

A mast-mounted C-Loop-HDMatch Outdoor AM Antenna made by PK's Loop Antennas. This model retails for \$150. The equivalent indoor model sells for \$90. [www.amradioantennas.com]



# Battle of the Bands

DAB+ promised to be 'the future of radio', claiming high sound quality prime amongst its myriad features. Listeners quickly discovered that the newly-introduced DAB+ didn't even sound as good as FM. More recently, DAB+ broadcasters have been reducing their transmission bit rates, which has had the effect of reducing sound quality even further. *Timoshenko Aslanides\** reports that in his local reception area, a low-priced, old-fashioned AM Stereo radio is a better choice than brand-new DAB+ model....

I admit it: I was a snob. I deliberately ignored then-current popular music as being unworthy of either serious listening, or analysis, whilst reading for my BA in Music at Sydney University in the 1960s. Peter Sculthorpe, my music composition teacher for three years, would have been appalled had I told him of my attitude, though I suspect he knew. Now I can't get enough of the music of that era. And thereby hangs an analogue and digital technological tale.

Fast forward to the mid-eighties, when I had been settled in Canberra for more than a decade, and discovered that three of the local AM radio stations, ABC 666, 1206 2CC and 1053 2CA, were broadcasting in stereo. AM Stereo had been officially launched in Melbourne on 1st February 1985 by the then Communications Minister, Michael Duffy.

Things looked promising: AM Stereo was subsequently taken up by several radio stations in Sydney and Melbourne, and in a number of regional centres. If you bought the special radios required, you could treat yourself to the sound of music that was both sumptuous, and solid (which is what the word 'stereo' means in ancient Greek).

Thus 2CA's AM Stereo broadcasting, 'classics' of the sixties and seventies, rounded-out

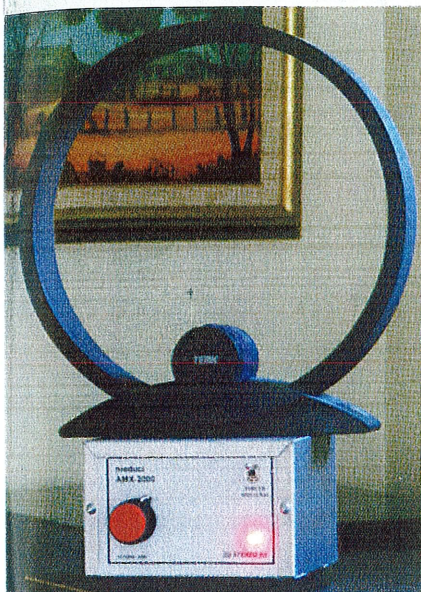
my musical education as nothing else could have. All the best pop songs, I found, were love songs and, to my taste (and analysis) every bit as good, and as musically complex, as the love songs of Schubert, Schumann and others. And so I connected 1053 2CA Stereo to my hi-fi: it was a good time to be a broadcast listener in Australia.

It wasn't to last. First the ABC and then 2CC dropped AM Stereo broadcasting, which

## Author Biography\*

Timoshenko Aslanides is a poet who 'turned professional' in 1985. He lives in Canberra, from where he has published ten books of poetry (as well as a comprehensive guide book to the national capital in 1988). His latest book of poetry, *Stop Words*, comes out from Hybrid Publishers in October/November this year. His home page, [http://timoshenko.grapevine.com.au] contains more biographical and bibliographical information.





The author's own Meduci AMX-2000 AM Stereo tuner (a discontinued model), tuned to 1206kHz (2CC) broadcasting in AM Stereo. The object on top of the AMX-2000 is a Terk Technologies Audiovox AM Advantage 1000 indoor tuneable antenna. For best performance with AM, you should use a tuneable AM antenna, either an indoor or outdoor model.

The latest Meduci AM Stereo tuner is the Pro 1K, which has a tuning range of 530 to 1,710 kHz and a digital readout of tuned frequency. The new Pro1K has a double balanced type differential AM mixer stage to reduce undesired image frequencies and the design, rather unusually, includes an r.f. amplifier stage to increase usable sensitivity. The line output stage uses discrete output transistors, biased for pure Class-A operation. The Meduci Pro1K is made in the US and is available only direct from the manufacturer [www.meduci.com]. RRP: \$US175.

seemed to coincide with an increased emphasis on talk—and talk-back—programming. Then I noticed, on my occasional visits to Sydney and Melbourne, that one by one the AM stereo stations in those cities were going mono as well. My worry that 2CA would also go mono proved groundless; except for short, mono interludes once or twice a year for maintenance of the transmitter, the AM stereo continued... and continues. People with equipment capable of measuring these things claim that 2CA's sound ranges up to 12kHz (almost as good as FM which can reach out beyond 15kHz).

