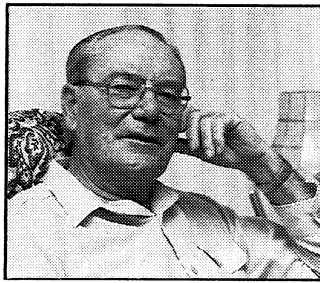


When I Think Back...

by Neville Williams



Stromberg-Carlson, Admiral and the battle they both lost — 1

In the mid 1950's, anticipating the introduction of television broadcasting, the American Admiral Corporation set out to capture a share of the Australian TV market. They produced a lot of monochrome receivers, only to disappear from the local scene a few years later. What happened, and their traumatic price war with Stromberg-Carlson, forms the subject of this two-part article.

Facing the preparation of the article, I felt somewhat hesitant — partly because of its controversial nature and partly because, as distinct from rumour, matter-of-fact information about Admiral has been rather hard to come by.

To appreciate why this should be so, it is necessary to recall the mood of Australia's radio/electronics industry in the early fifties.

Faced with the prospect of launching into TV receiver production, established local radio manufacturers were apprehensive, to say the least. TV production would involve expanded facilities, more complex technology and a higher level of staff training.

The per-unit production cost would be greater, as also would be the outlay for marketing, warranty and field service. If they got it wrong, the end result could be catastrophic.

In the lead-up phase, there was endless conferencing between industry authorities to determine the channels and other transmission standards; to nominate suitable intermediate frequencies for TV receivers and to ensure that they would be protected, as far as possible, from interference by other RF emissions.

A key issue for the manufacturers was the matter of picture size — involving, in turn, the choice of picture tube and its demands in terms of deflection circuitry and EHT supply.

At best, a multiplicity of screen sizes could confuse buyers and hinder sales. At worst, it could increase the risk of individual manufacturers running into trouble by backing the wrong size or trying to market diverse models.

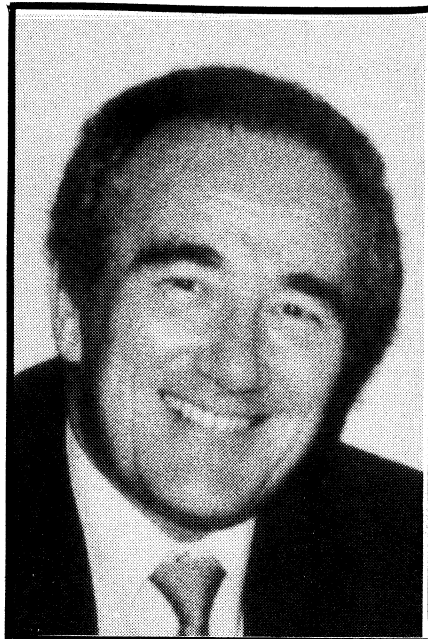


Fig.1: Fred Hawkins, to whom we are principally indebted for this story, was the fourth person to be appointed to the staff of Admiral of Australia. Under the guidance of Manager/Engineer Eric Fanker, he coordinated the development and production of Australian versions of American TV receiver designs.

Level playing field

Out of this came a 1950's version of the 'level playing field': after much agonising, local manufacturers agreed among themselves to restrict their initial production to the use of a 17" (diagonal) screen (43cm) using a long-neck 70° deflection picture tube. This, along with agreed intermediate frequencies would

ease their immediate dilemma and also clear the way for component suppliers to market standardised tuners, IF strips, deflection components, etc.

Valve manufacturers and distributors also fell into line, because it would help rationalise their stocks of valves, glassware and picture tubes.

Not everyone supported the plan, however, not the least because it promoted the easy option rather than state-of-the-art technology. Typical of these was a leading local test equipment designer/manufacturer, who was refused access to 21" cathode ray tubes lest the supplier be seen to be doing the wrong thing!

With industry contacts in both camps, I was exposed to both points of view. To cap it all, as an ostensibly neutral party, I was formally invited to present an introductory lecture on TV technology to the IRE Sydney Division.

Like it or not, this automatically involved a summary of the way design was trending in Australia. While manufacturers would be competing head-on for brand supremacy, during the first 12 months, the service industry could expect them to be using a limited range of established 70° technology derived principally from the Philips group or RCA/AWA/AWV.

