

When I Think Back...

by Neville Williams

FRED PATON: From screwdriver and pliers to purpose-built test equipment

Almost to a man, it seems, old-timers from the Australian radio industry share a sentimental regard for test equipment manufactured under the 'Palem' brandname by the former Paton Electrical Instrument Company of 90 Victoria Street, Ashfield, NSW. But what of its founder? This month, with the co-operation of former Palec employees, we glimpse the poignant life story of the late Frederick Henry Paton.

The level of reader interest in Paton/Palem was evidenced by the response to a panel cut into an article on Slade/Calstan test equipment, in our May 1993 issue. Palec emerged from the replies as the dominant brand of 1930's-style Australian test equipment, presumably because, unlike Charles Slade, Fred Paton did not diversify into the receiver/amplifier market, his resources being directed primarily into electronic instrumentation.

The reaction of industry veterans was typified by a letter from Brian Syme of Indooroopilly, Qld. I quote:

Dear Neville,

'When I Think Back' (page 39, EA May '93) contains an error in tense. Under Paton and Palec your text reads: 'Many of the instruments once treasured by Australian enthusiasts...', etc. Wrong!

After 50 years on the test bench, I still have my Palec MCA multimeter, which I use daily and certainly more than any other instrument. It still works, although it's a bit like Murphy's anecdotal axe, having been fitted with the odd new handle and the occasional new head!

It sits on the shelf, between an auto-ranging digital thing and a 100k ohms/volt machine, but remains the instrument of choice. Your text should read 'still treasured'. With kind regards...

Brian Syme.

Other correspondents were no less keen about venerable Palec valve testers, oscillators and signal generators — partly because of their historical in-

terest, and partly because of their relevance to the restoration of vintage valve receivers.

By contrast, factual information about Fred Paton and the inner workings of his company proved much harder to come by from the usual sources — 'vintage' industry literature and per-

sonal recollection. Fred, but they had never met him. Helpfully, Alan Whitford of Balgowlah, NSW, rang to warn that Fred should not be confused with his contemporary Jack Paton, who had been Chief Engineer and Production Manager for Norman Gilmour's Lekmek Radio. Alan himself had once worked at Lekmek as an assembler/wirer.

However, the panel in the May issue also prompted a response from a number of readers who *had* known Fred Paton, having once worked in his Ashfield factory. While not necessarily able to offer much in the way of direct information, they did come up with the names of employees who 'would have known Fred better than me'.

Personal pattern

Being a small company, especially in its early stages, such information followed a distinctly personal pattern.

Mr Bill Field, a technician now living in Runaway Bay, Queensland, mentioned 'Bert' Meyer as an associate during the period 1940 - 48, mainly to do with the machine and plating shop.

At age 79, Herbert Meyer described his one-time role at the Ashfield factory as a handyman/fitter. He said that he had often been seconded to do special jobs for the boss who, for reasons that will become apparent, needed a lot of support.

Bert Meyer, in turn, nominated Noel Rose as a man who had been a co-director and confidant of Fred Paton over many years. He went one better by tracking Noel, a couple of years his



Fig.1: From an early 'Wireless Weekly', this pen drawing of Fred Paton gives no hint of the daunting physical handicaps with which he had to contend throughout his business life.

sonalities, including yours truly!

Even though a regular advertiser in this and other magazines, my own contact with Fred Paton and/or his staff was limited to the occasional telephone call. The same was true for other members of the EA staff — or the industry at large — whom I contacted. They knew of

