Movement for Lou Harrison

for just bass quartet

Larry Polansky
Oakland, 1976-1988

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History

The first version of *Movement for Lou Harrison* was scored for two violins, and made extensive use of double stops to achieve the four part texture. This version was graphically very similar to the graphic notation included in this edition. The violin version (1977) was published in *Xenharmonikon 6* (1977). The following year, I re-orchestrated the piece for four basses, in graphic notation. For performance purposes, I made an edition of the piece in staff notation. The first and only performance of this piece was a "workshop" performance at the University of Illinois. The bassists included Mark Sullivan, Daniel Thomas, and Pat Castle, and it was conducted by the composer. For this performance we used an early version of the staff notation. In a subsequent piece for "string quartet" (actually, two violins and two violas) called *Movement for Andrea Smith (My Funny Valentine for just string quartet)*, I refined the notational procedures for scordatura natural harmonics, in order to make the score more satisfactory for the composer, performer, and "listener" (that is, a listener who is following the score). *Movement for Andrea Smith* was published in *Xenharmonikon 7/8* (1979), and recorded by John Casten (all four parts) on *TELLUS The Audio Cassette Magazine, #14.*

In this edition I have revised both the graphic and staff versions considerably, incorporating the notational ideas from *Movement for Andrea Smith ...* in the staff version. The staff version is meant to be the *authoritative* score in terms of timings, and can be consulted for any possible (accidental) discrepancies between the two versions. Every effort has been made to make the two scores musically equivalent.

In this edition of *Movement for Lou Harrison,* two scores are included. The first, called the *staff notation score,* is the more conventionally notated. The second, called the *graphic notation score,* is an equivalent representation of the piece.

Notation

Pitch

All pitches are natural harmonics on the retuned strings of the basses. Only two strings on each bass are used. On basses I and III, strings I(G) and IV(E) are used. On basses II and IV, strings I(G) and II(D) are used. String III is not used on any bass (so that it may be utilized for tuning purposes, *see below*).

In the *staff notation score,* several items of information are given for each pitch. The *notated pitch* is the "node" on the string to be played, i.e., the pitch that would be fingered (but as a harmonic), if the string were not retuned. This is called the *nodal pitch.* The *sounding pitch* is given by the parenthetical information to the right of each pitch, which shows the nearest tempered pitch (if the nominal "note" is different from the non-parenthetical nodal pitch), along with the cents deviation of the actual pitch from that tempered neighbor. Above each pitch is a ratio, which is the interval to the low A (1/1), a perfect fifth (3/2) below the fourth string open E (3/2). This low A is never sounded in the piece (it is below the range of the instruments), but a higher octave of this pitch (on the III string of each bass) may be used as a basis for tuning (see *Tuning*, below). All cents values in the score are rounded off to the nearest cent.

All *8va* indications apply *only* to the pitch they accompany.

Below each pitch is a combination of Roman and Arabic numerals, which indicate the string number (Roman) and harmonic number (Arabic) for the given pitch. For example, IV3 means that the pitch is to be played as the third harmonic on the fourth string of the instrument (strings are numbered I-IV from highest to lowest). In this example, on basses I and III, the pitch IV3 would produce the ratio of 9/2, notated as the "node" B on the top line of the bass clef with the parenthetical information "+4", since the actual sounding pitch would be four cents (4¢) sharp of a tempered B-natural. The entire piece can be played simply from the string/node indication (e.g. I9), and the rest of the information may be used for aural purposes.

In some cases, the sounding pitch will be quite far from the "notated" nodal pitch, for example on basses II and IV, I8 is notated as a "G" (since it is a high octave partial on the I, or G string), but it will sound as an Eb, 49¢ flat of its tempered neighbor. However, the bassist may simply touch the 8th node of the first string where that G would be sounded as an harmonic if the string were not retuned.

It is easiest to play the piece if all harmonics are produced successively closer to the bridge of the instrument. Although there are always multiple positions for a given sounding pitch (for example, there are 6 ways in which the seventh harmonic may be produced on a given string), it is simpler to "move up" the string to locate the harmonics. Removable colored marker or chalk might also be used to indicate the location of the harmonics on the strings, so that the player might immediately and more or less infallibly locate them each time (I am grateful to Lou Harrison for suggesting this method at an early rehearsal of the work). The highest harmonic used is the eleventh. Only one double stop is used in the piece, in the Bass II part.

In the *graphic notation score*, only the ratio, and string/node are given. The sounding ratio is given above the line, and the string and node below. The piece may be played from this score, since the string and node are the only information needed.

The "usual" transposition is used for the basses throughout; all pitches sound an octave lower than written (this applies to the parenthetical pitches as well).

Duration

The piece is 12 minutes long. All times are in minutes and seconds. In the *staff notation score*, duration is indicated by a horizontal line beginning at the pitch, and extending to the end of the pitch's duration. Pitches that last past the end of a page are continued in parentheses (the parenthetical information in this case is not the sounding pitch, but the nodal pitch). Desired temporal coincidences (whether beginnings or endings of pitches) are designated by vertical dotted lines (in both versions of the notation). In all other cases, the *sequence* of events between all four parts is extremely important (for example, if a pitch starts before or after another ends), but the actual time values are to some degree approximate. In the *graphic notation score* the length of a pitch is indicated by a horizontal line with a vertical "handle" on each end. Durations that continue past the end of a page are accompanied by an arrow, and the horizontal line is continued to the next page. Time is indicated at the bottom of each page (two minutes per page). Heavier vertical lines are used to delineate minute and half-minute marks.

Dynamics

In general, pitches should begin softly *pp*, crescendo slightly to what might be called *mf*, and decrescendo at the end of their duration, again to about *pp*. The dynamic level of the piece should not be loud, but the performers may take a great deal of liberty with the dynamics in order to emphasize or deemphasize different sonorities.

Tuning

All strings used on all four basses may be tuned as harmonics (or partials) to some common A(1/1). A tuning fork may be used, but it is easiest to use the A string on one of the basses to obtain the necessary partials for the fundamentals of all the retuned strings. The tuning should be as exact as possible, and for

this reason it is suggested that all basses tune to the same A string on a selected bass, and that the tuning (and continual checking of tuning) be done as close to performance time as possible.

The first (G) string of Basses I and III is tuned to the seventh harmonic of the open A (G, 31¢ flat of tempered). The fourth (E) string of Basses I and III is tuned two octaves below the third harmonic of the A (E, 2¢ sharp of tempered).

The first (G) string of Basses II and IV is tuned to a lower octave of the eleventh harmonic of the open A (Eb, 49¢ flat of tempered). The second string of Basses II and IV is tuned to a lower octave of the fifth harmonic of the open A (C#, 14¢ flat of tempered).

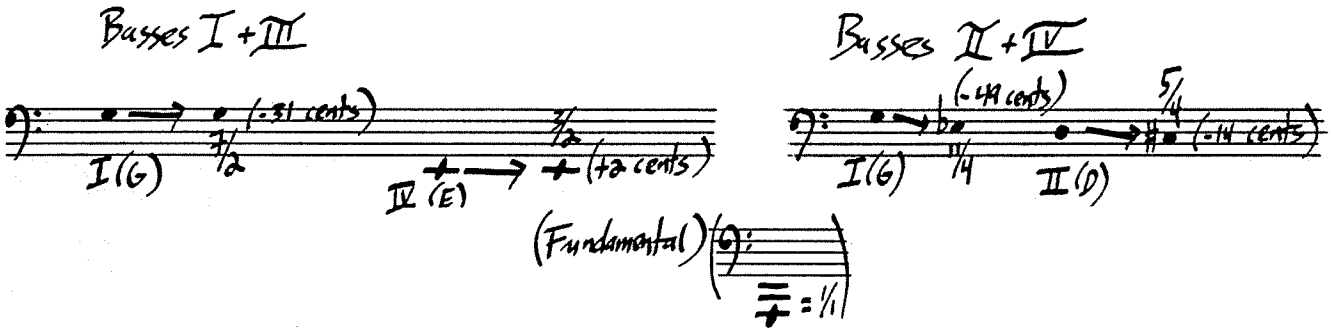
It can be useful to tune the *octave harmonic* of a given string to the partial produced on the A string. This will help to ensure that the tuning is more exact in most cases.