At least, that's the way it was all trending until Admiral made their presence felt. Established manufacturers resented their appearance because they were bidding for a substantial slice of the Australian television 'cake'. Dealers were apprehensive because they might support competition in existing authorised areas. Worst of all, Admiral

of Australia Pty Ltd owed no allegiance to the aforesaid local manufacturers' design criteria.

The big (trade) freeze

Back in 1950, Admiral Corp (or Continental Radio & Television Co) had been offering a half-dozen or more domestic TV sets on the US market with screen sizes ranging from a nominal 12.5" to 19". They had then moved to 21" and 24" models, which they regarded as current state-of-the-art for domestic viewing.

They were not about to turn the clock back, but were planning to launch in Australia with 240-volt 625-line versions of their American 21/24" models. The tuner would be reworked to suit Australian channels, but they would probably retain their existing 21MHz IF system.

Some prospective purchasers welcomed the option of a larger screen, but their plaudits were overtaken by a virtual tidal wave of rumour and ridicule.

It was said that Admiral Australia intended to use a transformerless power supply. Having in mind the reputation of 1930's-style transformerless 240V radio receivers, a large transformerless TV set would be potentially lethal ('bodies on the carpet!'). And think what might happen if the insulation between chassis and aerial was to be breached ('bodies in the ceiling', as well!)

Another report was to the effect that a certain State Government had anticipated the situation by ruling that Admiral receivers could only be installed in that State if they were coupled to the mains via a 240/240V isolating transformer.

It was also said that by using a non-standard IF system, Admiral receivers would not have a protected IF channel. It would be anybody's guess what unwanted transmissions might break through to compromise the picture and/or sound.

And did you know that you'd be too close to a 21" screen, in a normal lounge room, for comfortable viewing?

What's more, can we really believe that Admiral are going to use new Australian parts? No sir! They'll ship out crates of factory left-overs and use them to build a superseded model. And where will that leave us when they break down, or when the non-standard valves or picture tubes fail? Up the proverbial creek, without a paddle!

Surprise: they worked!

There may have been more, but the above are what I could remember and follow up by checking with service contacts who were around at the time.

In the process, I was able to verify that none of the above rumours had been borne out in practice. Looking back, no one that I came across had any recollection of Admiral receivers being particularly lethal (no bodies) or unacceptable to any State Authority, or especially prone to RF interference, or impossible to service. They were just ordinary sets, that could be installed, watched and repaired in the usual way!



Fig.2: Formerly the Chief Engineer of Thom & Smith/Tasma, Eric Fanker became the driving force behind Admiral of Australia. He is said to have seriously warned other manufacturers against launching with obsolescent receiver technology, but his advice was ignored. (By courtesy of Mrs Circie Fanker).

Philip Watson, a former confrere on this magazine, used to supervise and edit the 'Serviceman' articles in those days. Consulted about Admiral receivers, neither he nor I could recall any pattern of complaint or criticism.

Doug Brown, a reader who was a 'Radio Department' Manager for Grace Brothers, said that they handled a range of monochrome TV receivers, including Admiral. He had a vague recollection of service personnel mentioning something about over-scanning, but there was no question about their reliability.

I also talked to James (Jim) Yalden, another former EA staff member, who currently operates a radio service business, based at Milton on the NSW South Coast. When he took over from the late Peter Gatehouse, he found that Peter had been selling Admiral TV

sets in the area from day one, for which Jim became responsible.

Admiral TV were sets were certainly *not* transformerless, he said — except for a couple of stray compacts, which he thought were probably imports. The rest had conventional transformers and presented no problems in terms of either reliability or service.

He still had service literature on file and, while thumbing through it as we were talking, he was reminded of something else: "Ah yes; far from being of dated design, they used printed circuit boards and were possibly the first in Australia to do so".

As for an interstate ban on transformerless TV sets, Jim Yalden had heard of it — but he was also able to pin it down to Victoria and to ring a nearby acquaintance who had once worked for the SECV — the State Electricity Commission of Victoria.

The SECV, he was told, had been concerned by electrolysis in earth return circuits caused by the passage of direct current, occasioned by their extensive tram system. They had discussed the possibility of further damage that might result from the use of transformerless TV receivers. They were common in Europe and might conceivably be imported in quantity by Australia.