But this sound quality cannot be heard by most listeners, even in mono, because most commercially-made portable AM radios, or radio tuners with an AM band, are of such poor quality: they cut out at about 4 or 5kHz, with up to 10% total harmonic distortion (THD). No wonder AM stereo never caught-on. Nevertheless, good quality AM mono-and-stereo-capable tuners, with a frequency response of 20Hz to 15kHz at 0.6% THD are still being made-to-order in America, and can be found, on the net, for \$US175 each, plus postage. I know, because I bought two (for less) several years ago, and the one connected to my hi-fi is permanently tuned to 1053 2CA in AM Stereo.

Now we're being urged by authorities to adopt digital radio in Australia. If experience with digital radio in England is any guide, we're in for yet another mass-market dumbing-down by a convenience technology just as awful as that 16-bit CD versus vinyl debacle of the 1980s. 'What's more alarming about DAB for hi-fi aficionados', reported *Hi-Fi Choice*, in June 2003, 'is the basic sound of the system as is currently broadcast by the UK's various stations. All too often it's coarse, harsh and far too bright.' And the UK's *Hi-Fi News*, in July 2003, in a review of three DAB tuners, concluded that DAB was 'too fatiguing to listen to for any length of time.'

I've listened to DAB+ digital radio, broad-

cast of which started in Canberra in July 2010, on 8 commercial and 4 SBS stations, and I was disappointed. Nothing seems to have changed. The sound on my pocket digital radio (despite the improved protocols built into the DAB+ standard), varies from hard to barely tolerable (no matter whether I listen through speakers or via high-quality Sennheiser headphones). It's also a glutton for power: a day at the beach would exhaust its (rechargeable) battery.

The obvious comparison for me to make was between 2CA in Digital Stereo and 2CA in AM Stereo. I ran both signals through the hi-fi to keep the comparison as hardware-equal as possible. No doubt about it: 2CA Digital Stereo had the cleaner sound. But that digital sound was also quite 'metallic'—hollow even—and hard-edged. To my ears, the digital sound had been drained of blood and lacked emotional punch; I soon tired of listening to it. By comparison, the 2CA AM Stereo was warm, inclusive and solid, especially with female voices, which easily took my attention from the medium itself to the emotion with which they were singing.

Of nine digital radios reviewed recently in Australia by *Choice* magazine, only two were deemed acceptable, and they cost \$699 and \$299. Each. The others were variously described as having a 'muddy and boomy bass', or as tending 'to lack bass'; as having 'overall distortion' or a 'tinny sound'. Another 'lacks bass and the cabinet rattles and buzzes'. Quite. When equipment of such poor quality is offered on the Australian market with such shameless price gouging, I don't see digital radio succeeding in Australia anytime soon.

Poor quality digital radio sound can also be caused by the bit-rate, the amount of information being transmitted per second. Despite the improved DAB+ signal standard, I've generally found that as the bit rate for music drops below 128 kilobits per second (kb/s), it sounds harder at the edges and lacks body. All eight