Acknowledgements

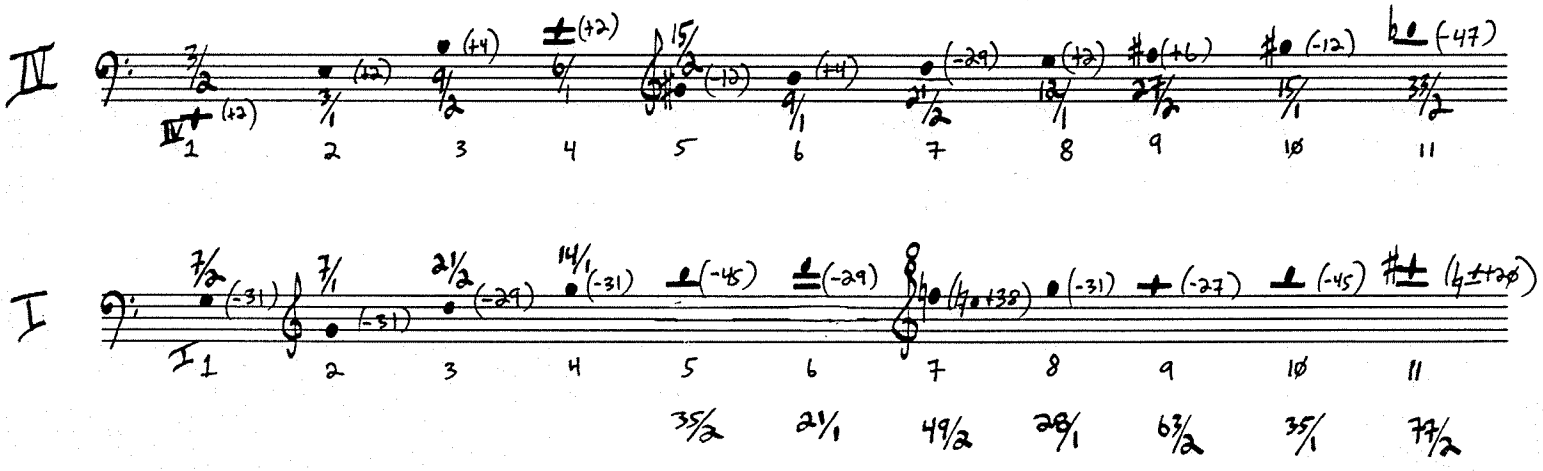
Several people assisted in the preparation of the score. Gino Forlin carefully checked the early editions, and was invaluable in assuring the accuracy of the current edition. My wife Jody Diamond was of tremendous assistance in all aspects of the preparation of the graphic score, but especially in the design of the score and in the use of the computer graphics program. Janis Mercer aided in entering the data itself in the graphic score. I am grateful to all of these musicians for their assistance.

Larry Polansky
Oakland, California
January, 1988

Tunings

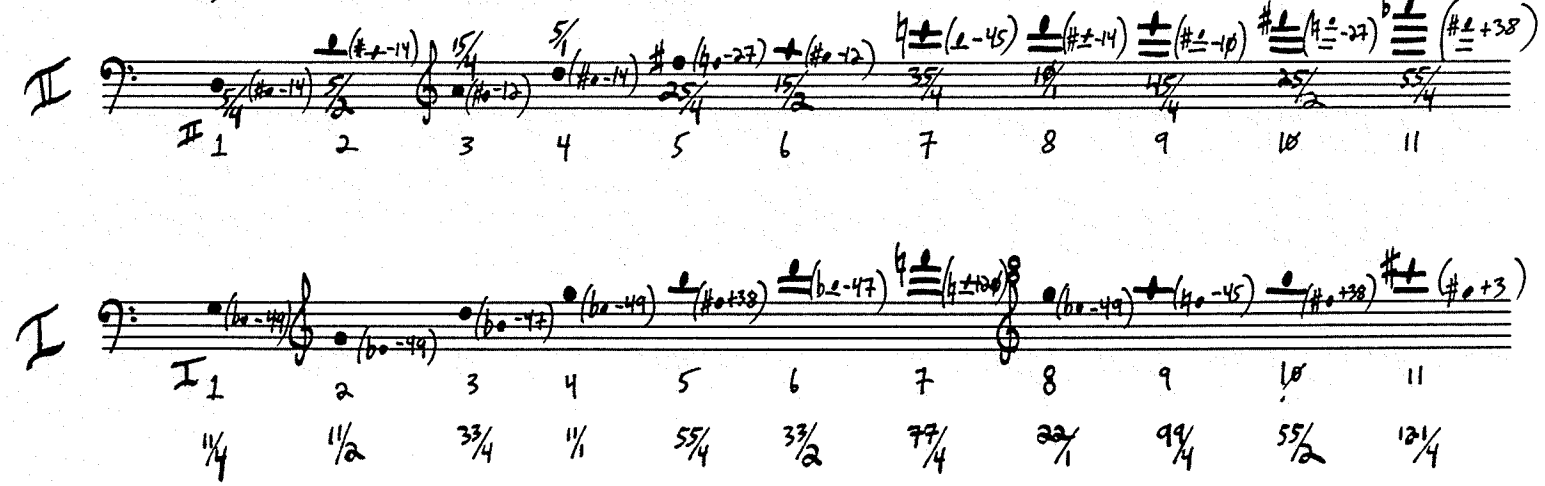


Nodes and ratios used: Basses I + III (with cents deviations from nearest tempered pitches)

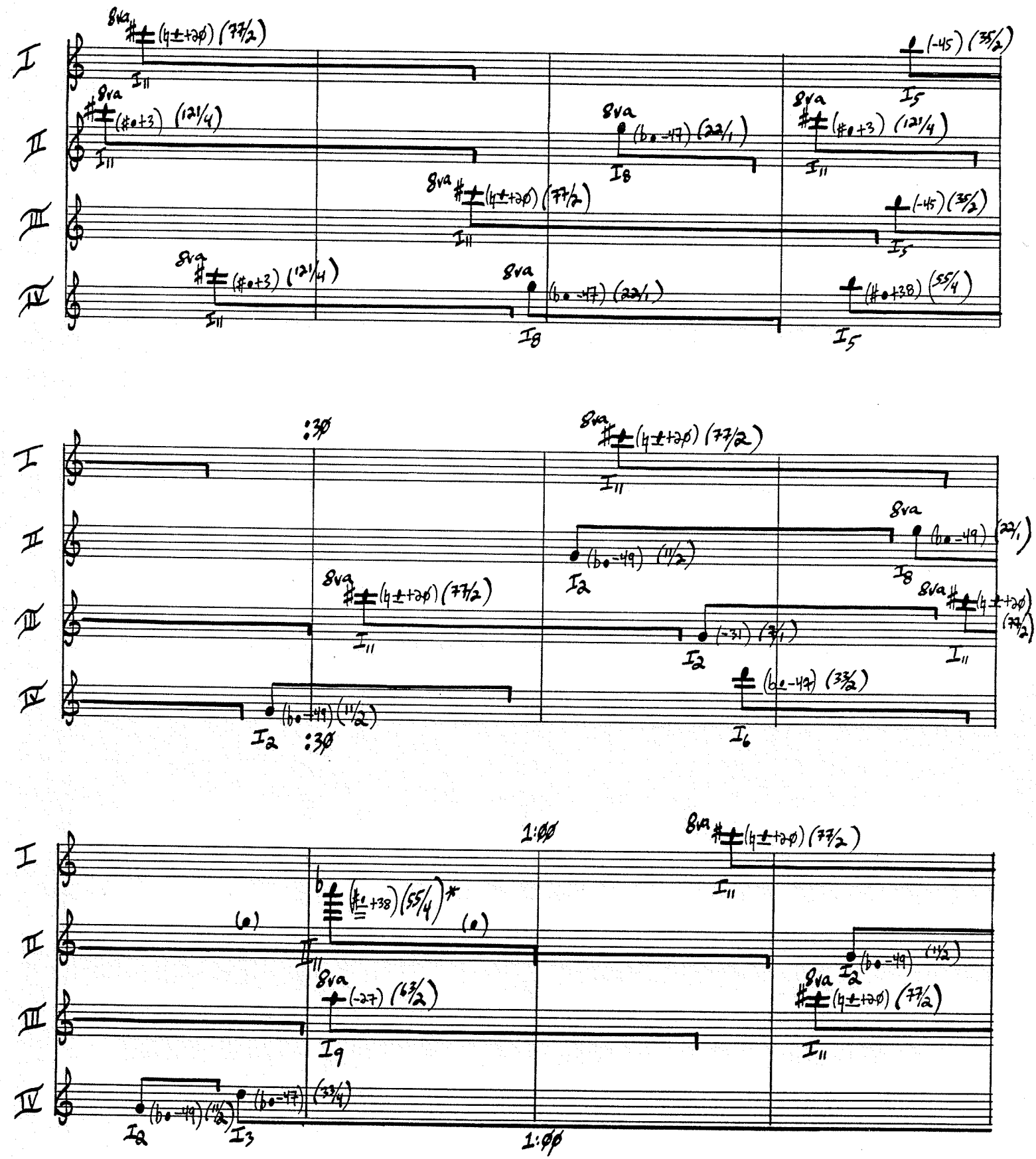


* (all cents deviations rounded off to nearest cent)

