



When I Think Back...

by Neville Williams

PA systems - 3: Real-life anecdotes from the memoirs of a professional

After building a career and a company around the design and installation of public address systems, it is not surprising that Laurie Simon, featured in the second of these articles, can recall incidents that were variously gratifying, salutary and amusing. They should prove an eye opener to readers whose involvement in PA has been confined to the amateur/enthusiast level.

In fact, Laurie did not seek to segregate colourful incidents in his memorabilia; they were scattered through a sheaf of jottings, clippings and photostats from which I had to assemble a cohesive story. In all, there was too much material for a single biographical article and, rather than simply split it in two, I decided to set aside the more memorable sidelights for separate presentation and comment here.

One thing that was evident in the career of the budding, teenage businessman was his flair for promotion. The device of reversing his family name to create a company identity — from **SIMON** to the enigmatic **NOMIS** — was an example. I say this because, as one who has a penchant for forgetting names, **Simon/Nomis** prompts a ready recall.

With this as a starting point, he insisted that the logo, displayed vertically, be routinely bracketed to the performer's **mic** stand, where it would become part of the overall picture — on stage, in press photos, in newsreels and ultimately on television. It was never seen to better advantage than in the press photo of a young Prince Charles, in last month's instalment.

For home town Adelaide, the ploy worked to perfection. Backed up by a reputation for **commitment and reliability**, 'Nomis' came to mind almost automatically if sound amplification was required in that part of the world. During and after the event, all concerned were aware who had done the job.

When Adelaide railway station was fitted out with PA in 1938, *Radio Review of Australia* for April of that year featured the key role of the **Nomis Radio & Amplifier Co**, along with their choice of Australian **Rola's** sensitive and powerful G-12 loudspeakers.

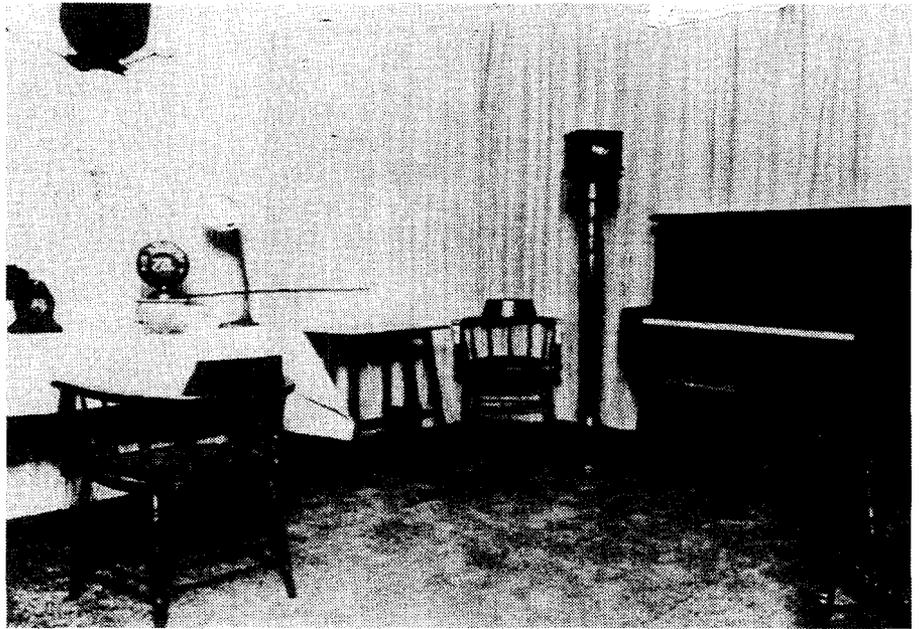


Fig.1: 5CL's studio, as it once looked. The condenser mic, in its forbidding wooden box atop a heavy wooden pedestal is at centre rear, alongside the piano.

Again, reporting on the first Adelaide concert of Richard Crooks (*The Advertiser*, September 4, 1936), H. Brewster Jones led off with a bouquet for the amplifier system. I quote:

West's Olympia was crowded last night with an enthusiastic audience for the first Adelaide concert of Richard Crooks.

