

# When I Think Back...

by Neville Williams

## **Murray Stevenson - 3: From radio broadcasting to responsibility for a complete TV station**

Having 'grown up' with Radio 2UE from its humble beginnings to a leading Sydney broadcaster, Murray Stevenson was quite suddenly faced with the responsibility of co-ordinating the technology for a major, new television station. It was a task which he discharged with distinction — responsible in part for earning him an OBE award for 'service to engineering, particularly in the field of radio, film and television'.

1955 was a notable year for Radio 2UE — its 30th birthday, celebrated with a 24-page supplement in *B&T* magazine. Perhaps the publicity had something to do with the fact that Station Manager J.E. Ridley had been overseas looking at television — now only

two years away in Australia — and its profound impact on sound broadcasting.

From a virtual 'hobby rig' in a suburban lounge room, 2UE had expanded into two studio/office complexes at separate city addresses, with a full-scale transmitter on the river flats near Con-

cord. Plans were in hand, moreover, to erect a new antenna of nearly twice the existing height at nearby Homebush, and to increase transmitter power to the regulatory limit of 5kW.

Overall, 2UE boasted a Board of Directors with C.V. Stevenson (in retire-



**Fig.1: ATN opened with only one functional production area — Studio-B. Studio-A, pictured here, was added during The scale of the project is evident from the size of the workmen on the job.**

ment) as Deputy Chairman, and a full-time staff of 130 people.

Once a lone broadcaster, it had become the 'key' station of the 'Major' broadcasting network with 17 affiliated stations spread nationwide. Back in 1925, studio resources had amounted to a microphone, a wind-up gramophone and a handful of 78rpm discs. In 1955, they included 70 assorted microphones, a library of 32,000 78rpm discs and over 1000 of the then-new microgroove pressings.

In the studio complexes were facilities to record top quality discs and tapes, with high-speed tape dubbing facilities to ensure rapid despatch of programs to affiliated stations. The studios were also available to independent agencies, along with a special production team which could conceive, compose and produce 'singing commercials' to order. A notable member of the team was Des Tanner, an accomplished performer on piano, violin — and later, the Hammond organ.

In terms of entertainment, 2UE and the Major network was 'home' for a dozen or more top-line radio stars of the day, including Bob Dyer, Dick Fair, Howard Craven, Smoky Dawson, Fran-

quin and sports broadcasters Ken Howard and Cyril Angles.

This had been Murray Stevenson's world — not on air, but behind the scenes, where he had to make sure that station equipment remained functional, for around 17-1/2 hours a day, to the satisfaction of a 17-station network. This was even when a fire had gutted 2UE's Savoy House (Bligh St) Studios in 1943, presumably after a current of air carried live cigarette ash into a lint-laden ventilation duct.

Summoned out of bed in the wee small hours, Murray and his staff had to contrive to get a signal to the transmitter for the breakfast session. They managed to keep the station on air, after many offers of assistance — not the least being one from 2CH, to make a studio available until further notice. But, for Murray Stevenson, all this was to change abruptly in 1954/55.

### Television for Sydney

Some of what follows I recall myself because, as an employee of the John Fairfax group — then publishers of this magazine — I happened to be in the right place at the right time. For other details I am indebted to Gavin

Souter's book *Company of Heralds* (1981), a 150-year history of the John Fairfax enterprise.

Around 1953, Associated Newspapers, which by then held a majority shareholding in 2UE, fell on hard times and merged with the John Fairfax organisation. They, in turn, already held an interest in Radio 2GB and its associated 'Macquarie' network.

About that same time, there was talk of commercial television being authorised by the Federal Government, with reports that Packer's Consolidated Press would be a certain applicant for a Sydney licence.

Cautious, but anxious not to be out-manoeuvred, Fairfax organised a consortium comprising Fairfax/2GB, Associated Newspapers/2UE, Radio 2UW, AWA and Email. Registered as Associated Television Services, they were ultimately granted one of the Sydney licences (ATN-7) — the other going to the Packer group (TCN-9).

Gavin Souter details a lot share shuffling within the ATN group, occasioned partly by concern about a foreign component in some participants' share registers and a Fairfax holding that might be deemed to exceed 50%. Souter says that this latter unease was dispelled when Fairfax General Manager Angus McLachlan raised the matter with the then Prime Minister. Mr Menzies is quoted as having replied: "Mac, if you're fools enough to put more money into television, who are we to stop you?"

