

ISSUE 42
SUMMER 2002

AMPS AT THE PRODUCTION SHOW

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AMPS AT PRODUCTION SHOW

**Our apologies for
the lateness of this
issue which was
due to work
commitments**



Keith Spencer-Allen answers questions from
an enquiring visitor at the AMPS stand



This Newsletter is edited by Bob Allen and Keith Spencer-Allen and is published by the Association of Motion Picture Sound for distribution to all members. AMPS can be contacted through Brian Hickin, The Admin Secretary, 28 Knox Street, London W1H 1FS. Membership enquires to Patrick Heigham, AMPS Membership Secretary, c/o 28 Knox Street, London W1H 1FS. Any communications with the AMPS Newsletter should be addressed to The Editor, AMPS Newsletter, Old Post Office Cottage, Old Post Office Road, Chevington, Suffolk IP9 5RD or Fax 01732 779168, or mailto: editor@amps.net

YOUR MEMBERSHIP DETAILS

Several members have mentioned that they've recently received unsolicited mail to a home address from an equipment supplier, who when challenged about the source of their details, apparently mentioned AMPS!

The AMPS Council would like to assure all members that this not the case. We take great care with the security of information provided to us by members in their application forms and as part of ongoing membership. This is never supplied to any parties outside of AMPS, and there are no plans to do so.

The AMPS Directory, of course, publishes names, contact telephone/fax numbers and Email addresses as agreed by each member, but nothing more. We also supply names and contact telephone numbers (only) of active members to approved industry directories such as The Knowledge and Kemps for inclusion in their publications under the correct professional categories. This was agreed following consultation with the membership some years ago and has proven beneficial and trouble-free.

So quite where the information used by the compained about direct-mailers originated from we don't know but we can assure everyone it wasn't through AMPS.

SHORT POINTS:

- On the subject of membership details, a new AMPS Directory is planned for publication next year so please look out for membership information update forms that should be distributed later in the year.
- Remember the new AMPS contact Email addresses as mentioned in the last Newsletter - a dmin@amps.net and membership@amps.net

AMPS SUSTAINING MEMBERS

AKAI PROFESSIONAL

www.akaipro.com

AMS NEVE

www.ams-neve.com

ANVIL POST PRODUCTION

www.anvil-post.com

AUDIO DEVELOPMENTS

www.audio.co.uk

AUDIO Ltd

www.audioltd.com

DB POST

www.dbpost.com

DELANE LEA SOUND CENTRE

www.delanelea.com

DOLBY

www.dolby.com

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DTS

www.dtsonline.com

FELTECH ELECTRONICS

www.feltech.co.uk

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www.fostexdvd.nett

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www.futurefilmgroup.com

GEARBOX

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MIND THE SOUND

www.mindthesound.com

NAGRA

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RG MEDIA

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SHEPPERTON STUDIOS

www.sheppertonstudios.co.uk

SOLID STATE LOGIC

www.solid-state-logic.com

SONY BROADCAST & PROFESSIONAL UK

www.pro.sony-europe.com

SONY CINEMA PRODUCTS

www.sdds.com

SOUND STATION

www.editstation.com

TECHNICOLOR

www.technicolor.com

TELEFILM VIDEO SERVICES

www.telefilm.co.uk

TWICKENHAM FILM STUDIOS

www.twickenhamfilmstudios.com

THE PRODUCTION SHOW REPORT

The Production Show (21-23 May) saw a first for AMPS - our first dedicated exhibition presence. It was something of an experiment but one that appears to have been a success on several levels.

The Production Show is now the principle TV/Film/Broadcast exhibition in the UK. Aside from the Birmingham NEC-based Sound Broadcast Equipment Show (SBES) it is also the only exhibition for sound equipment following the demise of the APRS exhibitions. Now held at Olympia, this year the event organisers really pulled out all the stops to ensure a success.

While it would be easy to ignore audio amongst the large spending mega stands of the video graphics and camera companies, the show organisers have always tried to support the smaller industry categories, amongst which, in this context, we must include sound. In previous years they have approached us about becoming involved but we restricted ourselves to verbal support and distribution of their ticket applications to

membership.

This year we experienced a dual approach, from the organisers about a year ago, and from the IBS and APPS who were keen that we should become an active participant in the Audio Zone. And so we said 'Yes'.

One of the ways that exhibition is organised is in the form of Zones so that

exhibitors and themes that might otherwise be lost are grouped together, around some central focus. The Audio Zone had a seminar area at its heart where two or three events were held each day - with eight different presentations over the three days of the show. AMPS/IBS/APPS jointly presented five of them while Digidesign brought in industry users for three different Pro Tools sessions.

Two of the joint sessions, covered the audio side of 24P/Hi Def and were very well attended with topics being split between acquisition and post production. Mark Yonge of the IBS and AES chaired a seminar on the AES31 File Interchange Format that included practical demonstrations of interchange between equipment from a range of manufacturers including workstations, location disk recorders and studio hard disk recorders. John Andrews of the IBS talked about the Rocket Global Production Network along with a demonstration at the show.

Other sessions covered topics such as 'Hints & Tips', making OMF work for you, and surround sound monitoring.

It's always difficult making seminars work in the open. While an enclosed area had been provided, it was just walled off, and the ceiling was acoustically open. Despite being very well equipped in audio terms, the general noise levels of

the hall were problematic and public address announcements brought the seminar to virtual standstill. But the general feeling was that they were valuable exchanges of information and well worth the effort.

We hope to discuss some changes with the organisers over the housing of the seminars for next year. Moving them off the exhibition floor would be better for intelligibility but would create less of a focus for the Audio Zone, so there needs to be some thought given, not only this but all the other specialised zones in the Show.

Part of the arrangement for our support and promotion of the event was that we were offered a small (6 sq. m) stand spaced within the shell-scheme completely free. This was an offer that the Council felt able to say yes to, and then to figure out what we would want to do. After weeks of discussion, and the rejection of the wilder ideas, we decided to treat this as a toe-in-the-water exercise. We were going to use the Show for several reasons. Firstly



it should be a place that AMPS members could go and meet others. It was also important that we waved the AMPS flag to the industry at large, and also to potential members. We didn't think this was going to be a major recruiting exercise but we were prepared, and it worked.

It is easy to spend large amounts of

money even on a free stand but with the efforts of Messrs Betteridge, Hodges and SpencerAllen we assembled a low-cost, attractive, rest-and-information point, with some illustrative pictures of members at work, a partial credits list, a display of sponsors logos, and an ever popular bowl of sweets!

The result was that we had a wide mix of visitors, some who knew of us, some who didn't and some just plain curious. We made technical suggestions about modifying equipment (Simon Bishop), acted as show guides to the totally lost, provided cool beverages to our IBS / APPS neighbours, met more AMPS members than we expected, and showed all round immense amounts of diplomacy.

Nearly a dozen AMPS members manned the stand for times between complete days to just a few hours. Most came from the AMPS Council but we were very pleased to welcome other members such as Ian Sands and Chris Trussler whose presence was very much appreciated.

Post show discussion has been positive and we would do it again next year on similar terms. We'd welcome more volunteers for a few hours stand manning because it can be both enjoyable and rewarding - one manning member ended up with a weeks location work from a producer colleague, while others met up with old friends. It also helps publicise AMPS and our place in the industry which was really the whole point.

