1st. **Subject:** NEW TELEVISION PREMISES.

To: ALL ENGINEERING STAFF.

1. The new BBC Television studio premises at Shepherds Bush must never be referred to as White City - WC, but as Television Centre - TC.

2. From 1st April 1953 the abbreviation to be used for the Telecine section of television recording department will be TK.

(signed) O.L.D.MacDonald. E.I.E.I.O. Engineering Induction and Engineering Information Officer.

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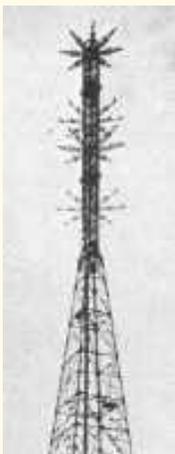
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Life at the Palace - in CTR

When I joined CTR (Central Telecine Room) at Alexandra Palace I became part of a crew of about six, and it was our job to show on transmission anything and everything originating on film. In those days television was on the air from 10am to 12noon with the 2-hour Demfilm, and then went off until the afternoon Women's programme at 3 o'clock. It then closed down again at 4pm until the 5 o'clock Children's programmes, and again closed down at 6pm until the evening transmission at 8.

Telecine staff

(S.Tel.E: Dicky Meakin)

Pat "Chips" Chipperfield (Shift leader)

Ron Williams

Brian Davies

Jack Kelleher

Derek Lucas

(and myself)

When Pat Chipperfield was promoted, Tony Cheale became shift leader. Ron Whatley was in charge of the other shift.



So we showed the 2-hour morning **Demfilm**, and the 5-minute "tuning signals" before each transmission, that is at 5 minutes to 3, 5 to 5, and 5 to 8. This was accompanied on the soundtrack by the Fantasia on National Airs, or "Nat Airs" as we called it - and the variable area optical soundtrack is visible on the left of the picture frame.

The music was originally recorded by Eric Robinson and the orchestra on a BBC 78rpm disk, and the pressing had been played into the RCA 35mm film recorder to make the film soundtrack negative from which the married prints were made.

[See also [Demfilm contents and music](#)]

In addition, we showed any short or feature film that was scheduled, plus any film inserts for studio programmes. These studio inserts were usually run from the [Mechau](#) telecine in a little room near the studio - and at AP that was Studio A.



A little "ritual" occurred at some point in the morning while Test Card C was being transmitted. Someone in CCR (Central Control Room) would phone down to the vision transmitter on the ground floor and ask how the "3 Megs" were that morning. Then the engineer would answer "Fine".

In the 405-line tv system developed in the mid-1930s by the Marconi-EMI research team headed by Isaac Schoenberg, the highest vision frequency transmitted was 3MHz, although few, if any, tv receivers of the time could reproduce that.



Also of course, there were the famous **Interludes** - these were used during intervals in plays, and also as a standby in the event of a breakdown in the studio, because with very few exceptions, all programmes were live. The one most fondly remembered is the "**Potter's Wheel**" and the first piece of music on the soundtrack of this was "The Young Ballerina" by Charles Williams.

[See also [Interludes - music details](#)]

Other Interludes included -



The White Kitten



Ploughing



Angel Fish



Spinning Wheel

At first, we in CTR chose which Interlude to have ready loaded on standby, and kept this ready throughout the evening, but then Presentation had the bright idea of selecting an Interlude according to the programme being transmitted, and when the programme ended and another began, we had to unload and load up a different Interlude.....

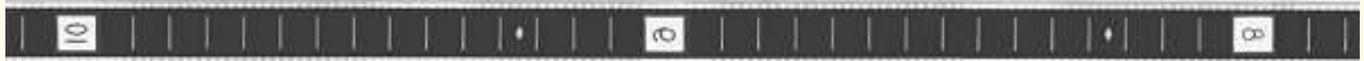
To "help" Presentation I scratched on the number 10 frame of the leaders (the one we showed in the gate) the name of the Interlude so that those upstairs would know which one was ready.



- until I prepared another, separate leader with a different name scratched on it which I loaded into the other scanner and periodically changed over..... This was somewhat unsettling to the confidence of the poor folk in Presentation!

("Up the Creek" was my flippant name for the Up The River interlude.)

The 'Leaders' Episode



In the periods when television was off the air we would rehearse any film that was later to be shown on transmission. One day Jack (Kelleher) was rehearsing a feature film on Cintel and Ron (Williams) was loading the reels for him. Unbeknown to Jack, Ron had substituted a reel of film leaders in place of Reel 2 of the film.



Ron



After the first reel Jack changed over to the second reel, but a second leader came up, and then a third. Four leaders went through before Jack cottoned on to what was going on.....





Almost all film transmitted was on 35mm, but there was a pair of 16mm telecine film scanners, made by Pye of Cambridge. On these I remember running a series of "Hopalong Cassidy" Westerns. Hopalong Cassidy was played by William Boyd. The Pye telecines weren't all that good, but just about adequate for their day, in contrast to the Cintel 35mm flying spot telecines which gave superb picture quality - 405 line tv at its very best!



We worked long days, starting at 9am and, as we were also on standby, had to stay right until the end of the day's transmission which could be anytime up to midnight. Programmes often didn't run to time in those days and in the evening it was a regular thing for the Presentation Assistant in Central Control to ring down to us with the enlightening message that "Oh we're running about an hour and a half late tonight..." Try that today!

The AP Shift

However, we were on shift - day on, day off. This was known as the AP Shift and it was great - we worked 7 days a fortnight, so on one week we would be on duty on - Monday, Wednesday, Saturday & Sunday, and then the following week - Tuesday, Thursday & Friday. It kept travel costs down, and we had two consecutive days off each week, as well as the other three single days!

The idea of that shift was that since almost all programmes were transmitted live, it was the same people who had rehearsed the programme in the studio during the day who would put it out in the evening. However, should you, by chance, go into AP on one of your days off, you'd find it staffed in the main by complete strangers!



In those early days I was staying at the BBC Hostel, in Bayswater, London, and often used public transport to get around. One day while travelling in the Tube (the London Underground train system) I spotted an advertisement on the wall.

These were displayed above the windows. I cannot remember what the actual product was, but the advert consisted of a series of fake testimonial letters (all in the same handwriting), one of which ended with -



*.... I only took two tablets,
and after months of
agony seem almost well
again.*

Not **quite** what the
advertisers intended
I think!

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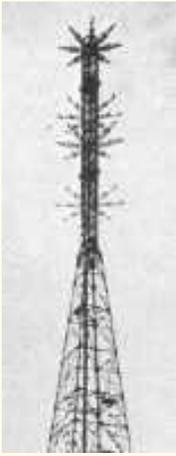
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The Demfilm, Cintel, and music....



Our first job when we started in the morning was to switch on everything so that the equipment had settled down ready for the Demonstration Film, or "**Demfilm**" as we called it, to start at 10am. The Cintel flying spot telecine scanners were so well-built and reliable that hardly any 'line-up' was necessary. Cintel's top designer was a man named Nuttall. He was an absolute Genius. He was never wrong - a fact which his own staff found particularly irritating.....

[See also [Demfilm contents and music](#)]

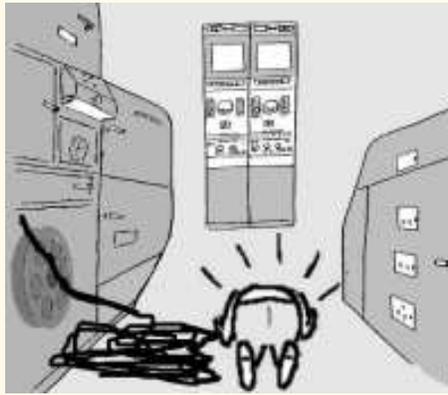
We had two machines, called "Blue" and "Amber" so that long feature films could be run without a break just as in the cinema, using the standard changeover dots to do so. Running the Demfilm every morning day after day I became so used to it that I could do the changeovers just by listening to the soundtrack, not watching the screen at all! (And I think I used to show off a bit with that).



Although well built and giving superb pictures, they were designed by engineers and not operational staff, so sitting at the control position, the picture monitors were right up at the top, and so the operator tended to get a stiff neck from looking up at them.....

It had seemingly been overlooked by the designers that viewers at home looked at *pictures* and not waveforms displayed on a tube.

However, on my first day in Central Telecine - I was given the job of loading a Tuning Signal, and I was a bit slow doing it, and when the starting buzz came, I hadn't quite finished. "We **must** start" said someone, so the machine was started, and 500ft of 35mm Tuning Signal splayed out of the machine and into a large bin - almost going all over the floor.....



The unofficial music transmission:

For the first year I was living in the BBC Hostel in Bayswater, London, and in the mornings I and some other colleagues also staying in the hostel went by the Underground (Circle Line) to Baker Street, where we caught the BBC bus from BH up to AP. This was a free service to staff, for conveying personnel, files and light equipment to and from the various BBC buildings.



Central Control Room (CCR), AP

I was collecting records, 78rpm discs in those days, and I used to take a selection to work from time to time to play during the lunch break from the gram desks in Central Control. Since tv closed down at 12 noon after the Demfilm until the afternoon programme at 3pm, I thought this was quite safe - until I met someone at the Hostel one day attending a course, who worked at the Holme Moss transmitter.

He said how much they all liked the music which came up the line at lunchtimes, and that on one occasion they'd left Holme Moss transmitter on air, so my records had been broadcast to the whole of Northern England..... I dare not think how much the Copyright fees should have been.....

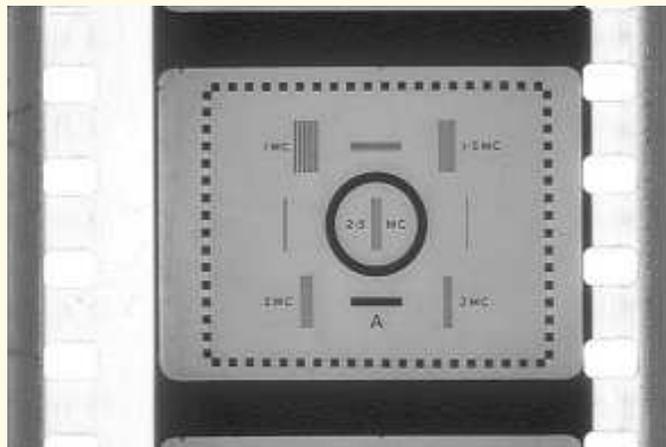
Television came on again in the afternoon at 3pm for an hour of programmes for women. Some of them were compered by **Jeanne Heal**. She was a lovely lady, but she couldn't see anything without her glasses, but would not wear them in front of the camera!



And the cameras in Studio A were the original 1936 Emitrons. During the wars years from the end of 1939 until 1946 they had not been used, though it seems the equipment had been powered up occasionally.

However, when it was decided to re-start the Television Service in 1946, all the original apparatus had to be completely overhauled to put it back into working order. According to Douglas Birkinshaw, Television's Senior Engineer, many of the components, such as all the electrolytic capacitors, had to be replaced in every piece of electronic equipment.....

Studio A telecine, or "A Mechau" looked into an Emitron camera and to line this up a few frames of Test Card C on 35mm film were put into the Mechau. The illustration shows the original Test Card A, (from an actual frame of 35mm film), which had an aspect ratio of 5 x 4.



It was not until April 1950 that the aspect ratio was changed to 4 x 3 to conform to the cinema standard.

'Tilt' and 'Bend'

One of the characteristics of the Emitron cameras was that it suffered from spurious signals. These produced areas of shading on the picture which could be largely compensated by controls in the racks equipment. Each camera had its associated equipment with an operator controlling it individually. [more](#)

These operators became extremely skilled in quickly adjusting the controls to minimise the "tilt" and "bend" shading effects. However, when the AP camera crews came under the Lime Grove camera dept, a rota was introduced so that crews would circulate around the studios. Thus those crews, used to the more modern cameras at the Grove were somewhat at a loss to operate the unique controls of the Emitrons at AP, and picture quality suffered.



Another women's programme in the afternoon was presented by **Joan Gilbert**. She and the Producer didn't get on..... Listening to the comments made over the talkback could be rather exciting (to say the least)..... Publicly, she was well known for her "unpredictable effervescence".

At the end of the hour's programme, tv closed down again until 5, and it usually finished with a title slide, that is, a frame of 35mm film stationary in the Mechau film gate, and about the last 20 seconds of Eric Coates' Television March on a 78rpm BBC pressing played from CCR Grams.



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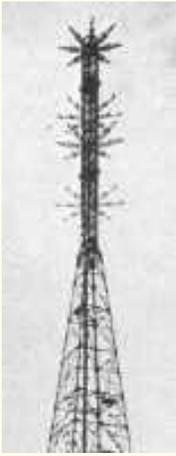
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The Announcers

There were three regular television announcers in those days, **McDonald Hobley**, **Sylvia Peters**, and **Mary Malcolm**, although the actor **Donald Gray** "stood in" from time to time. **Noele Middleton** also appeared for a while.

One of my more boring duties in telecine was to have to take it in turn to do a week manning the Engineering Telephone switchboard in C.A.R. (Central Apparatus Room), and this was next to Central Control Room, (C.C.R.) which was upstairs on the same floor as Studio A.



1-Studio B 2-C.C.R. 3-C.A.R. 4-Studio A

So in C.A.R. this Engineering PBX controlled the phone lines which connected all the transmitters to AP. Why someone from Telecine had to do a week's stint in that job I never discovered.....

Quite often someone at a distant transmitter would ring up and want to speak to the Senior Engineer who was next door in C.C.R. On the occasions when Studio A was busy with a rehearsal, and thus unavailable for a linking announcement in vision, the announcer would make a voice only message from a lip mic in C.C.R, and so the phone must not be rung at such a time.

Of course it had to happen sooner or later, someone rang up, wanted to speak to the Engineer, and yours truly dutifully rang the phone without a thought.....



Donald Gray

Donald Gray was doing the announcement at that very moment and I have to hand it to his professionalism that he didn't even flinch, although he was right next to the phone.....

On another occasion, it was a dull, foggy Saturday afternoon in winter, and a football match was on the air. Outside Broadcast cameras didn't have much sensitivity to low light levels in those days, and pictures would be, shall we say, "less than perfect....."

Eventually the phone rang and I got the sarcastic message "Wenvoe here, is there a picture in this noise you're sending us?"



One good thing about being in CAR was that I saw **Douglas Birkinshaw** on the occasions when he came round to make sure everything was OK.

When **Sylvia Peters** did an announcement in vision, it was quite often in a corner of Studio A, and she'd have her script on a chair in front of the camera, or even on the floor. If she forgot her lines she'd bend down suddenly to read them, and then just as suddenly stand up again.



Since the picture was a Close Up of her head and shoulders, this sudden vanish and equally sudden reappearance was rather startling....but it was all good fun!

She had been in musical comedy on the London stage and had answered a BBC advertisement for a television announcer and started in 1947. I have often wondered if she was on duty the night before ITV started in London in 1955. If so, for the last time she would have announced "And that is the end of Television for tonight!" Because from then onwards it would be "**BBC** Television".....

Mary Malcolm, the other regular lady announcer was in radio during World War II, and had been one of the original announcers on the "Forces" programme, and came to television in 1948. She was well known for her "Spoonerisms".



NEWS on TV

Before television news started in 1954, the tv service played a recording of the 9pm Home Service radio news at closedown each evening.

At the end of the day's transmission, two weather charts would be shown, with an explanatory voice over them (the tv weathermen were still in the future). Her "shattered scowers" was a typical example. Another being "That's the end of television for today, and in a few moments you'll hear the Nine Service Home O'clock News....." We all loved her for these! I remember one occasion when she'd just finished reading the weather, she brightly said "I'm sorry but we got the charts in the wrong order, so I'll now do the whole thing again!" We in Telecine, on official standby, were all waiting to go home.....

In 1952 Mary Malcolm wrote an article for Radio Times called "My job as a Television Announcer". You may [read it here](#).



The third member of the regular trio of announcers was **McDonald Hobley** (known as "Mac"), and he was in fact, the Senior Television Announcer. A very nice man, with a very nice voice who, before his military service in World War II had done acting work.

In those days every announcement was scripted and had to be memorised. They were written by the Presentation Department, and only on very exceptional occasions was there any "ad-libbing" permitted.

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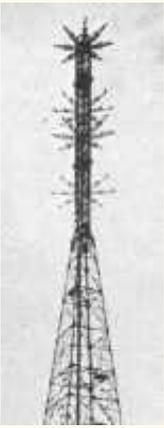
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Race Days, and the TV Garden



Alexandra Palace was built on top of a hill with the Alexandra Park on three sides. As is well known, the location was chosen as being the highest in London - and the cheapest to acquire.

It was either Norman Collins or Cecil McGivern or even Cecil Madden, I can't remember which, who used to say that his office in the tower had the finest view in London, and it certainly did.



These pictures were taken in September 1996, and the view is still superb.





The park contained a race track and on Race Days entry to the park was restricted to ticket holders, so BBC staff were issued with a Pass in order to get in. The wording seemed somewhat pretentious to me -

The Bearer, Mr A.D.Dungate is a member of BBC Staff whose attendance at Alexandra Palace Television Studios is necessary in connection with television programmes.

All rather grand, but I really don't think that if I'd failed to turn up one day the whole Television Service would have crashed.....!

The Television Garden



A little way down the grass slopes of the Park from the front entrance to the studios, an enclosed space was used as the Television Garden. The cameras from Studio A were taken outside and the cables run under the road in ducts.

Free from the limitations of studio lighting, with plenty of daylight available outside, the Emitron cameras could produce remarkably good pictures.

From here, when the weather was nice, came the early gardening programmes, with Fred Streeter. He had succeeded C.H.Middleton who had pioneered gardening programmes in the 1930s on the radio and on television.



Fred Streeter



Today no trace remains of this pioneering tv garden. Even the ducts have disappeared following the re-surfacing of the road and sidewalk. But they may still be there buried underneath!

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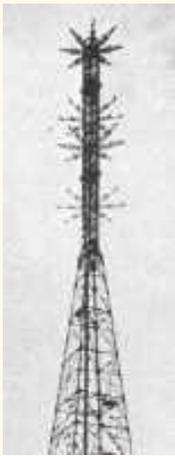
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Tuning Signals

A Tuning Signal for All Seasons !



8pm Tuning Signal

For the standard Opening Routines at 3pm, 5pm and 8pm, the clock on the film would show the actual time. For the occasional starting times different from usual, a clockless version would be shown. At one minute to the hour, the tuning signal would dissolve to the BBC Coat of Arms, and after 20 seconds this in turn would dissolve to a daylight scene of the Houses of Parliament and River Thames.



Clockless



Coat of Arms



HOP Day

In winter, when it would be dark at those times, a night scene version taken from a similar viewpoint would be used. Thus we had alternative versions to use as appropriate. These would have identification names such as "3pm HOP Day", "Clockless HOP Night", "Kids 5pm" etc.



Kids 5pm



HOP Night



The children's programmes would start at 5pm so at 5 minutes to 5 we'd run the Kids 5pm Tuning Signal, but this time the music on the film's soundtrack (which you can see on the left of the film frame) was the **Children's Scherzetto**.

I always used to feel, while watching the hands of the clock creep nearer and nearer to 5pm that the music wasn't going to finish in time! But since it was on the soundtrack of the film, it couldn't possibly get out of sync, and of course it always did finish just in time!

At one minute to the hour the clock would fade out and the BBC Coat of Arms faded in. After 57 seconds this would in turn dissolve to the stars and Childrens TV title.



If the sequence was allowed to run it would end with a dissolve to an animation depicting the masts of the three tv transmitting stations at the time - Alexandra Palace, (serving London and south-east England), Sutton Coldfield (serving the Midlands) and Holme Moss (serving the north of England).

By the time Kirk O'Shots (southern Scotland) and Wenvoe (south Wales and West of England) transmitters had been built, the sequence had been changed, and so 4- and 5-mast titles were never seen.

An alternative start to Childrens Television was this slowly revolving carousel.



At 6pm at the end of the childrens programme, television would close down again until the start of the evening's transmission at 8pm. The Closing Routine was the star bursts dissolving into the end title.



If time was short, however, the Closing Routine would just be a frame of film in the Mechau.

Then we had a Monoscope installed in CTR. This was a cathode ray tube with test Card C engraved on the target, thus producing this test signal continuously. One day, while we were doing something else, there was a dull explosion. For a while we didn't think anything of it, since there was no smoke from any of the equipment! It wasn't until Presentation required a feed of the Test Card from the Monoscope, and didn't get one, that we discovered its tube had imploded for no apparent reason....

More test cards and patterns etc are in the [Gallery](#)

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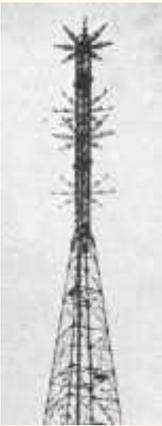
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The Television Newsreels



The evening transmissions used to start at 8.30pm, but by the time I joined television, that had been advanced to 8pm, - and later still it was to start even earlier at 7.30pm. Wow - television was expanding!



So we started the Tuning Signal at 5 minutes to 8, and then at 8pm ran the new edition of TNR - Television Newsreel, and this was a 15 minute very popular magazine type programme made by BBC Film Unit and modelled on the cinema newsreels. The main and end title sequences became quite famous, as did the title music, which was a march by Charles Williams called **Girls in Grey**.

However in recent years when the recording was issued on CD, it didn't sound the same..... And this was because the re-issued recording, originally on a 78rpm Chappell mood music disc, was played at normal speed. But on TNR it was played **fast** - and this was to make the first section of the music fit the sequence of the title letters going round the mast, which takes approximately 19 seconds..... Hearing it today, I prefer it fast - but then that's perhaps because I used to hear it that way several times a day.....



A similar thing had happened on the radio with - "**Dick Barton - Special Agent!**", a very popular 15-minute detective adventure serial in the late 1940s. I discovered this when I met the guy who used to do Grams on Dick Barton in BH before he came over to television. The title music was **The Devil's Galop** (on a Chappell disc) - and this was another piece by that great composer of British Light Music, Charles Williams. It was also run fast, but this time it was to increase the excitement! And that got our attention for each thrilling episode, which always ended with some sort of nail-biting cliffhanger.....

But back to television and TNR -



Notice the RCA credit at the bottom of the frame. Television Newsreel started in 1948 before the days of magnetic recording on film, and so the soundtrack was mixed direct onto optical film. By 1952, when I got there, separate 35mm magnetic was in use, saving time by not having to have the soundtrack developed and printed, giving better sound quality, but needing to load two reels of film to transmit it.

After the change to magnetic sound, the RCA logo was replaced by a "BBC Film Unit" logo.



The use of 35mm magnetic film gave me an idea. Quite often the magnetic sound of TNR would arrive as a full 2000ft spool, but since TNR ran for only 15minutes, there were about 500ft of unused magnetic film at the end. So I made up a jig holding a razor blade which was clamped to the Cintel sound unit and sliced the film as it came out of the soundhead. I arranged it so that 1/4" was sliced. Moving the razor for each runthrough, gave me three lots of 1/4" to use in a tape recorder. As film is around three times the thickness of ordinary tape, not a lot could be put onto a tape spool, and the edges of the "tape" were a little rough, but it did provide a source of "free" recording material....

Newsreel music

In those days a lot of library music (or "mood music") was used, from publisher's discs, and each news story, just like the cinema newsreels of the time, had its own introductory music. There was music for London stories, tragic events, sea and naval stories, Russian, Scottish, sports etc. Quite often, if it was a naval story, you knew it was going to start with **Battleship Grey** (by K.L.Smith) or possibly **Atlantic Breakers** (by Charles Williams). Most probably a countryside one would start with **Village Green** (by George Cruikshank). **Proud Capital** (by Arnold Steck) and **State Occasion** (by Robert Farnon) would often introduce royal and ceremonial stories. **All Sports March** (by Robert Farnon) might well be used for a racing report. Light music is not heard so much these days in this context, which seems a pity, because I found the newsreels were more enjoyable then!



On Saturday mornings from 10am to 12 noon we ran the week's 5 Television Newsreels - which had previously been shown Monday to Friday evenings - as one compilation programme. There was no editing, we ran down the opening title of the next TNR to a predetermined point, and then ran it up just as the last item of the previous newsreel was about to finish, and then changed over.

But the sound didn't always finish exactly when the picture changed, so one day I tried plugging both telecine sound channels together so I could fade from one to another, and this worked smoothly, - until I forgot to fade out the outgoing reel, and the ending of Girls in Grey began again, which I hurriedly faded out. No one seemed to have noticed, but when all was quiet I tiptoed around to the sound bay and furtively pulled out all my plugs..... I didn't try that one that again.

Usually, the last story in a TNR was a collection of miscellaneous short items under the title of "Here And There". This always used a piece of music called **Bowin' and Scrapin'** on a Francis Day & Hunter disc and so at the end of this item would follow the newsreel end title. But one day we were fooled because it wasn't the last story..... Another item followed it, and as it was a Saturday, and we were doing the compilation, we very nearly changed over to the next film too soon.....



Children's Newsreel



As well as the evening Television Newsreel, there was a weekly one for children, CNR, Children's Newsreel. Its title music was "**Holiday Spirit**" by Clive Richardson. CNR was dubbed at Lime Grove and used **Mary Malcolm** and **David Lloyd James** as the narrators. **Don Smith**, CNR's Producer, liked to control the sound effects (which came from Grams) himself, so the dubbing mixer used to give him the output of the Grams on a fader, and he would fade the fx in and out to picture.

Don Smith was responsible for that famous film "**London to Brighton in Four Minutes**", made in the spring of 1952, originally as an item for CNR.



It used trick photography to make, as David Lloyd James noted on the soundtrack, an average effective train speed of 765 miles per hour. Don said that his cameraman had sat in the cab of the locomotive hand-cranking the 35mm camera at 2 frames per second (instead of 25fps).





When he ran out of film and had to reload the 100ft magazine, the sections of the journey missed during this procedure were covered by inserting a cutaway of the train driver at the controls.

This item achieved immediate popularity and became a short film in its own right. However it is not generally realised that two versions were made - the first, as an item in CNR, and then TNR included it as an item with the title of "Go slow on the Brighton line". Unlike the original CNR version, in which the narrator just introduced and ended the sequence, with the actual journey covered by sound effects, the TNR item had a different narrator, and he announced some of the stations on route as they were passed.

Freda Lingstrom, though, didn't like CNR, and after she became Head of Childrens TV Programmes she axed it. I think Don died not long after that.

Newsreel Cameramen

All film shot for both TNR and CNR was 35mm. It was not until later in the 1950s that Television News went over to using 16mm as the main film gauge. So the television newsreel cameramen (a number of whom had come to tv from the cinema newsreels) used a variety of battery driven and clockwork cameras as had been used during wartime.



FILM DUBBING

An account of a typical [dubbing session](#) in the 1950s.

A description of the [AP Dubbing Theatre](#)

Dubbing TNR

The AP Dubbing Theatre had started in 1950, being the first one in BBC Television. Previously film dubbing work had been taken to the RCA Re-recording Theatre at Hammersmith where the BBC had installed a pair of TD/7 Gram Desks for quickly adding music and sound effects to the newsreels.



Recording the newsreel "in house" was a much more convenient arrangement than having to use outside commercial facilities.

In the mixer room are TNR producer **Philip Dorté** and, to his left **John Byers** the dubbing mixer.

The main Narrator on TNR was **Edward Halliday**, who had just the right voice for this purpose. In his "other" occupation he was a well-known portrait painter.



Edward Halliday narrating TNR in the Dubbing Theatre, AP.

On the left the lady has her hand on the cue light key, which notifies the mixer in the room behind when to fade down music/ effects just prior to the start of a passage of narration. On the right is **Michael Henderson** who in 1993 was to found the [AP TV Society](#).



The scripts would often be rewritten in the theatre. One of the scriptwriters at the time was a certain **Paul Fox**.





The narrator makes notes while the recording staff in the mixer room behind, wait.....

On this occasion **Frank Philips** is doing the narration, with **Vernon Phipps** at the mixer.

Music and sound effects were played from Grams, as most news stories were shot silent. Usually only "talking heads" were shot with sound, as these required lip-sync. In those days, film sound recording equipment was cumbersome and heavy, needing a large van to house and transport it.



The TD/7

The twin-turntable reproducing desk, known as the TD/7, had been designed in 1935. It used variable-speed Garrard turntables which could run at a wide range of speeds, though mainly they were used at 78rpm. The pickups were EMI Type 12, with sapphire stylus, and were mounted on a parallel-tracking arm with a vernier adjustment for precise groove location.

Although the EMI Type 12 pick-ups had replaced the earlier and much heavier BTH ones, they were still referred to as "groove straighteners".

The TD/7 desk was originally designed to replay commercial gramophone records, but when the BBC recording characteristic was established, a key switch on the front panel enabled this reproducing characteristic to be used when replaying BBC direct disks. The "up" position of this key introduced a 4dB attenuation and a low-pass filter to reduce surface noise on commercial records. The 4dB attenuation was because in general, BBC recordings were made around 4dB lower in level than commercial pressings.

I once looked round the back of a TD/7 desk and saw a small metal plate with the inscription "Turntable Desk TD 3702". TD - seven?

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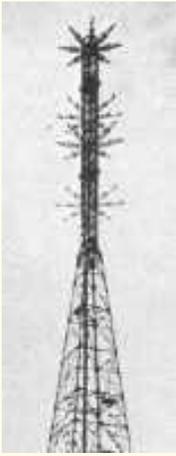
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Victory At Sea, and Flowerpots.....



In 1953 we were showing a series of films about World War II called "**Victory At Sea**". It had been made by NBC in America and, after the title sequence each episode started with "And Now.....".

Since each film was a bit under half an hour, all three reels were joined onto one 3,000ft spool of 35mm film, which was quite a weight to lift up into the top spool box. But it did allow us to run the film on one machine without having to do a changeover.

But if that wasn't enough, each film had a short explanatory talk stuck onto the front, by some learned history professor. A filmed talking head which went on for several minutes.

At the time I thought this was very boring, but maybe if I heard it now I might think differently. I think that's him



The sound on the 35mm comopt prints we got from NBC had a wide dynamic range which Presentation upstairs in CCR at AP didn't like, so we took it in turns, one of us standing by the Cintel scanner watching the soundtrack on the film as it came off the top spool (thus giving us a couple of seconds before that part of the soundtrack arrived at the soundhead). It was easy to see the modulation on the track, so we would shout "loud music" when we saw high modulation coming, and whoever was sitting at the control console would fade down the sound a bit, bringing it up again for the narration which had been recorded at a lower level than the music.

RACKING

A film is "out-of-rack" when the image appears slightly too far up or down, showing part of the black rack bar at top or bottom.

(Rack) King for a day!

Film programmes such as this used lots of archive newsreel footage and often the pictures would be "out of rack" to varying extents. On the rehearsal (all films were rehearsed before transmission) one of us would be designated "Rack King" for the showing and so at times it was my duty to stand beside whichever Cintel scanner was on air, with my hand on the racking knob attempting to correct for out-of-rack sequences as soon as they appeared on screen.

One day when showing a film which included shots from a wartime newsreel, Tony Cheale noticed some vertical streaking when people in the shot moved left to right etc. Horizontal streaking can occur in a television picture due to a fault in the system and the fact that a tv picture is scanned horizontally, but he wondered what could cause vertical streaking.

At the time I couldn't answer but subsequently found out that it was due to "developer fatigue" when the original negative had been processed. In wartime, chemicals were in short supply and so film developers were used to their maximum and not replenished so frequently.

Programmes for children?



And from the serious to the....(!). Central Telecine would show films for children such as "**Andy Pandy**". I wonder if anyone now reading this was part of my audience when I used to run those films?



It was about this time, 1953, that "**The Flowerpot Men**" came along. - Now that *really* did get us laughing..... We thought it hilarious and were all going round muttering "Skluglug", and "Little Weeee-eed".....



It was a man called Peter Hawkins who did all those weird voices. One day I was walking along the top corridor by Studio B, which was no longer used for live television but relegated for occasional shooting of film sequences, and I found a FlowerPot Men being filmed.

There was Mary Bird playing at an upright piano, and hunched round the piano were the other participants, pulling the puppet strings and banging little gongs and sticks and things. I tell you I've never seen or heard anything so peculiar!



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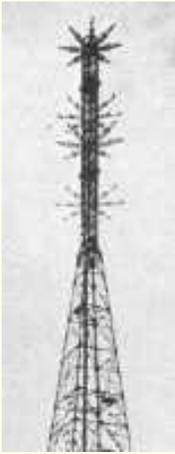
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Marriage, People, and Food

Working for the BBC in those days was generally regarded as something special. The Corporation had an air of great dignity about it then. But even so, things didn't always go right, and when it happened on air, then everyone knew about it.....



I remember one time at AP when I was doing the film inserts for the first programme of a series called **The Pattern of Marriage**. This was coming from one of the Lime Grove studios up to AP and I was connected to the Producer in the studio gallery at Lime Grove, a lady called **Caryl Doncaster**, by a control line. I remember a young actress called Billie Whitelaw was in it. Also Peter Byrne, who the next year would be in **Dixon of Dock Green**.

Anyway, rehearsals during the day had gone fine, but, unbeknown to us, while we were having our evening meal in the canteen at AP, the Producer down in Lime Grove had decided to shorten the ending film sequence and run this shortened version on her local studio Mechau telecine. Unfortunately, the message she sent to AP didn't reach us in CTR, so consequently, on transmission, when she said "Cue Telecine" I ran the film - but so did her local telecine..... Central Control at AP also hadn't received the message and so put my picture on air, but both soundtracks went out.....



She was screaming at me (over the Talkback) for me to stop, "Will Central Telecine please **STOP**"..... but I couldn't since my picture was on the air..... So viewers were treated to a double wedding ceremony on the sound, each sentence being heard twice.....

It was really quite hilarious, but the Producer was furious. "Central Telecine are complete and utter clots" she roared on the talkback, "I'll never use them again!". Tony Cheale our Shift Leader, immediately got on the phone to Lime Grove, but by the time he got through, they had all gone.....



Personalities



One could bump into (almost literally) all sorts of well known people at AP. At times, in a corridor I'd leap aside to the wall as **Richard Dimbleby** swept by (he was a large man) accompanied by his Producer.

In the early 1950s **Christopher Mayhew**, who later became an MP (Member of Parliament), did a programme series called "**International Commentary**", one of the first current events programmes on television.

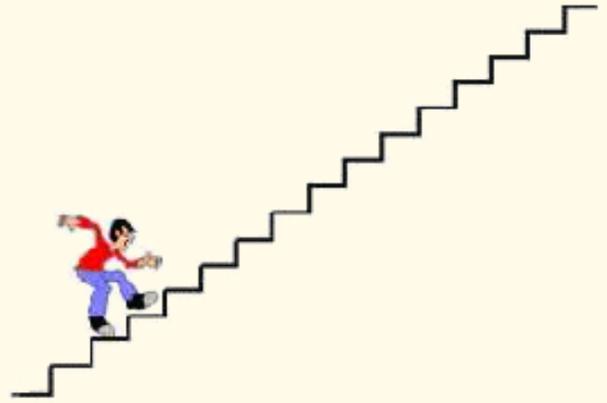


One of the early television Producers was a man called **George Noordhof**. He used to do a programme called "**Science News**". It must have been one of the first science programmes on television. One day, just after rehearsal, and I'd been running the film inserts for him, we met in the loo, just opposite Studio A, and he said to me "Telecine is difficult isn't it". "Oh do you think so?" I said. "Oh no, I don't think so" he replied. I never did discover just what he meant by that.....

I Believe it was **Science News** which reported an experiment in which a man was provided with a special set of glasses which included mirrors to invert the images his eyes received. All other light was excluded. At first this man was unable to move around due to the inverted images, but after a while his brain learned to compensate and he was able to go out normally and walk around. After some days, these special glasses were removed. At first, his brain was unable to cope, but again, after a while it had re-adjusted back to normal vision. An interesting experiment, but, I wonder, what did it prove?



Cookery programmes in the early 1950s were presented by **Philip Harben** and it was when his programme was on that we wished Central Telecine wasn't down in the basement at AP. Studio A was up on the 2nd floor, and when the programme finished all the delicious food that had been cooked during the programme was set upon by the staff.



But by the time we got there, rushing up those flights of stairs, - it was all gone.....

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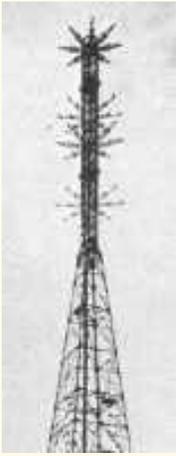
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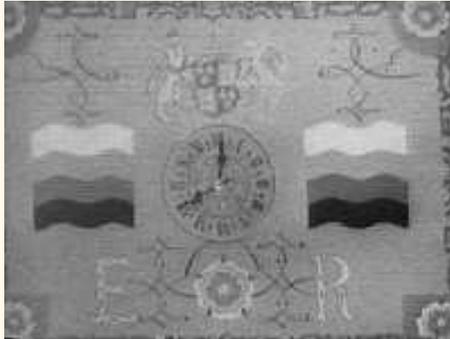


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Elizabethan TV



Elizabethan Tuning Signal

Late in 1953 the whole of one evening was devoted to one subject - "**An Evening's Diversion**" of Elizabethan tv, and special programmes were shown, just as if there had been television at that time.

Sylvia Peters introduced the evening - "**Now we ask you to imagine that in 1596 the Elizabethans had a television service of their own, and join us as we put back the clock.....**"



The "Elizabethan" announcer was **Noelle Middleton**, and I thought she looked absolutely beautiful in costume.

However, it seems they had licence evaders even in those days.....

So our Announcer opened her Scroll and read -

ANNOUNCEMENT

*May we bring it to your remembrance that Her Majesty's Privy Council do will and command that you **must** have a licence for the enjoyment of these entertainments. The money should be made payable in Pennies, Groats, Henry or Philip & Mary Shillings, or any other coin current in the Realm, to your Chief Justice, your Constable, or Head Borough.*

*If you do **fail** to pay this sum, being duly apprehended, you shall suffer a fine of two Duckats. But if any be convicted of the said offence a **second** time, they are immediately adjudged to be grievously whipped, as a manifestation of their wickedness, and as due punishment for the same.*



The "Elizabethan transmission" of Tuesday 7th November began with a special Elizabethan edition of TNR. It's title sequence was of folk dancing round the maypole as the letters "Oyez! Oyez! What News? What News?" went round the maypole "mast".



Elizabethan news cameras covered all major events, and the first story was naturally a Royal occasion.



The one which followed, highly topical, would be of great importance to the whole country.

There was also an item on someone getting dunked in the village pond for being a gossip!

Of great interest to Elizabethan viewers, cookery programmes with Philip Harben and Jeanne Heal were not to be missed.



There was even an Elizabethan Interlude.....

The whole of the Evening was telerecorded, and still exists in the BBC's archive.

As this special Elizabethan Evening began at 8pm the regular TNR was shown at 7.45pm.

About Britain

Around this time there was a series of programmes called "**About Britain**" with, I think, Richard Dimbleby. One of them was about Oxford, and I was showing it during the evening on transmission. One sequence showed people getting out of a train at the railway station, and among them I noticed a man leaving the train carrying a suitcase with white letters on the side. I still have the script somewhere with my original note about it.



- But who perpetrated it?

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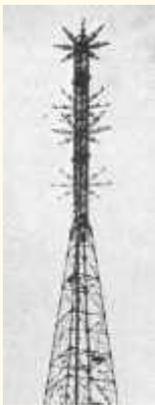
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Recording the Coronation



On Tuesday 2nd of June, 1953 was the Coronation of our Queen, Elizabeth II. Above is the front page of the **Radio Times** for that week - it cost only threepence (3d)! That was in old "Isd" money. In 1999, eighteen years after decimalisation, and the results of inflation, Radio Times today costs - 85p.

Prior to the Coronation, television was not taken seriously by the "Establishment" and the Government of the day refused to allow the tv cameras inside Westminster Abbey for the Coronation Service.

TV BANNED FROM ABBAY CROWNING: BBC ASTONISHED

By EMERY PEARCE

TELEVISION has been banned from the Coronation ceremony inside Westminster Abbey next year.
This decision, announced by the Duke of Norfolk's office last night, astonished BBC Executives, who

After protracted discussions and opposition from the Government (especially the Cabinet and Prime Minister Winston Churchill) the Queen herself overruled them and decided that the Coronation *would* be televised. As Her Majesty remarked at the time, it was *she* who was to be crowned, not the Cabinet!



All the resources of the BBC were called into action for that day, including all Outside Broadcast units from all over the country.



Even though at the start it had been uncertain if the televising of the Coronation would take place, a year of planning had occurred to prepare for this day.



The story of these preparations is related in "**The Year That Made The Day**" published by the BBC shortly afterwards.

Peter Dimmock, who had recently become Head of Television Outside Broadcasts, was in charge of the event.



At AP **both** shifts were on duty. I'd never seen the Palace so crowded! My job during the day was at Kays Film Laboratories at Finsbury Park, just down the hill from AP, where I was in the darkroom loading the film magazines from the **Suppressed Frame** Telerecording system.



This telerecording system had been developed by BBC Research Department and installed at AP in CTR next to the Cintel telecine machines especially for the Coronation. They literally built themselves into a corner of CTR and with that breeze-block wall so close I don't know how they got around the machines.....

In charge of the project was a man called C.B.B. Wood. I don't think he took me too seriously because whenever I came into the room he'd say loudly "Look! - it's Arthur Dungate!", which was a bit embarrassing.....

Later, C.B.B. Wood gave a lecture to the Television Society describing the [design of the system](#).

During the Coronation transmission when each 1,000ft magazine of 35mm film had gone through, it was taken off and immediately sent down, still in the camera magazine to Kays Labs by despatch rider.

When I received each magazine I took out the exposed film and re-loaded the magazine with new film for it to be taken back to AP, the exposed roll then being immediately developed and printed. In between I'd go into Kays Preview Theatre and watch the print being projected, so I saw the Coronation about 30 minutes after each bit had actually happened.



The Suppressed Frame recording was used for the edited Coronation Service which we transmitted from Cintel that evening. In parallel with this, the whole of the Coronation Day broadcast was recorded at Lime Grove on the Moye-Mechau system - all 42 reels of it..... This was for archive purposes.

The service in Westminster Abbey ended naturally enough, with a fanfare and the National Anthem. Just after that, Elgar's Pomp & Circumstance March No 1 was to be played. Now due to the geography of the interior of the Abbey, it wasn't possible for all the participants to see everything that was going on, the organ was in one place, the choir in another, and the orchestra in yet a different part. So they had to have several conductors, for the orchestra, choir etc.

Unfortunately, they were not always in step with each other and the start of Elgar's march sounded most peculiar.....



The Hot Kine

Meanwhile, at AP, engineers from CBC the Canadian Broadcasting Corporation, had come over and installed their own telerecording system, which used 16mm film, but in very large rolls, which, after going through the camera, went into a developing system, and then was projected, all this happening continuously in one long length, and all in one room. It was fascinating. We called it the "Hot Kine".

When the CBC engineers had set up this equipment and were testing it, they remarked that they had never before achieved such good results - this being due to the high quality of the pictures received by them from the BBC.

The Coronation television programme started at 10.15am with **Sylvia Peters** welcoming viewers:



"This is a great and joyous day for us all. In a few minutes our Queen starts on her journey from Buckingham Palace to Westminster Abbey, there to be crowned Queen Elizabeth the second.

... For the first time in history through the medium of television the ancient and noble rite of a Coronation Service will be witnessed by millions of Her Majesty's subjects." (The full text of this announcement is in the Schedules - see below.)



Coronation Day Schedules

The [Coronation Day Schedules](#) and Programme Allocations give the full details of the day's transmissions. They provide a complete picture of what the BBC Television Service did on that historic day, Tuesday 2 June 1953.

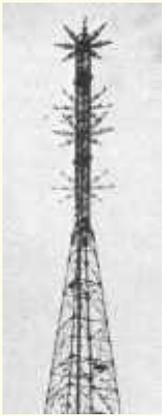


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The Coronation that Never Was.....



The actual Coronation occurred on Tuesday 2nd June, but on the previous Saturday morning, the whole service in Westminster Abbey was rehearsed, and it came up the line to AP and was telerecorded. We were fascinated watching it on the monitors and it was most odd to see the **Duchess of Norfolk** apparently being crowned Queen of England! I think some important artifact was omitted so that it wasn't actually legal, and she didn't become Queen for three days.....



During the rehearsal of the service, the E.I.C (Engineer-in-Charge) of AP came into CTR and turned off all the monitors, saying it was supposed to be secret. But as soon as he had gone, our S.Tel.E (Senior Television Engineer), Dicky Meakin, turned them on again, as he wanted his staff to know what was happening.



Afterwards, the 35mm negative of that telerecording was thrown away (no print was made)..... and I actually had some reels of it, too..... If only I'd had the foresight to have kept a bit.....

Of course, had I done so (and been discovered), it would have been a most serious matter for me. But today, with a more enlightened outlook, what a find for the archive it would have been! But, it is lost forever.





The "real" Coronation on the Tuesday was seen by millions of people all over the world.

One event which many people remembered fondly was seeing Queen Salote of Tonga, riding in the rain in an open carriage.



In this country the event, seen by almost all the population of the UK, was a great step towards making television the great and powerful medium it was soon to become.

There was a small BBC single-deck bus, painted in "BBC green", which ran each morning from BH in the centre of London to AP, and we used to catch this near Baker Street. On the journey to AP on the morning after the Coronation, the driver said to me that he thought the previous day was "Television's finest hour". He was right!

The Clean Feed

As the Coronation Service was being broadcast, a "clean feed" (a sound feed of the music etc, but without any commentary), was recorded on 1/4" tape at BH.

As it happened, on both the sound radio and television broadcasts, the commentators (John Snagge on radio, Richard Dimbleby on television) were still talking when the start of The Old Hundredth hymn (in Vaughan Williams' arrangement) began. The only clean recording being that on the clean feed. Unfortunately, the clean feed tapes were later destroyed.....



However, shortly after the Coronation, one of my friends in BH had made a copy on 78rpm disks, from the clean feed tape, of this and some of the other music. These were in my collection for a while but disappeared years ago. If they still exist, and anyone knows of their whereabouts, a valuable addition to the archives could be made....?

Wood Norton

It was the practice in those days for the BBC to provide training for its technical staff at the BBC Engineering Training Department at Wood Norton, near Evesham, Worcestershire. The Dept was run by **Dr K.R. Sturley** who had formerly been with the Marconi Company.



WOOD NORTON

A detailed account of Wood Norton's history can be found in Edward Pawley's book **BBC Engineering 1922-1972** (BBC Publications, 1972) ISBN: 0 563 12127 0

Wood Norton Hall had been bought by the BBC early in 1939 for use as an emergency temporary broadcasting centre in the event of war.

[Some photos will go here, when I can find them....]

I had recently moved out of the BBC Hostel in Bayswater, London, and found some nice digs on Crouch Hill, in North London, not far from AP. Then in the winter of 1953/54 I was detailed to a three-month course at Wood Norton. During my time there I would often return to London on a weekend, riding pillion on a BSA Gold Star motorbike of one of the guys, returning very late Sunday nights in time for breakfast and then lectures Monday mornings.

Evesham is just over 200 miles from London, and in the centre of the fertile Vale of Evesham, a famous fruit and vegetable growing district, noted for the wealth of fruit blossom in early spring. However, we were there in winter, and memory recalls it was a hard winter and my presence on the back of his bike helped to keep it from sliding on the icy roads, especially going down that steep hill at Broadway five miles before Evesham is reached.

The dormitory block was comfortable and I shared a room with a guy from sound radio, Keith Chandler. He could play the organ and we shared an appreciation of good music. On one weekend when I didn't return to London, Keith and I took a train ride to Hereford where he introduced himself to the organist of the cathedral and had a play on the organ.

The canteen at Wood Norton was originally the stable yard and had been roofed over with large metal girders. Noticing this one day during a morning coffee break, I unwisely remarked to my companions that it seemed rather sparse here. Upon which the young lady sharply retorted "What Palace do you come from then?"

Fortunately my other companion replied "Alexandra Palace!". "Oh, a **real** one...." she said, taken aback.

The technical equipment at Wood Norton had been primarily designed for sound radio, and so television, being a relatively new engineering course, did not at that time have many facilities. Thus it was that the only available tv syncs generator was a "one of its kind", the design not to be found anywhere

else in the Television Service! I thought that somewhat bizarre.....

I remember one of the lecturers had a slight speech characteristic and when I, in retrospect, rather unkindly, mimicked him outside one day by saying "The wipple fwequency is twaice the supply fwequency" I was complimented on my accuracy....

It was a cold winter and I remember one morning when washing in the men's facilities I remarked "this water's colder than usual". "What, the hot water?" said one guy nearby. "No, the cold water" I replied. From the far end of the room I heard "Oi'm not m-a-d".....

"Focus on Technical Assistants"

It was the practice in those days that at the end of its time at Wood Norton each course would script and produce a radio programme which would be recorded and kept in the Wood Norton archives. Everyone was given a microphone test and I was asked to provide a jokey voice, but having a disagreement with the "producer", I declined. The precise details are now clouded in the "mists of time" but I do remember that one of the course members, who was not in the "cast", agreed with me.

I do recall, however, that this young guy the "producer" who was in the Recording Dept in London and was also staying in the BBC Hostel in Bayswater, was asked at one meal-time by another guy, obviously irritated by his remarks, "Wouldn't you like to be a recording engineer?" "I **am** a recording engineer" he replied, completely oblivious to the sarcasm....

I do not have a copy of the resulting programme made by our course, but a fellow "resident" at the BBC Hostel had given me a copy of his course's programme on 12" direct-cut acetate discs. That programme was called "Focus on Technical Assistants" and was a take-off of a current documentary series "Focus" running on the Home Service at the time.

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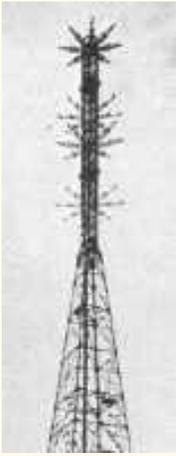
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Lime Grove Studios

It was sometime in 1954 that television's Central Control moved from AP to Lime Grove in Shepherds Bush, London, where it became known as Presentation, - and was in the new Studio P (sometimes referred to as Studio "Pee-pee", but that's [another story](#)).



The studios at Lime Grove, originally the Gainsborough Film Studios had been bought by the BBC in 1949 to be used as a "temporary" home for tv studios which needed to be much larger than the two tiny ones at AP. This was while the purpose-designed Television Centre near the former White City stadium in west London was being built. In the event, Lime Grove was in use for 41 years.

The studios were probably unique in that in order for construction to be contained within the tight confines of the site - between the street of Lime Grove and the Metropolitan railway, the sound stages had been built on top of each other. Thus the building was a rabbit warren of passages, stairs and corridors in which one could easily get lost, as there were so many different ways to get from one place to another.....



The "rabbit warren" --



The houses next to the studios were used as offices. Not an unusual situation, the BBC had "offices" in many places in London.

After the move to Lime Grove, Presentation took over the Tuning Signals which then came from cards. On the left of the picture is the clock, known affectionately as "Little Ben", while next to it is the tuning signal card which had a real clockface so that even for unusual transmission starting times, the correct time could be shown. The camera on the right of the picture, could look at either as required.



We in Central Telecine stayed on for a while at AP, sending film programmes down the line, until we, too, were moved to Lime Grove and the Cintel film scanners were dismantled and went back to Cinema-Television for refurbishment, and the addition of a third scanner before being re-installed in the new Cintel Telecine Suite at the Grove. At this time (19 March 1954) a programme went out called "**Thankyou Ally Pally**" to commemorate its close down. However, it was to "close down" several more times over the next few years!



There were two EMI telecine machines at Lime Grove, they weren't as good as Cintel (although to say so could provoke heated arguments.....), and they looked as if they'd been built using kitchen cupboard and refrigerator doors..... and on these we ran the morning Demfilm for a period until a single Cintel machine was temporarily hired, just to run the Demfilm, thus freeing the EMI machines for other purposes, studio rehearsals for example.

Unlike the Cintels, which had both machines in the same room, as a single operational system, the EMI telecines were in separate, although adjacent rooms making individual use feasible.

Each comprised both a 35mm and a 16mm scanner, although only one film gauge could be used at any one time.

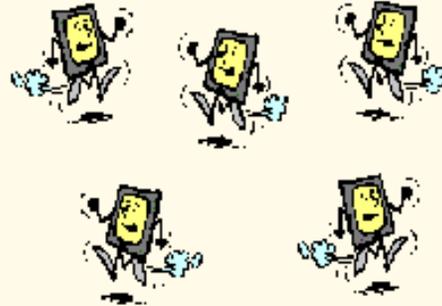
The 16mm scanner is on the left of the control desk, and the 35mm on the right. Although I, personally, preferred the Cintel telecine, the EMI did have the picture monitor screen at eye level!



The hired Cintel was multi-standard, and one day I switched it over to 625 lines, just to see, but since the Cintel 405 line system was so good, I didn't see any real increase in picture quality.

In the days when Central Control was at AP, each programme source had its own sync-pulse generator and so it wasn't possible to mix pictures from different sources.

But at Lime Grove all sources were synced from a master pulse generator. Except the multi-standard Cintel. And one day someone in Presentation forgot this and tried to fade from a studio picture to Cintel. What went out on the air was a lot of little unsynchronised Cintel pictures flying all over the screen....!



Since the Demfilm was now being run on only this one machine, it meant that when each 2,000ft reel had gone through, we had to stop. Then, while I was changing the reels, Presentation would show Test Card C from a Monoscope.



One day, though, I'd got over confident, and, just before 10 o'clock I buzzed up to Presentation that all was ready, and at 10 seconds to the hour, started the film. To my horror, instead of the expected Houses of Parliament opening and Big Ben, another sequence came up.....

Studio 'Pee-pee'

One day the actress (I think it was Gina Lollobrigida) came into the Presentation studio with her little dog, and she was concerned, as she said, that it might "pee-pee" on the carpet

So for a while afterward the small studio came to be known as "Studio Pee-pee".

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So I hurriedly stopped it, changed to the correct reel, but then had to run it through the opening, since it was now well past 10 o'clock..... This took many minutes, since in those days telecine scanners could not run "fast forward". Next day I was called before the EiC of Lime Grove (Engineer-in-Charge) and put on the carpet. So Big Headed Arthur wasn't infallible after all..... It took a while to live that one down.

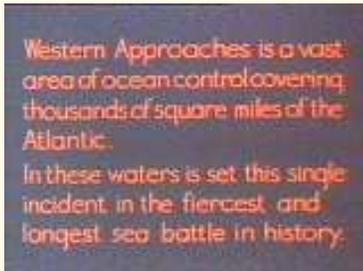


Western Approaches - before colour television

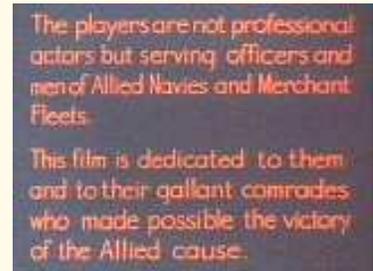
Since the flying spot telecine machines were designed to run only black & white film, when a colour feature film was to be shown, a lot of effort was spent in trying to get a special black & white print for the television showing. This was because the Cintel scanners had blue scanning tubes, and the EMI scanners green ones.



This problem was emphasized when the 1944 Crown Film Unit film "**Western Approaches**" was to be shown and a b&w print was not available. The introductory titles were red letters on a blue background, and were practically invisible on the telecine scanners.....



So the beginning of the film had to be run beforehand in the Dubbing Theatre and the words of the titles noted down, to be spoken as a Voice Over on transmission. When, in the 1980s the film was shown on colour television, that problem no longer existed.



Working in the BBC's Planning & Installation Dept was an engineer called Jimmy Redmond. During World War II he had been a radio operator in the navy and had taken part in **Western Approaches**, as all the cast in the film were serving officers and men.

He got his leg pulled whenever the film was shown on television.

However, he later obtained the post of Chief Engineer of the BBC.



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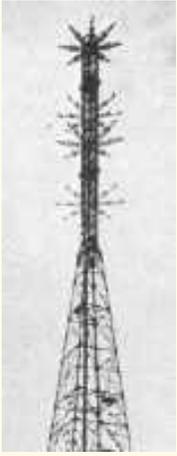
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The Grove Family, Peer Gynt and all that.

The first evening family "soap" on British television was **"The Grove Family"**. This series, although quite popular, ran for only a relatively short time, from 1953 to 1956. Mr Grove was played by Edward Evans, and Mrs Grove by Ruth Dunning, while the irascible Grandma was Nancy Roberts (her catchphrase was "I want my tea!"). Peter Bryant was Jack, the eldest son, and Sheila Sweet played the eldest daughter, Pat.



Playing the boy in the series was a young kid called Christopher Beeney who was later to make a comeback in the 1970s as a footman in ITV's **"Upstairs Downstairs"**. But in the mid-1950s in the Grove Family he was a wild super-active naughty boy, running around the studio making the Producer's life a misery.

I remember one day during rehearsals, I was running the film inserts on EMI telecine and the Producer asked me to run a particular sequence. "Not that one" he shouted angrily over the talkback when I'd started. "But that's the one you asked for" I replied. He apologised profusely explaining in anguished tones that it was this "wretched boy" who was driving him round the bend. And since in those days telecine machines couldn't run backwards, everybody in the studio had to wait, and wait, while I unloaded, rewound both the picture and separate magnetic soundtrack, reloaded and run forward - and at normal speed - to the sequence he wanted.....

Since flying spot telecine machines had to run up to speed before the picture stabilised, all films had to start with standard leaders, and we usually started with number "10" in the gate. One producer was overheard to say "Oh I don't like using Telecine - whenever I cue Telecine, all the bloody numbers come up....."



Peer Gynt



It must have been sometime in 1954 when the complete Grieg's "Peer Gynt" was done, with Peter Ustinov as "Peer". This was the first time I'd seen two television studios being used together for one production, Studios D and E at Lime Grove. (At AP, Studios A and B had occasionally been used together for some plays in earlier years). With Peer Gynt the action was in one studio and the orchestra, with its conductor Eric Robinson, in the other.

I was operating D Mechau on that occasion and remember during rehearsals Eric Robinson, who was in Studio E conducting the orchestra while listening to what was happening in Studio D via headphones, crying out in despair "How do you expect me to get the orchestra to finish on cue, when the end credits keep rolling at a *different* speed each time.....".



I remember that also in the cast was Erik Chitty all made up with whiskers as the "Mountain King".

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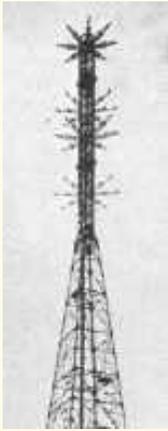
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The Flying (spot) Mechau

(and more about telerecording)

While I was in Telecine at Lime Grove the BBC Designs Department had developed an improved Mechau telecine system using, instead of a studio camera, a flying spot scanning system with standard BBC amplifier units. This was known, logically enough, as the Flying Spot Mechau, and it was in a room across the corridor from the EMI telecine machines.



One day I'd been detailed to Flying Spot Mechau to look after the film insert for a play, but all the studio wanted was a "The End" title from me.



So this bit of film was in the gate of the Mechau all day and being fed to the studio, with me just sitting beside it..... Come transmission, and the play was the last programme of the evening, and there I still was, waiting for my "The End" to be used.

As the play drew to its climax, the rest of the telecine staff next door in the EMI room, got up to go home and, forgetting all about me, still waiting, went along the corridor and threw the master switches, so just as the studio came to my "The End", it all disappeared.....

That really was "the end" as all the phones started ringing..... ("Where's the picture? What happened to telecine? Studio gallery wants to know!")

The INTERVAI?



On another occasion the drama studio wanted just an Interval slide. On transmission, about 10 minutes before the play's interval I surreptitiously slid a piece of card into the Mechau gate, obscuring the end of the letter L, and waited for the reaction.....

Eventually someone in the Gallery noticed..... "Aaargh, What's happened to our Interval?" I smartly removed the card, and there was a mild titter of relief from "upstairs".



Telerecording, and the Mechau



Even before the Suppressed Frame Telerecording system, first used for the Coronation, in 1953, there was a tv recording system at AP. It was housed in a basement room, just along a corridor from Central Telecine, and comprised a pair of Mechau machines looking at good quality monitors.

