SIMON EMMERSON

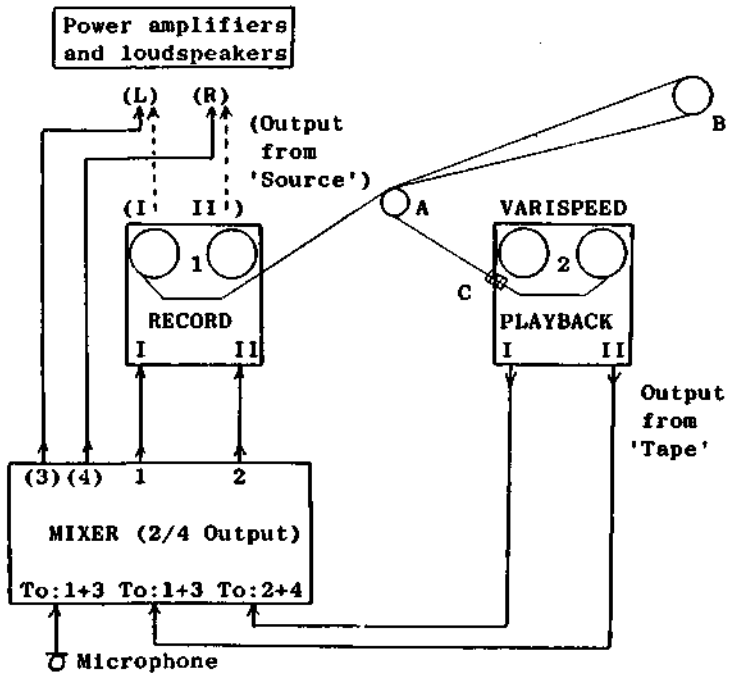
SPIRIT OF '76

for flute and accelerating tape delay system

for Kathryn Lukas, 1976

SPIRIT OF '76

I:TECHNICAL SET-UP:



If only a two output mixer is available,seperate control of volume to the power amplifiers - which does not affect the levels within the delay system - may be obtained using the outputs from tape deck 1 on 'source' mode with their independant level controls.Preferably four channels of amplification should surround the audience,paired left and right.If only two are available these should be placed at the front.If possible loudspeakers should be raised.
A (Barcus-Berry) contact microphone would minimise problems of positioning and feedback,but with suitable precautions an air microphone may be used.

(C) Tape tension device

1) The tape decks are positioned to give a four second delay time when the tape runs directly between the two machines and around 'A' (q.v.).The loss on each repeat of the delay should be 2.5 dB.This may be set using a 0 dB test tone or tape,the return levels to tape deck 1 being adjusted to -2.5 dB.The microphone level is then set;finally the output to the amplifiers is set at its maximum just below the feedback point (this may then be reduced later).
2) Two test tapes are required to set up the acceleration of the delay: one of 1000 Hz the other 917 Hz.The former is placed on tape deck 1 the latter on 2. The varispeed is then increased until the two tones are in unison when played back together.Tape deck 2 is then running the equivalent of ¾ of a tone higher than tape deck 1.
3) The delay is set up initially with a 'bank' of 64 seconds of tape between the two machines,stretching across the playing area around the necessary balast of a plastic 7" tape spool (B),which should be free to slide on a smooth, clean carpet or floor throughout its path to the tape decks.A microphone stand,tape loop holder or other suitable object (A) helps direct the tape.Initially,outgoing and incoming tape travel round the same side of (A) as indicated; but as the delay approaches its minimum, the tape should quickly be slipped around (A). A tape tension device (C) (above) is also needed,and may be simply constructed from wire and hooked onto the edge of tape deck 2. The tape may have to be slipped off the balast spool (B) as it approaches the decks.

II:TAPE BALANCE AND OPERATION:

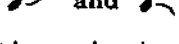
The basic balance between tape and live sound is automatically set using the circuit indicated.The maximum loudness at the end should be such that the high freqencies are not too piercing and the amplifier level may therefore need to be adjusted. The microphone level must be reduced progressively as the higher sounds tend to overload the tape more easily.The tape operator has no control over timing in the piece,theoretically the last flute note should conclude as the ever shortening tape delay reaches its minimum.If the flute player reaches the end of the material too soon,the piece still concludes at this point as indicated.If the tape is reaching taughtness too soon,however, the varispeed should very slowly be eased to zero as this is approached.The piece then concludes when the flute player has reached the end of the material.The flute player must give a clear indication at the end of the final fluttertongue note,the inputs to tape deck 1 and the outputs to the amplifiers should then be cut instantly to zero.