KSA

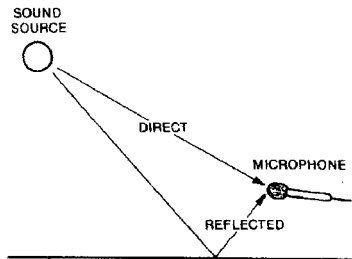
A BETTER LOCATION STEREO MICROPHONE TECHNIQUE

By Rod Pascoe

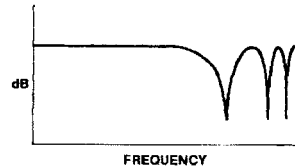
A lot has been written about recording in stereo on location. There are arguments for and against the numerous stereo recording techniques available and their suitability for the various release print options. The following is an outline of some of the most common microphone systems and their suitability (or otherwise) to film and broadcast applications.

When two microphones are separated in space, they pick up sound at different times and their combined output will be similar to a single microphone with delayed reflections.

microphone placed near a surface picks up direct sound and delayed reflections. The resulting phase interference gives a "comb-filter" frequency response.



(A) Direct and reflected sound waves.



(B) Response curve.

Therefore, spaced microphone stereo techniques, or 'AB' arrangements, are susceptible to comb filter problems. (Comb filtering is well demonstrated by PA operators who insist on mixing two lectern microphones to mono.)

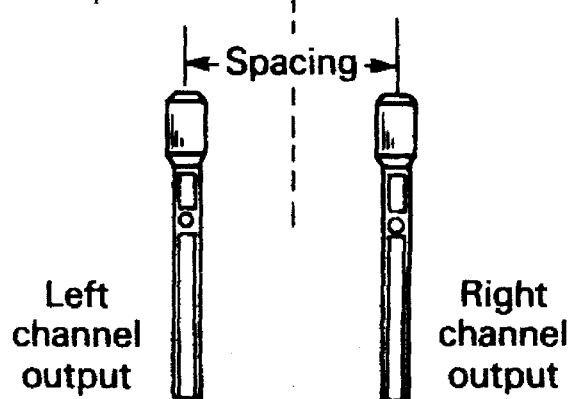
For the location sound recordist, a spaced pair of microphones would be

inconvenient in terms of combining windscreens and shock mounts into a manageable package. And, because the AB system relies on the time-of-arrival principal to achieve the stereo image, even the slightest movement of the microphone pair will cause the sound image to jump around from left to right and anywhere in between.

Nevertheless, widely-spaced omnidirectional microphones are probably the most commonly used arrangement for recording orchestras. In this situation however, comb filtering is less of a problem (less noticeable) as the musicians and the microphones don't move during the performance. Also, this system, while producing a very pleasing stereo image, is not mono compatible due to the comb filtering effect. Something to consider especially for people working in conventional two channel TV or radio.

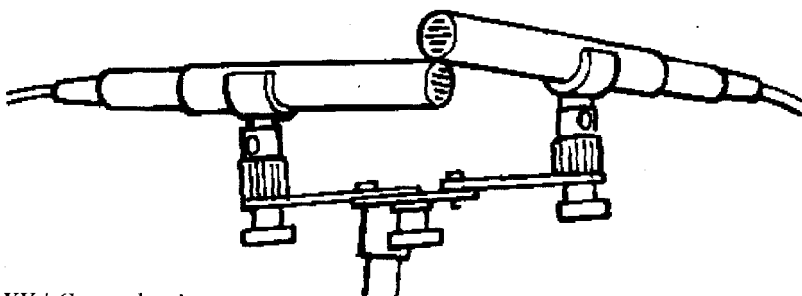
A coincident pair of microphones, or ones which have their capsules as close together as practically possible, don't suffer comb filtering distortion and can be

AB / Spaced omnis



conveniently packaged into a single end-fire microphone.

This crossed pair technique, or 'XY' system, employs two cardioid mics with their capsules angled at 90 degrees. For normal two channel stereo sound this set-up is fine and the combined signals are mono compatible. Additionally, some single-unit XY packages conveniently fit into off-the-shelf shock mounts and windscreens.

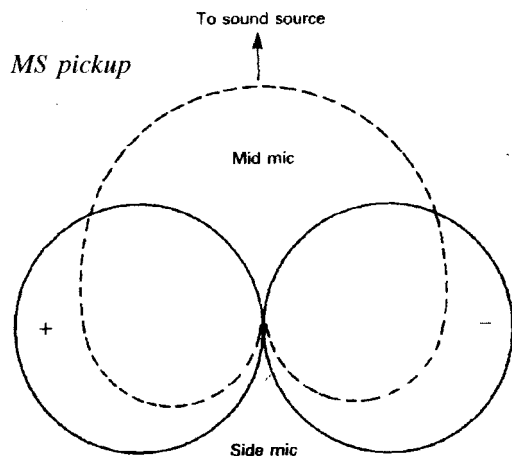


XY / Crossed pair

A popular system among location recordists is the MS or Mid/Side technique. MS is another variation of a coincident pair - one cardioid mic pointing forward (the M or mid channel) and one figure eight at 90 degrees in the horizontal plane (the S or side channel).

Although encoding and decoding the MS signal is somewhat cumbersome, the stereo image is extremely accurate and the width or spread of the image is infinitely variable, either during recording or in post.

MS has found popularity with recordists using single point microphone principals as they can control the ratio of direct to ambient signals by simply winding the Side channel in or out. Most MS microphone manufacturers make conveniently packaged end-fire systems which are much the same size as a conventional short shotgun mic and fit most of the readily available shock mount/windscreens packages. This is one of the reasons it is popular among location sound recordists.



But as with any coincident pair of microphones, their ability to preserve the stereo image in the final mix is the contentious issue among the film post-production fraternity. In XY or MS pairs, any common signal - or signal which arrives at both microphones at the same time (in phase) - can't easily be decoded by Dolby Stereo processing in the final mix and these in-phase signals tend to collapse into the centre speaker.

There are pros and cons for all the alternatives listed above, depending on the sound track delivery requirements.

This writer is a devotee of the ORTF principal for both atmospheres and single point music recording. ORTF solves most of the problems of the other methods and can be made

into a convenient single package for location work.

This microphone configuration, named for the French national broadcasting agency, Office de Radiodiffusion-Télévision Française, was developed as a means of producing pleasing stereo while still maintaining adequate monophonic compatibility. The principal consists of two cardioid microphones angled away from each other at an included angle of 110 degrees, with the capsules separated by 17cm.

Because two directional microphones such as first order cardioids are used at this angle and spacing, the ORTF technique still provides significant intensity differences between the stereo channels. At low frequencies, the signals from the two microphones are virtually phase coherent. With minimal phase differences becoming apparent only at higher frequencies, the comb filter effects are quite tolerable, producing the pleasing 'air' around the subject.

The ORTF principal seems to satisfy all the requirements for the various release print and broadcast options, from the Dolby surround cinema epic to the mono TV in the corner of the lounge room.