Although the famous tenor employed the most delicate pianissimos in falsetto, and sotto voce, the sound could be heard in every part of this vast auditorium by means of a particularly efficient public address system — locally constructed. Only two of the four amplifiers installed were in use, but they were evidently sufficient.

It was this reaction which prompted Richard Crooks to insist that the same equipment be trucked to Melbourne for his farewell concert there.

This was together with his personal appreciation of Laurie Simon and his remark to him that "We have nothing in the States like that!". Laurie suggests that the prime reason for the distinction was probably **Nomis'** choice of a broadcast quality condenser microphone, at a time when most other PA operators were using much less pretentious types.

Royal commendation

But even the distinguished Richard Crooks' commendation paled before

Royal endorsement. Among Laurie's papers I came across a letter on official **PMG** stationery dated GPO, Adelaide, 23 March, 1966. It was addressed to Mr L Evans, **Nomis** Electronics Pty Ltd, of 419 Black Rd, South Forest, SA. (Mr Evans was Technical Works Manager, having been with the company for 25 years.), and reads:

Dear Mr Evans,

At Government House last night the Private Secretary to Her Majesty, Lieutenant-Colonel Sir Martin Gilliat, commented most favourably on the quality of the public address system at the Adelaide Town Hall and said that Her Majesty had told him that it was one of the best public address systems that she had ever used.

These remarks were endorsed by other members of the Royal Household and the State Director. This, of course, reflects considerable credit on your company and in particular on you and your staff concerned on this occasion and it gives me pleasure to pass these comments on to you.

I wish to express to you my personal thanks for the cooperation which you gave me in arranging the facilities at the Town Hall and I trust that we may again be associated on some future occasion.

(Sgnd) **B.R.Perkins.**

COMMUNICATIONS OFFICER,
ROYAL VISIT, 1966.

Now back to the condenser microphones mentioned earlier. As indicated last month, Laurie bought the first two from the **PMG** Dept in the mid 1930's, after they had been pensioned off from radio station **5CL** in Adelaide. Thereby hangs a tale...

From studio to stage

At **5CL**, the basic condenser capsules had been housed in rectangular wooden boxes (17 x 15 x 17cm), being large enough to accommodate a one-valve battery powered preamplifier.

A faded photograph (Fig.1) depicts the original studio scene, including one of the actual mics bought by Laurie Simon, perched atop a massive wooden stand beside the piano. It seems implicitly to convey the message: "Not to be moved indiscriminately; to be sung at — not into!"

PMG technicians were not impressed by Laurie's proposal to expose their revered studio microphones to the rough-and-tumble of public address — especially when he indicated his intention of exposing the capsule on a conventional **mic** stand, with a two-metre long twin shielded lead to the preamplifier nearby.

The capsule, they said, would simply not stand up to being handled and puffed



Fig.2: Four historic mica from Laurie Simons' collection. Clockwise from top left: One of the original condenser capsules; an STC 'Eightball' with baffle fitted; STC 'Saltshaker' dynamic' and finally an Astatic D-104 crystal.

into by stage performers; and while the shunt capacitance of the extended lead may not affect the tonal quality, it would certainly reduce drastically the already low output signal level.

Laurie says that one of the men who tried to talk him out of the idea was Frank O'Grady, at the time Chief Engineer of the **PMG's** Department and later Postmaster-General.

In truth, all parties were probably 'right'. For Laurie, the move paid off handsomely — but not without dire consequences, as predicted. I quote from Laurie's hand-written notes:

In studio work they seldom gave trouble. Many times, however, I had nerve-wracking moments. Due to breath condensation, the diaphragm (rolled aluminium, stretched) would develop minute holes through corrosion. Close-up crooners caused most of the trouble.

Typically, one might be operating at an important luncheon with a notable guest speaker. Suddenly one would hear a couple of ominous 'spits', signifying a flashover between the diaphragm and the back plate. Would it hold out until the end of the speech?

Laurie's response was to ensure that capsules could be interchanged in a minute or less, and for the operator always to have a spare on hand.

Back at the factory, **Nomis** was fortunate to have an **ex-PMG** employee on staff, who could roll and fit new diaphragms as needed.