III: THE SCORE:

Notes within boxes have indicated durations in seconds - ideally the next note starts to sound as the first starts to come back on the delay. With these exceptions the score is notated proportionally.Each line not containing a box lasts fifteen seconds,other material on lines with boxes is in the same proportion.

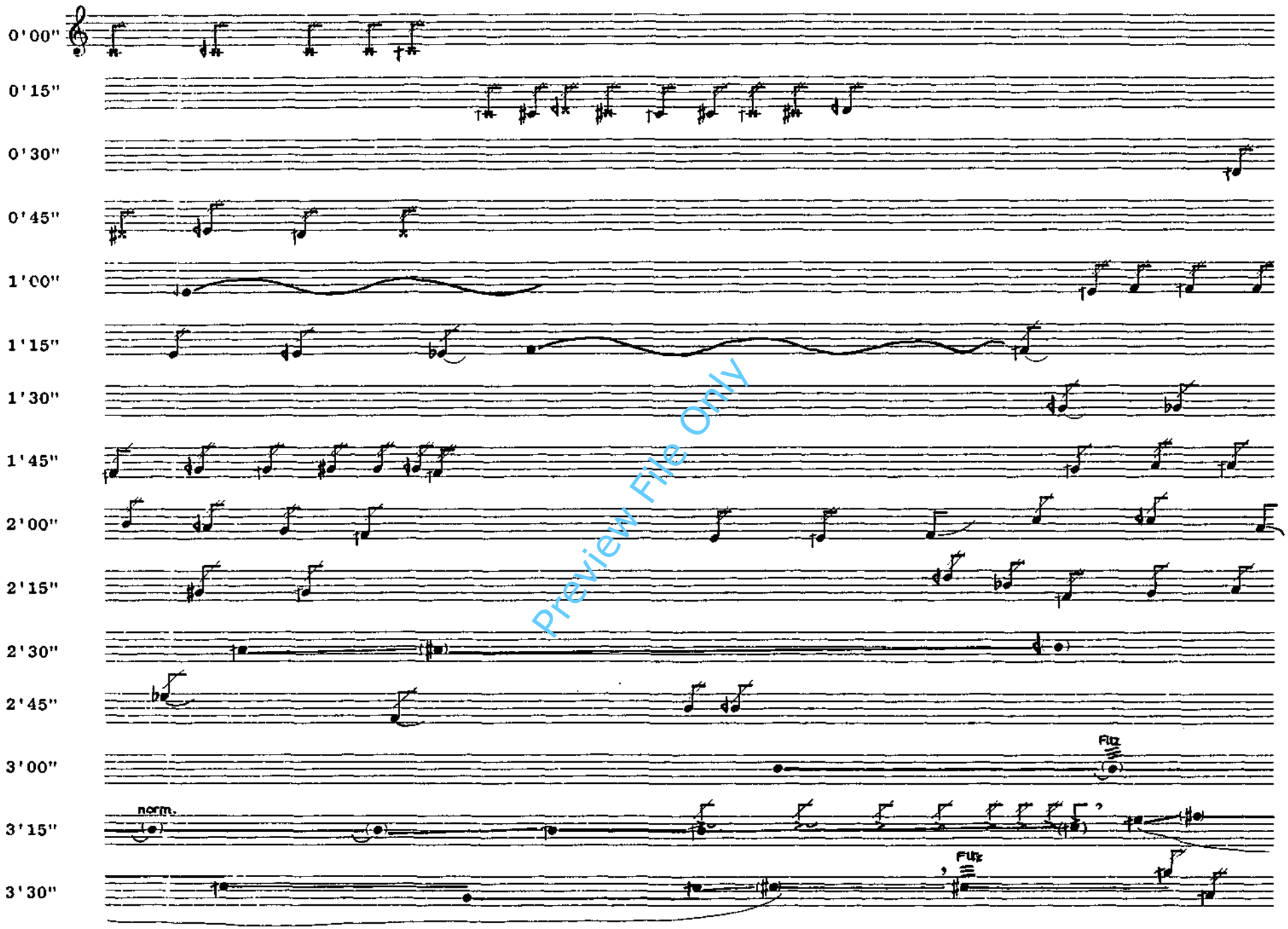
Notation:  a key click on the pitch indicated;  a quarter tone sharp;  a quarter tone flat;  an octave higher;