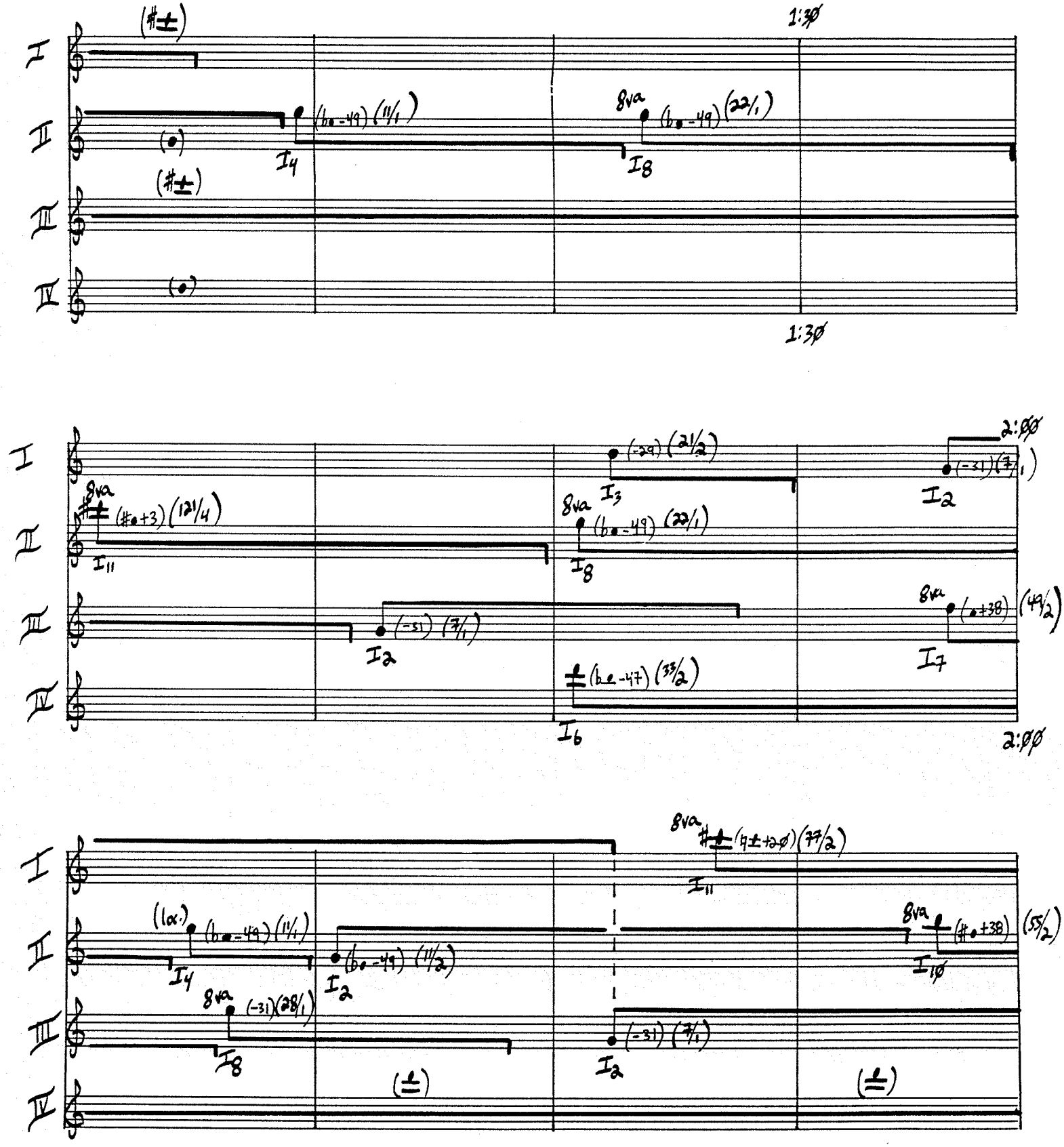
Nodes and ratios: Basses II + IV



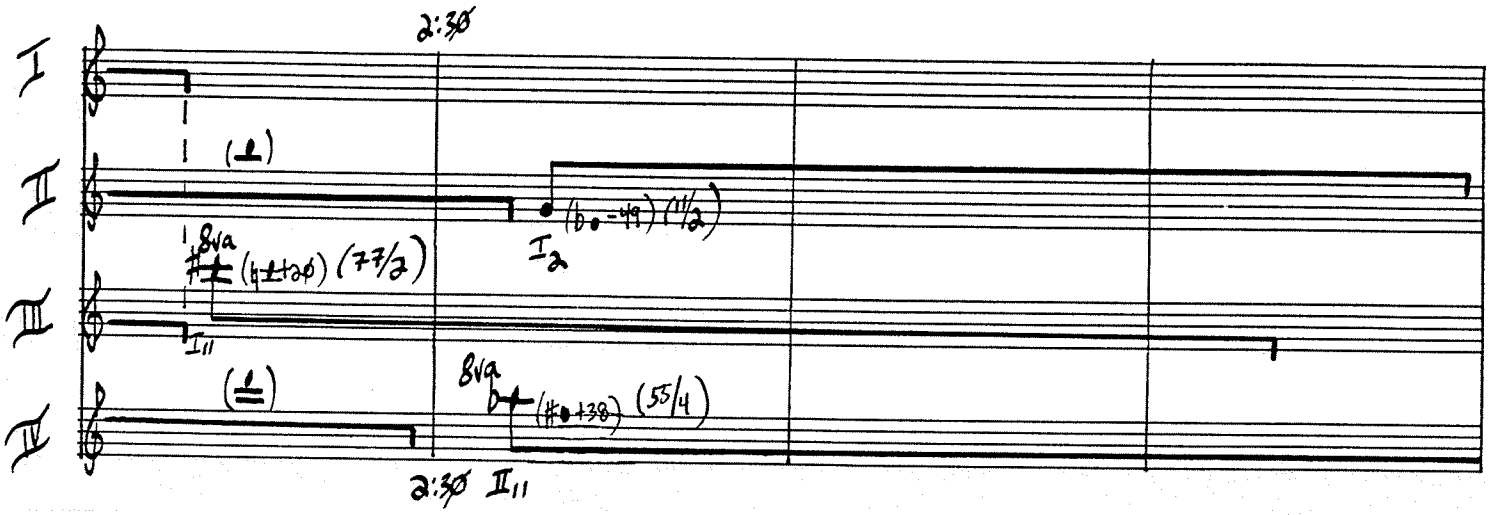
movement for Low Harrison
for just bass quartet
(staff score)