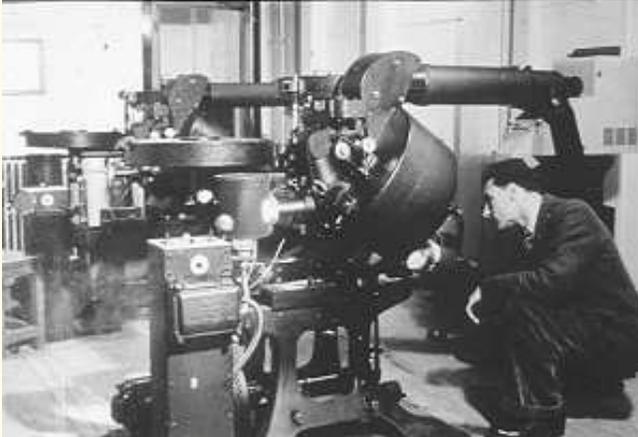
The Mechau was a German film projector, originally made for showing silent films, which used a rotating drum of mirrors which by a complex system of gears and cams, angled themselves as they went round, and produced a continuous image from the film, one film frame dissolving into the next, thus the film didn't move intermittently but in continuous motion.



The original Emitron cameras as developed in the mid-1930s needed a continuous image and so the Mechau projector was a convenient and practical way of making an early telecine machine for the studio.

Although the Mechau telecines were used extensively in television in those days, we never realised that they had been designed by a man whose name was Mechau! On the base of each one was a name plate with **Mechau AEG** which we took to be just the name of the manufacturing company.

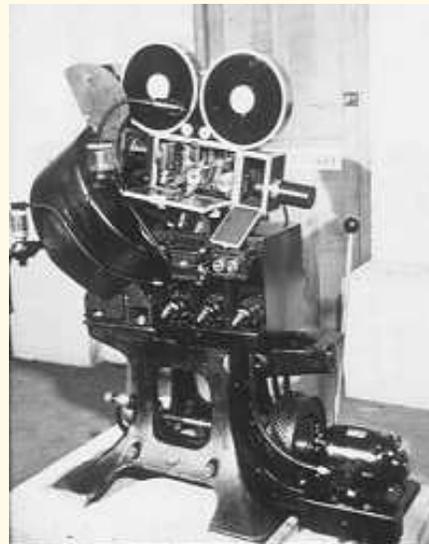
However a short [biography of Emil Mechau](#) the inventor of this ingenious equipment has been researched by **Helmut Krueger** and is published [here](#) with permission.



This is the pair of Mechau telecines used to show feature films from AP before the flying spot Cintel and EMI machines were developed. A 500w lamp illuminated the film and the continuous image looked into a standard Emitron camera.

To record television, the system was reversed and unexposed film run through the Mechau. I seem to remember that the system wasn't light-tight so we had to work almost in darkness, with just a dim red lamp.....

A complication was that it was a variable speed machine, it could be run fast, or slowed right down. But for recording a tv programme we had to keep it running at exactly 25fps, and we did this with a long joystick control (on the right of the picture, just above the motor) which we used while watching a strobe lamp..... Sound was recorded on the same film as the picture by a glow lamp. This produced a variable density soundtrack and was a simpler (and cheaper) method than building onto it a variable area unit, which would have had to be leased from RCA.



The resulting recording was known as a Telefilm, the term "telerecording" not coming into use until the advent of the Suppressed Frame system.



But nevertheless, this primitive system was used to record and repeat programmes such as "**In The News**", a topical discussion programme.

From left to right are -
W.J.Brown, Lady Tweedsmuir MP, Edgar Lustgarten (Chairman), Barbara Castle MP, Jim Callaghan MP.

The earliest known surviving example of a BBC Television drama series is [Robin Hood](#) dating from March 1953, and was recorded on this system.

Cintel back again, and switching units

When the Cintel flying spot scanners, after being removed from CTR at AP had been refurbished by the manufacturers, they were installed in Telecine Lime Grove, together with a third scanner as a standby. During the installation there was an unfortunate delay when it was discovered that one of the large cable looms was just a bit too short, so the cable loom had to be removed and a new one made, much to the frustration of the installation guys.

About this time there was some requirement to have additional labelling on part of this equipment, but Cinema-Television quoted a price of £400 (a lot of money in the early 1950s) for this, which seemed like a "we don't want to do it" price, so the BBC had it done internally.

The Cintels were in a room just up a few stairs from the main telecine rooms and just beside those stairs, in the room next to the Flying Spot Mechau someone had had the bright idea to install a complex switching unit whereby it was possible to automatically switch all inputs, outputs and talkback lines etc to any studio in the building. However, the main switching mechanism was achieved by uniselectors, whose contacts often became dirty, so a rather tedious procedure was instituted in that every morning every possible combination was selected and run through in the belief that this would clean the contacts. It was not completely successful....

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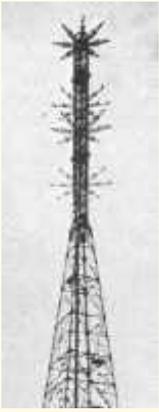
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Telerecording at Lime Grove



Suppressed frame system

After the Coronation, the Suppressed Frame equipment was dismantled and reassembled in the new Telerecording Suite at Lime Grove, alongside the Moye-Mechau system.

The "big wheel"

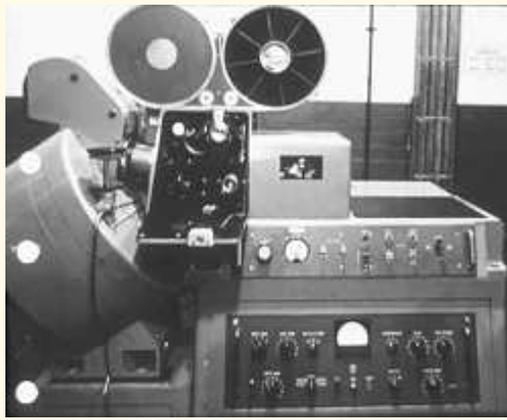
For many years I had forgotten what the "driving wheel" was for, and then **Peter Legate**, who had been a member of the team from Research Dept who had operated the equipment when it was at AP on Coronation Day e-mailed me early in March 2002 with the answer.

This maintained the correct phase relationship between the displayed field on the tv monitor and the recording camera. In other words, a large "racking knob".

He says, "It was given such prominence on this particular equipment because, (I believe I'm right in saying) the waveform generators of the many OB sources used on the Coronation transmission were not all, if any, locked together. Hence a cut from one source to another during the programme resulted in the 'new' signal appearing in any old phase relative to the one before. This did not worry the majority of the receivers in use at that time, but some took several seconds to settle down. The same applied, more or less, to the suppressed frame recorder and the operator was kept pretty busy winding the frame bar out of sight!"

The Moye-Mechau system used a Mechau mirror drum and a Moye film camera to record both television frames.

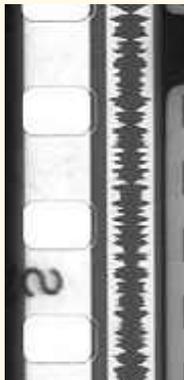
Before each and every recording session, the mirrors in the drums were cleaned (there was an access hatch in the drum for this).



Moye-Mechau system

I'd now moved from Telecine to Telerecording and on one occasion before a recording session when I was industrially cleaning and polishing these mirrors I flippantly mis-quoted a bit from Shakespear's Macbeth: "Out out, damned spot - what, will these mirrors ne'er be clean?" Which prompted a "Clot!" from the supervisor, **Ivor Smith**.

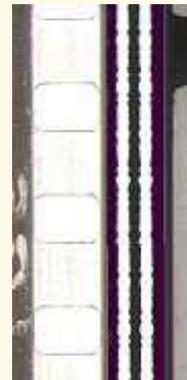
Ivor had a very loud speaking voice which no doubt led to his becoming known as "20dB Smith".



RCA

Sound was recorded as before on the same film, but unlike the original Mechau telefilm gear at AP which had a simple variable density glow-lamp arrangement, each unit had a very good quality sound system. One was RCA, the other BAF, both producing variable area tracks.

RCA = Radio Corporation of America.
BAF = British Acoustic Films.



BAF

The Ashes.....

One day, while operating the Moye-Mechau system we were recording a Test Match - but it wasn't just any test match, it turned out to be the one in which England won the Ashes for the first time in many years.

As it happened, my machine was recording just at that moment, and I noticed that although I should have cleaned the monitor just before, I'd forgotten to wipe off my dirty handmarks..... So for many years afterwards, whenever that historic moment appeared on television, I could see my dirty handprint. Such is fame - or should it be notoriety....?



The "other" system

There was, though, another telerecording system (of sorts) we had at Lime Grove - this was a 16mm system just for making check recordings for in-house "post-mortem" use so that people like producers and artists could review their work. To keep it as cheap as possible, it didn't run at 25fps, but at 16 2/3rds fps, and consisted of a couple of ordinary Siemens 16mm projectors enclosed in wooden light-tight boxes and looking at ordinary production tv monitors. A glow-lamp was installed where the exciter lamp would have been, to record the sound as a variable density track. A truly "Heath-Robinson" (in American that would be "Mickey Mouse") arrangement. Yet the results were "viewable"!

A complication was that although these recordings were made at 16 2/3rds fps, the 16mm projectors in the viewing theatres at Lime Grove didn't run slower than 18fps, which made music replay "considerably sharp"..... So on at least one occasion, when Bernard Braden and his wife Barbara Kelly were wanting to see one of their comedy shows they were invited up to Telerecording where there was a projector able to run at the correct speed. Barbara Kelly said that she thought they had come to the "holy of holies".

I was once asked if the system used 16mm reversal film and I had to confess that my memory was completely blank on that point. To keep the process as cheap as possible it would have been logical to use reversal film, as no printing costs would have occurred. So I think it is safe to assume that this was the case.

Not many of these recordings survive. After I moved from Telerecording back to Telecine (for a reason I have now completely forgotten), a colleague (Donald Pickering) saved one of Arthur Askey's "**Before Your Very Eyes**" programmes, with on the front of it his own (silent) film, also shot at 16fps, of a tour of the Telerecording Suite, showing "how it was done". Having lost contact with him in the mid-1970s I cannot say if it still survives, since he has since died, and I have no knowledge of what happened to his films.

The last TNR



In 1954 News Division, responsible for all the radio news, wanted to take control of news on television, so the much loved TNR was axed and "**News & Newsreel**" took its place, and initially it used a similar opening title, the letters going round the mast, instead of "**BBC TELEVISION NEWSREEL**" were now "**BBC NEWS AND NEWSREEL**".

But TNR didn't just stop without a cry. Just before News Division took over tv news, the very last Television Newsreel ended in style!

The final story in this very last edition was a re-run of the first ever story from 1948, about sailing ships, but the script was re-written, a masterpiece of tongue-in-cheek writing, with such not so oblique references to "steam" radio taking over such as "but when sail has to give way to steam".....



News & Newsreel came from Studio A at AP. A new Telecine room had been built and had a nice 35mm Philips cinema projector but the 16mm machine was mounted on Dexion angle iron and each looked into (I think) a Pye tv camera. I was actually off duty the day it started, my shift not being on until Day 2, so I watched the, I have to say, rather inferior results in the BBC Hostel that evening.

The night TV sound disappeared.....

"News & Newsreel" had just one daily transmission at first, and that was at 7.30pm, so after transmission everybody at AP went home.

One day, though, for some reason lost in the mists of antiquity, the main television sound feed to all transmitters throughout the country was, at some time during the day, inadvertently re-routed via AP racks.

That evening, as usual after the news, everything at AP was switched off. This would have been a bit after 8pm. For the next 20 minutes, television sound over the whole of the nation slowly faded away getting fainter and fainter and more distorted until it was gone completely.....



Studio A Racks



It took whoever it was at Lime Grove quite a time to sort it out and restore the service..... Another unsolved mystery.....

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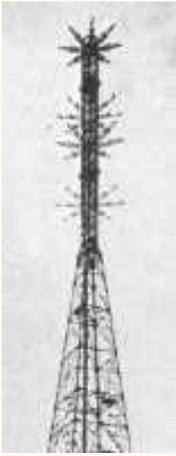
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A Horror of Advertising

In the 1950s the BBC was dead scared of any possibility of advertising. I might say almost paranoid about it. In television, even the showing of film studio logos - such as 20th Century Fox and Warner Bros openings was banned and they had to be cut off. One of the projectionists in the Lime Grove Dubbing Theatre had the job of doing this. It even extended to the sponsored documentary films often shown in those days.



I remember once I was running one of Shell's documentary films one afternoon on EMI telecine in Lime Grove, and during transmission the order came from "above" that the end of the film must be faded out - because it ended with the Shell Logo.... It was just the logo, not even the name.....

I was rather upset about it and got up near the end of the film and asked someone else to do it..... That didn't go down too well. I thought it was stupid, and I have to say that in the course of time I seem to have been proved right. These things do go on the air today, and have done so for many years now.

However one thing I did agree with at the time was the decision in 1956 to cut the end of the 1940 Hitchcock film **Foreign Correspondent**. The film ends with Joel McCrea broadcasting to America from a completely un-BBC-like yet supposedly "BBC" radio studio! However in later years this film *has* been shown - and by the BBC! - uncut..... Times change, don't they!

[The BBC's attitude to music is mentioned in the section on [Auntie BBC](#)]



Hollywood's version of a BBC radio studio.....

The coming of ITV

Around the time that Independent Television was to start in London (1955) the two new television companies, Associated Rediffusion and ATV were urgently needing trained staff and were frantically "poaching" from the BBC. In what appeared to be a panic move all engineering staff in BBC television were required to sign an undertaking not to resign for at least two years....

At first I resisted, thinking this was not justified as I had no intention of leaving the Corporation, but the "management" informed me that it was either that, or "goodbye".... I signed.

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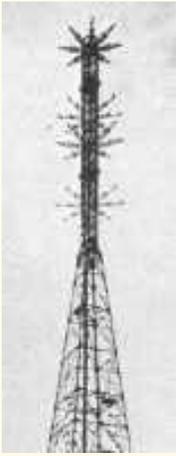
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The BBC Film Unit

In 1955 the BBC Film Unit wanted to expand. Up to then it's small staff had come mainly from the film industry, but new jobs were advertised internally and I became one of the first three to go into film recording.



So I found myself in the Dubbing Theatre at Lime Grove. This was in the South Block and four floors up! I was put on Grams. The picture is actually an early shot of the AP Dubbing Theatre, but the one at Lime Grove was basically similar. In those days, apart from "talking heads" with lip sync, almost all film was shot silent and music and sound fx were added in the Dubbing Theatre from BBC discs.

Read an account of [a typical dubbing session](#) in the years around 1956.

The Lime Grove theatre had a row of three gram desks, known as TD/7s, each unit comprising two Garrard variable-speed 78rpm turntables. The pick-up on each turntable was an EMI type 12 with a sapphire stylus, and was mounted on a parallel tracking arm which allowed accurate cueing of discs.



The picture above shows a bank of TD/7s in a radio studio, but the same equipment was used in the Dubbing Theatres, except that there was a shelf above the turntables to stack the, at times, large number of discs used in a dubbing session.

Read a description of a [typical dubbing session](#)

On one occasion, we were dubbing a film insert taking place in a railway carriage, and I put on a BBC fx disc of train rhythm. We thought no more about this until a schoolboy wrote in later to say that by the rhythm of the wheels the train would have been going at so many miles an hour, but, by the speed at which the telegraph poles were flashing by the window, it was only going at such and such a speed..... You just can't win!

We tended to use the same fx discs for most films and indeed some had become our "regulars". Then one day I heard a Children's Hour Radio play with what I thought were some new, or different car fx. So I sent a Memo by the Internal Mail to the programme's producer, **Herbert Smith** in Manchester. His reply began with "My rather astonished thanks for your kind remarks about our latest 'Cops and Robbers' play", and went on to say that they had used standard fx discs in the BBC library, and gave the disc numbers.

I looked them up and found we had them also! So I started to use some of them instead of our "regulars". It just goes to show that one shouldn't become complacent.

Suspended!

One day we ran a short 16mm film made by one of the young film editors, **Allan Bell**. It consisted of a fast chase sequence over the roofs of the Lime Grove studios. Just as the man in the film "ran out of roof space" and was left dangling in the air clutching a gutter, it cut to a title - To find out how it ends, join the BBC Film Club. I hope the short film survives somewhere.

The Lime Grove Lift

As you went into Lime Grove Studios, on the left just by Reception was the lift. We were on the 4th floor and the lift was a bit temperamental and it had a weight limit I think of a maximum load of 10 people. But we also used it to convey cans of 35mm film, so there was an unofficial chart.....

Maximum load 10 persons
*(or 9 persons and 3 cans of film,
or 8 persons and 6 cans of film,
or 20 cans of film and no
persons.....)*

If you were on the 4th floor waiting for the lift, it would often go by without stopping, but it was possible to reach inside the cage and activate the stop lever just before the lift reached your floor. One day when the Dubbing Mixer at the time, did this, and the lift stopped, there inside was the Archbishop of Canterbury wondering what was happening.....

The Hoffnung Concert

It was in November 1956 that the first Hoffnung concert was given and BBC Television relayed it from the Royal Festival Hall in London. A colleague in the Dubbing Theatre (who I will *not* name.....), wanted to record the music on 1/4" tape, so he asked C.A.R. to give him a feed of Television sound. Now as it happened the tape recorder in the dubbing theatre had a fault we didn't know about and sent high frequency recording bias back down the input line.

Unfortunately, the engineer in C.A.R. hadn't isolated the sound feed but had tapped it directly off the main output to all transmitters..... So, whenever the tape recorder was switched on, bias went back down the line, upsetting all the line amplifiers and tv sound went rather quiet and distorted. Of course Presentation tried to compensate by bringing up the level. However, at the end of each piece of music, the tape recorder was switched off, so consequently the sound level of television suddenly roared up again to everyone's consternation. I don't think they ever found out what had happened, ---- and we kept very quiet about it.....



Fortunately, EMI, subsequently issuing the concert on a Columbia LP, had a separate feed.

Films for free

In the 1950s there was a severe restriction imposed by the film industry on which films were available for a tv showing. Many notable films remaining "out of bounds" to television. However "compilations" of excerpts were allowed and **Daphne Turrell** produced these.

On the other side of the corridor on the 4th floor leading to the Dubbing Theatre mixing and recording rooms were several small Preview Theatres and often in one of these Daphne would view a feature film to take notes of which excerpts she might possibly use. She graciously allowed a few staff members if free at the time to sit in during these viewing sessions. And so it was that I was able to see such notable films as *The Dam Busters* and the famous 1936 MGM film *Mutiny on the Bounty*.

It was after running the latter film that I heard her remark that she was surprised at how good a film it was, not having seen it before.

One of her compilations was of the songs and dances from the RKO Rogers and Astaire films, another the numbers from MGM's Singin' in the Rain. She also made compilations from the Paramount "Road" pictures with Bob Hope, Bing Crosby and Dorothy Lamour. In the 1950s films of the 1930s and 1940s were rarely seen, except occasionally in specialist cinemas, such as London's National Film Theatre.

With the later relaxing of the restrictions, films such as those could be shown on television in their entirety and so such compilations became unnecessary and were discontinued.

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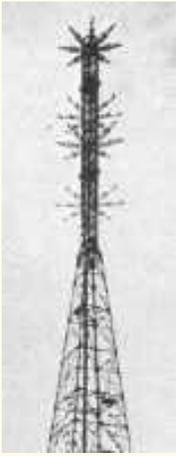
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Tape tangles

LIBRARY MUSIC

Also called "mood music" these are pieces of music specially composed and recorded for use in films, radio and tv programmes.
[See also [Newsreels](#)]

We used a lot of "library music" in those days and into the Dubbing Theatre in Lime Grove one morning in 1955 came young De Wolfe (well he was, then!) bringing some new music tapes for us to copy some tracks. "Be very careful with these" he said, "as we haven't cut the disc masters yet".

So I took the roll of tape into the room where the BTR1 was. It was a 15" or 30" tape, not on a spool but on a centre or core, relying on the tightness of the wind to keep it together. But this one wasn't tight enough so as I was about to put it onto the machine, the centre fell out.....

De Wolfe had, just in time, been quickly ushered into another room and engaged in innocent conversation..... The middle of the tape was in a real tangle, and the tape had to be cut to unravel it, then spliced together again and wound back onto the core. We never found out if he ever discovered that his brand new recording now had a splice in it, and probably some creases as well.....

A similar thing once happened earlier on the radio, which I heard about from a friend in BH (Broadcasting House).



This happened to one of the episodes of the **Captain Horatio Hornblower** serial on the Light Programme, when the centre fell out of the tape. And it was just before transmission too..... The tangled mass of tape was put into a bin and the beginning fed into the tape machine, and it went on air..... Unfortunately (there's always an "unfortunately"), about 15 minutes into the half-hour programme, the tangle became too much to unravel, and the programme suddenly left the air..... Such are the hidden joys of broadcasting.....

And thinking of the BTR tape machines reminds me of an incident that was related to me. When the BTR1 was superseded by the BTR2 tape recorder, Recording Division put in an order for them to re-equip its facilities throughout the BBC.

But since in the past, orders from Departments had tended to be halved by the financial people, the order for BTR2s was twice the number actually required.

However, for once, this time the order was **not** halved, and when all these BTR2 machines were delivered, having nowhere to go, they littered the corridors.



The BTR2 recorders, which superseded the BTR1, both made in England by EMI, became an "industry standard" in the BBC.

They were used in studio centres throughout the UK.



It's 15 or else....

The standard speed for tape recordings for transmission was 15ips. So when a 7½ips tape arrived, even though it was of good quality it had to be copied to 15ips before it could be broadcast....

Induction course

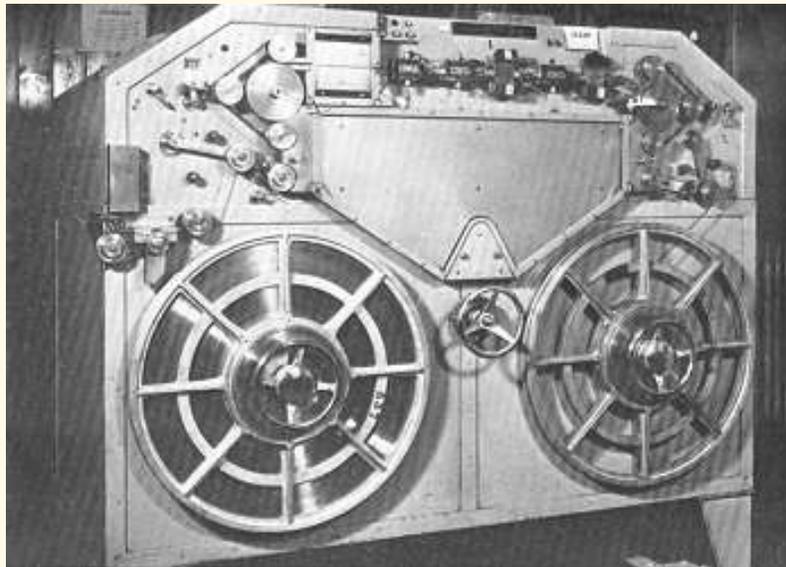
While on the subject of sound recordings, I am reminded that shortly after joining the BBC I went on an "induction course" which all new staff took. In this we were given a tour of many of the BBC's London studio centres. The tour took several days, and we met on the first day in Bentinck House in Great Portland Street, London. Our tour leader was Bruce Purslow, a most friendly man who had been EiC at Wood Norton during WW2, and after the war had been seconded to the Foreign Office, and based in Singapore.

When visiting the Maida Vale studios I saw a Philips-Miller* recording channel still operational. This was early in 1953, even though Pawley in his excellent book states that the last channel was returned to Philips in 1950.

The system used 3mm acetate film which was coated with a black layer. A sound track was cut into this layer producing a variable area soundtrack which could immediately be played back by a photocell as in cinema films. Many of the Tommy Handley "ITMA" wartime programmes were recorded on this system.

Marconi-Stille

What I did **not** see was a Marconi-Stille machine (though I had seen one in operation during my 1949 visit to the Swiss Broadcasting Corporation's studios in Berne).



This used steel tapes of 3mm width in large spools weighing 25lbs, providing a recording time of 32 minutes. **Vernon Phipps** the dubbing mixer at Lime Grove said that if the steel tape broke while it was rewinding, you ran for your life out of

*Philips-Miller

Edward Pawley, in his book **BBC Engineering 1922-1972** gives a [description](#) of this system.

the room! He also said that as the three heads, for play, record and erase could be plugged in any order, it was quite possible to get them plugged in the wrong order so that you could be unwittingly erasing the recording just being made....

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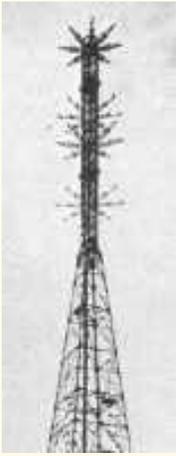
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Riverside Studios

It was late in 1955 that the BBC, having bought the Riverside Film Studios in Hammersmith, which were situated by the banks of the River Thames, some distance from the centre of Hammersmith, started to use the Recording Theatre there as a dubbing theatre.

This theatre had previously been used as a scoring stage, and had excellent acoustics. RCA had used it to record music in stereo for some of the early CinemaScope films, feeding the stereo sound down landlines to RCA's own re-recording theatre in The Tower, Hammersmith.

Riverside Studios had been acquired by the BBC in 1954 as there was a need for studio space and to allow the studios in Lime Grove to be taken out of service, one at a time, for upgrading to the latest equipment.

The original film stages were being demolished round about us to make way for some modern tv studios using experimental lighting control systems, and because of all this building work we had to have a commentary booth constructed inside the auditorium, and completely isolated from the floor etc to keep down the bangs and crashes from outside being picked up by the narrator's microphone. This was "tested" by one of the P&ID (Planning and Installation Dept) guys furiously rocking up and down on the floor the old conductor's rostrum which he called the "Dreadnought".

During this time of demolition around us, one of the contractors, in knocking down a wall, put his axe through the main telephone cables, thus cutting us off from the world. I was on the phone to BH at the time, and the loud "clunk" in the phone alerted me that something had happened.

On investigating, I found this tangle of phone wires dangling from the ruins of the brickwork. Connecting various pairs of wires together I eventually established contact with the local exchange but the call did not appear on the exchange's board, so no calls were being charged to the BBC! We could have made lots of free calls all round the world - but we didn't.

The TD/7

A [description](#) of the twin turntable desk which was widely used throughout the BBC.

In the Theatre three TD/7 gram desks (giving six turntables) were installed alongside the RCA mixing console and on some documentaries I would end up with great piles of discs on top of them after a hectic session. Discs could have a shortened life when subjected to this treatment, and once I queried this with the Head of Film Recording, **John Byers**. His reply was "Well we'll just have to buy more discs"!

Read a description of a [typical dubbing session](#)

A number of 50-minute documentaries were dubbed here, and we later discovered that they were subsequently being shown in Australian cinemas, Australia not having its own television service at that time. The dubbing mixer was **Les Philips** so his name was on the credits.

On one occasion there had not been time to have a print made, so we had to run the 35mm negative in the theatre. "Oh, it's phased reversed!" said one of the production assistants. "Can't you....?" No, we couldn't "phase correct" it in the projector.....

Unfortunately, when the new studios were eventually finished, we found that the experimental thyristor lighting control equipment was housed in a room just underneath us, and when this was in use a lot of hum was picked up by our recording gear. The engineer from RCA trying to alleviate this problem remarked that we couldn't expect conditions as if we were in the middle of a field. To which we replied that we WERE in the middle of one - a hum field.....



One day at Riverside we had some film inserts to dub for one of the "**Life With The Lyons**" programmes. This was a situation comedy series in the mid-1950s starring Ben Lyon and his wife Bebe Daniels and their children.

On this occasion their daughter was getting married soon and one of the shots in this film was a silhouette side shot of the daughter and her intended slowly coming together, in order to kiss.

Well, having run the film before the artists had arrived, we "substituted" the sound of two trains slowly shunting, the bumpers coming together just as the two lovers touched. Boy, were they surprised!



Having been built as a scoring stage the Riverside Studios Recording Theatre was the size of a small cinema and with a full-size screen. Exploring behind the stage one day I found a pile of waste papers. They were old dubbing cue sheets for such well-known films as **The Cruel Sea**. As the film industry also had a habit of throwing things away after use (for example all of **William Alwyn's** film scores were consigned to the bonfire by the studio concerned), I regret not having kept these for future archive use.....

Since the theatre had been built before the days of magnetic recording, to allow an immediate playback (albeit not synchronous) a 78rp disc recorder had been installed in a small room behind and looking into the theatre.

It was made by the MSS company - and it worked! So we obtained a small supply of blank 12" acetate discs from the Recording Dept at Maida Vale, and I experimented, producing some "spoofs" of current programmes (in sound).

One of these was about the Quatermass Two series we were doing at that time. Using all six of the gram turntables I produced a short take-off of Q2, basing it on a popular song of the time which had the line "Close the door, they're coming through the window". I did intend to make a copy and give it to Rudolph Cartier, Quatermass's producer, but somehow, never got around to it. I often wonder what he would have done had he heard it. And now I can't find these discs.....

One other memory: Riverside Studios were in Crisp Road, Hammersmith, and at the end of the road was a factory, presumably manufacturing jam. There was usually present a pungent smell of hot strawberry jam....

MSS Company

The development of direct disc recording is told in Edward Pawley's book **BBC Engineering 1922-1972** from which an [excerpt](#) is given.

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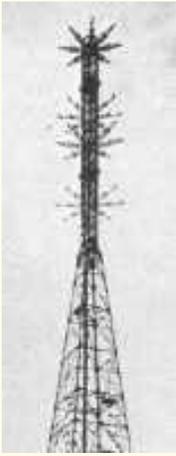
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The Quatermass serials



It was at Riverside Studios at the end of 1955 that we dubbed the film inserts for each episode of "Quatermass Two". The title music came from the Nixa LP of Mars, from Holst's "Planets". Since the dubbing theatres weren't yet equipped to play LP discs the music had been copied onto a BBC 78rpm acetate disk.



The Gram desks, known as TD7s, had EMI type 12 pickups on a parallel tracking arm, and these weren't kind to records, especially soft acetate disks like this one, and the disks would quickly wear (the official maxim from the BBC's Recording Department was "they're fine, on first replay".....).



So I had a bright idea and suggested that while the disk was still in good condition the music be rerecorded from the disk onto 35mm magnetic track and laid to the opening title for each episode, and this was done.

The Producer of the Quatermass serials was **Rudolph Cartier**, (seen here with Sonia Dresdel), and during the dubbing (without Sonia Dresdel) he'd sit alongside the mixer and yell "Grams" at me whenever he thought something should occur.



However, when we rehearsed we used a footage counter on screen and I would note down the precise points at which to cue in the various discs, - so I completely ignored him. He did say afterwards with his soft Austrian accent, "You were right, you were right".



The film sequences for Quatermass 2 were shot at Shellhaven on the Thames Estuary and the story of the serial was basically about an alien monster in outer space sending bits of itself down to earth which took over the humans they entered.

John Huntley, who was with the British Film Institute at that time had been engaged to select the incidental music for the serial, and on the day we were doing Episode 3, I saw that the music disc was about to finish too soon. So I pointed it out to John, who grabbed the first disc he could lay his hands on, gave it to me, I quickly cued it and spun it in just as the previous music disc came to an end.

Would you believe it, but just as the dramatic chords started there appeared on the screen the sign "Poison Gas"..... Everyone applauded at this perfect (though completely accidental) timing! But that's how reputations are made.....



It might be surprising today to think back and consider that, even with the, by today's standards, primitive techniques and crooked titles (!), those sci-fi serials of the 1950s had a great effect on the viewers.

Earlier in 1999 I was told that in at least one household the whole family seemed to almost grip the armchair every time that effective opening title used to burst on the screen.

Episode Four of Quatermass II began with the warning (a Voice Over, with the BBC Symbol) - **"In our opinion it is not suitable for children or for those of you who may have a nervous disposition"**.



I first encountered Quatermass while I was at AP when in 1953 the first serial **"The Quatermass Experiment"** was transmitted live from Studio A. This was the first television science fiction serial and made quite an impact.

The climax of the story is when the man who's now turned into a monster, invades Westminster Abbey. I peeped into the studio during rehearsal and saw what looked like dead branches being waved about through a window by a man standing on a ladder behind the scenery..... But because of the very limited depth of field of those Emitron cameras when exposed to only interior studio lighting, the effect on the monitors (and the viewers tv sets) was quite realistic!



I was attracted to the end title music and wanted to know what it was, so while the first episode was ending I rang Studio A Gallery and asked. It was **"Inhumanity"** by Trevor Duncan. "What's on the other side?" I asked. The reply was - "I don't know and I can't turn it over to see 'cos I'm still playing it.....". Have you ever asked a foolish question?



Anyway I liked the music so much I went and bought the record from Boosey & Hawkes, in London's Regent Street, shortly afterwards. After hearing that music at the end of an episode one could imagine that something quite frightening was going to happen in the next installment!

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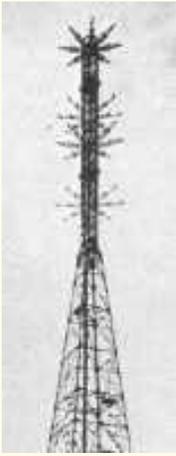
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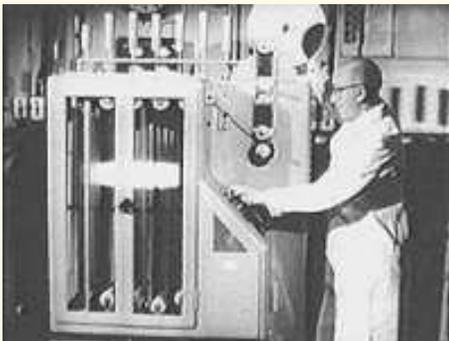
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Television News

In 1957 I found myself back at AP, but this time in the Dubbing Theatre, where I was to remain until I finally left the BBC. By 1957 however, Television News, which had replaced TNR in 1954, was now fully established as a proper professional news programme using both Studio A and a similarly re-equipped Studio B.



There were Preview Theatres, cutting rooms and a Black & White film processing laboratory handling both 35mm and 16mm. We referred to this as the "Soup Kitchen".



Some of the processing machines weren't all that reliable, and would occasionally mangle the film.

One of the operators often got fed up when something went wrong and would repeatedly kick the machine in desperation, saying "I hate you, I hate you, I hate you".





On one occasion while kicking it, he accidentally hit the water pipe and it came off, and there was a flood all over the floor.....

The "Soup Kitchen" was situated on the ground floor, and right next to it was the Gents toilet. Quite frequently a film editor in a hurry would inadvertently use the wrong door and enter the "soup" with his flies already open.....

One of the cleaners was an elderly portly man named Percy Gunn, and talking to him one day I discovered he had been a cornet player in his younger days. He described a recording session when the band he was with had combined with other bands under the name of "Grand Massed Bands". I was even more intrigued when I found that the records he had made had been some of my favourites for years, and I had them at home.

They had long been out of the Regal-Zonophone catalogue, but with the help of John Duncan ("Dunc") in the sound recording suite at AP I was able to get copies made for him, which pleased him a lot.



In the above picture, at the back are two Presto disk recorders. At the front, extreme right is the 3-speed LP player with, just alongside it, the twin turntable TD/7 replay unit (78rpm). [more](#)

One year, John Duncan returned after his summer holiday with a very sunburnt face so we dubbed him "Mahogany Dunc".

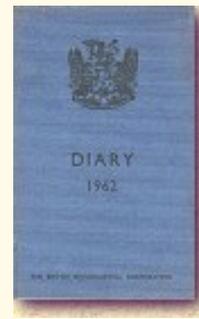
It was a good posting for Dunc as he lived in an apartment block at the bottom of Avenue Road, just down the hill at the back of AP. He was once an ardent motorcyclist and used to say that given a motorcycle and sidecar combination he would demonstrate going round the car park on two wheels. We never did get to see this.....

"Auntie BBC"

In television in the 1940s, 50s and early 60s, the Corporation, affectionately known as "Auntie" really was one.



We were all issued with substantial Diaries every year and looked after quite well, including having a nurse on duty at all major premises.



There was a good Internal Mail service, and on one occasion, when I got a communication about income tax I didn't really want I re-directed it to myself at "BBC Glasgow". It was about 3 weeks before it came back to me.....

Although "auntie" was an affectionate term, there were certain prudish attitudes within the Corporation in those days. One of which was in relation to music. Any "arrangements" of classical music were frowned upon. Indeed such arrangements were banned from being broadcast! Such as a popular song made from a melody of Chopin.

In the days of LP records, discs issued to programme Producers would have a sticker on the label such as "Track 3 is not to be transmitted".

Private films

There was a very friendly atmosphere everywhere and generally in those days no one minded what one did, - so long as things happened when they were supposed to.

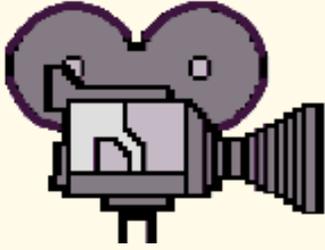
Thus I found that in the periods of free time when we in the Dubbing Theatre were waiting for a news story to come to be dubbed, I could go up to a cutting room and do some private editing on my own films. And so during my time in the BBC I learnt not only film recording (which I was being paid for) but also editing, scripting, shooting and much of the business of film making.

I made a few black and white 16mm films, shooting on "short ends" of negative film thrown away by the newsfilm cameramen. Thus, with all these facilities around me, the only actual cost was the final married print.

One 15-minute film I made around then still has inside the can - "Please take care of this print as it has cost £12.10s"..... (the cost today would be ---- ouch!)



"Short Ends"



A 400ft roll of 16mm film, running at 25fps (frames per second) would last approximately 10 minutes. If a news cameraman had used only, say, 250ft on an interview, it would be inconvenient to go out on the next assignment with only 150ft of film in the magazine so a full roll was loaded, and the "short end" of 150ft was thrown away. This was economic sense in that the time saved in not having to reload after only a few minutes of recording was worth far more than the cost of the unused film.

But I wasn't the only one making private films..... At AP when pictures were needed to illustrate news events for which there was no film available, still photographs were prepared in the Stills Department.

This was done by a talented guy named **Barry Deamer**, who liked making experimental films during the lunch breaks..... Here he is (twice!) in a double exposure shot.



But his main delight was in horror films. This is a blow-up of a 16mm film frame showing him as a werewolf about to "devour" one of the make-up girls.

He seemed to have an obsession with monsters and all his films, later shot on 8mm in colour, had some aspect of this.





He did his own version of "**The Picture of Dorian Gray**" and in this frame Dorian Gray is played by a projectionist, Dave Houghton, and the painter is one of the dispatch riders, Fred Shepherd.

And there were other things that went on at lunchtimes - One of the engineers would use our [film transfer suite](#) for a completely different purpose.....



Stereo sound

At this time the BBC was conducting experiments in stereo radio using the FM transmitters of the Third Programme for one channel, and the Television sound transmitters for the other. These tests took place on a Saturday morning when both services were normally off the air.

Having the facility of recording and replaying two separate film tracks in sync in the [film transfer suite](#) at AP gave **John Colomb** the dubbing mixer the idea of using our equipment for running two film tracks to give stereo sound for the OB of Trooping The Colour, at least for a special recorded repeat of it.

It would have required a bit of thought and co-operation to do this plus various technical problems to solve. Had we pursued the idea it would have been a "first" for BBC Television.

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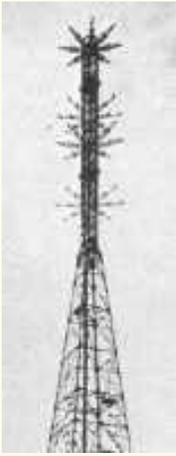
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Here is the News . . .

When **News & Newsreel** started in 1954, being run by News Division from radio, it was decreed that nothing was to be added that hadn't actually happened on the news story. So no music, no sound effects etc. Just the bare bones, which meant that often it was largely just still pictures with a Voice Over, "Frozen Radio" as someone called it.



But eventually they did get over this drawback, and one day around 1960, when we were dubbing a news story about aircraft, and it contained an interview with a Group-Captain Chester (or similar name), it was discovered that in editing, part of the man's title had been cut off the sound, reducing him to "plop" Captain Chester..... Well, what to do about it, the Group-Captain would probably object..... Can't we "hide" it somehow?" someone said, and I found a disc of a jet fly-past, to spin in just at that crucial moment.

And they used to say that the News shouldn't be "fixed"



On one occasion the news set in the studio had two phones on the desk. One was the normal PBX phone and the other was a direct line to the USA.

When it came to that item, the newsreader picked up the wrong phone, saying "Is that New York?" whereupon the PBX operator answered "Business or Personal?" to the very startled newsreader.

[Note: PBX = Private Branch Exchange]





The studios at AP weren't fully soundproof and it was a bit embarrassing on Bonfire Nights. People would gather on the terrace outside and save the noisiest fireworks for when the news was on the air.....



Eventually the Park was closed to the public on bonfire nights, much to the relief of everyone.....



Silence please!

The news title music was on 1/4" tape, and for some reason I can't now remember, was played from a BTR2 in the studio itself. To prevent the loud 'clunk' which occurred when the tape machine was stopped, the few seconds of music was on a 10 1/2" NAB reel which was filled up with blank leader tape, thus the reel could play silently for up to 30 minutes.

Cablefilm

Before the days of satellite communication, the quickest way to get newsfilm from the USA to London was to fly it by standard passenger jet airplanes. This would take about 5 hours. Then in 1959 the BBC's Research and Design Departments jointly thought up a way of using the Transatlantic Telephone Cable. This had a narrow audio bandwidth which was adequate for voice telephone calls but completely useless for picture signals.

The way to send pictures down the cable was to scan each film frame very slowly and send the resulting signal over the cable, thus the bandwidth needed was only from 0.5 to 5.6kHz which the cable could carry. I think it was about 30 seconds of black & white film would take around half an hour by this method. At the receiving end the pictures would be displayed on a cathode ray tube which had a long delay time and then photographed on another film. The system was reversible so that pictures could be sent in the other direction as required.

The sound was another matter - to get synchronisation between picture and sound the recording at one end had to be copied at the **exact** same speed at the other. To achieve this, we at AP had recorded several minutes of tone at 3kHz on 35mm magnetic film, and sent half of this to NBC in New York, keeping the other half of the film at AP.

In our film transfer suite at AP one of the 35mm sepomag

recorders was modified to run on a 50Hz tone source the frequency of which could be accurately altered over a small range. The 3kHz tone films were attached to the beginning of the sound reels at both sides of the Atlantic.

By voice message over the cable, one side would tell the other to start and the speed of the AP machine would be adjusted by accurately comparing the local and cable-received tone with a special measuring device (a "Flutter Meter"), which is a device which can measure to a fine degree small variations in a recorded frequency of 3kHz.

By this means it was possible to match accurately the speed of the one running in New York, at least over the time span of the short length of the news film. When the tone ended, the receiving side would switch over from replay to record, and copy the sound of the news clip.

The quality of the resulting newsfilm items was "bearable" which was deemed acceptable from considerations of speed and topicality.

NO silence, please....

On one occasion when working this system and sending to NBC, after telling the operator in New York to start, I forgot to change from the microphone to the film replay and sent a lot of silence across. At NBC the operator had to walk along a long corridor from his cable termination point in order to start his film recorder and so with having had to repeat the whole procedure I may have helped him to get more exercise than he had anticipated.....

Unfortunately, I have no recollection at all of the actual items that were sent or received over the cable. What I do remember was that at the weekends there was a compilation of news events and, although by that time the actual film would have arrived from USA, the compilation still used the inferior quality cablefilm!

Fortunately this primitive system was rendered obsolete when satellite transmission became possible during 1962 (initially using Telstar).

Cablefilm - a Postscript

I have now discovered that in the Transdiffusion archive of "On This Day in broadcasting History" are these entries -

17/18 June 1959

Cablefilm technique (transmission of news film sent by wire, recorded on film, perforated and telecined), developed by the BBC, is tested in a transmission from London to Montreal, Canada.

26 June 1959

Cablefilm used for the first time west-to-east to show the opening of the St Lawrence Seaway in Canada by Queen

Elizabeth II. First transatlantic television transmission by telephone cable using slow speed transmission equipment constructed by Designs Department at Research Department and known as Cablefilm. The occasion was the opening of the St. Lawrence Seaway jointly by the Queen and President Eisenhower.

To Edit - or not....

One summer during their holidays some university students were employed as editing assistants. One of them was heard to remark on seeing one of the News film editors editing a story on 16mm film, "If you join it up at the end, why cut it in the first place?"

Holiday relief?

The dubbing mixer at AP at this time was **John Colomb** but when he was on leave a relief mixer would take his place for the week, as arranged by the recording staff office at Ealing.

On one occasion **Bob Saunders** was doing relief work; I called him "Holiday Relieving Fellow" after a joke in a recent Peter Sellers tv show.

For some reason the telephone line in the mixer room appeared on the jackfield and one day I quietly disconnected the line, picked up the phone and pretended to phone the office in Ealing. When the secretary "answered" I said "Who is this mixer you've sent to us this week? What? That is no mixer, that is Bob Saunders? Oh no, I don't wish to know that!" and put the phone down. Poor Bob was agitatingly jumping up and down saying "No no no, you mustn't, don't say that!". He calmed down when he realised I had been speaking on a dead line....

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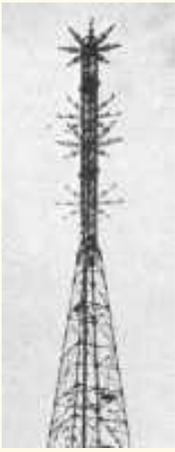
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BBC Club and Party Films

The original vision transmitter for the E.M.I. high definition system, built in 1936 was housed in a large room on the ground floor at the front of the building. The transmitter had a peak-white output power of 17KW operating on (for those days) a very high frequency of 45 MHz.



There was an interesting anomaly here. Whereas in BBC Engineering, all the sound transmitters were in the Transmitter section, the AP transmitters were still in the Television section. It wasn't until shortly before the move to Crystal Palace that the AP transmitters were re-assigned to the Transmitter section.



When the Crystal Palace transmitter, situated on high ground towards the south of London took over from the old AP transmitter in 1956, the old equipment was removed and the now empty vision transmitter room was turned into a clubroom and bar for the BBC Club. At AP this was the "No. 9 Group".

It was becoming a tradition at AP that the BBC Club would put on a Xmas Party at AP each year for the staff, and it was also becoming a tradition that a special party film was made and shown to staff at that time (those who were still awake).



W. Farquharson-Small was at one time producer of the first film review programme on tv called "**Current Release**", and its signature tune was **Champagne March**, by Geoffrey Henman. W. Farquharson-Small, or "Farky" as we used to call him, was now with News Division, and he made the first few party films (ostensibly for inebriated viewers).

One of them started with this lady announcer -

Now, before we go on with the transmission, here is an announcement -



"The BBC wish to correct a statement which has been appearing in a number of popular national newspapers to the effect that the Corporation has abandoned direct competition with Independent television. The Corporation has chosen, after careful consideration, to broadcast between the hours of midnight and 8am, partly for technical reasons, but mostly out of consideration for its viewers, who owing to a clerical error have been represented as 28% of the viewing public, but are in fact 28 in number, and all night workers".

I could say -

A prospect of the future Channel Five perhaps?

(But that would be unkind - so I won't).

Farky also roped in the newsreaders

-



Richard Baker
(the midnight news in bed)



Kenneth Kendal
(Continuity announcer)



Richard Baker - again
(in drag)

In the sequence of Richard Baker in drag he was miming to an old record of Florence Foster Jenkins. She was an American lady who thought she could sing, but was notoriously always excruciatingly out of tune.....

One of the sequences was a spoof "man from outer space" who's rocketship was assisted to land by a homing beacon radiated from the AP mast -- with unfortunate consequences.



Childrens Party Films



For some reason or other, "Farky" stopped doing these films, and I made the next two, - but for the children of BBC staff at *their* Xmas Party held during the afternoon in the old vision transmitter room (now the Club room). Having a 16mm laboratory "in house" (the "Soup Kitchen") gave me the idea to try and shoot sequences of the children having tea, and being interviewed by "Father Xmas". He was actually the studio lighting man (we had to have him - or we didn't get any lights.....).



These children are grown up now, and most likely have



children of their own.....



John Colomb was the dubbing mixer at this time and was always enthusiastic for such projects. He even appeared in the film (see below).



Having shot the film, and had it developed, and printed - a colleague (Les Collins) in the Dubbing Theatre had made a "home-built" printer which I made extensive use of - we'd put a soundtrack on it and show it at the party so they could see themselves on the screen before they went home. In these days of videotape, this would be simple, but in those days it was quite a feat to accomplish.

The soundtrack was on a separate 16mm magnetic film. We could do this because we had in the Preview Theatres Bell & Howell 16mm mag/optical projectors which had been modified to run double-headed.



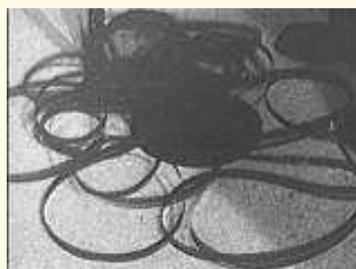
In the middle of the film we were going to insert a previously completed "comedy" sequence, purporting to show "how the film was made". John and I had a lot of fun making this.



Using stop motion, fast motion and double-speed sound we had people going along corridors without their feet moving, the film being 'developed' in buckets, cut with the editor's foot, and of course when the finished film arrived at the projector, it had to fall out all over the floor. I then cut to a white screen.....



On the actual showing at the end of the party, four people went out at this point, believing the film had actually broken.....





We did a lot of takes for the hat-changing sequence (above right) and with each take the "business" developed. This was in 1962, and later, in the mid-1980s when a lot of reels of Charlie Chaplin's out-takes were discovered (and made into a series of three television programmes), I was intrigued to find that unknowingly we had done it the same way as Chaplin had all those years ago.

I ended the comedy sequence with three of the dubbing theatre staff miming to "Jingle Bells", their voices played at double speed. I had wanted the three tv newsreaders to do this but when asked, they were not interested. After the finished film was shown, they regretted not taking part....

During this time I started to make a film about what *really* went on in Television News. The provisional title was - "**No News Is Good News**", and the subject - a typical day at AP during the news era (and that meant it would have been a comedy - or even a farce!), but I never finished it..... Now where did I put the script.....

A suggestion from John set me thinking. Why not make a musical about AP? We could alter the words of "New York, New York" (from the MGM 1949 film "On The Town") to become "AP, AP is a wonderful place....". We even thought of modifying a 16mm camera to run synchronously at 16 2/3fps and film ourselves along the corridors dancing and miming to a playback of the song, also run at this slow speed, in order to make it easier for us to mime.... However, this was just another project which failed to get off the ground!

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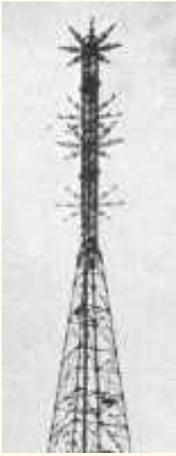
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Pranks and Presenters

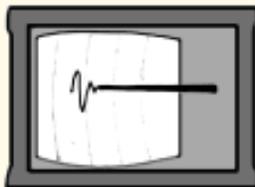
Working in television in those early days was indeed, for most of the time, fun. There were far more "ups" than "downs". And there were several pranks that we - er, I - got up to.



- such as - having paper-dart battles in the corridors of AP with Tom Barnes, the Chief Projectionist..... The corridors on the ground floor were quite tall and had service pipes running along the walls near the ceiling, and a lot of my darts got lodged in these. Perhaps they are still there?

And thinking of Tom Barnes reminds me of something I did to him one day.....

There had been a complaint that the projection room got too hot and stuffy so a pen recorder had been installed to check the temperature.



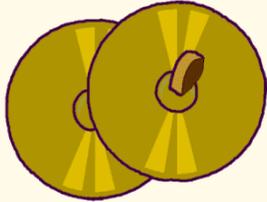
This had a cylindrical rotating graph, and one night just before going home I wrote on this graph "Death to Tom Barnes", and added a skull & crossbones.

I drew it on that part of the graph which would appear at 9am the next morning, carefully re-setting the graph when I had done so.....



The next day I was off duty, but when I came in again my boss said that Tom was most upset at what I did, but that my timing was excellent.....

So I went to Tom and started to apologise profusely, but he stopped me, saying kindly that when he found out it was me, he knew there was no malice in it and calmed down (he'd thought it was someone on the other shift...). But I was a bit more careful afterwards at possible unexpected results to my pranks.....



One of which was that one day I found a pair of cymbals had been left in the Dubbing Theatre at AP. And they were full orchestral cymbals - big ones! This was too good to miss!

So I got hold of them and crept along the corridor into Preview Theatre B. And there were a group of Film Editors, dozing on their chairs, waiting for the next news story to come in..... They hadn't seen me, and I took these cymbals, and **WHAM!** I'd never before seen people literally rise up from their seats - but these editors did - must have gone a good 3 inches up.....



In Preview Theatre B just in front of the projection box was a long desk where the editors sat when watching newsfilm rushes. On it was a row of about six telephones. One day, while there was no one there I took off all the handsets and replaced them on the wrong phones..... Later, when one of the phones rang it took some time before the frustrated editor managed to match the ringing phone to the right handset.

And then there has come to light this photograph of one of the film editors, taken in the car park. Now what fiendish prank of mine is he running away from?





A tilted mike?

In the Dubbing Theatre at AP we used an RCA ribbon mike on the table for the commentator, which was similar to the well-known BBC AXBT. **Bill Northwood**, producer of "Behind the Headlines" (a Tv news programme), at times did Voice Overs for some of the stories.

He usually spoke with his head at an angle, so we thought of propping the mike up on one side to match.....



Presenters

Some personalities come to mind.

One was **David Attenborough** coming into the Lime Grove Dubbing Theatre in 1955 to do a narration for one of his Zoo Quest films, and seeing me with an unofficial BBC disk (which actually a friend in BH had made), he called *me* a "Rogue"(but he did smile as said it!).



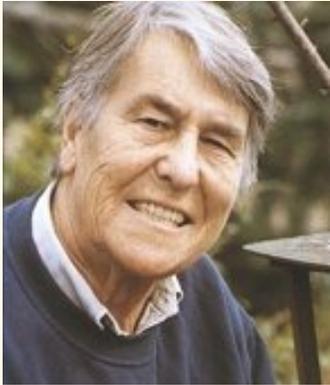
Later on there was **Wallace Greenslade**, one of the newsreaders, sitting in the Dubbing Theatre at AP listening with huge enjoyment to a replay of one of my off-air recordings of a Goon Show in which he'd taken part. He was a nice, warm, friendly man, with a very distinctive waddle when he walked. (You can see it in a sequence near the start of Richard Cawston's 1959 film "**This Is The BBC**").....

Then there was **Frank Philips**, another of the newsreaders, whom I found bending down tying his shoelaces at the foot of the stairs leading up to the projection room. As I carefully passed him to go up, he turned and said grandly "Thank you so much for not kicking me in the arse.....". I was a bit taken aback by that.



During his summer holidays he used to take his young son and travel round the coast of the UK on a merchant ship. On reaching the top of Scotland, they would return to London by train.

The BBC Natural History Unit which over the years has made so many superb programmes, is based in Bristol in the west of England. Initially with limited technical facilities, programme makers would come to London to dub their programmes. Since Natural History films required specialist sound effects recordings which the London-based Dubbing Theatres would not carry, the editors would come with their own necessary disks.



Thus I came across **Tony Soper**, a naturalist working with the BBC at that time. As BBC sound effects records were 78rpm shellac pressings, and therefore fragile, he had devised a simple means of safe transporting using the metal boxes in which acetate blanks for direct disk recording were supplied. These incorporated a central spindle which kept the records safe. An ingenious solution I thought.

I remember one day, around 1960 we were dubbing at AP one of a series of half-hour programmes featuring **Johnny Morris**. These were not part of his popular 'Animal Magic' programmes, but a series in which he did various adventures, one of which was underwater diving.



When we had finished the particular programme, there was a little time to spare so we ran the rough cut of the following week's programme (to be dubbed on another occasion). Johnny was standing at the back of the Dubbing Theatre mixer room, right next to myself and, although he had not seen the film before, he was voicing it perfectly! A true professional. (We should have recorded it!).



Johnny Morris lived near Hungerford in Berkshire, and many years later, in 1997, I was in Hungerford to take pictures and interviews for a project on the Kennet & Avon Canal, when I saw him park in the main street, to do some shopping. I thought of approaching him and saying Hello, but decided that it was most unlikely he would remember me from all those years ago.

Then, a couple of years later, I heard that he had died, and much regretted not making myself known to him. Now, of course, it was too late..... He was a kind and courteous gentleman.

Finally, **Huw Wheldon** in the mid-1950s. At that time he was introducing a children's programme called "**All Your Own**" and afterwards he came into Telecine in Lime Grove to thank in person the Telecine operator for his part in the programme - it wasn't me, but I was still touched by that kind and thoughtful action.



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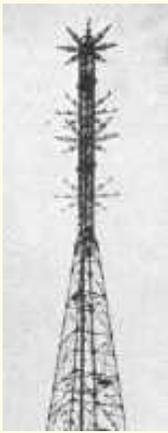
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BBC TV Today?

Television changed in the 1960s. With the growth of nationwide television, broadcasters turned into "programme factories". Even "Auntie BBC" changed. In the mid-1960s there was a complete restructuring of the management and the BBC was now just another corporate body.

In the 1950s, and especially the early 1950s, it was still a pioneering era in television. Quite often, what we were doing hadn't been done before. We were all interested in what was going on around us, and if a piece of new equipment was installed, all the operational people would come and have a look at it.

At AP it really was like a family. Those days have gone, and those of us who worked there in the "golden days" are getting fewer..... As are the buildings!



Lime Grove Studios as they were in the 1980s. But if you go there today, you'll find the studios have gone.



They have been completely demolished, and where they once stood are some modern houses. All that remains are some names recalling it's previous film connections, but, sadly, no mention of BBC Television. Such is progress!



Alexandra Palace, however, is a Grade 2 Listed Building and so provisional plans to cut the mast down to half its height have not been implemented.



Also there has been an exciting proposal to turn the "BBC wing" into a Television Museum! That would be worth looking forward to, as there are so many memories locked away in that building, which make it worth preserving.

However there is a danger. A Grade 2 listing provides that the **exterior** of a building may not be altered, thus the interior can be gutted without contravening the listing regulation. And this has been put forward by the owners of the Palace that the interior of the south-east corner, the "BBC wing", would be gutted and turned into a leisure complex and sold for a million pounds.



Has anyone got a million pounds in order to prevent this?



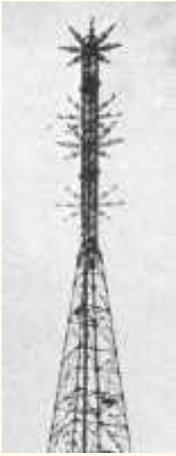
I hope you've found my reminiscences from the early days of television interesting, a time which looking back, quite honestly I feel privileged to have been even a small part of.

If you would like to comment, or have any suggestions, please e-mail me at the address at the foot of the page.

And if you find any mistakes, please **DO** let me know!

For further information about AP please contact the [Alexandra Palace Television Society](#) (details on next page)





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Anecdotes from the early days

Contributors -

[Gordon Waters](#) [John Summers](#) [Jack Clayton](#)
[Roger Brunskill](#)

PLEASE NOTE:

If any ex-BBC staff have some interesting and/or amusing anecdotes, experiences etc. of television in the early days, whether at AP, Lime Grove, or indeed any other location, I will be very pleased to publish them here. Please [e-mail](#) me.

Gordon Waters, worked at AP before and after World War II. He was the first Senior Television Engineer (Telecine) from 1949-1952, when he left the BBC and emigrated to Canada, joining the CBC in its Engineering Dept.



During the latter part of 2001 he contacted me by e-mail and started to send me a few anecdotes about pre-war BBC television, which I am very pleased to reproduce here.