As it turned out, the Fairfax group did emerge with a majority interest in ATN, with Managing Director Rupert A.G. Henderson virtually 'calling the shots'. According to Murray, Henderson's experience was limited to the print media — "but he seemed quite fascinated by show business!"

Casting around for a technically informed right-hand man, he remembered A.W. ('Tony') Whitlock, who had supervised the Company's investment in a fleet of reporters' cars equipped with AWA-based two-way radio. Whitlock was currently in charge of the Fairfax London office.

### Huge challenge

Whitlock was bidden to drop everything and return to Sydney immediately, to help get the ATN project under way!

"What about my home and family?"

"We'll look after them. You just get here as soon as you can!"

So it was that Tony Whitlock reported to R.A.G. Henderson, subsequently finding his way down a couple of flights of



**Fig.2: As viewed from floor level, this studio with 'Stevenson' acoustic treatment was originally fitted out for large scale productions using E-Cam technology. Now designated Studio C, it houses mainly permanent sets, as for the Seven News, etc.**

stairs to the R&H office in the same building. It wasn't that John Moyle and I figured in the scheme of things; simply that, as a long-time reader of R&H, Tony felt that we'd understand the situation well enough to share his concerns about what the assignment involved.

However, when Whitlock did take it upon himself to make executive decisions, Henderson tended to question his judgment; and after about 10 weeks, the appointment was terminated. Tony was sent back to the London Office, and his family's transfer to Australia reversed in mid voyage!

Tony Whitlock was duly replaced in the scheme of things by C.G. Alexander, a TV station manager from the NBC network (USA). But that didn't work out either and Alexander was succeeded, in turn, by James Oswin. Until then Manager of Macquarie's Melbourne radio station 3AW, Oswin proved equally successful as General Manager of ATN.

Meanwhile, decisions about siting and equipment had been entrusted to an expert technical committee, originally set up by Tony Whitlock. It comprised the chief engineers of associated radio stations 2GB, Len Schultz; 2UE, Murray Stevenson; 2UW, Tom McNeill; and one of my own long-time friends from AWA, (the late) Dr Ernest Benson.

All of these men had existing commitments, however, and an essentially 'spare-time' committee proved a cumbersome way of getting things done. Clearly, ATN also needed a full-

time technical manager — in short, a chief engineer.

At this point in time, Murray Stevenson's earlier diversion into film and studio technology gave him an edge in the world of TV broadcasting. With the concurrence of 2UE management, he was invited by R.A.G. Henderson to become full-time Chief Engineer of ATN-7, with the prime responsibility of getting the station to air.

With the PMG having set down basic ground rules for the transmitters, it was no great hassle for Murray to co-ordinate the purchase of property and the contracts for the provision of a suitable tower, antenna and transmitter at Gore Hill, adjacent to the ABC's ABN-2 installation.

(Later, when the ABCB increased the permissible height of TV towers in the mid 1960's, ATN agreed to contribute to the cost of a tower being erected in nearby Artarmon by the new Channel TEN-10, supporting a shared antenna array 1000ft or 305m above mean sea level).

Provision of the initial transmitting facilities was essentially an engineering exercise. However the siting and planning of an ambitious studio and administration complex — the public image of the station — was something else!

It did have its funny side, however, as recounted by Murray some years ago.

## Wanted: a site

Having successfully effected the transfer of John Fairfax and Associated Newspapers from their respective inner city premises to the present address in Jones St, off Broadway, R.A.G. Hender-

son was 'all steamed up' about the need to find an appropriate site for the ATN studio complex. It had to be elevated; accessible from the city; spacious enough for multiple studios with technical facilities, offices and a reception area to cope with studio audiences, amenities for staff and visiting performers, landscaping and parking areas, and a microwave tower with line-of-sight access, especially to Gore Hill. All this, and room for future expansion.

The problem was that neither the original expert committee nor Henderson's request to Fairfax management personnel to act as discrete 'spotters' had come up with a suitable site. So in sheer exasperation, Henderson headed off in his car to spy out the land for himself.

It took a while, but in due course, Murray received a phone call to arrange a time and place for him to be picked up to inspect a likely looking semi-rural site, comprising 20 acres or more. So it was that he found himself in a chauffeur-driven car with an independent property consultant and the Managing Director — the latter replete with black suit and Homburg hat — heading in the general direction of Epping on the City's north-west fringe.