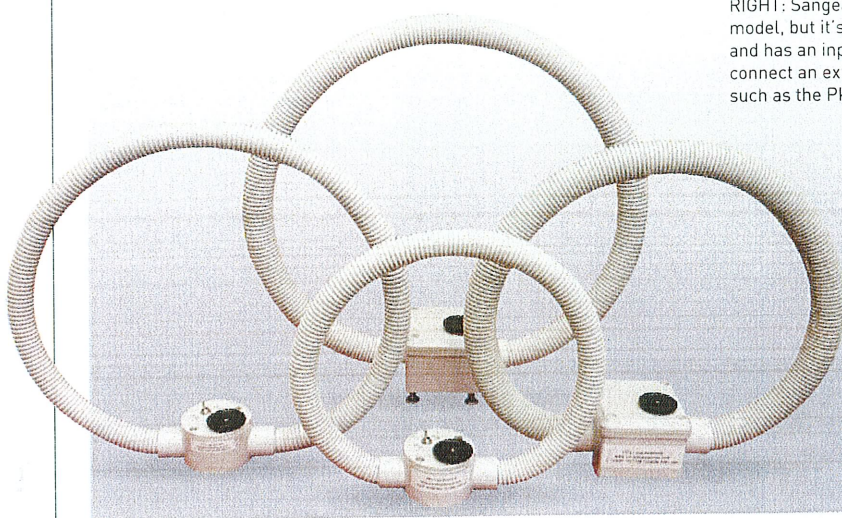
## Radio Revenues Rise

Despite its 'horse and buggy' image with the technerati, the radio business is doing quite nicely thank you, with the most recent set of figures (May 2011) showing that the commercial radio industry's income from advertising rose 4.12 per cent, so that across Australia's five major metropolitan markets, the total was \$58.4 million. According to the 2011 Metropolitan Commercial Radio Advertising Revenue, as sourced by Deloitte, advertising revenue grew in all metropolitan markets for the month of May, compared to the same month in 2010, with the strongest growth recorded in Perth, which grew 9.63 per cent to a total of \$7.60 million. In other areas, Adelaide grew by 7.46 per cent to a total of \$5.75 million; Sydney grew by 4.85 per cent a total of \$18.5 million; Brisbane grew 3.69 per cent to a total of \$9.30 million and Melbourne grew 0.33 per cent to \$17.24 million. The Deloitte figures show growth in revenue of 6.39 per cent for the eleven months year to date financial year (10/11) for the five major metropolitan markets to a total of \$621.44 million, compared to the same timeframe a year earlier. Chief executive officer of Commercial Radio Australia, Joan Warner, said the continuing growth for radio revenue was good news for the industry given a softer market generally. 'Radio continues to perform well in a softer business environment, which reflects its cost-effectiveness and efficiency at getting the message out quickly,' Warner said. 'It continues to be a resilient medium and is performing well over the long-term.'

commercial digital stations broadcasting into Canberra use a barely tolerable 64kb/s; I can't listen to them.

There is no ABC digital radio broadcasting in Canberra, and I cannot imagine why they'd bother. SBS is active on 48 and 80 kb/s. What about internet radio? I wondered, as I booted my computer and logged onto






Four Australian-made tuneable AM loop antennas made by PK's Loop Antennas in Victoria. PK builds indoor and outdoor models that range in price from \$25 to \$160 depending on application. PK will also custom-build single-station loop antennas specifically tuned to pick up your favourite AM station. [www.amradioantennas.com]

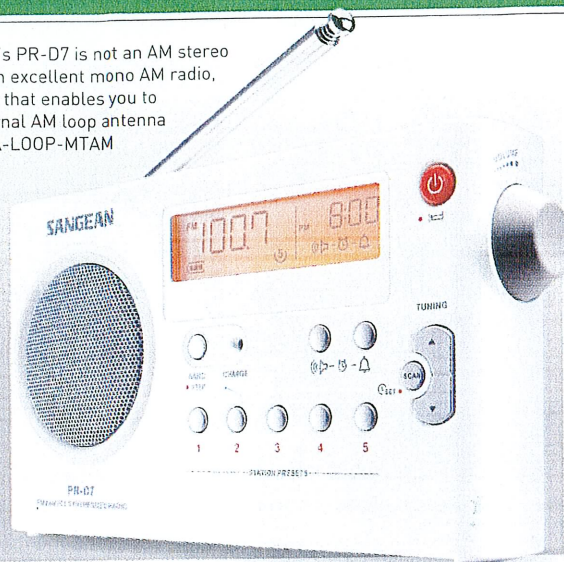
www.australianliveradio.com, an internet radio website for more than 350 Australian AM and FM radio stations. Using Windows Media Player, I ran a check on ABC Classic FM: only just acceptable on 96 kb/s, as was ABC Triple J. But ABC Jazz, and ABC Country sounded quite luscious on 128 kb/s, though the music was not to my taste. The sound quality of the some of the other ABC National stations streaming on the net, however, was a pain in the kilobyte.

Nevertheless, internet radio remains attractive, not least because you can hear it without having to buy a radio, digital or otherwise! All you need is a computer with a reasonable sound system attached, and access to the internet. I listened to a number of stations from all over Australia: 'Community Radio', 'Classical', 'Top 40', 'Contemporary Christian', 'Dance' and 'Classic Rock', as well as some ethnic stations; there was something for everyone. The only downside I could see, apart from some less-than-adequate bit rates, was cost: an internet station streaming at 128 kb/s will download at close to half a gigabyte per hour, which could be expensive, depending on contractual arrangements with your ISP.