High quality important

In their day, studio-type condenser mics underscored the importance of audio quality, but Laurie was not backward in seeking out other types that could be used in specific situations without the attendant risk of voltage breakdown. (Fig.2)

Dynamic mics were obviously attractive, by reason of their low output impedance and their ability to work into lengthy shielded cable runs. In this context, Laurie said that he also came across a small high-to-low impedance transformer which could be inserted inside the casing of some crystal microphones, to enable them to operate into a long **balanced/shielded** cable — much like a dynamic.

This led to mention of an occasion when a D-104 crystal **mic** was selected for a prestige luncheon with a notable speaker. In normal circumstances, the installation would have been appropriate for the speech-only occasion, with the rising response of the **mic** ensuring crisp diction in the particular environment.

The preliminaries went off without a hitch but, unfortunately, the guest speaker's sibilants were grossly accentuated Says Laurie: "Maybe he was running-in a **new** set of dentures, because every time he hit an '5' the sibilant emerged as a whistle. Our speech amplifiers, at the time, had provision for bass cut but not top cut, and there was not a thing I could do about it".

Problems could arise, says Laurie, in

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even the most tightly controlled situations. For example, **Nomis** was commissioned to supervise the entire sound arrangements in the Adelaide Town Hall for a visit by Prince Charles. Everything had to be duplicated, as a precaution against possible breakdown. Program splits also had to be provided for radio and TV stations.

On stage, separate twin microphones had to be provided in specified positions, one pair for the Governor and Lord Mayor (both rather short men) and another pair, adjacent to the prompt facilities, for Prince Charles (much taller). They were preset to precisely the specified height.

The first hitch occurred when, just before proceedings got under way, the amplifier system was found to have developed a sudden and mysterious hum. It was tracked down to a piece of broadcast station equipment, which had been plugged in using an unbalanced line transformer. The offending tech had to tear off to locate an acceptable substitute.

But there was more to come. Overlooking prior arrangements, the Prince walked to the wrong microphone to address the audience in a less than forceful voice —

with the microphones pointed directly at his tiepin! There was a frantic twiddling of controls by all concerned in an effort to compensate, without running into acoustic feedback.

'Mic shy' performers

Laurie was obviously put off by guest speakers who had an aversion to microphones — a sentiment that would surely be shared by anyone who has been responsible for the operation of a PA system.

The difference is that **Nomis** was commonly involved with very public figures and a large and/or influential audience, with a poor result being a potentially bad advertisement for the company: "The mic wasn't working properly", and so on...

The wife of one very prominent government figure was a large lady with a small voice. She was scheduled to address several hundred teenage girls in a park situation, where a platform and amplifier had been set up.

On arrival, the good lady informed Laurie in a stem voice that she hated 'those things' (microphones) and would not be needing the amplifier.

Affecting equally stern tones, Laurie

drew her attention to the considerable noise level from nearby traffic and pointed out that, without amplification, she would be heard only by those nearest the platform. Much against her will, she accepted his advice.

Their next encounter was at the Adelaide Town Hall, where she was guest speaker at a large girls' school function. The Headmistress used the amplifier system for the introductory speech and Laurie assumed that, in the light of their previous encounter, the guest would be wise enough to follow suit.

But no, 'her ladyship' deliberately avoided the microphone and proceeded to share her pearls of wisdom with those who happened to be in the first couple of rows.

Nor was this attitude confined to the fair sex. A similar situation occurred at the break-up function of a prominent boys' school, in a large picture theatre with suitably damped acoustics. The headmaster delivered his annual report and proceeded to introduce the guest speaker — a prominent parliamentarian.

With an imperious wave of the hand towards the microphone, he said "I hate those things!". Then, raising his voice:

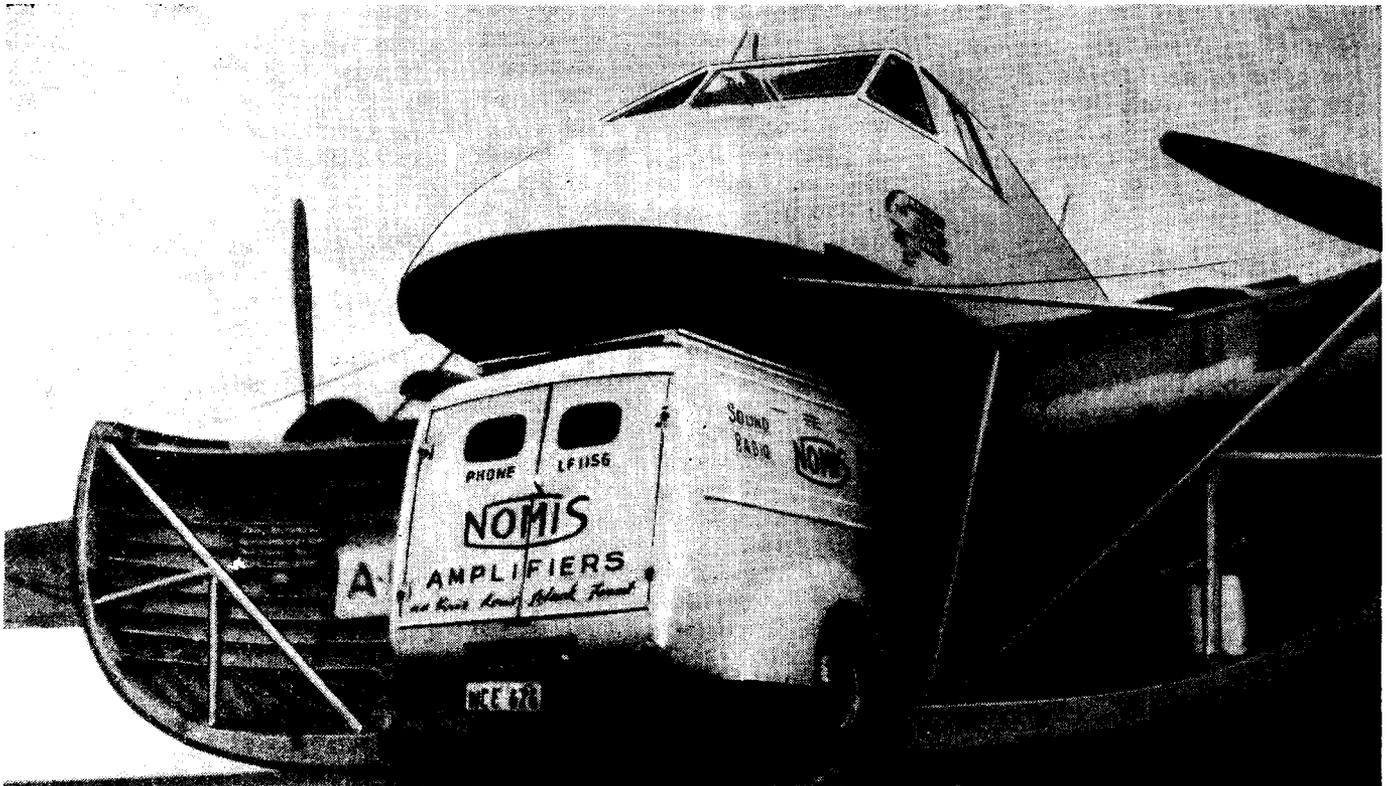


Fig.3: Apprehensive lest industrial disputation might delay transport by ship, **Nomis** despatched this sound van to Tasmania by Bristol freighter from Melbourne's **Essendon** airport. It was critical to adequate sound coverage of a Royal visit to Hobart and Launceston in 1954.

"Can you hear me?" From somewhere up the back came: "No!". Encouraged by the laughter, he carried right on. Laurie was one of the few who heard what he said — primarily because he was in the orchestra pit with the PA system, unable to correct the situation.

Somebody must have told the politician later about his wasted effort, because next time their paths crossed at an exclusive girls' college function he "almost swallowed the mic at times", such that Laurie had to 'ride' the volume control for the duration of his speech.

Design consultants

In the early days, says Laurie, such incidents were almost par for the course, with any number of people professing to be up-tight about microphones. He had also had more than his share of architects who were uncooperative in the choice and placement of amplifier equipment — and more recently, of consulting engineers with a certain amount of theoretical knowledge but little in the way of practical experience.