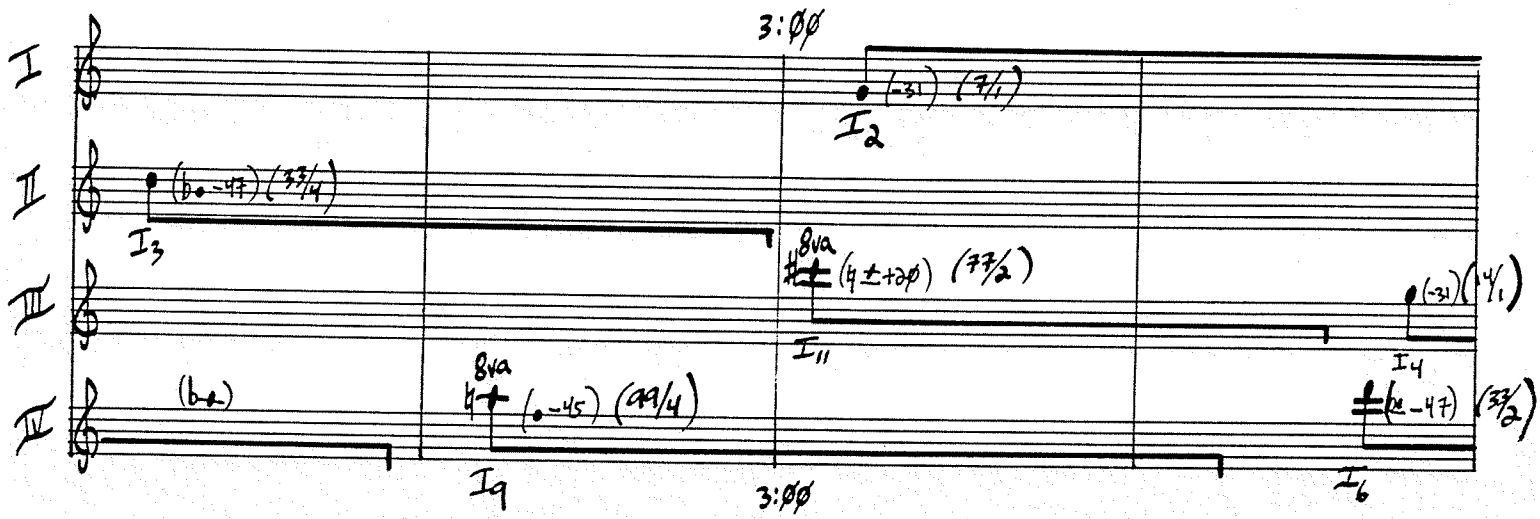


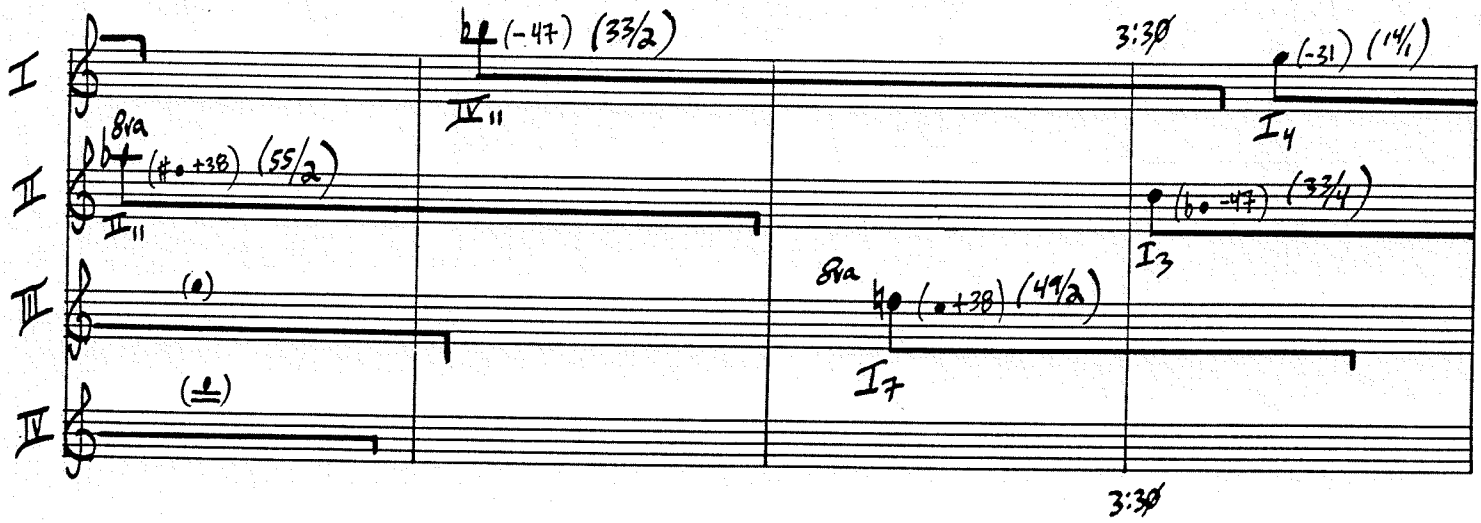
* this high note, a double stop, is optional