Jasmine Bligh and the Baird system

When the Baird system was installed the system to use on the announcer was a Nipkow disc. As the announcer, (in this case Jasmine Bligh) could obviously not wear cans (ie. headphones) and due to being in darkness and facing a huge rotating disc, how could she be cued to commence talking?

Initially an engineer would sit out of shot, wearing cans, and on cue would squeeze Jasmine's hand. On one classic occasion, having a long wait the engineer had let go of her hand. On receiving the cue to start talking the engineer made a wild stab to find Jasmine's hand and grabbed her knee. The viewers were treated to an opening "WHOOOPS err, Good evening Ladies and Gentlemen"

A solution was quickly found, a small solenoid was strapped to the announcer's ankle which operated a vibrator which on cue would

tickle !!

Baird colour + EMI colour =

During the course of the initial dual systems transmission period, Nov 1936 -1937, ie Baird and EMI, there was an occasion when a potential disaster was narrowly averted. The Baird system was very responsive to the colour blue, whilst the EMI system was very responsive to reds. As the systems were used on alternate weeks it was important that the difference in the colour response of the two systems be noted by the Make-up and Wardrobe Dept.

On one classic occasion Make up and Wardrobe got out of step with the system in use. The occasion was the performance of the Dorchester Hotel Highkicking Chorus girls. Imagine the consternation in the control room when the girls started their routine and appeared to be absolutely nude, their red briefs appearing as skin tones.... Make-up and Wardrobe hastily changed the costumes and all was well before transmission. Had this actually gone out on transmission, and with the social attitudes of the 1930's, television might well have been set back 10 years! One more happening that would be impossible today (?).

The 1937 Coronation

There was a story going round before the war about the Coronation broadcast of 1937.

The O.B. unit (there was only one) was set up at Hyde Park Corner to televise the procession after the coronation ceremony, and the pictures were to be sent back to AP by an equalised Post Office line. At AP the signals were being received up to about twenty minutes before the procession was due to pass, then the picture disappeared. Frantic activity in the O.B. van. When all hope had been given up the signal appeared again and the procession was successfully broadcast.

When the programme was over the engineers, led by **I.M Bray**, ripped off the back of the racks to find the trouble. It was discovered that the outgoing co-axial cable inner wire was just touching its contact but it was a dry joint. Miracles do sometimes happen!

Tea in bed, Sir?

I was on shift on Xmas eve and Xmas day 1938. As I was living in Southall the other side of London from AP it was impossible to get home and back again on Xmas Day in the morning. I therefore got permission to sleep overnight in a dressing room.

Imagine my surprise when on Xmas morning a knock on the door came and my S.M.E. (later called S.TEL.E.) came in with a cup of tea. This from an S.M.E. who was universally disliked!

Editor's note:

S.M.E. = Senior Maintenance Engineer
S.Tel.E. = Senior Television Engineer

The Boat Race

of, I think 1939, demonstrated the ingenuity of the engineers at AP.

On the morning of the race the cameras had been set up somewhere along the River Thames and pictures and sound testing were in progress. Around midday the sound feed disappeared. Endeavours were made to raise the O.B. van on the control line, but to no avail.

The engineers at the O.B. site, ever resourceful, wrote messages on a card and held it in front of a camera so that it could be read at AP, but this did not solve the problem. So it seemed that the Boat Race would be accompanied by music from gramophone records.... I don't think that anybody thought of giving a commentary from AP.

However **Bill Ward** (later to become a well-known tv producer), came up with a brilliant idea. He procured a radio set from Tel P.O. (Cecil Madden)'s office, and with the assistance of **George House**, they tuned in to the BBC's radio programme. With the aid of a short piece of flex (twin electrical lighting wire) and a couple of crocodile clips they fed the radio output of the radio set into the sound facilities at AP. Thus the TV programme was transmitted with a commentary (from the radio set) by **John Snagge**.

It appears that somewhere in the outside world workmen in the vicinity of AP had been digging up the road and had put a pneumatic drill through the main telephone cable to Alexandra Palace thus isolating it from the outside world. One more example of the unusual happenings of the early days of Television.

Another Boat Race

In 1951 the boat race came to an untimely end. It took place on Saturday 24 March and the weather was poor and there was a stiff wind blowing. About 300 yards from the start one of the boats became waterlogged and in a very short time the boat sank. The other started to pull away, anticipating, perhaps, an easy victory. All of this was telerecorded at Alexandra Palace.

The following day the public, no doubt, expected to see some photos of this unusual event. However the only pictures available were from the BBC recording which were far below the normal press quality. So a poor photo of the boats sinking was printed on the front page of many of the papers. Whether this added to television's reputation I have no idea!

[For those who are interested, the race was then rescheduled for Monday 26 March, when Cambridge won.]

Harry Champion 'dives' in

Just before Xmas 1938 a program was transmitted called "Old Time Music Hall" . There were several old-timers whom I can remember. The opening number was by **Charles Coburn** who sang, somewhat pathetically, "The man who broke the bank at Monte Carlo". This was followed by **Harry Tate** doing a sketch called "Motoring". There were several other performers that I cannot recall. The final act was billed as Harry Champion.

At the rehearsal things went off with no great expectations of a successful show.

Come the transmission time and the show plodded along, no doubt interesting the folk who could remember back to pre-war (that is the First World War). The last turn was to be Harry Champion. I was the vision mixer on the show so I had a birds-eye view of events.

As the time neared for Harry Champion to appear the producer was getting frantic as Harry was nowhere to be seen. Nevertheless "Bumps" (**Hyam Greenbaum**), the orchestral conductor started to play Harry's signature tune.

Suddenly the studio door burst open and Harry rushed onto the set and burst into his signature tune - "Any old Iron, Any old Iron, Any any any old Iron", all the time dancing to the rhythm (or rather shuffling to it). His performance lifted the whole show. Harry kept going for at least 5 minutes.

Apparently after the rehearsal Harry had adjourned to the 'Dive' for refreshment and only left when the Dive closed at 10pm.

So it could be said that Harry, who I was told was 78 years old, lifted the spirits of the show - and certainly of the producer! After the show was finished the studio crew dispersed and most of them were singing "Any old Iron".

The fact that I can recall this after over 60 years gives testimony to the effect it had on me!

Editor's note:

The Dive was a pub (public house) situated just across from the car park at AP, frequently used by staff as an alternative to the canteen.

The start of World War II

On September 1st 1939 I was at Radiolympia. At a few minutes after 12 noon an order came to shut down and to proceed to our wartime assignment (in my case it was to join the forces, ie the Royal Navy). As I had a few personal items in my locker at AP I went on the Underground to Wood Green station and hence to AP. There I met an engineer from EMI, **Bernard Greenhead** and accompanied by **R.D.Maurice** we journeyed in a small van back to Hayes, EMI's home base.

Bernard told me that as it was anticipated that London would be heavily bombed, the stock of Emitrons which we had brought from AP were to be sent to South Wales to be stored down a coal mine for the duration of hostilities.

Editor's notes:

(1) EMI (Electrical and Musical Industries) was a merge, in April 1931, of the Gramophone Company (HMV) and the Columbia Graphophone Company. Record labels included HMV, Columbia, Parlophone and Regal-Zonophone.

(2) Later, it was said that the stock of Emitron tubes subsequently got damaged by water and were thus destroyed.

The X-Ray Eyes

Sometime between 1946-1949 a man came on a variety show billed as "The man with the X-Ray Eyes". The man called himself **Kuda Bux** and was ethnically from the Indian sub-continent. He had been appearing on the Music Halls but we had no idea what his act consisted of.

Anyhow he sat on a chair and his assistants placed large wads of dough on his eyes and then proceeded to wrap his entire head in bandages so it was impossible for him to see. He was then handed several different papers which it was impossible that he could have seen previously, and he read from them with no hesitation. He claimed to have seen several doctors and specialists but none could explain his unusual gift.

After the rehearsal was over several engineers, of which I was one, asked for a private demonstration and he was good enough to oblige. The leading light for the engineers was **Jock Strathairn** who produced a technical book for Kuda Bux to read. He reached out to take it but was prevented from doing so. Then he explained that he must touch it or he could not read it. He was given the text and started to read it.

Meanwhile Jock Strathairn had gone into the maintenance room and returned with a large sheet of copper which he placed between the text and Kuda Bux who reached out and touched it but it made no difference. He could not see through it.

Kuda Bux was a trifle miffed, perhaps because he could see a danger to his claims. But they were genuine enough for me.

John Summers was on cameras at AP from a month before programmes were transmitted in 1946, and moved to White City when it opened.

My first Television experience!

It was May 6th 1946, my first day in the Television Service. I had taken the little single decker red bus from Wood Green Station, up the hill to Ally Pally, hurried up the steps, through those heavy metal doors to report to reception.

I then ascended to the sixth floor in the little lift, to report to **Mr Baker**, E.i.C. After a short lecture from him, he told me to report to **Mr Whiting**, S.Tel.E. in charge of Studio A. Mr. Whiting said to me, "Well Summers, what do you want to do - sound or cameras?"

Full of excitement I replied "Cameras please Mr Whiting". "There's a boom - you're on sound!" was his reply. Up I climbed, was quickly shown the controls, and donning a pair of "cans", my operational experience of television began.

Very soon a distraught voice came over the cans "I can't hear a word - for Christ sake get the mike closer!" This was followed almost immediately afterwards by a somewhat annoyed Director - "Get that mike out of shot!".....

So it went on - for the rest of the afternoon - either the Sound Supervisor couldn't hear what was being said - or I was being told off for having the mike in shot. I felt boom operating was not really for me.

The following morning, before rehearsals started, Mr Whiting came up to me and said, "Report to **Ted Langley**, Summers. You're on Cameras!"

So I became a "dolly operator" on Crew 2, under Senior Cameraman, Ted Langley. He was a really macho type, and did much to create the prestige of camera operation in TV. He demanded 101% concentration from his trackers, and big close ups and fast tracks were his hallmark.

He was a scourge to incompetent directors, and would sometimes become very exasperated with them. Once in a while he would get so annoyed that he would throw off his cans, and rush up the stairs to the control room, to give a luckless director a piece of his mind. We lads on the floor would push our headphones a bit closer to our ears so that we didn't miss a word!

One day we were in Studio A rehearsing a variety programme. A knife-throwing act had just finished on camera and we were waiting for the next turn to arrive. Ted leaned forward from his camera, and asked the knife thrower if he would throw at him.

He agreed, and Ted replaced the lovely girl in front of the target and

had five knives thrown at him - all landing behind Ted jolly close to his body. Can you imagine this happening today in TV?

Well nothing untoward occurred, and afterwards Ted got back on his camera, and we carried on rehearsing. Of course we lads were all very impressed with Ted.

The next day we were rehearsing a play. The action took place in a hospital with a blood donor, and Ted set up on a still shot of blood dripping into the bottle. Although the scene in the viewfinder was upside down - it was in colour.

After a while it proved to be too much for Ted - he fainted!

Help! I'm dying

It was morning in Studio A. Apart from me it was deserted. I was operating Camera 4 that day and was the last camera to be lined up; the rest of the crew was down in the restaurant having morning coffee before rehearsals started.

The emitron camera was set up on Test Card "C". I had used my headphone lead to measure the distance from camera to the testcard, and made sure it was squared up. The focus check had been finalised, and racks had said that I could mark in the limits. Remove viewfinder ground glass screen, apply liquid soap from the "gents", and use "bronco" loo paper to wipe off the "old" limits.

Back to the Studio, mark in the "new" limits with pencil, after inserting the glass screen and focusing viewfinder. Having "capped up" I was just leaving the Studio for a quick coffee, when **Dickie Meakin** came limping over to me from racks. His face was ashen, and what seemed unbelievable he had a 3ft long spike sticking out from both sides of his blood-soaked trousers!

"I've had a terrible accident Bo, see if you can get Nurse to come up and help me" I heard him say. With out any hanging around I rushed along the corridor, down the back stairs to her surgery.

Nurse was sitting comfortably, sipping her coffee and reading the newspaper. "Come quick Nurse, Dickie Meakin has had a terrible accident!" I blurted out. Nurse looked at me calmly, glanced at her watch, and said "Tell Dickie I'll be up in a few minutes".

I could not believe what I was hearing, but I was far too young and inexperienced to argue. I just dashed back as fast as I could to see how Dickie was.

Studio deserted, no Dickie. Into racks, and there he was, sitting on the high chair, smiling. He saw the look of total disbelief on my face, and slowly pulled his trouser leg up, above his shoe, to reveal the latticework of an artificial leg!

Using some "stage" blood, and some white powder from makeup,

old trousers from wardrobe, and a spike from the "stagehands" he had completely fooled me!

Café Continental

I wonder if anybody remembers **Henry Caldwell** and Café Continental? I suppose this show was produced at Lime Grove – although I have an idea that it has gone out from Studio A at Ally Pally.

As the programme starts the viewer is in a moving taxi. It stops and we see out of the window the "Café Continental". A Major Domo in uniform comes forward, salutes and opens the taxi door. We step out, look at the billboard on the right of the Café entrance and read the names of the stars. **Pere August** comes through the Café door, welcomes us and beckons us to follow him into the Café. The programme then continues with the cabaret. The end sequence is the reverse of the beginning, we leave the Café, look at the billboard once more, move back and into the taxi.

You can imagine all the things that could go wrong (and they did!) with this opening and closing sequence to the programme, all live and on one "iron man" camera*.

Before going on air the painted plywood cut-out of the side of a taxi (mounted on castor wheels) would be put in front of the camera. On cue the camera and the cut-out pushed by a scene hand, would move sideways and then both stop opposite the Café entrance, simulating the taxi stopping. We would see the Major Domo through the window, he would step forward and open the taxi door. The taxi cut-out is in two halves, joined in the middle. As the camera moves forward to follow, the scene hands pull the two halves of the taxi apart, to allow the camera through. After that it is simple. Go in, pan right onto billboard. Pan down to read names. Cue Pere to come out. Pan left onto him and follow him in. Cut to mainstage cameras and start the Cabaret with compere **Helene Cordet**.

The ending was shot in the same way – camera on Café door, Pere says "Au Revoir - hope you enjoyed the show!" Pan right onto billboard, pan down names, pull back to marks on floor, hope the scenehands have got the cut-out in front of the camera and on its marks, pull back to second mark to reveal (hopefully) the taxi window. Cue Major Domo to step forward, salute, smile and wink as he closes the taxi door.

Now for the really tricky bit! A scene hand would be lying on the floor, in front of the camera, out of shot. He has a lady's long white evening glove over his hand and lower arm, and on cue he reaches upwards, grasps the tassel of the window blind, pulls it down to reveal "The End" tastefully written on it.

We did this opening and closing sequence for every "Café Continental" and I can't remember it ever going completely smoothly. You think what could go wrong attempting this routine, and I assure you that it happened at some point!

Perhaps the worst mistake occurred in the end sequence. The long white evening glove was necessary to hide the hairy, tattooed arm of a burly scene worker. On one occasion the arm came a shade too high.....

I can still hear Henry Caldwell's irate voice coming down my cans, using some very choice expletives!

* An Iron Man was the name given to a camera mounting at AP. It had a triangular base, with three small diameter wheels. It was BBC grey, and had a small wheel to adjust the height of the camera. It was not designed to be moved in vision because it tended to be "bumpy", and only intended to be moved between shots. Cameras one and two in Studio A would be mounted on trackable "dollies" with camera assistants to track them. Cameras three and four were mounted on "iron men", and only operated by the camera-men. I think they were alternatively known as Vinten (the manufacturer) pedestals, but I may be confusing two different mountings (it was a long time ago!).

Jack Clayton was one of two Sound Supervisors in BBC Television News at AP from July 1956 to 1967.

The 'silent' BTR/2

There was a locking switch on the sound desk to start/stop the BTR/2 remotely. The operator pulled the switch outer casing to unlock it, and then pushed it down to start the machine.

Alternatively, the casing could be unscrewed, turning it into a normal switch.

On my first bulletin with a tape insert, the script called for the newsreader (Robert Dougall, Frank Phillips or similar) to introduce the tape with the BTR/2 in shot and I would switch on the BTR/2 remotely when he mimed pressing the start button. As he reached the end of the intro, I grabbed the switch casing to pull it towards me. Unfortunately, a Sound Assistant trying to be helpful had already unscrewed the casing and it was free to move downwards. So as the newsreader stretched out his hand, I started the machine. Hearing the clonk and seeing the spools rotate, the newsreader reacted visibly and pulled his hand away; I stopped the machine.

We started a short sequence when neither of us knew what to do and he made a couple of tentative mimed starts and I operated the switch accordingly. Eventually I switched on the BTR/2 and let the insert run.

In those days things went wrong all the time and there was no aftermath. It was a real learning experience for me, though.

Programme Errors

Although my spell at AP (1956-67) was a long time ago, I remember clearly that there were inefficiencies and tensions in the News unit there. The newsreaders were from radio, came on a rota, did what they were required to do and went away. News staff weren't a part of Television and didn't seem to know a lot about it. I was never involved in the planning of programmes but didn't get the

impression that the engineering and production staff had the power and status to control events. For example:

The early news was about 6.00pm and it was followed by a programme of topical interest. One evening the programme consisted of two regional studio inserts and two pre-filmed items. As it was self-contained, the newsreader was told he wasn't needed and could leave the studio once he'd read the news.

The sound circuits from the remote studios were not available before the news bulletin started and I was required only to make sure that they were working from the switching centre to the sound desk.

The newsreader read the introduction, the first film was run, and the studio went dark. The opening film concluded with the cue to the first remote studio insert. Up came the picture of the speaker, he opened his mouth but there was no sound. The S.Tel.E. got on the telephone but achieved nothing.

As this first speaker was due, at the end of his contribution, to introduce the speaker in the second studio, there was a lot of hair tearing, but eventually a message was passed to tell the second speaker to begin. His picture appeared, but there was no sound either. He was due to introduce the second film insert so the decision was taken to abort the programme and the Presentation staff at Lime Grove were told to fill the remaining 15 or so minutes.

Once we were off the air there was a lot of heated discussion. I didn't feel I'd failed in any way but was attacked by one of the senior news staff. "It's all your fault", he claimed, "everyone knows the sound was there all the time. It's got to be: it runs down the side of the picture!"....

I don't know if he ever learnt that television wasn't like film (combined optical or magnetic stripe), and that the vision and sound circuits followed separate paths across the country. I heard later that someone had failed to ensure that the people who manned a switching centre somewhere knew not to close down at the usual time.

Perhaps somebody learned that evening that 'live linking' keeps things flexible!

Roger Brunskill joined TV Tech.Ops at Lime Grove in 1955 and stayed with the camera crews until 1963. Thereafter went up the production chain and ended up in BBC Enterprises as Head of a Department.



Early Colour Experiments at AP

In the winter of 1956/7 colour transmissions were originated live at AP in the middle of the night and received by various management and engineering brass hats. Television Tech.Ops supplied the camera crew.

I was the vision mixer for a few months. We did two productions on alternate nights. One was a variety show featuring Elton Hayes, a well known singing guitarist, and dance routines by Gillian Lynn and Una Stubbs. Gillian Lynn is now a mega famous choreographer on Broadway and West End shows. Una Stubbs became a famous actress featured in "Till Death Us Do Part" and "Worzel Gummidge".

The other production was a play called "The Revolver" based on story by an eminent Russian classic author probably Chekhov, with two or three actors. There was also a Floor Manager.

We had two colour cameras on pedestals and a colour slide scanner mounted on a colour telecine machine. The cameramen were Maurice Fleischer who can be seen at the AP reunions and Tom Fawcett. There must have been a boom operator too.

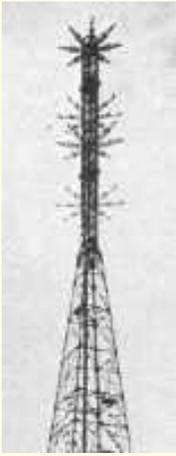
The S.Tel.E was Tony Stanley now on the committee of the BBC Pensioners Association, and the engineers were Ken Howe, Eric Spain and Bill? The producers/directors /set designers were Ian Atkins, Barry Learoyd and Stewart Marshall. Make Up was by the late Maureen Winslade and costume by Olive Harris.

These last four people spent hours gazing at postage stamp sized colour samples on colour charts.

In those days it actually used to snow in London! Some times the BBC bus couldn't get up the hill to AP and we were stranded up there....

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The AP Film Dubbing Suite

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When the BBC decided in 1948 to make its own newsreel for the Television Service it was realised that an in-house facility would be advantageous. Until the AP Dubbing Theatre came into service at the end of 1949 the Television Newsreel (TNR) was recorded and dubbed in the Re-recording Theatre of RCA situated in The Tower, at Hammersmith Broadway.

N.F.Chapman, of Planning and Installation Dept (P&ID), BBC Engineering Division, published a technical description of the new facilities at AP in 1950.

A FILM DUBBING AND REVIEW SUITE FOR TELEVISION FILM PRODUCTION

A Film Production Unit is an essential part of a Television Service. One of the most important functions of the B.B.C. Film Unit is the regular production of newsreels, but its activities cover a wide field and include the production of film sequences for television plays and special documentary and demonstration films.

In addition, the unit is responsible for editing 'Telefilms' and for checking and preparing such commercial films as can be obtained for television. To enable these activities to be carried out efficiently, and to ensure that the productions shall attain a high standard of technical excellence, a comprehensive scheme for equipping the Film Unit with apparatus of the latest design and best obtainable performance has been prepared. This scheme is now well advanced, the first project to be completed being the film dubbing and review suite at Alexandra Palace.

FILM DUBBING SUITE

This was situated on the ground floor, replacing the original 'cinema' alongside the sound transmitter and Baird's vision transmitter hall.

Film dubbing and review theatres are, of course, used in commercial film production, and the arrangements at Alexandra Palace conform in fair degree to standard modern practice. Several features are unusual, however, and as the suite is probably one of the first to be built specifically for television film production it is hoped that a description of it will be of interest, especially to those engaged in television who are unfamiliar with modern film technique.

THE PURPOSE OF THE SUITE

Film Dubbing Section

The conclusive stage in the production of a film is the making, in the laboratories, of the 'married print' which carries both the edited picture and the final sound track. The recording of this final sound track entails the making of a new sound-negative by combining or mixing together in one operation a number of separate sound sources both live and pre-recorded on disk and/or film, and photographing this 'mixed sound' in a 'sound-camera'. How this is done can perhaps best be described by outlining a typical dubbing session for, say, Television Newsreel:

1. A 'rush' print of the edited picture film is projected on a screen to provide cues for the commentator and the engineer at the mixer desk.
2. Previously prepared sound-on-film recordings which have been exactly synchronised with the picture, e.g. original dialogue, title and background music, and effects, are reproduced on separate sound-on-film machines electrically synchronised with the projector.
3. Effects that need not be exactly synchronised with the picture, e.g. crowd and traffic noises, are reproduced from disks on gramophone turntables, which are so placed that the operator can see the screen.
4. A commentator reads before a microphone a previously prepared script when cued by the film editor who watches the screen.
5. A sound-mixer combines and balances all the above-mentioned sound sources at a mixer desk facing the screen.
6. The combined sound output from the mixer desk is recorded photographically on a separate film running in synchronism with the projector and the sound-on-film reproducing machines.
7. Negatives of the picture and the recorded sound track are printed on to a single film to form a combined standard sound and picture film for transmission.

In addition, the film dubbing section is equipped for the carrying out of several other operations. It can be used for reviewing 16mm or 35mm films with combined or separate sound tracks, for disk to film or film to film re-recording, and for recording from any source on 35mm film running in synchronism, if necessary, with a film picture camera in the dubbing theatre or in one of the studios. It can also be used for post-synchronisation, i.e. the addition of exactly synchronised speech to a previously prepared silent film sequence, and for the addition of live commentary and non-synchronous music and effects to a silent film during transmission. Several of these operations can, as a result of the way in which the dubbing section has been designed, be carried on simultaneously.

Film Review Theatre

35mm films with combined or separate sound tracks can be projected in the review theatre. The projectors, which are similar to those installed in the dubbing section, are normally driven by synchronous motors, but Selsyn drives are fitted as well in order that the sound heads may be synchronised with the machines in the dubbing Section, so that two additional sound tracks can be used in a dubbing session if required. This arrangement also enables a maximum of four sound tracks and one picture film to be reproduced in the review theatre in synchronism without interfering with a review session in the dubbing theatre.

DESIGN OF THE SUITE

As has already been mentioned, film dubbing suites are a common feature of all film production centres, and the question arises, what are the particular requirements of a suite built specifically for television film production? In the present state of the art these requirements may be summarised as follows:

1. The conditions under which sound monitoring is carried out should simulate those found in the home rather than those found in the cinema.
2. The screen should be so proportioned that the angle it subtends at the producer's or sound-mixer's position is approximately equal to the angle normally subtended at the viewer's eye by the screen of his television receiver, in order to prevent material unsuitable for a small screen from being included.
3. Flexibility is of paramount importance:
 - (a) To enable newly discovered techniques to be adopted without re-design work.
 - (b) To make possible high-speed working, thereby reducing cost to a minimum and ensuring that the finished product is completely topical.
 - (c) To enable the suite to deal efficiently with a continuous flow of varied sessions, or to enable a comprehensive dubbing session to take place at a moment's notice.
4. Reliability and interchangeability of equipment are essential. Dubbing sessions frequently precede the transmission time only by the period required for laboratory processing, so that a breakdown would result in transmission being delayed.
5. Film shooting of at least 'head and shoulder' subjects should be possible in the dubbing theatre, in order that announcement films and the like may be readily made without recourse to the use of a studio.
6. Provision must be made for the addition of 35mm magnetic film recording as soon as it becomes available, since a recording system with direct playback is necessary in addition to the standard photographic system.
7. 16mm projection must be provided, with arrangements for locking the projector with the 35mm equipment in the dubbing system.
8. Television monitors must be provided at the commentary and sound mixing positions in order that live sound may be added to a film while it is being transmitted.

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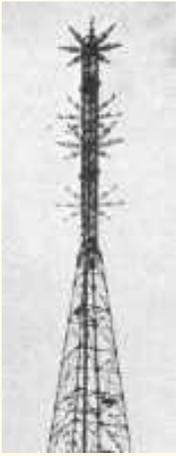
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The Suppressed Frame System

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The Suppressed Frame system of telerecording was developed by the Research Dept, of the BBC Engineering Division, to be installed at Alexandra Palace in readiness for the Coronation of June 1953.

On 9th October of that year, C.B.B. Wood, Head of the Research Dept gave a lecture on its development to the Television Society, and which was published in the Society's Journal in December.

The lecture was entitled -

SOME FUNDAMENTAL ASPECTS OF TELERECORDING

The problems involved in the design of apparatus for recording television programmes are largely ones of compromise, and they are greatly complicated by the fact that there are several different television standards in use throughout the world. One of the chief uses of telerecording is to facilitate the international exchange of programme material and it is therefore important that any telerecording should be capable of being reproduced by television standards other than those of the original programme. In meeting this requirement, the designer has no clear and obvious choice of approach, since every system of telerecording so far used or proposed involves the acceptance of some undesirable features which are fundamental, and the interest of this work lies in achieving a system which combines reliability with the minimum degradation of the original programme.

Fundamental Considerations - "Waveform" and "Picture" Recording

There are two fundamentally different approaches to the problem of television recording. One is to record the transmitted vision waveform so that it can be stored and transmitted again at a later date, the whole process being purely an electrical transaction.

The other approach may be termed picture recording, and in this case the aim is to produce a recording on standard motion picture film which conforms to normal motion picture standards and may be treated in all respects as though it had been made with a cine camera. That is to say the film may be inspected frame by frame, edited, optically projected by a standard machine, and transmitted as a television programme through the telecine channel in the same way that feature films and newsreels are transmitted.

It will be realized at once that any pure waveform recording can only be retransmitted by a television system having the same standards of frame frequency and number of lines per picture as the system which originated the programme. For example, a 405-line waveform recording could not be replayed at any other standard than 405 lines. However, using a system of picture recording in which the original line structure has been obliterated by the use of spot wobble on the display tube, there is nothing to prevent, say, a 405-line recording from being transmitted over systems using a different number of lines, for example, 525 as in North America or 625 on the Continent.

Picture recordings are therefore internationally exchangeable whereas waveform recordings are not: similarly picture recordings are made compatible with the cinema and the apparatus used for televising motion-picture films is also suitable for replaying such recordings. Conversely, television recordings made in this way may, if desired, be shown in a normal cinema.

Unfortunately, every picture recording system introduces one or more undesirable effects which are noticeable upon reproduction of the film, and only a waveform recording can give completely accurate representation of the original television programme. Nevertheless the desire for the recorded television programme to be in the form of a standard motion-picture film has so far outweighed other considerations, and only this type of television recording is found in general use.

It is possible that in the future, broadcasting authorities may find it useful to operate two systems of telerecording, one a picture-recording system for international exchange and the other a waveform-recording system of some type yet to be developed for high quality repeat programmes within their own networks.

The Nature of the Signal to be Recorded

In this country the transmitted television signal comprises briefly, frequencies within a spectrum from D.C. to 3 Mc/s as picture and synchronizing information, together with unwanted random noise whose R.M.S. value is, say, 30db below the level of peak white signal. During the past few years there has been a steady improvement in the signal to noise ratio of television pictures, but it is still essential that any recording system should not in itself contribute greatly to the noise; that is to say, the signal to noise ratio of the reproduced recording must not be appreciably worse than that of the original programme, since the margin for an acceptable picture quality is still very small*.

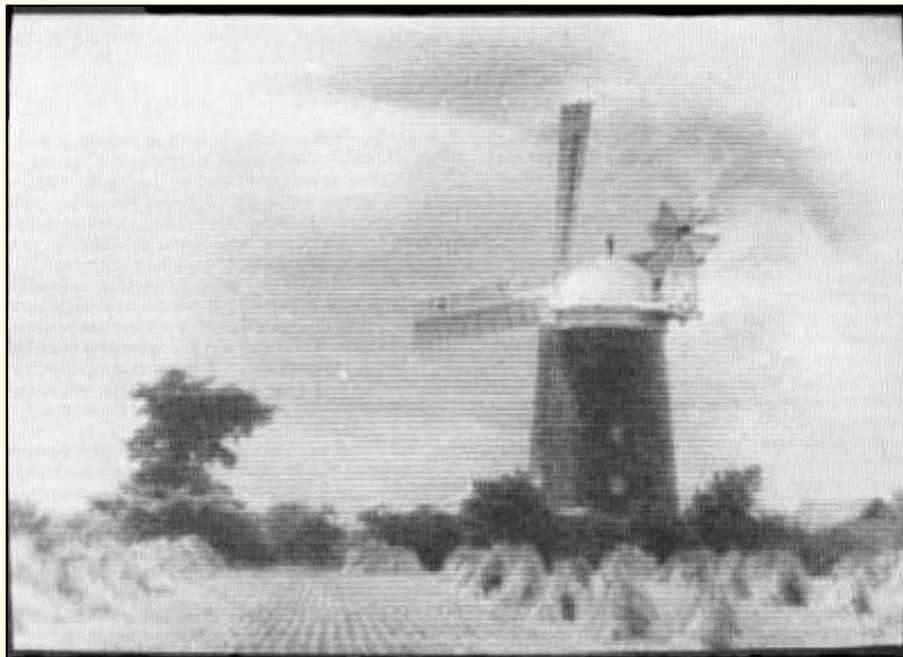
*

His words at the actual lecture were: "We sail very near the wind in television".

The need to record frequencies up to 3 Mc/s with a good signal to noise ratio very much restricts the choice of a recording medium. Clearly the ordinary gramophone disc would be unsuccessful, and although attempts are being made to record television waveforms on magnetic tape, there is as yet no news of any great success. The basic difficulty here is fairly obvious, since even with the smallest practical aperture on the magnetic recording head, the area of magnetic material used in recording signals up to 3 Mc/s would at present be uneconomically large.

The use of photographic film for sound recording is of course well known and it is this medium which has so far been used for television recording. The choice perhaps seems more obvious if the process is considered merely as the cinematography of a television picture displayed on a cathode ray tube, but it must be emphasized that such recordings are fundamentally variable-density recordings of the television waveform.

The manner in which a television picture is built up, point by point, line by line and scan by scan means that the photographic film used to record television will also be exposed in this fashion, and it will be noted that it is merely because a variable density track has been drawn on the film in a suitable manner that the recording takes the form of a series of recognizable images.



Still frame from a 202½-line telerecording without "spot wobble". Each line is a variable-density record of the associated television waveform

It will also be noticed that one of the most economic means of recording the maximum length of variable-density track on a given footage of standard motion-picture film is to lay the track in closely spaced parallel lines across the width of the film. Under these conditions the recording spot is tracing across the surface of a 35 mm. film at about 10,000 inches a second as against 18 inches a second for the normal sound track and it is of course this 500 to 600 times greater speed that permits frequencies of 3 Mc/s to be recorded.

A high frequency "wobble" of the spot as it traces the raster may be used to broaden the lines until they merge together and produce a smooth background.

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The Pull-down Problem

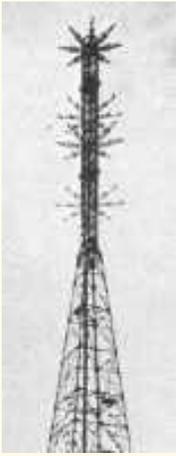
The first step in dealing with the design of a picture recording system (which basically will comprise a cathode ray tube and some form of cine camera) must be a consideration of the repetition rates of the television picture and of the film. The standard frame repetition rate for motion picture film is 24 per second, while in this country the television frame frequency at 50 per second interlaced gives 25 complete pictures per second. It is the practice in this country to ignore the small departure from motion-picture standards and to make the film recording at 25 frames per second which then gives a simple relationship - two television scans, making one complete 405-line picture, per frame of film. If it were not for the very short interval between the end of one television scan and the beginning of the next, it would be a simple matter to record two scans at a single exposure of a film frame then pull down the film in the camera and expose to the next two scans and so on. Unfortunately, the suppression period between television scans is only 1.4 milliseconds and pulldown of the film in this very short interval represents a difficult problem. There are some 16 mm quick-pulldown cameras, but there is not yet available a 35 mm camera capable of this

performance over long periods. In the absence of such a camera the attention of designers has turned to other means of arranging that each frame of film receives its exposure from two consecutive scans. As an alternative to quick pulldown of the film, many ingenious suggestions have been made which as a rule aim to bring about a quick displacement of the image by causing it to move at the critical moment from one film frame to the next while the film is moving steadily and continuously through the camera gate.

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L G Smith

Introduction

This section, though not related to BBC Television at Alexandra Palace, comprises some reminiscences of the BBC's early years by L.G.Smith.

I obtained the information via the Internet in the late 1990s and publish it here in case it is not available elsewhere.

Reminiscences by L.G.Smith

I first joined Equipment Department in 1929 when Avenue House, then in King's Avenue, Clapham, and originally the house of the governor of Brixton Prison, was the home of the BBC Research Department and Equipment Department - these departments having been formed from the single Development Department.

When I joined Designs Section of Equipment Department the section occupied one room on the top floor. It was responsible for the design, planning and installation of the original 'grey equipment' installed in the Regional Control Rooms and in Broadcasting House. Equipment before that time had followed the Post Office practice of heavy mahogany wooden tables and desks.

In those days practically no commercial components, let alone designed equipment, were available; even resistors and volume controls were both mechanically and electrically designed. Resistors were made as 'works-wound bobbins' in the workshop. This was done by turning slots in one-inch diameter ebonite rod and winding resistance wire in the slots, alternate slots being wound in opposite directions to make them non-inductive.

This section, under 'Uncle Colborn', whom many of you may remember, consisted of a Mr Locke (Designs Engineer), a Drawing Office or two and Mr Lucking, who acted as liaison between the workshop and the rest of the department.

It is strange to realise that the only females employed were those dealing with the provision of lunch and tea, which cost me a penny a cup paid for by tea coupons purchased at the beginning of the week. All secretarial staff were male, including the telephone

operators. Office hours were 9.30 to 6.00 and every other Saturday 9.30 to 1.00.

Designs Section was also responsible for the Test Room, staffed by three engineers and since only one project was undertaken at a time, the engineers from the Test Room could also supervise the installation and commissioning of the project, with occasional visits by Mr Locke during the testing period and a visit by 'Uncle' himself for the handover.

The first of the BBC grey bays using rack-mounted panels was designed for Edinburgh Control Room, as a 'try-out' for the new Broadcasting House that was to replace Savoy Hill.

When the design of Broadcasting House equipment was being discussed the provision of technical equipment required a considerable growth in the facilities provided at Avenue House. There was adequate space in the garden, which had a large lawn (used for cricket in the summer lunch hours) surrounded by fruit trees. At the rear of the garage a wood and asbestos bungalow was put up to house HED [Head of Equipment Department] and his small office staff, Mr Colborn and Designs Section, with the Drawing Office in a long room extending across the far end of the bungalow. Additional Designs Section staff were recruited particularly to deal with cable forming, which was, at that time, a completely new idea to the BBC and the Drawing Office staff were increased to five.

This move was particularly welcomed by Allan Holden, the Head Draughtsman, who had a particular hatred for cats, as the move brought him closer to the high garden wall on which they used to sit. Whenever one was sighted, the DO went into action with military precision (as long as 'Uncle' was out of the office!). The two people on each side of a window bearing on the line of fire opened the window as quietly as possible. Allan produced his catapult, the ammunition being made from the lead covering of 1pr/10 cable, and went into action. Some reduction in this activity was forced upon us when a lady from one of the houses backing onto the garden visited HED with some of the lead pellets and sordid tales of broken windows!

Soon after this, both Research Department and Equipment Department expanded still further and outgrew the available accommodation. Research Department moved first to Nightingale Lane and then to Nightingale Square, Clapham, and Equipment Department expanded into the whole of Avenue House and then into a new brick-built extension building alongside it. This extension building housed the Test Room, with several small rooms for microphone and transformer testing, and the Drawing Office with three Design Engineers' offices occupied a second floor over part of the building. The only minor faults in the design of the building were the omission of any staircase or other means of getting to the second floor and a new patent type of parquet floor to the Test Room.

The stairs were fortunately able to be fitted in before the building was finally occupied (although they were not wide enough to take

the DO plan chests).

The Test Room floor was more serious and its fault did not come to light until testing commenced. In those days all the equipment required Low Tension (6 volts), High Tension and Grid Bias battery supplies, and the HT of 300 volts was available to the units under test via naked brass terminals always fully alive at HT voltage. One just had to remember not to touch the bay framework when doing up the terminal.

In the new building every time anyone touched one of these terminals a 300-volt shock was received (shades of 'Safety Precautions'!) and this was traced to the floor, which although made of wooden block set in a 'muckite' of sawdust had a resistance of a few hundred ohms. This fault was initially overcome by providing each engineer with a small rubber mat to stand on.

It may be of interest to hear that the two beasties that now guard the front door of Avenue House at Chiswick had originally occupied a similar position at Clapham. They had always been painted all over in a cream paint, as had the rest of the building, but after the new extension was finished the old building was repainted by 'Bill Picket, the BBC painter', a notable character from Building Department with a real sergeant-major moustache, waxed and pointed, who was so taken with the beasties that I think he spent more time on them than on the house. He finished them in a dark chocolate colour, with teeth and claws a gleaming white, tongue in red and managed to get such a wicked look in their eyes that one instinctively glanced over one's shoulder when going into the front door in case of attack.

During the early 1930s, as various Regional premises were equipped with rack-mounted equipment, the Department gradually expanded. Designs Section grew to about half a dozen engineers, some concentrating on equipment design and others concerned mainly with control room design and the programme input equipment of transmitters. All equipment was operated from central batteries and hand-wired with heavy lead-covered cable. Programme circuits were wired in 1pr/10 and the battery circuits, particularly the LT circuits for the valve filaments, in 7/.029 or 7/.036 twin cable. No multicore cable was used except for the 3-wire circuits associated with the Grid Bias batteries and a small amount of 7-wire cable used on relay circuits.

The only plugs and sockets available commercially were those of 5- or 15-amp, as used for domestic power supplies but when Broadcasting House was nearing completion, the need arose for plugs and sockets for two specialised situations.

The first amplifier to operate directly from the mains was designed to feed the RK loudspeaker in studio cubicles, the LSM/1, and this required plugs and sockets for input, output and mains supply. These were designed in the Drawing Office and I think made up in the Workshop from two-inch diameter ebonite rod.

The second application was again a purpose-designed plug and

socket used as a universal skirting socket. Although the old Reisz carbon microphone was the standard mic., a few condenser microphones of RCA manufacture were coming into use and these incorporated a valve amplifier, adjacent to the microphone, which needed HT and LT supplies. (At that time it was standard practice for all microphone or 'A' amplifiers to be located in the Control Room.) Hence the need for an 8-pin plug to which the different microphones could be connected, using different pins in the plug for differing mikes. This plug, of a size unheard of in those days, was about four inches diameter with eight pins about 1/8" diameter. It was made of plastic and its successful introduction gave Designs Department great satisfaction.

There is no doubt that the small band of engineers under Mr Colborn laid the foundations for the high standard of BBC sound equipment and engineering. They set a high standard of quality and freedom from interference unheard of in the commercial world at that time. The problems of crosstalk, decoupling, switching clicks and so on were met for the first time and their investigation and cure involved much discussion, experiment and late night working.

There was no-one to ask who had met the problem before. There were no small diodes and suchlike to hang in the wiring, and no electrolytic condensers. The introduction of 25mF condensers in one fault cure I remember entailed finding space and mechanical mounting for condensers that were about 6in x 3in x 8in high. One of these across each of a dozen relays was indeed a major exercise. The standard 'anticlick' device was a 2mF condenser (about 2in x 2in x 1in) in tin case in series with a 600-ohm 'works wound bobbin', wired across the coil of the relay.

Site installations were planned virtually to the last tag before site work began. All amplifiers, jacks, fuses, etc. were allocated to specific circuits and wired directly between bay tag blocks. No flexibility was provided by a distribution frame, which was only used for circuits leaving the control room. Equipment Department wiremen, under a chargehand, could therefore be sent to site with all the information, and apart from the initial and very rare supervisory visits, engineers did not visit the site until the installation was virtually complete and ready for testing. The chargehand would provide written test reports, one of which, famous for its technical content, merely stated, "I am pleased to report that the boys' colds are much better." At least it showed an awareness of the human factor in management!

T&D claims of the thirties make illuminating reading. Twenty-four hours' COB allowance for engineers was 16 shillings, lunch 2s 6d, evening meal 3s 6d, late night refreshment allowance for working all night 2s 6d and no compensatory leave, unsocial hours allowances or London weighting!

Testing generally started with an examination of every soldered joint for 'dry joints' (no resin-cored solder or electric soldering irons) and a buzzer test for continuity of the wire between its soldered terminals. After everything had been shown to work, frequency runs were taken, not only on every amplifier but on combinations and

permutations of 'A', 'B', 'C' and 'D' amplifiers. All these were done by switching a thermocouple between input and output at every frequency and tapping the meter like a barometer till it gave the highest reading.

It was not unknown to discover that the difficulty in getting some equipment to work after lunch, which equipment had performed faultlessly in the morning, was due to someone in a light-hearted moment having removed the diaphragms from one's headphones and such actions were not necessarily confined to junior engineers.

Newcastle control room for instance was originally situated on the first floor of the present building and the 'new' control room was installed on the ground floor. Mr Colborn came up for the handover to Mr Chadder, the Superintendent Engineer, and after demonstrating the new relay switching and amplifiers until a late hour in the evening, since the Post Office circuits were teed into both control rooms, Uncle and Chadder put in the line fuses to the new control room, though which passed all the programmes to the North and Scotland. They then took over control, causing chaos upstairs and much amusement downstairs. I really think I must stop here for now since the introduction of the first all mains-powered equipment at Maida Vale and Bangor, and the wartime activities of Sound Section are stories in themselves.

A BRIEF HISTORY OF BBC SPECIALIST DEPARTMENTS

by L.G. Smith, June 1999.

1922-28

Staff of BBC were located in many premises around Savoy Hill as the total staff expanded. This information is not necessarily mentioned in Savoy Hill records, but there was a 'Development Section' or department divided into -

1. Equipment.

Definitely located at Savoy Hill, responsible for technical stores.

2. Research.

Thought to be at Savoy Hill.

3. Lines.

Responsible for close liaison with the Post Office and for the design of Manchester Control Room switching equipment (which was a failure).

4. Station Design and Installation (Transmitting Stations).

Initially at Savoy Hill. Responsible for all HF (high frequency), i.e. transmitter equipment. Also for generators, diesel engines, batteries and electric power and lighting in all premises, including studio and office premises.

1928

Equipment Department under F.M. Dimmock (father of sports presenter Peter Dimmock).

Research Department under H.L. Kirke.

Both departments moved to Avenue House, 87 Kings Avenue, Clapham (previously occupied by the governor of Brixton prison).

Equipment Department generally comprised -

Administration - Central Technical Stores, Transport, Finance.
Technical - Workshop, Test Room, Drawing Office, Designs.
Responsible for all LF (low frequency) equipment in Studios,
Control Rooms and the PIE (programme input equipment) at
transmitters.

1928-34

Lines Department under H.B. Rantzen (father of Esther Rantzen,
programme producer). Moved to Scott's Hotel, Langham Street.
Responsible for equipment associated with line testing, equalisation
and repeaters.

Station Design & Installation Department under B.N. McLarty.
Moved to premises in Great Portland Street (Bentinck House?).
SDID generally comprised Administration, Drawing Office,
Engineers to work on the design of transmitters and aerials.

1932/34

Research Department moved to Nightingale Lane, then to
Nightingale Square, Balham.

1939

It was thought that in wartime no design or installation work would
be required from Equipment Department, so engineers had
received instructions early in 1939 to report to various transmitter
locations for operational duties in the event of war. However, when
war was declared, many Equipment Department engineers and
workshop staff were already engaged on urgent emergency work in
Broadcasting House, Wood Norton, etc. and in practice the
requirement for design and installation work expanded considerably
throughout the war.

Research Department was evacuated to Bagley Croft (Oxon.) and
SISD was evacuated to Droitwich transmitter. Equipment
Department was split up. The main Administration, Finance,
Transport, Workshop, Test Room and part of the Drawing Office
were evacuated to Hampton House, Evesham (not far from Wood
Norton). Some engineers, with a few Drawing Office staff, joined
SDID at Droitwich, whilst Mr Colborn [not mentioned in this section
previously; where does he fit in?], with some engineers and DO
staff, were accommodated in the Langham Hotel (taken over by the
BBC) to carry out emergency and expansion work in the London
area.

1940/41

Lines Department was bombed out of Langham Street and
relocated in Broadcasting House, 2nd Floor East Side, with a test
room on the Lower Ground West Side.

1944

Lines Department moved to Brock House (19 Langham Street,
W1).

1944/46

The old Designs Section of Equipment Department pre-war was
reinstated in London, combined with SDID from Droitwich and the
department renamed Design & Installation Department (DID).

1947 (October)

The design engineers from DID were combined with engineers from Lines Department engaged on design work to form a new department, Designs Department, and accommodated in Western House (99 Great Portland Street, W1).

1948

Research Department moved to Kingswood Warren. After the formation of Designs Department, the Design & Installation Department was renamed Planning & Installation Department (PID).

1957

Equipment Department moved to Power Road, Chiswick but still retained the name of Avenue House for the premises.

1965 (October)

Planning & Installation Department was renamed **Studio Planning & Installation Department (SPID)**.

1970

Studio Planning & Installation Department was split into two departments -
Studio Capital Projects Department (SCPD)
Transmitter Capital Projects Department (TCPD).

Letter from S. Neville Watson, former Superintendent Engineer, Television (no date) ---

I am unable to comment on the early history of specialist departments from 1922 to 1938 because I moved to London only in 1938 as a Junior Lines Engineer and at once worked on the technique of pictures using ordinary Post Office sound circuits. This development was highly successful.

Repeaters and equalisation in amplitude and phase enabled TV OBs (television outside broadcasts) to transmit by this means from sites up to three miles from the wideband balanced pair cable, designed by EMI at Hayes and laid over strategic routes by the Post Office with appropriate access points (e.g. Buckingham Palace, Queen Victoria memorial). At BH a repeater in Langham Street sub-basement corrected the signal, from where a similar one-inch EMI balanced pair conveyed the pictures to Alexandra Palace, where it was finally corrected by equipment similar to that at BH located in the Lines Room.

As indicated above, Lines Department was located in typical London houses in Langham Street [note by L.G. Smith: Scott's Hotel]. Langham Street was reduced to a pile of debris by bombs in 1940. Lines Department was then located in BH 2nd Floor East Side, with a Test Room in the Lower Ground West Side. Lines Department moved to Brock House in, I think, late 1944.

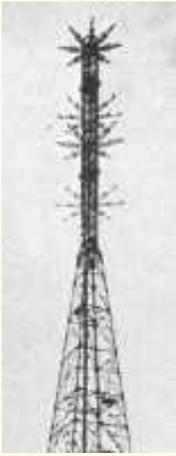
Television Section moved to BH Ground Floor in 1946 and subsequently to Western House after the formation of Designs

Department on 1st October 1947. The remaining part of Lines Department, under J.H. Holmes, moved to Duchess Street at or about the same time.

Research Receiver Section was the first to move to Kingswood Warren from Nightingale Square, where it was during the war) in 1948. Other sections moved over a period of some time.

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DIRECT TELEVISION from ALEXANDRA PALACE

by Arthur
Dungate

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The 1939 Closedown

Are they wrong?

When the Second World War was imminent in 1939 the Government decided that television would have to close down since (together with other reasons) the only tv transmitter at Alexandra Palace would form a guidance to enemy aircraft.

Books which have been written about television history relate the story that the last words spoken on the Television Service just before it closed at noon on Friday 1st September 1939 were from Mickey Mouse. Even Edward Pawley in his excellent book *BBC Engineering 1922-1972* says: "The last words broadcast before the break of 6¾ years were from Mickey Mouse: 'I tink I go home'".

I have not found any Mickey Mouse cartoon with those words in it. However, at the end of the 1933 black & white Disney cartoon *Mickey's Gala Premier* a cartoon character depicting Greta Garbo says to Mickey "You're vonderful, vonderful, marvellous. **I tink I keess you now**".

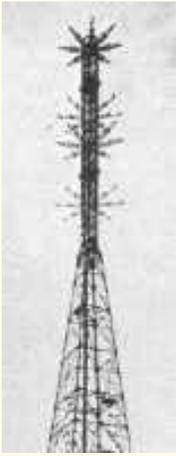
In the early days of BBC Television, just as after the war, colour film transmission was poor from the Mechau/Emitron telecine and so only black & white films would have been used, thus eliminating any of the later colour cartoons (which would have been 35mm Technicolor prints).

Further, in some of the material of this period from the BBC is an excerpt from the end of *Mickey's Gala Premier*....

It is my contention that this is what actually happened instead of the myth as perpetrated by the various history books. Unless you know differently....

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Robin Hood

Until the late 1970s the BBC was not an archiving organisation and thus had no requirement to keep material for posterity. While at Alexandra Palace in the early 1950s, I had a key to the film vault, and often I would go and see what was to be thrown away. Amongst several things, one item I found was part of an episode of **Robin Hood**, a serial for children shown in March 1953.



This was a half-hour programme emanating from Studio G (I think) at Lime Grove. No film location material was used, the whole of the action taking place live in the studio.

What I had found was a 16mm reduction print of **Episode 2, The Abbot of St Mary's** which Kays Labs at Finsbury Park had produced from the 35mm telefilm recording made while the programme was being transmitted.



However, only the beginning two sequences and the end sequence were there. The main story sequence had been removed for some reason, leaving only 8 minutes of the programme. Thus, although the episode is titled The Abbot of St Mary's, we never get to see the Abbot himself!

I spliced the two parts of the print together and since then it had remained in my loft for about 47 years, practically forgotten.

It was not until the autumn of 1999 that I came to realise that this is probably the earliest surviving example of a BBC Television drama series as it predates The Quatermass Experiment shown in July 1953 (of which only the first two episodes were recorded) by 4 months. Thus its historical significance is greater than I had thought, and I believe a Digi-Beta copy is now in the BBC archives.



Robin Hood was played by **Patrick Troughton**, and Friar Tuck by **Wensley Pithey**.

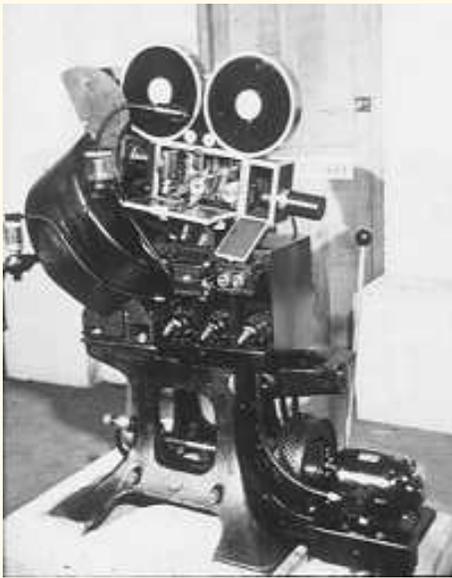
The series was produced by **Joy Harrington**.



This recording is an example of the early Telefilm system used at AP in which programmes were recorded on high sensitive 35mm negative film in a converted Mechau projector, looking at a high quality monitor screen.



These Mechau machines were variable speed, and as they didn't immediately come up to the required



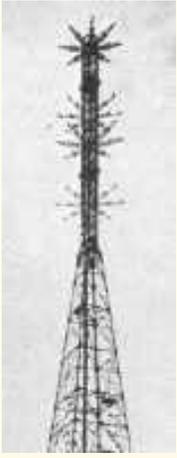
25fps their speed had to be adjusted manually with a joystick control (on the right of the picture) while watching a stroboscope. This explains the wow evident on the opening title music (a 78rpm record of "Greensleeves").

Later, I found a 16mm telerecording of part of the annual **Beating The Retreat** ceremony of 1958, which I subsequently lent to a colleague in Lime Grove. Informing me that he had inadvertently damaged it, he offered to exchange it for a music telerecording - of the pilot programme for the **Northern Dance Orchestra** under the baton of **Alyn Ainsworth** and introduced by **Roger Moffatt**. This programme ended with a spontaneous sequence of Roger Moffatt in an empty studio after the orchestra had left, having a surreptitious go on the drums, a sequence which was quite special.

In the event, it was the Beating The Retreat film which was returned to me, and not the music one which, on reflection, was a great pity, the latter being much more memorable. I wonder if it still exists somewhere?

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The Alexandra Palace Television Society

INFORMATION

[Links](#) to other related sites.

The Alexandra Palace Television Society (A.P.T.S.) was founded in 1993 by **Michael Henderson** because virtually nobody had written about what it was like making programmes, in two tiny studios, on a shoestring budget with equipment likely to break down at any second. A dedicated team willingly worked long hours using their wide variety of artistic and engineering skills to improvise and learn on the job how to use this new medium.

Further, journalists and broadcast writers, too young to have known those days, were writing articles with gross inaccuracies, becoming perpetuated in cuttings files. Before those of us who knew all died, perhaps we ought to try to set history straight.

Anyone who worked for BBC Television at Alexandra Palace **from 1936 onwards**, whether behind the scenes, performing in front of the cameras or on the studio or outside broadcast crews, is eligible.

The Society's main working purpose is to hold recording sessions in small groups, varying from solos, to a maximum of eight people, but mostly in three's or four's.

Oxford University Modern History Department has warmly called the Society's material 'living history' and socially is interested in where the World's first television service was recruited from.

Every year on the first Friday in June, if possible, an annual **Reunion Lunch** is held at AP. For details please contact the [Archivist](#).

For more information please contact the Society's Archivist:

Simon Vaughan

35 Edelin Road

Loughborough

Leicestershire LE11 2HW (UK)

Tel/Fax: **(01509) 828399**

e-mail: apts@apts.org.uk

web site: www.apts.org.uk/

Other related sites to see

[Old Radio Broadcasting Equipment and Memories](#)

Pictures of old BBC radio equipment and memories from the people who used it.

[Old SMs](#)

A contact point for past and present BBC Radio Studio Managers. It also has photos of studios and control rooms.

[Tech Ops Nostalgia](#)

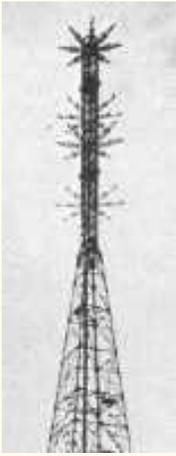
Features pictures and stories from 40 years of cameras, sound and lighting at BBC Television.

[Early Photography, Sound, and 405-line TV](#)

Features pictures of early tv receivers etc..

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Yet More Memories

At times there are things which suddenly pop back into one's memory, often not having been consciously thought about for many years. Here are a few of mine from these early days of BBC Television.

The Red Light Incident

Although this was a bit before my time, I heard about the 'red light incident'. At AP there was a red light in the studio which when it came on meant that the transmitter was off the air, so in the days when AP was the only tv transmitter, the studio would stop until it came back on air. But one day, when the light came on the Studio Manager rushed across waving hands and yelling "stop" having completely forgotten that there was now another transmitter (at Sutton Coldfield) which was still on. So all this pandemonium went out on air to all the viewers in the Midlands.....

* * * * *

Much later, when the Vision Transmitter room was converted into the BBC Club room, the bar lady was so overly made-up I thought the name "Belle Starr" suited her rather well.



A Sea of Smog

Before the Clean Air Act of 1956 came into force, weather conditions in winter would at times produce a "smog" (ie a "smoke fog") over London in which the smoke from domestic fires and fumes from factory heating systems would be trapped on the ground. Being on a hill, AP was above the level of this smog and it was an erie experience to toil up the hill to work in this thick grey fog to come into sunshine at the top, with the Palace standing isolated as if in a grey sea.



Canteen Encounters

One day in the Canteen at AP, I had egg and chips, but the queue to the cash desk was very slow, so I began eating the chips one by one. When I did eventually get there, I had eaten them all, so Mrs Carbonelle at the cash desk charged me only for the egg.

* * * * *

Early one morning Doris, one of the canteen staff, said to me - "There isn't any toast as we've run out of stale bread....."

* * * * *

On another occasion I was in the queue, next to a guy from the studio. I was always casually dressed and he looked me up and down and said "You're a scruffy lad aren't you". Looking back over the years, I am tempted to say that some things don't change.....



PA Announcements

There was a Public Address (PA) system in the canteen at AP and often I would hear - "This is PBX callin', - Duplicating, someone from Duplicating" (this was before the days of photocopiers). I would then look round carefully to see if perhaps three identical women would get up and walk out..... But I never did.

[Note: PBX = Private Branch

Exchange]

* * * * *

Sometimes another announcement would be for a guy named Richard Bird. If the PA said "Calling Dicky Bird" he'd be too embarrassed to get up.....



Tea, m'lud?

One day down in CTR, it must have been at a weekend because the S.Tel.E (Dicky Meakin) wasn't there, I'd just made some tea, and took a cup into Dickey Meakin's office where Tony Cheale was sitting. After a while when I was collecting the empty cups and he hadn't finished his, I said, in the main room, "Has he drunk it yet?". From the office came the call - "I'm not drinking it - I'm pouring it away under the table".... Now what did he think I'd put in it?

Engineering, CAR and B Racks

Once in 1953 when I was in C.A.R. one of the guys came in and said "I've just switched on B Racks, but all I got was smoke, so I switched them off again....." [Studio B had ceased to be used since early in 1952].

A Vision?

In those days the vision mixer in the Gallery was always a woman, the thinking being they had a "gentler touch". One of them was a small lady with straight dark hair, swept back. One day one of the engineers said to her "Did you park your broomstick in the car park this morning?"

CTR

One of the secretaries came down to CTR (which was in the basement) to give us a script. After doing so she couldn't remember the way out. "Come with me" Jack (Kelleher) said. Unfortunately, just at that moment Brian (Davies) gave a quiet laugh. "Oh no, no" she said nervously, backing away.

* * * * *

One day in CTR, after having done some minor prank, I said to Jack - "Don't you get fed up with me?" He replied, jokingly, "Oh you provide light relief in my onerous task....."

* * * * *

Jack had a habit of singing the first line of songs such as "There's an old mill by the stream" and "There's a little wooden bucket" and when one day he came up to Ron (Williams) and myself and started speaking by saying "There's - " and paused, Ron said helpfully - "a little wooden bucket?". "No no" said Jack. "An old mill by the stream?" Ron offered. "Not that either" said Jack. I can't remember if we ever did find out what it was that he was trying to say.