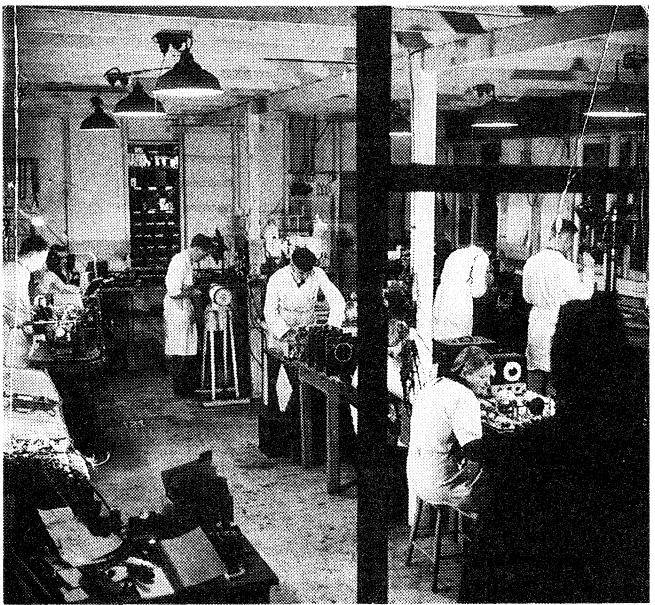


Fig.2: In the original 'machine shop, circa 1935. The woman in the right foreground is winding meter coils.

senior, to retirement at Tea Gardens on the NSW North Coast. Contacted by phone, Noel Rose said that the story he could tell would be too long to relate in a letter or over trunk telephone. If only we could get together...

I finally persuaded Noel to borrow a cassette recorder and commit his story to a tape cassette, which could be mailed in a PostPak for a dollar or so. Noel was dubious at first, but excelled himself in the actual exercise. He thought through the events leading up to his first meeting with Fred Paton, put them on tape, then switched off while he planned the next segment, and so on. In this way, the story was covered in a series of 'takes', involving much less stress than a single prolonged session. At the listening end, the contents were likewise easier to cope with than a long, rambling tale.

Thanks, Noel, for setting a pattern which I am encouraging other would-be raconteurs to emulate.

Where it all began

By way of introduction, Noel Rose said that he, personally, had completed a tech course in the late 1920's, with the firm intention of being self-employed — his own boss! In the Great Depression, when the going got really tough, he had supported himself by resorting to a mix of electrical contract work, radio servicing, and stints as an on-call chauffeur.

A notable businessman who used his services was Sir Frederick Stewart, operator of a private busline which ran between Parramatta and Central Sydney around 1930. He will be remembered by some as a wireless enthusiast, who

donated the aerial system at Dundas which enabled radio station 2CH to begin transmission for the NSW Council of Churches. (See also the photo on page 23 of the EA publication *The Dawn of Australia's Radio Broadcasting*, by Philip Geeves).

Stewart's pet private car, which Noel Rose had to drive, was a Stanley Steamer!

Noel recalls that, one day in the early 1930's, Sir Frederick mentioned a business acquaintance who was seeking a personal assistant who could also act as his chauffeur. His name was Fred Paton, and he lived in Victoria Street, Ashfield, in Sydney's inner west.

Noel called on him as a matter of courtesy, to discover a seriously disabled returned soldier, who needed an

unusual level of personal assistance. Working from his home, he had set up a small company in 1929 to market radio receivers, but was losing the man he had hired to install and maintain them. Noel felt sorry for him, but launched into his spiel about not wanting to work for a 'boss'. Fred Paton saw that as no problem — suggesting that, with his background, Noel could fill the role of a business partner and co-director, servicing radio receivers and doing other jobs that Fred could not handle himself.

On that basis, Noel finally joined Fred Paton in 1932 as a nominal co-director, chauffeur, electrical and radio expert, valet and nursing assistant. It was a demanding assignment, but Noel says that they had a good working relationship; there was no 'boss' and no orders!

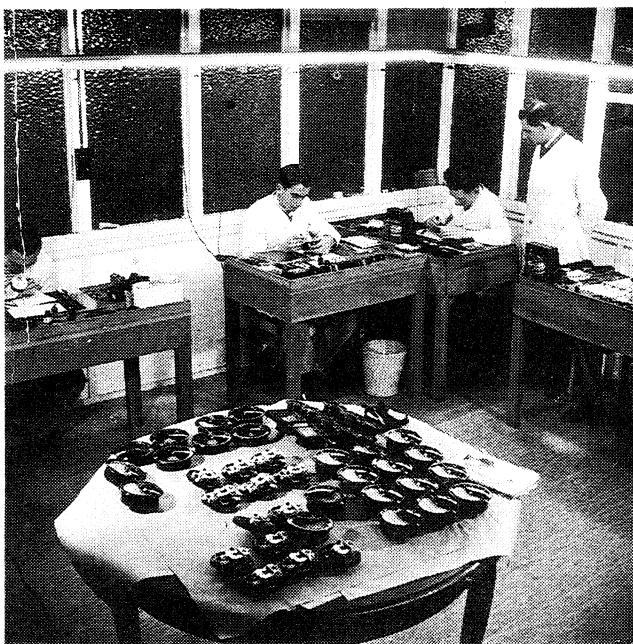
The young Fred Paton

As a youth, it seems, Fred Paton had been brought up near Bowral, in the Southern Highlands of NSW. On leaving school he joined the Maritime Wireless Co of Randwick (founded by Father Shaw), where he served a four-year apprenticeship.