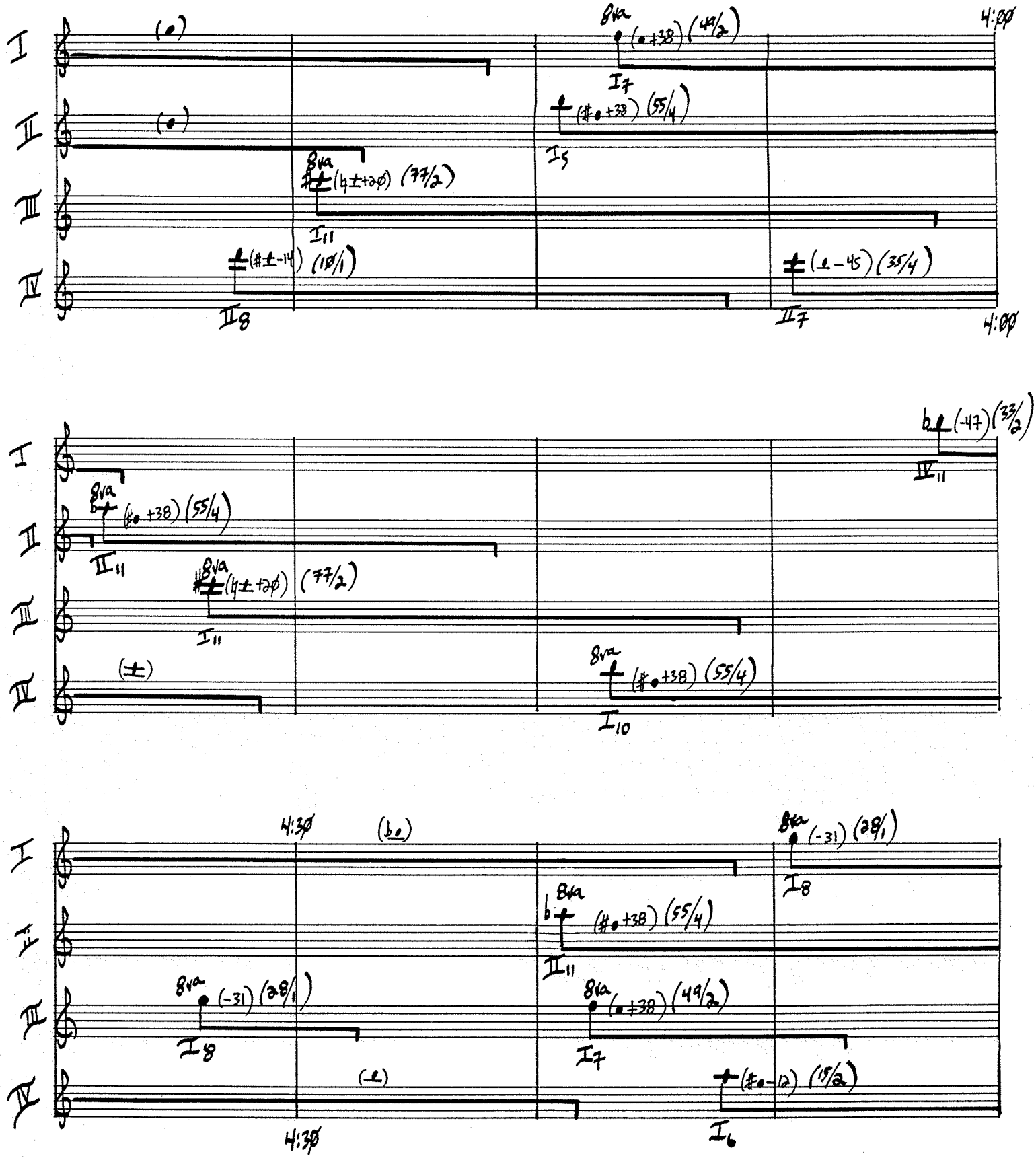


I
II
III
IV
1:30
8va
2:00

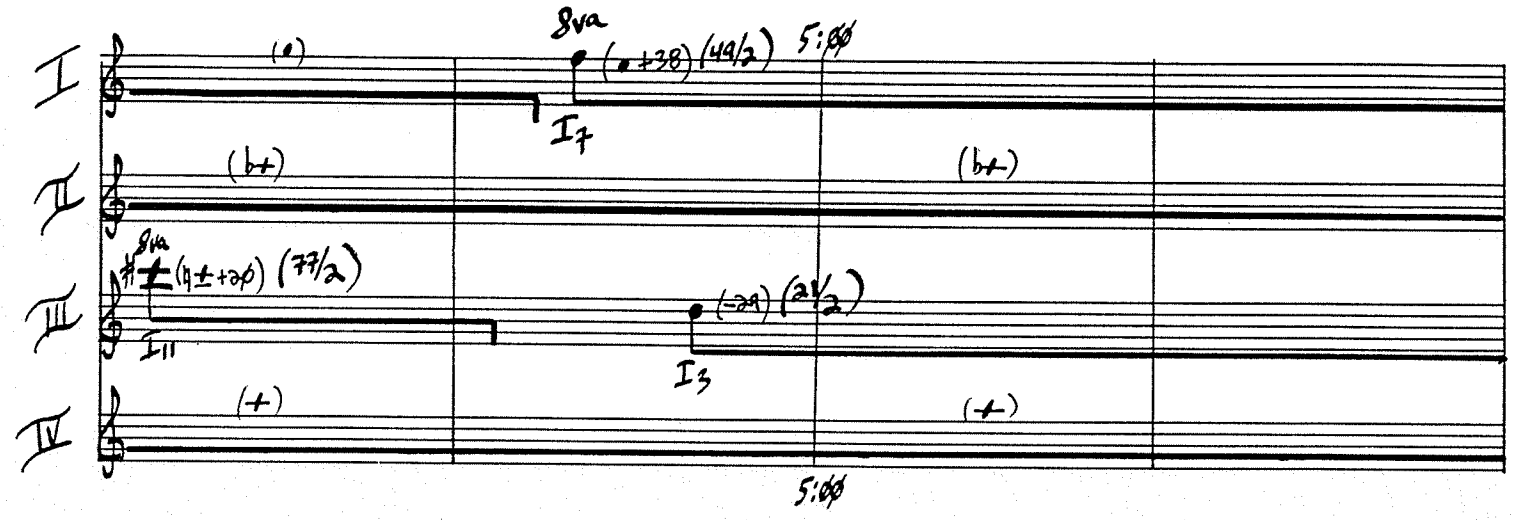

2:30
I
II
III
IV
8va
I11
I2
2:30 II11

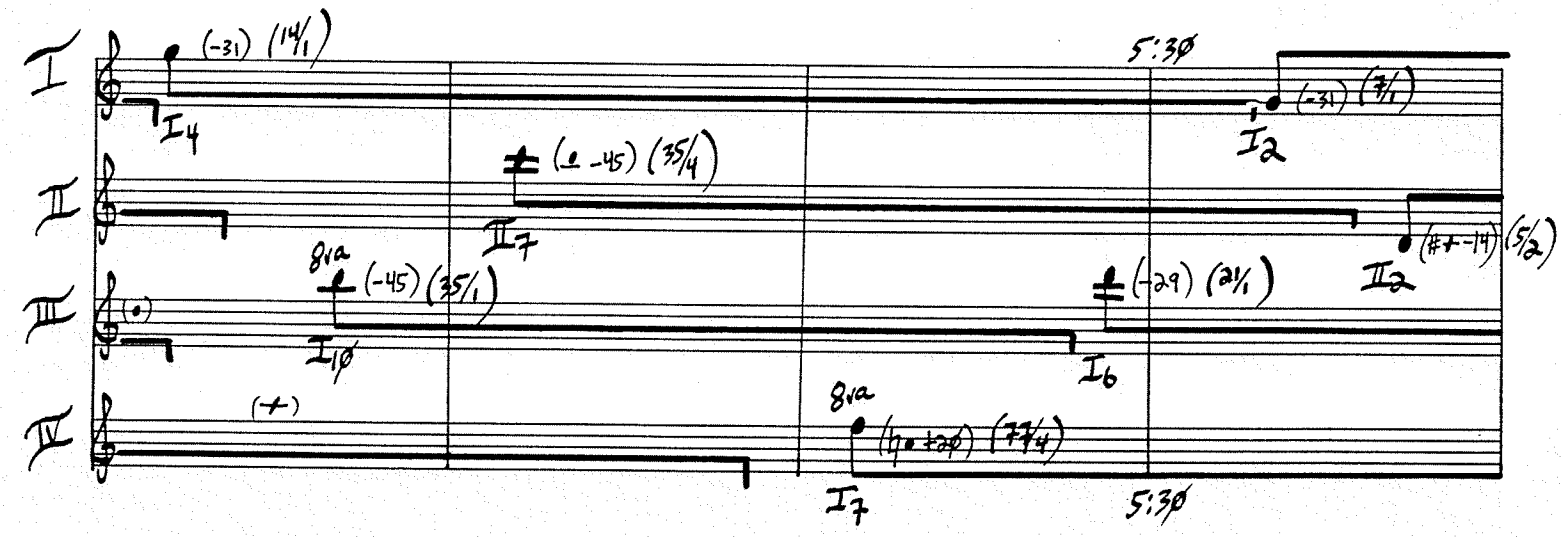

3:00
I
II
III
IV
8va
I2
I3
I11
I4
I9
I6
3:00

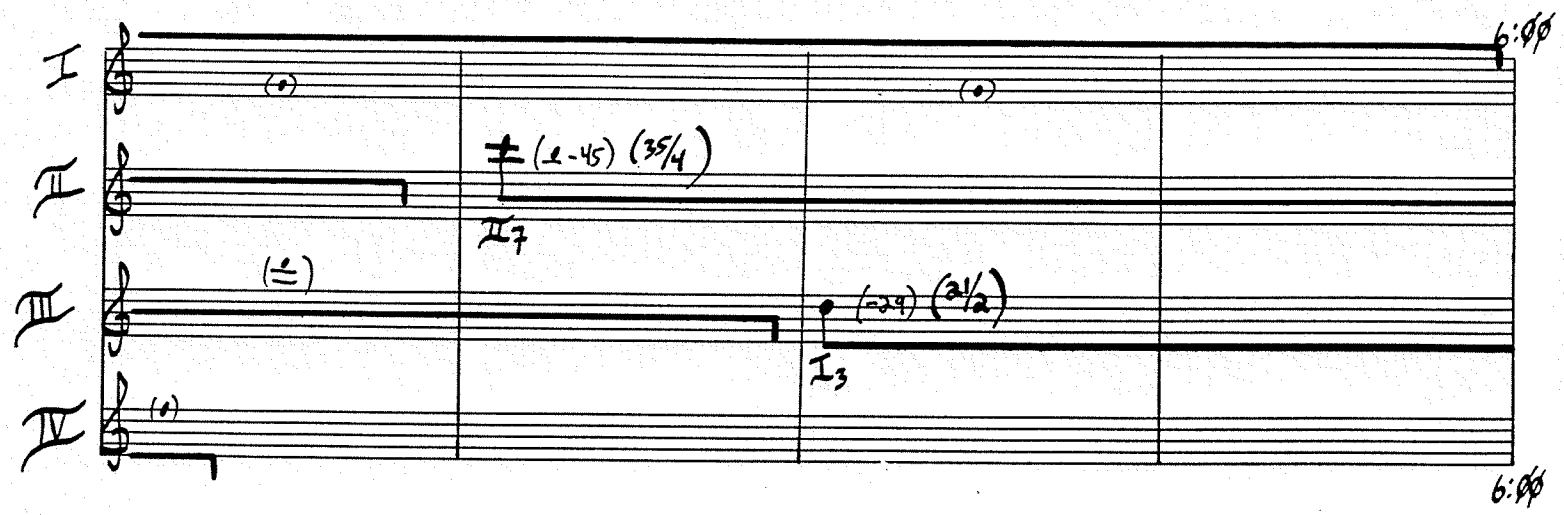

3:30
I
II
III
IV
8va
IV11
II11
I4
I3
I7
3:30

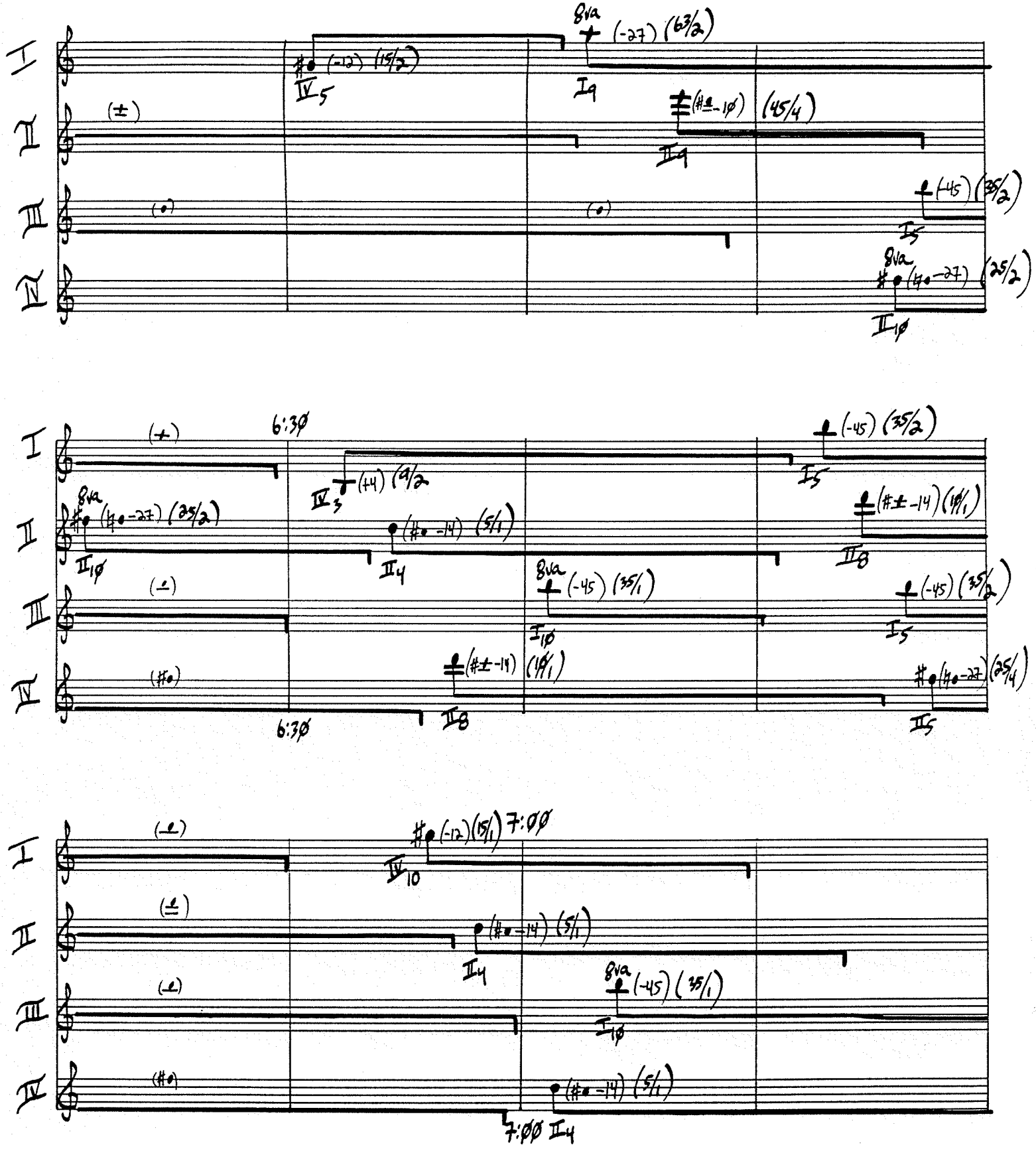


