

## Notes on *Tremor Transducer*, music by Douglas Geers

For amplified flute, piano, percussion, violin, cello, and computer (2004)  
15 minutes duration.

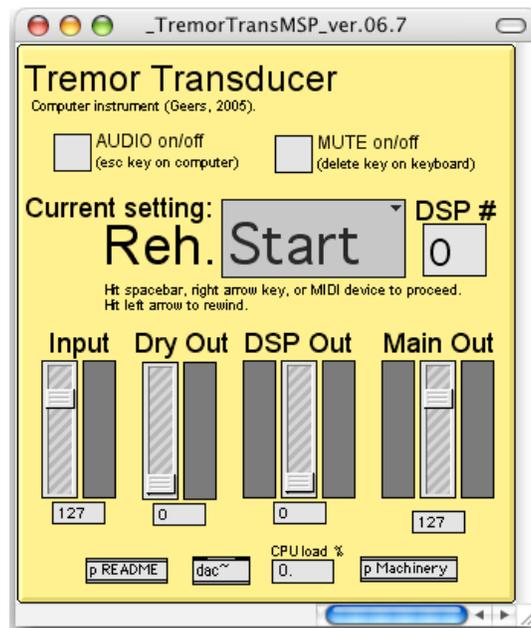
### Program Note:

*Tremor Transducer* was written to explore ideas related to two ephemeral phenomena: fire and sound. Both of these are seemingly disembodied yet able to instill awe or wreak destruction; both can exist as silky tendrils, sudden bursts, or raging calamities; and both depend on the air for their existence. Formally, *Tremor Transducer* is modeled on both the composite envelope of a single sound and the transcription of the changing heat levels of a fire. The electroacoustic sounds in the piece are synthesized in real time by a software instrument created by the composer in the Max/MSP environment. The computer music's role in the music is to be the "smoke" around the musicians, created by them but floating above, its incorporeal performance symbolizing the incorporeal nature of both sound and fire, emerging as if rubbing bows across strings could start fire as well as sound. *Tremor Transducer* was written for the NeXT Ens.

### Additional Information:

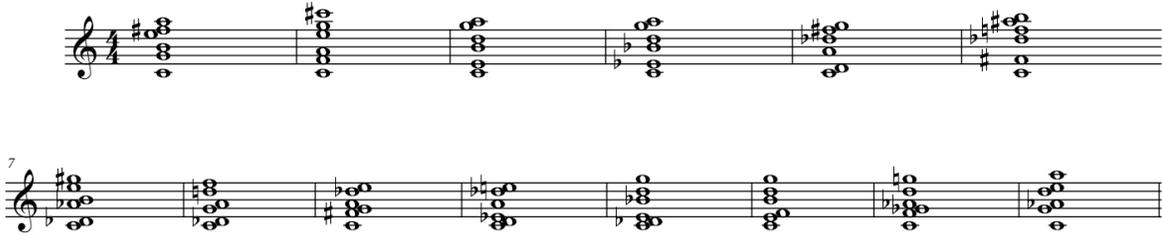
In this piece, the computer provides timbral coloration to instrumental textures, and is cued by a member of the ensemble.

All computer sounds, except very low register, are created via digital signal processing of the live performance. The computer music instrument was built by the composer in Max/MPS, and its interface was designed for simple use by the ensemble:



Harmony in *Tremor Transducer* is based upon a set of fourteen hexachords, arranged in order from most psychoacoustically consonant to most dissonant.

Chord types used in *Tremor Transducer*:



Harmonic motion in *Tremor Transducer* is governed by three things:

1. A pattern of “jumps” along the sequence of chords #0-13  
Ex: chord 8; -3 = chord 5; +5 = chord 10; -6 = chord 4;  
-1 = chord 3; +3 = chord 6
2. The basic pattern (above) is manipulated using simple algorithmic procedures (retrograde, inversion, additive/subtractive, etc.)
3. Pattern of tonics of chords follows the notes of an inversion of the cello solo that opens the piece.