At the outbreak of war in 1914, Fred enlisted as a field engineer and saw service at Gallipoli, being subsequently transferred to France. There, he suffered a shrapnel wound in the left shoulder which damaged his spinal cord — crippling his legs to the point where he had to rely on crutches.

Invalided back to Australia in 1917, he dreamed up a motor-cycle/sidecar combination, with the handle-bars and controls extended above the sidecar. Seated in the sidecar, he could manage

Fig.3: Assembling meter movements around 1935, in the so-called 'Roundhouse' — virtually a converted garden shed. Fred Paton insisted that every meter be subjected to an eight hour 'to-and-fro' exercise before despatch.



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the outfit reasonably well on country roads; but it proved too cumbersome when the family re-located to suburban Ashfield. Fred had little choice but to rely on a car and driver.

When his condition began to deteriorate, doctors decided that a spinal operation might help. But it was not to be. The operation paralysed him completely from the waist down, robbing him of what little control he had of his legs and adversely affecting his right arm, as well. As a result, he could move around only in a wheelchair and then with great difficulty and/or the help of an attendant.

When Noel joined Fred Paton in 1932, he discovered that his predecessor's radio service 'equipment' had comprised a screwdriver and a pair of pliers. Convinced that he could do a better job with the aid of a meter, Noel ordered a Weston movement from the USA and set about assembling a basic multimeter.

When Charlie Slade happened to call by a few days later, he was quite taken with the instrument, and said he could use one himself. Indeed, he went further and suggested that, with a professionally finished panel and case, it should find a ready market.

Short-lived 'partnership'

It seemed like a good idea to Fred and Noel and, in due course, Charlie Slade joined the group, responsible for sales promotion. That, according to Noel, was the real genesis of the Slade/Paton test equipment initiative and, as he recalls, relationships were harmonious for about 18 months. At that point in time, Charlie Slade headed off overseas and, for reasons that Noel never fully understood, Fred Paton in collaboration with his solicitors decided to terminate the arrangement. I quote:

"So when poor old Charlie came back, he was out of business!"

Having heard various rumours about a one-time partnership between Messrs Paton and Slade, the above account seems more likely than most to approximate the truth, with the two principals becoming eventual competitors rather than collaborators in the instrument business.

As production of the original multimeter got under way, Noel Rose says that he spent long hours at night in the machine shop making up the special switches they required. These along with other key aspects were patented,

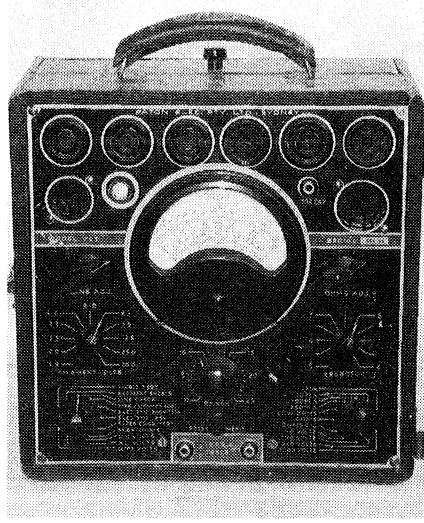


Fig.4: A Paton valve and circuit tester restored and still used by Dennis Seymour of Papatoetoe, Auckland, NZ.

and ended up returning to the company and/or those responsible modest but useful royalties.

In 1938, Fred Paton decided to register the business as a 'Pty Ltd' enterprise, naming himself as Managing Director, with his wife Charlotta as a further director and secretary.