Lime Grove Dubbing

On Grams in the Dubbing Theatre at Lime Grove, shortly after I'd been posted there, with someone saying about a new member of staff - "Well he ought to be able to do it - he's been here 3 days....." And then the mixer saying - "We'll have a Take first time, Rehearsal afterwards for those who need it!". Nobody but me laughed - they'd all heard it before.....



New Telefilm Activity

In the late 1950s the old Telefilm recording room in the basement was used again for that purpose. Re-equipped by News Division with a monitor screen and a 16mm Auricon camera. On this I unofficially telerecorded the 1957 Gang Show and parts of the 1961 Gang Show, plus a part of Alan Melville's "A to Z" programme in which Ralph Reader took part. For these "activities" I coupled up the Dubbing Theatre's equipment to record on 16sepmag, at the same time sending an equalised sound feed to the optical sound input of the Auricon downstairs. It used to be said that if anyone went into the Dubbing Theatre and found it empty, but all the equipment working away by itself, then Arthur must be making a telerecording in the "crypt".....

Free concert-going in London

For relaying concerts from the Royal Albert Hall in London, the BBC used Box 2 which was equipped with microphone mixers for sound balancing. On the occasions when a concert there was not being broadcast, BBC staff could get in free and sit in the announcer's position, in the front of the Box. Living at the time in the BBC Hostel in Bayswater, it was just a short walk across the park to the RAH. It was on one such occasion that I was able to be present to hear the famous tenor Gigli sing. It was his last appearance. And since the Box was at the front of the hall, we were quite close to him.

* * * * *

Sometimes some of us in the BBC Hostel would go to Maida Vale to be present at a broadcast concert in Studio 1. We would sit in the space available in the gallery. In those days we had to keep silent during the broadcast until the red light had gone out at the end. After listening to one broadcast with the conductor Bruno Walter, it was quite agonising having to wait for that red light to go out before we could give him the applause he deserved.

* * * * *

On another occasion, arriving early, we had to wait in the canteen, as the composer Ralph Vaughan Williams was sitting in the gallery discussing one of his scores.





The Dive, and a Gun

Often, to make a change from meals in the canteen at AP we would go across the car park to the prefabricated building known as "The Dive" (a Pub). This building had been constructed by German prisoners-of-war from The Great War of 1914-18 (World War One).

* * * * *

Once I came out of AP at the top of the car park steps and I saw Graham from Engineering right at the other side near The Dive playing with a new gun mic. It was pointing this way so I said quietly "I suppose you can hear every word I say". "Yes I can!" he shouted from the far side. I was impressed.

Marooned!

Duncan Beale (his full name was T.D.Griffin-Beale) chief film editor on News, was a nice guy but rather gullible. Just outside AP at the rear was a small boating lake with an island in the middle. One lunchtime he was in a group going round the lake in a boat. They got to the island and one of them asked Duncan to get out for a moment. He did so, and quickly they rowed off and went back to work..... It was an hour or two before he was rescued by the boatman.



Off The Air

One day in the early 1960s, it must have been late afternoon, the whole of Lime Grove lost its electricity supply, and only AP was still operational. So the news studio supplied a breakdown caption and pleasant music on studio Grams from mood music discs. **Ron Gillingwater** (one of the two news dubbing editors) and I were scouring the record library for suitable music. Oh this one's a good tune! So I grabbed it and a few other discs of tuneful music and raced off along the corridor and up the steep metal ladder to Studio A Gallery.

Although the scheduled News transmission was at 6pm, for some reason Presentation at Lime Grove wouldn't allow us to go ahead at the proper time, even though we were the only source of tv programme. However, after much reluctance, Presentation finally relented and the News went out from AP around 6.20pm.





A New Typewriter

There was in the AP Dubbing Theatre an old and decrepid Underwood typewriter. Some of the keys did not work. One day during a dubbing session a production secretary wanted to type out some script pages, but was thwarted by this machine. She later complained about it, and shortly after, a brand new modern typewriter was delivered to us. We were surprised as our old one was there purely for use in sound effects! - Not one word did we say....



Anyone for golf?

One day we took **Reg Gosling**, the News Dubbing Editor, down on the grass slopes in front of AP for a bit of golf. Carefully placing the ball, he enthusiastically hit it. The ball disappeared, and in the distance there was a sharp noise and a tree branch crashed down.



The lines are busy!

Another memory - this time not about television, but about Broadcasting House (BH) - All BBC centres had their own telephone Private Branch Exchanges (PBX) where a telephone operator did the connection. But in larger centres, such as BH, there was also a Private Automatic Branch Exchange (PABX) system.

In the days in the 1950s when the World Service was called the General Overseas Service, its headquarters was in [200 Oxford Street](#), and about 10 telephone lines connected it to BH. Using the PABX system, if you dialled, say, 8 in BH, you got Oxford St, and if at 200 Oxford St you dialled, I think it was 7, you got BH. However, after dialling 8 and connecting to Oxford St, you then dialled 7, you got back to BH, then dialling 8 again you got back to Oxford St.

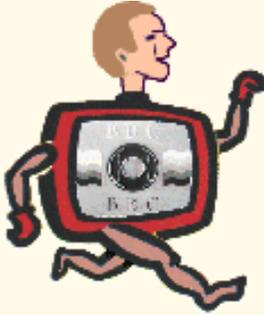
By keeping on dialling in this way it was possible to tie up all the connecting lines between the two premises and no one else could get through.....

(Perhaps David Attenborough was right when he called me a 'rogue'?)

FIRE !!!

One last memory - in the days of disk recording, when acetate blanks were used to record radio programmes, the highly inflammable swarf removed from the disk by the cutting lathe was sucked away and deposited in a metal bucket. However, if the operator was a cigarette smoker, and absent-mindedly dropped his fag end into the bucket, there was an immediate conflagration and the bucket would become a mini 'towering inferno'..... Great days!

And Finally - The start of it all



Thinking back on how I got interested in this television business, I think I have to blame it on someone at school who had the ambitious suggestion in 1949 that we build a tv receiver. Although even before that, I had developed an interest in broadcasting.

There was a kit available at the time, [by *W.I. Flack, Fellow of the Royal Television Society*] called the 'View Master'. It used "ex-Government Surplus" valves (vacuum tubes) type EF50, in metal cans, with thin pins which tended to make poor contact with the bases.



The school was near Blackpool in Lancashire, and the Holme Moss tv transmitter hadn't yet started, so we hoped to receive Sutton Coldfield in the Midlands by constructing a high-gain aerial on a tall mast. And I came across this picture of 18-year old me, working on it. (And I had a bit more hair then).



The only signals we got from it were smoke ones..... However, when the Holme Moss transmitter did come into service, we got what we thought were quite good pictures on the round-faced black and white tube.



One of my early pranks was making skeleton keys. I had made one for the school (which I found also opened a function hall in Cleveleys, the Pier at Fleetwood, and some other places too.....). So I would go to school on a Saturday morning and watch this television set, which was in the Physics Lab. At that time I had no conscious idea, while watching the compilation of Television Newsreels, that in a year or so I would be "at the other end" showing them!

It was about the time that the Holme Moss tv transmitter came on air that an exhibition devoted to Television and Radio was held in Manchester and with a friend I went along. What fascinated me was the telecine demonstration using a Cintel 35mm film scanner belonging to BREMA. It was the source of several BBC Television short films which were relayed to the tv sets around the hall. Two I remember were "Severn Westward" and "I Had a Dream Last Night". When, a few years later I mentioned this to Vernon Phipps in the Lime Grove Dubbing Theatre he said of the latter film, "Ah yes, a faint background of modulation behind high hiss level". Well, it wasn't at all as bad as that, though I did prefer the other film.

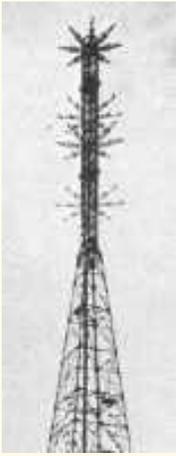
One exhibit there was a radio studio and on duty that day was Daphne Oxenford with a programme of gramophone records, one of which was "Bonaventure" on a Boosey & Hawkes mood music disc which a few years later I bought for my collection.

In 1951 on a trip to London to see the Festival of Britain, the BBC had an exhibition in a converted studio in Piccadilly, which included a "see yourself on the tv screen".



See yourself on the tv screen

There was also a "hear your own voice" using a BTR/1. This interested me so I had a go, but as I then asked the engineer some technical questions about the BBC, I didn't hear the playback as he was answering my enquiries....



DIRECT TELEVISION from ALEXANDRA PALACE

by Arthur Dugate

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TELEVISION from FRANCE

This is a technical account of how the very first television pictures from outside the country were carried to the UK. The report is taken from a battered torn-out page from *Wireless World* of October 1950, to whom due acknowledgement is made.

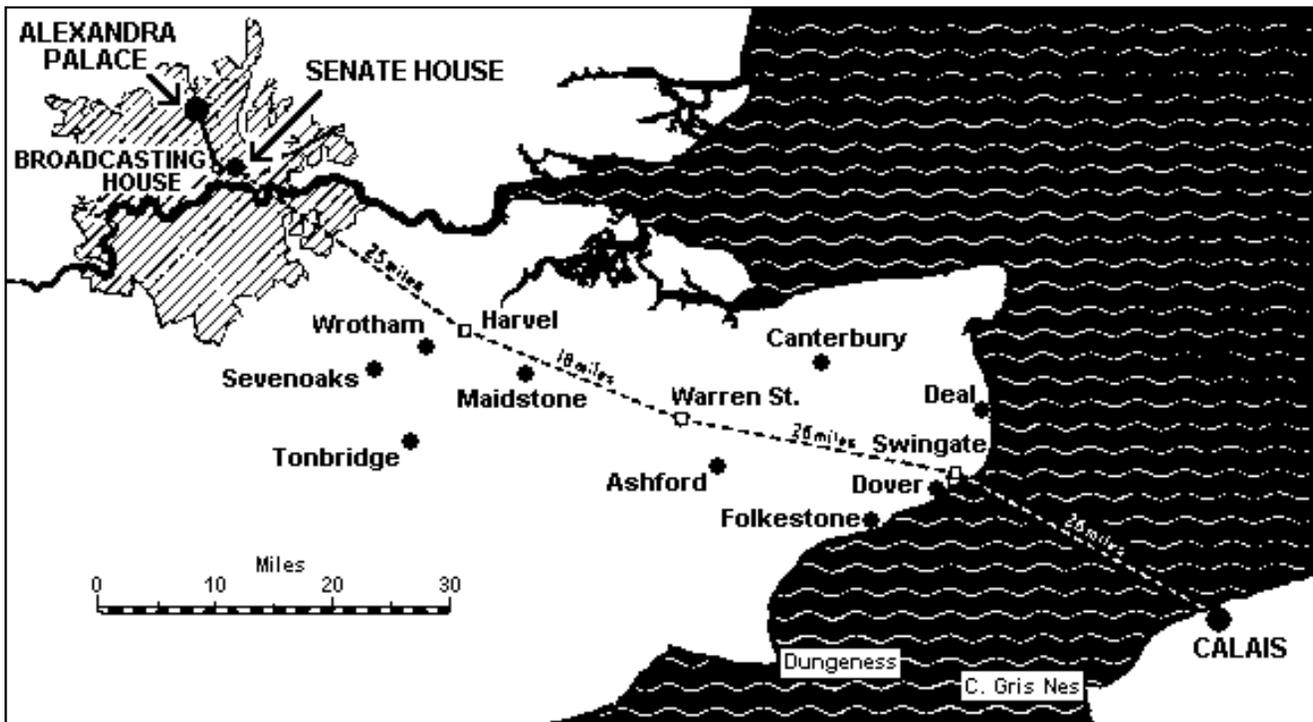
Metre- and Centimetre-Wave Radio Links between London and Calais

by M.J.L. Pulling, M.A, M.I.E.E. (BBC Television Service)

It was not very long ago that the use of the BBC's television OB units was limited to an area within about 25 miles radius of the receiving point at Highgate [near Alexandra Palace, north London], this being the limiting range of the only two mobile vision transmitters then available. These transmitters have a radiated power of 1kW and work on a frequency of about 65 MHz. Their chief drawback is size and weight and the considerable demands which they make on manpower.

More recently experimental work has been undertaken with transmitters of much lighter weight and lower power and working on much higher frequencies, with the object of using two or more in tandem and so extending the outside broadcast "catchment area." The particular frequencies used have been in the neighbourhood of 200 MHz and in bands near 5,000MHz and 7,000MHz. Some success was achieved earlier this year in the use of these bands for outside broadcasts from more distant points; notably from Southend on May 26th and 29th, and from Trent Bridge, Nottingham, from July 20th to 25th.

It was decided to mark the centenary of the laying of the first cable across the Straits of Dover by a television programme from French soil. Calais was an obvious choice both from the point of view of a programme as well as from its nearness to England, and the date decided on for the programme was August 27th. (A second programme was also taken from Calais on August 30th.) This project was clearly more ambitious than any of the previous ones, and in practice it turned out that four radio links were needed for the first programme, and a fifth was added for the second programme.



As the map indicates, the first link was from Calais to Swingate, on the cliffs near Dover. At Calais, a microwave transmitter with its paraboloid was installed at the top of the tower of the Hotel de Ville, operating on a frequency of 4,700 MHz. At Swingate, the receiving paraboloid was set up on one of the masts of the RAF radar station at a height of 350 feet above sea level.



The First Relay:
The paraboloid for the microwave transmitter mounted on the upper platform of the masts at the RAF radar station near Dover. The transmitter, working on 6,800MHz, is housed in the canister at the back of the reflector.

The output from this was fed in turn to another microwave transmitter, immediately adjacent, working on 6,800 MHz. The second relay point was established at Warren Street, near Lenham, where the receiving paraboloid was mounted on the top of a water-tower. For the third link it had been intended to use a transmitter working on 187 MHz, but trouble developed on this link a day or two before the first programme and at the last moment one of the higher power 65 MHz transmitters had to be sent down to take over this particular link. This was a disappointment, because it had been hoped to demonstrate a range of this kind (Calais to London) could be spanned by a series of lightweight transmitters and receivers in tandem.

The third relay point was established at Harvel, near Wrotham, and here again the top of a water-tower proved a most convenient location for a receiving aerial and for the 4,750 MHz transmitter which was to cover the final link to London.



The Third Relay:
Interior of the transmitting van used at Harvel, near Wrotham. The technician is shown adjusting the gear associated with the STC microwave transmitter.

The receiving point in London was on the top the tower of the London University, Senate House, in Bloomsbury. This receiving point had been used for previous tests and had been found to be very satisfactory: so it proved also on this occasion.

At this point the picture signals were fed to the GPO, Museum Exchange, little more than half a mile away, a normal telephone circuit being used. At Museum Exchange the signals were fed over the normal route to Broadcasting House and thence to Alexandra Palace. Over the whole of this part of the route a 1-inch diameter coaxial cable is used.

At this time all telephone and broadcasting land lines were laid and operated by the General Post Office (GPO). Later, under privatisation, this operation would be separated from the Post Office and become British Telecom (BT).

The chief novelty and technical interest in these two programmes lies in the linkage by which the picture signals were transmitted from the mobile control room in Calais to the central control room at Alexandra Palace. The total distance is about 100 miles and, at various stages on their journey the signals were conveyed by almost every means at present known in the television art - coaxial cable, a normal telephone pair, a radio link using a frequency near the television broadcast band, and, of course, microwaves. To this already impressive list was added a further local link in Calais for the second programme on a frequency of 187 MHz.

A complete television OB unit and its staff were sent over to Calais and good pictures were obtained with Marconi camera equipment using image orthicon pickup tubes. The television radio link equipment was supplied by three British companies - Standard Telephones and Cables (STC), Marconi's, and Pye.



End-of-tube picture taken during the first television transmission from the Continent.

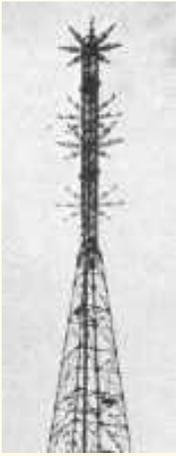
The communication transmitter-receivers, which are indispensable for maintaining communication between adjacent stations, were supplied by Mullard Electronic Products. They were frequency modulated and operated on 72 MHz. The sound signals were carried by Post Office lines from Calais to London. The success which attended this enterprise was in large measure due to the quite remarkable degree of help and co-operation which was received. In France, the civic authorities in Calais, and officials of the French PTT and of the French Television Service went out of their way to put at the BBC's disposal every facility that was needed. On this side of the Channel, the same can be said of the Post Office and the radio industry, on many members of which abnormal demands were made, often at short notice.

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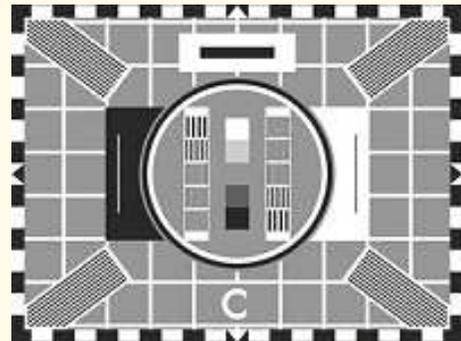
BBC TELEVISION from ALEXANDRA PALACE

by Arthur
Dungate

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THE DEMFILM

The **BBC Television Demonstration Film** or 'Demfilm' as we called it, was shown each morning Monday to Friday from 10am to 12noon. It consisted of approximately 15 minute examples of programmes (which were updated from time to time) interspersed with 15 minutes of Test Card C. On Saturday mornings from 10am to 12noon, we showed the week's 5 editions of Television Newsreel (TNR) one after the other.



Test Card C



35mm comopt film

All the material (with two exceptions) was on black and white 35mm film with RCA optical soundtrack (ie 35mm comopt). The two exceptions were the daily Television Newsreel (TNR) and the weekly Childrens Newsreel (CNR) which were on b&w 35mm film with 35mm sepmag sound, the Cintels being able to run 'double-headed' with either separate magnetic or optical sound.

Telecine equipment

Originally, the Demfilm was transmitted from a pair of Mechau telecine machines near Studio A at Alexandra Palace.



Mechau telecine

However, when Cinema-Television brought out the Cintel flying spot film scanning telecine the Demfilm was shown each morning on these high quality machines located in Central Telecine Room (CTR) in the basement of AP under the site of Baird's original tv transmitter.



Cintel film scanners

There were two Cintel scanners (or 'traction units') named 'Blue' and 'Amber' so that feature length films could be shown without interruption. A central console allowed remote control of sound level, picture brightness and black level, and motor start and stop. Standard changeover dots on the film were used (as in the cinema) to indicate to the operator when to start and change to the next reel.



Cintel control console

When CTR at AP closed in 1954 prior to the move to Lime Grove studios in Shepherds Bush, London, the Cintel machines were returned to the manufacturer for refurbishment and the addition of a third scanner. Meanwhile the Demfilm continued to be shown, but from the EMI telecines at Lime Grove. Later, a separate multi-standard Cintel film scanner was hired, on which the Demfilm was run, with TNR and CNR using previous issues on 35mm comopt, as this Cintel could not run magnetic double-headed.

The following details are taken from typed and handwritten documents I have kept since the early 1950s - (at the end is some information about the tune "Television", an extract from which appeared in Reel 1 of the Demfilm).

The Demfilm, Edition 106

Reels 1-2 **The Birth of television; Baird; Early pre-war programmes, incl. Lupino Lane on stage - 'Lambeth Walk', The Teatimers, Nina Mae McKinney singing 'Papa Treetop Tall', Stanley Holloway in a play - enters a railway compartment as a sales rep in 'pins, needles and metal fasteners'. Reel 2 ended with the Tarantella from the 'Facade' ballet.**

Reels 3-4 **Test Card C** (introduced by **Sylvia Peters**)
On the soundtrack -

1. Marche Fantastique (Lucas): Leighton Lucas Orch-Lucas (EMI EP122)
2. Weiner Blut (Strauss): Leighton Lucas Orch (EMI EPX 74)
3. Tritsch Tratsch Polka (Strauss): Leighton Lucas Orch (EMI EPX 73)

Reels 5-6 **Childrens' programmes**, introduced by **Jennifer Gay**, "one of the Childrens' television announcers", daughter of the conductor, Hugo Rignold. After showing a few excerpts she then introduced the current edition of the weekly **Childrens' Newsreel (CNR)**.

Reels 7-8 **Test Card C** (introduced by **Sylvia Peters**)
On the soundtrack -

1. I Hate Dancing (Bannister): Danceland Ballroom Orch (Danceland DL 564)
2. Song of the Willows (King): Danceland Ballroom Orch (Danceland DL 576)
3. Pila Pile (Melachrino): Melachrino Orch (EMI EP 17)
4. Bobbysox Bounce (Melachrino): Melachrino Orch (EMI EP 10)
5. Smooth Kisses (Melachrino): Melachrino Orch (EMI EP 10)

Reels 9-10**Sport (in an earlier Edition it was the 1950 relay from Calais)**

The Sports section included a sequence on Roger Bannister winning the four-minute mile, the first time anyone had achieved such a speed, and during the interview, for some reason the camera tilts down momentarily to show the microphone being used (an STC 4017).

Music used:

Derby Day (Farnon) (Chappell C 464)

Reels 11-12

Test Card C (introduced by **Sylvia Peters**) who said: *"If there is any engineer wishing to test or adjust a receiver, now's your chance, as we bring you Test Card C"*

On the soundtrack -

1. Cuban Moonlight (King): Danceland Rumba Band (Danceland DL 572)
2. Ah! The Argentine (Warren): Danceland Samba Band (Danceland DL 571)
3. Trip Tropicala (Franklin): Danceland Rumba Band (Danceland DL 572)
4. Bang Go the Bongos (Lynn): Danceland Samba Band (Danceland DL 579)
5. Part of My Life: Danceland Ballroom Orch (Danceland DL 50)

Reels 13-14**Expansion of Television - the building of the Holme Moss, Kirk O'Shotts, and Wenvoe tv transmitters**

Music used:

1. Blue Mink (Yorke) (Chappell C 466)
2. Poodle Parade (Farnon): QHLO-Farnon (Chappell C 438)
3. Fifi de Paris (Farnon): QHLO-Farnon (Chappell C 419)
4. En Route (Farnon): QHLO-Farnon (Chappell C 460)
5. Royalty (Farnon): QHLO-Farnon (Chappell C 463)
6. Organ Voluntary, Westminster Abbey (BBC 13203)
7. Skyscape (Harris) (Harmonic CBL 344)
8. Panoramic Splendour (Duncan): New Concert Orch-de Porten (B&H O 2213) [or should this be 2233 ?]

Reels 15-16

Test Card C (introduced by **Sylvia Peters**) who said: *"And now, for the benefit of any engineer who wants to test or adjust a receiver, here, once again, is Test Card C."*

On the soundtrack:

1. Pt of - 4th Mov Sym 4 (Mendelssohn): Leighton Lucas Orch (EMI EP 23)
2. Pt of - 2nd Mov Sym 102 (Haydn): Leighton Lucas Orch (EMI EP 56)
3. Pt of - 4th Mov Sym 104 (Haydn): Leighton Lucas Orch (EMI EPX 58)
4. Scherzo (Mendelssohn): Leighton Lucas Orch (EMI EPX 17)

The **Suppressor Film** was also shown from time to time. Shot around Muswell Hill near AP it depicted a motorist buying and having fitted a 'cut-lead' suppressor in his car. The film ended with an old car, unsuppressed, causing severe interference on a viewer's tv such that the viewer in anger throws something at the tv screen, and the car outside explodes (it was the cameraman Brian Johnston's old car).



Music used: Apple Honey (Paxton PR 533)
Read the [full narration](#) of this film.

Edition 102/3 -

Reel 14

Festival of Britain; Lime Grove; White City; the building of the Sutton Coldfield and Holme Moss tv transmitters

Music used:

1. Samba de Paris: Danceland Samba Band (Danceland DL 560)
2. Strings in the Strand (Burns): Harmonic Orch (Harmonic CBL 305)
3. Iron & Steel: Metropole Orch-Linden (Paxton PR 540)
4. Roundabout Scherzo: Harmonic Orch (Harmonic HMP 290)

Also, for the ending of the Festival of Britain sequence -

- Champagne March (Henman): QHLO-Torch (Chappell C 385)

In later editions the Festival of Britain sequence was deleted and one on the building of the Kirk O'Shotts transmitter shown. (The music used including -

- Pts of - Scherzo Sym 9 (Bruckner): Leighton Lucas Orch (EMI EPX 27)

Reel 15

The building of the Wenvoe tv transmitter (introduced by **Sylvia Peters**):



"Since the end of the War, the BBC has built new television transmitters to bring the main centres of population, in England, Scotland and Wales, into the television service area. At the same time new studios are being built in London, and in the film that follows we give a brief report on this work".

The film was narrated by **McDonald Hobley**.
Read the [full narration](#) of this film.

Edition 105 -

Reels 9/10

Paris OB's 1952 (introduced, and then narrated by **Sylvia Peters**):



"In the next quarter of a hour we're going to give you an impression of a rather exciting event in television. The very first occasion on which two countries with different languages and basically different television standards shared the same programmes.

July 1952 will long be remembered as the month in which programmes from Paris were seen not only in France but in England and Scotland too. And viewers saw a new emblem on their screens - a badge of an Entente Cordiale".



Music included -

- The Film Opens (King Palmer)
- Dance of the Ghosts (Montague Ewing) NCO-Torch: (FDH 014)
- Out of the Blue (Robert Busby) QHLO-Torch: (Chappell C 355)

Read the [full narration](#) of this film.



Out of this first exchange of tv programmes with different standards, would, a couple of years later, be born the Eurovision link whereby programmes could be exchanged on a regular basis.

[See also the [first experiment](#) in cross-channel tv relay]

[NB: The current edition of TNR was also shown within the Demfilm, but I have forgotten just where it came.....]

Some details of the song "Television" -

This had lyrics by James Dyrenforth and music by Kenneth Leslie-Smith. In Reel 1 of the Demfilm, in which an excerpt appeared, it was sung by musical comedy star Adele Dixon, accompanied by the BBC Television Orchestra conducted by Hyam Greenbaum.

Here are its lyrics ---

A mighty maze of mystic, magic rays
Is all about us in the blue,
And in sight and sound they trace
Living pictures out of space
To bring a new wonder to you.

The busy world before you is unfurled
Its songs, its tears and laughter, too
One by one they play their parts
In this latest of the Arts
To bring new enchantment to you.

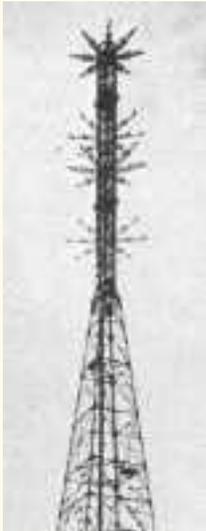
As by your fireside you sit,
The news will flit,
As on the silver screen,
And just for entertaining you
With something new
The stars will then be seen. So -

The world is at your door
It's here for everyone to view
Conjured up in sound and sight
By the magic rays of light
That bring Television to you.

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BBC TELEVISION from ALEXANDRA PALACE



by Arthur
Dungate

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THE CORONATION, 2 June 1953

Transmission schedules

Ever since Coronation Day, I have kept my copy of the Transmission schedules which are on faded typed duplicated sheets of Foolscap-size paper. Talking to Sylvia Peters in 1996 I discovered that she had kept her copies, too. I have tried to reproduce the original layouts fairly closely (including any "typos" - well, it adds to the excitement!). Exceptions are that words which were originally underlined I have put into **bold type** to avoid possible confusion with internet hyperlinks, and page breaks have been removed.

In those days practically **all** announcements were scripted and everything planned to the second as far as possible.



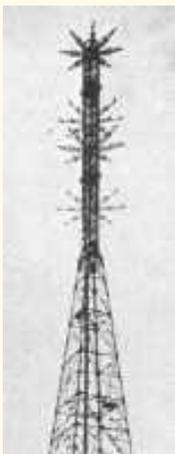
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DIRECT TELEVISION from ALEXANDRA PALACE

by Arthur
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The AP Film Dubbing Suite

Subsequent Expansion

AP FILM DUBBING SUITE

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[General Layout & Special Features](#)

[Recording Characteristics](#)

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[Installation Description](#)

[Future Developments](#)

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N.F. Chapman's description of the Film Dubbing Suite was made in 1950 only 6 months after it came into service. However, the growing needs of the expanding BBC Television Service necessitated changes and should be described here.

Lime Grove

In 1952 a similar film dubbing suite was built in the Lime Grove Studios. This was on the 4th floor of South Block in what used to be the original Gainsborough recording theatre. As the auditorium was felt to be too large for television requirements it was partitioned into a smaller area, with a separate mixer room and two recording rooms at the rear.

As at AP, two 35mm Ross film projectors and a 16mm Bell & Howell projector were installed. Again the RCA sound system was leased. A difference was that one recording room was used solely for magnetic recording and a separate room for recording optical negatives. The magnetic recording room was further equipped with an EMI BTR/1 15ips/30ips ¼" tape machine. This was used for replaying publishers' mood music tracks onto 35mm.

TNR archive storage

The BTR/1 could also be coupled to a servo system for copying 35mm soundtrack masters onto tape for archive storage. Many TNR tracks were kept in this way.

The sync system for this was simple. A 50Hz "hum" derived from the mains (which also fed the Selsyns) was mixed with the sound and recorded on the tape. For replay a 50Hz filter was inserted in the replay chain to suppress the hum, while at the same time the amplified hum signal was fed to servo circuits which controlled the film recorder. An adverse effect was that the recovered soundtrack was slightly deficient in bass, due to the 50Hz filter, though in practice this was not generally noticed since the narrator's voice had been recorded with an 80Hz high-pass filter to eliminate low-frequency thumps from the audio compressor, which was normally set to 8dB into 2dB (or "8 into 2").

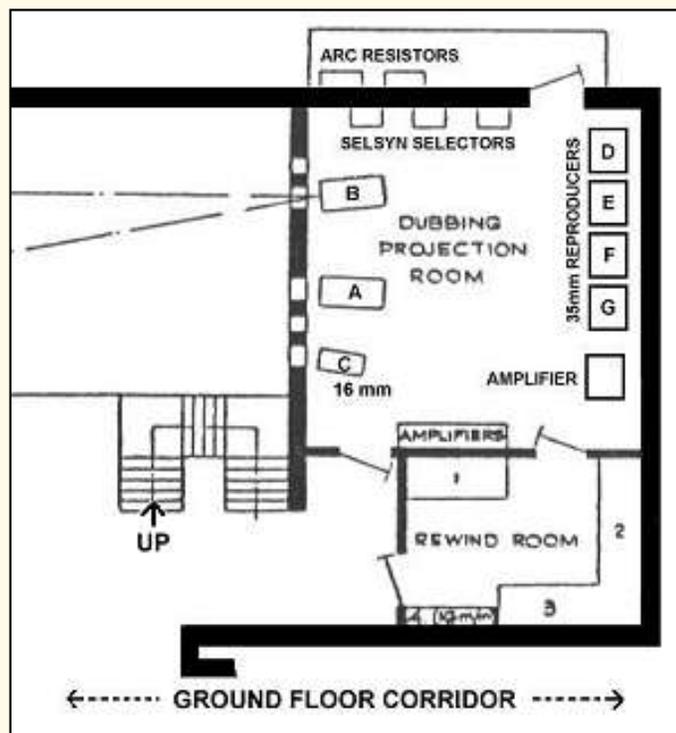
The mixer room was equipped with a Marconi sound mixing console, and three TD/7 gram desks (giving a total of six turntables) for music and effects.

For a short time an experimental effects generator was also available. This was built inside the case of a small upright piano inside which were lengths of magnetic audio tape each connected to a particular key on the keyboard. The lengths of tape had been recorded with individual effects, such as a left footstep on one, and a right footstep on another. Thus by alternately "playing" the appropriate two keys footsteps could be synced "live" to picture. Regrettably I have forgotten the name of this apparatus, except that I believe it began with an "M" and Eric Robinson had some connection with its development.

CNR (Children's Newsreel) and later TNR were dubbed here, as were many other programmes, such as Panorama. The Dubbing Theatre auditorium was at times used to record "talking head" interviews.

AP

When News Division took over Television News in 1954, its initial policy was that no additional sounds were to be added, in the name of "authenticity". This was eventually found to be flawed in that the news reports so produced were dull in the extreme.



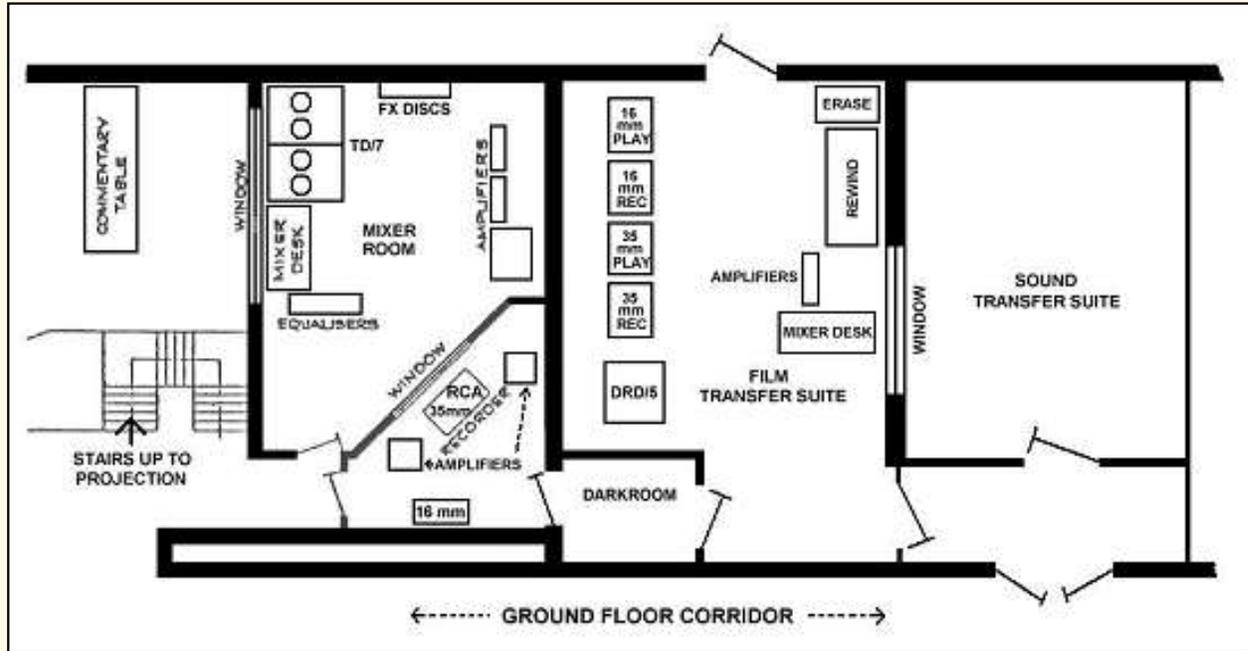
Plan of Dubbing Projection rooms

By this time it had become apparent that the two separate sound film reproducers installed in the Review Theatre were not needed there, and so had been re-installed in the dubbing projection room. The existing pair were designated D and E, with the extra pair F and G. The 35mm projectors were A and B, with the 16mm being C.

An additional preview theatre was needed so the large room at the end of the corridor, next to the scenery lift, was converted (in 1953 it had housed the CBC "[Hot Kine](#)" telerecording system). Inside this room was a metal projection room with two Bell & Howell projectors, modified for "double-headed" showing of separate magnetic track, though this facility was not used (except occasionally by me...!). The theatre was

designated Theatre B, the original Review Theatre in the Film Dubbing Suite now being called Theatre A.

With the revising of news' "no additional sound to be used" policy, a need for additional recording facilities became evident. Behind the Dubbing Theatre's mixer and recording rooms was the old Artists' Green Room, no longer used, and in the later 1950s this was converted into twin Transfer Suites, one for film recording, the other for non-sync sound recording, the latter replacing cramped facilities in one of the former dressing-rooms upstairs. At the same time a Westrex 16mm magnetic film recorder was installed in the dubbing recording room in addition to the 35mm RCA set-up.



Plan of Dubbing and Transfer Suites

Film Transfer Suite

*BAF

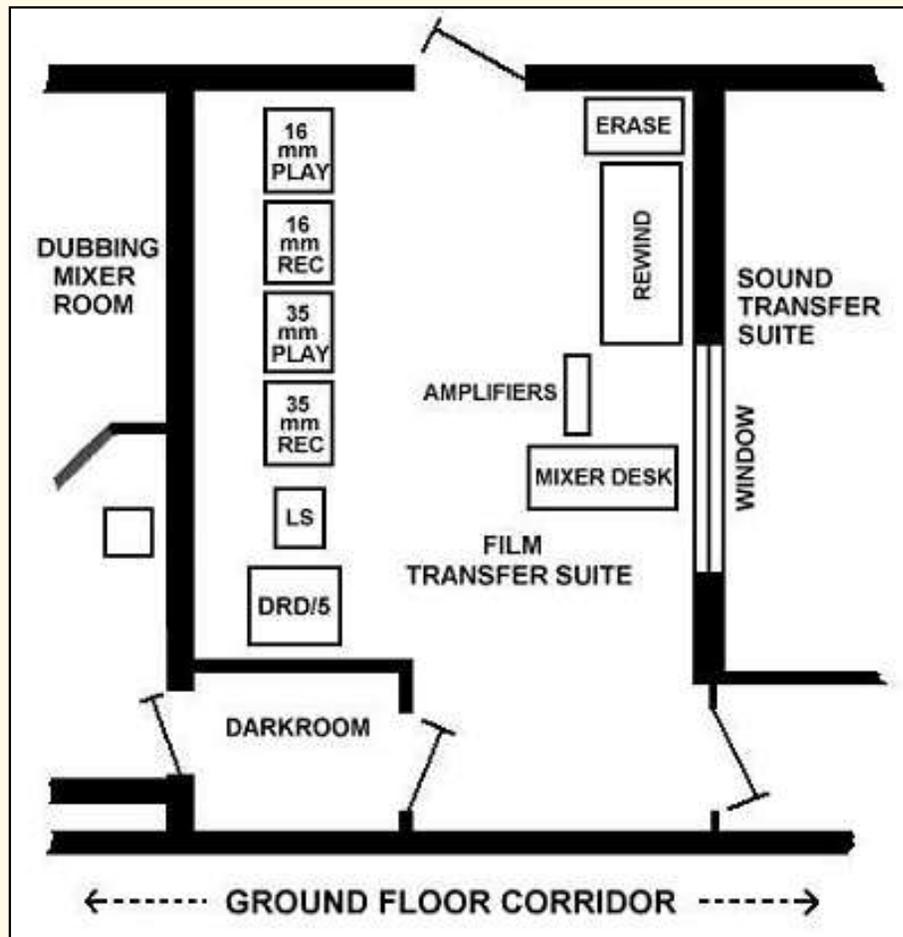
British Acoustic Films, as with Gaumont-Kalee, part of the Rank Organisation.

This was equipped with BAF* type 1500 rack-mounted film recorders. The complement being one 35mm magnetic film recorder, one 35mm magnetic/optical replay, one 16mm magnetic recorder and one 16mm magnetic/optical replay. A disc reproducer type DRD/5 was installed. This had a 3-speed Garrard turntable for 78, 45 and 33 rpm discs. There was a 4-channel mixing console with BAF audio equalisers. Each film channel could be run from the projection room's Selsyns (there were two independent systems), either locked to the dubbing equipment, or to another unit in the suite for copying tracks in sync.

The BAF film recorders had interchangeable head blocks and on 16mm this facility was widely employed. Thus various track widths and positions could be used - the standard 100mil edge track, a 200mil edge track and a 200mil centre track (the preferred standard for sepomag recordings).

The 35mm magnetic recorder was modified in 1959 with the additional facility of manual speed adjustment for use in the [Cablefilm](#) system.

The Transfer Suite was linked to the Dubbing recording room via a shared darkroom.



Plan of Film Transfer Suite
(drawn from memory)

The monitoring loudspeaker unit was a BBC design LSU/10 which used a Parmeko loudspeaker with a Lorenz HF "tweeter" to extend the upper frequency response. However the unit installed in preview Theatre B, just along the corridor, gave much better quality, so one day I surreptitiously swapped them. No one ever noticed....

Each of the recording rooms had a bulk eraser for the wiping of magnetic film, as film recorders were not fitted with an erase head. One had to exercise care when wiping a roll of film, as it was all too easy to leave a low-frequency "thump" if the roll was not removed from the strong erasing field slowly. The BAF bulk eraser was marginally superior to the RCA one.

An interesting point arose soon after the AP Transfer Suite came into operation. A colleague of mine who had just joined Granada Television in London, helping to select and order equipment for Granada's tv studios which were being built in Manchester at that time, was surprised at the sound quality obtained from our BAF 16mm sepmag recorder.

Since the 35mm recorders were equalised up to around 10kHz, with 16mm running at 2/3rds the speed (ie 7.5ips as against 18.5ips), he had assumed that the 16mm quality would have been reduced accordingly. However, 10kHz was easily obtainable on 16mm magnetic and he had

not realised that the 35mm systems were not required to operate at their theoretical maximum top frequency. Thus recordings made on either gauge would nominally sound the same.

And so Granada Television felt able to go ahead and purchase 16mm magnetic film equipment - on our recommendation, so it seemed!

Among the many jobs I had to do in those years, one stands out. It should have been simple but proved most awkward. To improve the general standard of television sound for music programmes, Glyn Alkin had devised a filmed lecture for studio staff. It was done "on the cheap" using, instead of shots of an orchestra, pictures from an LP sleeve to illustrate orchestral instruments heard on the soundtrack.

Being 1 hour long on 16mm this was 2,400ft on one large spool. The requirement was to record onto several striped 16mm prints. In those days the equipment could not run back in sync, so if something went wrong, such as a drop-out, the recording would have to be started again from the beginning.

And indeed drop-outs did occur, rather near the end....

What's in a name?

When writing a recording sheet for a job, I would put "AP Film Transcription Suite" on it. However the BBC Transcription Service at Maida Vale objected to this, seemingly wishing to exercise a monopoly on the word. Being good at English (it is my "mother tongue"!) I felt that the use of the word "transfer" was incorrect (which it is), preferring to use the correct word "transcribe" instead. But I was overruled and so the mis-use of "transfer" became widespread in the industry.

Sound Transfer Suite

This was not staffed or equipped by Film Unit but by Recording Dept.

The main equipment consisted of two dual-speed (33 /78rpm) Presto disc recording channels, a TD/7 78rpm disc reproducer, a DRD/5 3-speed microgroove player, and a BTR/2 ¼" tape recorder, plus a Ferrograph ½-track machine, and of course the LSU/10 loudspeaker.

The **Presto** disc recorders were of USA manufacture. They were not as good as the BBC **Type D** equipment, but had been bought during WW2 before the Type D became available.



**Sound Transfer Suite
(with John Duncan)**

In the above picture the two Presto units are at the back. The DRD/5 is at extreme lower right with the TD/7 immediately behind.



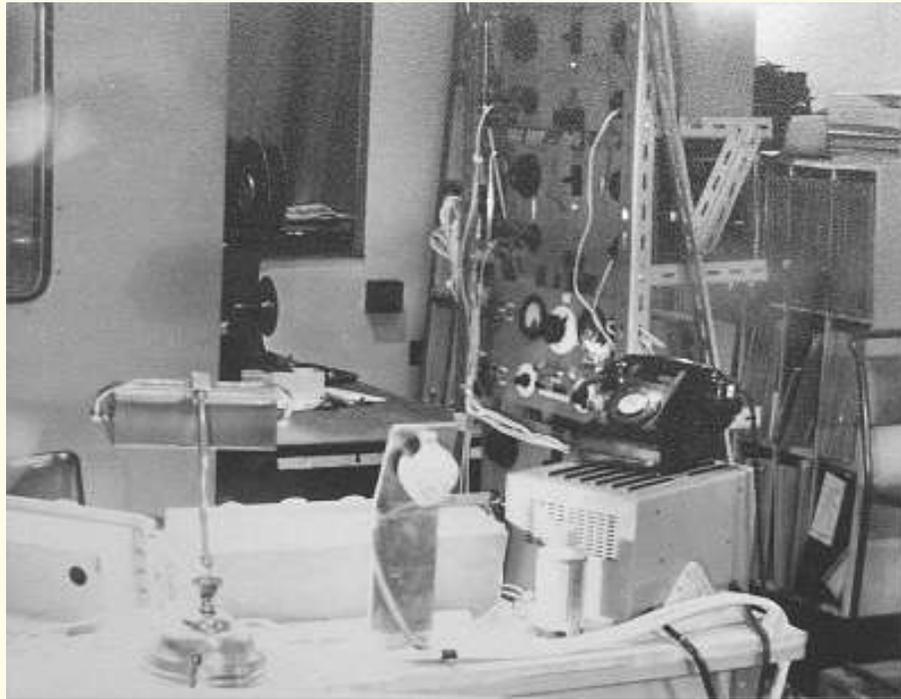
Sound Transfer Suite

Looking through the window from the Film Transfer Suite. The BTR/2 is in front, with its cover open. At extreme left is the LSU/10.

Dubbing Theatre refurbishment

Around 1961 the Dubbing Mixer Room was completely refurbished. New equipment was installed and the layout changed. The Grams were now raised on a dais at the rear, with the producer's chair etc at the front, next to the mixing console. The monitoring loudspeaker was the new LS/5 unit.

While all this was going on, work had to continue, so a temporary "lash-up" was setup in the theatre itself. A "portable" narrator's booth was installed near the back, with the mixing "console" on a desk in front. This actually consisted of Outside Broadcast equipment, such as the OBA/8 mixer etc.



AP FILM DUBBING SUITE

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Temporary dubbing 'lash-up'

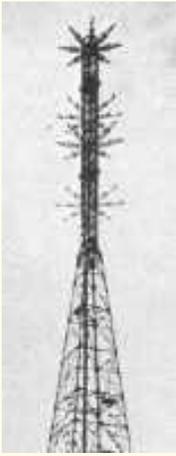
On the extreme left is the narrator's booth, the window into the mixer room is just visible on its right. In front on the table is the mixing unit, while the telephone is standing on the talkback unit. Behind that is an apparatus bay made of Dexion, and behind that is the fx disc library. A large bundle of cables connected all this to the recording and projection rooms.

After the new installation in the mixer room was completed, tested and handed over, the theatre was cleared and put back to normal. The AP Dubbing Theatre remained in operation until News moved out of AP to the Television Centre spur, and throughout the Open University period until they, in turn, moved to their new studio complex in Milton Keynes.

And so ended a chapter in BBC Television history.

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DIRECT TELEVISION from ALEXANDRA PALACE

by Arthur
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A typical BBC Dubbing session



In the 1950s 35mm mobile soundfilm recording equipment was bulky and heavy and needed to be installed in a large van. The BBC had two such mobile recording units, one for 35mm optical and the other for 35mm magnetic recording.

With such physical restrictions, apart from "talking heads" which obviously required lip sync, almost all film was shot silent, and sound effects (fx) and music were added in the Dubbing Theatre from BBC discs and mood music discs.

When the Producer and Editor of the film programme (which could be a complete programme on film or a series of studio inserts for a live programme) had arrived in the Dubbing Theatre, the projection crew upstairs would load the cutting print of the film plus any soundtracks there might be.

The projector, recorder and any separate filmsound reproducers were all driven in sync with Selsyn motors.

If we were lucky, the film editor would have prepared cue sheets for us which indicated the exact places a particular sound effect or music had to occur. But quite often the editor had not done this, in which case we would have to make our own while watching the film on its first rehearsal and/or while the commentary (if any) was recorded.

In the commercial film world, a dubbing or re-recording theatre was built like a small cinema, with the mixing console towards the rear of the auditorium while the picture was projected onto a cinema-size screen at the far end. This approximately replicated the viewing conditions in a typical cinema.

For television the thinking was that a programme would be viewed in the home, under domestic conditions and so the layout of a tv dubbing theatre was different.

Here the mixing console was in a room behind the auditorium, viewing the screen through a large double-glazed window, rather like a radio studio, while the commentator sat in front of the microphone at a table in the auditorium, with the editor cueing him by his side.



Thus the mixer in the room behind, heard the sound under conditions more of a domestic nature.

On one occasion when someone from the film industry saw a BBC dubbing theatre he rather unkindly remarked that the mixer was in the back room since "they couldn't stand the sound of the noise they made"....



Next to the mixing console were banks of 78rpm disc players from which the person on "Grams" would play-in the many fx and music discs as required. The original dubbing theatre at AP had four turntables, but at Lime Grove and Riverside there were six.

In television, film was run at 25fps (frames per second) in contrast to the cinema standard of 24fps. Films on 35mm were recorded in reels of up to 1,000ft which, at 25fps lasted up to 10mins. There was a footage counter visible under the screen which indicated feet of film, the beginning of the picture starting, naturally, at 000ft. In actual practice, every reel of film would have a leader on the front, with the START frame 15 feet from the beginning of picture, thus the footage counter was set at 985, and thus everything ran up to speed with the start of picture appearing at 000.

If we had no cue sheet, the person on Grams would watch the film on rehearsal and note down the footage at which various sounds should occur. If, for example, a car door was shut at footage 268, this was noted on the cue sheet.

The appropriate fx disc of a car door shutting would be taken from the library of discs next to Grams, and cued up using headphones ("cans"). The precise point of the sound would be heard in the cans and the disc moved in reverse by exactly one revolution and stopped there with the pick-up on the disc. On a further rehearsal or a "take" when the number 267 came,

the disc would be spun sharply and thus at 268 the car door fx would happen, in sync with the picture!

With other things happening together, for example background atmosphere, footsteps, traffic etc would be playing from other discs, it could get quite involved and the grams operator could have piles of discs ready above each turntable.

No red cues please!

It was, however, important that cue sheets were not marked in red, as, when the lights were dimmed while recording, this left a low-level red light on, so any red marks on white paper tended to become invisible!

If, during a take, a mistake occurred some way into the reel, for example after 5 minutes, instead of wasting the good part of the mix, the defective recording would be taken upstairs to projection and run as an additional track, the dubbing mixer fading over to Grams just before the mistake and the rest of the reel recorded. In a similar way if the mix was complicated, parts of the sound would be recorded as a "pre-mix" and then used, the missing sounds added on the next run.

With regard to music, if the editor had not laid any music tracks, music, too, would have to come from discs. The start of music, say, for the opening titles, was easy enough to do, as in the car door example. But for end titles where the music and titles have to end together, one had to "back-time" the music, noting how long it lasted from a particular part of the music to its end, in seconds, then converting this to film footage. Subtracting this number from the end footage of the film and then cueing the disc at that footage number made the music end at the right place.

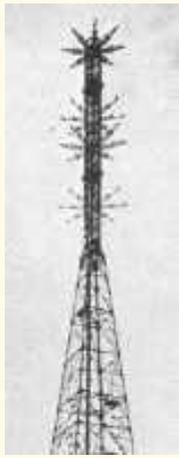
In the 1950s television films were dubbed this way and a high degree of skill on the part of both the mixer and Grams operator produced professional results in a minimum of time.

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by Arthur Dungate

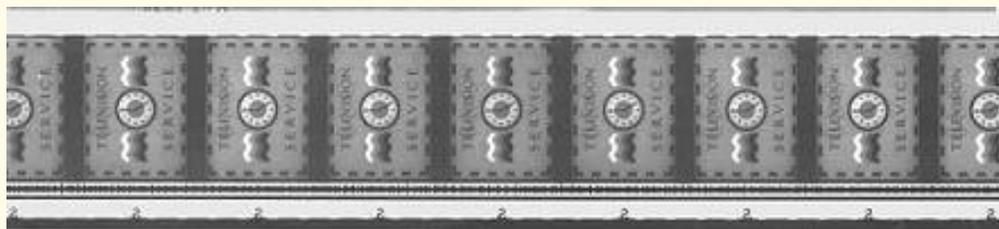
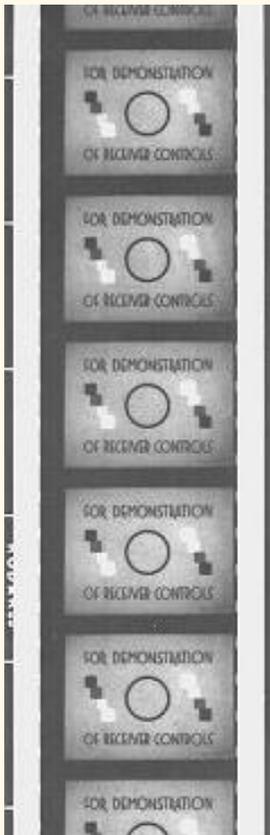
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A Television Gallery

Introduction

When at AP I used to visit the film vault often and delve into the sack of waste film to see if anything interesting was being thrown away. Over those years I collected a variety of 35mm film frames and longer lengths, and on the following pages are some examples.



The Gallery is divided into the following sections -

- [The 5x4 era](#)
- [4x3 test and breakdown signals](#)
- [Openings and Closings](#)
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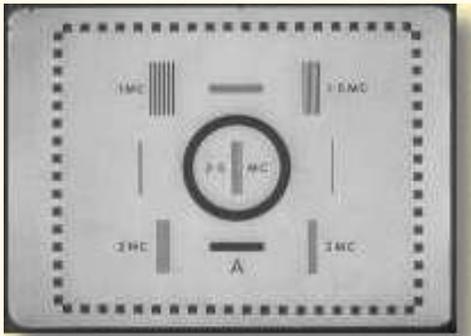
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A Television Gallery

The 5x4 era

When 405-line television began in 1936 from Alexandra Palace, firstly as a demonstration to visitors to the annual Radiolympia Show in London in August, and then later as a regular service from November that year, the aspect ratio - or picture shape - was chosen as 5x4 (5 units wide by 4 units high). This made more efficient use of the available screen area of the round-faced cathode ray display tubes of the time.

Test patterns, on cards placed on easels, were used to line up the Emitron cameras in the studio, and similar patterns photographed on 35mm film were broadcast to allow adjustment of receivers.



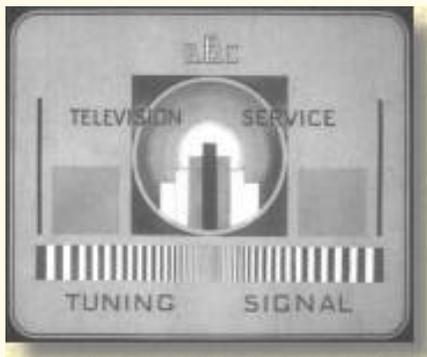
5x4 Test Card A



5x4 Tuning Signal



5x4 copyright notice



5x4 Tuning Signal



5x4 Tuning Signal

With the advent of World War II, the Television Service closed down at the beginning of September 1939. When it re-opened after the war, in June 1946 the same aspect ratio of 5x4 was used.

However the increasing use of cinema film, which had an aspect ratio of 4x3 - "Academy Ratio", made it desirable to change television's picture shape to match, and the change to 4x3 was made in April 1950.

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[4 x 3 test signals](#)

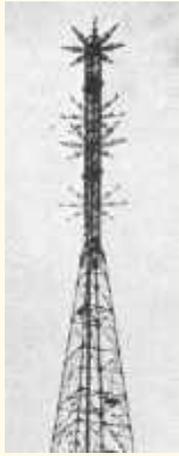
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A Television Gallery

4x3 test and breakdown signals

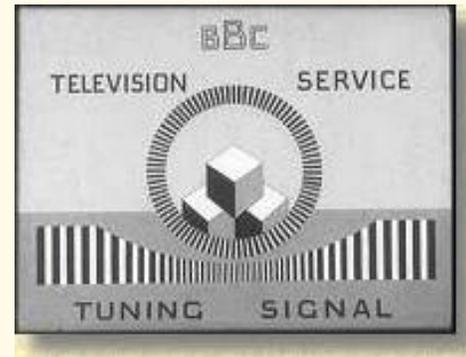
In April 1950 television's aspect ratio was changed from 5x4 to 4x3. As the technology of the manufacture of cathode ray tubes improved it became possible to make tubes in a rectangular shape (albeit with rounded corners) and so more effective use could be made of the display area.



4x3 test transmission



Early test pattern



Early 4x3 Tuning Signal



Almost all of television in the early days was live and the primitive equipment (by today's standards) was prone to malfunction. Thus this title card might be shown if only the vision had failed.

When, however, there was a complete breakdown (a fairly frequent occurrence), this card, usually shown on film from telecine, became a familiar part of television.



In 1952 the BBC conducted an experiment to attempt the relay of pictures from across the English Channel. This had been done in 1950 but only from Calais and with BBC equipment operating on 405 lines.

(See - A [technical account](#) of the Calais event.)

The 1952 operation was to come from Paris with pictures originating from the French television system which was quite different from the UK and so the pictures from Paris had to be "standards converted" from the French 819-line system to the British 405-line system.

(See - the [Demfilm report](#) of the Paris OBs.)



In case of the (not unlikely) event of a breakdown in transmission, this title film was prepared.

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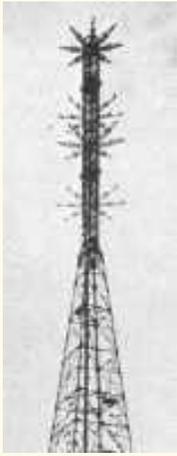
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A Television Gallery

Openings and Closings



BBC Coat of Arms

Although the BBC Coat of Arms was included as part of the standard Opening Routine, it was also used on its own as a standby, or to introduce an important event.

Since television was on the air for only a few hours each day, with 3 separate transmissions (Afternoon programmes for women, Teatime programmes for children, and the main Evening programmes), closing routines were conducted after each one.



Afternoon end title, approx 4pm



Childrens end, approx 6pm



HOP Day



HOP Day (end)



HOP Night (end)

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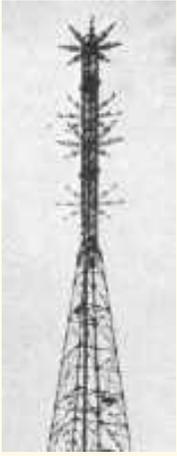
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A Television Gallery

Programmes and Intervals

In the early days of post-war television plays usually had an interval, during which a title slide would be shown. A minute or so before the play was to resume, a bell would sound (just as it would in the theatre) to warn viewers who might have gone to make the tea etc.



These titles, on 35mm film were shown from telecine, usually the studio Mechau.



Some plays might have an interval title specially shot. This play, "Almost Glory" was transmitted in May 1953, and this may be the only surviving relic of it.

At the end of plays a roller caption machine would provide a climbing title of the cast and credits. At times, a still frame end title would be superimposed from the studio Mechau.



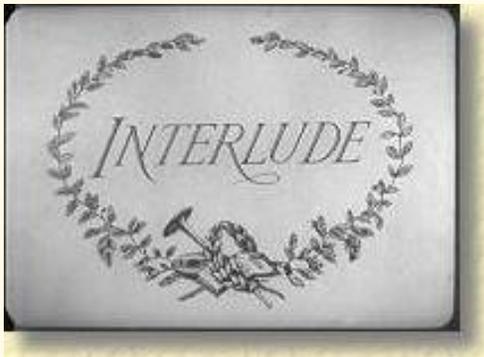
On 12 December 1954 George Orwell's controversial play "1984" was transmitted, live from Lime Grove, and was to be repeated (also live) a few days later. After the first transmission there was a public outcry against its repeat and there were demonstrations of protest outside the Lime Grove studios. I was off duty the first night but when I went in the next day I ran the film inserts to see what all the fuss was about. My favourite bit was the "Hate 2 minutes" in which a crowd worked up their emotions by shouting "Hate, hate, hate".



Big Brother

"Big Brother" did not actually appear in the play but his image (on 35mm film) was shown on the "telescreens" at various moments.

In those days prior to the start of ITV in 1955 television had a very relaxed atmosphere. There were often pauses between programmes, usually filled by a film [Interlude](#), but occasionally by a still frame.