Another attribute of the ORTF system for location sound recordists is that it is a 'safe'

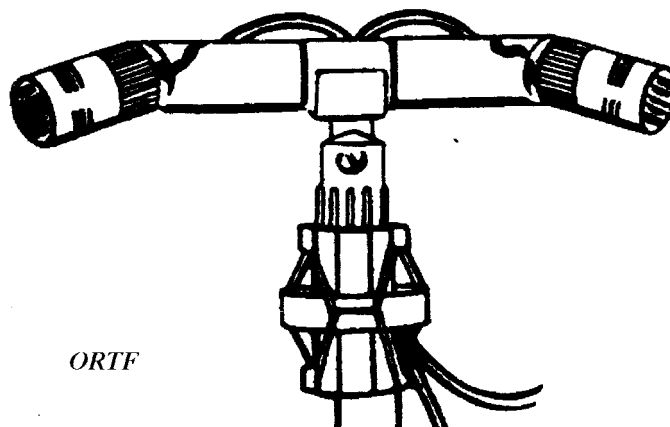
way of recording stereo. That is to say that it is more forgiving in terms of positioning, compared to say the AB technique where finding the 'sweet spot' is critical. When going into an unknown venue with unknown acoustics to record an event without the benefit of a rehearsal, the ORTF pair can be placed almost anywhere where it sounds good by ear. The theory being that the ORTF array closely resembles the human ear spacing. The benefit here is that quite often you are not able to place the microphones exactly where you want them because they have to be out of shot or clear of audience seating in the case of a live recording.

With some minor modifications to off-the-shelf Rycote or Sennheiser shock mounts, a superior all-in-one ORTF microphone unit can be built in a convenient lightweight rig for location recording. Rycote windscreens and windjammers can be used in the normal way without compromising sound quality. Any microphone with an active cable system to the mic heads will do the trick, ie Neumann and Schoeps.

However, I prefer the DPA 4021 compact cardioids from Danish Pro Audio (DPA) because all the electronics are enclosed in the mic head and no separate preamp is required. There are five metres of fine, flexible cable between the mic and the XLR connector. The mics are first order cardioids with excellent sonic qualities and are well suited to the ORTF array.

The DPA Compacts are available in three varieties. They employ the same 19mm capsule as used in the larger studio microphones (DPA 4011 and 4012). The cable is either hard-wired to the mic (DPA4021 and 4022) or there is a version (DPA4023) which uses a Lemo connector. As with any other active cable mic, the DPA also makes an ideal bug for film sound applications - for planting in props and cars etc.

With some minor modifications to off-the-shelf Rycote or Sennheiser shock mounts, a superior all-



in-one ORTF microphone unit can be built in a convenient lightweight rig.

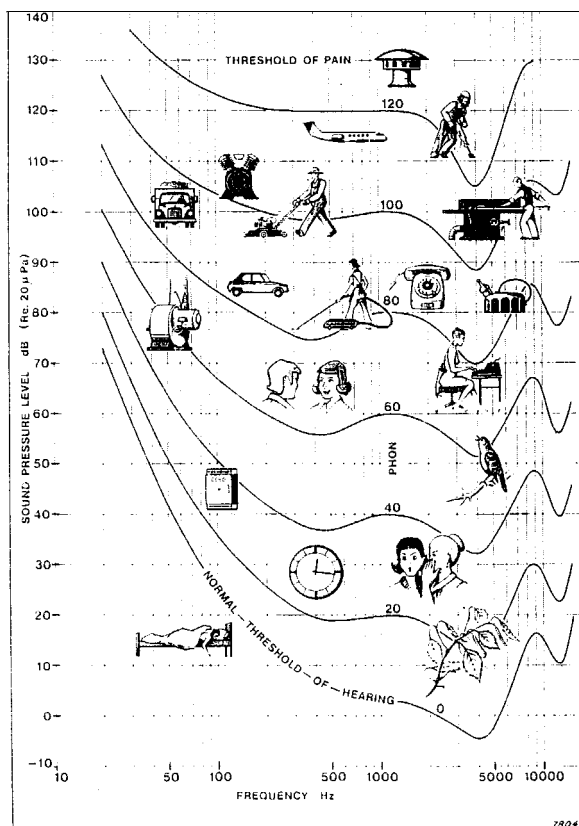
Many thanks to author, Rod Pascoe, and to the Newsletter of the Australian Screen Sound Guild (ASSG) 'The Heard ews' for permission to reprint this article.

HOW LOUD IS LOUD ?

On the day we were born our ears were already fully developed with hair cells, supporting cells, and nerve fibres sending impulses to the brain. The ear is more than just a sensitive microphone as it is also, together with the brain, a frequency analyser capable of accurate discrimination between tones. Unlike most other body tissues the ears cannot be regenerated when damaged, so we should take good care of them. Unfortunately this is becoming increasingly difficult today as we are constantly surrounded by acoustic pollution caused by traffic, sirens, aircraft and pneumatic drills. In ancient Rome

the citizens protested about noise pollution to the Senate, who passed a law forbidding the night time movement of horses and iron-wheeled chariots over cobbled streets! The chart (courtesy of Bruel and Kjaer) shows equal loudness contour for some everyday sounds. An overdose of decibels can send your blood pressure soaring, make you irritable, and can even affect your concentration.

So the question arises "How loud is loud?" The World Health Organisation has set a limit of 65dB (A-weighting), above which one's mental and physical health will suffer. But a large number of us are regularly exposed to noise levels above this figure, both in the street and the work place. Fortunately the ear can stand exposure to very loud sounds of short duration, even peaks up to 140dB, but it is



prolonged exposure which does the damage. Is it any wonder that young people between the ages of 18 to 25 already have hearing difficulties, when discos set their sound levels at around 120dB!!

Maybe I'm old fashioned but going to the cinema was far more pleasurable when sound levels were somewhat lower than they are today. Audiences remained quiet in order to hear the dialogue, and woe betide you if you made a rustling sound with a sweet wrapper! But an agreeable sound level is a personal thing. Most audiences prefer a comfortable listening level, re-recording mixers work at a slightly higher level, whilst musicians always like a very high level. Big band leaders like Joe Loss and Ted Heath were extremely hard of hearing, caused no doubt by prolonged listening to their brass sections at close range. I can remember Ted Heath putting his ear almost inside the loudspeaker whilst listening to a playback. Sir Malcolm Sergeant always said "Louder with the music" at re-recording sessions, as did Herbert Wilcox. For Herbert we devised a foot operated control which raised the monitor level without affecting the recording!

HOW FAR HAVE WE COME?

For over 50 years photographic (or optical) sound reigned supreme. In the 1930s we went to the cinema to hear good quality music, far better than the old 78s we played at home. But Leopold Stokowski was saddened by the sound of the Philadelphia Symphony Orchestra on the optical track of *100 Men And A Girl* (1937), and vowed never to do any more film work. It was only when Walt Disney promised him a new sound system that he agreed to conduct *Fantasia* (1940).

In 1954 John Frayne was experimenting with stereo

optical tracks at MGM. He demonstrated his system to the SMPTE, using an excerpt from *The Best Years Of Their Lives*. His 'Photo-Stereo' system used two bi-lateral tracks (like Alan Blumlein's 1936 experiment at EMI but the audience gave him a hard time by criticising the stereo image, mono compatibility, and the increase in background noise. The truth was that everyone was more interested in the new Fox Cinemascope prints carrying magnetic stripes (1951) and Mike Todd's *Oklahoma* using 70mm film with six magnetic tracks (1955), bringing good quality sound to the cinema - and louder too. Then stereo LPs appeared with an extended frequency response, and suddenly mono photographic sound was poor by comparison. But things carried on very much as before, until several unrelated developments occurred.

From 1970, 'quadraphonic' LPs began to appear, mostly with two stereo tracks phase encoded to give four channels of sound to front and rear loudspeakers. In the UK, Dr Ray Dolby introduced his Type A noise reduction for magnetic recording, and Tony Lumkin (Head of Sound at Elstree Studios) devised a system of three magnetic tracks on a combined print which became a British Standard. Dolby commenced a programme to improve photographic sound with his noise reduction system, removing the ubiquitous Academy curve and equalising the projector preamplifier. He found that photographic tracks could be recorded and replayed flat to 10kHz, and there was even something on the film at 15kHz with modern negative emulsions. In 1974 the film *Callan* was released with Dolby mono sound, a great improvement with a good frequency range and negligible background noise.

