

how long will they last?

of the actual tape. How many people would still have ready access to a fully functional VHS or Beta VCR in 25, or maybe 50 years' time? Without a suitable player, an ancient video cassette would be virtually useless — a mere dusty relic from a past era.

To emphasise his point, he demonstrated a video tape that had been made only in 1970, but on the kind of domestic open-reel recorder that had been rendered obsolete by VCRs. He was able to play it now only because he had come across a discarded deck that could still be made to work. Even so, the playback quality was poorer than it should have been, due to head alignment and tracking problems.

It had been said that the laser disc offers the prospect of almost timeless storage of sound, pictures, and other data, with the digitally encoded information sealed inside a plastic disc and read from outside by a beam of light.

Again, such a prediction ignores the life expectancy of a particular set of system standards and the fact that, of all the record/replay systems to date, laser optical disc technology demands the most specialised knowledge, skills and facilities. Once the standards, skills and facilities have been discarded in favour of some new method, it will be more difficult than ever for individuals to retain or contrive the means to play back obsolete laser optical discs.

In this technological age, said Ontje

Arpe, we need to think not just of durable materials but durable standards, as well, if information is to remain accessible.

And that, I would judge, leaves us in something of a quandary, especially at this time when it is fashionable to search through recollections, records and family memorabilia to establish one's roots.

- We rarely take black and white pictures and even more rarely try to ensure that they are processed and mounted with an eye to longevity of the 100+ years variety.

- The vast majority of present day colour pictures, be they transparencies or prints, are fated to fade within decades, especially if they are displayed for people to look at! Long-life colour prints are possible using such methods as the dye transfer process, or Cibachrome prints from colour transparencies, but they are too expensive for the mass market.

- We are coming up with other media, electromagnetic and electro-optical which may conceivably preserve a lot of information for a very long time, but such media can only be accessed by specialised equipment which itself may become unavailable or impractical to maintain.

And, just to round things off, here's something else to stew about: We have developed abundant technical means to assemble, store and access vast amounts of information about our generation — enough, indeed, to sustain quite a phobia

about the "big brother" state. Largely, as a reaction to that, there is serious discussion about deliberately omitting certain information from future records as, for example, any reference to the identity of a child's parents.

That's going to make it really tough for those who care about who they are and where they came from. One would almost think that somebody out there is intent on cutting down the family tree. Shades of George Washington!

But now for a complete change of subject:

Back to the VZ-200

From a reader in Oak Flats on the NSW South Coast comes a letter which is set out in the accompanying panel. I suggest you read it at this point.

In responding to W.T.'s letter, I have a strong urge to do so in similar terms: "Whoa! Slow down there."

For sure, I made a case, in the August '84 issue, for investing \$99 on a VZ200 computer — a product that had been dubbed by some buffs as "useless". I did so on the basis that, for \$99, it could offer members of a family a unique opportunity to gain hands-on experience and, with it, a degree of confidence, when faced with a larger computer at work or at school. I quoted examples of how this had already occurred in typical family situations.

Out of all this came the further notion of using the VZ200 as the basis of an

Forty years ago it cost a fortune. Can we do it now for \$99?

Dear Sir,

Whoa! Slow down there with the eulogies to the VZ200 \$99 computer. The monitor in ROM has a bug in it.

I followed with interest your praise of the VZ200 in "Forum". Even on the dole, \$99 isn't too hard to scrape together so, when I saw the DSE advert in July, a trip to DSE in Wollongong became mandatory.

After acquiring rudimentary programming skills, I hit upon the idea of making my self-education more interesting by repeating Mauchly and Eckert with ENIAC, in calculating e (or π) to a large number of decimal places (π to 2040 places, "Scientific American", Dec '49, p. 30).

To begin, I wrote a program to print the product of any two integers, however large, exactly and was

rewarded with intermittently correct results. Mostly it was correct but occasionally (the frequency increased as the computer warmed up) incorrect answers were outputted.(!)

After running the same thing on the demonstration CAT at Wollongong, to make sure it wasn't a bug in my program, I remembered an early exercise that had caused the VZ200 to crash:

```
10N = 1:INPUT S:FOR P=1 to S:N = N*(P+1):?N:: NEXT: RUN
```

If one RUNS and then INPUTS 23 two times, the second time the computer goes crazy.

I had been informed that it was only POKeing into a memory location it didn't like and didn't think was important!

As a consequence, the VZ200 pays

for itself many times over in the self-education required to debug the machine language monitor. In the meantime, it is not possible to use the computer for any calculations requiring great accuracy. Even the double precision feature available by using the STR\$ and VAL functions is inconsistent in its output.

Is any other VZ200 user out there able to help me?

I don't hold anything against DSE but it would be nice to say that any Tom, Dick or Harry can do in 1985 with a \$99 what the computer buffs did in the '40s and '50s with computers costing a fortune.

By the way, the Tandy "Understanding" series books are okay and they're cheap!

W.T. (Oak Flats, NSW).

FORUM — continued

inexpensive word processor — something for which there was an obvious opening. It worked out better than ever expected, helped along by a \$90 "Princess" B&W TV set as a monitor, a 16K memory module, a mini-printer and interface, a cassette recorder, and a word processor program that had fortuitously become available on tape from DSE. The exercise culminated in "Forum" for November '84 entitled: "This was written on a 'useless' small computer".

