

Concept and design: Michelangelo Lupone

First presentation: *Musica a tre dimensioni* MusicaScienza, Rome 3-9 June 2002
Feed-Back for three Feed-Drums and meta-electronics, by Michelangelo Lupone



The Feed-Drum is an electroacoustic innovative percussion instrument (augmented instrument) designed by Michelangelo Lupone for his work *Feedback*; it is quite a large drum, composed of a membrane divided by a vibrational map, a steel resonator and a loud speaker. Feed-Drum is based on the principle of the “feed-back” of the sound signal and, for the first time, it allows the musician to select and control the complex vibrational modes of the drum’s membrane, both in monodic and polyphonic modes, by mean of particular techniques.

Sound, produced by the action of the musician through percussion, pressure and friction, selects on the membrane’s surfaces one or more nodes (like a string instrument) which produce one or more pitches and timbres.

Differently from a string behaviour, which might be considered monodimensional, the membrane varies its vibrational modes in two dimensions; this implies the use of a new technique of performing the instrument because the relation between the generated frequencies is not harmonic but follows a non linear behaviour.

An important feature of the Feed-Drum is that the notes generated by the instrument can be varied in amplitude and can also be hold indefinitely by the musician, exceeding the limit of the short time duration of percussion instruments sounds.

Feed-Drum has been co-produced by CRM and Istituto Gramma and was presented for the first time at Musica Scienza 2002, held in Rome from 3 to 9 of June at Goethe-Institut Rom.

Performers: ARS LUDI Antonio Caggiano, Rodolfo Rossi, Gianluca Ruggeri