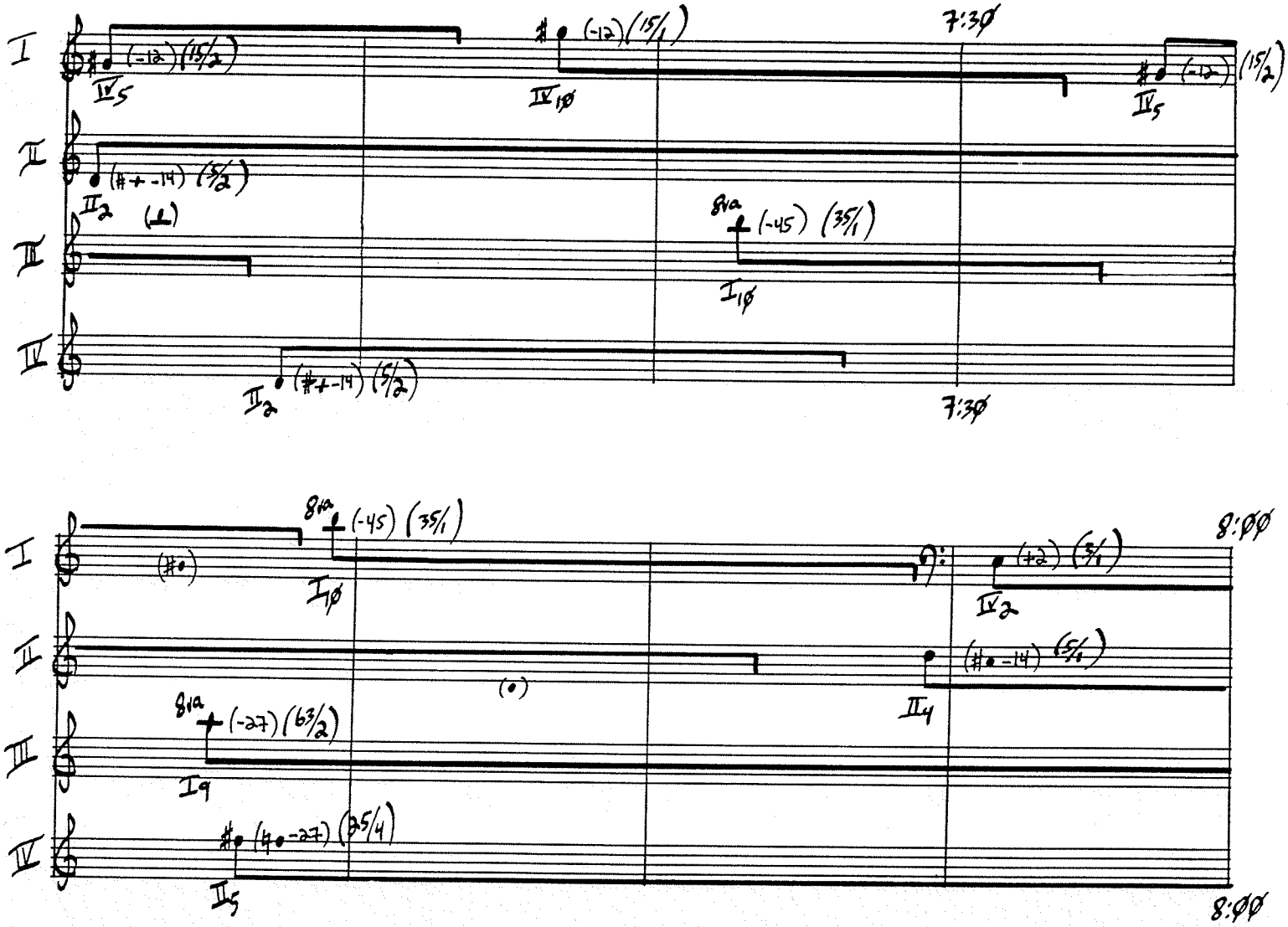
I
II
III
IV
4:00
8va
(•+38) (49/2)
I7
(#•+38) (55/4)
I5
(♮±+20) (77/2)
I11
(#±-14) (10/1)
II8
(•-45) (35/4)
II7
(-47) (33/2)
IV11
(#•+38) (55/4)
II11
(♮±+20) (77/2)
I11
(±)
(#•+38) (55/4)
I10
4:30
(b•)
(-31) (28/1)
I8
(#•+38) (55/4)
II11
(-31) (28/1)
I8
(•+38) (49/2)
I7
(•)
(#•-12) (15/2)
I6