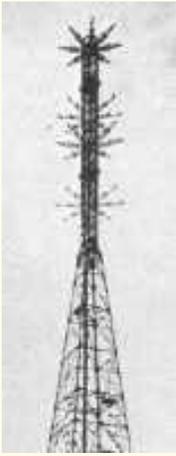
Until 1954 there was no live television news, Television Newsreel (TNR) which ran from January 1948 until superceded by **News & Newsreel** in July 1954 was a topical magazine programme, so each evening just before television closed down, a sound recording of the 9pm Home Service radio news was broadcast.



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BBC TELEVISION from ALEXANDRA PALACE

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INTERLUDES

During the early post-war years of BBC Television, until the advent of Independent Television (ITV) in 1955, there was only one tv channel in the UK.

The **Interludes** were short films used to fill up gaps in the programme, during intervals in plays (yes there were actual intervals then!), or as a standby in case of a studio breakdown, and, since all programmes were live, this was not an infrequent occurrence.

They mainly consisted of tranquil scenes, such as Ploughing, in which several teams of horse-drawn ploughs would gradually work across a field; or a windmill, with sails slowly turning. The interlude most fondly remembered is the Potters Wheel, in which a potter's hands (the potter was not shown) would make various vase type objects on the wheel, but never actually finishing any..... The films were accompanied on the soundtrack by peaceful music or natural sounds.

The following list, unfortunately not complete, comes from a handwritten sheet I copied out in the early 1950s.

List of BBC Television Interludes

- | | |
|---|---|
| 1. WINDMILL (5m30s)
(Shot at Pakenham, Bury St Edmunds) | Pastoral Montage (Fagan)
- - Queens Hall Light Orch (Chappell C 324) |
| 2. CHURCH, MILL & STREAM (9m15s)
(Shot at Olney, Bucks) | 1. Starlings (Charles Williams)
- - QHLO-Williams (Chappell C 261)
2. How beautiful is Night (Robert Farnon)
- - QHLO-Farnon (Chappell C 312) |
| 3. RIVER & BIRDS (10m00s)
(Shot at Olney, Bucks) | Natural sounds & effects |
| 4. ANGEL FISH (8m45s)
(Shot at Regents Park Zoo) | 1. Rippling Waters (Donald Thorne)
- - QHLO (Chappell C 359)
2. Cloud Drifts (Cecil Milne)
- - QHLO-Williams (Chappell C 213)
3. Picture in the Fire (Farnon)
- - QHLO-Farnon (Chappell C 335) |

- .
5. **UP THE RIVER** (9m30s) Natural sounds
(Shot at Medmenham Abbey, Henley on Thames)
- .
6. **ROCKS & SEAGULLS** (4m00s) Natural sounds
(Shot at St Mary's Bay, Brixham, Devon)
- .
7. **VESPERS** (9m00s) Feast of the Holy Guardian Angels
(Shot at St Benedict's School, Ealing)
- .
8. **SWISS INTERLUDE** (1m45s) (musical box ?)
- .
9. **POTTERS WHEEL** (5m50s) 1. The Young Ballerina (Charles Williams)
(The potter, who's hands we see, was George - - QHLO-Williams (Chappell C 400)
Aubertin) 2. Sadlers Wells (Haydn Wood)
- - QHLO-Sidney Torch (Chappell C 345)
- .
10. **PLOUGHING** (8m05s) 1. The Ploughman Homeward Plods
(Shot at Tillingham, Essex) - - ?
5 teams with horses plough a field, into the 2. Passing Stormclouds (Louis Voss)
distance - - Grande Orch-Voss (Bosworth BC
1217)
3. Downlands (Cecil Milne)
- - QHLO (Chappell C 389)
- .
11. **TREES**
(Shot in Epping Forest)
- .
12. **ROUGH SEA AND ROCKS** (9m30s) Natural sounds
(Shot at Pulpit Bay, off Portland Bill)
- .
13. **SEASCAPE** (10m00s) Natural sounds
(Shot at Chesil Beach, off Portland Bill)
- .
14. **SUNLIT SHORE** ?
(Shot at Chesil Beach)
- .
15. **RABBIT MUSICAL BOX** ?
- .
16. **CHURCH, MILL AND STREAM** (8m45s) 1. Cloudland (Bruce Campbell)
(Shot at River Ouse, Olney, Bucks) - - QHLO-David King (Chappell C 400)
2. Queen Mary's Garden (Haydn Wood)
- - QHLO-Torch (Chappell
C 345)
- .
17. **BONFIRE** (6m50s) Natural sounds
(Shot at Lighthorn near Leamington)
- .
18. **SNOWSTORM**
- .
19. **MOONLIGHT SEASCAPE** Natural sounds
(Shot at Chesil Beach)
- .
20. **PALM BEACH** (9m07s) Natural sounds
(Shot in Jamaica)

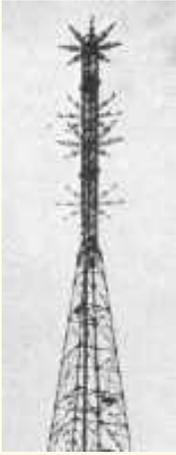
.		
21.	KAIETEUR FALLS (7m11s) (Shot in British Guiana)	Natural sounds
.		
22.	SPINNING WHEEL (6m35s)	1. Table Talk (Dolf van der Linden) - - Metropole Orch-Linden (Paxton PR 586) 2. Mews in Mayfair (Vivian Ellis) - - QHLO-Torch (Chappell C 346)
.		
23.	SANDY SHORE (11m23s) (Shot in Jamaica)	Natural sounds
.		
24.	HARP INTERLUDE	Improvisation on the harp by Owen Mason
.		
25.	TAPESTRY (6m30s) (Miss Thackwray, Royal School of Needlework)	Harpsichord Concerto (Bach) Irgard Lechner & Stuttgart Chamber Orch (BBC 19031-2)
.		
26.	LOCH REFLECTIONS (7m00s) (Shot at Loch Tay, by Monty Rednap)	1. The Most Covered Mountain (trad) (BBC 19381) 2. The Highland Cradle Song (trad) (BBC 19381) 3. March of the Cameron Men (trad) (BBC 19382) 4. Kenmure's On An' Gwa (trad) (BBC 19379) 5. March: Cabbi Freidh (trad) (BBC 19380) 6. Highlan Laddie (trad) (BBC 19379) 7. Cock of the North (trad) (BBC 19377) - - John Burgess (piper)
.		
27.	WATER WHEEL (9m02s) (Bucklebury, near Newbury, Berks)	?
.		
28.	RIVER TAY (6m55s)	?
.		
	Not on the list -	
	THE WHITE KITTEN (Kitten & ball of wool)	Prunella (Leslie Bridgewater) - - LPromO-Collins (Paxton PR 423)
	The kitten's name was Snowy and he was owned by Mr Martin of Barnet, Herts. Supervising film editor: Bob Verrall	
.		
	HANDS AT THE PIANO	
	This was the first interlude film made and its two versions featured a three-minute piece by Chopin and a five-minute work by Liszt.	

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*by Arthur
Dungate*

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Mary Malcolm - My job as a Television Announcer

[This article was published in **Radio Times**, 19 September 1952]



People often say to me, "I'd love to have a job like yours, but how do you manage to do it with three daughters and a home to run?" Well, there are moments when it is a bit complicated but on the whole it works out very well.

We live in part of an old country house sixty miles south of London so that "daily-breading" from a job which begins at 11am and ends at 11pm is out of the question. Fortunately my mother lives in Central London and puts me up, and of course I am not on duty every day - my duties are generally arranged in groups of two or three days "on" followed by two or three days "off". There are three regular announcers, Sylvia Peters, MacDonald Hobley and me, plus some guest announcers. The three of us average ten days work a month each. Yes, I know it sounds ridiculously little but then studio-announcing is only a part of our duties.

There are the numerous light entertainment programmes which MacDonald Hobley comperes so ably, each of which requires a days' rehearsal. There are the Childrens Newsreel commentaries which I share with David Lloyd James as often as possible.

There are occasional Outside Broadcasts, Sylvia's two recent visits to Paris (great fun but really hard work too) and a dozen other unexpected duties which, though they sometimes make mincemeat of a forty-hour week, do make this job particularly interesting.

Then there are the "backroom activities". Numerous sessions in the showrooms of the London Model House Group choosing TV clothes and fitting them, doing studio tests and posing for still photographs. Frequent visits to the hairdresser, (gone are the days when I washed my hair in the bath and hoped for the best). Add to these a good many requests to open things, judge things, present things and "say a few words", and you will realise that life can be quite hectic.

A day in the studio starts for us at 11am when the announcer on duty arrives at Alexandra Palace, half an hour's journey from Central London and perched three hundred feet above it on a pleasant, grassy hill. At 11.15 there is a conference at which the afternoon and evening programmes are considered, technical problems ironed out and the presentation of them discussed. The majority of programmes come from our Lime Grove studios nowadays but they are generally announced from Alexandra Palace which remains the control point.

After this meeting the Presentation Assistant dictates a sheet of instructions (known as a "running order"), which is typed by the continuity clerk and distributed to all departments concerned. It contains a rough draft of each announcement prefaced by the note "announcer ad libs on following lines". Very few announcements are learned word for word but obviously there must be cue-phrases agreed upon so that one is not faded out in the middle of a sentence or, worse still, left lingering too long upon the screen.

The next question for consideration is clothes. The Presentation Assistant will say what set, curtains or backcloth he would like to use and, with this in mind, one chooses a suitably contrasting dress from the six or eight in current use that are hanging in the wardrobe department. This little problem does not confront Mac: his evening uniform is a dinner jacket worn with a beige shirt (pure white being too bright for the cameras). True, he

sometimes introduces a novel note by wearing grey flannel bags and brown shoes beneath it but this is a subtly lost upon you, the viewer, unless an absent-minded cameraman should chance to take too long a shot one evening!

And so to lunch in the huge staff restaurant and then upstairs into Central Control Room to make the "sound only" opening announcement (on a lip microphone) for the afternoon transmission. For the next hour one is free to deal with the mail in the office, either dictating letters to our overworked secretary or typing them ourselves. Somebody says "tea" and one realises with horror that two hours have slipped by and it will soon be time to change and make-up.

Artists appearing on television are made up but we do ourselves. A suntan foundation, grey-blue eyeshadow, a brown eyebrow pencil, mascara and a darkish red lipstick, these are the ingredients for an Alexandra Palace make-up. It takes me almost twenty minutes to do, but sometimes there seem to be more shadows and lines to paint out than usual and then I can fiddle around for hours!

"Lining up and lighting" is the next job. This means sitting in the announcer's position for about twenty minutes immediately before transmission while the lighting engineer places and adjusts his many lights, and the sound engineer checks the microphone and does a "level test" of one's voice.

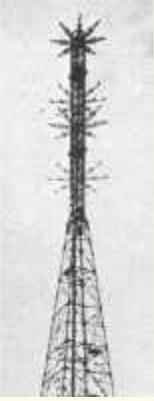
In this atmosphere of organised chaos one rehearses an opening announcement, choosing between this phrase and that, and glancing at a small monitor set placed beside the camera to make sure there are no stray ends of hair (Mac looks to see whether his tie is straight!). The hands of the clock creep towards 8 pm, the Studio Manager calls "Quiet please", Big Ben chimes and strikes, and the evening transmission has begun.

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*by Arthur
Dungate*

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Emil Mechau

A brilliant, virtually unknown inventor in the field of motion-picture projectors and television

a short biography by HELMUT KRUEGER

WHO REALLY WAS EMIL MECHAU? Most people have seen silent movies of by-gone days marred by picture flicker, and many of the elder generation still remember the first television broadcast of the 1936 Olympic Games in Berlin. However, who would ever think of linking either event with a humble German inventor named Emil Mechau? Who really was Emil Mechau?

Emil Mechau was born in 1882 in Seesen near the Harz Mountains in Germany. His father was manager in a sugar refinery and had to move with his family to Brottewitz in Saxony when the plant in Seesen was shut down. Upon the successful completion of his precision mechanic apprenticeship with Maibuhr/Reiss in Bad Liebenwerda, Emil Mechau joined the Astro Experimental Department at Carl Zeiss in Jena. While Mechau worked on special optical projects in his laboratory at Zeiss, Professor Dr. Siedentopf increasingly involved Mechau with scientific demonstrations.



Pursuant to a discussion between Dr. Siedentopf and Oskar Messter, the father of German cinematography, about how the visible cut-off during the jerky cinematographic projection can be eliminated to perhaps replace the then-used cutting blade by means of an oscillating mirror to avoid the very annoying picture flicker.

As young scientific assistant, Mechau was a witness to the conversation, whereupon he made up his mind to study the subject in depth and to also implement the continuous motion of the film through compensation by optical means. The brightest engineers and the best opticians had been dealing unsuccessfully with this problem for many years; would it be possible for this novice in the field of cinematography to find a practical solution to this problem?

Because Zeiss did not afford Mechau the opportunity to proceed with his project, he defected to Ernst Leitz GmbH in Wetzlar, Hesse. In 1910 as Scientific Assistant he built and personally tested and continued to improve his new motion-picture projector for continuous film movement

in the local Kaiser movie theater. There, for the first time, the public could watch silent movies without any marred picture flicker and totter and in never before enjoyed brilliance. The projector also totally eliminated the disruptive ripping and the therewith-associated fire hazard.

During this time, Mechau also made several initiatory inventions, including those, which were not related to the cinematographic field. Shortly after Mechau's move to Wetzlar, the Leitz Company needed a shop foreman in the microscope research department. Mechau informed his friend Oskar Barnack about it; they had stayed in contact with one another since their days together at Zeiss. Through Mechau's negotiations between Ernst Leitz II and Barnack, Barnack was subsequently hired for the position. Later, Oskar Barnack built the world-famous 35mm Leica (Leitz Camera).

The Mechau Projector found rapid worldwide acclaim, which prompted Ernst Leitz to have Mechau establish an independent motion-picture projector plant in Rastatt, a town near the Black Forest. 1923 was the year of the construction of the most modern movie theater of its time, the Schauburg Movie Palace in Münster in Westphalia, at which premier the Model 3 Mechau Projector was the technical attraction. According to the Westdeutsche Filmzeitung, a German movie publication, rarely before have so many of the highest-ranking dignitaries of federal, state, and city governments and the higher-education establishment attended a private event with such unity. Henny Porten, the star of the event's feature film, The Geyer-Wally, was also present among the many representatives of the film industry.

Emil Mechau, the inventor of the motion-picture projector, was also invited and his projector was praised as a masterpiece of the German optics and precision mechanics industry.

In a special ceremony of the Deutsche Kinotechnische Gesellschaft (DKG) in Berlin in 1931, Mechau was awarded the prestigious Oskar Messter Medal in recognition of his many years of tireless undertakings as an inventor in the field of motion-picture technology. It represented the crowning event of Mechau's achievements to that date. Despite stiff competition by the best engineers and optics scientists of his time, it was only he who, with his Mechau Projector, succeeded in realizing the continuous motion of the film with optical compensation.

The advance of the new sound film with the high financial investments it began to require, caused Ernst Leitz to sell the cinematography projector plant in Rastatt, including all of its patents, to AEG in Berlin. In addition to his advancements of high-precision motion-picture projectors as well as new light-beam pick-up devices, Mechau developed his first 180-line spinning disk scanner for the newly evolving television for the 1934 Berlin Radio Exhibition.

In early-1935, Mechau changed over to the AEG subsidiary Telefunken to continue his work in this new field. That same year, he succeeded in developing his flying-spot scanner, for which he received the Grand Prix in the Innovations and Developments category at the 1937 World Fair in Paris. With this flying-spot scanner, the first television telephone service was made possible, which enabled one to not only hear but also to see one's interlocutor in a distant television speaking station. Only now, more than 50 years later, the idea of video-conferencing once again resurfaces. Somehow, amid it all, Mechau also developed the Olympia television camera with interchangeable lenses. With the soon-to-become famous 2.2-meter-long Olympia Cannon with its 5/1600mm Leitz lens that had a front lens diameter of 450mm, live television transmissions of sport events from a great distance within the stadium could be transmitted to the outside world for the first time. Although completed, his next 375-line flying-spot scanner and his new

television camera for the 1940 Olympic games in Helsinki could no longer be deployed as a result of the outbreak of World War II.

Just a few weeks after the end of the war, Emil Mechau, at the age of 63, was accidentally killed when he was asked by a Russian soldier to defuse a hand grenade. This tragic mishap ended the life of this modest man and brilliant inventor. The author wishes to express his appreciation of the late Emil Mechau's lifetime of achievements and to contribute to the keeping of his memory as an outstanding personality.

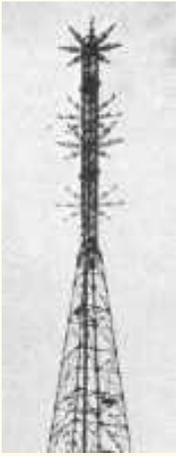
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DIRECT TELEVISION from ALEXANDRA PALACE

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200 Oxford Street

During World War II there were three main studio centres for the External Services of the BBC. One was at Bush House, in the Strand, London, another was at Aldenham House.

BBC Engineering 1922-1972 by Edward Pawley, Ch 4.3 p251-3 --

Information

BBC Engineering 1922-1972.

Edward Pawley.
(BBC Publications 1972)
ISBN 0 563 12127 0

The third major studio centre for the Overseas Services was 200 Oxford Street. This building, which had been the East Block of Peter Robinson's store, was requisitioned in June 1941 and the planning of a broadcasting centre there began almost immediately. The installation in 'PR Building', as it was at first called, was a large and urgent job and the small installation group, which had Aldenham and Bush House to deal with as well, was strengthened and became part of the Station Design & Installation Department, the forerunner of the later Studio & Transmitter Planning and Installation Departments.

Planning these major war-time studio centres was a very different matter from planning a pre-war studio centre. Before the war, all installations had been designed as individual layouts; each desk, each apparatus bay, was drawn very carefully with all its details, even down to tag numbers on the connection blocks at the bottom of the bay. Every studio was different. In war-time, many materials and components became very scarce and rigid standardisation was necessary. Ideas introduced into one project could often be applied in another, such as the use of multi-core cable for inter-bay wiring and the design of cubicle desks.

Before the war these desks had been designed to present a pleasant physical appearance. In war-time, however, there was no time for architectural design, and the studio desks at 200 Oxford Street were made from office tables faced with plywood. A standard OBA/8 amplifier was placed on the top, with a five-way key-switch unit and a standard MX/18 mixer. The mixer was tilted on a piece of wood so that the cue keys could be placed under the front panel. These keys were wired to an elementary terminal block. A porcelain-based copper knife-switch (common in earlier days in domestic installations for shorting the aerial to earth in a thunderstorm) was fitted inside the desk to terminate an emergency line to control room so that the microphone could be switched through direct if the amplifier failed.

In addition to the cubicle desks, standard apparatus bays were also

designed. There was, for example, a control position bay carrying the main APM/1 (Amplifier Programme Meter, a rack-mounted version of the OBA/8 amplifier), a row of twenty studio signalling keys, a small telephone communication panel, and a programme meter panel.

There was also a trap-valve amplifier bay and a standard jackfield bay was introduced. This had a number of rows of jacks, some wired in 'Listen/Line' formation, i.e. with a jack for listening purposes wired across the line jack. Other jacks were wired in the 'Listen/Line/Apparatus' formation, so that the line was normally connected to the amplifier, with a listening jack in parallel, but plugging into the line disconnected the amplifier from it and plugging into the apparatus jack disconnected the line from the amplifier. This arrangement, which came into general use at studio centres and transmitting stations, provided the maximum facilities for monitoring across the line and for checking whether a fault was on the amplifier side or on the line side of the jacks.

The system gave rise to a number of faults on its own account through poor contact within the break-jacks. There were also jacks with one input connected to ten outputs in parallel. The jackfields were wired up in multi-core cable in the workshop; when installed they were connected to a distribution frame. The inter-connections between the input and output sides of this frame were made in 'jumper' wiring and could be varied to suit changing requirements.

A drawing of a typical talks studio suite layout showed all the power points, red, white and green lights, buzzers, talks desks, cubicle desks and TD/7 gramophone desks; this could be given, whenever a talks studio was wanted, to the staff responsible for building and wiring, or to contractors.

The control room and studios at 200 Oxford Street were in the basement, and much heavy steel reinforcement was applied to the floor and ceiling of the ground floor; concrete was used in the basement and the lower ground floor to stop flooding and also to give some protection to the studios and control room from any missile that might fall down the lift-shaft.

Installation was begun in December 1941, and during May and June of the following year a gradual cut-over took place. It had been intended that the accommodation above ground level should be duplicated below ground level for use during air-raids. In fact, the accommodation above ground was occupied more often than the 'security' accommodation below.

The offices had to be planned on an austere basis, with short partitions and mostly without direct access to outside windows. Despite these limitations, 200 Oxford Street provided sufficient studios and other accommodation for what had by then become a large operation.

On the night of 30-31 May 1942 the Overseas Services were transferred from Aldenham. Radio Newsreel arrived from Abbey Manor at the same time and occupied one of the mixer suites from which many of the great stories of the war, either in recorded form or live, were broadcast to the world. The Indian Section came from Abbey Manor in June 1942. There were at first nine studios, of which the

cubicles of two were equipped for multi-channel mixer work. One of the continuity suites was the source of the Green Network, which provided a World Service for most of the twenty-four hours. The continuity suite for the Red Network served mainly Australasia and the American Continent. Two other networks, Purple and Brown, served particular areas with special programmes.

Just as the noise from the Bakerloo Tube could be heard in the basement studios of Broadcasting House when it was opened in 1932, the noise of the underground trains on the Central London Line could be heard in some of the studios at 200 Oxford Street, which were about 50 ft below ground level. It was, in fact, possible to distinguish the arrival and departure of the trains, and the opening and closing of their doors. One of the many overseas visitors who came to visit Bush House after the war claimed that he had been able to identify a particular studio when listening 5000 miles away by the sound of the underground trains — and he was right.

There was an obligation on all staff in possession of secret papers to destroy them in the event of an invasion. This would have been facilitated at 200 Oxford Street by the fact that in the cubicle of Studio 1 there was a large manhole cover; when removed this revealed another cover which, when removed in turn, revealed a waterfall still further down. This was the River Fleet from Hampstead, finding its way down to the Thames; in the words of the Engineer-in-Charge, W. Furze Mills, 'We hoped that our papers would be lost in the swirling waters beneath Fleet Street.'

[from: **BBC Engineering 1922-1972**, Edward Pawley, Ch 4.3 p251-3]

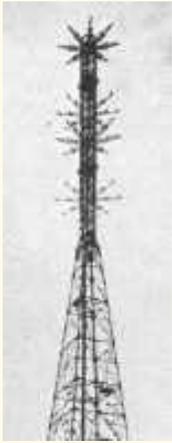
200 Oxford Street had accomodated the studios for the General Overseas Service (GOS) and was vacated in November 1957 when all the "external services" had moved to Bush House.

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The Ottringham transmitting station (OSE 5)

More information

BBC Engineering is a survey of the development of BBC engineering during the first fifty years of broadcasting. It is about the application of technology to the development of the BBC's services.

Edward Pawley worked for the BBC for forty years until his retirement in 1971 as Chief Engineer, External Relations. He was Chairman of the Technical Committee of the European Broadcasting Union for eighteen years.

The following are relevant extracts from Edward Pawley's book "BBC Engineering" (BBC Publications, 1972 ISBN: 0 563 12127 0) to whom due acknowledgement is made.

When France fell in June 1940 there was an urgent need to increase the power of the existing European Service transmissions and to carry them on more wavelengths in order to circumvent the increase in jamming by the enemy. This problem was not made easier by the enemy's use for domestic broadcasts in the occupied countries of the transmitters they acquired as they advanced westwards.

A site was being sought in the east of England for a very high-power transmitting station, whose signals would be radiated over a sea-path to North Germany. It was estimated that such a station would give a consistent field strength on long waves in Berlin of about 2 mV/m.

Various sites were investigated with the aid of a low-power transmitter to measure the ground conductivity. A 94-acre site was finally acquired at Ottringham, near Spurn Head, in the East Riding of Yorkshire, and the Air Ministry agreed to its use for a high-power station.

The Ottringham station (known as OSE5), built at the beginning of 1943, was capable of radiating a maximum power of 800 kW on either long or medium waves and this station was, at the time, the most powerful broadcasting station in the world.

Four 200 kW Marconi transmitters were installed, each in its own heavily protected building, and the transmitters were driven and fed with programme from a fifth building. The transmitter outputs were combined in a sixth building, while a seventh housed three 740-bhp diesel alternator sets for use in case of failure of the public electricity supply. The Ottringham station was designed to operate on either 200 kW, 400 kW, 600 kW or 800 kW and to radiate up to four separate programmes simultaneously.

Test transmissions began on 22 January 1943 and the station came into service on 12 February 1943, with an output power of 600 kW on 200 kHz. It had been hoped to operate the station some ten months earlier with a single 200-kW transmitter, but a number of setbacks occurred, the most serious of which was the collapse of two of the 500-ft masts in August 1942 while they were being erected.

The fourth transmitter unit at Ottringham was used to reinforce the Home Service in the East Riding and North Lincolnshire, operating with an output power reduced to 30kW on the Northern group frequency of 767 kHz. Although built above ground and on the east coast this large station never suffered air attack.

With the end of the war, the External Services were beset by difficulties. There was considerable pressure to make drastic economies in them. Severe intentional jamming by the USSR on short waves began in 1949, and to counter it the transmitters had to be used in uneconomic ways.

Several of the long- and medium-wave transmitters that had been used for the External Services had to be returned to their peace-time use in the Domestic Services. The Copenhagen Wavelength Plan implemented in 1950 allocated only one long-wave channel to the United Kingdom and this was required primarily for the Light Programme.

Until 29 July 1945, when the peace-time broadcasting plan was implemented, Ottringham continued to radiate on 200 kHz, but on that date relinquished this channel to Droitwich (5XX). After much discussion, a new frequency was found for Ottringham, 250 kHz, but with the power restricted to 400 kW.

Trouble was caused by the second harmonic of this frequency coinciding with the marine distress frequency and on 16 September 1945 Ottringham was changed to 271 kHz, pending attempts to reduce the second harmonic output of the 250 kHz transmission to acceptable levels.

Finally a more suitable channel was found — 167 kHz — although it was necessary to accept a power restriction of 200 kW. This frequency was used until the Copenhagen Plan came into effect on 15 March 1950. Ottringham then broadcast the European Service on 200 kHz outside domestic broadcasting hours.

It also contributed to the medium-wave transmissions of the European Service from 6 July 1945 to 20 September 1946, using 977 kHz (100 kW) and from 29 June 1947 to 1 March 1949 provided a one-day-a-week maintenance relief for the Crowborough transmitter on 1122 kHz. From 15 March 1950 onwards Ottringham carried the European Service on 1295 kHz.

This unique station was closed down on 15 February 1953, to the regret of the many engineers who had been associated with its planning and operation, because neither channels nor funds were available for it to continue in service. The plant was removed and the land and buildings were disposed of.

In 1959 some preliminary work was done at Droitwich with the object of modifying the original 5XX series-modulated long-wave transmitter to use the Doherty high-efficiency modulation system. The proposal was dropped in favour of replacing the original transmitter with two 200-kW units recovered from Ottringham when it closed down in 1953. These were used in parallel giving a maximum power output of 400 kW and

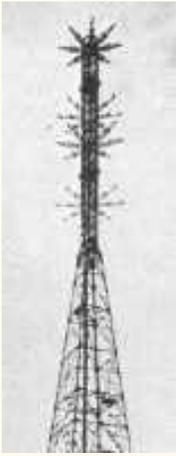
went into service on 18 September 1962; they are still in operation [in 1972].

In 1961 the Droitwich 5GB, Midland Regional, transmitter was replaced by two 200-kW units recovered from Ottringham. These operated with an output of 150 kW and were used alternately until the introduction of Radio 1 in 1967 when one unit was allocated to that programme, operating on 1214 kHz, with the output power reduced to 30 kW.

[There was] a mast failure at Brookmans Park where the 500-ft mast radiator collapsed on 29 September 1956 while in the hands of contractors for maintenance work. The service interruption was minimal as a reserve aerial was available; a replacement mast from Ottringham was taken into service on 1 July 1957.

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"Tilt and Bend"

BBC Engineering 1922-1972 by Edward Pawley, Ch 3.6 p144 --

The camera developed by the EMI team was the Emitron, which used the charge-storage principle of the iconoscope, in which the scene was focused on to the target area of the mosaic. Since the geometry of the tube required the scanning beam to attack the target at an angle, the width of the line scan had to increase gradually as the beam travelled down the target.

The Emitron camera was later superseded by the Super Emitron (image iconoscope), the CPS Emitron (orthicon) and the image-orthicon, but in the early days the difficulties inherent in the Emitron had to be offset as far as possible by extreme care in the adjustment of the scanning circuits, so as to reduce geometrical distortion and shading.

The shading distortion in the form of 'tilt and bend' gave a great deal of trouble; the small control room at Alexandra Palace, which had to be kept darkened to allow the pictures to be seen on monitors, contained a series of apparatus bays at each of which an engineer sat to operate the controls.



To allow each of these engineers to see the monitor screen they sat on stools of graduated heights.

Information

BBC Engineering 1922-1972.

Edward Pawley.
(BBC Publications 1972)
ISBN 0 563 12127 0

This shading typically took the form of unwanted superimposed signals (and thus brightness) increasing from top to bottom and from left to right (or vice versa). Looked at on a waveform monitor, the signals were sawtooth-like, and christened 'tilt'. There was usually a noticeable curvature of the sawtooth shape christened 'bend'. Both EMI and RCA provided sawtooth generators of adjustable amplitude to cancel the unwanted components. ... Each camera channel in the final equipment had to have its own 'tilt' and 'bend' controls, adjusted by hand (and often to taste) when there were significant changes of picture content.

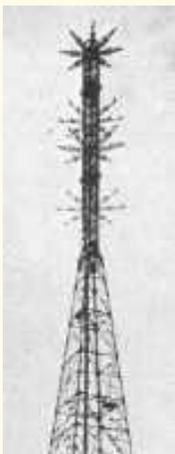
Information

The Life and Works of Alan Dower Blumlein.

Robert C. Alexander.
(Focal Press 1999)
ISBN 0 240 51628 1

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Philips-Miller recording system

Information

BBC Engineering 1922-1972.

Edward Pawley.
(BBC Publications 1972)
ISBN 0 563 12127 0

BBC Engineering 1922-1972 by Edward Pawley, Ch 3.9 p191-2 --

*Push-pull

The soundtrack that was produced was not actually a "push-pull" track, but a single bilateral variable area one. The width of the film was 3mm.

... A new kind of film recording developed by Philips, which had the great advantage that the recording could be played back immediately without any processing. This was the Philips-Miller system. A variable-width track was cut with a sapphire in a thin opaque layer on the film, the recording being reproduced by means of a photo-electric cell, in the same way as a variable-area photographic track. The film was coated with a layer of gelatine to which was applied a fine skin, about three microns thick, of black mercuric sulphide, The cutter was V-shaped, the apex angle being 174°.

The modulation thus appeared as a symmetrical push-pull* transparent track down the centre of the opaque film. Each equipment consisted of two combined recording and reproducing machines placed side by side in a single unit to form a complete channel capable of continuous recording and reproduction.

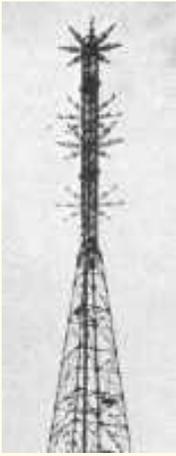
... In 1931 J. A. Miller of Flushing, NY, devised the Millerfilm system, which was the basis of the Philips-Miller equipment. Miller used a cutter that moved vertically instead of laterally, so that it produced a variable-width track by removing the black surface so as to leave a transparent track. By making the cutter in the form of a wedge with an obtuse angle, a considerable amount of mechanical amplification was achieved and this proved to be the secret of the success of Miller's system.



The film ran at 32cm/s. The overall amplitude-frequency characteristic: within ± 2.5 dB between 50 and 7000 Hz and within ± 6 dB between 30 and 8000 Hz with reference to the amplitude at 1000 Hz. Total distortion at 30 per cent modulation: 32 per cent at 60 Hz, 3.5 per cent at 1000 Hz, and 6.0 per cent at 4000 Hz. Noise: at least 50 dB below the output level at full modulation.

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Direct Disc Recording

The term "direct disc recording" came about when equipment was produced to record on a lacquer-coated disc, since playback was then possible directly after recording.

Here the mixing console was in a room behind the auditorium, viewing the screen through a large double-glazed window, rather like a radio studio, while the commentator sat in front of the microphone at a table in the auditorium, with the editor cueing him by his side.



Thus the mixer in the room behind, heard the sound under conditions more of a domestic nature.

On one occasion when someone from the film industry saw a BBC dubbing theatre he rather unkindly remarked that the mixer was in the back room since "they couldn't stand the sound of the noise they made"....



Next to the mixing console were banks of 78rpm disc players from which the person on "Grams" would play-in the many fx and music discs as required. The original dubbing theatre at AP had four turntables, but at Lime Grove and Riverside there were six.

In television, film was run at 25fps (frames per second) in contrast to the cinema standard of 24fps. Films on 35mm were recorded in reels of up to 1,000ft which, at 25fps lasted up to 10mins. There was a footage counter visible under the screen which indicated feet of film, the beginning of the reel starting, naturally, at 000ft.

If we had no cue sheet, the person on Grams would watch the film on rehearsal and note down the footage at which various sounds should occur. If, for example, a car door was shut at footage 268, this was noted on the cue sheet.

The appropriate fx disc of a car door shutting would be taken from the library of discs next to Grams, and cued up using headphones ("cans"). The precise point of the sound would be heard in the cans and the disc moved in reverse by exactly one revolution and stopped there with the pick-up on the disc. On a further rehearsal or a "take" when the number 267 came, the disc would be spun sharply and thus at 268 the car door fx would happen, in sync with the picture!

With other things happening together, for example background atmosphere, footsteps, traffic etc would be playing from other discs, it could get quite involved and the grams operator could have piles of discs ready above each turntable.

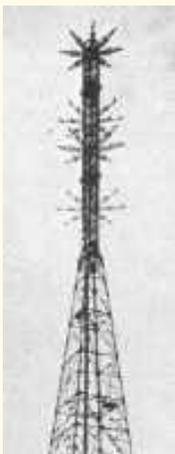
With regard to music, if the editor had not laid any music tracks, music, too, would have to come from discs. The start of music, say, for the opening titles, was easy enough to do, as in the car door example. But for end titles where the music and titles have to end together, one had to "back-time" the music, noting how long it lasted from a particular part of the music to its end, in seconds, then converting this to film footage. Subtracting this number from the end footage of the film and then cueing the disc at that footage number made the music end at the right place.

In the 1950s television films were dubbed this way and a high degree of skill on the part of both the mixer and Grams operator produced professional results in a minimum of time.



In the 1950s 35mm mobile soundfilm recording equipment was bulky and heavy and needed to be installed in a large van. The BBC had two such mobile recording units, one for 35mm optical and the other for 35mm magnetic recording.

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DIRECT TELEVISION from ALEXANDRA PALACE

by Arthur
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Stereo sound experiments

BBC Engineering 1922-1972 by Edward Pawley, Ch 6.1 p433 --

The first determined moves towards stereo were made towards the end of 1957, when the BBC decided that the increasing availability of stereophonic gramophone records and the public interest that was being aroused justified serious consideration of stereophonic broadcasting.

Late in that year an experimental transmission took place at night, the left- and right-hand channels being transmitted by two of the VHF transmitters at Wrotham. The programme came from a tape supplied by EMI, with items recorded in this country and in America. The BBC was in the forefront of systematic research into the audio-frequency problems. Many subjective tests were carried out over a period of two and a half years — a laborious task, which established the tolerances applicable to phase-shift between channels and other parameters.

This work was done in collaboration with the operational and programme staff; orchestras and artists had to be engaged to perform specially for the tests. It was an expensive exercise but it yielded valuable results, which have contributed to international discussions on the audio-frequency standards for stereo that are still continuing, notably in the CMTT (Commission Mixte des Télégraphes et Téléphones).

Putting this accumulated knowledge into practice the BBC began to make experimental stereo transmissions, which on 18 October 1958 developed into regular fortnightly transmissions, on Saturday mornings.

The Third Programme transmitters (VHF and MF), which were free at that time, were used for the left-hand channel and the television sound transmitters for the right-hand. An hour's programme* was broadcast, consisting in part of discs issued by the recording companies but also including material produced by the BBC. Listeners had to use two receivers, a VHF or an MF receiver and a television receiver, placed suitably in the room.

At locations well within the service range of the transmitters the stereo effect was very good. These experimental transmissions continued for some years and generated a great deal of correspondence from all parts of the country, although it was made clear that the system could

*Stereo tests

The programme was
Record Review.

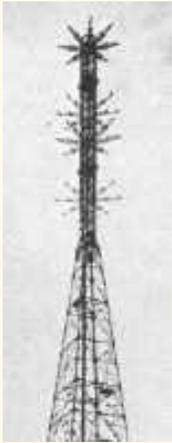
not be used for a regular programme service because it was incompatible.

[from: **BBC Engineering 1922-1972**, Edward Pawley, Ch 6.1 p433]

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First published **1999** Second edition **2002/2003**..... Page created by Arthur Dungate..... e-mail: [webmaster](#)



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Lime Grove demolition

The end of an era

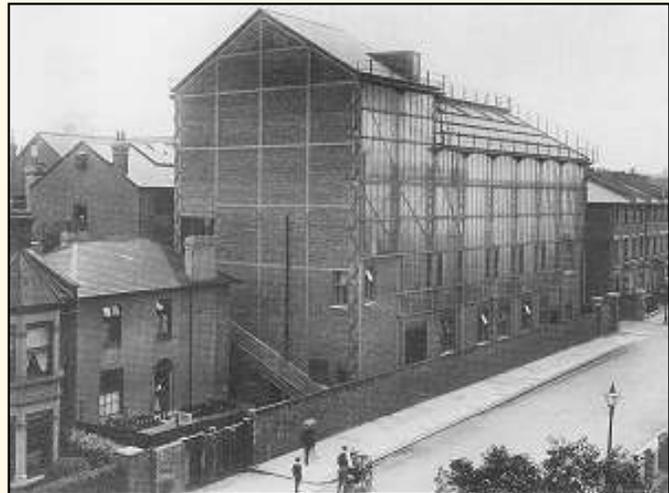
In 1993 the end came to the BBC's Lime Grove Television Studios. It was final, and for ever. From March to July that year the demolition gangs moved in, knocked it down, turned it into rubble, scooped it up and took it away.....

Nigel Finnis, who used to work for BBC TV in Lime Grove, filmed its last days in stills and video. His pictures provide a graphic record of the end of an era.

1: In the beginning....

In 1912 the Gaumont Film Company acquired land in Lime Grove, Shepherd's Bush in west London on which to build a film studio.

The building dwarfed the small domestic houses on either side of it and as time went on many of these were incorporated into the film, and later, the BBC Television Studios as the respective organisations grew.



Leon Gaumont, a pioneer cinematograph inventor, producer and exhibitor was French and the parent company was in Paris. The British branch, prior to the building of these studios, existed mainly as distributors of their French products which consisted mainly of newsreels and cartoons.

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Acknowledgment

This short history is based on **The Fantasy Factory** by Jocelyn Lukins, published in 1996 by Verita Books for The Shepherd's Bush Local History Society. [ISBN 0 9510288 8X]

The book contains a fascinating and well illustrated list of the films and tv shows made here during the period 1915-1991.

Unmissable!

[more](#)



Gaumont put £30,000 into the construction of the film studio, which, when completed in 1914 was described as "the finest studio in Great Britain and the first building ever put up in this country solely for the production of films".

The all-glass daylight studio was 90 feet by 40 feet by 20 feet high with an end section 30 feet high. The "Glass House" was opened at the end of 1915. Although it was the finest film studio in Britain it had no back lot and was small by US standards.

In 1926 the Gaumont British Picture Corporation was floated as a public company "Gainsborough Pictures" and afterwards the familiar "Gainsborough Lady" appeared at the start of the films.

[She was played by Glennis Lorrimer. For lots more fascinating information about the studios, you will need to read [Jocelyn Lukin's book](#)]



In 1929 the introduction of sound films brought changes to the studio. The glass walls were made solid for sound proofing and the studios became the largest sound studios in Europe.

However, it was realised that the converted Glass House was not ideally suited for sound film production so it was demolished to make way for a new building to be constructed on the site.

On the right of the picture below, the South Block of the new studios opened in the summer of 1932 being on the site of the 1915 glasshouse, with the North Block opening the following year. The Centre Block had been added in 1927 next to the original glasshouse. The new studios were unique in that due to the constraints of the site, squeezed in between the road and the Metropolitan railway at the rear, the sound stages had to be constructed on top of one another.

THE PICTURE

This picture, used for publicity, has to be a composite, or of a model, since, with the close proximity of the buildings on the other side of the street it would have been quite impossible to take such a photograph.



As reported in *The World Film Encyclopedia* of 1933: "It is a huge, modern, white faced block, its flat roof towering 90 feet above the pavement. There are five production stages; dressing room accomodation for 600 artists; stars dressing rooms; the last word in comfort and decoration; laboratories with a minimum capacity of 2,000,000 feet (of film) a week; three private theatres; an orchestration room; nine film vaults; a 600-seater restaurant; plasterers and carpenters shops; property rooms; monitor and recording rooms; all the paraphernalia of the last word in modern film studios is to be found at the Gaumont British studios in Lime Grove".

In July 1932 *The West London Observer* reported that it was "the largest, best-equipped film studio in the country with two acres of studios, the largest 86 feet wide and 136 feet long".

Shortly after the start of the Second World War, the studios came under the control of the Rank organisation. With the decline in the fortunes of the British film industry after the war, the studios were put up for sale, being, it was said, "neither modern in plan, nor economical for big film production".

In 1949 the BBC bought them and began converting them for television use, as a "temporary measure" while purpose-built studios were being built at the former White City site not far away.

[read [newspaper report](#)]



Place mouse over picture to see studio locations

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Studio G was towards the rear of Centre Block which was a 1927 extension to the original Glass House, on the site of which now stood South Block. This had the long Studio H with the Theatre above it. On the first floor of North Block was Studio F which was never converted for television use, but left as a scene store. Above, on the fourth floor was Studio E at the front, with Studio D at the rear.

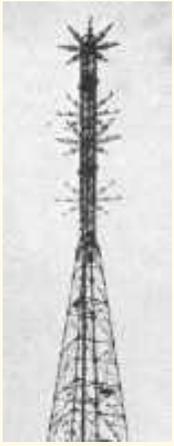
The first studio (Studio D) went live in 1950. So began a 41-year period of television programme production which lasted until the end of July 1991 when the studios finally closed.

With Studio D opening on 21st May 1950, equipped with CPS Emitron cameras and used for children's programmes, Studio G came into service later that year on 23 December, being used for light entertainment programmes. Then in February 1952 Studio H was commissioned and used for talks programmes. Finally Studio E came into service on 21st August 1953 with Marconi image orthicon cameras.

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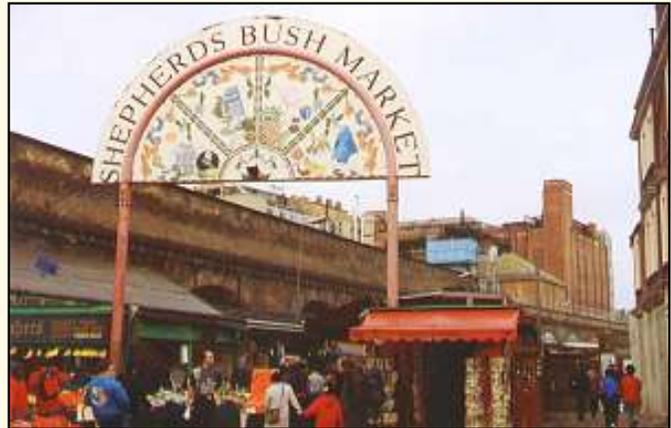
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The Metropolitan line at the rear of the studios was carried on a brick viaduct, and on the other side of it was the long-established Shepherd's Bush Market. The studios are prominent on the far right. Even the blue water tank on its tower is a conspicuous feature.



The studios dominated Lime Grove, and were visible for miles around. This was the view from the Goldhawk Road end of Lime Grove.

From Devonport Road, a street which runs parallel to Lime Grove. Scaffolding prior to the start of demolition is being erected.



On the face of the North Block the "Gainsborough Films" logo, constructed in brick, still remained.

Adjacent to the North Block, a row of houses were BBC owned and used as offices. They are boarded up to be converted back to private dwellings.



The white painted area (Centre Block) is where the control rooms for Studio G were located. The grey area above at the 4th floor level of the North Block is a walkway linking to the South Block. It had a corrugated roof.

The North Block showing the fire escape from the 7th floor offices used for "Nationwide" and "London Plus".



Under the white painted Centre Block are the boarded up Cash Office windows with "Checkpoint Charlie" to the left, and the main Reception entrance to the right.

On the right, adjacent to the "Checkpoint Charlie" cubicle (just visible at extreme right) is the scenery lift. This had access to the 1st and 4th floors, and was also used to ferry audiences up to Studio D for the "Kilroy" show.



The main Reception entrance -



showing signs of deterioration. When the canopy was demolished, the ceiling panels were removed for salvage.

South Block, Hospitality Rooms S7 - S10 boarded up. S8 and S9 were panelled with oak and used for political guests' hospitality. [I used to park my motorbike down behind those railings when I worked there in the mid-1950s].



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At the end of the South Block, the Film Despatch entrance with the Smith's Block entrance visible below the water tower. This gave access to the Presentation Block, Smith's Yard and the BBC Club.

Note the gatehouse on the left - this had to be knocked down first to allow the large cranes access to the site.

[photos: © Nigel Finnis]

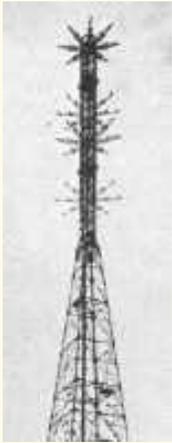
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3: Preparing to Destruct!

March 1993 - having knocked down the gatehouse, the demolition equipment could be brought in.



First the heavy crane transporter is reversed into the "Film Despatch" entrance at the end of the South Block.



A tight squeeze, it would have been impossible if the gatehouse was still standing. On the extreme right of the picture, the adjacent private house, which had existed even before the 1915 "Glass House" building had been erected, was occupied at the time.

After the arrival of the heavy equipment, some of the old signs seemed a touch ironic.

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Once the equipment had arrived, and while the scaffolding is erected around the main buildings - those that face onto the road, other work can be done.

Roof view of the Presentation Block. The roof covering of Smith's Block is removed (just left of centre of picture). This is one of several "lost views". Note the railway on its brick viaduct to the left, also the blue water tank.



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Until it was dismantled this blue water tank on its tower could be seen from many directions.

[photos: © Nigel Finnis]

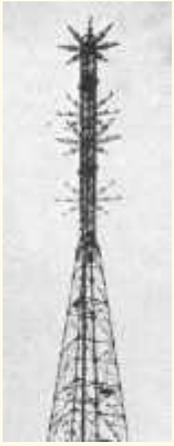
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4: Lost Vistas

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With the demolition of the two tall main buildings (the North and South Blocks) some rooftop views of west London were lost.



Looking south along Lime Grove from the "Studio G balcony" towards the South Block. On the right is the old public swimming pool building.

Looking south over the Presentation Block, with the Metropolitan railway on its brick viaduct to the left. In the far distance (extreme top of the picture) is Goldhawk Road Station. To the extreme right are the backs of the houses in Lime Grove, showing how constricted was the site of the studios.





The lost view from the roof of the South Block, looking northwest.

From the roof of North Block.



Architectural aspects

Although the frontage of the studios was quite respectable - certainly when [new](#) in 1932, other exterior aspects of the studio complex could hardly be described as "beautiful"....



Rear of the South Block, from the roof of North Block.

Roof view of Presentation Block.



The "Nationwide" office on the 7th floor of North Block.

Roof of Studio G. Behind it is the fire escape serving the North Block with access from Studio D.



Film Vaults (7th floor). Note the flame trap walls between each vent hatch.

Looking down into the void between South Block and Presentation Block. Flame trap walls of the film vaults are at the top of the picture.



Fire escapes and service pipes. Some folk could get lost around here!

Another of the many backstair fire escapes.



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Side wall of the North Block.

[photos: © Nigel Finnis]

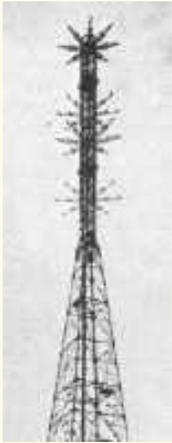
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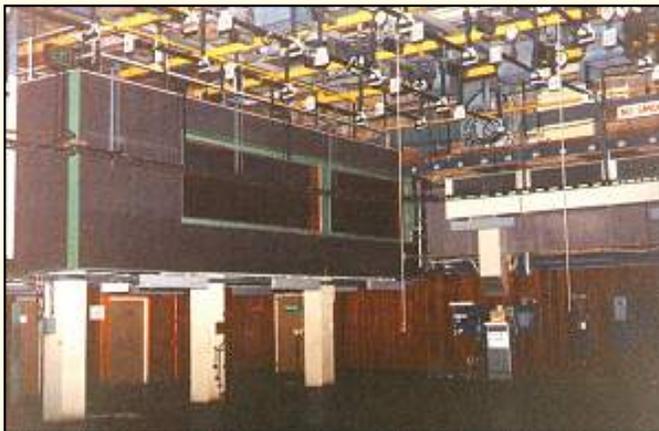


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5: Final Interior Views

Even as the building started to shake as the demolition ball started to crash into the North Block, Nigel Finnis took these last interior shots.



Studio E on the 4th floor of the North Block showing the lighting gantry, as well as the Production and Sound galleries.

Studio E (4th floor North Block).
Sound control room, partially dismantled.



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Studio D (4th floor North Block).
Sound and production gallery
windows visible.

Studio D (4th floor North Block).
The fire escape and Scene Dock
doors are open. On the wall to the
right is a photo blow-up from "The
Late Show".

[see [larger image](#) (21K)]



Studio D (4th floor North Block).
Sound control room.

The gutted 7th floor offices of the
North Block.



With a large operational staff, plus performers, the restaurant, or "canteen" as it was more generally known, could seat, some say, up to 600. All at once? It was situated behind the houses used as offices, at the end of Sangers Block, and due for demolition after the main site.



The seating area, empty. All furniture has been removed.

The canteen counter. No food available now....



That says it all...!

In all its history, there doesn't seem to have been a fire at Lime Grove.



Before the walls came crashing down, some signs still remained, pointing to various technical areas etc.



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[photos: © Nigel Finnis]

That last sign - the one about taking care on the staircase when wearing stiletto heels, was, somewhat ironically, the one which became trodden underfoot.

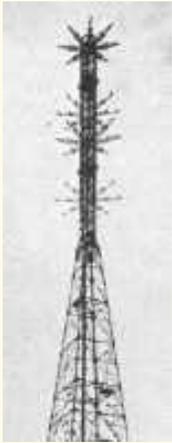
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6: Knock It Down!

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With this - - -

The metal demolition ball.
According to the National
Federation of Demolition
Contractors, demolition balls
range from quarter of a ton to one
ton, in quarter ton increments....
and probably one of the heavier
ones was used here. It is swung
against the walls with great force
from a large crane.



The end wall of Smith's Block
(facing south towards Goldhawk
Road). Already the roof has been
removed.

The south end of Smith's Block,
half gone - so have the cars....



At the other end of Smith's Block
were the BBC Club, Film Editing
and Graphics. And the blue water
tower is visible.

Half way along there is now a gap
in the building.



Demolition of the top floor of
Smith's Block. On the right is a
window frame on its way
downwards.

Smith's Block largely gone.



As seen from Smith's Yard (from the BBC Club end), both Presentation Block and Studio G are now gone.

On the left the remaining walls of South Block with airconducting scrap on the ground. In the distance is a skip from Aherne, the asbestos removal contractor. The tower with its blue water tank on top has now been dismantled.



At least half of South Block has now been demolished.

Centre Block. Demolition of Studio G control rooms, and the Dubbing Theatre.



Much of South Block has gone. This is a rear view from Smith's Yard. The temporary steps (bottom left) lead up to a portakabin office.

All during the demolition, electric trains on the Metropolitan line, (part of London's Underground system) passed the site.



South Block - gone, now there is just a mass of rubble.

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[photos: © Nigel Finnis]



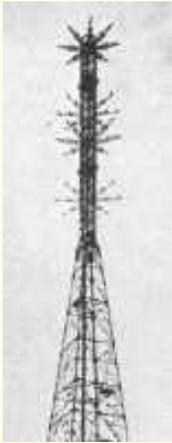
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7: End of North Block

The North Block was the last to come down.



With South Block now almost gone, North Block is being demolished.

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North Block rear section (adjacent to railway). Large holes have been knocked in the brickwork of Studio D by the demolition ball, revealing the interior wall insulation.





Close up of holes knocked in the walls of Studio D.

The sound control gallery of Studio D is now exposed to daylight.



The rear wall of North Block was too close to the railway line to be knocked down, so it had to be taken down by hand.

All that remains of the back end of Studio D.





North Block showing the remains of Studio E lighting suspensions

Distant view of site from BBC Club end with work more advanced on North Block. All the large steel joists supporting the studio floors had to be cut through by hand with torches.



As Jocelyn Lukins in her excellent book [The Fantasy Factory](#) relates: David Stone, who worked at Lime Grove for 25 years [also] watched and photographed the demolition, said: "I witnessed a chap standing on the large metal ball, used on the crane for knocking down the walls. He was hoisted up in the air holding the cable in one hand and an oxyacetylene torch in the other. He climbed onto one of the large RSJ supports, 80ft up and cut three-quarters through it before casually climbing back onto the ball to be lowered to the ground. The crane driver hit the girder with the ball and down it crashed causing much dust and dismay to all the local pigeons! Lime Grove was always the home for thousands of pigeons. The lorries carried the tons of rubble away to become the foundations for the M25 Motorway widening scheme".



All that remains of the BBC Club - a kitchen sink!

Two views of North Block - just a shell left now.



The shell of North Block from the north end.

This was once the Goods Entrance, but the Cashiers Office which was next to it on the right, has gone.



Shutter to former corridor by Studio G (Centre Block)

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And there it was - gone! For 78 years this had been a major centre for film and television production. Now, with changing needs it is to revert to residential accommodation.

[photos: © Nigel Finnis]



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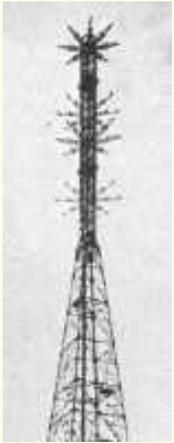
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When a building has been demolished, the rubble has to be cleared away. And there was a large amount of this!

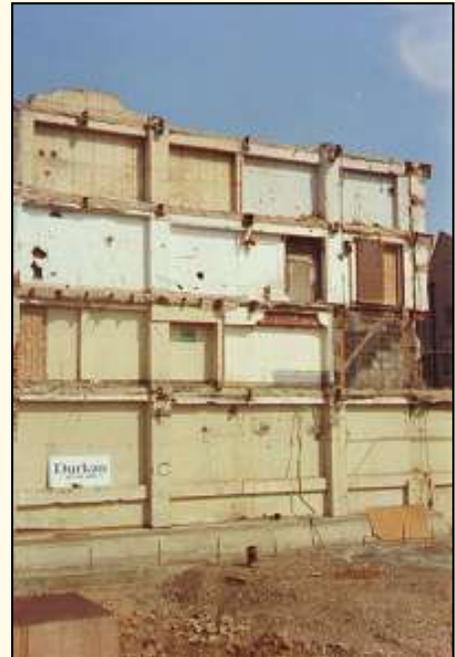
Seen from road level, a cleared site.





North Block - only the outer wall remaining.

There was a sliding door (now bricked up) which at one time gave access to the houses.



The East Block wall remains, with the railway viaduct behind.

Looking south towards Smith's Yard. The street of Lime Grove is at the extreme right.



The cleared site, looking south-east.

[photos: © Nigel Finnis]

Now that the studios were gone, and the valuable site cleared, it was to be re-developed.

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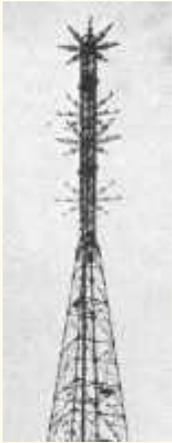
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During the demolition period, the Notting Hill Housing Trust had erected an information board stating: "Redevelopment of Limegrove Studios to create 52 Houses and Flats for Social Housing".

So when the site had been cleared, building these new dwellings began.



The new dwellings on the site of the Lime Grove Studios. The older house just visible at the extreme right is the same one which existed even before the original 1915 "[Glass House](#)" studio was built.

[photo: Arthur Dungate]

A back street in the new housing development on the ex-film/tv studios site. The large bare wall in the distance just left of centre, is the former end wall of North Block.



The white painted buttresses on the right were once the interior of the plant room in East Block. This is a 1994 picture.

By the summer of 2002 the scene had mellowed.

[digital picture: Arthur Dungate]





The house formerly attached to North Block, boarded up in 1994 and awaiting Phase 2 of the re-development - the demolition of Sangers Block.

The house (formerly one of the BBC offices) now reconditioned in 2002. These houses fetched premium prices due to their previous association with BBC Television!



The old No Parking sign is still attached to the brick pillar to this day.

At the rear of the houses Sangers Block has now gone, being replaced by this housing development.



The rear of the Sangers Block area, where the canteen once stood.

Rear view of the houses once used as BBC offices. Hardly any of the new residents were domiciled in this country during the television years so have no knowledge of the area's history....

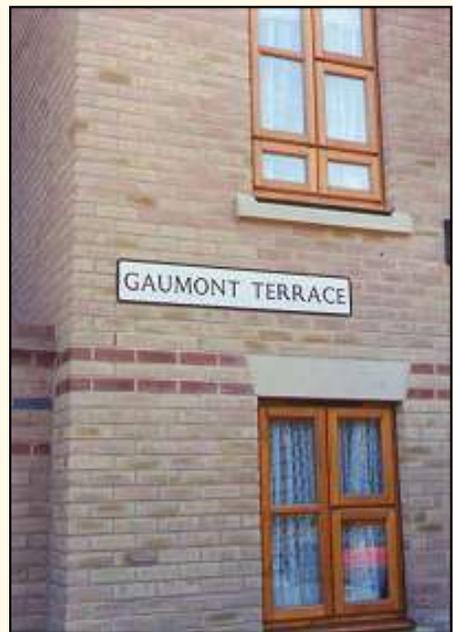
[above five digital pictures:

Arthur Dungate]



The era when the site was formerly that of a famous film studio is remembered only in the names of the new side streets.

Sadly, however, these new street names don't recall the BBC days. Over 40 years of British television history was seemingly forgotten by the developers.



A few artifacts still exist!

Before they were to be destroyed for ever by the demolition ball Nigel Finnis managed to save a few signs from walls and doors.



It received the streaks of blue paint from above when the tower was last painted.

Originally this sign was fixed to the wall under the water tower.



"Blue Peter", a long-running children's tv programme, always had a dog as part of the programme. Seeing this, staff then began a practice of bringing their own dogs to work, and so to discourage the habit this sign appeared outside Studio G.



This was in the dock area outside Studio E above the door access to the corridor (with windows onto Lime Grove) leading to the South Block staircase.

The large production office (Room 35) adjacent to the canteen on 1st floor level. Used by Kilroy, That's Life etc.



This was by the North Block lift at Ground Floor level.

There were double swing doors leading to a number of dressing rooms and indeed a surgery where a BBC nurse resided, to attend to minor casualties and people feeling faint under the lights maybe! To add to the effect there was always a smell of hospitals at this point!!



This was hanging in the Presentation Block 1st floor and was hand made probably by one of the engineers fed up with producers from Nationwide constantly taking a wrong turn in the maze of corridors!

Many memories exist of Lime Grove studios. Jocelyn Lukins ends her excellent book [The Fantasy Factory](#) with:

In 1987 an over-enthusiastic BBC producer described the building as "a dark and dismal tenement, a grimey rat-infested warren".

But most people only have warm memories of Lime Grove.

Cliff Michelmore said: "All buildings are made by the people inside them and at its height Lime Grove was full of the most extraordinary people you could ever hope to meet".

