Arte poética (I)

for 4-Channel Tape

Mirar el río hecho de tiempo y agua
Y recordar que el tiempo es otro río,
Saber que nos perdemos como el río
Y que los rostros pasan como el agua. (*)

Jorge Luis Borges
*(First Stanza from his poem "**Arte Poética**")*

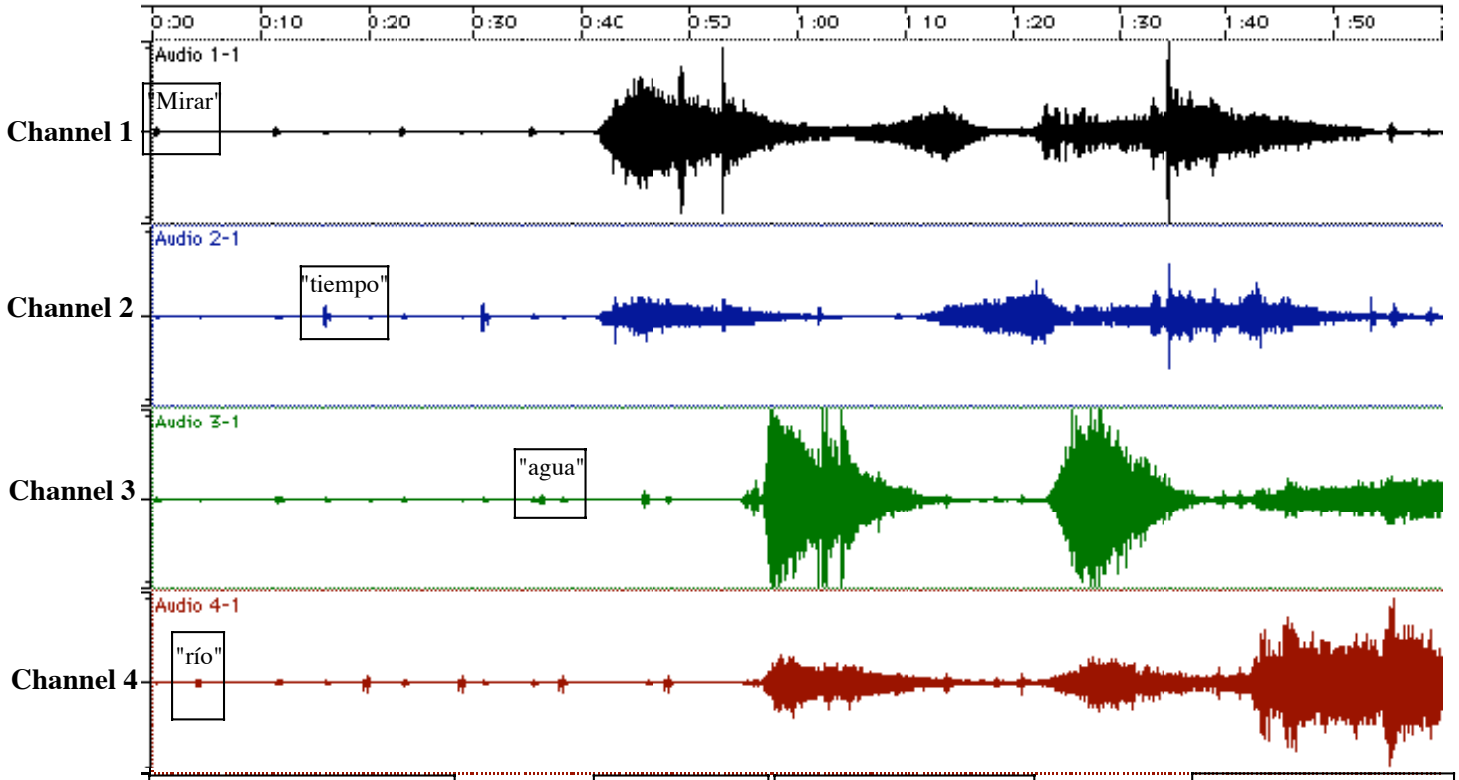
(*) "To look at the river made of time and water
remembering that the time is another river,
to know that we loose ourselves like the river
and that the faces flow like the water. "
(FREE TRANSLATION)

Waveforms

Arte Poética (I)

Waveforms Score

Javier A. Garavaglia (1995)



