

Program notes

Quartet For Viola, Cello, and Digital Processor is the second in a series of pieces for acoustic instruments and digital processor, in which my object has been to make maximum use of the simplest algorithms. In Quartet, the viola is the principal voice; its output is constantly delayed and transposed (down a whole step in one channel, up a half step in the other.) When the delay pattern is overlaid with further live playing several different tempi and meters emerge from the composite, although delay times (and transpositions) are actually constant throughout the piece. The cello plays a supportive role, and its only electronic modification is a slight flanging and phasing that is most noticeable during longer notes at the end of the piece. Quartet is lovingly dedicated to my wife and performing partner, Cynthia Fogg.

-TF

Technical notes:

Both viola and cello should be equipped with contact microphones to transfer their sound into the digital processor(s) without feedback problems.

The viola sound needs a multitap stereo delay (2 voices) and independent pitch shifting for each voice output. The delays should be panned right and left, with enough internal feedback to repeat each output 4-6 times before decaying to silence. One voice should be set at 400 ms, should feedback every 400 ms, and should be transposed down a whole step. The other should be set at 1800 ms, should also feedback every 400 ms, and should be transposed up a half step.

The cello should be processed with a phaser and/or flanger controlled by an LFO at about 1 Hz.

The composer has frequently performed the piece with the Ensoniq DP/4 processor, which can independently process both viola and cello. For the convenience of performers, the complete settings used are listed here, although some do not affect the sound appreciably, and aside from the delay times, transposition, and panning, there is certainly some flexibility possible in the technical details:

Ensoniq DP 4 settings: Configuration: 2 sources, mono in

CELLO

Unit A: Phaser-DDL

Mix = 99

Vol = 93

Phaser rate = 31

LFO Width = 48

Phaser center = +03

Phaser feedback = +90

Phaser notch depth = +62

L/R LFO= in phase

Phaser S/H rate = 100

Phaser delay time Left =369ms

Phaser delay time R =246ms

Phaser delay feedback= +05

Unit B: EQ-Flanger-DDL

Mix = 99

Vol 99

Flanger rate = 24

LFO Width = 32

Flanger center = +06

Flanger feedback = +74

Flanger notch depth = +00

L/R LFO= out of phase

Flanger S/H rate = off

Phaser delay time Left=400ms

Phaser delay time R=800ms

Phaser delay feedback= +11

Flanger echo time Left = 1200ms

Flanger echo time Right = 800ms

Flanger echo level = 44

BassFc= 129Hz

EQ gain+06dB

TrebleFc = 05 Hz

EQ gain = 00dB

EQ input level trim = 00dB

VIOLA

Unit C: Multi-tap delay

Mix = 99

Vol = 99

Multitap 1 time = 400ms

Multitap 1 level = 99

Multitap 1 regen = 30

Multitap 1 pan = -99

Multitap 2 time = 1800ms

Multitap 2 level = 91

Multitap 2 regen = 00

Multitap 2 pan = +99

Multitap 3 time = 0ms

Multitap 3 level = 0

Multitap 3 regen = 0

Multitap 3 pan = 0

Multitap 4 time = 0ms

Multitap 4 level = 0

Multitap 4 regen = 0

Multitap 4 pan = 0

Multitap regen damping = 27

Unit D: Pitch shifter

Mix = 99

Vol = 99

Vc 1 semi= -02

Vc 1 fine = 00

Vc 1 level = 99

Vc 1 pan = -99

Vc 2 semi= +01

Vc 2 fine = 00

Vc 2 level = 99

Vc 2 pan = +99

Delay vs quality= long/smooth

Pitch shifter LFO rate = 00

Pitch shifter LFO width = 00

for Cynthia Fogg

Quartet

for Viola, Cello and Digital Processor

Tom Flaherty

Adagio rubato

Musical notation for measures 1-7. The top staff is in 3/4 time with a treble clef and a key signature of one flat. It contains a series of half notes with a dynamic marking of *p* and a hairpin crescendo. The bottom staff is in 4/4 time with a bass clef and a key signature of one flat. It contains a series of quarter notes with a dynamic marking of *p*. Performance markings include *sonorous*, *pizz.*, and *sim.*

Musical notation for measures 8-14. The top staff continues with half notes and a hairpin crescendo. The bottom staff continues with quarter notes, featuring triplets in measures 10, 12, and 14.