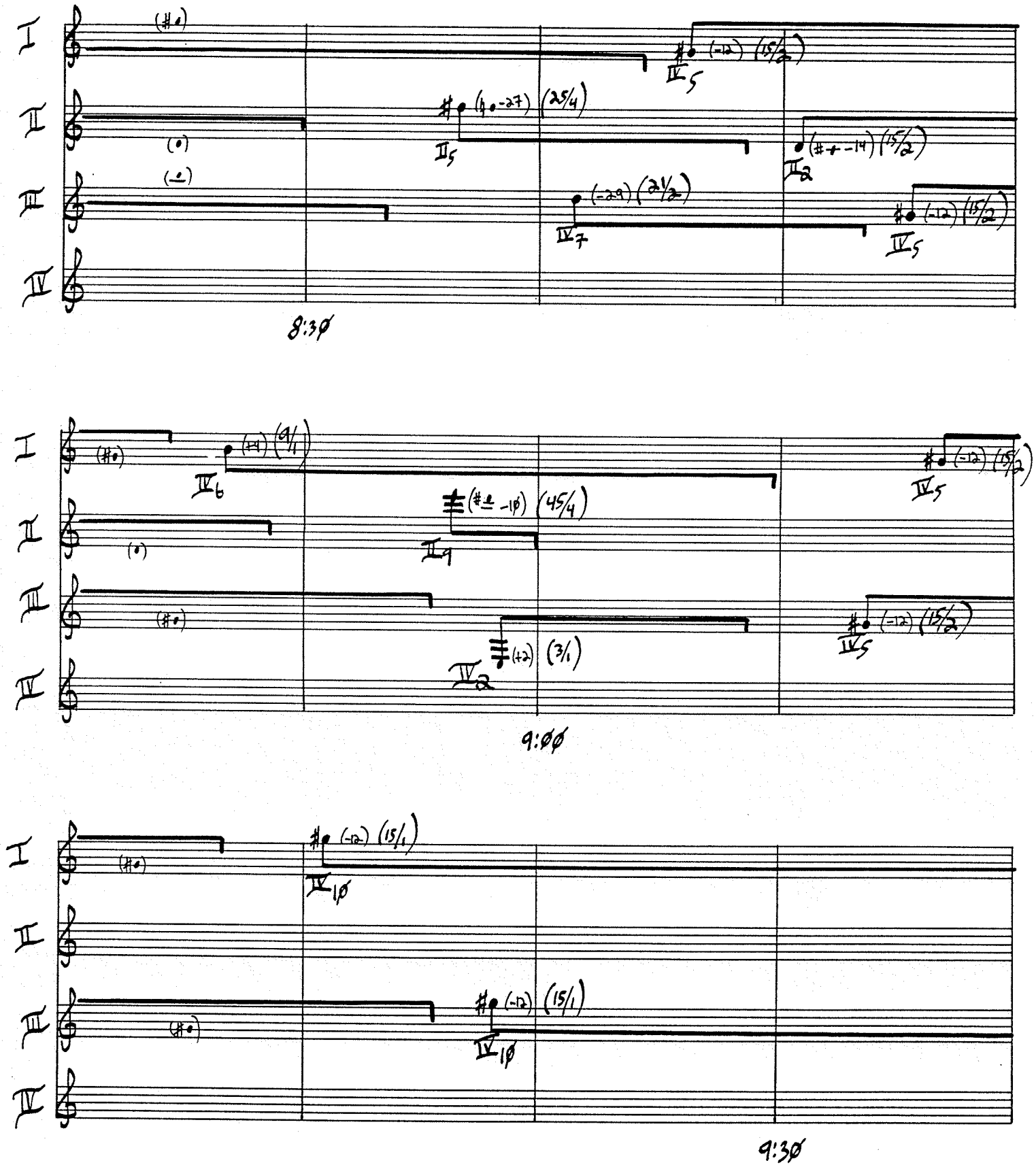

I
II
III
IV
8va
(•)
(•+38) (49/2)
5:00
I7
(b+)
(b+)
8va
(♮±+20) (77/2)
I11
(-29) (21/2)
I3
(+)
(+)
5:00

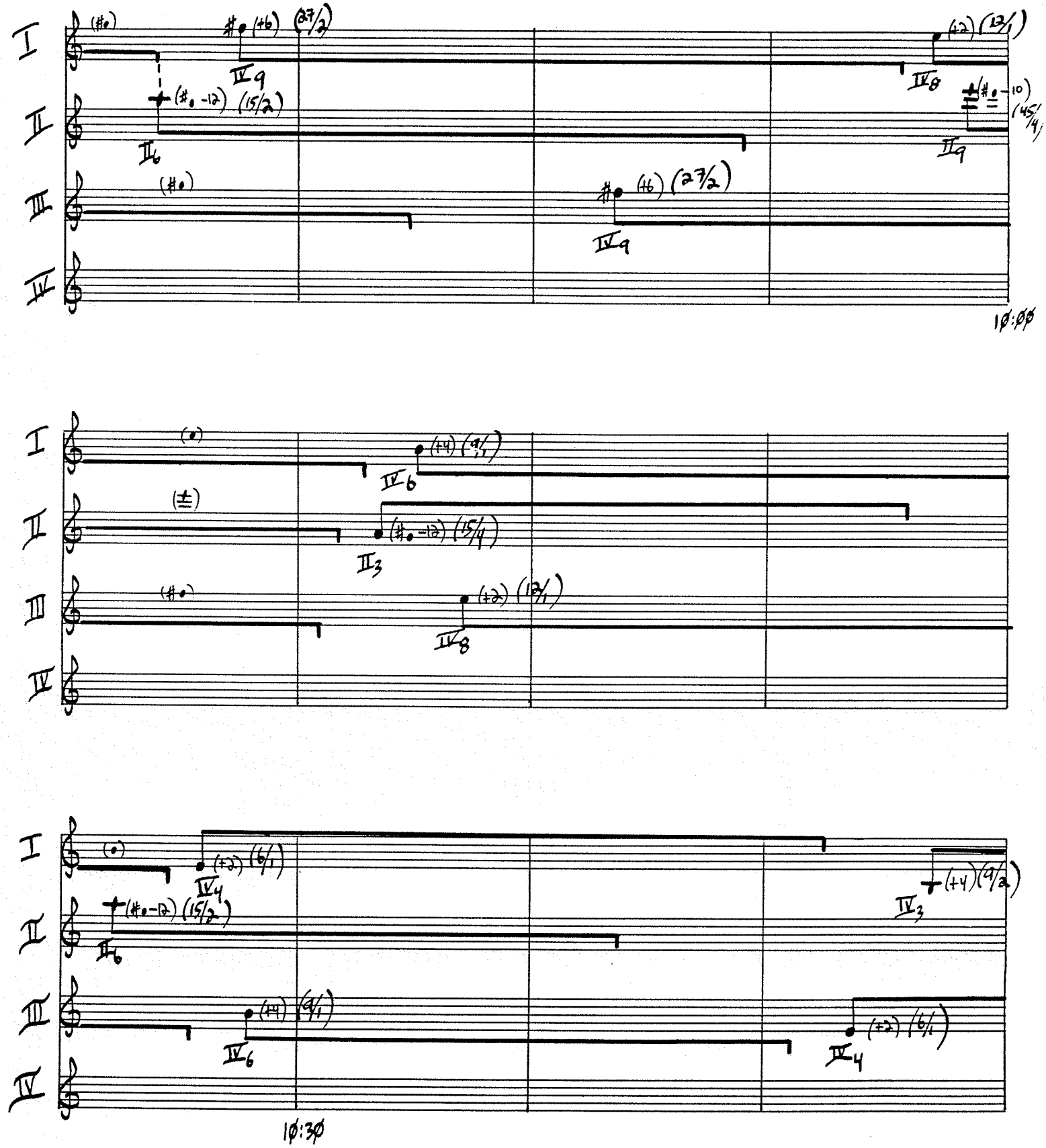

I
II
III
IV
(-31) (14/1)
I4
5:30
(-31) (7/1)
I2
(•-45) (35/4)
II7
(#+-14) (5/2)
II2
8va
(-45) (35/1)
I10
(-29) (21/1)
I6
(•)
(+)
8va
(♮•+20) (77/4)
I7
5:30