At this time the rock band *The Who* were looking for something better than photographic sound for their new film *Tommy*, and engaged sound consultant John Mosley. Mosley suggested combining the quadraphonic sound of LPs with Lumkin's magnetic

tracks, and asked Dolby to engineer the system. The Who did their own re-recording, mounting their console on a rostrum about 15 feet in front of the screen. They were not used to listening with a lot of air between them and the loudspeakers. The film could be played in any cinema equipped for Cinemascope, although it was preferable to have a special three track replay head. Track 1 was used for left front and rear, Track 2 for centre screen, and

Track 3 for right front and rear. From a sound point of view *Tommy* was a great success.

Ray Dolby now seized the opportunity to design a new stereo photographic track, using his noise reduction system and phase encoding the two halves of the mono track format. The system was unveiled at the 1975 SMPTE

Conference in Toronto and received rapturous applause. Ken Russell's *Lisztomania* (1975) was the first feature with a Dolby Stereo track, 20 years after the debut of Cinemascope and 70mm. The big breakthrough for Dolby Stereo was *Star Wars* (1976) which gained an Oscar for best sound the following year. The next problem was that *Star Wars* sounded different in almost every cinema.

In 1980 Producer George Lucas hired Tomlinson Holman to build the ultimate post-production facility, together with an investigation into cinemas. In 1993 the THX cinema certification programme was born, matching loudspeaker systems with specific room acoustics for a smooth and uniform response. Whereas Dolby had engineered a complete record and replay system, Holman took over the last link in the chain - reproducing clean dialogue with a full dynamic range without distortion of any kind. Next came the race to produce the ultimate in film sound - digital recording.

One or two systems appeared only to be quickly discarded, and Dolby's digital system, SR.D, (1992) with sound printed in between 35mm perforations became widely accepted. Other systems such as Sony SDDS and DTS have a strong foothold. DTS is particularly suitable for IMAX and 70mm prints, with sound on a separate CD. Dolby Digital Surround EX with 3 surround channels was unveiled in 1999, and DTS quickly followed suit. Before the end of the century over 25,000 cinemas were Dolby Digital equipped, and 2,250 films became available. Cinema systems are now flat over the entire audible frequency range, together with the possibility of sound levels up to the threshold of pain!

HOW FAR CAN WE GO?

Today's multiplex cinemas have multi-channel sound with 200/300/400 watt amplifiers on each channel, so are films already too loud? Ioan Allen, Dolby Vice President, presented a historic paper to the SMPTE in March 1997, stating that monitoring levels have always remained the same throughout all the format changes, the sound pressure level being 85dB (C weighting) for 50% modulation. What has

changed is an increase in the dynamic range and headroom. Allen agreed that some movies are probably too loud, but that is not the fault of the system. The problem lies with Producers and Directors who use all the available headroom for music and/or effects for extended periods. This practice has led some re-recording



mixers having to wear 'acoustic attenuators' or earplugs!

Complaints from audiences have meant that projectionists have turned the fader down below the normal setting, especially for trailers and commercials. The lone operator in a multiplex does not have time to chase fader settings on all screens, so either the features are too quiet or the commercials are too loud.

AMPS Fellow Graham Hartstone's article in AMPS Newsletter No 38 shows that events are moving in the right direction. The new British Standard BS5550-7.4.2:2000, based on the recommendations of the Motion Picture Loudness Committee, sets the limit of 82dB Leq(M) for trailers and 85dB Leq(M) for commercials. The Standard describes an electrical measurement of average peak levels using a special meter with an 'M' weighting curve suitable for assessing prolonged high levels in audio programmes.

There is as yet no limit set for feature films, however, until there is, if the limits set for trailers and commercials are adhered to then there should be no need for producers and directors to press re-recording crews to mix feature tracks with excessive dynamic range.

So unless the new digital projectors spring a few surprises, maybe we shall not have to take our earplugs to the cinema after all, in order to save our eardrums from destruction.

JOHN ALDRED

AMPS



Shortly before I made my escape from last winter to my homeland, New Zealand, I read, in the January issue of *Audio Media*, Julian Mitchell's account of sound post production on the NZ made *Lord Of The Rings - The Fellowship Of The Ring*. At that time I had not seen the movie but knew that it was up for several BAFTAS including sound and that it was most likely that Oscar nominations would follow.

Being a New Zealander and having gained a great deal of my early motion picture sound experience there, I was quite chuffed that New Zealand was up there in the big movie sound league. However my puff was soon deflated when in Mitchell's article I came to the heading 'Skywalker to Wellington'. New Zealand producer/director Peter Jackson had imported an American sound crew to do the sound design and re-recording, so the final soundtrack was really American and not New Zealand. The recording mixer Chris Boyes and his buddies did, however, pay tribute to the Film Unit Ltd's chief engineer, John Neill, for getting them out of 'jams' and to the warm hospitality the country had shown them.

The Film Unit Ltd, near Wellington in the North Island, is the film production complex - sound stages, cutting rooms, re-recording theatres and film processing labs that Peter Jackson bought, at a bargain price, when the government owned New Zealand National Film Unit was closed down and sold off.

The Film Unit Ltd No 1 re-recording theatre, equipped with an analogue 72-channel Otari console, was completely digitally refurbished with Euphonix System 5 and Tascam MMR8 recorders in preparation for The Lord Of Rings Dolby Surround EX final mix.

In the *Audio Media* interviews, American sound designer, David Farmer, said "Before we ever started on the sound effects we sat down with Peter Jackson. He wanted to make sure the movie wouldn't be too loud". I was therefore surprised shortly after arrival in New Zealand to read the following item in a Wellington daily paper.

Director Peter Jackson's blockbuster The Fellowship Of The Ring might be receiving plaudits around the world, but for some Wellingtonians the sound level of the screaming Orcs and thunderous Dark Riders is not music to their ears.

Some readers of The Dominion who saw the movie at the Embassy Theatre have deemed the sound level of the film too loud for comfort.

But theatre manager Kerry Robins said the

soundtrack was played at below the recommended level of 7.5 on its particular system, which had a rating of between 1 and 10. During the evening it was played at 6.8 and at matinee sessions 6.5.

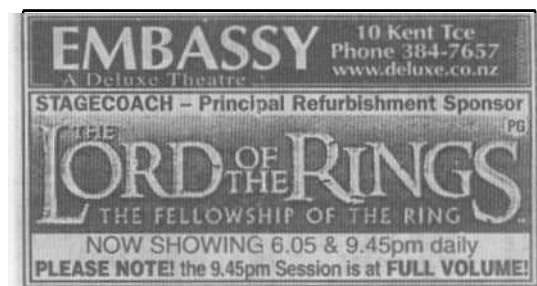
He acknowledged that there were moments in the film that were "quite loud", but said that they were designed to be that way by Jackson. The Embassy Theatre Trust had invested \$75,(X)0 in a new screen and digital sound system for the Lord Of The Rings trilogy - two more films are to follow - "because we recognise that sight and sound is of the utmost importance," he said.

The Lord Of The Rings was very much a sound and sight experience, he said. "The film is designed to move us physically. The floor shakes, you feel the thump in your chest. The sound system is so good you can feel yourself being pushed back in your seat. It's certainly not passive and was not designed to be."