Approaching their destination, R.A.G.H. stressed that no one was to mention Fairfax or — especially — why they were interested in the property. "Sure as we do, they'll gazzump the price!"

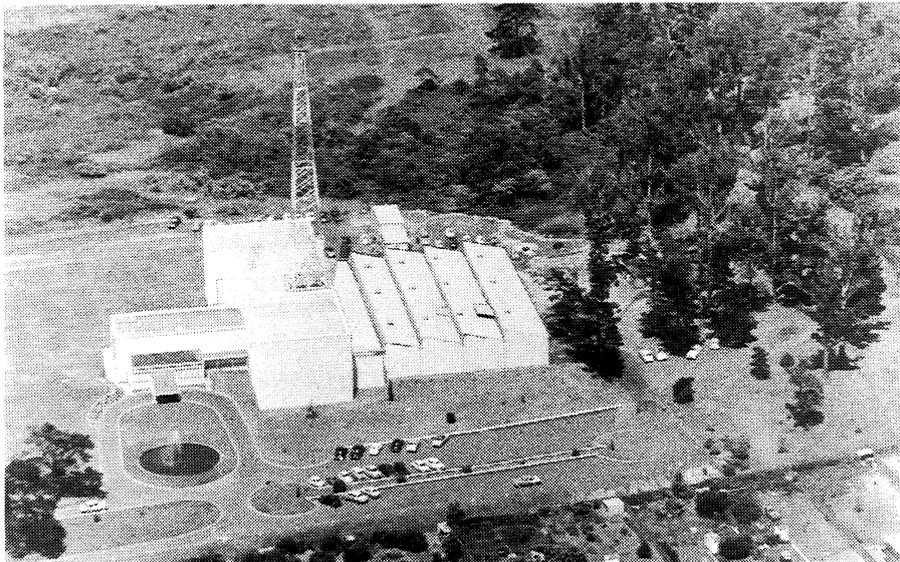
After further cogitation, Henderson asked the driver to pull over and change places. He didn't want to be identified as an executive, he said; he'd simply be the driver. Murray would look the place over and do the talking — but he'd be listening!

"Fair enough", said the consultant, "but if you don't want to look conspicuous, you'd better discard your Homburg hat, as well!"

Fortunately, the site proved eminently suitable and now accommodates considerably expanded production facilities, a station heliport and a free-standing signal tower which is often floodlit on festive occasions. On our first visit, in the 1950's, John Moyle and I christened it by climbing aloft for a look around the countryside.

## Building a TV station

To start from bare ground proved an enormous advantage to Murray Stevenson. Recalling what he had seen on his tours and read about in technical journals, he could begin with a blank pad and develop possible layouts for on-



**Fig.3: An early photo of the ATN studio/administration complex, with studios A and B on either side of the tower. Additional facilities now occupy most of the open space, with Studio C and its associated technical support to the right.**

going discussion within the management group and for architects to refine.

It was a very different story for some other aspiring TV broadcasters, who opted for a factory site or an already developed slice of suburbia. Faced with the need to demolish some buildings and build into or onto or around others, it could add up a messy operation with the end result still looking distinctly contrived.

It's a long time ago, but on a couple of occasions when John Moyle and I visited the embryo station at Murray's invitation, there was a sense of purpose about the ATN project — uncluttered passageways giving access to the various areas; studios and production booths isolated from work-a-day noise; technical and support facilities where they belonged, accessible under-floor cable runs and so on.

According to Gavin Souter in *Company of Heralds*, Murray Stevenson initiated most of the design, as necessary to get the station to air by December 2, 1956. Jim Oswin, he says, contributed later in his role as general manager, mainly in relation to subsequent expansion.

“As I recall”, says Murray, “the start-up project came in at £30,000 — or \$60,000 — under budget!”

