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A U S T R A L I A

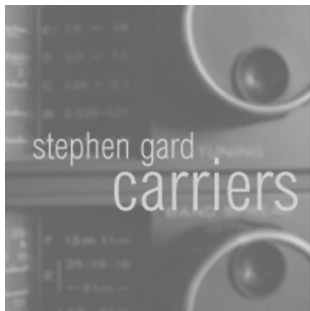
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abstract

The radio frequency spectrum remains a rich source of audio material for the composer of electro-acoustic works, particularly the motoring sonorities of utility transmissions; such radiosonics can easily be generated from a laptop, using free-ware.

the project

My album 'Carriers' was both an experiment with 'glitch' or microsound music, and the bounty from fifteen years of short-wave radio listening. The audio material was



gathered with communications receivers, by tuning across the entire High Frequency spectrum (from 1.6 MHz to 30 MHz), seeking the odd and beautiful sonorities that haunt the ether: the chatter of data links, the whine of carrier waves, the chuckle and splash of static, the monochrome pipings of Morse, the background hash

from stars, and the Babel of voices from broadcasting stations in a hundred tongues. Western nations have largely abandoned communication *via* the High Frequency radio spectrum in favour of the Internet and satellite links; HF radio is still used by emerging nations, many of whom employ antiquated equipment and modes; by amateur operators making experimental transmissions; by defence, aviation, maritime and emergency services; by clandestine and espionage stations. This tumultus of signals makes short-wave radio listening a kind of techno-archaeology; perhaps even electro-anthropology.

the materials

Radio and Music are sister arts. Radio has long served as handmaiden to her more strident sibling, providing mode and medium for spreading the Muse. Yet Radio has her own songs and her own voice. And Radio's scale is cosmic.

Radiosonority has polyphony, polyrhythm, ostinato, gesture, dynamics: elementals of modern musics. The

carriers: an archaeology of the airwaves

'meaning' of a stuttering radio signal, bearing data, may in truth be banal (measurements of flow inside a gas-pipe, for example), but such info-stammer can also be heard as a signifier of wonder, delight, and alarm. Words, spoken in a language we do not understand, are another kind of 'data transmission', the meaning of which is inaccessible. These are pure 'carriers', a musical, rhythmic, sometimes even beautiful aurality, even when their content is negative, violent, sad.

Music can occupy our minds, but Radio can occupy the universe: electro-magnetic elvers, spawned from the first clumsy sparks of Marconi's savage spitting transmitters, or the latest silky Digital Audio Broadcasts, still writhe outbound past the limits of our galaxy and our imagination.

fore-runners

Contemporary composers, notably Cage and Stockhausen, have employed short-wave radios as aleatoric instruments; artists like Boards of Canada include short-wave samples in their electro/Techno works. The receivers used for such projects are often domestic sets lacking the Beat Frequency Oscillator circuitry that enables the demodulation of additional modes. Nor can such receivers access frequencies above 30 MHz, where the most specialised utility modes are used. New digital modes and devices offer us fresh sound-crops to glean.

gather

Composers can gather radiosonic materials from purchased or borrowed communications receivers. They can seek the co-operation of amateur radio operators, or surf the 'Net for downloadable samples. See my website for guidance: www.stephengard.com.au/ACMC05.html

generate

Software packages, some of them freeware, are available to generate encoding tones for dozens of digital data transmission modes. Links to download sites are on my ACMC05 website. Composers can craft their own 'short-wave' sounds, perhaps use these programs for performance. Sonification of text, data and images is possible in a re-discovered dimension, radiospace. An extended technique - new sounds, from old instruments.