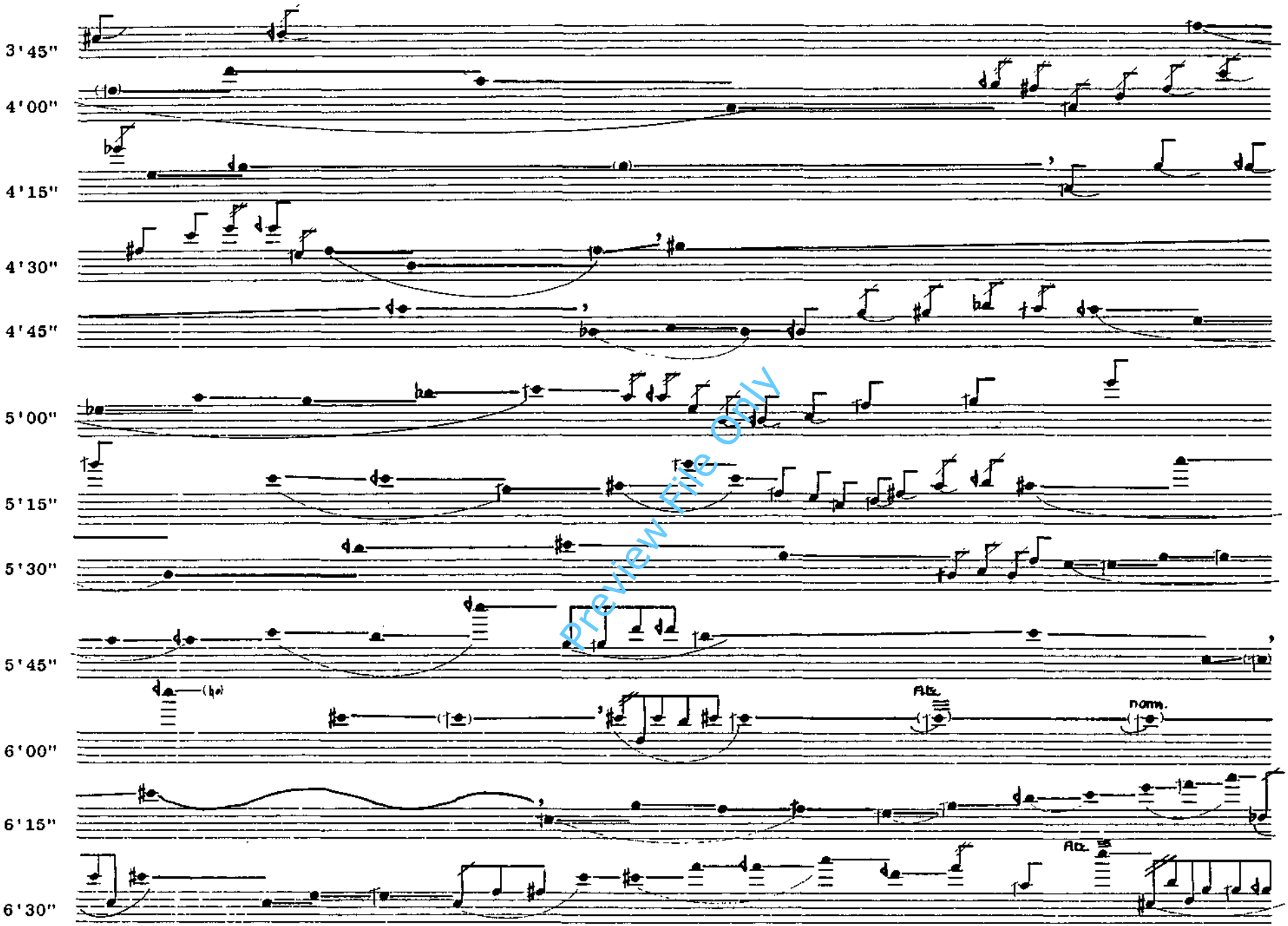
The piece uses a relative scale of durations from very short to long, the last symbol being extended by its attendant line:

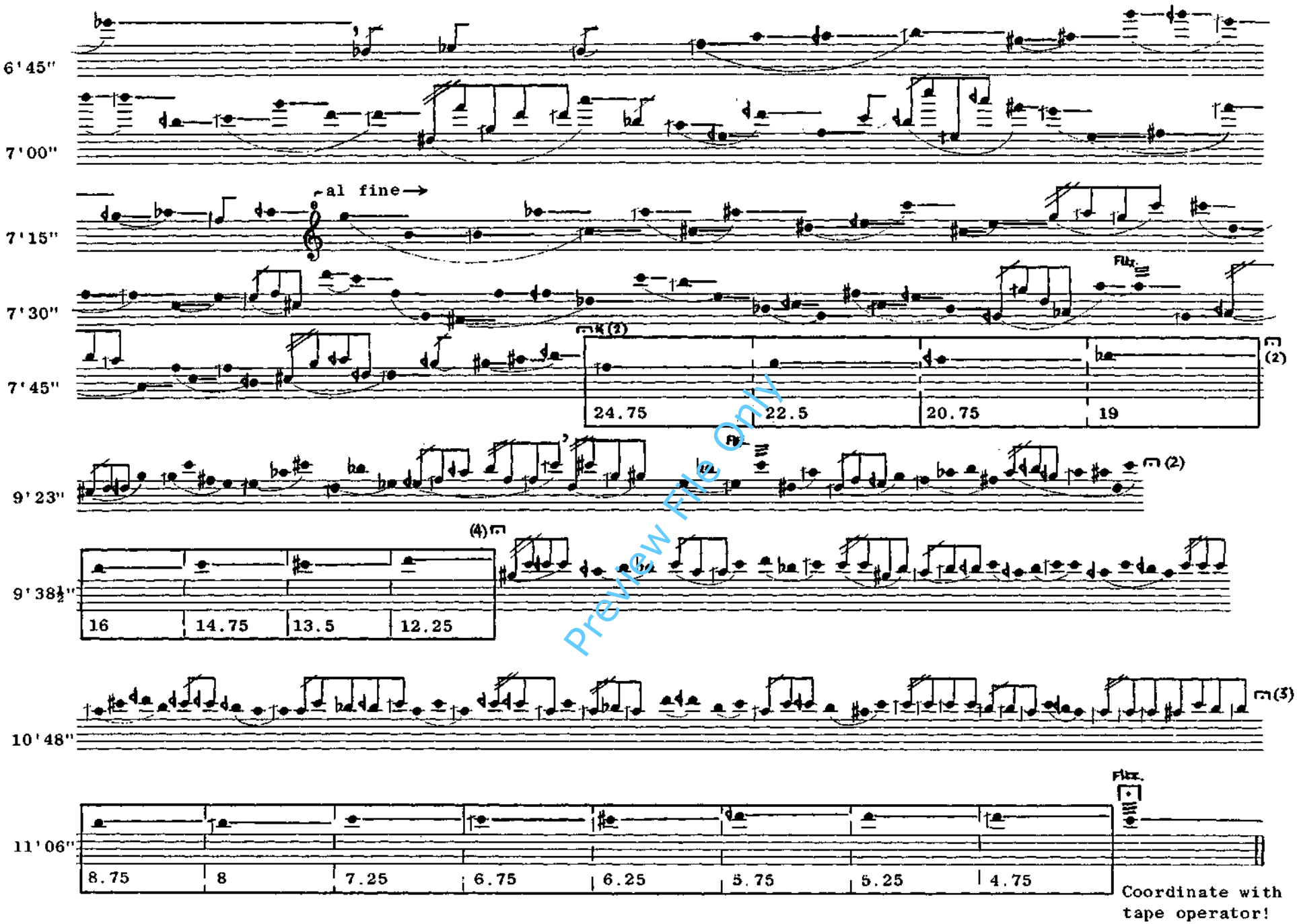
 and are short lip glissandi of up to a semitone and are not to be confused with  (above),a duration indication atconstant pitch.Phrasing is indicated but dynamic and nuance markings are absent.The piece involves one continuous process which should be accentuated by moving steadily from 'pp' to 'fff' and from 'soft' to 'hard' tone.

IV:PROGRAMME NOTE:

Spirit of '76 was written in the Bicentennial year for the American flute player Kathryn Lukas who,with the composer,gave its first performance at the Institute of Contemporary Arts,London on the 3rd of October 1976. The flute sounds are multiplied on a tape delay system to build up polyphonic layers.The playback machine runs slightly faster than the record machine,thus the sounds are transposed upwards ($\frac{3}{4}$ of a tone) on each repeat,becoming correspondingly shorter and faster. The delay time itself decreases from 64 seconds to 4 seconds as the long loop of tape originally between the two machines reduces steadily.One steady rising process.







* = pause for breath, duration indicated in seconds.