Merge "CompleteWords"
CommonMusic / Channels 1-4
00:00-08:09

"AM + FM (a)"
C-Sound file
Ch. 1 --> 2 (*)
00:40-01:12

"AM + FM (c)"
C-Sound file
Ch. 3 <-- 4 / 00:55-01:25

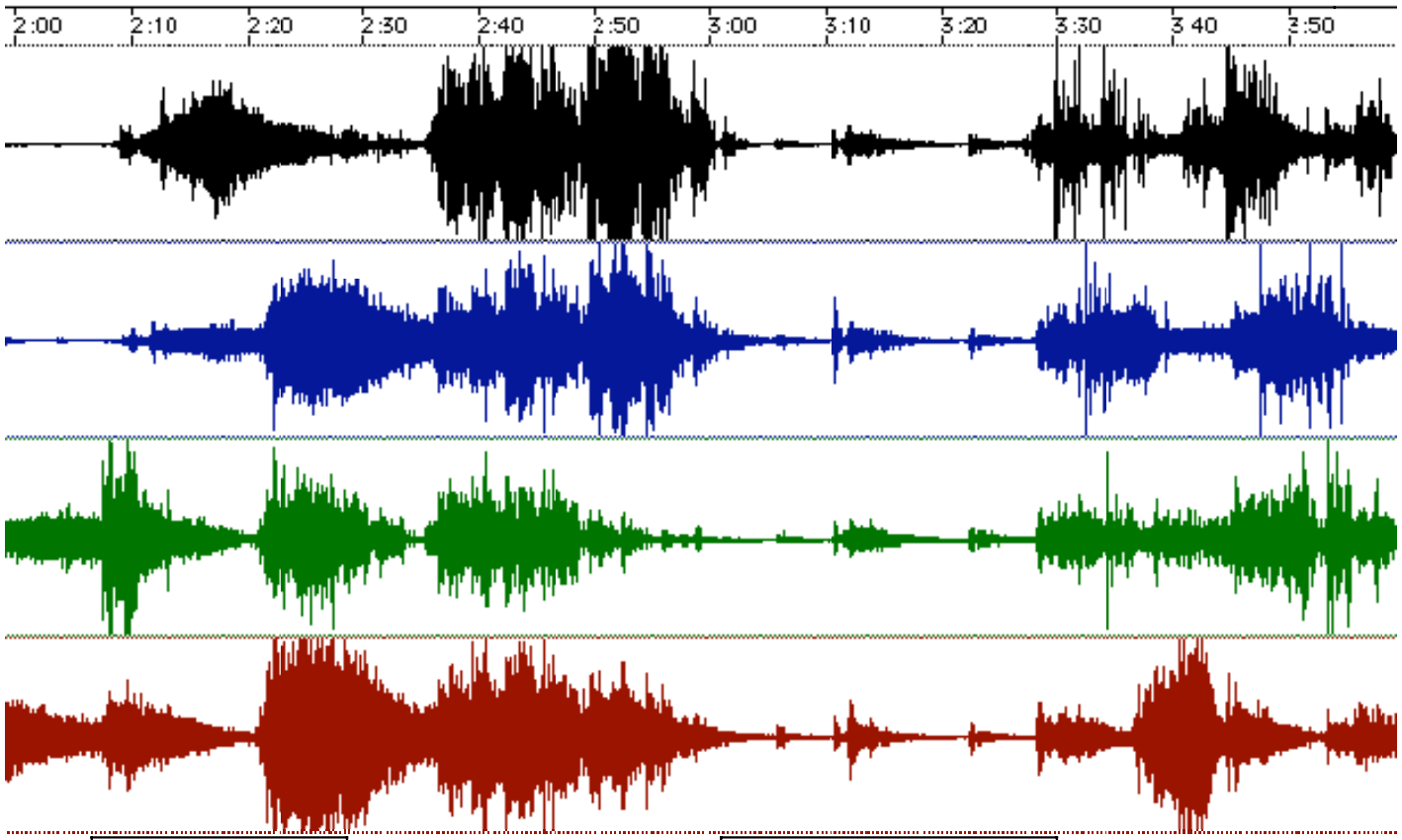
"Mirar + S&H" - C-Sound file
Ch. 1-->2 / 01:00-01:45