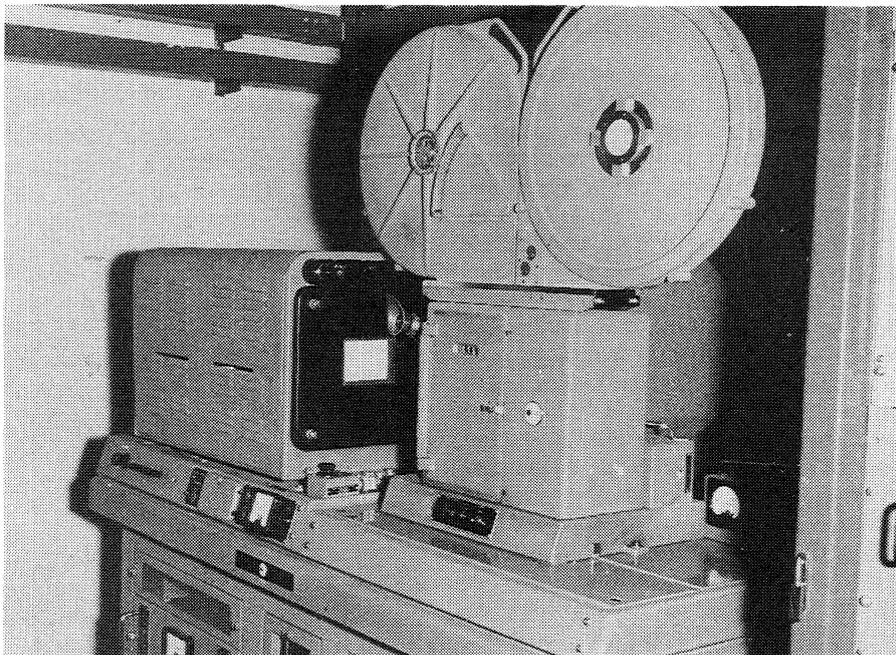
Some years later, I had occasion to visit a couple of the then- new Brisbane TV stations, partly out of curiosity and partly as a social call on a Musical Director, Wilbur Kentwell (an old school mate) and one of the Chief Engineers, Ross Thyer, who I had met in the early days of ATN-7.

QTQ-9, as I recall, was a less ambitious complex than ATN but it had a similar layout and the same purposeful look. Mind you, that was more than 30 years ago and the ‘Stevenson stamp’ (my term) may now be less evident than once it was.

Curiously, 30 years later the present production staff at ATN remember Murray less for his pioneering efforts than for the convention he encouraged: that, on the job, ATN technical personnel should wear spic-and-span white overalls, preferably with a tie!

## Sound-film technology

In those early days, television signals had to be sourced either direct from TV cameras or from scanners capturing the image and soundtrack from suitably synchronised motion picture sound films. For ease of handling and reduced cost, TV stations normally specified 16mm prints, although some



**Fig.4: Before the introduction of video tape technology in the late 1950's, video recording involved capturing the image and sound from a high definition source on 16mm sound film, using a camera synchronised to the 25-per second TV frame rate.**

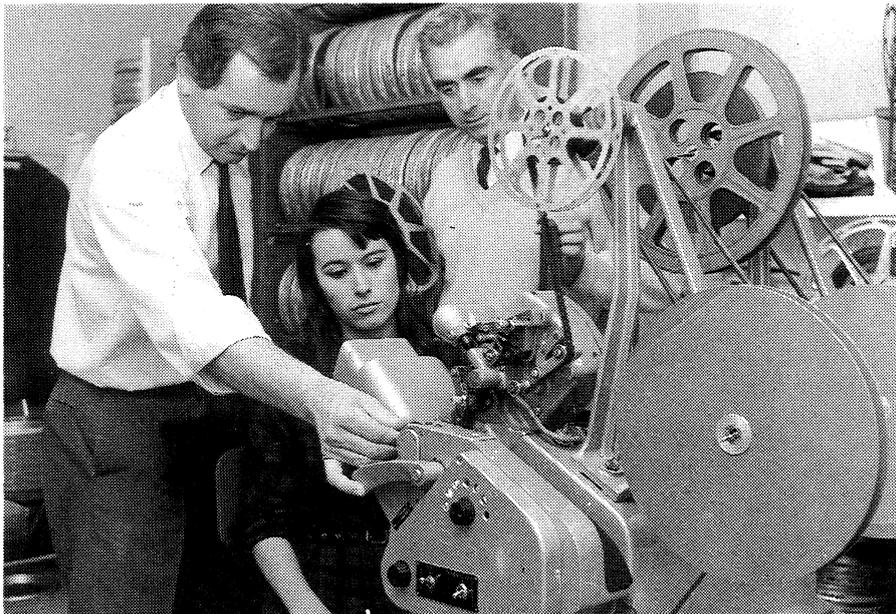
had back-up 35mm facilities to cope with special situations.