Recalling notable personalities in those early days, Noel mentioned in particular:

- Eric Packer, a man with a severe hearing disability but a wizard with textbooks and slide rule. As Chief Engineer, he rationalised coil turns, spring torque and magnet gauss for 1mA to 50uA meters to a few deft to-and-fro movements of his 'slip-stick'!
- Arthur Mutton, an enterprising uni student, who came up with a highly successful range of CRO's with 5cm to 17cm diameter screens.

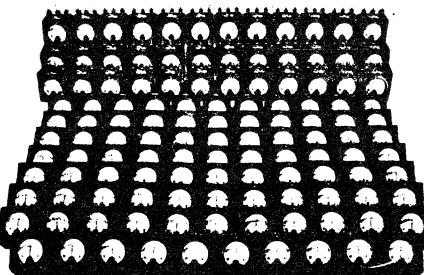


Fig. 5: As pictured in 'Radio & Electrical Retailer' for July 10, 1941, 123 special centre-zero meters destined for the Federal Government. Described as I-Q (Intensity-Quantity) meters, they had three terminals and were intended to measure voltage and current.

- Gordon Weeks, now retired in Lidcombe, NSW, who was in charge of large meters and also apprentice training supervisor.
- Joe Dunne, a 19-year old 'lad' who was committed enough to meter movements to make a significant contribution to production at Paton, before pursuing his own separate career in the industry.

The Paton factory

In those early days, the Paton factory was anything but pretentious. Bill Field, mentioned earlier, says that when he joined the Company in December 1940, "the factory was still very small, of fibro and timber construction with office and instrument assembly area adjacent to each other... It was fronted by a machine shop housing a South Bend lathe, drilling machines and a good quality engraver." (Fig.2).

The complex "was situated close to Fred Paton's house and was connected to it by ramps, to make it easier for him to move from one place to the other". Bill says that he remembers Fred principally as a businessman, who relied on others for technical expertise.

Even in 1940, he says, the Company "was still very much in its infancy" and largely limited to the production of meter movements (Fig.3), multimeters and a unit known as the 'VCT' or valve and circuit tester (Fig. 4).

In delving back into the past, Bill acknowledges the prompting of Ray Cooper, a former workmate who joined the company in 1938.

Meter movements were housed in 2", 3" and 5" round cases, square cases and the popular fan shape, all moulded on site. Most were of the moving coil type, but a range of moving iron types was also produced, along with DC and AC ammeters, and even a few electrostatic voltmeters.

The multimeters were identified as the MCD (DC only) and MCA (AC volts as well), both using a 1mA (1000 ohms/volt) movement. The companion MXA/MXD multimeters boasted a sensitivity of 20,000 ohms/volt, the MXD being the DC-only version.

Concerning the VCT, Bill Field recalls that it could indicate the emission level of a useful range of radio valves, as well as testing for inter-electrode shorts. Other features included the ability to test electrolytic capacitors, both low and high voltage types and to measure potentials to 250V AC and 1000V DC.

Looking back over the years, Bill says

that people who come readily to his mind from the 1940 era include:

- Mort Anderson, who helped Fred Paton manage the business and accompanied him on visits to Fred's bayside retreat for boating and fishing excursions.
- Noel Rose and Kevin Murphy, responsible for meter production.
- Bert Meyer, in charge of the machine and plating shops.
- Jack Knight, in charge of stores.
- Ernie Waters (Eng Dip), responsible for instrument production, along with three techs including Bill Field himself.

The war years

Faced with escalating war work, a new cream rendered-concrete factory was constructed in front of the original complex, carrying it forward to the Victoria Street alignment.

1941 saw the departure of some members of the original staff, their replacement with new recruits and a sharp increase in the level of production. They now had the Aeronautical Inspection Directorate looking over their collective shoulders, as also Army Ordnance in their quest for adequately tropic-proofed meters, instruments and 'sundry other bits of equipment'.

Taking up the story, Noel Rose recalled how overhead gas heaters were installed in the general factory area to help limit temperature extremes. The entire instrument section was sealed off, with large double doors, and fully air conditioned to maintain a temperature of 70°F.

Early in the war, anticipating construction of the new factory, a high official of the Ministry of Munitions had examined their facilities and indicated that, if Paton was to produce 'the kind of stuff we want' they would need additional good quality production equipment. According to Noel, they were told to nominate whatever they needed and it would be supplied 'on lend-lease'.