I might add that, since then, many more such articles have been written on that same small word processor and on other systems like it. The pity of it is that, as I write, supplies of the VZ200 are in danger of drying up, just when their bargain price utility has become most apparent.

Far from disproving anything that I have said, W.T.'s letter carries the idea of \$99 self-tutorial exercise well beyond anything that I had really considered. He gives no information as to his educational background but, if to begin with, he was as much a computer novice as he makes out, he has had his \$99 worth several times over!

I'm not about to debate his remarks about the ultimate accuracy of the VZ200, because I certainly haven't devoted to it that kind of attention. Nor do I propose to. I'll happily leave that to other readers who may share W.T.'s enthusiasm for such exercises. In the meantime, someone who should know was not the least surprised by his observations.

Computers, he said, work to certain limits of accuracy, determined by their logic resources and speed of processing. Like most other products, they are designed with a market role and price in view. If user needs dictate a higher order of accuracy than a certain computer will give, the buyer's only option is to purchase a better one. As it is, the ultimate accuracy of the VZ200 is quite typical for budget priced PCs.

But while W.T. pursues further enlightenment on that score, I'm more impressed by the apparent build-up in the skills and potential of this hitherto unemployed reader. He should, by all means, keep probing and asking questions but, in the meantime:

Good on yer, mate!

"Dolbyised" tapes

From a New Zealand reader comes a letter which, with some abbreviation, reads as follows:

Dear Mr Williams,

I have read your magazine since it was

called "Radio & Hobbies" and have always enjoyed the friendly and informative way it was written — especially as in "The Serviceman", "Let's Buy An Argument" and now "Forum".

On a personal note, I appreciate the way in which the photographs of the authors change from time to time, reflecting (not hiding) the passing of the years. I also appreciate the devotional record reviews, which you usually write yourself.

More to the point, I have just noticed Leo Simpson's statement on page 3 of the September issue regarding Dolby noise reduction. I cannot really agree that Dolby recorded tapes do not sound right when played back on a car cassette player. If anything, I think they provide a touch of treble emphasis that usefully offsets treble losses due to mediocre loudspeakers, etc. True, there may be more hiss but the car noises drown it, anyway.

I have an Akai cassette deck with Dolby NR and, for car use, I record my records on it using Dolby but deliberately play them back without it. There is no doubt in my mind that the treble has more "presence" than with the Dolby on, especially with poorer quality tapes.

L.M., Avondale,
Auckland, NZ.

In acknowledging the kind remarks of the writer, I am also mindful of the way in which changes in the title of the magazine, as mentioned, have reflected changes in its emphasis.

"These days, the magazine and its writers don't have the same opportunity to explain current technology to a hobby minded milkman or clerk, farmer or business executive."

In the days when it was "Radio & Hobbies", technical interest was focused mainly on radio, or "wireless" if you like, which merged fairly naturally with the other hobby interests of a technically minded person. Radio components were reasonably large and comprehensible, and circuit operation capable of explanation in everyday terms.

The "Radio, Television & Hobbies" era involved some new concepts but a good technical writer could still hope to communicate principles quite well to the uninitiated with the help of carefully worked out analogies, diagrams and text. Who can forget the classic explanations of camera tubes and picture tubes, electron beams scanning an image or building up a scene on a phosphor screen; and so on.

The game began to get tough when it became "Electronics". The objectives and methodology became more diverse, obscure, and difficult to explain. Components became smaller, with valves that glowed, and capacitors that moved, giving way to enigmatic little black blobs that didn't seem to do anything!

These days, the magazine and its writers don't have the same opportunity to explain current technology to a hobby minded milkman or clerk, farmer or business executive. Can you even imagine a simple, readable explanation of a computer, or an IC-based control system?

On the matter of listening to Dolby processed cassette recordings, it would not be the first time that I have heard the contention that they sound brighter, when played back "straight". Some have even maintained that Dolby processing causes an actual loss of high frequency response.

In fact, it doesn't; or, at least, it shouldn't, if operating correctly.

In recording mode, the widely used Dolby-B system applies a boost of up to 10dB to frequencies within the approximate range 3-20kHz, tapering down to 0dB at around 300Hz. The amount of boost applied depends on the level of signal, as recorded, reaching 10dB only at low signal levels, and diminishing progressively towards zero boost (normal flat response) as the level rises.

To maintain an overall flat response, a Dolby playback system should provide an equivalent amount of treble cut over the same range of frequencies and levels. That's what you apply when you switch to the "Dolby-B" setting during playback.

There is plenty of scope for argument as to who, in what circumstances, can detect maladjustment of the Dolby record/playback levels but Leo Simpson is being uncharacteristically conservative in simply saying that, without playback compensation, Dolbyised cassettes "won't sound right".

Does that make a nonsense of LM's observation? No, because if you assume playback through a mediocre system in a noisy environment, as in most cars, the extra bit of tape hiss won't count and the extra bit of treble may be welcome.

Perhaps I should add that essentially the same remark is applicable to those of us who have lost kHz of aural response over the passing years. Perhaps, if Ray Dolby had had to rely on the verdict of the over 55s, he might well have finished up in a garret rather than a penthouse!