He recollected the matter having been discussed within the SECV but, to the best of his knowledge, it had never been the subject of any regulations, and certainly none specifically directed against Admiral.

One could only presume that, back in the fifties, having decided that they disliked Admiral for any reason, an inordinate number of people had been prepared to disparage Admiral receivers on the basis of what they'd supposed or heard, as distinct from what they knew to be true. On that basis, I felt that we owed it to the company to present the story from their point of view.

In fact, the story came to me from Fred Hawkins of Castle Hill, NSW, who had worked as an employee of both Stromberg-Carlson and Admiral, before joining IBM. Strombergs have featured in these pages in earlier issues, with correspondents highlighting conflicting aspects of the story according to their period of service and their role in the organisation.

Fred Hawkins' term of employment came later in the piece, and leads into to the monochrome television era, which saw a marketing lapse serious enough to scuttle what had previously been a large and enterprising company.

It is appropriate that I repeat the whole of Fred's story, because it complements

and qualifies what has already been published about Stromberg-Carlson and leads logically into the emergence of Admiral Australia and to the rivalry and misfortune that sank them both.

Fred Hawkins' story

Fred says that by Christmas 1946, he had sat for his Leaving Certificate, gained his A.Mus.A. and was working as a professional musician. He was interested in radio technology, however, and was hoping that his Leaving Certificate pass would be such as to qualify him for a cadetship with AWA.

At that point, he noticed an advertisement for process workers at Stromberg-Carlson and duly applied, explaining his interests and ambitions. They responded with a job offer, stating that they could provide similar work experience to AWA but with process workers' wages and without the binding relationship of a formal cadetship. It attracted him, and he signed up.

He spent his first year learning to build radio sets, align them, fit them into cabinets and pack them into boxes. Then he learned how to weld, paint, plate, use presses and lathes, wind coils and transformers, build tuning gangs and speakers, assemble motors from 15W up to 1/4hp and to work on the wide range of appliances that the company was producing at the time.

He worked with the plant electrician, learned about cabinet making from an in-house expert, and consulted with Ricketts & Thorpe and Beam Manufacturing in respect to new cabinet designs. He was also taught the rudiments of Production and Inventory Control, and of Time and Motion Study.

Then it was back to the radio production line for the 1950 season, as a leading hand and subsequently as the Line Supervisor — a position he held until he left in May 1955.

During that period, they had been producing radio receivers mainly for sale under Stromberg-Carlson's own brand. Prior to 1950, some chassies had been fitted into different cabinets branded Crosley or Paling Victor, but the arrangements had subsequently lapsed.

No stand-downs

Fred says that the piece-rates referred to by previous correspondents were no longer being paid by Strombergs during the period of his service, nor was there any suggestion of clocking off for toilet visits, or bag searches when leaving the premises.

Around 1951, however, they did experiment with a bonus system to reward production line assemblers for receivers produced over a certain target figure, resulting in a 6% improvement in production rate and a 3% boost to take-home pay.

The scheme was compromised, however, because of frequent interruptions in the mains supply due to post-war system overload. While Strombergs had a stand-by plant of their own, the unavoidable switch-over time still affected the production flow.

More than that, suppliers such as IRC, Morganite, Ducon and UCC were having similar problems, which delayed the delivery of essential components.

Despite this, and I quote from Fred's own text: "By the norms of the day, people were looked after and happy in

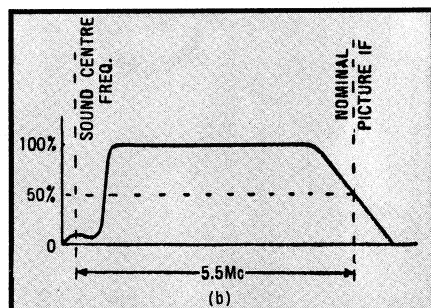


Fig.3: From our own 'Course in Television' in September 1956, an idealised IF channel pass-band for a normal intercarrier TV receiver. At the time, the sound IF would have been at 30.5MHz and the picture at 36MHz on a slope from 35.25 to 36.75MHz.

the service — in direct contradiction to some of your other correspondents."

"I can assure you that every step was taken to minimise the enormous degree of seasonality in the marketplace, by pioneering off-season products and by building seasonal products for stock during the radio off-season."