Humphrey Burton said: "We were lucky. Everyone who worked there in that period agrees that it was a truly golden age. It will never be the same again as it was at Lime Grove. They were the happiest days of my life".



[colour photos, unless otherwise credited : © Nigel Finnis]

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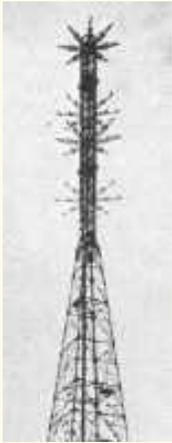
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The Fantasy Factory

LIME GROVE STUDIOS, LONDON, 1915 - 1991

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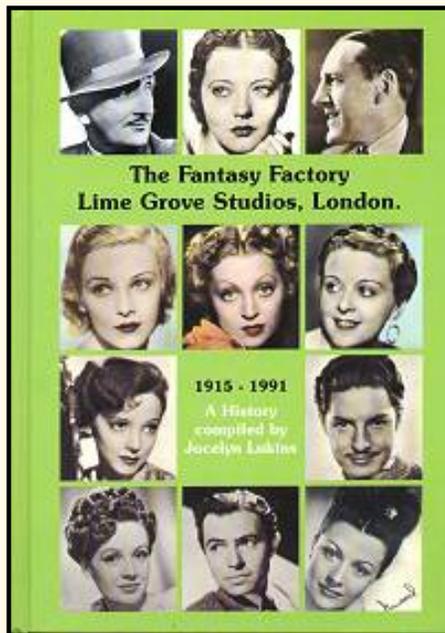
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The history of Lime Grove from its first silent film productions through its many successes for Gaumont British and Gainsborough Pictures until 1949 when it became the home of a pioneering BBC Television Service which owes much of its establishment to the classic programmes created there.

The only custom-built film studio in Great Britain in 1915, its first productions were newsreels of the First World War and its entertaining Ultus series.

The daylight studios converted to arc lamps. Maurice Elvey and Victor Saville replaced wartime nostalgia with the filming of many popular books and plays. Silence gave way to "The Talkies".

In the Thirties Michael Balcon produced the musicals of Jessie Matthews and Jack Hulbert; the comedies of Will Hay and Ben Travers' famous Aldwych farces. John Mills made his debut here in a musical "Midshipmaid" in 1932. Alfred Hitchcock made some of his earliest and best films there, "The 39 Steps" 1935 and "Sabotage" 1936. Boris Karloff came back from Hollywood to make "The Ghoul" here in 1937. Conrad Veidt, Peter Lorre, Paul Henreid and many others made it their stepping stone to Hollywood. Some of the greatest names in British Cinema history worked here, Michael Powell, Anthony Asquith, Frank Launder, Sidney Gilliat, and Carol Reed. David Lean got his first job here, in the cutting rooms.

The Studios became a great fantasy factory; the African veld, the Swiss Alps, the Scottish Moors and Venice were re-created here. The Battle of Trafalgar was fought in its water tank; Pitt addressed a reconstructed House of Commons and the Palace of King Ferdinand of Spain was seen here in Technicolor.

In the Forties the camera crew worked on "Kipps" in 1940 wearing tin hats like a gun crew, some of the staff slept in the basement during the London Blitz making films with a strong propaganda element to entertain wartime audiences. Marcel Varnel and Walter Forde made "spy" comedies with Arthur Askey, Tommy Handley and the Crazy Gang whilst Robert Donat and Rex Harrison showed how Englishness would win the day. The marvellously successful Gainsborough historical romances which entertained the war-weary audiences began with "The Man in Grey" in 1943. It was followed by "The Wicked Lady" 1945, "Caravan" 1946, "The Magic Bow" 1946 and "The Bad Lord Byron" 1948 and many more alongside contemporary subjects such as "Love Story" and "Waterloo Road" 1944.

When Gaumont British/Gainsborough moved elsewhere in 1949 Lime Grove Studios became the early home of BBC Television. The first TV Stars like Gilbert Harding and Isobel Barnett became household names. Producers and Presenters like Cliff Michelmore, Eamonn Andrews, Huw Weldon, Alan Whicker, Melvyn Bragg, David Frost and Sue Lawley all started here. Ken Russell and John Schlesinger made their first films here before becoming internationally known feature film makers. "Andy Pandy" 1950; "What's My Line?" 1951; "Sooty" 1952; "Quatermass II" 1955; "This Is Your Life" 1955; "Dixon of Dock Green" 1955; "Hancock's Half Hour" 1956; "Blue Peter" 1958; "Steptoe & Son" 1962 and "Dr Who" 1963 had their first episodes transmitted from Lime Grove. "Panorama" started there in 1952; "Grandstand" and "Tonight" in 1957; "Nationwide" in 1965. Ground-breaking programmes like "Monitor" 1958 and "That Was the Week That Was" 1962 led the world in innovation. Later "That's Life" 1973, "Breakfast Time" 1983 and "Kilroy" 1987 began there.

It is almost easier to make a list of World celebrities who did **not** visit Lime Grove than to list them and the people who worked there retain warm memories of it. It closed in 1991 and was demolished in 1993. This short history is published by Venta Books for the Shepherd's Bush Local History Society in celebration of the Centenary of the Cinema in 1996.

ISBN 95102888 X. 250 Pages.150 Photographs. Hardback.

The book is available from -

**Jocelyn Lukins
14 Keith Grove
London W12 9EZ**

Special Internet Offer Price: £10 + £1 postage (UK)

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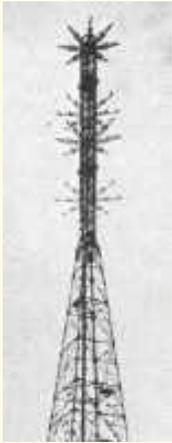
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The end of an era

(from: *The West London Observer*, Friday 4th November, 1949)

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BBC BUY RANK STUDIOS VAST TV PRODUCTION CENTRE AT LIME GROVE

Bigger and better programmes

BY A.T. WEISMAN

The announcement on Wednesday that the BBC has bought the Rank film studios at Lime Grove, Shepherd's Bush, in order to expand their television service will reinforce the belief held by many people in the film industry that television will, eventually, supcede films as a medium of popular entertainment.

For, whilst film production is dwindling and film studios are compelled to close down or work to very diminished schedules, television is taking great strides forward.

THE SHEPHERD'S BUSH STUDIOS WERE AT ONE TIME PRODUCING A FILM A MONTH, AND Mr SYDNEY BOX HAD ACTUALLY ANNOUNCED A PROGRAMME OF 19 FILMS IN ONE YEAR WHEN THE FILM CRISIS SET IN AND CURTAILED PRODUCTION.

At the moment one can only speculate on the effect the increase in studio facilities will have on television programmes. But one thing is certain: it will mean BETTER programmes and more of them.

At Alexandra Palace, the present transmission-production centre, there are only two studios, both very small, and producers have to work in extremely cramped space.

Ample space

Plays can be rehearsed before television cameras only once, on the morning of the broadcast, and this has inevitably detracted from the smoothness of productions. There are also great limitations in the construction of scenery.

At Shepherd's Bush, with its many and spacious workshops where vast palaces have been pre-fabricated, there will be ample space, and no serious difficulties should be encountered in building any set that may be needed.

There will have to be very few alterations in the general lay-out of the studios.

The most important work will be the installation on each "shooting floor" - and it is planned to have five - of a producer's turret: this is an all-glass control room overlooking the studio, in which the producer sits during transmission, wearing headphones and directing his camera-men (who also have headphones) by means of a microphone before him.

He instructs them when to "track in", when to "pan", at what angle to approach.

Although each camera-man knows in advance roughly what is required of him from the detailed shooting script with which he is supplied, this business of commanding the unit whilst a programme is on the air inevitably makes for a great deal of suspense and tenseness which film-making cannot match.

TV programmes are actually edited whilst in transmission. The producer in his control room can, by the twist of a knob, cut from one camera to the other. Three cameras are usually in use, two lining up on the next scenes whilst the other is transmitting, and vice-versa on a relief basis.

The screens in the control room show the producer the scene that is on the air, and the scene about to go on the air.

More cameras

Now that studio facilities have been increased, it may well be that more television cameras - say four or five - will be installed; this would make for greater complexity, enable larger productions to be put on and also make rapid "cutting" - changes from one scene to another - possible without confusion.

At Alexandra Palace there is very little space for the camera men to manipulate in, and with cables and wires snaking after the cameras, nothing too complicated can be attempted.

But now that a major film studio has been taken over, it would be possible, in theory, to produce television programmes almost on the same scale as motion pictures.

In some quarters it is thought that Shepherd's Bush might become the first television-film studio.

Much speculation

In recent months there has been much speculation on the advantages of installing television equipment in film studios and making films on

television technique.

Alfred Hitchcock's T.M.T. films "Rope" and "Under Capricorn" were attempts at adapting film-making to television methods.

It seems fairly probable that large scale BBC television productions would be recorded on celluloid for future repetition; this would in effect be making films by television methods.

Film producers toying with this idea - it is supposed to slash costs - would then be able to see how it works out in practice.

Both the BBC and the Rank Organisation refuse to add to their joint statement giving the bare outlines of transaction. It is known that Mr Rank is very interested in the possibilities of television-films, television-studios, and television-cinemas.

Extra significance?

Talks have been going on for the past few months between television and film chiefs. It is not impossible that the taking over by the BBC of the Shepherd's Bush Studios has some extra significance such as I have suggested, for only three months ago the BBC refused to buy the same studios.

No official figures are available as to the price paid for the studios. Rumours vary. Some put it as high as £250,000, others at about £100,000. [The official figure given was £230,000]

Neither figure is spectacular for such immense studios. Many of the films which have been made there have cost more than £250,000, and very few minor productions cost less than £100,000.

To rent studio space costs something like £5,000 a week these days.

The news of the BBC-Rank deal came on the last day of the auction of contents.

With the radio city which is planned at the White City, and the television studios at Lime Grove, Hammersmith will be the greatest broadcasting centre in Europe.

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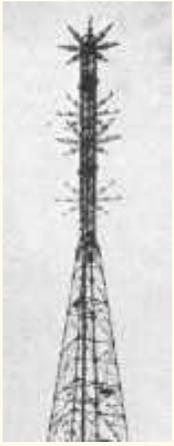
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Photo blow-up from "The Late Show"

A larger view of the photo blow-up on the wall of Studio D.



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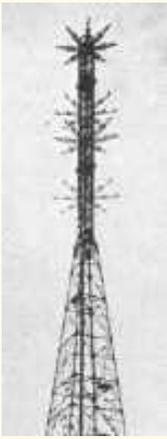
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DIRECT TELEVISION from ALEXANDRA PALACE

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The AP Film Dubbing Suite

The general layout and Special Features

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Reference to the ground floor plan will show the general arrangement of the suite. Flexibility has been achieved mainly by deviating from the normal commercial film dubbing arrangement in which the sound mixing equipment is placed in the theatre with the commentators' room adjacent.

Instead, a separate mixer room looking into the theatre has been provided, and the commentators or artists are placed in the theatre itself. This arrangement has the following advantages:

1. The sound-mixer at the mixer desk checks sound quality in a room which is similar in size and acoustical properties to that in which the viewer at home hears the finished product.
2. When the theatre is being used solely for review work, the mixer room is freed for disk-to-film and/or film-to-film dubbing in conjunction with the recording room. In addition, maintenance can be carried out in these rooms without interference to film viewing.
3. The theatre can be used as a small film studio, the sound being monitored in the separate mixer room.
4. Post-synchronisation* is simplified. The suite provides a sound studio and mixer room for use on transmission, when not required for dubbing or recording work.

*Post-sync

The preparation of a dialogue sound track for a film sequence which, for convenience, has been shot silent or with only a low-quality sound 'guide' track.

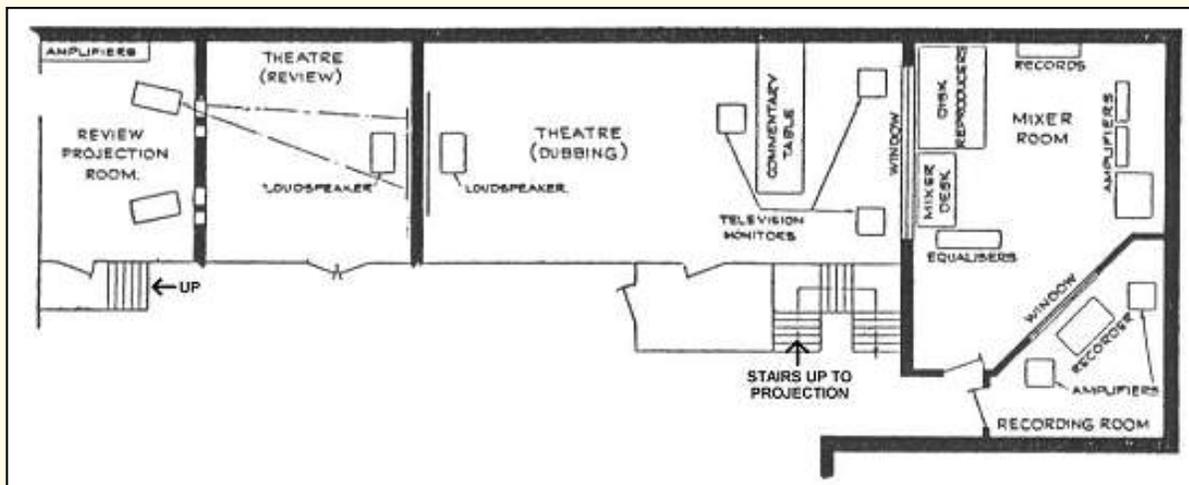
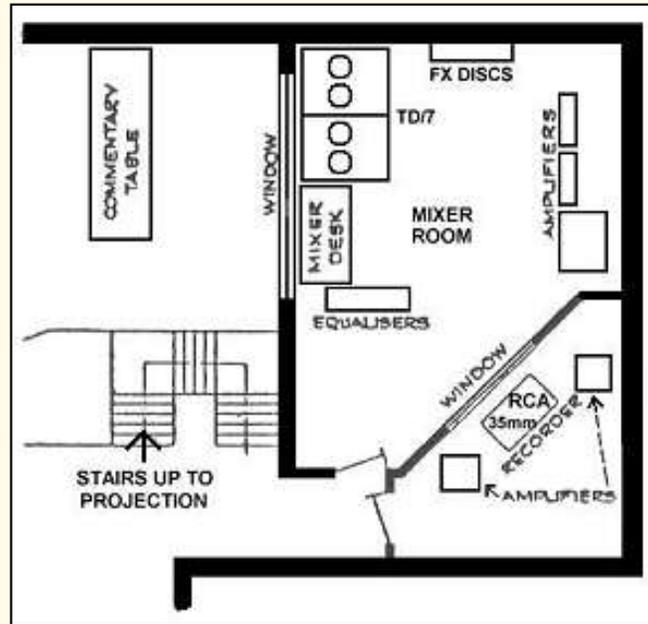


Fig. 1. Ground floor plan

An additional step towards speedy operation and flexibility was to place the recording machine and operator in a room directly behind the mixer room with a large intercommunicating window.



Mixer and Recording room

SPECIAL FEATURES

Much of the equipment installed in the suite, and to some extent also the operational technique that has been adopted, conform to standard practice in the film industry, which has been described elsewhere* and so is not dealt with in any detail in this article. Some features of the suite at Alexandra Palace are, however, peculiar to television film production, and these are discussed in the following paragraphs.

Film Drive

A basic requirement for film production equipment is that all the individual machines, projectors, soundheads, recorders, and picture cameras, shall run at the same speed. In addition it should be possible to run up certain parts of the equipment in synchronism. At a television film production centre it is important also to be able to run the equipment at either 24 or 25 frames per second, for reasons which are explained below.

24 and 25fps

In practice the facility of being able to run the equipment at 24fps was not used and everything was run at 25fps.

Coupled to these requirements is the need to be able to group the equipment in a number of different combinations; to run equipment at exactly 25 frames per second when recording or dubbing, irrespective of the frequency of the mains supply; and to connect to the system, when required, a mobile recording truck. All these requirements are met at Alexandra Palace. From Fig. 2, which shows the drive and power-supply arrangements, it will be seen that a Selsyn drive system has been provided in order to ensure that the picture and sound tracks run up to speed in synchronism, as in the normal film studio arrangement. Each sound reproducer and projector is provided with a Selsyn motor, all of which are controlled by a central Selsyn distributor driven by a synchronous motor.

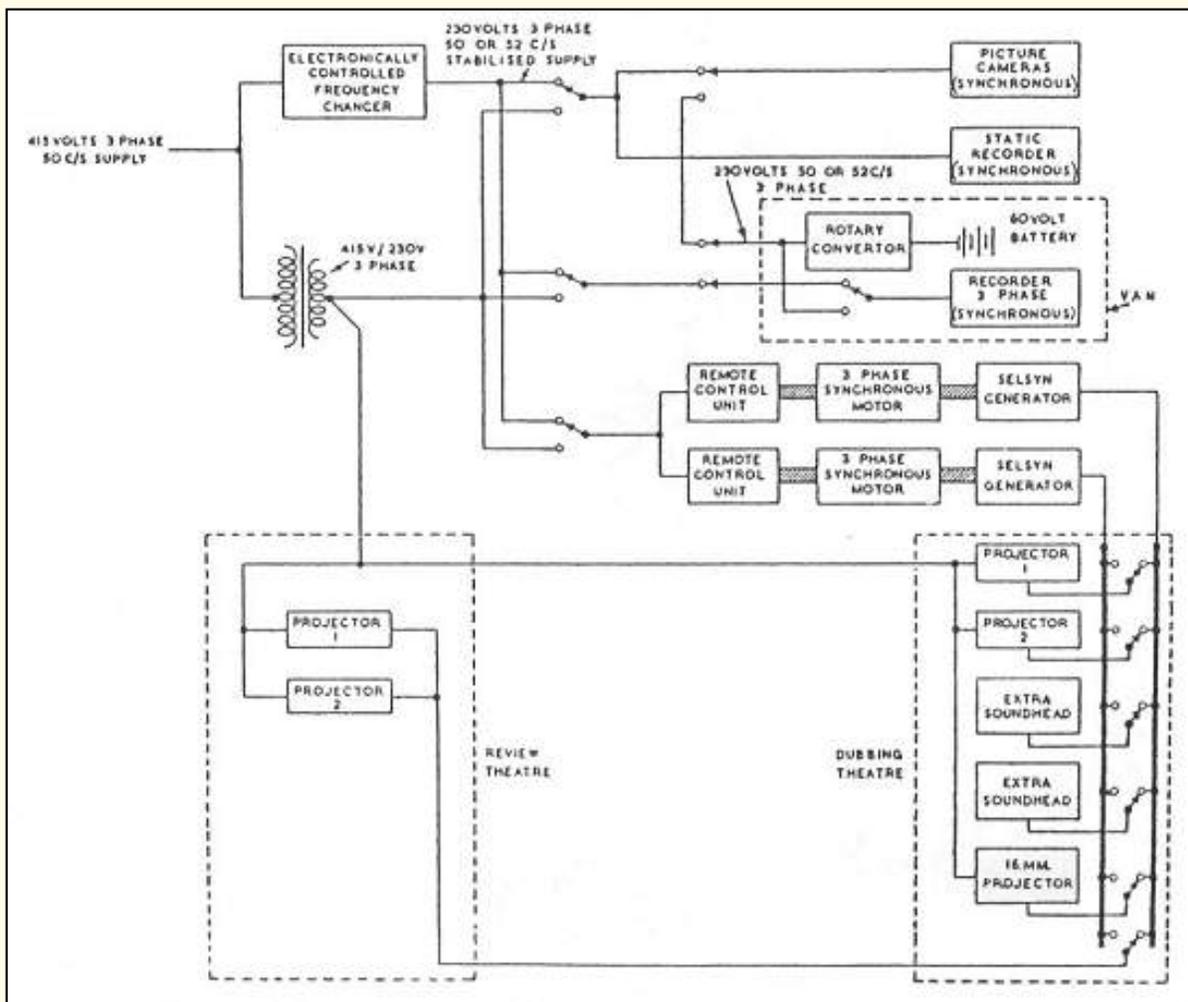


Fig. 2. Film drive and power supply

Film projectors

Each projector can be driven either by a Selsyn motor or by a synchronous motor supplied from the mains

The standard speed for 35mm film in the cinema is 90 feet per minute, corresponding to 24 frames per second. The design of television film transmission equipment for this country, however, is eased very considerably by running the film at 25 frames per second, because this is the interlaced picture repetition rate of the British television system, and all modern film scanners here operate at this rate. While the resultant speeding up of the picture images of a standard film is normally undetectable, the pitch of the sound is raised to a degree that is very easily discernible by the ear, and it is therefore desirable, in order to obtain absolute sound fidelity, that all films destined for television film transmission should be produced at 25 frames per second.

This requirement has been met at Alexandra Palace by feeding from a frequency changer capable of producing 52.08 c/s all the film production equipment designed to operate from a 50-c/s supply at 24 frames per second. With this arrangement, standard film equipment can be run at 25 frames per second without alteration, and, moreover, a quick reversion to 24 frames per second can be made if required. The frequency changer can be adjusted to provide any frequency between 45 and 55 c/s. Its output is independent of mains frequency and voltage variations, and is closely stabilised. A D.C. motor alternator set is used, which is supplied from a rectifier system across the A.C. 3-phase, 415-volt mains. In this way a supply independent of mains frequency is obtained, and the problem resolves itself into stabilising and providing adjustment of the output frequency.

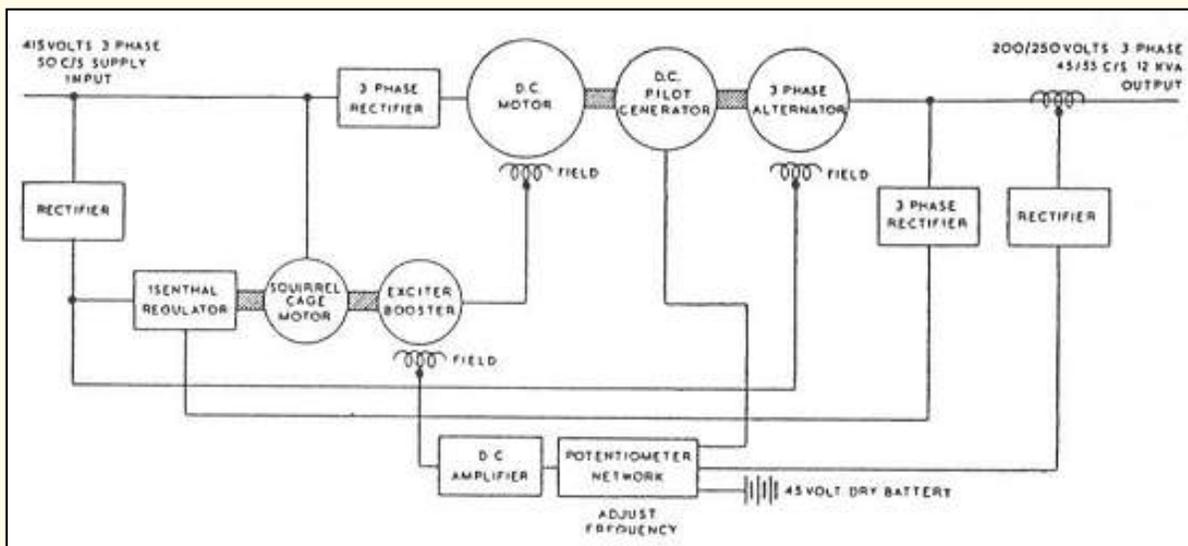


Fig. 3. Electronically controlled frequency changer

A permanent-magnet generator, which is coupled to the alternator shaft, produces a D.C. voltage that is strictly proportional to the shaft speed. A second D.C. voltage is obtained from a current transformer and a rectifier connected in one phase of the alternator output. These two voltages are biased in a potentiometer network against a 45-volt dry battery, and the resultant voltage is applied via a 2-stage D.C. amplifier to a booster set that controls the speed of the driving motor, as shown in Fig. 3. Thus the required output frequency can be obtained by suitably balancing the D.C. bias voltages, and variations in output frequency due to variations in the load or the voltage of the incoming supply are automatically compensated. The output voltage of the frequency changer is controlled and maintained by an 'Isenthal' regulator system. The output frequency can be set locally or remotely in the film recording room where a wide-scale frequency meter of high accuracy is provided.

The frequency changer is designed for continuous running, and after an initial half-hour settling down period, it maintains the output voltage constant within 1 per cent. and the output frequency within ± 0.1 per cent., irrespective of mains variations as great as + 5 per cent.

Although the output frequency stabilises within 2-3 seconds after a change from no load to full load, this period of instability is sufficient to cause a very slight, but none the less noticeable, fluctuation in the speed of a sound reproducer or a recorder connected to the frequency changer. For this reason the switching arrangement shown in Fig. 2 has been provided so that for those operations not requiring first-class frequency stability the machines can be operated from the supply mains, thus releasing the frequency changer for recording operations. To prevent a dubbing session being carried out with the reproducers and recorders running at different speeds, which is possible with this switching system, a signal light, which lights up only when all the equipment is connected to the frequency changer, is fitted on the recording mixer desk. In order that the projectors may be run at 25 frames per second from mains supplies, synchronous driving motors with gearing have been fitted, in addition to the standard Selsyn drives which give a speed of 24 frames per second from a 50-c/s supply.

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It will be seen from Fig. 2 that a 3-phase mains supply and a 3-phase controlled supply from the power room and from the recording van are

Note

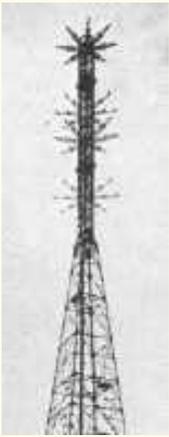
fed to the television studios, so that 35mm picture cameras can be operated there in synchronism with the static or mobile recorders.

Although an ambitious and flexible system, the facility for using a tv studio as a film studio was not employed.

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The AP Film Dubbing Suite

Recording and Reproducing Characteristics

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Prints released by commercial film studios have a sound frequency characteristic that is designed, not unnaturally, to give the best results in large auditoria having widely different acoustical properties, at a reproduction level considerably above the level of the original sound.

Films of this type when reproduced in a small room at low level, as they usually are by a television receiver, sound deficient in bass and somewhat 'hard' in character. Hence the question arises, what frequency characteristic should be used when films are specially produced for television? The highest fidelity would be attained by adopting a characteristic that is best suited to home reproduction, but there are two arguments against this course.

First, there is no guarantee that films produced by a television organisation will not be shown in cinemas at some future date*; and secondly, the introduction of a non-standard recording characteristic would lead to complication in the operation of reproducing equipment at a television centre, since commercial films are used as well as films made specifically for television.

Accordingly, all BBC films are recorded with a frequency characteristic that conforms as closely as possible to the standard commercial recording characteristic shown in Fig. 4, but equalisation to suit the home listener is introduced on all reproducers. The degree of equalisation found acceptable is shown in Fig. 4.

* Tv films in cinemas

This did happen in the 1950s when BBC film documentaries were shown in Australian cinemas. [more](#)

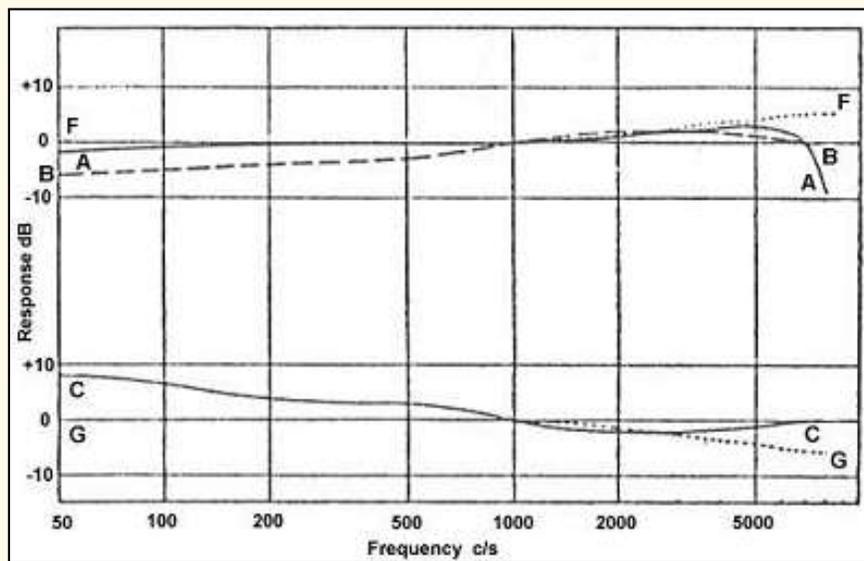


Fig 4: Frequency characteristics

A = Speech equaliser; B = Standard commercial recording characteristic; C = 'Home Listener' equalisation; F = Film-loss equaliser; G = Film-loss decompensation

Though the results are a compromise, high-quality sound at low level is obtained from BBC film recordings made to the characteristic shown in Fig. 4 and reproduced through the equaliser; and, furthermore, the reproduction at low level of most commercial recordings is considerably improved.

An interesting point is that it has been found beneficial to retain most of the upper-frequency lift introduced into commercial sound-on-film recordings over and above the amount required to compensate for normal film losses. This lift is introduced in order to attain a high degree of intelligibility in the cinema irrespective of whether the quality of the sound is natural. Speech in a television studio production also has a rising characteristic in the treble owing to the acoustic effect of the solid sets that are used, and it so happens that the two characteristics match each other very closely, thus preventing a disturbing change in speech quality when switching from a live transmission to a film production. Although the frequency characteristic of BBC television films conforms to commercial standards, they are balanced for low-level reproduction because a compromise in this respect appears difficult, and good results in the home must be the first consideration.

Compression

In practice the level of compression used on the narrator's channel (commentary) was a ratio of 8dB into 2dB, and usually set to peak just under PPM 6. To eliminate low-frequency thumps from the compressor an 80Hz high-pass filter was inserted after it.

Volume compression is used on all commentary work. It is essential for theatre reproduction, and has, moreover, been found to be an improvement even for low-level reproduction in the home. The compression starts 10 decibels below 100 per cent modulation, and a compression ratio of 20 decibels into 10 decibels is applied above this level. Limitation is also used in the recording chain to prevent overload and to assist the sound-mixer in maintaining a consistent peak programme volume.

Magnetic Recording

It will be possible to overcome the disadvantages of photographic sound recording for television film production due to the processing delays involved as soon as 35mm perforated magnetic film and the necessary equipment become available. In the meantime, in order to

***Non-sync recorder**

Magnetic Recording

This ¼ in. tape recorder was removed when magnetic film recording was introduced.

reap some of the advantages of magnetic sound recording, a non-synchronous magnetic recorder* operating in parallel with the photographic sound-on-film recorder has been installed. The advantages of having a machine of this type are as follows:

When the facility of recording onto 35mm magnetic film was first introduced, the tracks were recorded to RCA's characteristic. During the late 1950s it was decided to adopt the CCIR curve and film recording circuits and telecine replay circuits were modified. Until those at AP were modified, it was necessary to specify on the recording sheet that accompanied each film which curve it had been recorded to - in our case I would mark it "Old RCA curve".

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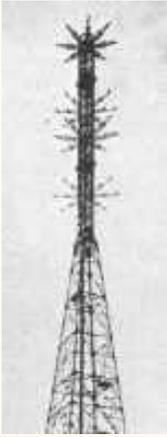
1. It makes possible an immediate playback after a dubbing session for checking the programme content.
2. Any errors, on the part of the commentator for example, can be checked to ascertain whether they can be eradicated by editing the final print, thus saving the time and cost of a 're-take'.
3. Sections of the 'take' can be played back after the session to a typist for the production of file records.
4. The engineer at the mixer desk can check levels and mixes immediately after the session, before releasing the 'take' for processing.

This machine cannot be used for quality checking; nor can the recording be reproduced with the picture, since the tape is unperforated and therefore non-synchronous.

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DIRECT TELEVISION from ALEXANDRA PALACE

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Projector Illuminant

A careful investigation into the most suitable form of projector illuminant for small theatres of this type showed that the medium high-intensity arc is still superior to other light sources. This result is interesting, since it would appear at first sight to be an unnecessarily complicated and uneconomical light source for illuminating a screen measuring only 6 feet across. The advantages of the arc are as follows:

1. Its colour range is complete.
2. The high-intensity light that it produces gives a projected picture of good contrast with excellent high-light detail. The high lights are a good hard white with no tendency towards yellow.
3. Reliability and economy in running costs are unequalled.

In the dubbing theatre a screen illumination of 16 foot candles is obtained. This illumination is slightly in excess of the optimum value photographically, but is used in order to provide a well-graded picture with the high level of stray illumination from desk lamps which obtains during a dubbing session. A plain white duck screen is used in preference to a perforated screen, because the perforations are visible on screens below 6 feet in width. The loudspeaker is mounted beneath the screen.

Recording System

The standard RCA variable-area system is used, and as details of this system have been published elsewhere*, a description is not included here. Though all the film production equipment at Alexandra Palace is capable of recording and reproducing standard or push-pull sound tracks, the standard system is being adhered to at present in order to reduce the possibility of error resulting from the presence of non-standard tracks on BBC films among the standard tracks used on all commercial release prints.

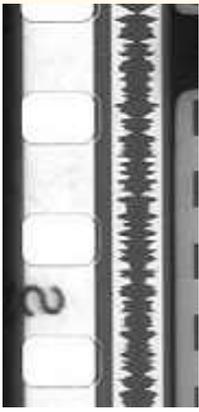
Accurate delineation of the sound modulation envelope on the final print is essential if good high-frequency quality is to be achieved. Under normal photographic developing conditions it is difficult to achieve accurate delineation, and it is now standard practice with variable area

RCA soundtrack

This was a single bilateral "variable area" track (actually variable width) with noise reduction effected by shutters which masked down the track area when the sound level was low.

* RCA system

The system is described in **Elements of Sound Recording** by Frayne and Wolfe (Chapman and Hall, London).



recording to arrange the exposure, developing, and printing conditions so that a heavy image spread is obtained on the negative, and to cancel this spread by an equally heavy image spread on the print. The method used with RCA equipment to ascertain the processing conditions that will ensure accurate cancellation may be of interest to those unfamiliar with the technique.

A special oscillator provides a 9,000-c/s tone, which is modulated from zero to 80 per cent, by a 400-c/s tone. A number of recordings are made, using this signal, with varying exposure times produced by varying the current in the recorder lamp. The complete series is developed in the normal manner to produce a number of negatives of varying densities. Each of these negatives is printed with different printer-light values so that a family of prints is obtained. Clearly, the optimum conditions will obtain when an audible 400-c/s note produced by image spread on the negative is cancelled out by the positive image spread. To discover the optimum conditions, all the prints are reproduced through a 400-c/s band-pass filter, which eliminates the 9,000-c/s note, and the print which has the minimum 400-c/s content will provide the best negative and positive densities for the emulsion used and the development conditions. The recording channel at Alexandra Palace is equipped with an oscillator for this check, and both the dubbing and review theatre reproduction chains are equipped with a 400-c/s band-pass filter which can be switched in circuit when required for this cross-modulation check.

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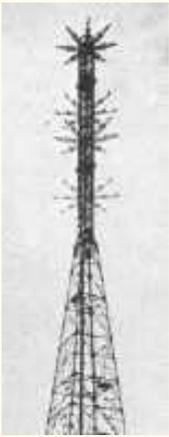
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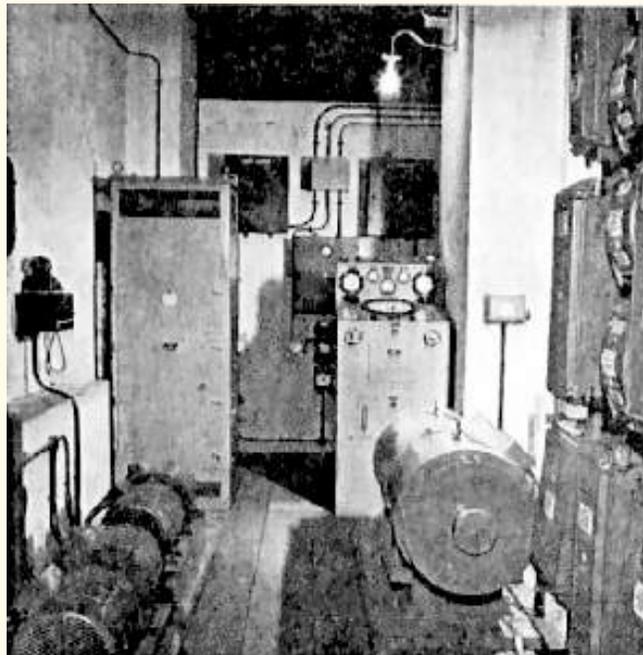
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Dubbing Section

Power Room. This contains the power-supply equipment for driving all the film-production apparatus and also the mains-voltage stabilisers and power units for the projection-room and recording-room amplifiers.

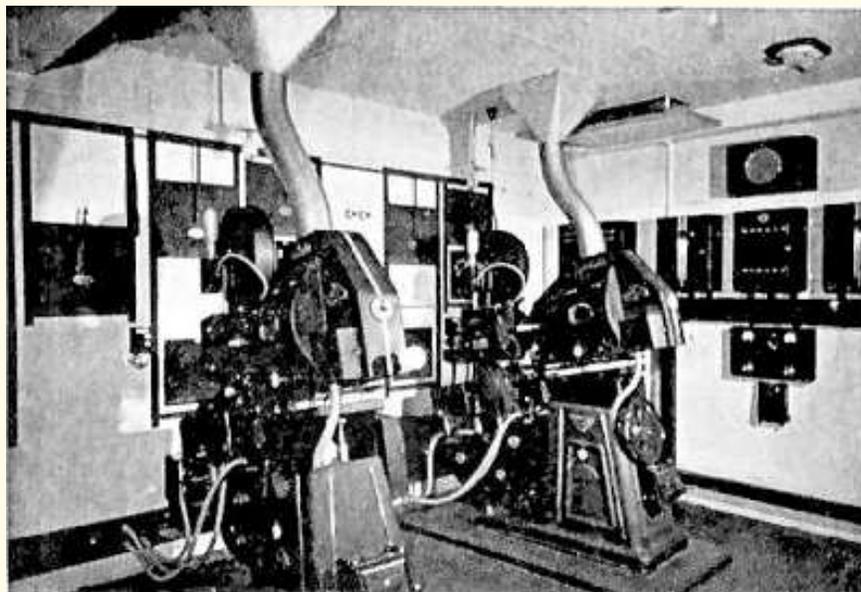


Power room

Projection Room. The equipment here consists of an RCA type 230R Studio Sound Reproducing Equipment of British manufacture, modified to suit television conditions, and two Ross Projectors, Type GC1, equipped with Ross 'Streemlite' high-intensity arcs.

Projection room

Two 35mm Ross projectors with carbon arcs. On the right hand wall are the Selsyn selection units.



Dubbing projection room

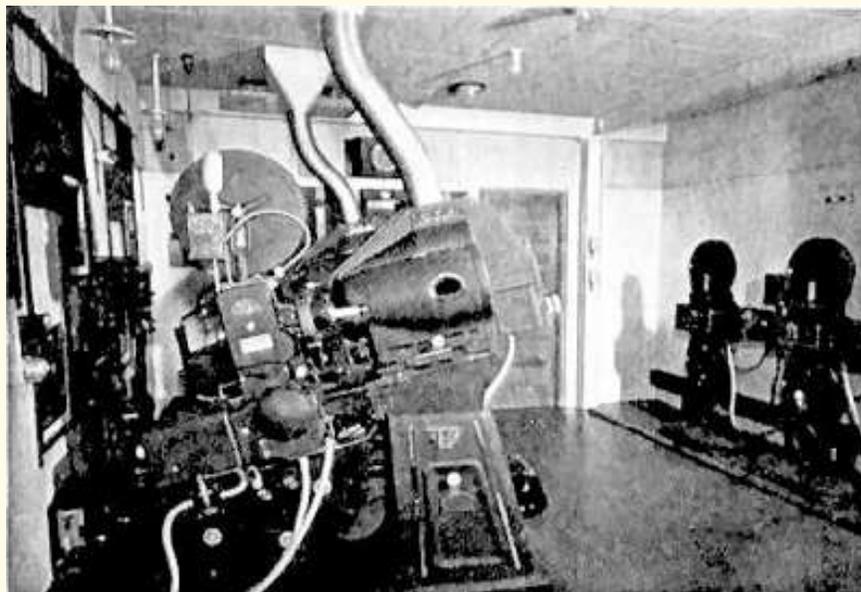
Each projector has an RCA combined soundhead and preview attachment, by means of which combined or separate, standard or push-pull, sound tracks can be reproduced. Two additional RCA sound-on-film reproducers are installed for sound-track reproduction only. All the machines are driven by Selsyn motors, which can be grouped and connected to the power-room Selsyn distributors as required.

Projection room

The projection room as seen from the 16mm projector position. On the right are the two separate 35mm film reproducers.

In the Review Theatre it was found in practice that the two separate 35mm film reproducers were not used there and they were moved to the dubbing projection room which from then on had a total of four separate mag-opt reproducers.

[more](#)



Dubbing projection room

Thus it is possible to run one silent picture film with up to four separate sound tracks in synchronism, or alternatively to use the twin projectors for continuous projection. Each soundhead is connected directly to a head amplifier, which raises the level to -30 decibels, an arrangement designed to eliminate interference from the television transmitter.

The outputs of the head amplifiers can be switched either to the mixer room for dubbing operations or by way of the reproducing amplifiers in the projection room to the loudspeaker in the dubbing theatre for review work. During dubbing operations the input to the reproducing amplifiers and to the projection-room monitoring loudspeaker is automatically connected to the monitoring output of the mixer desk, and the

loudspeaker in the theatre is disconnected, since the theatre is virtually being used as a studio. A third projection position is provided for a 16mm projector or alternatively for a special film-band projector carrying cues to assist in foreign language dubbing or post-synchronisation work. All the equipment has been mounted on special anti-vibration beds, sunk into the floor, in order to prevent noise transmission to other rooms in the suite.

Rewind Room. Four rewind positions are provided, three for 35mm and one for 16mm film, each with illuminated ground-glass screens for film inspection.

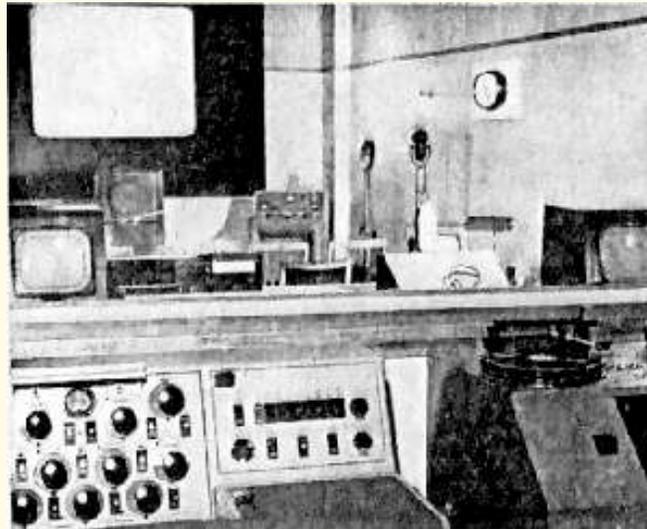
Theatre. The theatre is acoustically treated and insulated so that it can be used as a studio for recording or dubbing. A commentary table is equipped with a miscellany of microphone positions, lighting fittings, script racks, head-phone jacks, and cue lamps, which can be arranged to suit a variety of conditions.

Dubbing Theatre

Immediately under the screen is the RCA loudspeaker.

Later, red velvet curtains were added at the sides of the screen.

A roller blind could be lowered to cover the mixer window when the theatre was used independently for the viewing of films.



Dubbing theatre seen from the mixer room

Additional microphone, headphone, and cue-lamp positions are available around the theatre for effect or post-synchronisation work with floor-stand microphones.

Silent films

The facility of adding sound on transmission was in practice not used and so the tv monitors were removed.

The commentators' table is also provided with communication equipment to the projection room and a loudspeaker level control for use when films are being reviewed in the theatre. Television monitors are fitted in positions easily visible to the commentator and to the mixer and gramophone-turtable operators so that sound can be added to silent films during transmission.

Mixer Room. The equipment consists of a mixer desk with an equalisation cabinet alongside; a bank of four 78rpm gramophone turntable units; the non-synchronous magnetic tape recorder; three amplifier bays, and a twin-unit loudspeaker for monitoring.

Mixer room

The RCA loudspeaker can be seen to the left of the clock.

Underneath and to the left of the desk are the four audio equalisers or Variable Correction Units (VCUs) of standard BBC design, with the jackfield situated below them.

On the right is one of the two TD/7 disc reproducers. A shelf was later added on top as temporary storage for the piles of discs which were used in a [dubbing session](#).

The record shelves (not shown) contained BBC sound effects discs (78rpm). Music discs were brought in as required by the dubbing editors.

The non-sync tape recorder was not used and was removed when magnetic film recording was installed.



Mixer room

Record racks containing approximately 500 special effects and music records are installed alongside the turntable units.

The mixer desk is basically a standard BBC Type A studio control desk modified for film dubbing work. Eight channels can be mixed, namely, the four sound-head outputs from the projection room, the gramophone outputs, the commentators' microphone, and two other channels which can be connected to additional microphones in the theatre or to any other source. Mixing is carried out at zero level* in order to avoid interference from the television transmission. Each channel has a key as well as a fader so that it can be cut in or out of circuit instantaneously.

Pressing the buttons on the mixer desk that set up the equipment for dubbing or transmission automatically illuminates red signal lights throughout the suite, disconnects the PBX telephones, and locks the doors to the theatre. For this purpose a special electric door lock has been designed which prevents entry to the theatre, but allows immediate exit without de-operating the lock, in order to conform with the regulations concerning fire exits.

Variable treble and bass equaliser units are fitted in the cabinet alongside the mixer desk. These equalisers are normally connected in the soundhead channels, but they can be plugged to any other channel. On the mixer desk is a peak volume indicator, which, with the monitoring loudspeaker, can be switched to the output from the desk or to the recording channel output. The indicator is connected to the output of the recording channel when dubbing is in progress, because in the photographic system of recording, in which an immediate playback is impossible, it is essential that the sound should be checked at the last

Clocks

All clocks in BBC premises were Gents sync slaves controlled by pulses fed from a master unit, corrected at regular intervals with GTS (Greenwich Time Signal). At AP this master clock was upstairs in CAR.

* Zero level

'Zero level' was 1 milliwatt in 600 ohms and was standard throughout the BBC. A tone at 'zero level' was shown at **4** on the PPM scale, 100% modulation being **6** (8dB above **4**).

Lighting

When the main lighting was dimmed down during a dubbing session, low-level red lamps were on. This could have an unfortunate side effect!

[more](#)

possible point in the chain - in this case across the light-beam modulator on the recorder.

The lighting in the mixer room can be switched to the theatre dimming circuit — an essential arrangement during dubbing. The mixer desk and gramophone turntables are, however, provided with independent lights, which are used during dubbing. Any reflection of this lighting in the windows separating the dubbing theatre and the mixer room is prevented by the tilt at which the windows are set and by a non-reflecting surface on the mixer-room ceiling.

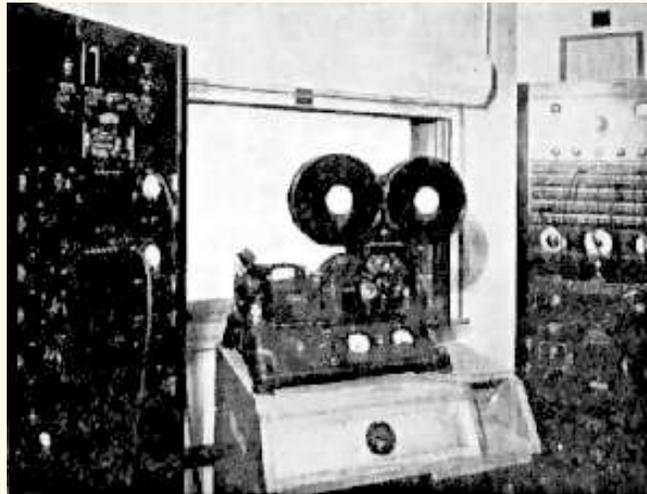
Recording room

The 35mm RCA film recorder was later modified by RCA and fitted with magnetic record and replay facilities. Behind the recorder is the window which gave visual access to the mixer room.

Above the window is a metal roller shutter to make the room light-tight for use as a darkroom for loading the undeveloped film stock.

When the [Film Transfer Suite](#) was built later in the 1950s, it had its own darkroom and so the shutters in here were not subsequently used.

Recording Room. This is equipped with a basically standard RCA 35mm film recording channel arranged for standard or push-pull recording and fitted with magnetic film drive to eliminate flutter and wow.



Recording room

A feature of the installation is that the output frequency of the motor alternator in the power room can be remotely controlled from the recording room, the recording engineer being provided with a frequency meter of wide-scale and high accuracy to enable him to check the speed of all machines to within 0.1 percent. of 24 or 25 frames per second immediately before a 'take'. A separate self-contained 'floor' mixer on wheels enables recording to be carried out direct from other points in Alexandra Palace, such as the television studios, without using the dubbing-suite mixer, which can thus be freed for other purposes.

Review Theatre

Projection Room. Two projectors are installed, similar to those in the dubbing section. These projectors are fitted with synchronous and Selsyn motors for the reasons given earlier in this article. The sound equipment also is similar to that fitted in the dubbing projection room, except that the two additional separate soundheads are omitted.

Theatre. This is used solely for film review and is equipped with a screen, a loudspeaker, and a producer's table fitted with loudspeaker level control and communication equipment to the projection room.

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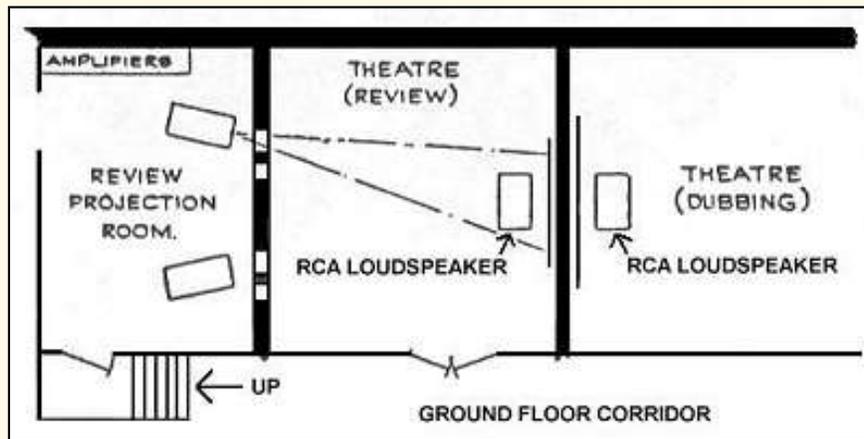
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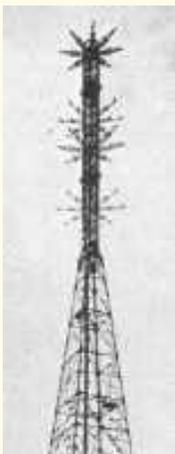


Plan of Review Theatre

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Magnetic Recording

During the design of the dubbing suite it was realised that a sound recording system capable of giving an immediate playback, in addition to the normal photographic method with its inherent processing delay, would ultimately prove essential if newsreels and the like were to be really topical. Some consideration was given to the use of 33 rpm disk recording, but the system is basically unsuited for film work owing to its inflexibility and the impossibility of editing. In addition, truly synchronous high-grade 33 rpm equipment would require development. At that time interesting results were being obtained by the film industry with 35mm magnetic film recording, and as the system offered such obvious advantages for television film production, it was decided to begin with photographic recording alone and to await the development of the magnetic perforated film.

It is now considered that the technical performance of 35mm perforated magnetic film recording is comparable with, if not superior to, that of the most perfect photographic recording, and the introduction of the magnetic system is now being investigated. The method appears to have even greater advantages for a television service than for normal commercial film production, because a final dubbed picture can be transmitted immediately by a film scanner with the separate magnetic film running in synchronism. A combined magnetic and photographic 'release' print is considered impracticable and not without disadvantages, and so standard photographic picture and sound prints for the library or for release to other organisations would be produced by subsequent dubbing of the magnetic track.

With the introduction of magnetic recording it should be possible to delay the dubbing session of, say, a television newsreel, to within an hour of transmission time, thus enabling extremely topical material to be introduced and also relieving the pressure on the cutting rooms that results when late stories have to be prepared for a reel that needs processing.

Magnetic Recording

By 1952 TNR was being dubbed with 35mm sepomag track. This was transmitted on the Cintel film scanners in CTR downstairs running double-headed.

Newsreel dubbing

In practice it sometimes occurred that the finished TNR arrived in CTR with only minutes to spare before transmission.

16mm

A Bell & Howell 16mm projector was soon added, fitted with a Xenon lamp illuminant and a "J" soundhead which gave excellent optical reproduction.

After News Division took over television news in 1954, the use of 16mm film began to increase to a dramatic extent until all tv filming was done on 16mm.

16mm Film

Although it is still uncertain to what degree 16mm film will be used generally in the BBC Television Service, there is little doubt that directly 16mm film scanners are available it will become an invaluable aid to newsreel production. It is proposed to equip the third projection position in the dubbing section with a high-grade 16mm projector with arc illuminant and alternative synchronous or Selsyn drives, so that it can run in synchronism with the existing equipment.

Thus a 16mm film could be prepared with a separate 35mm magnetic dubbed sound track. Certain additional facilities apart from a 16mm film scanner will be necessary in the central telecine room to transmit a production of this type, but their provision does not appear difficult.

CONCLUSION

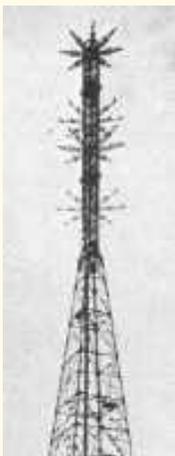
The suite has completed six months in service and has been found to be a very flexible tool for television film work. It operates for approximately nine hours continuously each day, and deals in that period with a continuous flow of very varied commitments. Approximately 150 dubbings have already been completed, including multi-reel productions, such as 'Around the 'World in Eight Days' and 'Retrospect 1949', which have been completed in sessions of six to eight hours' duration. Much experience of the requirements of such a suite has been gained, and this experience will be invaluable when the time comes to design similar arrangements for the new television production centres which the BBC is planning.

Acknowledgment is made to the Recording and Reproducing Divisions of RCA in this country, which have provided much of the equipment and have also contributed valuable technical advice.

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The Suppressed Frame System

Some Fundamental Aspects of Telerecording

by C.B.B. Wood, Designs Dept., Engineering Division, BBC

Practical Systems

SUPPRESSED FRAME

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The use of continuously-moving film to record two consecutive television frames in one film frame seems more feasible when it is remembered that the television picture is not a continuous presentation of light from all parts of the field, as is the case when viewing a natural scene.

The television display is made one point at a time in ordered sequence over the picture area and persistence of vision deceives the eye of the viewer into the belief that the whole picture is continuous. The recording camera, however, suffers no such deception, and at any given instant sees only a single spot with the rest of the field black, if the tube is assumed to have no appreciable after-glow.

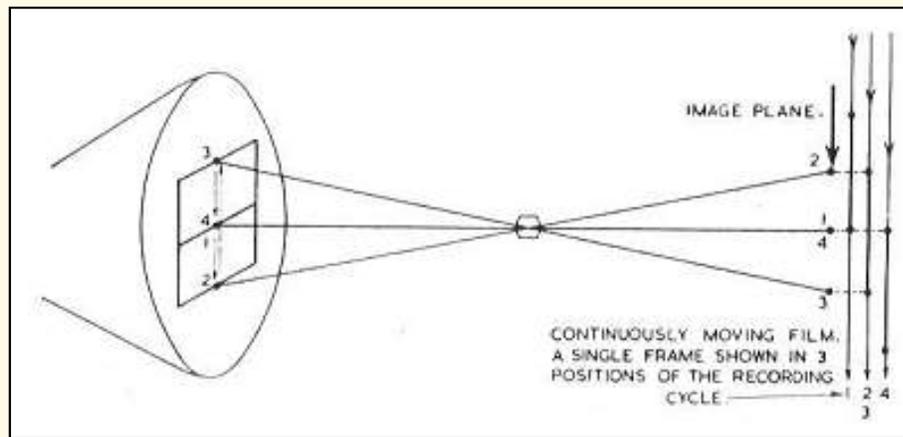
The scanning motion of the television spot is such that in recording the horizontal lines of the raster it also moves steadily downwards in the frame direction, flies back upon completion of a frame scan and then begins again in the downward direction for the interlaced scan. When the television display is imaged on to a recording film it will be seen that this motion of the scanning spot has properties which can be utilised as an alternative to the quick-pulldown mechanism.

Provided the relative velocities of film and scanning spot are correctly arranged in the continuous-motion camera, every point in the film frame will, in turn, be given a very short exposure as the spot traces over the corresponding point in the television picture. Each exposed point in the film will receive no other light at all since the rest of the picture is black; and thus although the film is moving continuously, a clear image is recorded free from the vertical smudging which would occur if such a camera were used to photograph a natural scene.

The correct arrangement of the relative velocities of film and scanning spot is best illustrated by reference to the basic continuous-motion recording system [1] which uses a 25 c/s frame deflection on the display tube. This of course gives a display of two television images one above the other; an odd and an even frame. The amplitude of this frame deflection is, however, such that each of the television images is only half normal height although of normal width, making a 4:3 display of two images each 4: 1½.

Reference [1]

CONDLIFFE, G.E., Brit.
Pat. 47503Z.



The Twin Raster System: The basic method of recording a television picture on continuously moving film

This special display is then imaged by an ordinary lens on to a continuously-moving film, the direction of film travel being such that the scanning spot sweeps against the flow of film.

The recording cycle starts as the scanning spot passes through the mid-line of the display and begins to write the lower of the two television images. The inverted image of the scanning spot travels upwards over the film for 1/50 sec. and the film itself travels downwards by one-half a frame height in the same period; the relative movement of spot and film is thus one whole frame and the correct aspect ratio is restored on the film, since the display was deliberately distorted to half the normal height. On reaching the bottom of the scan, the scanning spot then flies back to the top of the two-picture display and its image, rapidly overtaking the moving film, catches up the first line of the exposed frame and then proceeds to record the interlaced frame between the lines already exposed on the film. The cycle recommences as the scanning spot again passes the mid-lines of the display and its image passes on into the next film frame.

This system, which is simple and straightforward from the optical point of view, is of great interest because it shows the fundamental requirement for the motion of the image of the scanning spot when using continuous-motion film traction. The spot must, by some means or other, be made to trace the path of a 25 c/s sawtooth against the flow of film.

Other continuous-motion systems are merely variations on this theme. Even the complex Mechau machine [2] performs no more than the feat of turning the image of a normal television display into the required 25 cycle raster in the film plane.

In addition to the continuous-motion systems, intermittent mechanisms with a much longer pulldown than 1.4 milliseconds have been used. Such systems normally must, however, fail to record the whole television information, since scanning proceeds while the camera ceases to record during the pulldown period, but in various ways this loss is disguised [3].

CINTEL telecine

This of course is exactly the principle of the flying spot telecine film scanners.

Reference [2]

BAKER, H.W., and KEMP, W.D. *B.B.C. Quarterly*, Winter 1949-50.

Reference [3]

KEMP, W.D. *Proc. I.E.E.*, Vol. 99, Part IIIA, No. 17 1952.