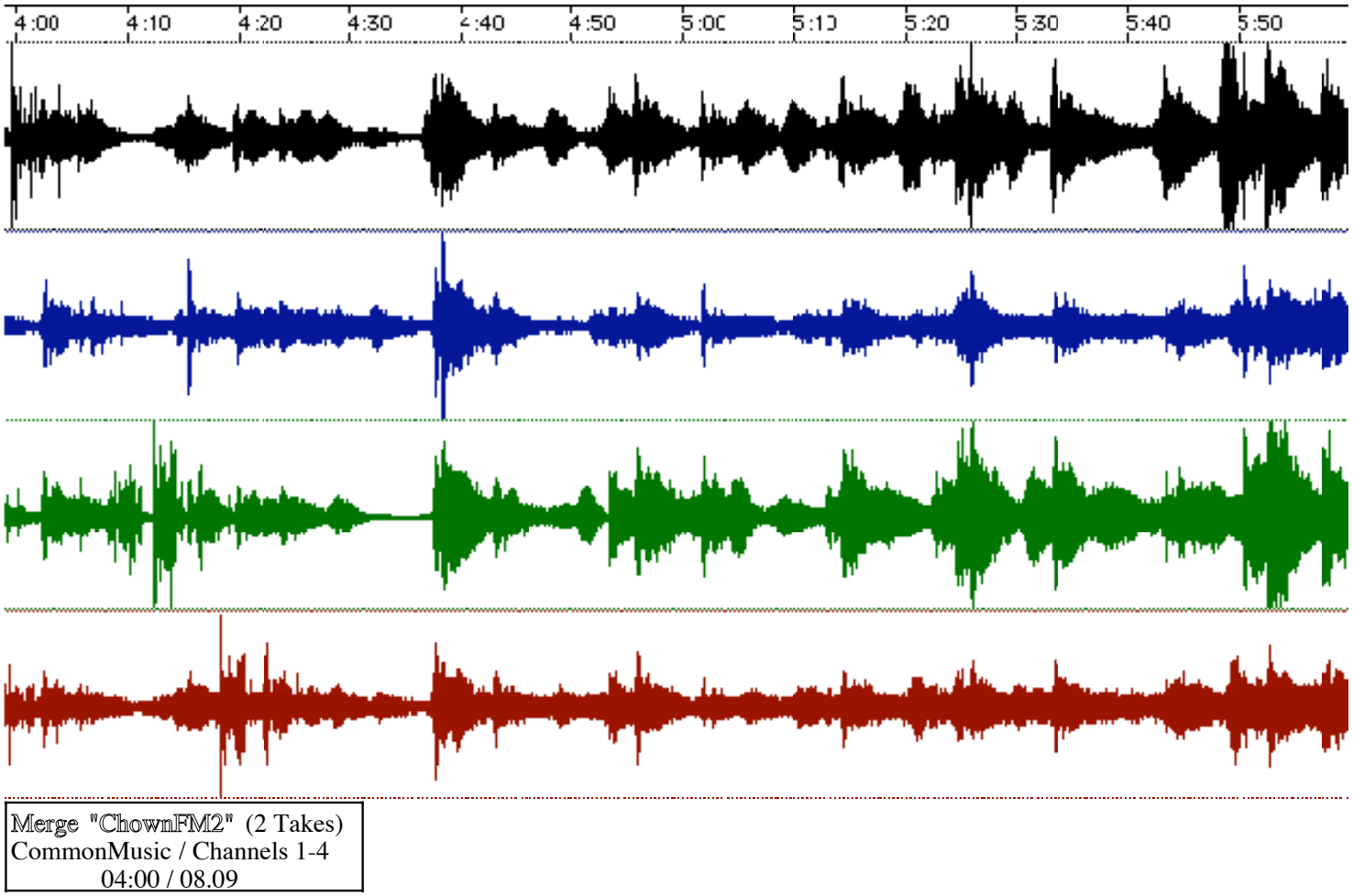
Merge "TruncatedWords"
CommonMusic / Channels 1-4 / 01:00-02:00

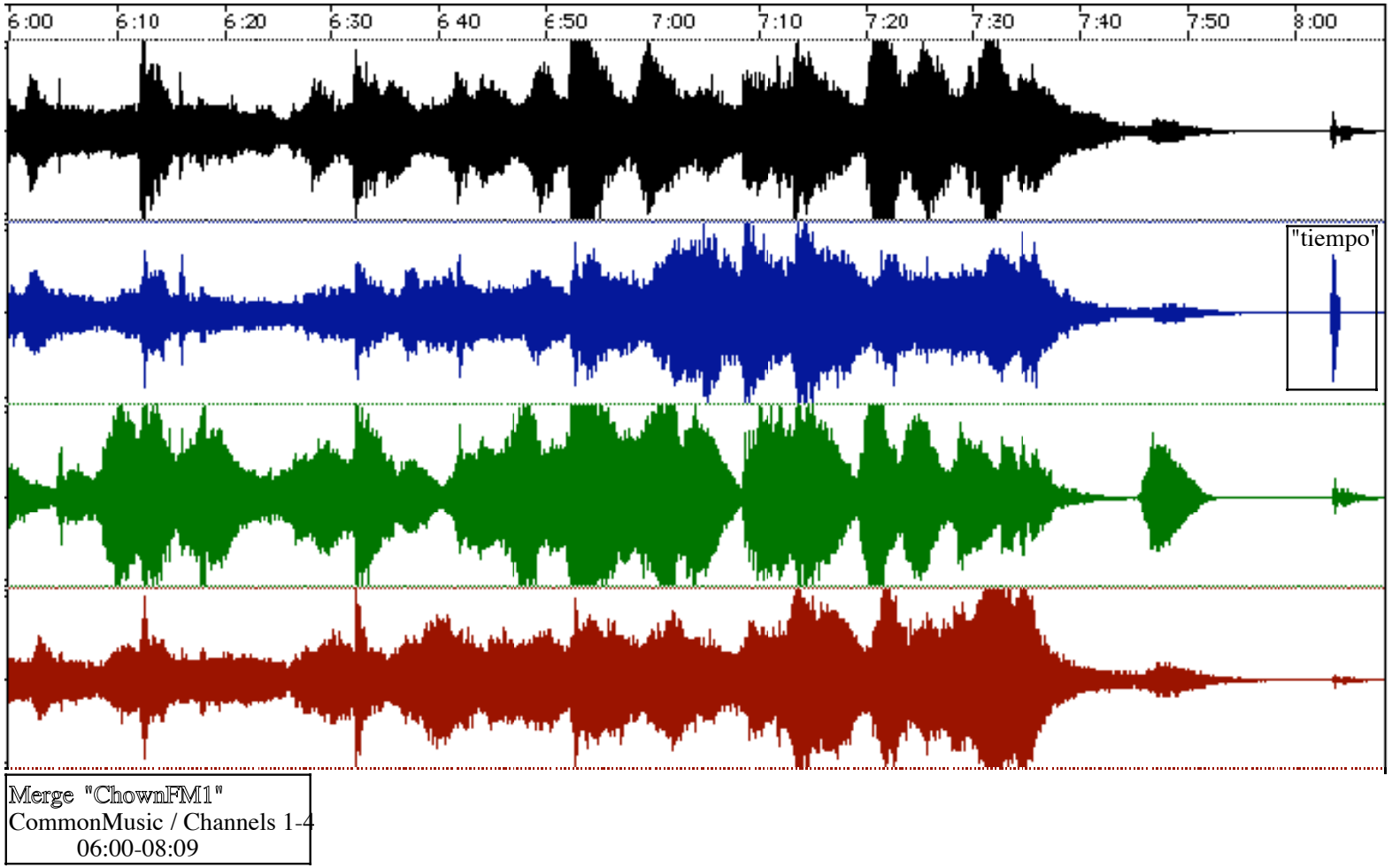
"y recordar + S&H"
C-Sound file
Ch.2 --> 4 / 01:35-02:04