"Also, we met the big peaks of seasonal production with overtime rather than by extra staff."

"Between 1950 and 1955 I did the hiring and firing, and do not remember laying people off for seasonal reasons."

Fred adds that, on occasions, they would divert the assemblers to a non-radio fill-in project, which not only kept them 'in a job' but also provided a break in the everyday routine.

He also set up an auxiliary production line, intended for batches of 500 to 1000 units, which could be used to build production prototypes, or deluxe models which did not justify allocation to the primary assembly line. In practice, it of-

fered a helpful way to 'balance out the seasonality of the mainstream products'.

In a better light

Summing up, Fred says — and again I quote: "One thing that hasn't been stressed is that Stromberg-Carlson was the industry leader because they were highly motivated and determined to be the first with the best."

"There were a lot of very good people there and they were team players. Also, the technical leadership was outstanding. S-C introduced many new processes in Australia, such as presses with the capability of pressing out large pressure cookers, expanded aluminium sheet, hammertone paint, and polyester finished cabinet work."

"For thirty years, their heaters and fans were industry standard. They made the first Australian-built record changers, the first personal portable radios and the first post-war table and floor model radiograms, etc."

"With the Nally Co, S-C introduced the first 'leading edge' injection moulded products. They worked closely with the valve companies and were always among the first users of their products, often beating competitors to price reductions."

"The advertising was professional, even if sometimes gimmicky (e.g. 'There is no tone like OVALTONE')."

Fred Hawkins begs to differ from those who have, to date, attributed S-C's technical leadership to Les Bean. That's not the way he saw it, he says, during his period of service. The credit should go rather to Allan Scott, Works Manager and Chief Engineer.

"He had an amazing knowledge of the engineering disciplines and was the real focus of everything that happened. He lived with every new process and every new product."

"Al Freedman decided the direction and Allan Scott made it happen."

The passing years

Concerning top management, Fred says that, in the early fifties, by contrast, Les Bean seemed to fill his days with personal pet projects:

"For example, the company built him an amazing truck/caravan combination with a pedal-operated toilet which literally took man-years to develop. The big day finally came and away he went, but had to be rescued the same day when the suspension failed."

"It was returned to its shed and his attention transferred to fitting out two 47-225 black Holdens — one for him and one for Mabel — with personalised plates, which were unusual in those days.

The Holdens were fitted out with every conceivable extra, including a fool-proof burglar alarm — the first one I had seen at the time.”

“Les B. wandered through the plant (occasionally) but his interest was not in the important things that were happening — rather in things like ‘Who left that box sitting there, boy?’”

Fred says that such was the case when he left in 1955, and he was therefore surprised to read (in *EA*) about Bean’s deep interest in conveyor belts, etc., which were installed some three years later. With hindsight, however, he tips that Allan Scott’s subsequent resignation as Works Manager and Chief Engineer must have catapulted Les Bean back into the saddle — by then a very demanding situation.

Move to Admiral

For Fred himself, the prospect of change was heralded by an article in his local paper during May, 1955. The Admiral corporation, it was said, had formed a joint venture company with General Industries to set up Admiral of Australia Pty Ltd, with the intention of building radio and television receivers.

To that end, they had purchased 19 acres of land and had submitted plans for a factory building to the Bankstown Council. Fred had married and moved into the same area some 18 months previously, and it sounded very interesting.

Research showed that General Industries was the holding company for a number of manufacturing concerns, of which the most notable was Metters.

Fred accordingly fired off a letter, explaining his position and requesting an interview with whoever was responsible for the Admiral of Australia venture.

The surprise result was a phone call from Eric Fanker, who had been well known to them at Stromberg-Carlson as the brains behind the Thom & Smith ‘Tasma’ brand name.

It turned out that General Industries also owned ‘Rotafrig’ (cylindrical refrigerators with rotating shelves) and had allocated the fledgling Admiral organisation temporary accommodation on the mezzanine floor of their rather tired refrigerator factory in the inner Sydney suburb of Waterloo.

Eric Fanker had been named General Manager of Admiral of Australia and he duly introduced Fred Hawkins to his only two employees. The first was a well respected and competent Radio Engineer Eric Christian — universally known as Eric the Christian because of his ever-readiness to communicate his devout beliefs. The other was a real Scot-

tish engineer, to whom nothing mechanical was a problem!