"So they put lathes in — they put everything on for us. Everything we wanted was ours (for the asking)!"

"To the best of my knowledge, we never paid a penny for it. But it was worth a lot of money, and when the place was ultimately sold, somebody may well have made a killing!"

For all practical purposes, Noel said, the factory became self-reliant during the war years. They had their own tool and machine shop, did all their own spray painting and vulcanising, glass cutting and drilling — didn't have to send anything out.

Paton/Palec products

They produced a vast number of 1" (25mm) diameter meters for field equipment, ruggedised and waterproofed, along with larger movements ranging up to 8" (200mm).

'Suspended coil' meters (without springs) were also made to order, suitable for use on trains and ships — but not on warships, where they did not take kindly to the shock waves from heavy armament.

Other products included thermocouples, meters and valve testers for the PMG, photoflash equipment, photo exposure meters and hearing aids manufactured under licence from the UK. Bert Heinemann, now retired in Fairfield, NSW, says he remembers well this diversion into conservative but reliable non-radio products.



Fig.6: The Palec SG-1 signal generator, as illustrated on a leaflet circulated in 1946. Already finding industry acceptance, the price was quoted as £54 plus 12-1/2% sales tax.

When the British hearing aid company later began supplying the Australian market direct, Paton sued them for breaching the terms of the licence and won \$6000 damages — a windfall in those days. They won similar damages when a European company released equipment in Australia, contravening a licensing arrangement covering a Paton-designed switch.

Paton also put a lot of effort into the production of moving-iron meters. Featuring patented, inbuilt overload protection, these found their way into mines and practically every power station in Australia, as well as in New Zealand.

In service, according to Noel Rose, they were "utterly reliable — virtually overload-proof" — to the extent that he could not remember one ever having been returned for repair.

Reflecting further on personalities, Noel picked out 'Bertie' Meyer as a long time mate, with whom he munched his lunch virtually every day. "A wonderful chap".

And there was Kevin Murphy whom he hired at age 16, ultimately becoming his 'right-hand man' in the workshop and remaining in the job for 39-odd years — almost as long as Noel himself.

As for Fred Paton, he had two main diversions as a younger man: fishing and drinking — the latter preferably enlivened by female company.

A change from work

Involved as his chauffeur, Noel remembers weekend pub crawls and Saturday afternoon sessions outside the Strathfield pub, drinking 'black velvet' — champagne and stout. "We used to iron ourselves out beautifully... I don't know how we ever got home — except that it was only a couple of streets away."

Fred Paton subsequently gave up the drink and tobacco and married a German lass — Charlotta, mentioned earlier, whom he had met in hospital. Together, they became deeply involved in the Christian Science church.

The marriage was eventually annulled, but Fred apparently maintained the church connection. Convinced that he could regain the use of his limbs, Noel says, Fred spent long hours agonising over the quality of his faith and dragging himself along between parallel bars, by way of futile exercise.

He continues: "When Fred Paton made up his mind about anything, that was it. If you crossed him, you were gone!" That, presumably, was the way it was for Charlie Slade.

Noel's own turn came in November 1939, when he argued that the factory should be closed over the Christmas holidays. Fred rejected the idea, but finally had to concede that Noel was right.

It soured their relationship such that Noel limited his commitments to the role of chauffeur and factory production, leaving personal care of Fred to a couple of nursing aides.

In the early days, Fred's interest in fishing was satisfied with weekend or spontaneous weekday jaunts to one or other of the nearby rivers but, later on, he invested in progressively more ambitious fishing boats in a quest for bigger and better catches.

His ultimate pride and joy was the 'Celap' — Palec spelt backwards. A 38-foot (11.5m) flying-bridge cruiser, built from New Zealand Kauri, it cost an initial £10,000 plus whatever else went on fittings and furnishings and the GM diesel engines.

It boasted the largest on-deck toilet one could imagine — 10 x 8 feet — to

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accommodate Fred's wheelchair. In addition, the back of the boat could be dropped down to form a bridge so that the chair could be wheeled straight on board from the Pittwater marina.

The Celap was used for fishing jaunts and for entertaining clients, including people from the Ministry of Munitions. Said Noel: "We had a hell of a time with that boat!"