The Embassy was recognised as the home of film and it was important not to diminish that experience, he said.

"This film has taken New Zealand, film to the cutting edge. It's not going to suit everyone, but for those that love the hook it really is an experience and we are proud of that.

"It's hard to please everyone but we try hard to reach that goal."



You've been warned - Newspaper ad

Lord Of The Rings hype and excitement during the run up to the Oscars was equal to the fervour and fever in England during the football World Cup. And why not? Thirteen Oscar nominations, along with a bunch of BAFTAS, would be pretty good for an American blockbuster but for a film made in little country of 3.5 million inhabitants, far from the film capitals of the world, is almost unbelievable.

The New Zealand Post Office issued a set of six postage stamps depicting scenes from the movie. They were available in miniature sheets, booklets of self-adhesive stamps, first-day covers and a splendidly produced presentation pack with



THE EASTER ATTRACTION AT A SMALL COUNTRY TOWN IN NEW ZEALAND



stamps, first-day covers and information about the Lord Of The Rings books and the making of the movie.

Smart tour operators, taking advantage of the hype, were quick to organise trips to visit the locations in the North and South Islands where scenes were shot, these proving popular with both New Zealanders and overseas tourists.

And one up for sound. *The Press*, Christchurch's morning paper, printed front page, a large colour photo of Christchurch resident, Hammond Peek, LOTR's production mixer, along with an interview prior to his departure for LA and the Oscars.

I eventually got to see LOTR when I visited "rellies" in Christchurch. Almost the first question from my niece and nephew was "Have you seen Lord Of The Rings?"

"No, Have you?"

"Yes," said 12-year old Nicolas, "I've seen it three times."

"Yes," said 14 year old Stephanie, "I've seen it twice."

"Oh well," I said "I'll have to go and see it when I get back to London".

"Can't we take you top see it with us? We'd love to see it again"

So I saw it with them - Nicolas for the fourth time and Stephanie for the third.

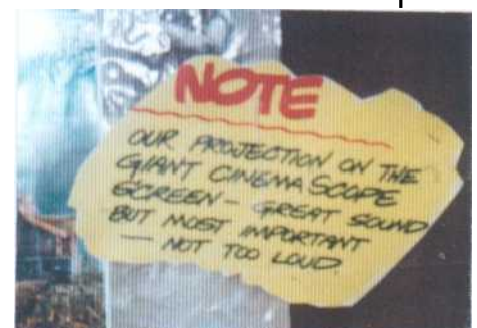
Three hours sitting without a break was pretty hard on my old bum and bones and I'll think twice before I rush out to see the next three hour instalment.

I have to agree with the complaining Wellington cinema-goers. Many sequences were overpoweringly loud and of quite long duration. Perhaps it was the prolonged high level that was objectionable? The bass content of the track for me was quite ridiculous. A simple beer tankard put down on a table sounded like a minor peel of thunder. perhaps that was a fault of the cinema I saw it in?

My own nominations for awards would be to the complete cast for Best Mouth and Eye Acting - mouths open and eyes popping in horror and amazement were the main dramatic reactions throughout. Almost as good as in the days of miming before sound came to the cinema

And to the Sound Design team for the highest number of blats, blams, bonks, boinks, booms, crashes, clangs, ouches, ohas, oinks, in any movie to date.

BOB ALLEN



THE ANTIQUES SOUND SHOW

THE EMI L2

Readers of AMPS Newsletter who recall Reg Sutton's short illustrated article (Issue 30) about the Maihak Reportofon spring-driven 1/4 inch magnetic tape recorder may be interested in another portable that was available in pre-Nagra days, and some other early recorders.

The British-made L2 circa 1950, was a lightweight (14.5 lbs), portable 1/4 inch magnetic tape recorder, developed and produced by Electric and Musical Industries (EMI), Hazes, Middlesex. Batteries provided the motor power and valve filament supply using ten U2 type 1.5 volt cells, and two type B 10167.5v batteries for valve HT supply. The bias oscillator, record and replay amplifiers used Marconi miniature valves - three N 18s and four ZD 17s.

There were three models available:

L2A Speed $3\frac{3}{4}$ in/s - wow 0.03%

Frequency response $\pm 2\text{dB}$ 50Hz to 2.5kHz;
 $\pm 3\text{dB}$ 2.5kHz to 3kHz

L2B Speed $7\frac{1}{2}$ in/s - wow 0.25%

Frequency response $\pm 2\text{dB}$ 50Hz to 5kHz;
 $\pm 3\text{dB}$ 5kHz to 7kHz

L2C Speed 15 in/s - wow 0.2%

Frequency response $\pm 2\text{dB}$ 50Hz to 7kHz;
 $\pm 3\text{dB}$ 7kHz to 10kHz

Signal-to-noise claimed as $> 45\text{dB}$ @ 1000Hz

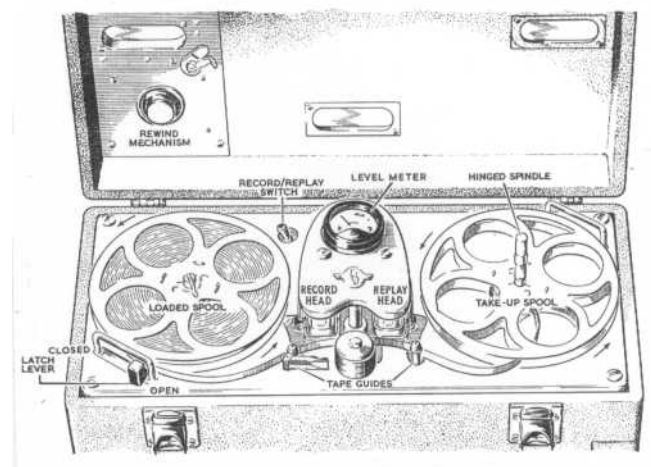
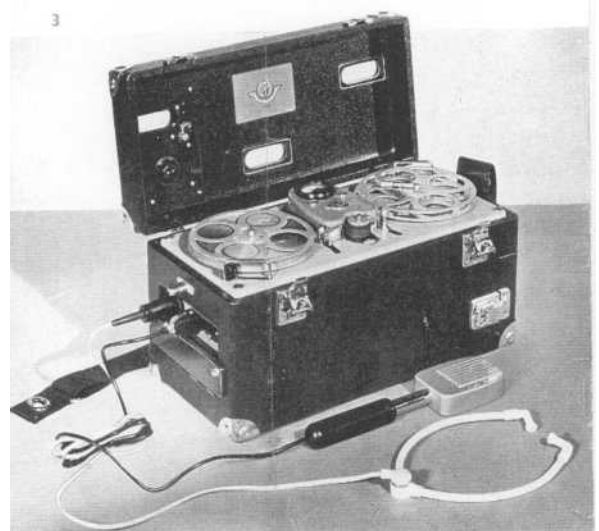
There were separate record and replay heads but no erase head, necessitating the use of preerased tape. Off-tape monitoring was possible with headphones and there was also a line out jack socket suitable for an external speaker. A facility for checking state of batteries was available by means of a selector switch for motor supply, HT, LT and bias, all readable with the on-board meter which was also used for level checking.

To save motor battery power, tape rewinding was done by hand, using a geared crank handle mounted on the lid. The machine was supplied with a very comprehensive instruction manual and a strong canvas cover with webbing shoulder strap could be purchased as an extra.