Fanker had brought both men with him from Tasma. Fred was interested in the

Wartime Printed Circuit Boards?

In his biography *My Life With Printed Circuits*, Paul Eisler says that he studied electrical engineering and technical physics at the Vienna Technical University but being a Jew, found it difficult to pursue a related career in Austria/Germany. Instead, he had to earn a living as a printer.

Of an inventive turn of mind, he had taken out a couple of patents and was able to use them to gain an invitation to visit a couple of English firms and, ultimately, a work visa in the UK.

His prime ambition was to develop the concept of printed circuit boards, with the long-term objective of contributing to the Allied war effort. British companies, however, stressed by the Blitz, were not keen to displace existing designs and methods.

The best Eisler could do was to join forces with a struggling firm of music printers, who welcomed the chance to undertake something with a higher war-time priority. In the resulting context of ‘Technograph Printed Circuits’ Paul Eisler and Gustav Parker, an old friend from Vienna, gradually developed the technology of laminating, producing thinner foils by electrolysis, printing and etching. They then moved on to printed inductors, thermal mats, etc.

Their techniques were publicised by NBS (US National Bureau of Standards) and, while it brought them little financial reward, they were applied in proximity fuses for anti-aircraft shells. As such, they helped turn the tide of war, by their effectiveness against bombers and V1 missiles.

It would appear that confidential information about Eisler’s research reached Australia via the Pye Group, which presumably examined its potential in collaboration with Ron Bell of RCS. Ron Bell, in turn, appears to have verified the processes, after hours, in a private darkroom installed in the garage at his own home.

His wife, Olga, confirms that he had some such project in hand during the war years, involving copper etching etc., along with discussions with Pye Australia. Bob Barnes, the present proprietor of RCS puts the date down as ‘probably 1943’ and claims that Australian-made PC boards found their way back to the UK, under tight security, presumably through the Pye/Eisler link.

Only later, when Ron Bell came up with automated processing, did he major on circuit board production, such that RCS can now claim to be the oldest surviving large-scale manufacturer of circuit boards in the world — dating back to the early forties!

According to Bob Barnes and Olga Bell, either or both RCS and Pye could have supplied Admiral with PCB’s in the mid 1950’s...

proposition and so were they in him, such that he became the fourth employee of Admiral Australia in June 1955. In accepting the position, Fred told me, he was conscious of the fact that their new factory would be handy to where he already lived.

The overall plan was to get Australian Admiral receivers to the market within 15 months, in time for the commencement of TV broadcasting.

To get the Admiral brandname established before that, they planned to launch a range of small radio receivers by June 1956. It would provisionally include a four-valve portable, a larger five-valve mantel set and a mantel/clock radio in the then popular Swedish styling.

The receivers would be housed in state-of-the-art moulded cabinets and the internal circuitry would feature printed circuit board construction. Fred Hawkins’ job was to get these receivers to market.

In conversation, I mentioned to Fred that Admiral had been credited with pioneering the use of printed circuit boards in Australia. Was this the case, and did they produce them in house?

As Fred recalls, the initial batch were imported, after which they were manufactured locally — probably by RCS. This raised the question as to whether, in the process, Admiral may have propelled RCS into a field which has since become their main activity.

When I rang Bob Barnes, RCS’ current proprietor, I unearthed what was to me an unknown and intriguing tale. RCS’ involvement in circuit boards dated back to the early 1940’s! (See panel). He added that Admiral may also have been supplied by Pye Australia, which has since been absorbed by Philips.

The very next par in Fred Hawkins story suggests why he is hazy on this particular point. He says that he had been working on the receiver project for a few weeks only when they were joined by an engineer, ex-AWA, who had been studying TV technology in the USA. His task was to develop the Australian Admiral range.

Unfortunately, there was a clash of personalities between Eric Fanker and the new recruit, and within a month or so of joining the team, he was gone.

Fanker’s response was to pluck another engineer from Tasma to take over the radio receivers, and to move Fred Hawkins to TV development. Fred admits that his knowledge of TV technology was ‘sketchy’ but Eric Fanker was a good teacher and he had no option but to be a diligent student, burning up lots of ‘midnight oil’.

(To be continued) ♦