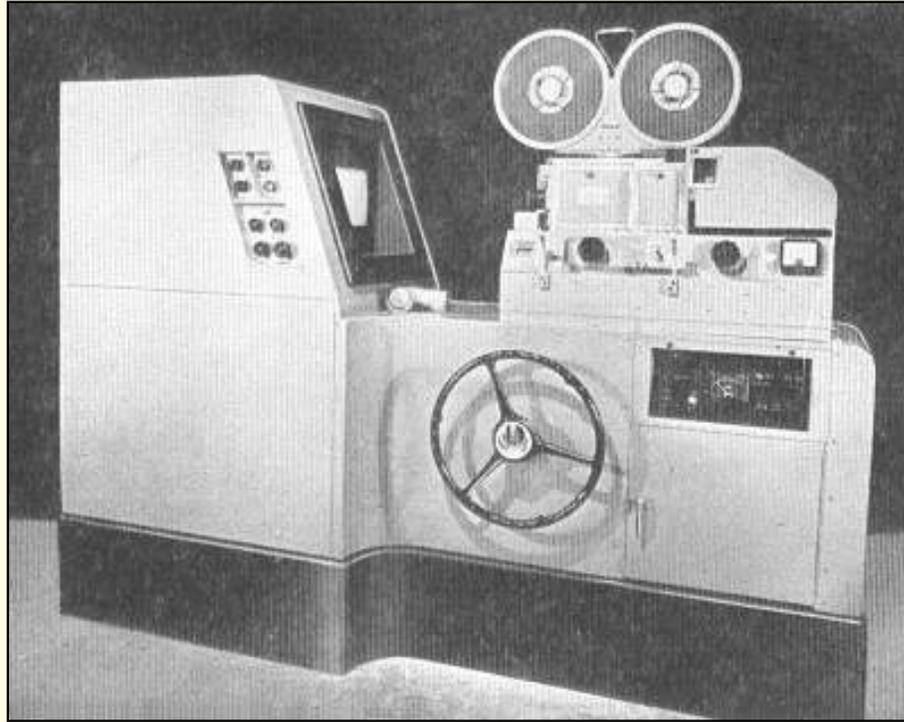
The simplest example of this form of recording system is the Suppressed Frame method in which no attempt is made to record an interlaced picture and the operating cycle is simply to record one 202½-line television frame and pull down the film during the next television frame. This of course gives a 25 frames-per-second film, each frame containing only half the number of lines of the complete television picture, but due to the high degree of correlation which exists between adjacent lines in the normal television picture, the loss of the interlaced frame is not as serious as might at first be expected. Fig. 3 (below) shows a telerecording channel of this type.

The "Big wheel"

The purpose of the "big wheel" on the side of the equipment is explained [here](#)

SUPPRESSED FRAME

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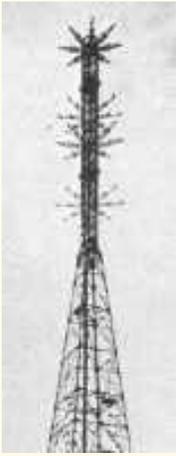


A Suppressed Frame Telerecording Machine: The equipment comprises a high quality television picture monitor and a standard 35 mm cine camera which has been modified to record vision and sound on the same film

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The Suppressed Frame System

Some Fundamental Aspects of Telerecording

by C.B.B. Wood, Designs Dept., Engineering Division, BBC

The Portrayal of Motion

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It has already been stated that picture recording systems introduce some degradation of the original programme and only waveform recordings can give an accurate reproduction. In addition to degradation by loss of definition and distortion of tone gradation in the photographic process, all picture recording systems fail to portray moving objects with complete accuracy and the reason for this is to be found in the fact that such television recordings are made to motion picture standards.

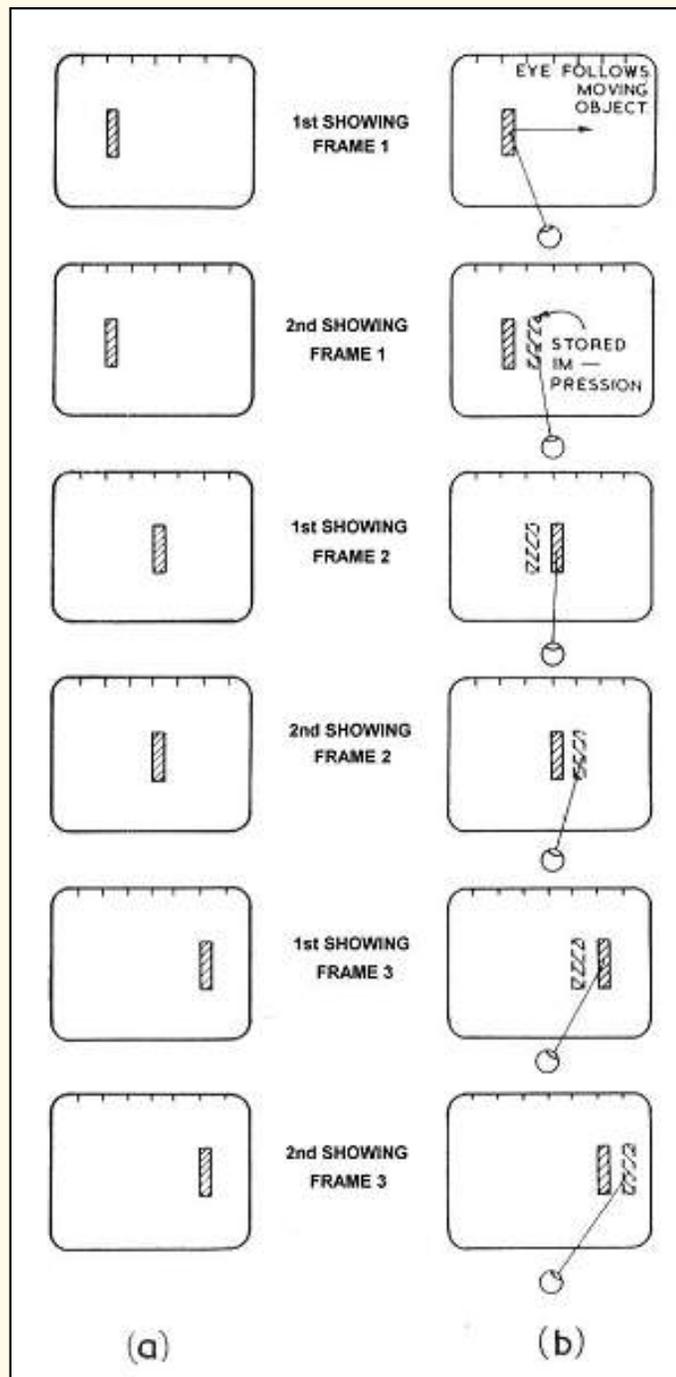
The Motion Picture Film and Flicker

The standard 24-per-second frame repetition rate of the cinema is sufficient to give an excellent representation of moving objects, but unfortunately the eye is extremely sensitive to flicker at this frequency, even at very low screen brightnesses, and in order to avoid this unpleasant effect, two separate presentations of each film frame have to be made by interruption of the light from the projector while the film is stationary in the gate. This of course raises the presentation frequency from 24 c/s to 48 c/s at which the eye will tolerate about one hundred times the screen brightness for the same consciousness of flicker. In this way there is effected a considerable economy of film; it would otherwise be necessary to make all films at 48 frames per second although 24 or even 16 frames per second are adequate for the portrayal of motion, but the economy is nevertheless obtained at the expense of clearly-defined moving objects.

If the film were made at twice the standard frame frequency in order to avoid difficulty with flicker, every moving object would be portrayed in 48 different positions per second. Inability to detect individual rapid changes would cause the eye to receive the impression of smooth motion, and it would therefore follow the moving object at the average speed of the motion across the screen. In the present method, however, every image is presented in each single position twice, and, being unable to follow this discontinuous progress, the eye still moves on at the average speed of the image.

This means that after the first showing of any given film frame, the eye has moved on before it receives the second presentation. This second showing therefore cannot become superimposed in the viewer's eye

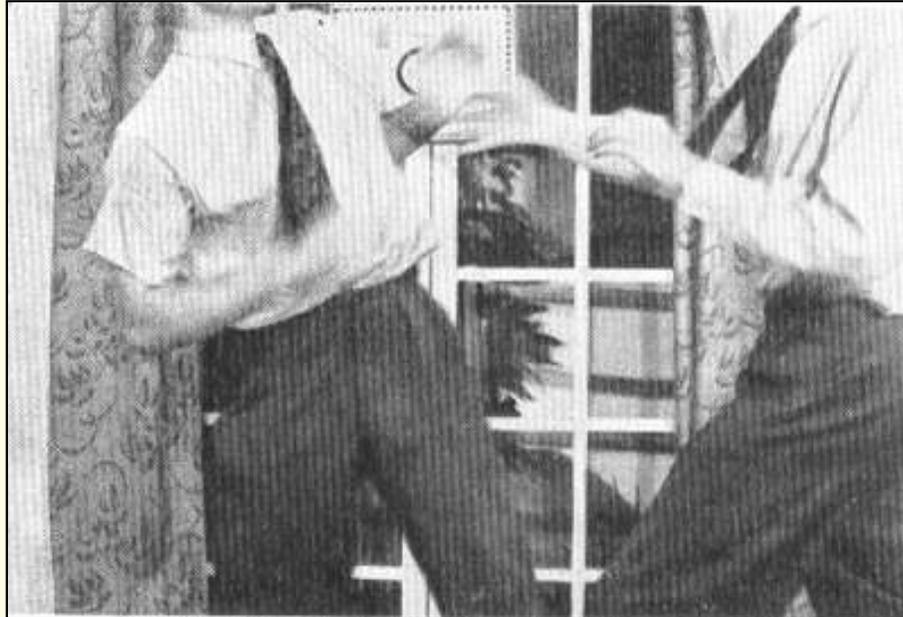
upon the persisting impression of the first presentation.



Showing how a viewer receives the subjective impression of a double image of moving objects when each film frame is presented twice, as in normal cinema projection.

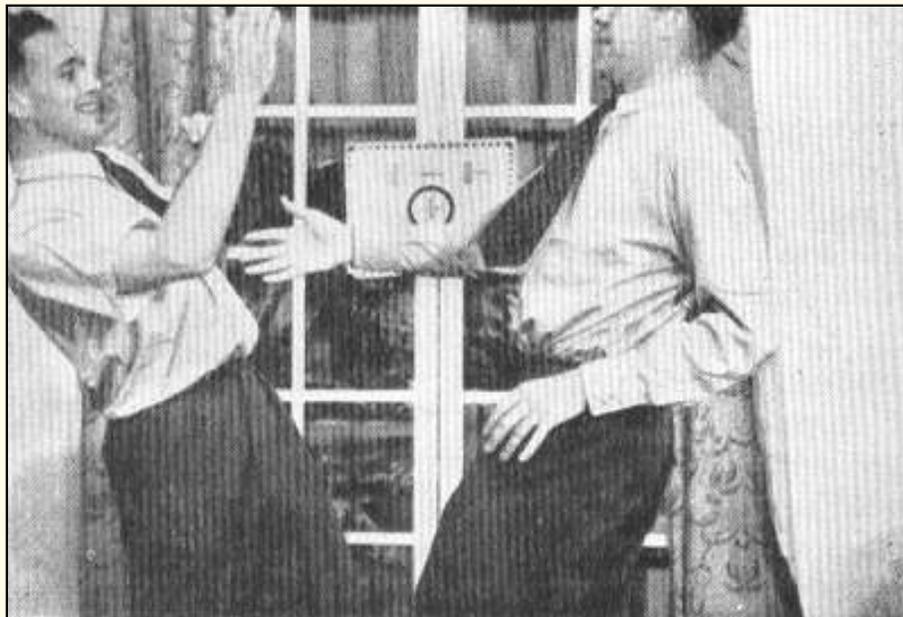
(a) is the actual image on the screen
(b) is the subjective impression received by the viewer

The viewer is left with the subjective impression of a double image of moving objects, the leading image being renewed by every first presentation, and the second image, trailing behind by half the frame to frame movement of the object, being renewed by every second presentation of each film frame. Depending on the nature of the moving object, and the rapidity with which it moves, this defect may appear as a clearly defined double image or it may be observed as an unpleasant "juddering" motion.



Still frame taken from a normal cinema film. Exposure angle of the camera shutter = 160° When projected, this film portrays motion in the manner to which cinema-goers are accustomed

This defect is largely overcome in the cinema industry by the use of a sufficiently long exposure in the camera to cause the image of all moving objects to be smudged rather than clearly defined. This tends to merge the two parts of the double image formed subjectively in the viewer's eye, so that although moving objects are blurred, the "juddering" motion is not apparent.



Still frame taken from cine film with exposure angle of the camera shutter only 20° When projected, this film is unpleasant and tiring to watch; the motion is jerky and flickering

Films Reproduced by Television

The same difficulty exists when films are broadcast by television; the 50-frames-per-second interlaced television display is equivalent in this respect to the two-bladed shutter of the cinema projector. Each frame of

film is displayed twice on the television screen and, being unable to follow the discontinuous progress of moving objects, the eye again forms the subjective impression of a double image. Although the long exposure, blurred image, remedy adopted when shooting the film is equally effective when films are reproduced by television, an additional effect arises in that one of the two images formed in the eye has been derived from an odd television frame while the other is from an even television frame. Where the two images do not overlap, only half the line structure will be visible and in this country the 200-lines edge to moving objects is one of the principal defects of televised film.

Moving Objects Portrayed by Telerecordings

It may be argued that the reproduction of motion picture film, in spite of its defects, is acceptable and that if television recordings are reproduced equally well, the result will be satisfactory. Unfortunately, however, in recording television it is not possible to adopt the long-exposure remedy for the double image of moving objects since the effective exposure of most types of television camera is very short. Individual frames of a telerecording usually contain sharp, discrete images even in the case of quite rapidly moving objects, with the result that the characteristic juddering motion is often observed.

In telerecording there is also an effect caused by exposing the film at only half the frequency of the original television display. In most recording systems two interlaced television frames are recorded in each film frame, and since each television frame portrays the moving object in a different position, a double image will be recorded wherever there is movement in the scene.

This applies to all systems where the full information of the television picture is recorded at 25 frames per second and it can easily be shown that when reproduced, such films will give the viewer an impression of no less than three images of each moving object. The suppressed frame system produces subjectively only a double image, since each frame of film is exposed to a single television frame. This is, however, not necessarily an advantage, since the triple subjective image produced by other systems appears to have some effect in reducing judder.

For repeat programmes in this country there is a case for recording at 50 film frames per second to avoid all multiple-image difficulties, and to give smooth motion equal to that of the original. While such films would be exchangeable with some countries, they would not be suitable for Canada or the U.S.A., and most telerecordings therefore seem likely to remain inferior to the original programme from the point of view of movement.

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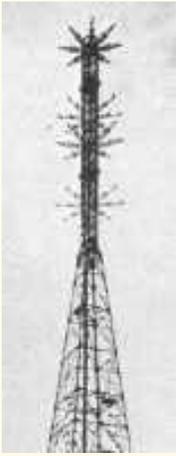
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by Arthur
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The Suppressed Frame System

Some Fundamental Aspects of Telerecording

by C.B.B. Wood, Designs Dept., Engineering Division, BBC

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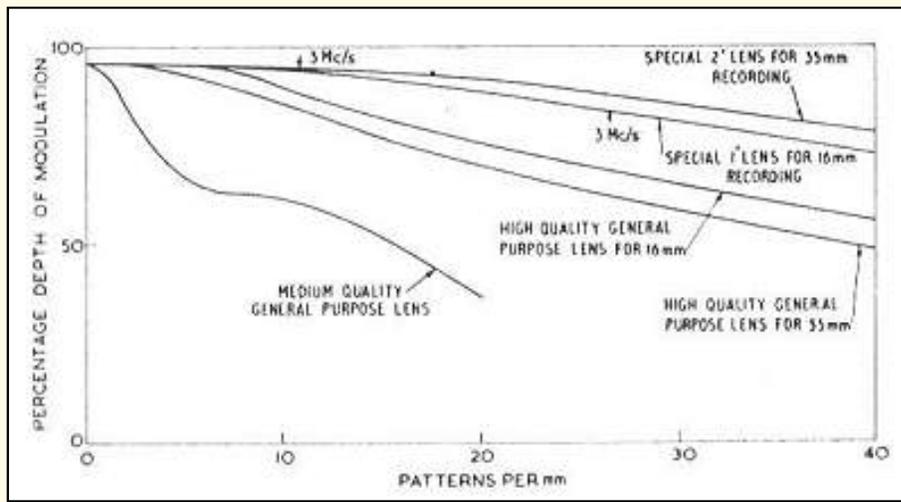
Other shortcomings of telerecording can be dealt with rather more successfully; the two principal items being loss of resolution and distortion of tone gradation. It is usually possible to amend the characteristics of the picture displayed for recording in such a manner that distortions and losses known to occur in the photographic process are largely cancelled by inverse distortions deliberately applied. Most modern recording equipments have a display which appears somewhat exaggerated to the eye but is nevertheless adjusted to give a good photographic image. If the reproduced recording is to be as sharply defined as the original picture it follows that the recording process, considered as an electrical network, must have no loss up to the cut-off frequency of the television system, i.e. in our case it must be "0 dB down" at 3 Mc/s. This network will include the recording display tube, the camera lens, the negative film, the positive print, and the telecine machine. Each of these components does of course introduce some loss, but it is possible to equalize the signal fed to the display tube to compensate for the degradation occurring later.

Loss of resolution in the recording process is due to the fact that the scanning spot and its images throughout the process are never of sufficiently small dimensions to record fine detail without some loss of contrast. Aperture losses of this nature are equivalent to an attenuation of the higher frequencies of the electrical signal and it is convenient to consider each loss in terms of an amplitude/frequency characteristic even though the component concerned is purely optical, since equalization must of course be an operation on the electrical signal.

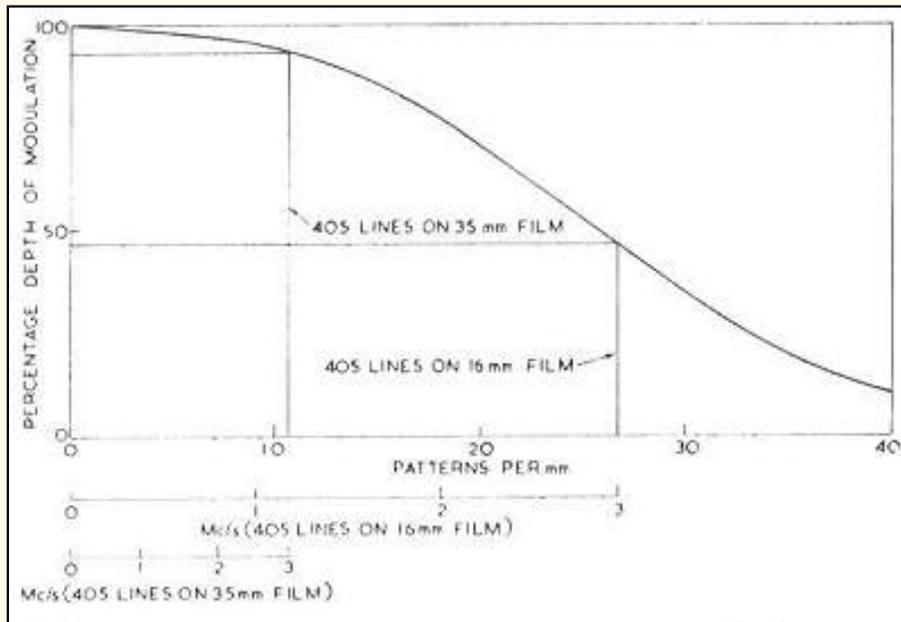
For any given scanning standard the detail in, say, a test pattern of black and white bars used to measure the performance of a lens [4] or film may be translated into terms of frequency in megacycles per second. Similarly, the fall in contrast shown by any lens or film as the test pattern is made finer and finer may be expressed as a percentage modulation where 100 per cent modulation is taken to be the contrast produced by the lens or film from a very coarse test pattern.

Reference [4]

SPROSON, W.N. *B.B.C. Quarterly*, Spring 1953.



Percentage modulation given by five different f 2 anastigmat lenses when resolving test-patterns of alternate black and white bars. (1 pattern equals one black and white bar). A 3 Mc/s signal on 405-line television standards represents 10.6 patterns per mm on 35 mm film and 26.2 patterns per mm on 16mm film



Percentage modulation given by a typical panchromatic negative film with a limiting resolution of 50 patterns per millimetre

By measuring the loss of contrast in the recording process at various degrees of image detail it is possible to determine an overall amplitude/frequency characteristic, and with the aid of an equalizing amplifier to give the signal input to the display tube an inverse characteristic.

Very great improvements in the definition of telerecordings can be made by equalization of the input signal to compensate for aperture losses but it is nevertheless important that the resolution of lenses and films used for recording should be as high as possible. Losses due to these components affect the definition of the picture in both vertical and horizontal directions, but since signal equalization can only have any effect along the scanning lines and therefore bring about an improvement in the horizontal direction, any losses of vertical resolution cannot be compensated.

In practical 35 mm recording apparatus with high grade optical systems, the loss of vertical resolution need not be serious; but in 16 mm recordings where the linear dimensions of the frame are approximately half those of 35 mm film, the loss of resolution may noticeably degrade picture quality.

An additional loss of resolution in telerecording may be caused by inaccurate perforation of the film stock. The film is manufactured to close mechanical tolerances ± 0.0005 " in sprocket hole spacing, but even this small tolerance represents more than one-half the spacing between adjacent television lines on 35 mm film and more than one whole line on 16 mm film, so that in the latter case the likelihood of recording two successive television scans neatly interlaced, depends as much on the film stock as it does on the design of the recording equipment.

It will be seen from these remarks that good definition in the telerecording necessitates very high quality optical arrangements, a high-resolution film and in addition some electrical equalization to restore partly the losses due to these components. In view of the fact that the resolution of a television system is not high compared with that of normal photography, it may at first seem strange that lenses and film capable of producing a sharply defined photograph of a natural scene may be inadequate for television recording. The explanation lies in the fact that in the natural scene the fine detail may, in television terms, extend to a very large number of megacycles per second; and although lens and film can record this detail at only a small percentage of its true contrast the information helps to create a subjective impression of sharpness. Where the subject matter is a television image, the detail presented is, however, so limited that any loss of contrast is immediately noticeable.

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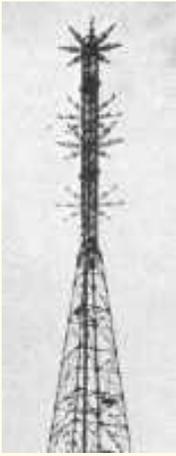
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The Suppressed Frame System

Some Fundamental Aspects of Telerecording

by C.B.B. Wood, Designs Dept., Engineering Division, BBC

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Perhaps the most important contribution to good quality telerecording is the preservation of linearity in grey scale reproduction: loss of detail in highlight or shadow due to crushing in the photographic process can quickly ruin the subjective quality of a recording.

The telerecording is again at a disadvantage to photography of the natural scene, since it is called upon to record a picture which is already limited in contrast range and has suffered some non-linear distortion. The inevitable non-linearity of the photographic process can be disguised by the skilled photographer in recording a natural scene, since his finished result includes only one set of distortions, but an uncorrected telerecording would include the product of television and photographic distortions.

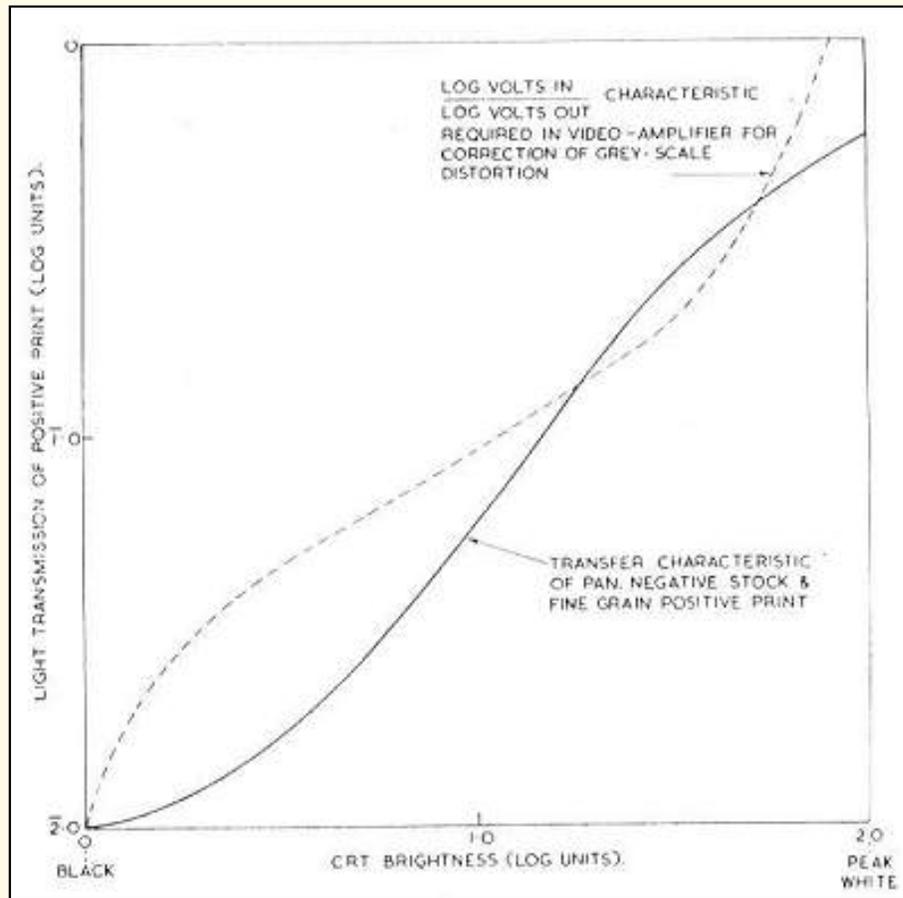
Reference [5]

KEMP, W.D. *British Kinematography*, Vol. 19, No.

In an admirable paper on the subject, W. D. Kemp [5] has analysed the distortions due to television camera, display tube and the photographic process, and has shown the degree of compensating non-linearity which must be introduced to provide a linear reproduction of tones from the television camera to the finished recording.

Since that paper was written, two new systems of telerecording have been placed in service by the B.B.C. and both have incorporated electrical circuits which permit the deliberate introduction of non-linearity in the amplitude characteristic of the signal fed to the display tube.

Recent experience has, however, led to the belief that where a variety of types of television cameras are in use it is not practicable to attempt more than a general correction aimed at compensating for the distortions of the photographic process, which results in the reproduced recording having properties of tone gradation similar to that of the original television programme.



Distortion in the Photographic Process: The solid curve shows a typical characteristic of the negative positive photographic process while the dotted curve shows the compensating characteristics given to the video amplifier which feeds the recording C.R. tube

SUPPRESSED FRAME

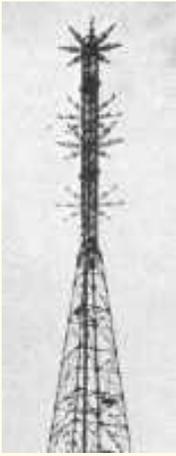
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The distortions to be corrected invariably take the form of reduced slope at each end of the scene-brightness print-transmission characteristic. The slope of the centre portion can be controlled when processing the film and it is not as a rule necessary to apply any electrical correction to the vision signal over this region. The main tone-gradation controls in a telerecording apparatus are therefore usually known as "black stretch" and "white stretch" and adjustment of these controls can only be carried out after a series of film tests have been made to determine the amount of correction required.

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Given a satisfactory design for the telerecording apparatus, with scientific aids to ensure consistent exposure of the film and a careful control of the photographic process, it comes as a slight disappointment to find that art rather than science has the last word in determining picture quality.

Although the two main systems in use by the B.B.C. have shown that they can provide very satisfactory results under favourable conditions, it is clearly not possible to make a good telerecording if the incoming picture is lacking in quality, and it is also not sufficient to aim solely at the production of a good photographic record of the original programme.

Reproduction of the recording will involve a telecine machine, and although those in use by the B.B.C. have an excellent performance, it must be remembered that in producing a vision signal from 35 mm film these machines perform a task equivalent to reading a variable-density sound track little more than 0.001" wide. Under these difficult conditions the signal to noise ratio of the output is surprisingly good when the film to be scanned is a normal motion picture and therefore relatively free from noise, but where the film is a telerecording which has the signal to noise ratio of the original television picture, the result will be less satisfactory.

It is an unfortunate feature of television in its present state that very few decibels in signal to noise ratio separate the very best pictures and those that are unacceptable, and the addition of only three decibels of noise in reproduction can easily turn a moderate original into a very poor repeat programme.

With certain types of programme material, particularly in the case of dark scenes where the signal level is low or where the incoming signal is accompanied by more random noise than is usual, the production of an acceptable telerecording, which will reproduce well, calls for considerable skill on the part of the operators in "steering" the various controls to produce an artistic rather than a scientifically accurate result. The recording camera is in fact much more critical of picture quality than is the average viewer.

Acknowledgement

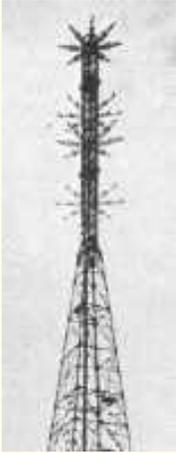
The author is indebted to the Chief Engineer of the British Broadcasting Corporation for permission to publish this paper, and to his colleagues in the Research Department of the Engineering Division for their assistance in preparing the material.

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- [1] CONDLIFFE, G.E., Brit. Pat. 47503Z.
- [2] BAKER, H.W., and KEMP, W.D. *B.B.C. Quarterly*, Winter 1949-50.
- [3] KEMP, W.D. *Proc.I.E.E.*, Vol. 99, Part IIIA, No. 17 1952.
- [4] SPROSON, W.N. *B.B.C. Quarterly*, Spring 1953.
- [5] KEMP, W.D. *British Kinematography*, Vol. 19, No. ...

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Demfilm: The development of television

The Wenvoe transmitter

In 1952-53 part of the Demfilm contained a reel depicting the development of television transmitters. Here is the text of Reel 15 of the Demfilm Edition 102-3.

It is introduced by **Sylvia Peters** -



Since the end of the War, the BBC has built new television transmitters to bring the main centres of population, in England, Scotland and Wales, into the television service area. At the same time new studios are being built in London, and in the film that follows we give a brief report on this work".

Naration by **Macdonald Hobley** -

Every age has left its landmarks on the country - the stone monolith, the cathedral spire, the Martello tower, the Victorian railway station, the television mast. In 1949 this mast was built in the Midlands, rising 750 feet above the first regional television transmitter at Sutton Coldfield. Within two years a similar mast had been built on the Pennine ridge at Holme Moss, and from the second regional transmitter our programmes went out to the people of the north of England.

Soon afterwards the signals were passed on to Scotland by a series of linking radio stations set on the hills of Yorkshire, Durham and the border. And at Kirk o'Shotts, beside the road between Edinburgh and Glasgow, a third identical mast was built to serve the lowlands.

While this was being drawn, like a straight pencil-mark up the sky, work was already beginning on a fourth copy, and by the time you could look down on the completed station at Kirk o'Shotts, a fourth regional transmitter was being prepared at Wenvoe in south Wales, fed by a cable link from London.

At intervals along the route have been built repeater stations to boost the signal and pass it on. Through Newbury and down the Great West Road to Bristol.

From Bristol the cable runs on, under the Severn estuary into Wales.

A chain of repeater stations lies across the green landscape of Monmouthshire, tracing the cable route to Newport, and on into Glamorgan.

At Cardiff the cable is fed into the telephone repeater station, for the whole link is a GPO line installed and maintained by Post Office engineers. From here it continues westward, past the industrial suburbs, the modern civic center and the ancient castle, until, beyond the houses on the road to Barry, it reaches the Wenvoe station.

Here it ends in the BBC transmitter building. The signals it has carried from London are fed into the main transmitter and then passed as high frequency waves to the mast and up to the aerials, to radiate across south Wales and western England.

The equipment here is similar to that of the other stations, high power sound and vision transmitters in the main hall, and an alternative medium power transmitter in a separate building. Each transmitter has a control room where the engineer in charge regulates the signals passing up to the aerials and so out to the homes of viewers on both sides of the Bristol Channel.

THE SUPPRESSOR FILM

Naration by **Macdonald Hobley**:

Have you ever thought what would happen if your set showed you pictures of the road outside your home? You would see some of the passing vehicles clearly enough - a Post Office van, or a service vehicle, or a railway lorry. Or the car of some thoughtful private motorist, for interference suppressors have been fitted to all their engines.

But you wouldn't be able to see this car properly, because it spoils your picture as it passes, and not only your picture. As this man drives along he leaves a trail of interference at least as bad as this on all the television screens on his route.

Yet a few minutes at a garage or a radio dealers will stop this nuisance for good.

Shop assistant: Morning Sir, can I help you?

Customer: I want a suppressor for my car.

Assistant: What type of distributor has your car got sir?

Customer: I'm not sure.

Assistant: Well if it's this type, you need this suppressor, you just fit it into the distributor head like this, and you fit the end of the main high tension lead in like that.

Customer: I don't think my distributor's like that one, it's like the other one.

Assistant: Oh well, in that case you want this other sort of suppressor. That fits into the high tension lead itself. I'll have it fixed for you if you'd like to wait a moment, it won't take very long.

Customer: Thankyou, it's just outside.

Assistant picks up internal phone: Er Mr Lloyd, could you bring through a cut-lead suppressor please and fit it to a customer's car? Thankyou.

Assistant [to customer]: Thankyou. Thankyou very much sir, the electrician will be coming through that way.

Customer: Thankyou, good day.

One of these suppressors should be fitted to the main ignition lead as near to the distributor as possible, and if you're in any doubt, an attendant will fit it for you. On some engines suppressors have to be fitted to the plug leads. But for most cars a simple suppressor like this one, or the screw-in type, will do the job. It can be done from about two or three shillings, and it's permanent.

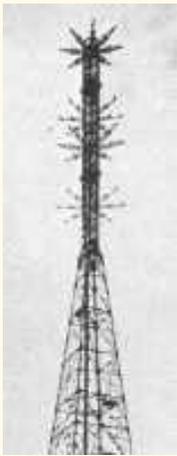
If every motorist did this, literally millions of television viewers would get better reception. suppressors lengthen the life of the plugs, without detracting from the engine performance, and even helps starting in very cold weather. All new cars are now fitted with suppressors at the factory, for ignition suppression is highly important in a country widely served by television.

But what about your car? Does it mark your thoughtless progress across the screens of your neighbours' sets?

[irate viewer hurls something at his tv screen, and the old car outside blows up....]

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Paris, July 1952

During 1952 and 1953 the Demfilm Edition 105, Reels 9/10 contained a film about the week of tv programmes from Paris in July 1952.

It was introduced and narrated by **Sylvia Peters**



In the next quarter of a hour we're going to give you an impression of a rather exciting event in television. The very first occasion on which two countries with different languages and basically different television standards shared the same programmes.

July 1952 will long be remembered as the month in which programmes from Paris were seen not only in France but in England and Scotland too. And viewers saw a new emblem on their screens - a badge of an Entente Cordiale.



High up on the Eifel tower the Service de Radiodiffusion et Télévision Francaise, the French equivalent of the BBC, have a television receiving aerial which can pick up the signals from outside broadcasts held in any part of Paris. And Paris, spread out like a map below us, was the source of a whole series of programmes, mostly outside broadcasts, from the 8th to the 14th of July.

These programmes were passed by a permanent French circuit to Lille near the Belgian border. The circuit consisted of three radio links.

The signals left the Eifel tower by this giant paraboloid, beamed northwards towards Villers-Cotterêts, the first of the linking stations built on a ridge in an old royal hunting forest. Here the signals from Paris were received by one aerial and relayed by another, to Sais-Saiselle*, a little village in the broad farming country near Péronne, where they were received and re-transmitted at an identical station.

These were automatic stations without permanent staff, a constant

INTENTION

One day I hope to set up the frame-capture facility again, and then I'll be able to illustrate this page with frame shots from the film.

*SAIS-SAISILLE?

This is what the word sounds like. It is not shown on large-scale maps of the area. Possibly there may be someone who knows the correct spelling?

wonder to the peasants working the fields that had been the battlegrounds of the '14-'18 war. From here the signals went on to the new French television transmitter at Lille, where they were received by the aerial on top of the Hôtel de Ville. This was the end of the permanent link, but the French engineers beamed the signal westward to Cassel for conversion by the BBC to British standards.

So, in the sleepy little town on its hilltop, a new page was written in the history of electronic engineering. In the market place which will be remembered by the veterans of two world wars, there was no sign of anything unusual. Life went on in the traditional way in the French country town where the television services of two nations met and linked.

While the townsfolk went about their work there was other work to be done by engineers from Paris and Lille and by visiting BBC technicians from London, who made their way each morning to the relay station at the top of the town followed by the curious glances of their hosts.

In the war-torn and disused casino was the equipment which converted the French television picture of 819 lines into a BBC television picture of 405 lines. No way of doing this had been actually developed at the time the link was planned, but here at Cassel, watched by the interested children of France, we installed and tested a Standards Converter which assured the transmissions from Paris, and the future of international television.

The signals from Lille were beamed to a reflector on the casino roof. The 819 line picture received was fed to the converter where it was displayed in front of an adapted 405 line camera and was then transmitted in its new form. The transmitting aerials set in the centre of their reflectors like stamens in the middle of a flower had to be beamed very exactly to the next repeater station at Alembon. In spite of their conversion to different standards the pictures were passed on with remarkable little loss of quality.

At Alembon the BBC's temporary relay station was in a wood overlooking the historic site of the field of the cloth of gold. It was not far from Calais, the location of our first cross-channel television broadcast in August 1950. The transmitting aerials on this tower were pointed towards the white cliffs of Dover.

We set up mobile microwave equipment at the RAF radar station at Swingate on top of the Dover cliffs, with receiving aerials part-way up one of the towers to pick up the signals from the French coast just visible on the horizon. From the top of this mast the signals were re-transmitted to the BBC experimental station at Wrotham in Kent, half-way between Dover and London. And from here to the last relay point, the top of the University Senate House in Bloomsbury.

So to our London transmitter came the pictures from Paris. But that's only half the story. The other half lies in Paris itself where a party of us from the BBC spent the first fortnight of July helping to prepare and present the shows which travelled over the link to London and thence to our other transmitters, to bring a breath of this great and beautiful European capital into the homes of viewers in England and Scotland.

From many different parts of Paris came a series of programmes representing the life and arts of France and of course the fashions of the city of fashion. All these programmes were part of an experiment, not only in technique, but in showing the ways of one nation to another in forms sometimes familiar, sometimes unfamiliar.

Whatever the subject before the cameras, the whole complex chain of the relay had to hold in every link, with French and British engineers along the route checking the pictures as they passed though from each station to the next, all the way to London.

French artists and British and French cameras, British and French producers and crews, different languages and different systems, these raised new problems which had to be resolved behind the scenes of our crowded and widely varied programmes.

We have time only to glance at a few of these programmes, such as the great military parade, the Défilé Militaire, in the Champs Elysées.

This was the 14th of July, France's great day of national demonstrations and national rejoicing which we celebrated with a broadcast of dancing in the streets.

But Paris had other equally celebrated styles of dancing to offer us, and so, with a French outside broadcast unit we visited a cabaret in Montmartre.

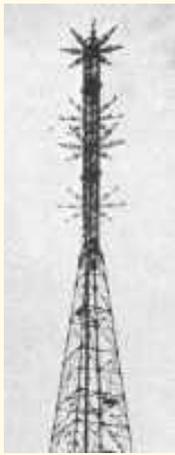
Here while the cameras were lined up a BBC producer had to direct rehearsals in French.

On the night of transmission, after the strain of a day's rehearsal, came the familiar moment of tension as the programme went on the air and the show began for an audience, not only in the cabaret, but in French and British homes hundreds of miles away. The scene that follows comes from the actual telefilm recording made in London as the pictures were re-broadcast.

With the music and dancing inside the cabaret and outside in the streets we felt we'd caught some true part of the spirit of Paris.

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Coronation Transmissions

Morning and Afternoon

Each day comprehensive schedules were issued to all relevant Departments in the BBC Television Service, and reproduced below is the morning and afternoon schedule.

Shift Two

CORONATION DAY TRANSMISSIONS

Tuesday, 2nd
June, 1953

Morning and Afternoon

Presentation: Michael Philips
S.M.P.D. F.E.T. Clark
Continuity: Irene Coles
Announcer: Sylvia Peters & Mary Malcolm

TIMING

Programme Summary		Estimated: Xmission Nett
9.15.00	CTR Test Card C (Sound = Tone)	55.00
10.10.00	CTR Test Card C	
	CCRGRAMS:	
10.14.00	CTR BBC Coat of Arms	
10.14.40	CTR Houses of Parliament + Big Ben	
10.15.10	A Announcement	
10.17.00	OB "THE CORONATION"	7.00.00
5.20.00	OB Dis-Establishing Shot	
	A GRAMS:	
5.22.00	A INTERVAL CAPTION + GRAMS	4.00
5.26.00	A Announcement	
5.27.30	CTR Children's TV Opening Sequence	
5.28.00	A Announcement	
	D "YOUTH TATTOO"	1.00.00
6.28.00	A Announcement	
	CTR Children's Closing Routine	

TIME	SOURCE	PROGRAMME DETAILS
9.15.00	CENTRAL TELECINE	TEST CARD "C" (SOUND: TONE)
10.10.00	C.C.R. SOUND:	GRAMS: "The Three Elizabeths" Decca K.1110 Side B AR8862. Eric Coates
10.14.00	CENTRAL TELECINE:	BBC COAT OF ARMS
10.14.40	CENTRAL TELECINE	HOUSES OF PARLIAMENT

10.15.00C.C.R. SOUND: ADD BIG BEN CHIMES (1/4 hour only)
(at end)

10.15.10C.C.R. SOUND & VISION

Fade to: STUDIO A CAM **SOUND & VISION ANNOUNCEMENT: SYLVIA PETERS:**
This is the BBC Television Service.

Good morning everyone.

This is a great and joyous day for us all. In a few minutes our Queen starts on her journey from Buckingham Palace to Westminster Abbey, there to be crowned Queen Elizabeth the second. But it is not only a day of rejoicing, for underlying the Abbey Ceremonies and the splendid pageantry of the many processions is the deep significance of the simple fact that the Queen is today dedicating herself before God to the service of her subjects.

For the first time in history through the medium of television the ancient and noble rite of a Coronation Service will be witnessed by millions of Her Majesty's subjects. As we watch them here, these television pictures will be relayed across the Channel to many thousands of viewers in France, Holland and Germany, including members of Her Majesty's Forces serving in those countries.

From now until after five o'clock this afternoon television cameras will be taking you into the heart of London to watch and to share in each phase of this great day's events.

(*) (Announcer in Sound Only) We take you first to Buckingham (*) Palace for the departure of the "Queen's procession to Westminster Abbey" - a procession which we shall see again as it passes along the banks of the Thames on its way to "Buck.Palace" Westminster.

(+) Caption: Westminister Abbey
Later, we shall take you into the Abbey (+) for the Coronation Service itself. The Service ends shortly before two o'clock but as her majesty will not immediately leave the Abbey there will be a pause until about two twenty-five. Later the Queen, now invested with the Symbols of Majesty, sets out on her Triumphant Procession through the streets of her capital.

(**) Caption: Buck.Palace
At about half-past-four Her Majesty reaches Buckingham Palace at the end of her five mile drive. There will then be a second pause until five o'clock (**) when we shall again join the crowds outside the Palace for Her Majesty's appearance on the balcony and for the R.A.F. Salute.
(announcer continues in Vision)

SOUND & VISION: SYLVIA PETERS:

That briefly is the television plan for the first part of Coronation Day. We have now been joined by our overseas viewers and we have come to the moment for taking you to Berkeley Smith, who is at the Victoria memorial in front of the Queen's London home - Buckingham Palace.

C.C.R. SOUND & VISION

Fade to: OB **"THE CORONATION"**

- 10.17 a.m. 1) Buckingham Palace
- onwards 2) Outside Westminster Abbey
- 3) Inside Westminster Abbey (scene set)
- 4) Victoria Embankment
- 5) Outside Westminster Abbey
- 6) Inside Westminster Abbey - Coronation Service.
- approx. 7) Outside Westminster Abbey
- 2.00 p.m. 8) Hyde Park Corner
- onwards 9) Outside Buckingham Palace
- 10) R.A.F. Fly-Past.
- (at 5.20 p.m. approximately)

OB DIS-ESTABLISHING SHOT "Royal Standard"

On Cue from P.A.

5.20 **C.C.R. SOUND**

Fade to: STUDIO A

GRAMS: Last 70 secs of "Pomp & Circumstance"
Decca K.1141 Side B, AR9176.

5.22 A.P. FADE SOUND & VISION

BLANK SCREEN HELD FOR 15 SECONDS

C.C.R. VISION

Fade to: STUDIO A
STUDIO A GRAMS:

INTERVAL CAPTION

SOUND: "Crown Imperial" HMV DB 3164 Side
2
(Played in entirety) (4 mins approx)

5.26 Fade up: STUDIO A CAM.

SOUND & VISION: SYLVIA PETERS:

Her Majesty the Queen will broadcast to her people tonight at 9 o'clock.

The Television Service will begin at 8 o'clock with an edited telerecording of part of this morning's Coronation Service in Westminster Abbey.

At 5-minutes-to-9 and at 9 o'clock respectively we shall hear the sound broadcasts by Sir Winston Churchill from Downing Street and by Her Majesty from Buckingham Palace; and immediately afterwards our cameras on the Victoria Memorial will show the scene outside the Palace.

We leave the Palace at 9.20 when there will be a special 60 minute edition of Television Newsreel which we shall interrupt for a few minutes at about 9.45 to see Her Majesty make an appearance on the Palace Balcony and give the signal for the floodlighting of London.

The greatest day in the history of television will end with yet another outside broadcast from the Queen's capital; we shall take you to join the crowds lining the Thames Embankment at Westminster to watch the display of Coronation night fireworks.

May I very briefly remind you of these times again: (ad libs)

- 8 o'clock - a shortened telerecording of the Coronation Service.
- 8.55 - The Prime Minister and
- 9 o'clock - Her Majesty broadcasts
- 9.10 - Scenes outside Buckingham Palace
- 9.20 - special Newsreel, interrupted at 9.45 for
a further visit to the Palace
- 10.30 - Fireworks

Those, then, are our arrangements for tonight. But now it's time for Children's Television.

5.27.30 **C.C.R. SOUND & VISION**

Fade to: C.T.R.

FILM: CHILDREN'S OPENING FILM SEQUENCE

5.28 **C.C.R. SOUND & VISION**

approx Fade to: STUDIO A

SOUND & VISION ANNOUNCEMENT: MARY MALCOLM:

Hello children. What an exciting day this is. I am sure that you will already have spent most of it watching your television screen, but it's time now for your own special programme, and to celebrate Coronation Day we present from the studio a Tattoo.

C.C.R. SOUND & VISION

Fade to: STUDIO D-LG

"YOUTH TATTOO" Produced by M. Westmore.
(at end)

6.28 **C.C.R. SOUND & VISION**

Fade to: STUDIO A

SOUND & VISION ANNOUNCEMENT: MARY MALCOLM

Well children, that's the end of your own special programme. For the older ones who may be watching this evening - we start our transmission at 8 o'clock. That's all for now, so goodbye children, goodbye.

C.C.R. SOUND & VISION

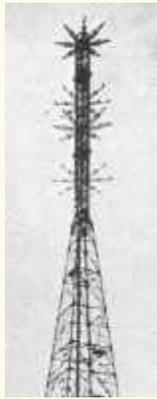
Fade to: C.T.R.
CLOSE DOWN

FILM: CHILDREN'S CLOSING ROUTINE

NEXT - [The Evening schedule](#)

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by Arthur
Dungate

Coronation Day Transmissions

Evening

After closing down at about half past six, the Television Service re-opened at five to eight. I had returned to AP after the Coronation transmission had ended and, following the evening meal in the BBC Restaurant (or "Canteen" as we called it) we lined up the Cintel flying spot telecines in CTR ready for the Tuning Signal at 7.55pm.

Shift Two **CORONATION DAY EVENING TRANSMISSIONS** Tuesday, 2nd
June, 1953

PRESENTATION ROUTINE ORDER

Presentation: Michael Philips
S.M.P.D. F.Clark
Continuity: Irene Coles
Announcer: Mary Malcolm

	Programme Summary	TIMING Estimated: Transmission Nett
7.55.00	CTROpening Routine: CCR Grams	55.00
8.00.35	A Announcement	
8.02.00	CTR TELERECORDING OF CORONATION SERVICE	54.00
8.56.00	A Announcement A (Mechau) BBC COAT OF ARMS H/S SOUND B'CAST: PRIME MINISTER H/S NAT. ANTHEM	
9.00.00	OB ROYAL STANDARD / OR approx A PORTRAIT OF QUEEN H/S H.M.THE QUEEN'S SPEECH	8.00
9.08.	OB BUCKINGHAM PALACE	
9.20.00	A Announcement CTRNEWSREEL 1st Part	20.00
9.40.00	OB BUCKINGHAM PALACE	
9.50.00	CTRNEWSREEL 2nd Part	50.00
10.30	A Announcement H MOUNT EVEREST TALK	5.00
10.35	A Announcement OB THAMES EMBANKMENT: FIREWORKS	
11.30	OB WESTMINSTER ABBEY	4.00
11.34	A Announcement A WEATHER CHARTS & CLOCK CCRNEWS: CLOSING ROUTINE	

TIME	SOURCE	PROGRAMME DETAILS
7.55.00	CENTRAL TELECINE	Tuning Capt.
	C.C.R.SOUND: GRAMS:	"The Three Elizabeths" Decca K.1110 Side B AR8862. Eric Coates

7.59.00CENTRAL TELECINE BBC COAT OF ARMS
7.59.30CENTRAL TELECINE: HOUSES OF PARLIAMENT
C.C.R. SOUND BIG BEN CHIMES

(at end)

8.00.35**C.C.R. SOUND & VISION**

Fade to: STUDIO A **SOUND & VISION: MARY MALCOLM**

This is the BBC Television Service. Goodevening.

And very glad we are to be back with you again on this great day. The weather unfortunately was bad but, as one of our commentators said, the rain dampened everything except our spirits.

And now for the rest of our programmes.

At five minutes to nine we shall hear the Sound Broadcast by Sir Winston Churchill from Downing Street. At 9 o'clock, Her Majesty the Queen will broadcast from Buckingham Palace, and immediately afterwards, our cameras on the Victoria Memorial will show the scene outside the Palace.

We leave the Palace at 9.20 when there will be a special 60 minute edition of the Television Newsreel which we shall interrupt for a few minutes at about 9.40 to see Her Majesty make an appearance on the Palace Balcony and give the signal for the floodlighting of London.

The news was received this morning in Great Britain of the conquest of Mount Everest. And tonight, after the newsreel, Dr. Raymond Greene, as a representative of the many previous expeditions that have pioneered the way to this ultimate triumph will be in the studio to say a few words.

We end with another outside broadcast from the Queen's capital. We shall take you to join the crowds lining the Thames Embankment at Westminster to watch the display of Coronation night Fireworks.

Now very briefly I'll remind you of these times again.

- 8.55. The Prime Minister's Broadcast, and at
- 9.00. Her Majesty broadcasts
- 9.10. scenes outside Buckingham Palace
- 9.20 Special Newsreel interrupted at
- 9.40 for a further visit to the Palace
- 10.30 after the Newsreel, a talk on Mount Everest
followed by Coronation night fireworks.

Now we begin with a telerecording of parts of this morning's Coronation Service in Westminster Abbey.

C.C.R. SOUND & VISION

Fade to: C.T.R.

TELERECORDING OF CORONATION ABBEY SERVICE

(at end)

C.C.R. SOUND AND VISION

8.56 Fade to: STUDIO A

STUDIO A CAM.SOUND & VISION: MARY MALCOLM

In just under 5 minutes time Listeners throughout the world will hear the Coronation message of Her Majesty Queen Elizabeth II.

In a few moments we shall be joining the Sound Services of the BBC to hear, first the Prime Minister of Great Britain, the Rt. Hon. Sir Winston Churchill.

Vision Fade to: A (MECHAU)

VISION: COAT OF ARMS

C.C.R.SOUND

Fade to: Home Service

SOUND: PRIME MINISTER

NOTE: (As P.M. speaks)

Fade to: CAM.

VISION: CAPTION: P.M. at Downing Street)
(at end)

HOME SERVICE: NATIONAL ANTHEM

On cue P.A.

C.C.R.VISION

Fade to: PB /OR
STUDIO A FADE TO CAM

OB: ROYAL STANDARD:
PORTRAIT OF QUEEN
HOME SERVICE: H.M.QUEEN'S SPEECH
(Lasting approx. 8 mins)

ending:....

As this day draws to its close, I know that my abiding memory of it will be, not only the solemnity and beauty of the ceremony, but the inspiration of your loyalty and affection. I thank you all from a full heart. God bless you all.

HOME SERVICE..NATIONAL ANTHEM

on cue P.A.

C.C.R.VISION

Fade to: OB/OR

STUDIO A STAY ON PORTRAIT OF QUEEN.

Fade to: OB

C.C.R.SOUND & VISION

Fade to: STUDIO A

OB ROYAL STANDARD

BUCKINGHAM PALACE SCENES

SOUND & VISION: MARY MALCOLM

ad lib suitable remarks to match hand back from OB)

...now we present the Coronation edition of TV NEWSREEL.

C.C.R.SOUND & VISION

Fade to: C.T.R.

NEWSREEL 1st Part.

(at end of 1st part of Newsreel)

Newsreel Commentator..... five guns

are fired.....at end of 5th Gun

C.C.R. SOUND & VISION

Fade to: OB

**OB: BUCKINGHAM PALACE:FLOODLIGHTING OF LONDON
&: BALCONY SCENES:**

OB Commentator..at that hour of climax we

leave the Newsreel

(at end of OB)

OB COMMENTATOR closes OB

OB Hold Dis-Estab. Shot

ON cue P.A.

C.C.R. SOUND & VISION

Fade to: C.T.R.

NEWSREEL (2nd Part)

(Newsreel Commentator...and now Television

Newsreel resumes its story of the earlier

events of this Coronation Day

(at end of Newsreel)

C.C.R. SOUND & VISION

Fade to: STUDIO A

SOUND & VISION: MARY MALCOLM

Now before we take you to the Embankment

to watch the display of Coronation fireworks here is a picture
of the highest mountain in the World.

(pause)

C.C.R. VISION

Fade to: STUDIO H

VISION: MOUNT EVEREST

STUDIO A

SOUND ONLY: MARY MALCOLM CONTINUES....

Last night the news was received in London

that Mount Everest had been climbed by two members,
E.P. Hilary and the Sherpa "Tensing", of the British
Mount Everest expedition led by Colonel Hunt. We have now
in the Studio a member of one of the previous eight British
expeditions that pioneered the way for this latest triumph -
Dr. Raymond Greene.

C.C.R. SOUND

Fade to: STUDIO H

MOUNT EVEREST TALK: Prod. Paul Johnstone.

(at end)

C.C.R. SOUND & VISION

Fade to: STUDIO A

STUDIO A

SOUND & VISION: MARY MALCOLM

Now we're going to take you to join the
crowds thronging the Thames Embankment at Westminster to
watch the display of Coronation night Fireworks.

C.C.R. SOUND & VISION

Fade to: OB

OB THAMES EMBANKMENT: CORONATION FIREWORKS

(at end)
COMMENTATOR hands over to Abbey OB

OB: INTERNAL ABBEY SCENES: RICHARD DIMBLEBY
(at end)

OB FADE SOUND & VISION

HOLD BLANK SCREEN 10-15 secs

C.C.R. SOUND & VISION

Fade to: STUDIO A

Fade to: CAM.

Fade to: CAM.

SOUND & VISION: MARY MALCOLM

ad lib into weather....

VISION: WEATHER CHARTS (Report read)

(at end)

SOUND & VISION: MARY MALCOLM

That is the end of the weather report

In just half a minute's time you can hear the news,
so now I'll just say goodnight everybody, goodnight.

Fade to:

VISION: CLOCK

C.C.R. SOUND: ADD B.H.

SOUND: NEWS (Live)

(at end: newsreader says goodnight)...

C.C.R.SOUND:

GRAMS: NATIONAL ANTHEM (Triumphant version)

CLOSE DOWN

NEXT - [Television Service Daily Allocations](#) for Coronation Day

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by Arthur
Dungate

[BBCTV](#) [Coronation](#) [Index](#) [Site Front page](#)

Coronation Day Transmissions

Allocation Schedule

Television Service Daily Allocations were issued to both tv studio premises in London (ie Alexandra Palace and Lime Grove) which gave details of what was booked to occur that day in the studios, telecine, control rooms and outside rehearsal locations.

Note: In the section on Studio G the numbers after the name of the Artists are those of the dressing rooms.

FROM: PRODUCTIONS MANAGER (TELEVISION) TELEVISION SERVICE DAILY ALLOCATIONS

WEEK 23: SHIFT 2 A.P.

TUESDAY, 2ND JUNE, 1953

TYPED 28.5.53

		ALEXANDRA PALACE	
Presentation:	M.Philips	Announcer (9.30/5.20)	Sylvia Peters
S.M.P.D.	F.Clark	Announcer (5.20 onwds)	Mary Malcolm
		LIME GROVE	
Makeup:	J.Monk	Wardrobe:	K.Thorp

CORONATION DAY TRANSMISSIONS

ALL TIMES APPROXIMATE

MORNING
9.15/10.15 CTR (AP)
10.15 A
10.16/10.28appOB

10.28/10.34appOB

10.34/10.50appOB

10.50/10.58appOB

ANNOUNCEMENTS IN STUDIO A ALL DAY
All Transmitters on Test Card C
Studio Announcement
Victoria Memorial:
Scene set: scheme for the day's broadcast. Queen passes on her way to Westminster Abbey
Outside Westminster Abbey:
Arrival of Queen Elizabeth the Queen Mother
Inside Westminster Abbey:
Preliminary Scene Set
Victoria Embankment, RAF Memorial:
To see the Queen go by (Schoolchildren)

10.58/11.02appOB Outside Westminster Abbey:
To see the Queen arrive

11.02/1.45app OB Into Abbey:
For Scene set, reference to Regalia, and entry of
"Great Proceeding"

1.45/2.15app A Probable Studio Caption

AFTERNOON

2.15/2.47app OB Outside Abbey:
For Departure of Prime Ministers, Colonial Rulers,
Royal Family, Queen Elizabeth the Queen Mother, and
the Queen (at 2.45)

2.47/3.30app OB Hyde Park, Grosvenor Gate:
Description of Coronation Procession from start to finish

3.30/4.35app OB Outside Buckingham Palace:
Description of full Procession and the Queen's Arrival
at Palace

4.35/5.00app A Probable Studio Caption

AFTERNOON (CONTINUED)

5.00/5.20app OB Outside Buckingham Palace:
Balcony Scenes & Fly-Past

CHILDREN'S TELEVISION

5.20/6.20app D Youth Tattoo

EVENING

8.00/8.55 CTR(AP) Telerecording: Abbey Sequence of Coronation

8.55/9.00 BH Sir Winston S. Churchill broadcast from
Downing Street (Sound Only)

9.00/9.10app BH HM the Queen (Sound Only)

9.10/9.20 OB Scenes Outside Buckingham Palace

9.20/10.20app CTR(AP) Special Edition of Television Newsreel devoted to
Coronation Day, No. 109

10.20/11.30appOB Scenes in London and Fireworks Display

11.30/11.34appA Met. & A.A. Charts

11.34/11.49 BH News in Sound Only

**PROGRAMMES BETWEEN 10.15 A.M. & 5.15 P.M. APPROX. AND 8.00 to 11.30 P.M. APPROX.
TO BE RELAYED TO FRANCE, BELGIUM, HOLLAND & GERMANY**

PLEASE NOTE: LIME GROVE PROPERTY LIFT No. 4 OUT OF COMMISSION 11 P.M./8 A.M.

STUDIO A	S.TEL.E.: L.G.Sutton	CREW NO. 7
	LIGHTING: G.Hudspith	
8.30/9.15	Set & Light: Announcements	
9.15/9.45	Camera Rehearsal	Prod: P.A.
	Announcements	S.M.: K.Buckley
9.45/10.15	Sound & Vision Lineup for Transmission	C.B.: L.Swainston

**WHOLE DAY'S TRANSMISSION ANNOUNCEMENTS IN STUDIO A ALL DAY
UP TO 6.20 APPROX**

10.15 Studio Announcement

10.16/1.45app Standby SM S'by: K.Buckley

1.45/2.15app Probable Studio Caption

12.00/2.00 LUNCH BREAK ARRANGED BY S.TELE.