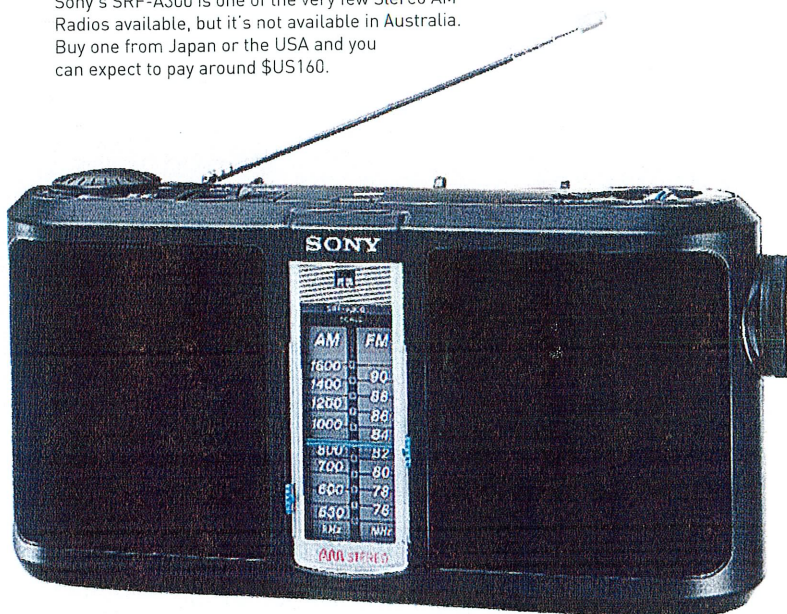
For international internet stations, I logged onto www.live-radio.net (there are many other sites) and was presented with a smorgasbord of choice. I started with radio station NRK 'Alltid Klassik', out of Oslo, in Norway. It was broadcasting Norwegian music at a sumptuous 388 kb/s. And there are thousands of others in hundreds of languages with dozens of different programs and quality levels. Is this the future for digital radio listening in Australia?

Given the high price and low quality of the digital hardware and the low bit rates on offer, I can't see any other. And that's not being snobbish.  Timoshenko Aslanides

RIGHT: Sangean's PR-D7 is not an AM stereo model, but it's an excellent mono AM radio, and has an input that enables you to connect an external AM loop antenna such as the PK A-LOOP-MTAM



Sony's SRF-A300 is one of the very few Stereo AM Radios available, but it's not available in Australia. Buy one from Japan or the USA and you can expect to pay around \$US160.



**Postscript:** This article was written in January, 2011. In early March, I noticed that radio station 2CA in Canberra had ceased broadcasting in stereo on the AM band. When it had not resumed stereo transmissions in early April, I rang Michael Jones, the General Manager of the station, to ask why. I was concerned that 2CA's implementation of digital stereo broadcasting in Canberra might have prompted the reversion to mono on the AM band, particularly as the 2CA website featured a 'comparison button' where you could toggle between AM sound (in mono) and digital sound (in stereo) for 5 second samples of each. 'Was it because of this website comparison that 2CA has reverted to mono?' I asked him.

'Not at all', he assured me. The reversion to mono 'is a technical problem', he said. 'We have not taken a policy decision to drop AM stereo', he added. Michael then asked me what I thought of digital stereo. When I said it was difficult to listen to because the bit rate, at 64 kb/s, was so

low, he told me that this was because of 'the government'. I took this to be a reference to the department in Canberra which deals with 'Communications and the Digital Economy'. He said he would read my article with interest because it might be helpful in persuading authorities to allow a higher bit rate for broadcasting in digital stereo. I wished him the best of luck.

As of 28 April, 2CA was still broadcasting in mono on the AM band. And, in a strange twist which I can't explain, at about the same time in March as I noticed the reversion to mono at 2CA, I also noticed that radio station 2CC had resumed stereo transmissions on the AM band in Canberra. I say 'strange' because 2CC rarely broadcasts music, other than as punctuation to their talk-back, sporting, gardening and commentary programs, so that, apart from the better sound quality of AM stereo (higher frequency range, less compression), there seems little advantage to 2CC in broadcasting in stereo. **T. A.**