Of necessity, everyday news gathering involved the use of portable 16mm sound cameras, the film having to be processed and edited in the studio to prepare it for TV presentation.

In-studio video recording also depended on 16mm film technology, with the televised image being captured by a sound-film camera, so

synchronised that the camera's inter-frame pull-down would coincide with a TV flyback interval.

A fortunate aspect of the European/Australian TV standards was/is that synchronisation can be achieved by a slight increase in film frame rate from 24 to 25 frames per second — the resultant 4% increase in the rate of movement or sound pitch being of little consequence.



**Fig.5: Technical facilities at ATN in the early days were dominated — visually at least — by the profusion of 16mm sound film equipment. Pictured here is one of the early film editing desks.**

## WHEN I THINK BACK

An impression that remains from those early visits to ATN was the array of sound-film gadgetry — cameras, scanners, editing facilities, reels, racks and so on. But dominating everything else was the continuous film processor, where exposed film from light-proof camera magazines was fed in one end, developed, tone reversed from negative to positive, fixed, washed, dried and finally spooled up ready for editing.

Looking back, Murray recalled how exposed news film had to be available for processing not less than one hour before the evening bulletin. It would be spliced on to film already threaded through the processor, and sent on its way. Twenty minutes later it would emerge dry from the far end, ready for delivery to the editing consoles.

There it would be checked, cut, spliced, cued, re-spooled and finally loaded into a remotely controlled scanner so that the producer could interleave filmed scenes with live studio shots of the newsreader.

It sounds cumbersome, and so it was; but the procedure was routine to a professional member of the SMPTE. At the time, Murray said, it served the purpose in a way that reflected credit both on the equipment and the production staff.

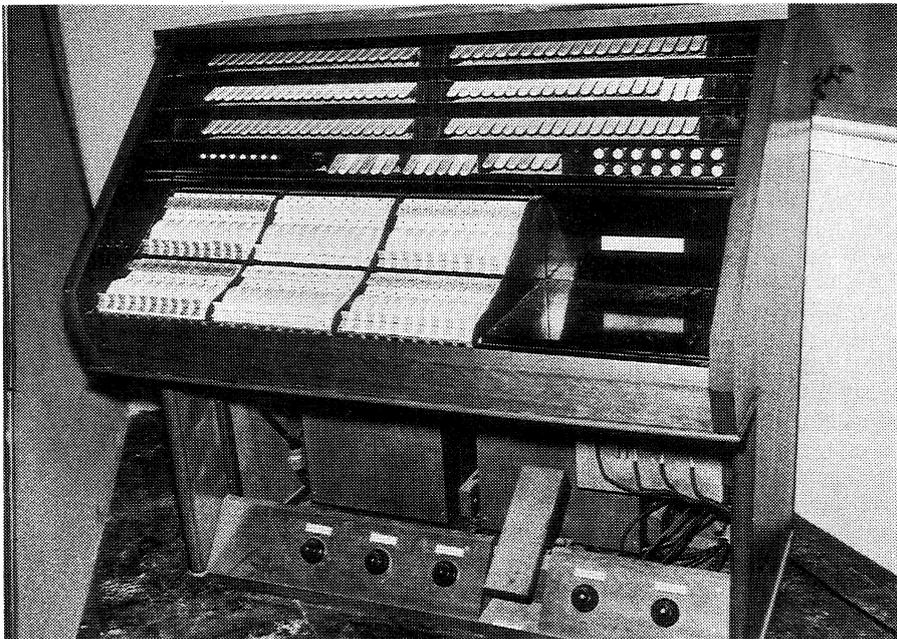
### Oh, for a better way!

In this context, it is interesting to mention an excerpt from this magazine (then *Radio & Hobbies*) for February 1952, page 23. It tells how David Sarnoff, Chairman of RCA (Radio Corporation of America) was celebrating his 45th year in radio.

Looking ahead, Sarnoff said that by his 50th anniversary, five years on, he would like to see RCA achieve three new breakthroughs in electronic technology: (1) An electronic light amplifier; (2) a non-photographic method of video recording; and (3) An electronic air conditioner with no moving parts. Here I quote from the original article:

*"The second is a television picture recorder which would allow television programs to be recorded and reproduced just as sound programs are now recorded on discs or tape and reproduced on gramophones"*.

