Second State (1981)
Directions for performance

Acoustic feedback is filtered under microcomputer control to reveal resonant frequencies of the performance space. The computer creates complex pitch and rhythmic patterns out of the feedback within limits set by a single player.

The performer works with a keyboard which is divided into two banks. The keyboard communicates with the computer by translating key pressure into numeric values ("bytes") comprehended by the machine. The computer uses these values to determine how the feedback is controlled, through three "control registers" built into the program. Pressing any combination of the eight keys of the upper tier generates a byte that is loaded into one of three control registers if one of the four keys of lower tier is pressed simultaneously: key A1 moves the byte into the "phase" register, A2 to the "tempo" register, and B2 to the "amplitude" register. Phase and tempo values affect the length and speed of the feedback patterns; the amplitude register directly controls the volume of the sound. The upper eight keys also superimpose sidebands* on the otherwise sinusoidal feedback, whether or not any of the load keys are being pressed. The filter circuit has controls that affect range, resonance, and fundamental frequency.

In rehearsal the performer should become familiar with the key-board mechanism and the effect and interaction of the control registers, the filter adjustments, and sideband distribution. In performance the computer should be guided through the full range of its behaviour. Within any given set of parameters, the feed-back will fall into very musical, sometime repetitive phrasings. It can also slip into phrases which are trite and insipid. The performer should, while respecting the inherent musical flow of the feedback, exert control over the nature of the phrasing, and the timing of changes. The performer should attempt to expose, through the feedback, the resonant frequencies of the room. A performance can range in duration from four to fifteen minutes.

A recording of this piece can be heard on Going Out With Slow Smoke (Nicolas Collins & Ron Kuivila, Lovely Music VR1701).

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