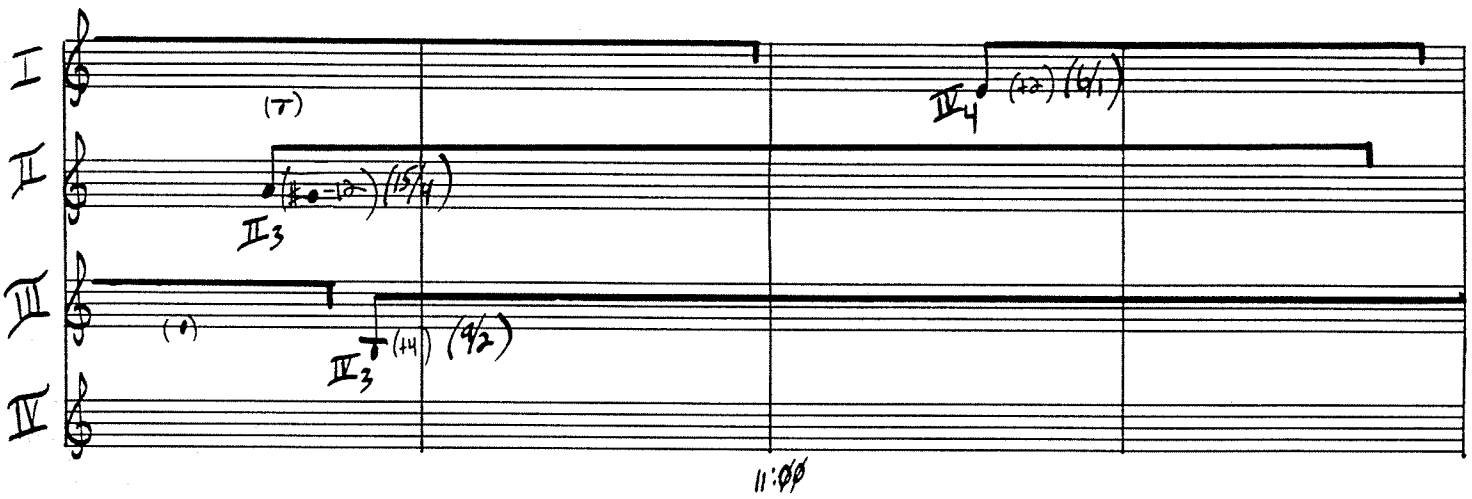

I
II
III
IV
6:00
(•)
(•)
(•-45) (35/4)
II7
(±)
(-29) (21/2)
I3
(•)
6:00

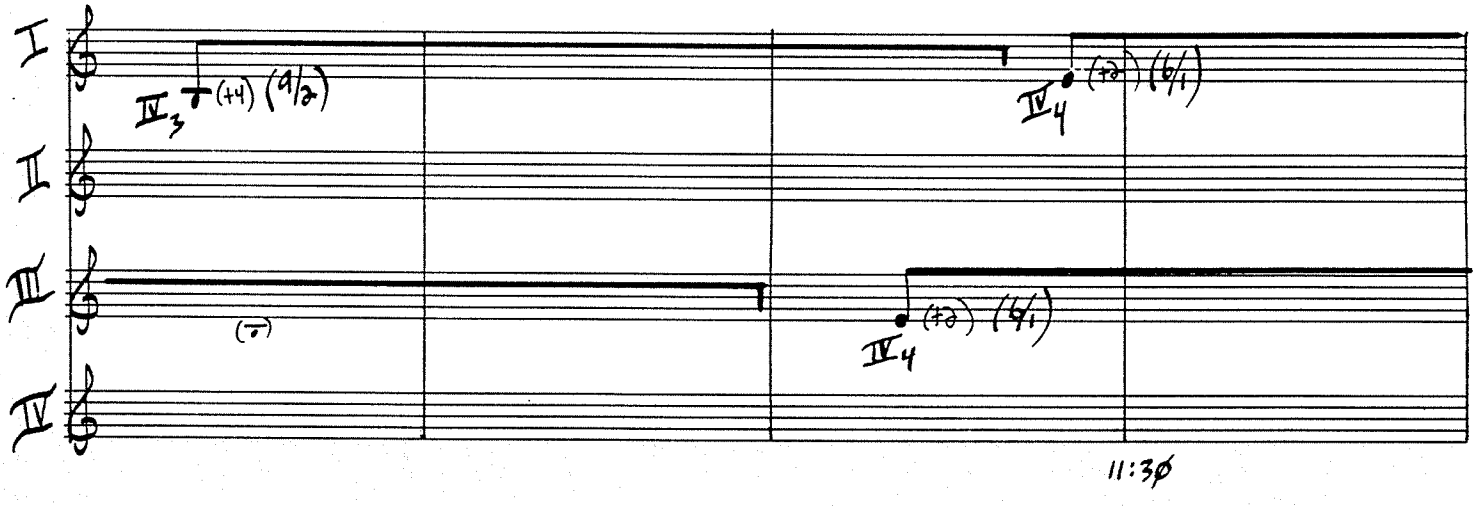

I
II
III
IV
8va
(-27) (63/2)
(-12) (15/2)
(45/4)
(-45) (35/2)
(25/2)
6:30
(+4) (9/2
(-45) (35/2)
(25/2)
(5/1)
(-45) (35/1)
(-45) (35/2)
(25/4)
7:00
(-12) (15/1)
(5/1)
(-45) (35/1)
(5/1)
7:00

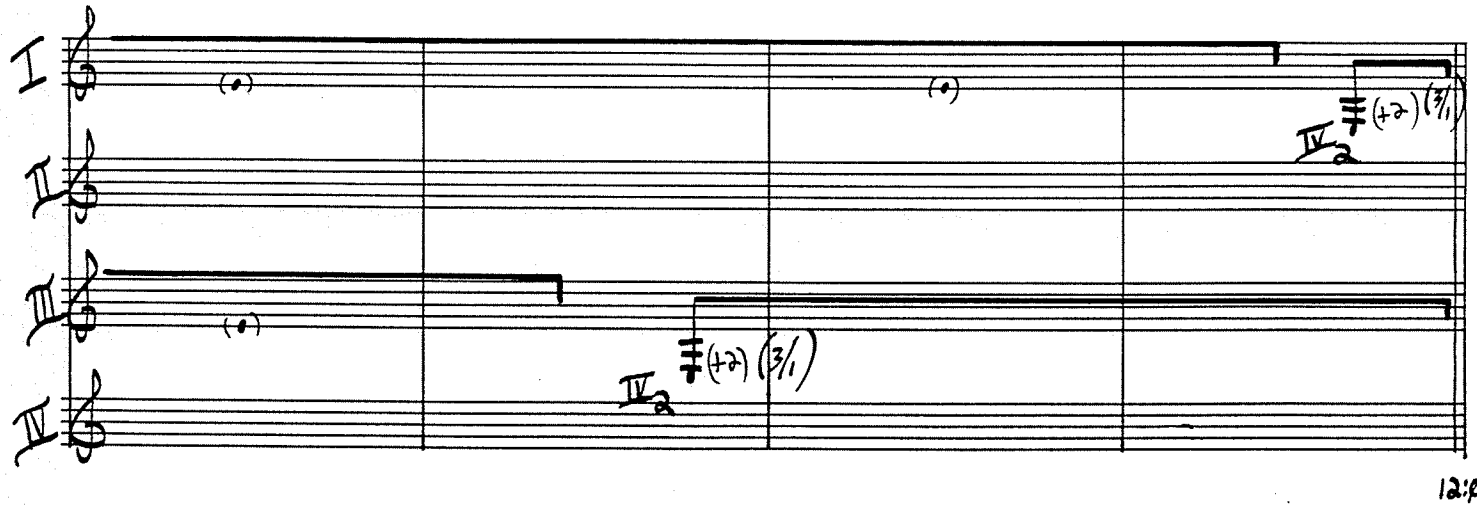

I
II
III
IV
7:3ø
8va
8:øø


I
II
III
IV
8:30
9:00
9:30


I
II
III
IV
(#•)
(+6) (27/2)
IV9
(+2) (12/1)
IV8
(#• -12) (15/2)
II6
(#• -10) (45/4)
II9
(#•)
(+6) (27/2)
IV9
10:00
(•)
(+4) (9/1)
IV6
(±)
(#• -12) (15/4)
II3
(#•)
(+2) (12/1)
IV8
(•)
(+2) (6/1)
IV4
(+4) (9/2)
IV3
(#• -12) (15/2)
II6
(+4) (9/1)
IV6
(+2) (6/1)
IV4
10:30


I
II
III
IV
(T)
IV4 (+2) (6/1)
(♩=12) (15/4)
II3
(•)
IV3 (+4) (9/2)
11:00


I
II
III
IV
IV3 (+4) (9/2)
IV4 (+2) (6/1)
(•)
IV4 (+2) (6/1)
11:30


I
II
III
IV
(•)
(•)
IV2 (+2) (3/1)
(•)
IV2 (+2) (3/1)
12:00