"Saber + S&H"
C-Sound file
Ch. 3 <-- 4 / 01:50-02:13

(*) "Ch. 1 --> 2" *shows the Panorama direction.*

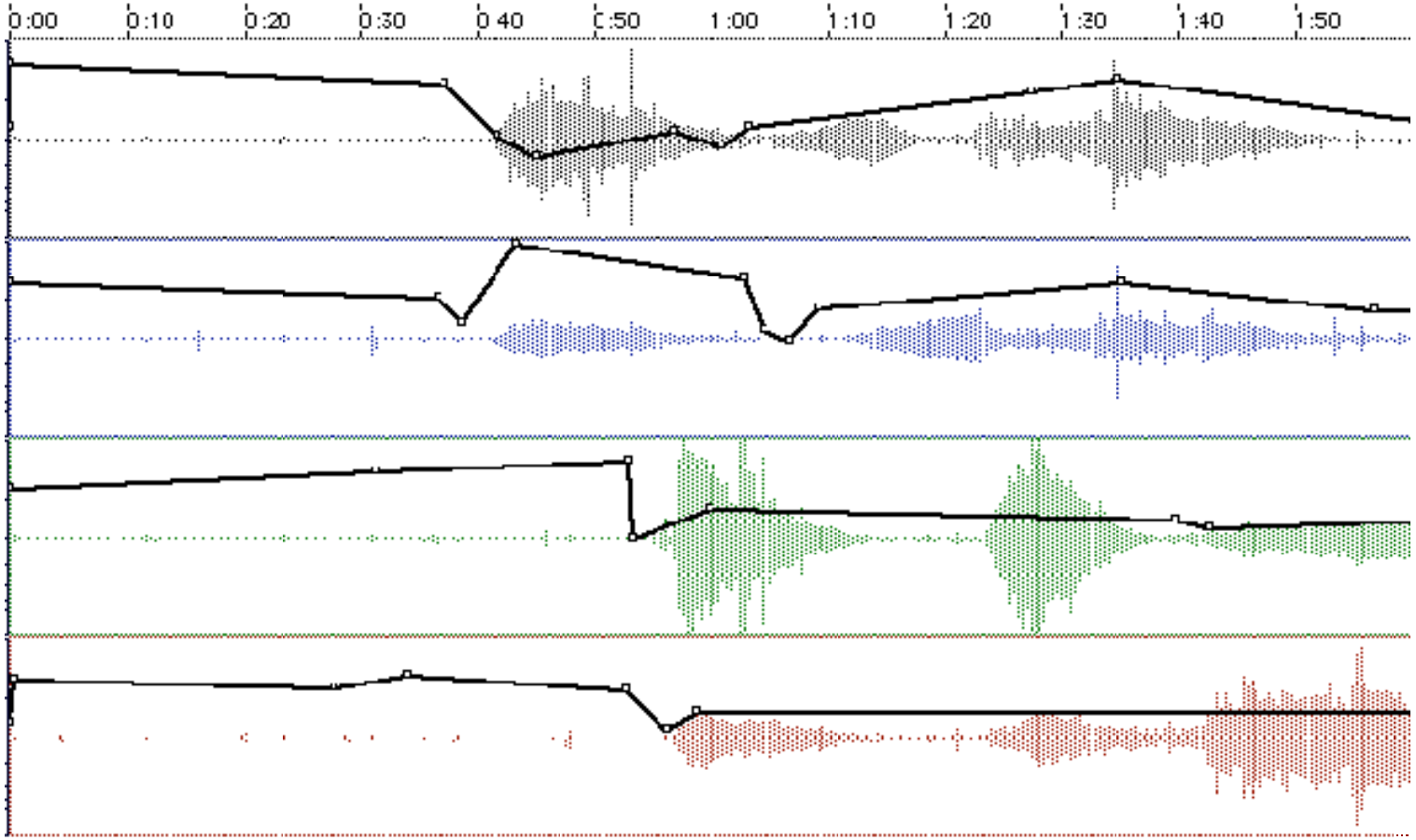

2:00
2:10
2:20
2:30
2:40
2:50
3:00
3:10
3:20
3:30
3 40
3:50
"y que los... + S&H"
C-Sound file
Ch. 1<--3 / 02:05-02:27
"AM + FM (b)"
C-Sound file
Ch. 1<-- 2 / 02:20-03:06