*"The present system of film television is too costly, time consuming and limited. But the new television recorder would be just as simple as a gramophone record and just as flexible in its use"*.



**Fig.6: Reminiscent of a theatre organ, Strand lighting control consoles like this were used for many years in studios A and B. Installation and operation called for a high level of expertise.**

(An editorial addenda to the above says: Zworykin, also of RCA, made reference to this possibility several times, when in Australia recently).

In 1952, the prospect of recording video information on either disc or tape seemed forlorn indeed. At practical disc or tape speeds, the wavelength of even high audio frequencies was already so short that it was nudging the resolution limits of styli and tape heads alike.

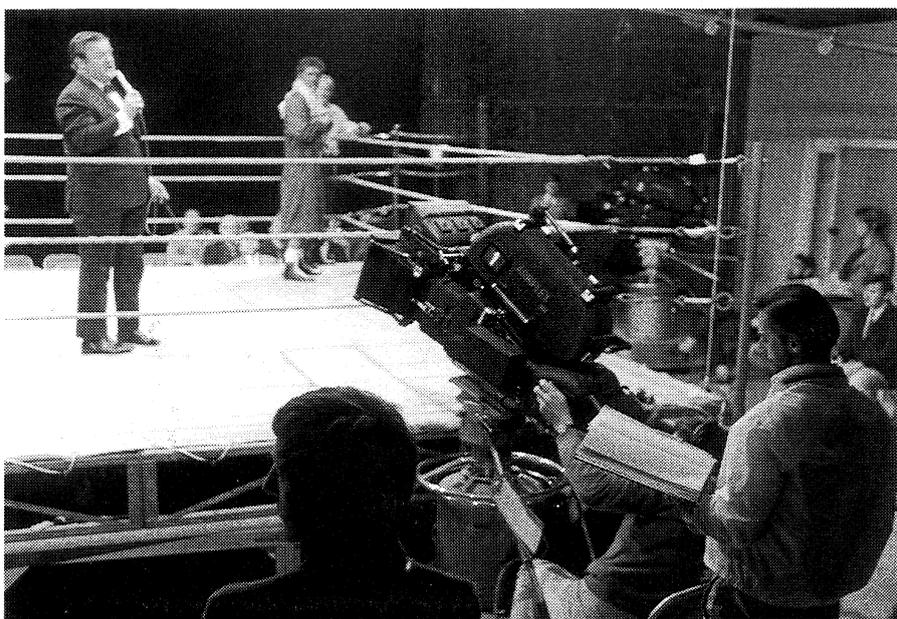
To achieve a response to several megahertz, for video signals, would

seemingly call for an impractical improvement in stylus or head resolution, or an impractical increase in tracking speed, or both.

Despite this, video tape recording was achieved well within Sarnoff's suggested time frame — but not by RCA. It also happened at just the right moment for ATN.

### Birth of video tape

As Murray Stevenson tells it, he had decided that ATN must equip with an in-



**Fig.7: Ready for an episode of 'The Battlers' in Studio C, as originally set up. Note the Arriflex camera in the foreground able to capture on film an exact duplicate of video images actually selection for transmission.**

itial two Marconi cine recorders. Having entered the TV field, and urged on by Jim Oswin, the Fairfax group had accepted that they might as well go the whole way and become a supplier of locally-made programs and advertisements to other stations — per medium of 16mm film.

The order was about to be confirmed when (the late) Graham Hall of Plessey, a keen IRE member and amateur radio station operator, told Murray of a conversation with an American contact during the previous evening. Ampex, he said, had stolen a march at a current industry convention by demonstrating a practical video tape recorder, using a 2" (50mm) tape travelling at a manageable speed.

Intrigued, but not necessarily convinced, Murray did his best to confirm the report, recommending to R.A.G. Henderson that, for the present, they should order only one cine recorder and keep the rest of the money on hand for possible tape equipment.

Henderson duly cabled the New York Fairfax office, to seek verification from Ampex, and received an assurance that it was no rumour; the recorder had indeed performed well, and they were going into limited production. The tape speed was the same as the highest audio speed (30ips) but the writing speed was much higher because the tape was traversed laterally by spinning heads.

In direct contact with Ampex, Murray ascertained that limited production meant six or at most 12 units, all spoken for and all for the American 525-line, 60-field standard.