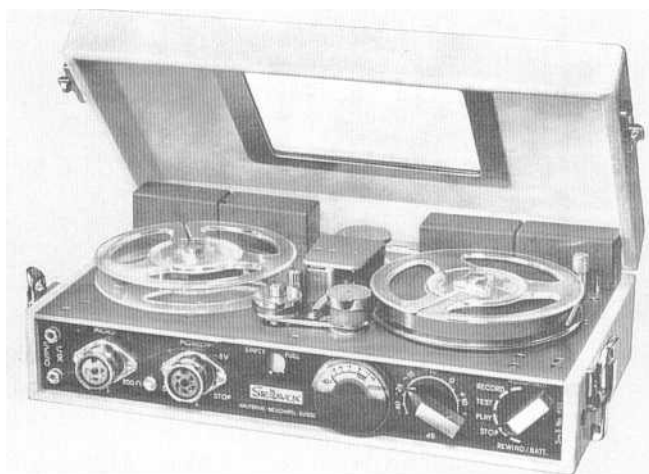
I bought an L2C in 1955 and apart from its thirsty consumption of U2 motor batteries, found it an excellent machine for collecting FX tracks. I still have a number of L2 rolls in my collection of tapes which sound excellent, even by today's standards.

The BBC used L2s prior to the Perfectone for the *Tonight* programme. The late Neville Druce, then working for the BBC, devised a modification for converting the L2 to enable it's use as a synch machine.

Eventually, I believe, EMI converted the L2 from valves to transistors but I rather think that the arrival of the Nagra more or less scuttled it.



THE STELLAVOX SM5



Another very portable 1/4 inch magnetic tape recorder that appeared in the 1960s was the original, Swiss-made Stellavox.

The Stellavox SM5 was, at the time, claimed to be the world's smallest studio-quality tape recorder". It weighed less than six pounds and measures 10 x 5.5 x 2.5 inches. It could be equipped with a pilot head for synch shooting.

Technical specifications for the SM5 were quite impressive

for its size - Frequency res
40Hz to 12kHz at 7.5 i/s wi

Speed regulation, by means
circuit, was better than ± 1 .

than 0.2%. For power it us
batteries said to be "long e
normal motion picture prod.

33/g inch tape spools that gave approx ten minutes of
recording time using LP tape.

The European 'Pilote' System was used for
synchronisation. The synch head had a slit opening of
approximately 10 mils and a slit length of approx 1/16 inch
for a tape speed of 7.5 i/s. The head was at right angles to the
audio gap and recorded a well balanced push pull track down
the centre of the 1/4 inch tape, supplied by a Pilot

producing 1 volt at 50Hz.

Several methods could
be used for transfer to
sprocketed film,
including the brutal
amplification of the
recorded 50Hz pilot tone
to control the speed of
the sprocketed machine.

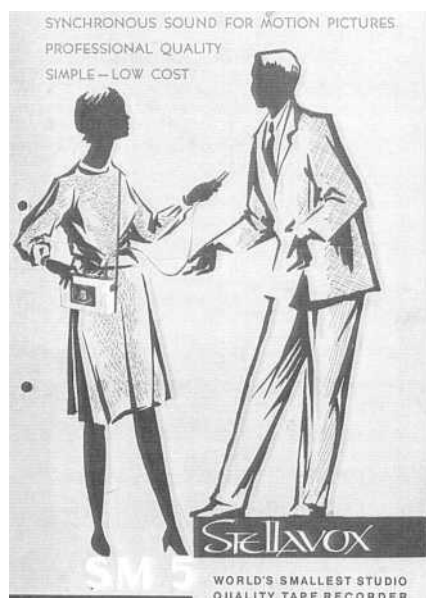
Although it was
reasonably priced, the
SM5 didn't seem to find
a great deal of favour in
the UK. From memory I
can only recall having
seen one in use and the
user wasn't too happy
about the battery

capacity. I guess the SM5
also fell foul of the Nagra

3.

BOB ALLEN

Autumn issue : Leever-Rich and Perfectone



SCI-TECH

- The 'Technical Oscars'

This year the Academy of Motion Picture Arts & Sciences' Board of Governors voted 7 Scientific and Engineering Awards and 14 Technical Achievement Awards based upon recommendations from their Scientific and Technical Awards Committee.

Achievements receiving Scientific and Technical Awards don't have to have been invented during the current year. They are considered when they have proven their exceptional merit through successful use. These were the awards for sound.

SCIENTIFIC & ENGINEERING AWARDS

To **John Eargle, Don Keele and Mark Engebretson** for the concept, design and engineering of the modern constant-directivity, direct radiator style motion picture loudspeaker systems.

The work of John Eargle, Don Keele and Mark Engebretson has resulted in the over-20-year dominance of constant-directivity, direct radiator bass style cinema loudspeaker systems.

To **Steve Gerlach, Gregory Farrell and Christian Lurin** for the design, engineering and implementation of the Kodak Panchromatic Sound Recording Film.

Allowing all four soundtrack systems to be exposed on a single negative with relative ease, this stock has allowed single inventory prints, facilitating the more economic distribution of motion pictures.

TECHNICAL ACHIEVEMENT AWARDS

To **Bernard Werner and William Gelow** for the engineering and design of filtered line arrays and screen spreading compensation as applied to motion picture loudspeaker systems.

Employing both tapered line array and filtered line array technologies and unique passive and active filter networks, their work with cinema loudspeakers was both innovative and dedicated specifically to cinema applications.

To **Tomlinson Holman** for the research and systems integration resulting in the improvement of motion picture loudspeaker systems.

For over 20 years Tomlinson Holman has been involved in the research and integration of the constant-directivity, direct radiator bass type of cinema loudspeaker systems.

STEINBERG NUENDO *Jim*

Betteridge reports on the AMPS Meeting

The Nuendo demonstration at the National Film & Television School, Beconsfield (2/7/02), was one of our most successful demonstrations with over 40 AMPS and IBS members attending, and a great deal of interest and discussion.

Nuendo is a relatively new addition to the crowded world of Digital Audio Workstations but seems to be generating a lot of very positive interest in the music and audio-post industries. Unlike most other professional DAW systems it's entirely 'native', using exclusively the host computer's own processor (Mac or PC) to do all the work rather than expensive proprietary hardware. This means you can take advantage of the rapidly increasing performance and falling prices of computers. And, using their new System Link technology, if you do need more power you can simply strap-on one or more extra computers, adding their processing power to your Arsenal. Nuendo creators, Steinberg, have a long and distinguished record in music software, most notably with their MIDI sequencer/audio recorder 'Cubase' widely used by composers in Europe. In 1996 they brought out VST or Virtual Studio Technology, which provided the virtual studio environment that we're now quite used to but, uniquely, in native form. Similarly to TDM, many third-party developers have produced virtual processors or 'plug-ins' for the VST environment. Some are models of well-known real-world boxes, some new and unusual, so that today many hundreds are available. All these VST processors are also available to Nuendo.

Without going into lengthy detail, suffice it to say that the package is capable of a wide range of extremely impressive editing functions including macros and time-saving automated functions. Some highlights: all edits are stored in an Edit History list that tracks your every move throughout the session so that, rather than hammering the Undo button until you figure you're back where you want to be, you can trace the list back to the relevant action and undo all edits to that point. Currently that list disappears when you power down, but they're working on storing it with the project. Similarly, when using off-line (rendered) effects on a segment of audio, each action is stored in a list, e.g. Normalisation, Compression, EQ, Reverb and Flange. If you change your mind at any point, you can go in and remove, modify or replace any of those processes without affecting the others. So although it's rendered, it's has an amazingly flexible undo, which is always available at any stage of the project.