"FilArte 1" + "FilArte 2"
C-Sound files
Ch. 1-4 / 03:00-04:03
Merge "TruncatedWords"
CommonMusic / Channels 1-4
03:20-04:28

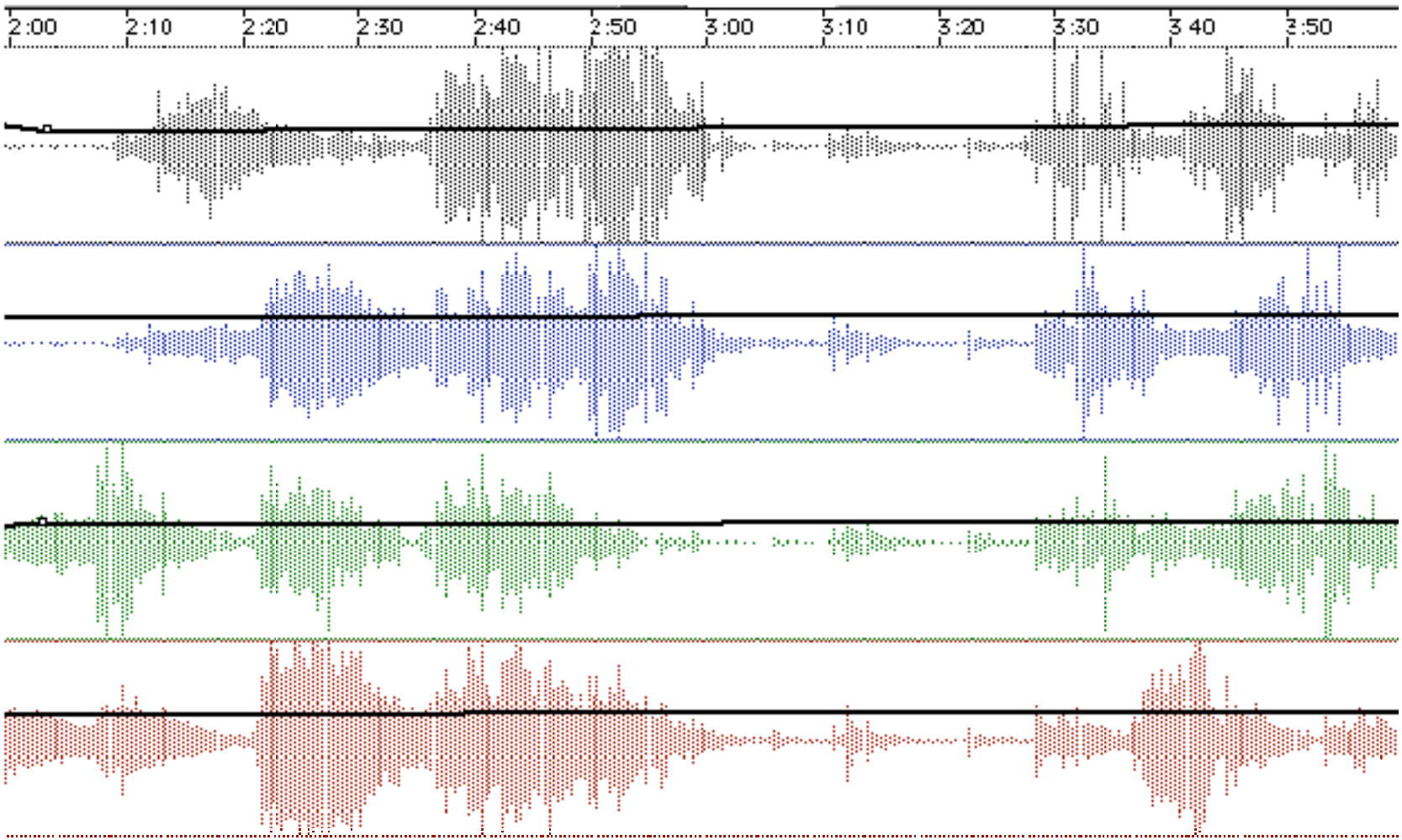

4:00
4:10
4:20
4:30
4:40
4:50
5:00
5:10
5:20
5:30
5:40
5:50
Merge "ChownFM2" (2 Takes)
CommonMusic / Channels 1-4
04:00 / 08.09