One of Fred's mates from the Celap days was Jack Hill from the toolshop. Amongst other things, Jack had designed and patented a soldering iron that outperformed anything on the market at the time. It was left on in the Palec factory for two years without burning out. He also made up a personalised fishing reel for Fred Paton, which Noel still has among his keepsakes.

At one stage Noel Rose said that he and other senior employees initiated a move to have Fred Paton's original war service recognised, along with his contribution to the WWII war effort. It culminated in a visit by a Vice-Regal party of eight dignitaries, headed by the Governor of NSW. They stayed for

three hours and showed considerable interest, but the only outcome was an enthusiastic article in the paper. I quote: "That's all that Fred ever got out of it, the poor bugger!"

The post-war years

Bill Field says that, in late 1944, with the War drawing to a close, planning began for the production of more advanced test equipment for the post-war commercial market.

Radio engineers John Larkin and Eric Palmer joined the company in that year with this objective in view, and Bill says that he, along with another technician, were seconded to assist Eric Palmer in the development of a modulated oscillator, an advanced signal generator, a vacuum-tube voltmeter, an electronic flash unit for photography and sundry other bits of equipment.

Bill adds that, to assist in the calibration work, particularly of the SG-1 signal generator, they were supplied with an RCA AR88 receiver. He remembers it as a magnificent piece of equipment and wonders who became its ultimate owner.

I certainly remember the modulated oscillator and the SG1 sig gen — we ended up with one of each in the old R&H lab. Much later I picked up a battered SG1 from Harry Carter of Ace Radio, refurbished it and used it on my own workbench. In fact, I still have it! (I picked up one too — Ed.)

From Fred Whitehouse of Muswellbrook, NSW, I received an original leaflet dated 1946 and a Palec/Paton Electrical advertisement from the *Electrical and Radio World* for September 1951, the latter indicating the then-current range of products. It is impressive, to say the least:

- Meter movements as already listed, plus fan-shaped pyrometers and shield-shaped oven temperature gauges;
- Model SG1 signal generator;
- Model VCT-2 valve and circuit tester;
- Model M30 multimeter;
- Model VTM vacuum-tube voltmeter and probe;
- Model PA dynamometer type power analyser;
- A range of electronic photoflashes, 60-1000W;
- An exposure meter; and
- A hearing aid.

Unfortunately for Paton Electric, the immediate post-war period proved to be the calm before a commercial storm.

In short order, the Australian market was flooded with war surplus equip-

ment, including test instruments and Ferranti, Weston, Jewell and other such meter movements, the latter by the box-full for a few shillings apiece. I remember myself picking up a 50uA US Army multimeter for next to nothing, complete with high voltage probe!

No less to the point, from the wheeling and dealing a new breed of dealers emerged with the know-how and resources to import new equipment, in competition with traditional suppliers.

End of an era

At this critical stage, Fred Paton became gravely ill with bowel cancer, the existence of which had been masked by his physical condition. After a brief 'retirement' he was admitted to the Masonic Hospital across the road from the factory, where he died within a few months.

Noel Rose says that with the death of Fred Paton, management of the company became 'a shambles'.

A 1932 document which would have authenticated Noel's right to a say in Paton's affairs could not be found. Effective control of the company passed into the hands of nominees from the Christian Science Church, and Fred's divorced wife reappeared on the scene to be reinstated as a director.

But whatever the skills of the new team may have been, they did not include the production of electronic equipment, or the management of technical personnel for what had become a fiercely competitive market.

Morale, loyalty and commitment suffered and, as company performance faltered, management response was to import substitute lines which failed to win the acceptance of the local product. According to Noel Rose, dedicated workers like those mentioned above resigned or retired — for the most part, with little more than their memories.

To cap it off, Paton Electric merged with University Graham Instruments which was itself in mounting trouble. In short order, the joint organisation lost its skilled workforce and became 'just another importer' and a pale shadow of its one-time components.

The last word in this present story belongs to Fred Field:

"Some years ago, I had the opportunity to visit the old workplace in Ashfield. It was sad to see packing cases, crates and filing cabinets occupying the work areas which had once been the scene of bustling activity. The ghost of Fred Paton would not have looked kindly upon that spectacle!" ♦