Musical notation for measures 15-20. The top staff continues with half notes and a hairpin crescendo. The bottom staff continues with quarter notes, featuring triplets in measures 16, 18, and 20.

Musical notation for measures 21-26. The top staff continues with half notes and a hairpin crescendo. The bottom staff continues with quarter notes, featuring triplets in measures 22, 24, and 26. A *cresc.* marking is present in measure 24.

Musical notation for measures 27-32. The top staff continues with half notes and a hairpin crescendo. The bottom staff continues with quarter notes, featuring triplets in measures 28, 30, and 32. A *processed viola:* section begins in measure 27. The tempo changes to *tempo giusto* in measure 28. The dynamic marking is *f* and the performance marking is *arco*.

34 *sim.* *sempre f*

42 *sub. p* *cresc.* *f*

*

47

52 *pizz. like a waltz* *composite viola:* *mf* *sim.*

58

65 *sul tasto* *sub. pp* *norm.* *sub. pp*


* note: in m.42-52 and similar passages, viola and cello durations are meant to be identical (nearly a full 8th, minus the necessary retake for consecutive downbows.) The difference in notation is intended to visually clarify the rhythm.

Musical score for measures 71-73. The system consists of two staves. The upper staff is in treble clef with a key signature of one flat and a 3/4 time signature. It contains a melodic line with slurs and accents. The lower staff is in bass clef and contains a bass line with a fermata over the first measure. Measure numbers 71 and 72 are indicated. Roman numerals II and I are written below the bass staff.

Musical score for measures 74-77. The system consists of two staves. The upper staff continues the melodic line from the previous system. The lower staff has a rest for the first two measures, then enters with a bass line. Measure numbers 74, 75, 76, and 77 are indicated. The instruction *sempre pp* is written above the upper staff, and *pizz.* is written above the lower staff.

Musical score for measures 78-82. The system consists of two staves. The upper staff continues the melodic line. The lower staff continues the bass line. Measure numbers 78, 79, 80, 81, and 82 are indicated. The instruction *poco cresc.* is written above the upper staff.

Musical score for measures 83-90. The system consists of two staves. The upper staff continues the melodic line. The lower staff continues the bass line. Measure numbers 83, 84, 85, 86, 87, 88, 89, and 90 are indicated. The instruction *f arco* is written above the upper staff. A first ending bracket is shown below the lower staff, labeled with a circled 1 and *sub. p*.

processed viola: 

Musical score for measures 91-95. The system consists of two staves. The upper staff continues the melodic line. The lower staff continues the bass line. Measure numbers 91, 92, 93, 94, and 95 are indicated. The instruction *arco* is written above the upper staff. The instruction *sub. pp* is written above the lower staff. The instruction *mf* is written below the lower staff. A first ending bracket is shown above the upper staff, labeled with a circled V.

Musical score for measures 96-100. The system consists of two staves. The upper staff continues the melodic line. The lower staff continues the bass line. Measure numbers 96, 97, 98, 99, and 100 are indicated. The instruction *pizz.* is written above the lower staff.

100

107

cresc.

arco

114

mf

cresc.

118

f

ff

122

128

sub. pp

pizz.

pp

133

140

arco

147

f

152

f

156

160

Sua

164

f

I II

171

f

sub. pp

f

I II

178

pp

(pp)

184

cresc.

191

f

199

205 *ff*

211

217

222

229

rubato, freely meditative

p

in tempo, but slower (obscure the beat)

(poco)

232 *mf* *pp*

239 *p* *sim.*

composita
viola: 7 7

tempo giusto

246

254

262 *no dim.!*