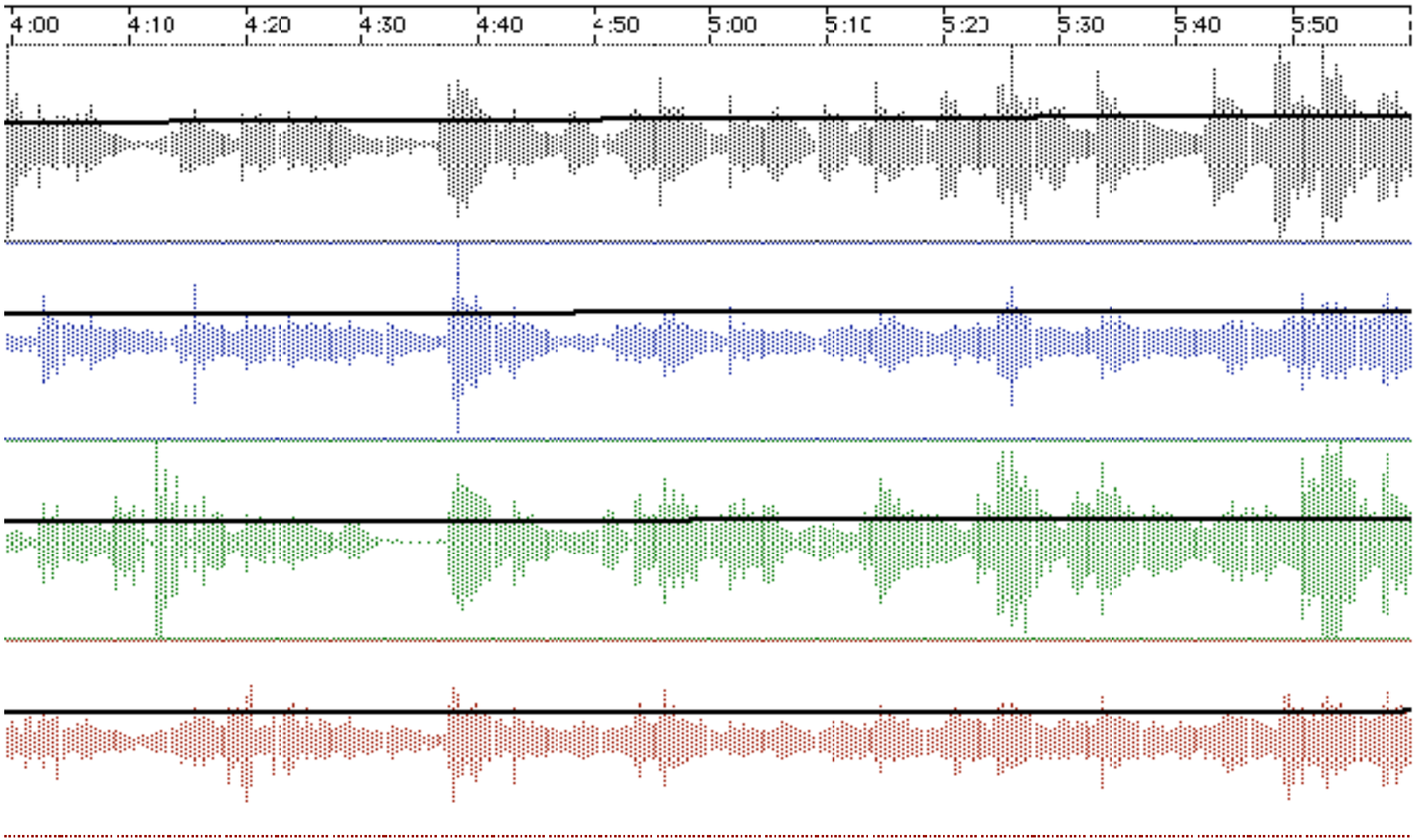

6:00
6:10
6:20
6:30
6 40
6:50
7:00
7:10
7:20
7:30
7:40
7:50
8:00
"tiempo"
Merge "ChownFM1"
CommonMusic / Channels 1-4
06:00-08:09