Then again, as mentioned in the January issue, there were/are churches and similar groups who ended up in trouble when they failed to realise that unsatisfactory sound is often due to poor diction or poor microphone technique, rather than to a deficient amplifier. Laurie's next story indicates just how involved such a situation can become.

Back in the early 1960's, Nomis installed a PA system in what he describes as a 'beautifully designed medium size cathedral-like church'. It had no ceiling as such, but a Gothic style roof structure, timber panelled from the top of the walls to the lofty peak.

As part of the system, Nomis had installed two sound-column loudspeaker systems, up front with one on either side. The obvious intention had been to project the sound out over the congregation from the general direction of the pulpit and to minimise projection into the roof area, where it would be likely to create echoes.

Results at the time appeared to have been acceptable. But for reasons best known to the membership, they had later set up a technical(?) committee from within their own number, to devise ways in which the sound might be improved still further. Instead, the committee made matters worse and, in the course of time, Laurie Simons was invited back to suggest where they had gone wrong. When he walked in, he could scarcely believe his eyes. An acoustically absorbent ceiling had been erected at wall height, completely closing off the elegant Gothic roof. A new PA system had been

Aeronautic & guidance beams

I would like to acknowledge reader comment on my story in the August 1992 issue about aeronautical radio navigation beams, and in particular, the German Bomber Command's Knickbein.

C.J. Petrich (VK4ACZ) of Mt Molloy, Old, comments on the evolution of radio beams since then, and the trend setting Boeing 247D which he first encountered at Bahrain. As a purpose-built postwar airliner, it stood out from an assortment of converted wartime bombers being pressed into service by aspiring operators.

His main theme, however, has to do with Dr R.V. Jones, featured in the August article, who was largely responsible for neutralising the potentially dangerous Knickbein guidance system being used by marauding German bombers.

Mr Petrich points out that Dr Jones subsequently wrote an informative book entitled *Most Secret War* — a publication that I was not previously aware of. Jones apparently featured also in a postwar BBC documentary under a similar title. He should thus have been better known than I allowed for.

Still further information on Knickbein was given in *The Ultra Secret* a book by Fred Winterbotham — Jones' wartime boss, whose role, according to my correspondent, was glossed over in Jones' own account.

Again, Jones received passing mention on page 25 — and a footnote — of Peter Wright's controversial book *Spycatcher*. Wright acknowledges that Jones had made a brilliant contribution to the war effort, but suggests that he was widely mistrusted by the 'old boy network in postwar Whitehall. This was by reason of his single-minded independence. I quote: "If we let him in, he'd be wanting to run the place next day!"

That Jones had a high regard for the amateur fraternity is evident, according to my correspondent, in his *Most Secret War*. Rowley Scott-Farrie G5FI receives frequent mention. The British amateur fraternity, Jones says, furnished an invaluable reserve for the staffing of radar stations and signals networks and for signals intelligence personnel.

Jones tells of a discussion, postwar, with General Martini, Head of German Signals and Radar. He was intrigued, he had said, by the high standard of engineering evident in German communications equipment, in contrast to the very limited technical standard of their operational personnel.

Martini's reply was that Hitler had suppressed amateur radio before the war, and disbanded the potential reserve of technical and communication skills. Of necessity, German equipment had to be so engineered that it could be operated and maintained by relatively unskilled personnel.

The second letter is from Wal ('Blue') Easterling, a correspondent and again an amateur from Burleigh Waters, Old. He says that the operator on the Anson which ultimately confirmed the existence of Knickbein was Corporal Mackie, reputed to be a pre-war 'ham'.

The signals had been missed because the RAF simply did not have a suitably sensitive receiver capable of tuning above 30MHz. Corporal Mackie was using a Hallicrafters, obtained from a London dealer on credit. That sounds like an amateur to me! Thanks again, Wal.

installed, with complex loudspeaker wiring and controls and facilities well beyond their needs.

Gone, too, were the up-front sound columns. Instead, there were round holes in the ceiling, each one accommodating the trumpet of a re-entrant metal horn facing vertically downwards — horns that would have been more at home "strung around a dog track!". Said Laurie: "I shuddered to think what it had all cost".