The system is also able to work to digitised video (QuickTime, AVI, DirectShow). Someone in the audience suggested it would be very useful to be able to run two video streams along side each other to throw-up any differences; e.g. the off-line of a programme against the on-line, or an existing cut against a re-cut. This they did by linking two computers via System Link and running a video stream on each: murmurs of approval from the crowd. Nuendo can also import/export a number of audio file formats and even include different file

types within a single project: WAV, AIFF, MP3, Broadcast WAV, SDII. It can also import and export OMF1 and OMF2 plus Tascam's OpenTL. In the case of the latter you can apparently simply connect up a drive from an MX-2424 and up it comes on the screen, instantaneously. And if you're a MIDI sequencer user, the new Cubase SX features many of Nuendo's audio editing facilities and a Cubase audio project can be imported directly into it.

Currently, with Version 1.6, there are some significant limitations: it won't conform from an EDL, layback using 9-pin is very clunky and audio scrub is not available in all modes (though it is in many). Improvements on these and various other things are promised for Version 2, due out 'later this year'. One of the refreshing things about Steinberg and their UK distributors Arbiter, is they do genuinely want to hear suggestions from professional users and they do respond quite quickly with updates. These are FOC for minor ones with quite modest charges for major upgrades such as Version 2. Until now they've been largely focused on the music industry, but now they're focusing on Audio post and V.2 promises to reflect that. A Mac OS X version has been underway since January but is currently held up by a lack of appropriate Apple audio drivers.

Price is one of the most surprising things about Nuendo. Coming from an MI (Musical Instrument) background, Steinberg have grown up needing to be competitive on price and Nuendo and its associated hardware is amazingly affordable with most of the (24/96 capable) multi-channel input/output devices costing hundreds rather than thousands of pounds and a well-stocked 24in/24out system costing around

£5,000.

If you have another £850 to spare you can buy the Nuendo Houston, a hardware controller that offers eight faders, a bunch of buttons, a transport wheel (soon to be scrub-capable in V. 2) and an alphanumeric display with eight soft-knobs so that when you call-up a plug-in, its parameters are instantly under your fingers. Or if you've decided to go for one of the new Yamaha DM2000 or 02R-96, they include templates that allow for the hardware control of a wide range of Nuendo parameters.

Like Pro Tools, this system allows a huge amount of the preparation work for a project to be done at a smaller, cheaper location, transporting the entire environment to a properly equipped mixing room for the final stages. Of course, you still need to know what you're doing and have the experience to edit and mix effectively. But if you have those abilities, Nuendo could become an extremely powerful tool and, at long last, real competition for the Pro Tools monopoly.

Grateful thanks to Mark Hosking and the Steinberg/Arbiter team for an excellent Nuendo demonstration, and to Andrew Boulton and the National Film and Television School for their generosity in hosting it.

JIM BETTERIDGE

For further information take a look at: www.nuendouk.com/ 12



CGGB MEETS MINISTER FOR TOURISM, FILM & BROADCASTING

At the April meeting of the Cine Guilds of Great Britain, twenty three representatives of the member Guilds met Dr Kim Howells, the present Government Minister for Tourism, Film & Broadcasting.

"Hang on," I hear someone say, "What the hell is the Cine Guilds of Great Britain? I work in the film business but I've never heard of the CGGB".

Hopefully the following will help to enlighten those AMPS members asking the who (?) and the what is (?) questions.

The Cine Guilds of Great Britain (CGGB) was set up in the latter part of the 1980s to be a talking shop where representatives from the various guilds of professions and crafts involved in British film production could meet to discuss matters covering all departments, enabling each other to understand one another's jobs and problems.

The CGGB objects are to further the standards of professional conduct and achievement already attained and uphold the degree of excellence achieved by the individual members forming the CGGB, ensuring that the value of the members is recognised not only by the Motion Picture Industry, both here in the UK and overseas, but also by the general public.

The following guilds and associations make up the membership of the CGGB - British Society of Cinematographers (BSC); Guild of British Camera Technicians (GBCT); Guild of British Film Editors (GBFE); Guild of Stunt & Action Coordinators (GSAC); Guild of Location Managers (GLM), and of course, AMPS.

The present members are from the craft guilds. The Guild of Production Executives and Guild of Film Production Accountants were amongst the founder members but withdrew a few years back, due to differing opinions on several matters. It is hoped that they will be encouraged to rejoin in the not too distant future.

It would be good to have the Directors Guild on board, however, they are actually a trade union and so are prohibited from membership as the CGGB must not be seen to take part in trade union activities.

Meetings are held at six week intervals. Member guilds are allowed two voting representatives at each meeting but otherwise there is no restriction on other members attending and joining the discussion. So as a member of AMPS you are also a member of the CGGB.

Besides the usual meetings to handle Guild business and affairs, others are arranged to invite representatives from organisations concerned with the Film Industry, to attend to meet the CGGB and discuss matters of interest and answer two-way questions.

Since the successful meeting with the Minister for Tourism, Film & Broadcasting, there have been well attended and extremely helpful meetings with

representatives from BECTU, and another with the Film Council ("What's that"? - what this space, next issue). Topics included Training, Health & Safety, and publicising the British Film Industry overseas.

The present Chairman is Joe Dunton of Dunton Parker & Co Ltd, and a member of the BSC. Joe has been a dedicated member of the CGGB from its inception, and now in the chair, with his hard work and genuine enthusiasm, you can be sure that you will be hearing more about the CGGB in the future.

Now to continue with the report about the CGGB meeting with the government minister.

The focus of the meeting was this year's bombshell excluding TV production from the Sale & Leaseback agreement, the reason being that TV companies have abused the system that was set up to help the British Film Industry compete with Ireland, Isle of Man and Canada. Dr Howells, the Minister, hoped that it could be restored with tighter restrictions to prevent abuse by established TV productions e.g. soaps and weather forecasts, qualifying for financial help.

AMPS, represented at the meeting by Sandy MacRae, Graham Hartstone and Peter Hodges, questioned the Minister, voicing concern regarding the fate of frequencies for radio mics after the switch-off and sell-off of the analogue TV frequencies. The Minister said that he was aware of the problems and affirmed that his department was looking at it as a matter of urgency.

Other points covered were Training and Health & Safety breaches of the Working Time regulations.

After the departure of the Minister it was agreed by the meeting that each Guild should write to the Paymaster General conveying the definition of productions eligible for the Sale & Leaseback process. AMPS subsequently sent a letter to the PMG and received a formal, personally signed reply to the effect that the matter was being looked into.

It was also agreed at this meeting that the Guilds should liaise to collect and collate statistics regarding long location hours of work and accidents which occurred while travelling to and from location, for a presentation to the Department of Culture, Media & Sport.

BOB ALLEN

SAD NEWS

During the past two months we have been advised of the deaths of AMPS members Douglas Hook, Rod Hull, and Geoff Latter. Members are invited to send in tributes to them which will be published in the Autumn issue of the Newsletter.

Meanwhile, sincere condolences from AMPS Council and Members to all families and friends of the deceased.