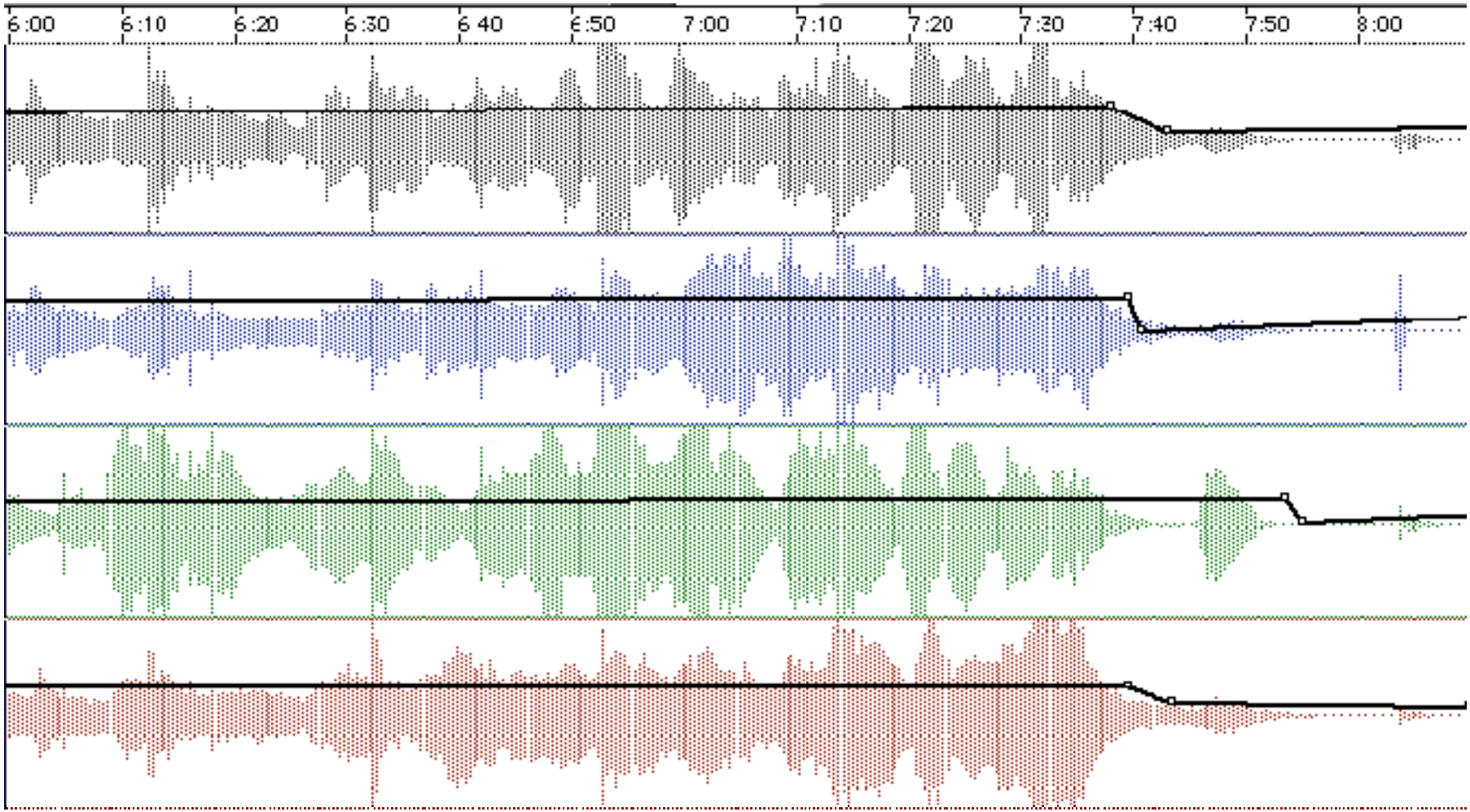
Arte Poética (I)

Waveforms Score with Volume graphic




2:00
2:10
2:20
2:30
2:40
2:50
3:00
3:10
3:20
3:30
3 40
2:50


4:00
4:10
4:20
4:30
4:40
4:50
5:00
5:10
5:20
5:30
5:40
5:50


6:00
6:10
6:20
6:30
6 40
6:50
7:00
7:10
7:20
7:30
7:40
7:50
8:00

C-Sound

and

CommonMusic Data

Arte Poética (I)

C-Sound orc. and sco. Files ("*Water Files* ")

1)

;;**AM+FM+STIMME(09a).orc**

```
        sr=44100
        kr=441
        ksmps=100
        nchnls=2


            instr 1

iamp          =    ampdb(p4)
iskiptime     =    p6
ifmamp        =    p7              ;% of total amp, 1 ist gleich db amp in p4
ifmrise       =    p8*p3           ;%of total dur, 1=entire dur of note
ifmdec        =    p9*p3           ;% of total duration
ifmoff        =    p3 - (ifmrise + ifmdec)


asig1         soundin  "1)Mirar el río (Trans).aiff", iskiptime;;Voice, transposed 3 Octaves down.
kamp          linseg   0,ifmrise,ifmamp,ifmdec,0,ifmoff,0
a1            =        asig1*kamp
```

```
kfm          linseg    0,ifmrise,ifmamp,ifmdec,0,ifmoff,0
kindex       line      .36,p3,3
kndx          =        kfm * kindex
kbalance     line      0,p3,1
afm0                   foscil  iamp, p5,.36,.57,kndx,1
afm1                   foscil  iamp, p5*1.003,1.003,2.003,kndx,1
amfm          =        kfm*(afm0 * afm1);; the 2 FM will be amplitude modulated with themselves

ainfmam       =        (a1*amfm) /18 ;;;AM from the 2 FM will amplitude modulated with the Voice


        outs   ainfmam * kbalance,ainfmam *(1 - kbalance)

endin
```