And pity help the unfortunate communicants who ended up directly under the horns — as they watched participants out front moving their lips while a disembodied metallic voice crackled from the ceiling above. Elsewhere in the auditorium, the congregation would have had to do its best with a babble of metallic, disembodied voices! How the communicants finally resolved the problem, Laurie didn't say.

The great outdoors

But he did include two or three incidents from the days when Nomis had to cover outdoor events the hard way — without ready access to AC mains.

One such event was a large picnic function where there was no mains power on site. However, he was told not to worry about a battery-powered supply, as one of the organisers lived close by. He need only bring 'about so many yards of flex', and pick up mains power from the organiser's home. Unfortunately, the organiser underestimated the distance.

But again, he proved helpful: run your flex as far as it'll reach, and get on with setting up the gear. He had extra flex in his garage, he said, and he'd join and tape the two together. They'd done this sort of thing before...

The only trouble was that, when he plugged in and switched on, there was no power at the amplifier end.

Seeking the reason, Laurie tracked back along the cable, alert for any obvious physical damage. When he came to the join, it was generously taped — but it also felt strangely warm! So did the rest of the cable back to the house, even though it was in free air, draped over shrubs.

It didn't take long to sort out what had happened. The helpful householder had dutifully twisted the wires, colour to colour, but he had omitted to tape them separately. He'd simply bundled them all neatly together and taped them as a group!

Laurie remarked that the householder must have been using a hairpin or nail in place of fuse wire. His meter must really have taken off when he switched on. After the join was correctly re-taped, a good time was had by all!

Fumes and dogs

Tired of *mains* supply hassles and/or organising heavy duty accumulators and DC/AC inverters, someone at **Nomis** came up with the idea of mounting an AC generator in the engine bay of a Chevrolet-6 panel van.

They would use the van to transport the equipment to the site, park it in a suitable position, fit the alternator drive belt and generate their own power on the spot. If exhaust fumes proved a problem, they could be dealt with by adding a length of flexible hose to the normal tailpipe, to carry them downwind.

The idea worked like a charm — until summer came around, and the engine had to be periodically spelled to prevent overheating! The 'last straw' came when someone forgot to load the hose and Laurie had to spend hours with the truck, attending to the alternator and equipment, in an atmosphere loaded with carbon monoxide. "I arrived home", he said, "as sick as two dogs!"

Mention of dogs is appropriate as an introduction to Laurie's final, somewhat earthy anecdote. It involved a race meeting at **Snowtown**, under very primitive

conditions. There was no local power or other facilities and the **Nomis** van was parked on the flat, with a loudspeaker atop the cab directed towards the modest crowd of patrons grouped mainly around the finishing post.

Power for the system was drawn from heavy-duty 32V batteries, driving a DC/AC rotary converter which fed an amplifier and a radio tuner. Local announcements came from the course 'office' via an ancient telephone hook-up, while Laurie was supposed to cut in city race broadcasts picked up by a tuner in the truck.

Unfortunately, as the time for the **first** such broadcast approached, Laurie realised that the signal was being blanketed by noise interference, mainly due to commutator hash from the rotary converter, but aggravated by a makeshift aerial and an ineffective earth. There were no buried pipes to latch onto, and the ground was so dry that the plated earth spike might just as well have been a wooden tent peg!

If only a couple of the local dogs would wander past and douse it with what we schoolboys used to call 'potassium-phosphide' — **K9P**. But there wasn't a

dog in sight. In sheer desperation and alone on the far side of the van, Laurie duly summoned all his resources and did what he had to do!

What's more, it worked. As he said, it was "a magic fix"! They got their broadcast.

From this remote time and place, I can only concede that, faced with a vexing technical problem, Laurie had come up with a solution that, if not unique, was unlikely ever to have featured in a formal textbook. As I said: 'an earthy anecdote' indeed!

That aside, my thanks to Laurie Simon for a glimpse of the trials and tribulations of a pioneer PA **professional**. In so saying, I'm conscious of having created an opening for would-be raconteurs from the next generation, who have been involved with PA during the postwar years.

There must surely be 'roadies' amongst our readers, who once managed and man-handled ear-shattering equipment for itinerant rock groups. There may even be the odd engineer who looked dubiously at Laurie **Simon's** 805's and ventured into the uncertain world of solid state. It's over to you.