Yes, Ampex *would* ultimately be producing a 625-line 50-field version, but not for the present. When the time came, they planned to develop the European version in Frankfurt.

Said Murray: "That will take years!"

He finally managed to talk them into shipping a 525-line unit to ATN at the first available opportunity, accompanied by one of their engineers. ATN would provide the resources necessary to convert it on the spot to local standards. ATN would get their video tape recorder and Ampex would get their money plus the design modifications — along with hands-on experience in a 625-line TV production environment.

In due course, the recorder arrived, along with Ampex engineer Kurt MacHine. "Believe it or not", said Murray, "MacHine had it going on our standards in just three days!"

As well as their machine, ATN had gained the distinction of being involved in the development and installation of

the world's first ever 625-line 50-field video tape recorder.

## Fundamental facility

Since then, video tape has become a fundamental facility to all TV stations and networks for recording, assembling, editing, storing, replaying and distributing TV programs. The basic Ampex system of scanning with spinning heads is still widely used, but has been extensively refined to provide more production facilities and better results from less cumbersome and less expensive hardware.

An article in the March 1993 issue of *EA* tells how the adoption of digital rather than analog signal processing has now virtually eliminated the one-time problem of both film and tape — the progressive loss of picture and sound quality with repeated 'dubbing' or copying.

It is no less startling to realise that — 40 years after even B&W video tape

### The height of achievement!

During the preparation of this article, I came across Alan Mewton, who had worked with Murray as foreman electrician during the construction of ATN.

Alan recalls that, as he and a mate were eating their lunch on the job on Christmas Eve 1956, Murray and his wife walked past. After exchanging Christmas greetings, Murray added:

"The way you two chaps are working, you'll rise to great heights in this industry!"

Said Alan: "In later years, my mate and I often reminded each other of Murray's observation when we were perched precariously up under the studio ceiling tending the lights!"

recording was deemed 'impossible' — most television viewers in Australia routinely record, rent, buy, swap and replay colour video recordings on cassettes costing only a few dollars each.

While getting ATN-7 to air was a herculean task for Murray Stevenson, the job didn't end there. He and his technical team had to learn the practicalities of everyday video tape recording, as the medium was gradually substituted for film technology.

What's more, as ATN emerged as a key station of the 7-Network, the technology had to be promoted and shared with associated stations around Australia. Again, when ATN/Fairfax absorbed the Artransa film studios, they had to be co-sited and their respective technologies merged.

Out of this came 'E-Cam', involving 'Arriflex' video/film cameras with split sound and optics such that producers could easily and economically monitor scenes and rehearsals as viewed on a TV screen.

For the final 'take', they could activate the cameras' in-built photographic facility, confident that they would capture on 35mm film the precise images from each camera, as selected for transmission by the video mixer.

Automatically cued at each start/stop point, the film takes could be assembled to provide a high quality 35mm master, for duplication, and/or to produce 16mm reduction prints for distribution to TV stations. For this latter purpose ATN/Artransa installed a special facility.

Obedient to the calendar, Murray retired in 1970 at age 65 — but not before he had briefed ATN management on the implications and likely cost of converting to colour transmission in the not-too-distant future. Also in view was the possibility of adopting teletext and, ultimately, stereo sound. Years later, these innovations were to be installed by an engineering team which followed in his footsteps — along with ATN's world-first 'Race-Cam' technology, developed by one of Murray's successors, Geoffrey Healy.

But retirement for Murray didn't mean cutting adrift from the industry. He continued his association with the IRE (Aust) and, as well, accepted the position of part-time Engineering Consultant and, later, Secretary of the Engineering Committee of FACTS (Federation of Australian Commercial Television Stations).

It was a position he held until June 1984 — a uniquely informed and eloquent spokesperson for the industry.

When I mentioned his OBE, conferred in 1984, Murray made somewhat light of it:

"You've heard what those letters stand for?"

"Order of the British Empire? Okay — I give up!"

"It's been said that OBE is the recognition you get for Other Blocks' Efforts!"

To me, this was Murray's characteristic acknowledgement that as team leader at 2UE and ATN, in the IRE, the SMPTE and FACTS, he owed a great deal to fellow engineers and technicians who had helped him on his way up a very long engineering ladder!

(FOOTNOTE: *The copyright photographs used in this instalment were made available on a 'single use only' basis by ATN Channel 7, Sydney.*) ❖