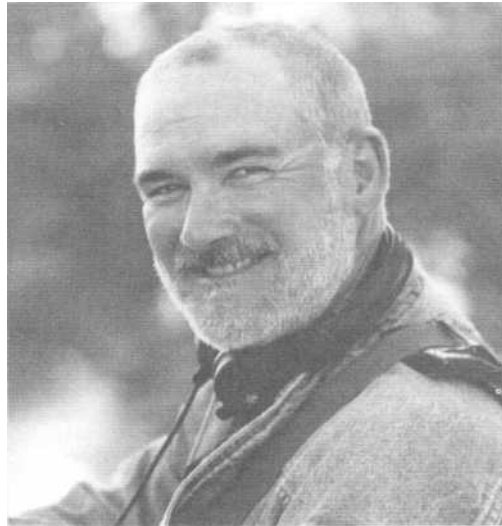
DAVID JOHN

1945 - 1992

There are some people who accept life as it comes, others who bend to its vagaries, and then there was David John whose enquiring mind would question the very air he breathed! Why? What is it? What does it do? How does it work? What can I do to improve it? This was a philosophy that he applied to his life and made him a fascinating fount of diverse knowledge, a consummate inventor, and a successful and

accomplished film production sound mixer.

It was in this latter capacity that he was best known having worked on twenty five feature films such as Neil Jordon's *Mona Lisa*, *Company of Wolves* and *High Spirits*, John McKenzie's *The Long Good Friday* and *The Honorary Consul*, *The Dresser* directed by Peter Yates, Bob Hopkins' *Raggedy Rawney*, Rob Reiner's *The Princess Bride*, four films for Michael Caton-Jones including *Scandal*,



Memphis Belle and *The Jackal*, Martin Campbell's *Golden Eye* and more recently Mike Nichols' *Wit*. He was respected for his dedication to the job and his, at times "wicked" sense of humour. Bob Hoskins has said, "He was a good friend who always made sound fun. I shall miss him" and Mike Nichols, "David was a rare and beautiful spirit. His vitality and love for people lit up the set at least as much as the director of photography did. He was superb at his job and his sound was crystalline. To know him was to be increased", and Michael Caton-Jones said "He was consumed by his attention to sound. If any film I ever made is any good it is thanks to the presence, support and dedication of people like David John".

When David was first diagnosed with cancer he immediately questioned the suggested treatment and would only agree if his own research showed that it would help him to lead a reasonably normal life. He was adamant that he would not be used as a guinea-pig. Nevertheless, there were times when he was in extreme pain and his only comment would be "what a bummer"! Even when he was confined to a wheelchair he maintained his legendary humour and he was determined to have a party. Held just two weeks before he died, it was a great success and a measure of his popularity,

attended by some one hundred and fifty friends, family and film colleagues, many of whom were AMPS members. Hugely joyful.

Over the years David, wearing his inventor's hat, had come up with solutions for such diverse applications as putting microphones inside neckties without breaking the stitching, to an idea for keeping squirrels from eating the nuts put out for garden birds. This latter one works so

well I stole the idea and I shall be only too pleased to send a drawing to anyone interested for a two pounds donation to Hearing Dogs for the Deaf! More recently, he formed a company, TalkSign, with two colleagues to manufacture innovative, flat, touch-screen information panels that 'speak' in various languages. Needless to say, David insisted that the sound was of the highest order and it is ironic that the company is on the verge of a breakthrough with interest from Railtrack and

the NHS. (There has been a TalkSign prototype in the foyer of the Whittington Hospital, Archway, North London for two years).

David was very much a 'hands-on' person, in touch with the basics of life. He was an accomplished builder - witness the 3rd floor rear extension to his house that boasts a large wooden conservatory on top; he rebuilt classic cars (and would drive most cars as if he was still riding his motorbike!); he loved to bake his own varieties of bread and he would search out fungi in the parks and woods of south London and try them all, (some with extraordinary results!). Then he would tell you that "Ivan, I've done something extremely silly - I was pruning a tree and I've just fallen from a ladder because I cut off the branch it was leaning against!".

But, above all, he was a great family man. He adored his beautiful wife, Ros, the diminutive "power behind the throne" and was very proud of his two son's accomplishments, the eldest, Gareth, having followed dad into the business and William, as David said, "having got a proper job!"

Born on the 15th March 1945 he died at home peacefully, on Sunday evening 10th March with his family around him just days before his 57th birthday. He will be missed.



READERS' LETTERS

Dear Eds

The support I received from fellow members in my quest to find my 'lost' buddie, Dave Pearson, was overwhelming. I am now in contact with Dave and am pleased to assure his many friends that he is well and prospering in Cape Town which is currently hosting 400 commercials each month

Thank you all very much indeed

KEN OSBORNE

(Via Email)

Dear Bob

re PPT article AMPS Issue 39

I am writing to express thanks on behalf of myself and the Committee for the excellent article in the above. I have read AMPS Newsletter thoroughly and visited the web site and am most impressed.

We seem to be flourishing at the PPT. Our new museum and cinema at Bletchley Park is superb - after the ordeal of the move across the site. We have a Kalee 21 running, and a Westar 2000, coupled with a Westrex 5035 tower for long play.

There are exciting developments at other regions which you will read about when you receive your PPT magazine.

Once again thank you for your kind support in providing the article in AMPS Newsletter. It is greatly appreciated.

Yours faithfully

STEVE BAKER

Chairman PPT

Dear Bob

A reply to Sir Sydney Samuelson, engendered by his letter published in Newsletter 39

"Re sync between film and disc..."

It seems that old technology doesn't lie down. On AMPS visit to the IMAX cinema at Waterloo, we learned that the multi-channel soundtrack is played out from the hard disk drive of the associated computer, which is timecode locked to the projector via a sync generator on the latter.

Therefore, if there happens to be any damage to the projection film print, black frames are spliced

in, as it is not possible to delete frames from the audio storage. Subsequently, the damaged section of the picture is replaced with a reprint. History repeating itself ?

Regards

PAT HEIGHAM

Dear Patrick (Membership Secretary)

I have been a full member of AMPS now for nearly ten years, but I must inform you of my current situation. I became a freelance Production Mixer in 1986 but my main interest was always in making films and Directing. Having made several short films and documentaries, (recording, interviewing and directing at the same time - yes Nick Broomfield is a hero of mine) I was offered the opportunity to direct a popular television drama in 1996. I wasn't sure whether it would work out, and fully expected to return to mixing fairly soon, however, I have been lucky enough to continue working as a Director on many more television programmes, although I certainly miss my days of recording.

I often enviously look over to the relaxed sound guy in the corner of the set and usually go and sit with them for a certain homely comfort in times of stress - and those times are plentiful. Naturally I inform them and the boom ops and assistants about AMPS and try to help those mixers who are members to have the correct identification after their names on the credits.

But it looks as though I am hanging up my headphones for the foreseeable future which this means that I am no longer a Production Mixer. However I do want to continue my support for AMPS and would like to remain a member of one of the most sincere professional organisations I have encountered. Can I do this?

Kindest Regards

CRAIG LINES

(via Email)

(Published here with Craig's permission because we thought this was an interesting situation. And of course, he remains a full member.)

*And on the query raised by NICK FLOWERS
on the definition of W.R.A.P...*

DAMON OSBORNE Emailed us:

I was told it is old Hollywood, in the days when they had to rewind the film before taking it out of the camera, hence REWIND AND PRINT. It sounds very feasible but it could be a load of old spools!

AMPS AT THE PRODUCTION SHOW



A dozen members ran the AMPS stand for the three days of The Production Show. Pictured are those lucky(?) enough to € have been around at the same time as the camera.

Brian Simmons and Sandy MacRae man the AMPS stand



Colin Broad, one of many AMPS visitors, poses with Sandy



All Production Show pictures by Brian Simmons
(even though he was in one of them?)