TRANSMISSION (Continued)

2.15/4.35app Standby
4.35/5.00app Probable Studio Caption
5.00/5.20app Standby

5.30/6.00 Camera Rehearsal Prod: P.A.
Announcements S.M.: K.Buckley
C.B.: L.Swainston

TRANSMISSION (Continued) (CHILDREN'S TELEVISION)

5.20/6.20app Standby

6.00/8.00 DINNER BREAK ARRANGED BY S.TELE.

7.30/8.00 Sound & Vision Lineup for Transmission

TRANSMISSION

8.00/11.30app Standby
11.30/11.34app Met. & A.A. Charts

STUDIO B

STUDIO D S.TELE.: A.Wright CREW NO. 1
LIGHTING: J.Richardson

10.30/1.00 Camera Rehearsal (With Mechau) Prod: Westmore/
Youth Tattoo Michelmore
Barry McGregor (14) S.M.: A.Stevenson
Alicia Holt (15) C.B.: T.Kyne
Brass Band (63)
126 Children (54,64,65,66,61,57)

1.00/2.00 LUNCH BREAK

2.00/4.00 Camera Rehearsal (With Mechau) Youth Tattoo As 1st Rehearsal

4.00 TEA BREAK

4.50/5.20 Sound & Vision Lineup for transmission

CHILDREN'S TELEVISION ANNOUNCEMENTS IN STUDIO A
5.20/6.20app Youth Tattoo

6.30/7.30 DINNER BREAK

7.30/11.00 Set & Light: Mr. Little at Large

STUDIO G S.TELE.: S.Neeter CREW NO. 2
LIGHTING: D.Lightbody

8.30/12.00 Setting & Lighting: Serenade for a Queen

12.00/1.00 LUNCH BREAK

3.00/7.00

Camera Rehearsal (No Mechau)
Serenade for a Queen
(With Back Projection - BBC)
(With Mole Richardson Crane)
(TEA BREAK 3.30)

Prod: B.Sears
S.M.: J.Oxley
C.B.: D.M.Roland

Alicia Markova (46)

Julia Shelley (53)

Joan Bramhall (53)

Doris Arnold (53)

Elizabeth Schwartzkops (55)

Harriet Cohen (56)

8 Girl Dancers (58)

8 Female Choir (58)

12 Kneller Hall Trumpeters (59)

8 Male Choir (59)

Eric Robinson (60)

Robert Speight (62)

Keith Lester (63)

Tom Rand (63)

Donald Scott (63)

Mr. A.N.Other (63)

Orchestra of 45 (67)

Dennis Noble (69)

7.00/8.00

Non-Circuit Rehearsal
Serenade for a Queen

As 1st Rehearsal

7.00/8.00

DINNER BREAK

8.00/10.00

ENGINEERS' PERIOD

STUDIO H

S.TELE.: G.R.Summers
LIGHTING: G.Millerson

CREW NO. 3

HELD IN RESERVE FOR VIEWING (D.WOLFE-MURRAY)

OR

FOR PROGRAMME 1.00/11.15 P.M.

(D.Rs. 7,8,9,11,12,13,16,26,27
will be available for programme use)

C.T.R. (A.P.)

D.T.E.: J.Brown

8.45/9.15

Sound & Vision Lineup for Transmission

TRANSMISSION (UP TO 6.20 APPROX)

9.15/10.15	Test Card C
10.15/6.20app	Standby - 16mm & 35mm
.	
12.00/2.00	LUNCH BREAK ARRANGED BY S.TEL.E.
.	
6.00/8.00	DINNER BREAK ARRANGED BY S.TEL.E.
.	
7.30/8.00	Sound & Vision Lineup for Transmission
.	
TRANSMISSION	
7.55/8.00	Tuning Signal followed by Opening Routine
8.00/8.55	Telerecording: Abbey Sequence of Coronation
8.55/9.20	Standby - 16mm & 35mm
9.20/10.20app	Special Edition of Television Newsreel devoted to
	Coronation Day, No. 109
10.20/11.34app	Standby - 16mm & 35mm

TELERECORDING OF ABBEY SEQUENCE OF CORONATION AND SPECIAL
EDITION OF NEWSREEL TO BE REHEARSED AS AND WHEN POSSIBLE

TELERECORDING:	ALL DAY
.	
STUDIO A	No Mechau required

C.T.R. (L.G.)	D.T.E.: R.Whatley
.	
TELERECORDING	ALL DAY
.	
STUDIO D	Mechau required 10.30/6.20 P.M.
.	
STUDIO G	No Mechau required
.	
STUDIO H	No Mechau required

C.C.R.	.	S.TEL.E.: W.J.Pearce
.		
LINEUPS UP TO 6.20 P.M.		(ALL TIMES APPROXIMATE)
.		
(12.00/2.00		LUNCH BREAK ARRANGED BY S.TEL.E.)
.		
8.45/9.15	CTR (AP)	Sound & Vision Lineup for Transmission
.		
9.45/10.15	A	Sound & Vision Lineup for Transmission
.		
9.46/10.16	OB	Sound & Vision Lineup for Transmission
.		
9.58/10.28	OB	Sound & Vision Lineup for Transmission
.		
10.04/10.34	OB	Sound & Vision Lineup for Transmission
.		
10.20/10.50	OB	Sound & Vision Lineup for Transmission
.		
10.28/10.58	OB	Sound & Vision Lineup for Transmission
.		
10.32/11.02	OB	Sound & Vision Lineup for Transmission
.		
1.45/2.15	OB	Sound & Vision Lineup for Transmission
.		
2.17/2.47	OB	Sound & Vision Lineup for Transmission

.
 3.00/3.30 OB Sound & Vision Lineup for Transmission
 .
 4.30/5.00 OB Sound & Vision Lineup for Transmission
 .
 4.50/5.20 D Sound & Vision Lineup for Transmission
 .

TRANSMISSION

9.15/10.15 CTR (AP)
10.15 A
10.16/10.28app OB
10.28/10.34app OB
10.34/10.50app OB
10.50/10.58pp OB
10.58/11.02app OB
11.02/1.45app OB
1.45/2.15app A
2.15/2.47app OB
2.47/3.30app OB
3.30/4.35app OB
4.35/5.00app A
5.00/5.20app OB
5.20/6.20app D

ANNOUNCEMENTS IN STUDIO A ALL DAY

All Transmitters on Test Card C
Studio Announcement
Victoria Memorial (Standby: A&CTR,AP, 16 & 35mm)
Outside Westminster Abbey (Standby: A&CTR,AP,16 & 35mmm)
Inside Westminster Abbey " " " " "
Victoria Embankment, RAF Memorial " " " " "
Outside Westminster Abbey " " " " "
Into Abbey " " " " "
Probable Studio Caption (Standby: CTR AP 16 & 35mm)
Outside Abbey (Standby: A & CTR AP 16 & 35 mm)
Hyde Park, Grosvenor Gate " " " " " " "
Outside Buckingham Palace " " " " " " "
Probable Studio Caption (Standby CTR AP 16 & 35 mm)
Outside Buckingham Palace (Standby A&CTR AP 16 & 35 mm)
Youth Tattoo " " " " " " " " "

.
 6.00/8.00 DINNER BREAK ARRANGED BY S.TEL.E.
 .

7.30/8.00 A,CTR (AP) Sound & Vision Lineup for Transmission
 .
 8.40/9.100 B Sound & Vision Lineup for Transmission
 .
 9.50/10.20 OB Sound & Vision Lineup for Transmission
 .

7.50 WARNING BELL: C.A.R. Switchboard Operator to ring bell as usual
 .

TRANSMISSION

7.55/8.00 CTR (AP)
8.00/8.55 CTR (AP)
8.55/9.00 BH

9.00/9.10app BH
9.10/9.20 OB
9.20.10.20app CTR(AP)

10.20/11.30app OB

11.30/11.34app A
11.34/11.49 BH

Tuning Signal followed by Opening Routine
Telerecording: Abbey Sequence of Coronation (A Standby)
Sir Winston S. Churchill B/C from Downing St. (S.Only)
 (A, CTR AP 16 mm & 35 mm S'by)
HM the Queen (Sound Only (A,CTR AP 16 & 35mm S'by)
Scenes Outside Buckingham Palace (A&CTR AP 16&35 mm S'by)
Special Edition of Television Newsreel devoted to
Coronation Day, No. 109 (A Standby)
Scenes in London & Fireworks Display (A&CTRAP 16&35mm
 S'by)

PROGRAMMES BETWEEN 10.15 a.m. & 5.15 p.m. APPROX. & 8.00/11.30 P.M. APPROX.
TO BE RELAYED TO FRANCE, HOLLAND & GERMANY

OUTSIDE REHEARSALS J.HUGHES - REGENT 3439 - EXT.4)

.
 Marquis of Cornwallis, Marchmont St. - TERminus 0891 - Kaleidoscope - D.MOODIE
 .

60 Paddington St. - WELbeck 1536 - Harlequinade - H.BURTON



TV DOGS and The Waltons

This is a transcript of an item on tv DOGS, in the **Right To Reply** programme first broadcast on Channel 4 TV in the UK, 21 November 1998 and repeated on 27 November 1998.

Presenter: **Roger Bolton:**

Last Sunday the latest digital broadcaster OnDigital launched a new service of 30 channels. Television viewers entering the digital age will discover a whole new world of electronic programme guides, or on-screen menus, to help them navigate the multitude of channels. But broadcasters are worried that we won't know which channel we're watching, when there are hundreds to choose from. In an attempt to make sure we remember, some are permanently displaying their logos on-screen. These logos are called DOGS - Digitally Originated Graphics.

Andrew Wiseman is just one viewer who wants their "mess" cleaned up -

Andrew Wiseman: Many viewers are animal lovers, but like me, they just can't stand DOGS - not our four-legged friends you understand, but those permanent, annoying on-screen logos that are popping up all over the place. Broadcasters say we have to have them so we know which channel we're watching. Very useful when you're channel surfing, - they say. DOGS, - they say, are particularly useful for digital tv, when potentially hundreds of channels will be available.

RUBBISH! When you change channel on a digital television, an onscreen display tells you *exactly* which channel you're watching. This information can be brought back on-screen at any time at the touch of a button, so we don't NEED a constant reminder as though we have the memory of a goldfish..... Do broadcasters think we're too stupid to use this information? I'm not the only viewer who finds DOGS intrusive.

Channel Five, the first terrestrial channel to have a permanent on-screen logo, turned down the intensity of its DOG in the wake of a wave of viewers' complaints:

Glynn Brailsford, Controller of Creative Services, C5: We tweaked it, we reduced the intensity of it within probably two weeks of being on-air and more or less left it at that. And just gauging, quite honestly on viewer complaints, they've just ceased now, there are very very few I can honestly say that. I think it's accepted as part of the landscape. We love our DOG and take great care of it and we wouldn't like to see it put down.

Andrew Wiseman: It was viewer power that forced Sky to completely remove DOGS from its movie channels. Similarly, the reason why Channel 4 is relatively bug-free is that viewers forced it to rethink its branding plans when a logo was run overnight, much to viewers' disgust. That's why its new digital channel *Film Four* was launched without a DOG at all.

Steve White, Head of Presentation, C4: People that have subscribed to *Film Four* who particularly want to see a 2-hour film uncut as if they were in the cinema, certainly think it's reasonable not to include a DOG on the film. It's fair that they see the film as it was meant to be. In an ideal world we wouldn't have had any DOGS at all, I don't like them personally and I don't think viewers do. However, as a way of identifying channels, certainly with the introduction of satellite it was seen to be the way that new channels could establish that they were there, and that you didn't have to wait half an hour or an hour for the next programme to find out what channel you were on.

Andrew Wiseman: But one Channel 4 commissioning editor has become a DOG breeder on Sunday mornings, much to the annoyance of many viewers, especially fans of *The Waltons*. So why does T4 have a DOG?

Andi Peters, Commissioning Editor, Children and Young People, C4: T4 has a DOG because I thought it was necessary that the whole output of T4 programmes be branded. In this day and age it's possible to see a programme for instance like *Sister Sister* five times in one day on three different channels. Therefore it's essential that when people watch *Sister Sister* on Channel 4, on T4, they know it's Channel 4 that they're watching, and that might make them stay and think I'll keep watching, because of what will come next.

Andrew Wiseman: Are you surprised that viewers have complained?

Andi Peters: Approximately a hundred people have complained. On average the shows are getting a lot more viewers than that. I knew people would complain, especially *Waltons* viewers, and as a special thing for *Waltons* viewers I am in the process I have commissioned the DOG to change to a sepia coloured DOG. I don't have a problem with DOGS.

Andrew Wiseman: So you won't be putting the DOG down then?

Andi Peters: It's on four legs and it's going to stay there.

Andrew Wiseman: If broadcasters are going to insist on using DOGS, then at least let them be subtle and unintrusive as possible, unlike the BBC's digital tv DOGS. For the Beeb, widescreen doesn't mean bigger picture, it means longer DOGS. These DOGS are leaving longer and longer trails of excrement across our tv screens. I think it's time for a clean-up campaign. Technology can already tell us what we're watching. It's up to the broadcasters to make their channels distinctive with quality programmes, not designer labels.....

Robert Bolton: The BBC confirmed it has had a large number of complaints about the logos on its digital channels, and is having a re-think.

COMMENT -

With the electronic on-screen menus and programme guides, there is no excuse, or need, for DOGS - at all. Almost all the broadcasters who inflict these DOGS on us do so in the most prominent part of the screen - at the TOP! Incredible! Their intrusive impact would be less, much less, if they were at the BOTTOM of the screen.

Steve White, Head of Presentation, C4 said "In an ideal world we wouldn't have had any DOGS at all, I don't like them personally and I don't think viewers do." Yet in spite of thinking the viewers don't like them he still allows them.... What an indictment for a "Head of Presentation"! One can see how upsidedown his thinking is when he says "People ... certainly think it's reasonable not to include a DOG on the film". The actuality is that people think it *un*reasonable to have them there.....

Andi Peters admits he knew people would complain, yet went ahead anyway. Then said that he doesn't "have a problem with DOGS" No, *HE* doesn't, *WE* do..... And he concluded by saying "it's going to stay there". How arrogant can one get? And that lame "sop" to us about making the T4 DOG change colour to sepia while *The Waltons* is on..... He MUST think we are all stupid. Since we don't like them, then **get rid of them**, changing the colour does **NOTHING** to reduce the annoyance of them.

I support Andrew's plea for a Campaign to Clean Up the mess!

(*Arthur Dugate*)

[A Waltons Miscellany page 1](#)

Return to [Arthur's Info Page](#)



Bad tv production techniques

Warning!
This page is subject to additions.

More and more I am getting fed up with the ever lowering standards of television production these days. Television in the UK used to be of a very high standard, but the way things now appear on our screens makes me wonder if production personnel get any training at all - or if they do, then they are trained in bad habits. Where will it end?

Here are some examples --

One of the things which are just plain silly is the growing trend to put ident captions on the wrong side of the screen.



An example of this is taken from Panorama, one of the BBC's current affairs programmes.
(*'Panorama'* Wed 1 Dec 99 © BBC)

At the start, everything is fine, the reporter is correctly identified.





Yet here we have a computer monitor screen called Tom Winsor, and a bunch of flowers named Bill Spriggs!

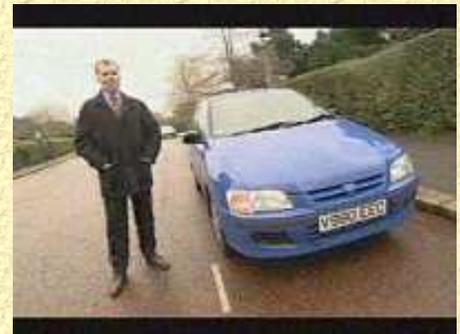


USE A SPIRIT LEVEL

The next of today's stupidities is the all-too-frequent non-level, cock-eyed tilted camera shots, which make nonsense and are irritating to look at. The following is **not** depicting the sinking of the Titanic, but a Channel 4 talks programme.....



This is bad enough, but -

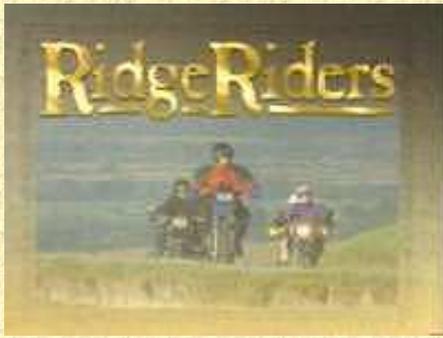


Have *you* tried to drive a car on roads at this crazy angle?



And the cameraman couldn't even get the shot of the reporter straight..... ('Watchdog', Thur 9 Dec 99 © BBC)

But this tilted shot nonsense is not just a recent phenomena. Here is an example of the disease from an otherwise excellent tv series of 1997 -



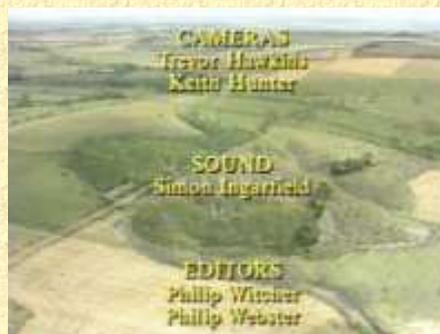
Meridian TV, the ITV company serving the South and South East of England produced several series of The RidgeRiders. (© Channel 4 Television Corporation)

The programmes, made by Topical Television, a subcontracted production company, had several instances of tilted shots -



- none of which were necessary.

The screen credits on this 1997 programme had two cameramen, but did not state which was the cock-eyed one, nor which of the two editors chose the tilted shots.....



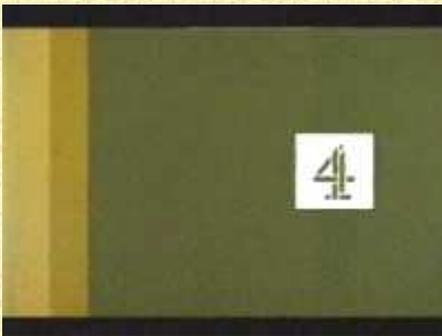


I question the outlook of the production people responsible for these things. They seem to have no regard for excellence of work. The thinking - if they think about it at all - appears to be if it is technically possible to do it, then it must be clever, and therefore good....



WIDESCREENITIS

This is another cancer which is spreading across all the UK tv channels. Although widescreen is a good development - for the digital channels which can support this, yet far too often the viewers on the existing analogue channels, with 'normal' aspect ratio (4x3) tv sets are subjected to pictures which do not fill their screens. Panorama, in the example above, now exhibits this trend. Channel 4, however, is far worse.



Even though the station's channel ident is small screen, more and more programmes are worse, with pictures even smaller!



And even for viewers **with** a widescreen display, far too many shots still are shown (well I can't call them 'composed'!) with tops of heads cut off. Hasn't anyone heard of 'headroom' these days?



Channel 4's production standards have sunk even lower with these examples of unsuitable (to say the least) camera shots, where, after a fairly decent establishing shot -----



- it is just about impossible to see what the people look like!

What a great example of the **mis-use** of widescreen!

('Right To Reply' Sat 27 Nov 99 © Channel 4 Television Corporation)



Even the BBC is presenting a poor case for widescreen. Although its tv news programmes have full-size pictures, when the studio set is shown, with a widescreen-shaped monitor,



only the top three-quarters of the reporter is shown, and even that is slightly squashed.....



One of the BBC's regional news programmes is even worse --



Here the wide studio monitor screen shows the weather picture stretched grotesquely to fit.....



So the message conveyed to the viewer who has an 'ordinary' tv set is that with widescreen one will get only part of the picture, not more of it, or one which is grotesquely distorted! How stupid can today's tv production people get?

One of the worst effects of the mis-use of widescreen is in documentary or historical programmes which use a lot of archive material. These programmes are unsuited to a widescreen format and this is especially evident when the archive material, either black & white newsreel footage or normal ratio television material, is included within the letterbox-shaped programme with the top and bottom of the pictures cut off to fit the widescreen shape.

WIDESCREENITIS - JUST AS GUILTY!

ITV in the UK is just as guilty in committing the Widescreenitis sin. Here are some examples from a documentary on Bing Crosby, in the series The South Bank Show, transmitted on Sunday 26 December 1999.



In an early film, half of Bing Crosby's head was chopped off.



And Bob Hope appeared in an excerpt from The Road to Utopia - at least part of him did.



A couple of scenes from Holiday Inn also suffered from Widescreenitis.

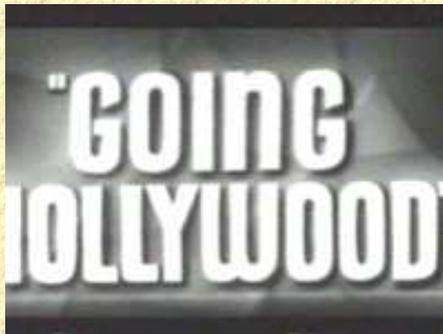




Here is what we *should* have seen.....



With a letterbox/widescreen shape one would expect titles in widescreen films to be shown properly, but here, Widescreenitis has gone mad.



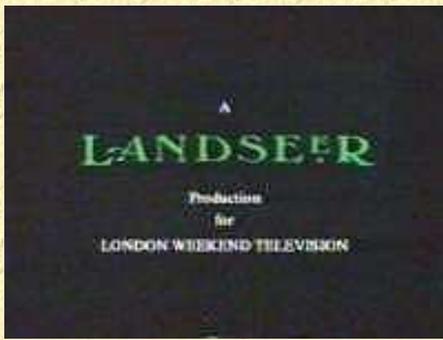
And this, non-widescreen title, as well as suffering from missing top and bottom, had the side chopped off too!

Paramount's arc of stars only partially made it.



An interviewee had his head half chopped off. Do the programme makers think we are still viewing television with 12 inch tubes?

This programme, (produced and directed by Derek Bailey), becomes a classic example of how **not** to do things. And it ended on a suitably confused note -



'A Landseer Production for LWT' was followed by 'An LWT Production'. One company commissioned the programme from the other, so they couldn't have **both** produced it!



Or maybe that forms an appropriately mis-produced ending?



(but there are more examples on the [Grey Owl](#) page.....).

For, or against Widescreenitis - I rest my case.

On the next pages see also -
[The Great Widescreen Ripoff](#) and
[The Great Downfall](#) - a personal opinion

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Encounter with Grey Owl (and a television disappointment)

I first encountered Grey Owl when, as a young lad, I was given one of his books as a present. This was **Pilgrims of the Wild**, a fascinating account of Grey Owl's conversion from a hunter and trapper of beaver in the Canadian backwoods to a dedicated preserver of this animal. Grey Owl was Canada's first naturalist and possibly the first conservationist of the modern world, as well as being an exceptional writer.



Pilgrims of the Wild was Grey Owl's second book and in it he relates the writing of his first book, **The Vanishing Frontier**, and of his disappointment that the publisher, **Country Life**, arbitrarily changed the title to **The Men of the Last Frontier**. All his other books were then published by Lovat Dickson, a sympathetic publisher based in London, England.

Some years later I searched out second-hand copies of Grey Owl's other books -

- **The Men of the Last Frontier** (Country Life, 1931)
- **Pilgrims of the Wild** (1935)
- **The Adventures of Sajo and her Beaver People** (1935)
- **Tales of an Empty Cabin** (1936)

I also came across -

- **Grey Owl and the Beaver**, by Harper Cory (Thomas Nelson, 1935)
- **Half-Breed, the Story of Grey Owl**, by Lovat Dickson (Peter Davies, 1939)

Pilgrims of the Wild also relates how a cinema film was made in the 1930s of his encounters with the Canadian beaver and for many years I have wanted to see it. The film was made by the National Parks of Canada and called The Beaver People. So when BBC Television made a 50 minute documentary about Grey Owl in April 1999 I eagerly looked forward to seeing excerpts from this historical film.

But I was somewhat disappointed when the tv documentary turned out to have been made in the current letterbox craze. The much-looked-forward-to film excerpts were shown with top and bottom cropped to fit the letterbox shape. Such a shame.



In the programme was an excerpt from an early newsreel.
Widescreen in 1903? Rubbish!



Later on, in an excerpt from a mid-1930s newsreel, the title **was** shown properly, within the letterbox shape. Obviously the tv producer realised that autocratically chopping off top and bottom of the title would be too much to get away with here.

A pity the rest of the excerpt didn't get the same consideration.



Nor did any of the other archive material -



It was another example of the mis-use of widescreen tv.

The tv programme was produced and directed by **Richard Bradley**, and was a Lion Production for BBC TV.

To be fair, the programme itself was very interesting and well put together - except for this one serious flaw.....

[All screenshots from the tv programme are Copyright © BBC]

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Gripes, Moans and things.....

This is devoted to recording those niggles and idiosyncrasies of modern living which have so infuriated or irritated me. So here goes --

[Royal Mail](#)

[Dixons Group](#)

[PLC](#)

Language

A lot of bad habits have been creeping into spoken English which irritate me.

Sea Change

What does this mean? When I first heard it I thought it was a 'C' change, and so I wondered where were the 'A' and 'B' changes? So how does one change a sea? It is impossible of course, and thus it is without meaning. Do those who say this realise how silly it is?

Separated out

Why use the word 'out'? What else can to separate do? Can you separate IN? Of course not. It is an example of tautology, that is, using unnecessary words.

A Moment in Time

When people say 'at this moment in time', it also seems to be tautology, in which the words 'in time' are superfluous as, since a moment IS a part of time, then it does not need saying. It could be pointed out that actually a 'moment' can have another

meaning, that is in Physics where it describes a force. However, physics is not a subject generally talked about in everyday language.

Giving thanks

More and more people when wishing to thank someone almost always say 'thank you very much indeed'. They rattle this off quickly without thought. Yet, by using the 'double superlative' form just about exclusively, it debases the language. What is wrong with just saying 'thankyou'? When someone needs to give special thanks, how is it done? How do you increase it if the maximum form has already been used so indiscriminately? Thankyou very much indeed indeed indeed???

Quote unquote

Why do people use this so indiscriminately, and incorrectly? You might hear someone say something like - When I think about the, quote unquote state of the country, ... Quotation marks are to signify something special, and to do that something has to be put **within** them. The way people use it is ridiculous. By saying Quote unquote it is saying - When I think about the, " " state of the country..... There is *nothing within the quotation marks*, and thus the statement is meaningless.

Absolutely!

So many folk these days when replying in the affirmative, use this word. The Chambers English Dictionary defines it as - "separately, by itself: unconditionally: positively: completely - as a colourless but emphatic affirmative". So does it niggle me? Absolutely. (but why not use the simple word "yes"?)

I could close this section by approximately quoting an American lawyer, and say that I do know English, it is my mother tongue!

The Royal Mail (formerly known as The Post Office)

On Monday 28 September 1998 I posted an envelope to an address in **Fleet, Hampshire**. As I believe in recycling things, rather than throwing them away, I re-used an envelope, crossing out the original typed address (mine), and putting the new address in large letters. I used a dark blue felt pen.

The following day (Tuesday 29 Sept) this letter was delivered back to me! It was hard to read my crossed out address, and the new, Fleet address was very prominent. Complaining to Royal Mail's 'Customer Service Department' at Twickenham, I told the operator all about it. Not receiving any satisfaction I asked to speak with her superior. I then found myself speaking to 'Karen, one of the Managers' as she identified herself. She explained that the mail is read by computer, from the bottom

up, and thus would disregard any written address in favour of the code previously applied when the envelope was first used. As this seemed so ludicrous I took the envelope to the Customer Service Dept in order to show her exactly what it looked like.

Arriving there I discovered that no-one knew of any 'Karen, one of the Managers'.... and I did not discover who I had been speaking to on the phone. I did, though, see a lady (who was not 'one of the Managers') and who explained that the Royal Mail did not recommend the re-use of envelopes, only brand new ones (which seems odd in these times when we are all encouraged to recycle and re-use things, to conserve natural resources). The computerised system reads the code (lines and dots) at the bottom of the envelope, thus disregarding any other information, thus it would be sorted to **my** post area and not sent on to Fleet.

This does not, however, explain the fact that the envelope was **not** delivered back to me by a 'computer', but by a real live human being, who must have looked extremely intently in order to discover my address, to all intents and purposes obliterated by the dark blue felt pen.

As the stamp on the envelope had been franked, I insisted that I did not intend to pay again, and I persuaded the lady to give me a large, stamped Royal Mail envelope in which to re-post my mail. Although, in this case, it has ended with some satisfaction, nevertheless, having been informed that this is not the first time such a thing has occurred, it is ludicrous that the system is not altered to take into account recycled envelopes.....

(Arthur Dungate)

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Dixons Group PLC

Editor's note: On Monday 28 September 1998 a colleague of a friend sent me the following as an e-mail, with the Subject heading "**Dire warning (but not about viruses!)**" and it probably refers to the Freeserve installation CD version 1.0. --

If you have been wondering how **Dixons Group PLC** can offer Free Internet access - **READ ON.**

I MUST warn all net users in the UK about the "**FREE UNLIMITED INTERNET ACCESS**" disk being distributed by **Dixons** and **Currys**. I have since seen other sites with disaster stories about this software. My problems can only be due to my computer set-up. It might explain the salesman in Currys saying that the software was "really for computers that they sell". Perhaps he was trying to warn me

off - but he could have explained/tried harder.

When I inserted the free CD all hell broke loose on my computer. I use Netscape most of the time but retain Microsoft for "back-up". The installation software reset all my "Telephony" settings, deleting all six ISP telephone numbers and their associated settings. It then proceeded to reset all my carefully set up folder options and reset everything as web pages. The very part of Windows 98 that I can't stand. It also reinstalled the Active desktop including that bloody bar that stays on the screen. The top of **EVERY** folder carried the FreeServe logo.(This must be wrong without the option of stopping it)

The last straw was for the logos at the bottom of the screen which give direct access to internet explorer, and outlook express to be reset to give only a blank screen. When I investigated further I found that all files under Programme Files/Internet Explorer were **EMPTY !!!** All my history, Bookmarks **BLANK**. Thank heavens that my group mail was backed up.

It took some two hours of struggle and going to the extent of trying to copy WIN98 files via my network from another computer.

I only hope that the above problems are reported all over the web as **I regard this software as little better than a virus of the worst kind**. Perhaps someone with money will try to sue Dixons Group PLC in the County Court for the trouble that this "FREE" software has caused. **IT CARRIES NO WARNING** that it will attach itself to other programmes - something that distinguishes a program from a virus.

They set all this stuff up on the computer and then try to charge **1GBP** per minute to help you remove it - The smile **MUST** be wiped off their faces.

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My Heart Condition

This is a review of the problems I have experienced.

The first sign of impending trouble occurred in November 1996 when I visited Ealing Library. Having parked my motorcycle, I walked briskly through the pedestrian shopping precinct and up the steps to the library, only to find I had come on a Monday, the day the Library is closed. Turning round, I walked fast down the steps and was half-way back through the precinct when I suddenly felt very unsteady, and had to rest against a shop front in order not to fall down. After a few minutes I was able to walk slowly to my motorbike, but had to sit down on the ground for several minutes in order to recover.

The second time was in February 1997 when I was going to meet a friend in the centre of London one evening. I had taken the bus from home to Hounslow Central Underground station, crossed the road, and went up the station steps (being several miles outside London to the west, the Underground line is, paradoxically, above ground on embankment) two at a time, as was usual, got to the top and almost collapsed into a train which had just arrived. As it was full, and not having the strength to stand, I sat on the floor for the whole journey into London. Getting out at Leicester Square station, I slowly staggered up the steps to the street where the cool fresh air revived me sufficiently to meet my friend.

Following the collapse in February 1997 I saw my doctor who arranged some chest X-rays, but as these were inconclusive, I had a series of examinations and tests at the Chest Clinic at West Middlesex University Hospital. Further X-rays, ECG and ET tests, culminating in a Bronchoscopy (that's where a tube is inserted up one nostril and down into the lungs so that the inside can be viewed) over the next months revealed that one of the output valves from my heart was not opening fully, thus preventing an adequate blood supply to my brain during exertion.

Throughout the year since February 1997 I experienced further collapses, two of those occurring this year while I was out shopping, and losing consciousness resulting in an ambulance being called and my being taken to Casualty at the hospital. The total, so far, of these traumatic events being about eight, during the last three of which I have definitely lost consciousness.

Living on my own, it is a sobering experience to "come to" to find oneself laying face down on the concrete garden path, having (as on the last occasion) crashed face down and then having to fight for breath, not having the strength to get up for half an hour or so.... During the last few months, it has become increasingly apparent that I need to do less and less in order to over-exert myself. Walking now has to be done very slowly, and going upstairs **extremely** slowly..... For an active guy, accustomed to fast walking, this is very difficult to do!

The Heart Consultant at the hospital has applied for me to go to Hammersmith Hospital as soon as possible for, firstly a Cardiac Catheterization (Coronary Angiogram). The leaflet sent by the hospital states -

During this test a fine hollow tube is passed through a small puncture in the femoral artery (in the groin) up to the heart. Dye is injected through this tube and X-ray pictures are taken of the dye flowing through the heart and coronary arteries. This shows any narrowing or blockages of the coronary arteries, and the effectiveness of the heart's pumping chamber (ventricles). Problems with the heart valves can also be diagnosed.

This test will then be followed (very soon afterwards I hope) on a second visit with the actual major operation to replace the defective heart valve.

I am not looking forward to this at all, but I am looking forward to BEYOND it, when, as many others have found, a new lease of life should become available!

UPDATE 21 April 1998 -

Due to a further (double) collapse, I have been phoning the hospital, and have now got an appointment for the Catheter test on **Wednesday 29 April**.

More info, as and when!

UPDATE 30 April 1998 -

The Catheter test (Coronary Angiogram) took place but, as it was concluding my heart "jumped into overdrive". As you may know, (depending on the person) one's pulse rate should be somewhere between 60 and 80 per minute. Mine jumped to **120**, then it got to **160**, and then reached **200**.....So I became an "**Emergency**" and was rushed upstairs where the doctors treated me with injections to bring the rate down to normal,

which, after a time, it did. So I was kept in overnight - just to make sure the rate remained normal and stable, and, following an Echocan, which I'm to have on **Wednesday 6 May**, I should be in for the actual heart valve replacement within 2 or 3 weeks.

UPDATE 13 May 1998 -

Today, Wednesday, I feel terrible, but at long last, I'm going into hospital for this op. So there will be no more Updates for a while.....

FINAL UPDATE (hopefully) 23 June 1998 -

One of my kind friends took me into The Hammersmith Hospital on that Wednesday (13 May). On initial tests it was found that I had some infection in the chest (pneumonia) and the surgeons said that if a new valve was inserted while the infection was present, it could be a disaster. Of course I didn't want a 'disaster' and was 'handed over' to the medical team who successfully combatted the infection, 'returning' me to the surgical team one week later. This meant that my now urgent operation had necessarily been delayed a week. So on Thursday 21 May I at last had a new aortic valve in my heart. I was then in Intensive Care for two days then returned to the Recovery Ward. I was discharged from the hospital on Saturday 30 May and another kind friend took me to stay with some friends in a bungalow, so there were no stairs for me to have to negotiate. I convalesced (sorry, can't be bothered to check spelling of that one....) there for just over three weeks, getting stronger as the days went by, and finally returned home yesterday, Monday 22 June, and had a rapturous welcome from my two pussies..... This morning (Tues 23 June) I switched on my computer to find 90 e-mails..... so it will take a time to sort through all this, and restart my life again!

My present condition is that I can look after myself, use the stairs, and walk to the bus stop, but it will take time to get back to full strength. However, with this new valve (which, incidentally, if it is quiet I can hear ticking inside me like a watch!) I can now look forward to 15 to 20 years of active life!

Words cannot express my admiration and gratitude for the skill and dedication of the nursing, medical staff and surgeons at the hospital.....

A 'FINAL' FINAL UPDATE 25 August 1998 -

It is now three months since my operation: My strength is returning; I can walk as fast as I used to (but not yet quite as far); I can even go up steps two at a time, without feeling unduly puffed; I am now well on the way to complete recovery!

A 'REALLY' FINAL UPDATE October 1999 -

Now, I am "one year and five months old", my strength has returned, I can walk

normally and feel quite young again.

LAST THOUGHTS -

If anyone is experiencing a similar condition, I would like to assure any reader that with correct treatment, and suitable medication, including pain-killing drugs for a month or so following the operation, no pain or discomfort is experienced (not even immediately following the operation). My present medication is one tablet a day of Amiodarone - to stabilise heart rate, and two tablets of Warfarin a day - this is to keep my blood thinner than it normally would be, in order to prevent a clot forming on the metal valve. I have to take this medication for the rest of my natural life, **but what a small price to pay for the continuation of a happy existence!**

THE REHABILITATION PROGRAMME -

About six weeks after a cardiac operation, Charing Cross Hospital (part of the Hammersmith Hospitals NHS Trust) offers a '**Cardiac Rehabilitation Programme**' details of which are on the [next page](#).

(Arthur Dungate)

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SyncroSlide Productions

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About the Author

A Potted Autobiography

by *Arthur Dungate* (who else of course....?)

Although I'm not really keen on 'home pages' yet it may be that a potted autobiographical (long word, that....) account might be of some slight interest?

The Prologue

Born in July 1931 as (oddly enough) 'Arthur Dungate' my early years in the 1930s were spent in Hounslow, originally in the English county of Middlesex, but now in 'Greater London' (how did they manage to move it without damage?). With the imminent start of World War II, my father, who worked in the Ministry of Pensions was transferred, with that Ministry, up north to Lancashire, and shortly afterwards my mother and myself moved there too. This was late in 1939.



We spent the war years in a rented house in Cleveleys, on the Fylde coast in Lancashire, mid-way between the famous holiday resort of Blackpool and the small port of Fleetwood.





Promenade at Cleveleys



Rough sea at Blackpool

Blackpool in wartime was quiet, although crowded with holidaymakers in the summer. During the winter season the Blackpool Opera House, which had the largest stage in the country, regularly offered two-week seasons of concerts by national orchestras, ballet and light opera companies. This was in contrast to the summer fare of holiday trivia.



The famous Blackpool Tower contained in the ballroom one of the finest WurliTzer organs in the world. The resident organist was Reginald Dixon, although during the war, he was enlisted in the RAF so his place was taken by Ena Baga.

He returned after the war in 1946. Since the pipe chambers were at the top of the ballroom, going onto the upper gallery, one got the full force. Wonderful!



My mother was a member of the Blackpool Choral Society and in winter time there was an annual performance of Handel's Messiah, with the Blackpool Symphony Orchestra, and Reginald Dixon also accompanying on the organ. Several times the contralto soloist was the young Kathleen Ferrier (seen left).

School Plays

I went to Baines' Grammar School in Poulton-le-Fylde, in those days a small country town a few miles inland, cycling there until I left in 1950. (OK I didn't actually cycle continuously for 8 years, just to get to and from school each day.....). In the later years while still at school I participated in several school plays, providing music and effects (in those days from 78rpm gramophone records played on a twin-turntable desk I'd built myself). We did Sheridan's '**The Rivals**', Shaw's '**The Devil's Disciple**' and Shakespeare's '**Macbeth**'. For the Devil's Disciple I developed a system of switching loudspeakers so that sound effects etc would come from appropriate places on stage. That impressed the audience, until someone backstage kicked out a loudspeaker lead and we had silence for a bit.....



Professor Dunglestein's Experiments



During the last two years at school, when in the 6th Form, I would often conduct experiments not exactly in the curriculum.

Playing with the Leyden jar in the Advanced Physics Laboratory I once forgot to use the metal bottom part. Boy, was that 'stimulating'....

In the Chemistry Lab I occupied the rear bench and on one occasion had arranged a complicated series of equipment, with round-bottom flask, water condenser, Bunsen burner, and lots of glass tubes. When the chemistry master came round he peered intently at the brown liquid bubbling in the flask, but couldn't make out what was going on. So I told him.

Tea? he said incredulously, **TEA?????** ...

Later, during my stay at the BBC's Wood Norton Training Dept, I related that story to my room mate. I'd never heard him laugh so long and so loud!

Music

During the 1940s my interest and knowledge in music was increased by finding out what was the incidental music used in serial plays on BBC Radio's '**Children's Hour**'. From these programmes I discovered music by Elgar, Sibelius, Shostakovitch and much else besides.

Some which come to mind were -

The Island of Maru (Shostakovich Symphony 5 - 1st movement)

Biggles Flies North (Sibelius Symphony 1 - 1st movement)

The Eagle of the Ninth (Walton Symphony 1 - 4th movement)

Ballet Shoes (Wolf-Ferrari - Jewels of the Madonna, Intermezzo Act 3)

To find out what the music was I would write in to the BBC, and the relevant regional Childrens Hour Organiser would write back with the information. I still have those letters from the late 1940s.

Several were from Lorraine Jameson, Childrens Hour Organiser for Wales, based in Cardiff. She was particularly struck with my interest in incidental music, a task which, she said, "occupies hours and hours of a producer's time". Shortly after, she married a producer and became Lorraine Davies.

Some years later, when I was working in BBC Television at Riverside Studios, she and her husband travelled up from Wales one day and came into the theatre to dub a film production. Regrettably, I was a little too shy to make myself known to her....

I used to listen to the radio a lot in those days, tuning round the bands, hearing English programmes on short wave from countries around the world - such as Australia, Canada, India and Switzerland. I well knew the sound of the Post Office clock in Melbourne, regularly broadcast at 8.30am each morning by Radio Australia in the 25 metre band.

Then All-India Radio started a shortwave service to the UK from 8 to 9pm each evening in the 25m band. In order to build up an audience, classical music was played from gramophone records. Unfortunately Radio Australia's evening transmission to the UK used the same frequency and began at 9pm. Thus when the ABC transmitter came on, the last few minutes of All-India Radio's programme was spoilt by the two carriers beating with each other. However, when the radio people in New Delhi decided that the audience had been built up sufficiently, the programme changed to Indian music, and I lost interest....

On Sundays in the late 1940s Radio SEAC used to broadcast an hour's programme from Ceylon to the UK, starting at 6.30pm. I often

listened, but had no idea that some 10 years later, when in BBC Television, I would find my boss in the AP Dubbing Theatre, John Colomb, had worked there at that time, together with his friend Keith Skinner (whom I also met at the BBC) and Desmond Carrington. Life can be full of surprises!

Long wave had its delights, too. Even before my intention to go into broadcasting had crystallised, I had found the BBC European Service broadcasting on long wave from the **Ottringham transmitter** (Sender OSE 5, 200kW 167kHz). The transmitter was situated near Spurn Head on the Yorkshire coast and was intended for listeners across the North Sea in Europe, but it also put in a strong signal on the Lancashire coast. One series of four weekly half-hour broadcasts introduced me to Beethoven's 8th Symphony, which from that time has remained a favourite.

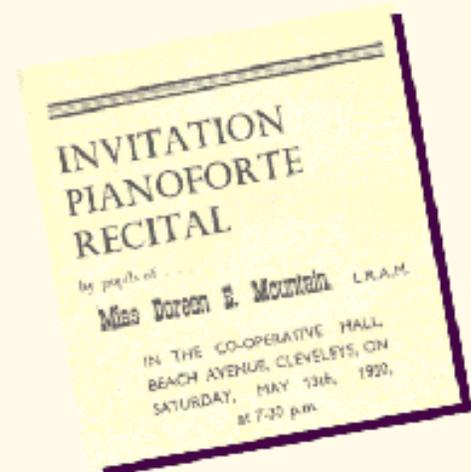
Tuning round the longwave band in those days I came across a weather station. Anyone remember "Air-Met"? Run by the Meteorological Office from a 60kW transmitter at Daventry on 248 kHz it provided weather forecasts and other information for civil aviation which was updated hourly.



Air-Met theme

As the schedule of information did not cover the full hour, the remaining few minutes at the end of each hour were filled with a "tuning signal" which consisted of a recording of a solo trumpet playing a repeating theme to the rhythm of AIRMET in what I thought to be morse code. I wonder if that recording survives somewhere....

Even before I went to school, my mother had started to teach me to play the piano, and in Cleveleys I had an excellent teacher, locally famous, who brought me on to a sufficiently high standard to be able to play classical music in public.





'Herr von Moonlight Sonatavich'

Music such as Beethoven's piano sonatas, Chopin waltzes etc. In addition piano duets with my teacher and also with another student.

One afternoon I gave a piano recital on the school stage (as in the above photo), ending with a piano arrangement of Tchaikovsky's Nutcracker Suite. As the Russian Dance came to a conclusion I excitedly went faster and faster, ending up with a sudden discord. Stunned silence followed....

For a time I was Accompanist to the **Thornton Cleveleys Amateur Operatic Society**. We did operettas like *Floradora*, *San Toy*, *The Vagabond King* etc. One had to be able to play at sight, not just the accompaniment, but any of the vocal lines the musical director requested. It was very interesting and challenging, but, not having practised for years, I couldn't do it today.



In the last production I was connected with, the Vagabond King, the male lead was taken by a plumber's mate from Fleetwood. Jack Lawrenson was his name and he was superb. Afterwards he left plumbing and trained in Manchester as a singer. As **John Lawrenson** he had a very succesful professional career on radio, often appearing on the BBC Radio 2 show '**Friday Night Is Music Night**' over many years.

The First Radio Pirate?

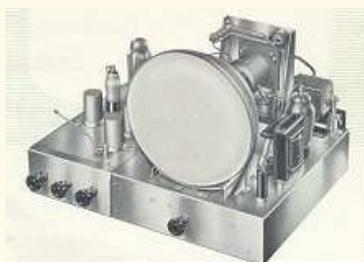
Another of my interests at that time was radio, and I constructed a medium-wave transmitter from which I broadcast gramophone records, and television sound on around 200metres medium wave - approx where Radio Caroline would surface in the mid-60s, thus probably making me the first radio pirate? In order to find out my "coverage", I would alter frequency on Sunday mornings, and go on to 160m amateur band, play half a record, switch off and wait for the comments. "Did you hear that?" "Yes, I heard it here in Lancaster" (I was broadcasting from Cleveleys, just north of Blackpool). OK, I reach Lancaster, so I draw a circle 20 miles radius on the map. That is my "service area".



Map of my 'service area'

On other occasions after relaying TV sound from a home-built tv sound tuner (from Holme Moss - BBC TV) I later heard the amateurs talking about the strange manifestation of tv sound on 200metres "the quality is there!". Wide-band good quality sound was almost unknown in those days, television sound being the only source - and that had only just begun in the North of England. Somewhere (goodness knows just where) I might still have my "transmission logs".....). From a friend with a disk recording business, I had made a 5 inch (or about that size) 78rpm recorded "station announcement". I've still got that, - somewhere..... All of this was of course illegal, but I do have the doubtful distinction of being one of the first radio 'Pirates', long before the off-shore ships of the 1960s.

The School Television Set



Another project I got into at school was to be involved in constructing a television receiver. This was a kit called the 'View Master'. Before the Holme Moss tv transmitter (located high in the Pennine hills in the centre of northern England) came into service, we vainly hoped to be able to receive Sutton Coldfield, near Birmingham, and to do this we made a high Yagi tv aerial mounted on scaffold poles. And here is 18-year old me, finishing it off (huh?)

The only signals we got were smoke ones from the receiver itself.....

However, after Holme Moss came on air it did get good pictures and, rash youth that I was, encouraged me to attempt to construct a tv receiver for myself, which did work, after a fashion, although it was a little unstable at times. Nevertheless it did allow my parents to watch the televising of the Coronation in 1953.



Television?

All of these things had developed in me a desire to work in television and so I applied to the BBC, and started in the Television Service at Alexandra Palace in December 1952. This phase of my life is detailed at [another section](#) of this site.

The Great Outdoors



I often went camping, taking everything on the back of my motorbike, which at that time was a Triumph 650cc.

On one of these I visited the fake 'Italian' village of Portmeirion in North Wales.



In the early 1960s I went on several sports holiday instruction courses, on sailing, canoeing, water ski-ing, and underwater diving. These were organised by the Central Council for Physical Recreation (CCPR) and took place in various suitable locations around the UK, such as Lake Windermere in the Lake District for sailing, Torbay on the south coast for water ski-ing, and Salcombe on the Devon coast for underwater diving.



While on one of the diving holidays in North Wales, I made a 16mm film of it which I called 'Going Down?' and for which Michael Aspel (at that time one of the tv newsreaders at AP) kindly agreed to do the narration.

Leaving the BBC?

I left the BBC in 1963 and went to a film production company specialising in 16mm documentaries and sponsored films, as a sound recordist and dubbing mixer. We were in Fitzroy Square, London, in the shadow of the Post Office Tower, then being built. Before the superstructure was added, the central concrete column looked so slender that I often felt that the probability of it falling down was somewhat disconcerting, in which case we would have been flattened.....

On Location



My assistant recordist

After a few years there, I went Freelance as a location sound mixer, travelling around the country on documentaries and tv commercials. Sound was recorded on the Swiss-made Nagra Mk 3. However, in 1969 there was a recession in the American film industry, and as most British film production was American sponsored, the recession hit here too. MGM Borehamwood closed down, as did half of Shepperton Studios. Technicians from these studios then flooded the freelance market and jobs dried up.

After a year without work, I took a job with the Local Authority, Hounslow Council, now the London Borough of Hounslow, making various types of traffic and other signs. One could assume a tenuous link with my previous film connection if one regarded these as 'giant titles'.



Indeed, the letters on a large motorway sign can be up to two feet (1200mm) high. These signs are on aluminium sheets, each panel 4ft square, rivetted to a backing frame.

Being so large, they had to be constructed in sections in the workshop, and only when assembled at the final site could I view them in their entirety.





Projection in conference room

At the end of the 1970s I found myself again without work, and resumed the making of charity-sponsored documentaries using two 35mm slide projectors with synchronised sound, having previously experimented with this technique around 1969-72. I called them 'Slidefilms'.



Projection in a hall

Canal Slidefilms

During the 1980s I became involved with the restoration of the **Basingstoke Canal** (see the [front page](#) for a link to this site) and made several slidefilms on the restoration progress. This is an ongoing interest. After my cardiac problems (see my [Heart pages](#)) I now expect this work to continue, with the [canal's website](#).

The Waltons



Another interest is **The Waltons** tv series, collaborating in providing synopses of all the episodes, but you can read about that in [The Complete Waltons Synopses](#) section on this site

I also enjoy riding my motorbike (it's a 1980 Honda CX500A, 496cc, shaft drive, water-cooled) - except when it's *very* cold....., and (in 2000) I still live here in Hounslow with the surviving one of my two black pussies, who were '[rescued](#)' at the last minute. (Sadly, Simon my male puss died in October 1998. He was 15 years old. Bono, his sister, survived him until October 2001, she was then 18).



[[More about life in Hounslow](#) and the football mania....]

Epilogue

Well that's me, approximately, some of.

But *please* don't blame me if you got bored, after all, it was **your choice** to read this page!

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The State of TV

This is my opinion of the probable cause of the low standards of tv production today.

THE GREAT DOWNFALL - a view by Arthur Dungate

Education in the schools in the UK went wrong in the 1960s. Instead of well-trying and proven traditional teaching methods, the thinking appeared to be that education for children should be based on what the child wanted to do, and so the day in the classroom became more of a games session instead of a learning experience.

Those children who were so ill-educated, have now grown up and are in business, including broadcasting. That is why standards have fallen steadily - even though there are some exceptions, such as the excellent ITV drama series, and the BBC wildlife and natural history documentary programmes. I specify 'wildlife' and 'natural history' as there are many other documentary programmes which, when using archive material, 'butcher' it to make it seem 'widescreen' when it most certainly is not.

In the early 1970s, one episode of the ITV series '**Please Sir!**' made an important comment which apparently went unnoticed. The classroom teacher, played by **John Alderton**, had to leave his class for a period, and so a strict traditional lady teacher, played by **Joan Sanderson**, took over. Afterwards, one of the girls in that class was talking about the lesson and her companion remarked in surprise that she actually KNEW the lesson. Well you 'have' to with her, was the reply.

So the scriptwriter perceived what was happening in the schools, but no one picked it up. I foresaw at the time that standards generally would drop as a result of the lax education when the children of the period went out into the world. Time has proved me right. So it is not a case of 'rose coloured spectacles' when I say that the 'good old days' were best. As far as television is concerned, the old days were definitely the

'good' ones, and it saddens me.

Just like ancient Rome, as the technical development has increased beyond all recognition, the moral standards, and 'use' of all this wonderful technology has degenerated alarmingly.

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BBC TELEVISION from ALEXANDRA PALACE

by Arthur
Dungate

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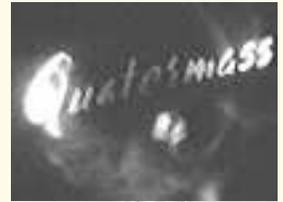
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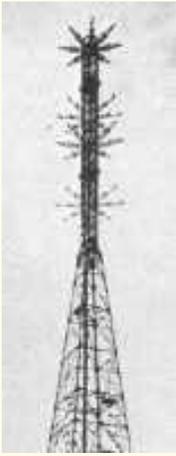
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DIRECT TELEVISION from ALEXANDRA PALACE

by Arthur Dungate

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The Back Page

This page is rather like the back flap of a book's dust jacket on which is often printed extracts from reviews (but it would need a rather large back flap.....) So, if you will kindly forgive me, here are some of the nice things that have been said about this television section.

● I spent an extremely enjoyable two hours going through the site - it was everything a good site should be, informative, entertaining and superbly designed. Particularly enjoyable and interesting were the passages devoted to telerecording in its various forms, a subject which has always interested me for some reason ... The incidents and anecdotes were priceless too - something sadly missing from many of the drier accounts of the BBC's pioneering days. In short, if I'd have paid £15 for it in book form I'd have been more than happy; the fact that I got it for the price of a local phone call makes me ecstatic! Many congratulations on a great site. An informative and entertaining account of the pioneering days at AP and The Grove and if you haven't visited it yet, you're missing out on one of the best TV-related web-sites around.

(Rory C.)

● Absolutely fascinating, yes I would certainly have been watching the "Watch with Mother" shows when you were operating the telecine!

(Wenlock B.)

● I think it is simply marvellous and if the BBC had any sense they would put a link into it from their own pages. You must have spent a long time gathering information about these !!! I particularly enjoyed the Telecording pages, which are excellent. In fact the whole presentation is immaculate. Congratulations, it's a triumph of it's kind and the best single site I've seen on 'old television'. (Andy H.)

● Very interesting and well presented. It must have been an extremely interesting time to work in Television. (Steve)

● Thank you so much for creating what I regard as one of the very best Web Sites on the Internet! I have just read your "Direct Television from Alexandra Palace" article with astonished delight. A 1949 baby, I became a lifelong television fanatic in the early 1950s (at first in Llandrindod Wells - difficult reception) and have many vivid and happy

reminiscences of those days (Mummie, why do we see the Alexandra Palace aerial on the newsreel when it's coming from Wenvoe?). (Jon G.)

● I thought I would write and say your web site is fantastic. Such a deep and personal insight into a place where he obviously enjoyed working. (Martin D.)

● All that I can say is that it's truly and absolutely astoundingly brilliant and that praise is long overdue. Need I say more? (Dave)

● Having just read through your entire Alexandra Palace story, I must say it's the most fascinating, well-displayed and consistently gripping set of pages to come my way for a VERY long time. What an archive! Such a pity the Coronation rehearsals are missing. And as for the sound that normally gets trotted out with the Coronation telerecording... why **did** they destroy the sound tape? That would surely have been much higher quality than the telerecording sound made by the primitive method you described. (John H-W.)

● ... saving an entire website (which is rare but I did it with yours!) ... I found your site fascinating. By trade and training I'm a cameraman/ editor ... but I wish I'd been born some years earlier as I would have loved to have worked at the BBC in the 50's and 60's. (Ian W.)

● Many many thanks for putting up such a superb site of fascinating images and information on life in television which seems so different then from what it is now. I have just spent the whole afternoon reading each and every page as I found I had completely lost track of time. (Iain R.)

● I'd like to say how much I enjoy your Alexandra Palace site. It has brought back a lot of childhood memories. In 1948, when I was 10, the Olympic Games were held in Wembley, where I lived. This was, of course, a big occasion for BBC Television. ... The TV production van was located alongside the pool, and I used to sneak into the van. ... After graduating from Manchester University in 1959, I went to work at EMI in Hayes ... the Research Labs where I worked on colour TV. Just outside our lab was the remains of a mast just like the one at Alexandra Palace. ... Again thanks for a great site. (Anthony J. N.)

● Having just found your website and am now in a reverie! I remember watching spellbound at the demonstration films during the 50s, in a darkened room at my aunt's house in Croydon. It is wonderful to read the details about them, as it brings back memories I had quite forgotten. (Norman)

● I sat up until half-past-midnight last night absolutely glued to your wonderful website. What a treasure-store it is! I was born in 1945 and remember most of those programmes well -particularly "Quatermass II". Thank you so much for telling us what the end-title music was. ... It was in fact Quatermass and the use of Holst's "Mars" that first sparked my interest in classical music which eventually led to my entering the music profession and working for some years as a composer and musical

director in television (see, it was all your fault!). I did all my BBC TV recording at Lime Grove in a studio on the first floor we knew as "TMS" - I'm sure you could identify it. Very many thanks for a most entertaining and informative website and a delightful trip down memory lane.
(Rodney N. Music Consultant, London International Film School)

● I have just been looking at your pages and felt so entranced that I just had to drop you a note so say how much I enjoyed them. I've been a fan of the BBC since I was little and was lucky enough to get to work there for a short while in 1999-2000. The old BBC has always held fascination for me and reading your pages was pure joy! (Ray B.)

● I am 73 years old and lived in Wood Green until 1964. Pre-war I remember going "up the Palace" to play with older children (not allowed often because of 'bad men'). We used to hang around the TV studio and get autographs. I wish I still had that autograph book. I well remember the gardening programme as we used to watch C.H. Middleton perform. ... Later, I met all my boy friends at the roller skating rink - even my husband. and we used to row on that small lake. ... looking up the Ally Pally on the Internet has brought memories and tears and I felt I wanted to share this with you. (Betty K., Australia)

● I have much enjoyed dotting through this. I haven't seen it all yet. I found it by chance while looking for a picture of a BTR 2 on which I was 'editing trained' in 1972 as a Radio SM (or POA as we were called for a while). (Andrew M., ex-senior music producer, Radio 3)

● Just a quick thankyou for the interesting web-site... I was one of the viewers that watched Andy Pandy, The Flower Pot Men and all the other children's programmes. I must have been about six years old at the time, and I seem to remember that we had a nine inch Bush television. ("Mr Trevor")

● Thank you Arthur for a lot of memories. I grew up in Essex during the times you have discussed and I agree with you that things like that will not ever happen again. I was idly thinking this morning what to look up on the web and I thought of Sylvia Peters and stumbled on your website. An excellent "nuts and bolts" look at what happened in those pioneering days of television. ... I make my living these days in Oregon, USA. (Jim G.)

● I just can't say how much I love your site - seeing the interludes and clocks etc brings back my childhood - I have made the 'Batwings' into a desktop background. ... 'thank you' for a most wonderful site. (Alan G.)

● I would just like to take this brief opportunity to congratulate you on your most interesting website. Being in my late thirties, I remember most of the early '60s television (the likes of Watch with Mother - Andy Pandy and The Flowerpot Men). Having trained in an engineering environment and since moved on to an IT environment, the mechanics of television - particularly the early days - has always interested me. It's great to see such a detailed and interesting website as yours, that particularly outlines the type of equipment that you used - and the troubles that you had with it! (Alan W.)

● I have just been reading the material on your website - how very enjoyable it all is.. I don't know whether you were still there then, but I worked at AP as a newsreader in 1963 and "did" the Kennedy assassination news bulletins in November of that year. Waldo Maguire was the Editor of TV News and Desmond Taylor was his deputy. I was very young and newly arrived from New Zealand but I remember the wonderful atmosphere and camaraderie of Ally Pally. What a pity that these days, the BBC has lost so much of its quality - "dumbed down" - as they now call it. (John R.)

● I have just been looking at your AP website and it brought back many memories of watching TV as a young boy in the 1950's and 60's. We had an Ekco console model and when I saw the clock and tuning signals and test card C on your website I was transported back. Macdonald Hobley was one of my childhood heroes and TV must have affected me since I now work as a freelance TV sound supervisor. (Bob D.)

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