instr 2

```
iamp          =   ampdb(p4)/7
iskiptime     =   p6
ifmamp        =   p7              ;% of total amp, 1 ist gleich db amp in p4
ifmrise =   p8*p3          ;%of total dur, 1=entire dur of note
ifmdec =    p9*p3         ;% of total duration
ifmoff  =   p3 - (ifmrise + ifmdec)


asig2         soundin       "2)Y recordar (TRANS).aiff", iskiptime ;;Voice, transposed 3 Octaves down.
kamp          linseg        0,ifmrise,ifmamp,ifmdec,0,ifmoff,0
a2             =            asig2*kamp

kfm         linseg    0,ifmrise,ifmamp,ifmdec,0,ifmoff,0
```

```
kindex      line      .57,p3,4
kndx          =       kfm * kindex
kbalance    line      1,p3,0
afm0                  foscil  iamp, p5,.63,1.57,kndx,1
afm1                  foscil  iamp, p5*1.003,1.003,2.003,kndx,1
afm           =       kfm*(afm0 + afm1);; sume of the 2 FM

ainfmam         =       a2*afm;; Voice with sume of the 2 FM will amplitude modulated

        outs   ainfmam * kbalance,ainfmam *(1 - kbalance)
endin


;;AM+FM+STIMME(09a).sco

t0 60
f1 0 2048 10 7   ; sinus

;AM=(Stimme Transponiert)(+)(*) 2 FM.

;ins   Start     Dur     AMP   Pitch   Skiptime   fmamp   fmrise   ifmdec
i1       0       28.87   27.5   136       0          .6        .1         .9
i2      7.0      25.65   27.5    157      0          .6        .1         .9
e

**********
```

2)

;;AM+FM+STIMME(09c).orc

```
sr=44100
kr=441
ksmps=100
nchnls=2
```

instr 3

```
iamp            =    ampdb(p4)/7
iskiptime       =    p6
ifmamp          =    p7                ;% of total amp, 1 ist gleich db amp in p4
ifmrise         =    p8*p3             ;%of total dur, 1=entire dur of note
ifmdec          =    p9*p3             ;% of total duration
ifmoff          =    p3 - (ifmrise + ifmdec)


asig3           soundin  "3) Saber .. (TRANS) (aiff)", iskiptime
kamp            linseg   0,ifmrise,ifmamp,ifmdec,0,ifmoff,0
a3              =        asig3*kamp

kfm             linseg   0,ifmrise,ifmamp,ifmdec,0,ifmoff,0
kindex          line     .63,p3,7
kndx            =        kfm * kindex
kbalance        line     0,p3,1
afm0                     foscil  iamp, p5,1.75,2.75,kndx,1
afm1                     foscil  iamp, p5*1.003,1.003,2.003,kndx,1
afm             =        kfm*(afm0 * afm1)

ainfmam         =        a3*afm
```

```
                outs   ainfmam * kbalance,ainfmam *(1 - kbalance)
endin
```

instr 4

```
iamp            =    ampdb(p4)/7
iskiptime       =    p6
ifmamp          =    p7                ;% of total amp, 1 ist gleich db amp in p4
ifmrise         =    p8*p3             ;%of total dur, 1=entire dur of note
ifmdec          =    p9*p3             ;% of total duration
ifmoff          =    p3 - (ifmrise + ifmdec)


asig4           soundin  "4) Y que los (Trans).aiff", iskiptime
kamp            linseg   0,ifmrise,ifmamp,ifmdec,0,ifmoff,0
a4              =        asig4*kamp

kfm             linseg   0,ifmrise,ifmamp,ifmdec,0,ifmoff,0
kindex          line     1.57,p3,8
kndx            =        kfm *  kindex
kbalance        line     1,p3,0
afm0                     foscil  iamp, p5,3,4,kndx,1
afm1                     foscil  iamp, p5*1.003,1.003,2.003,kndx,1
afm             =        kfm*(afm0 + afm1)

ainfmam         =        a4*afm

outs   ainfmam * kbalance,ainfmam *(1 - kbalance)
endin
```

;;AM+FM+STIMME(09c).sco

```
t0 60
f1 0 2048 10 7              ; sinus

;AM=(Stimme Transponiert)*fm
;ins Start    Dur    AMP  Pitch  Skiptime   fmamp   ifmrise   ifmdec
i3     0      23.52   27.5  175      0         .7        .1         .9
i4    7.0     22.57   27.5  275      0         .7        .1         .9
e
```

****

3)

;;**1-MIRAR+SH.orc**

```
        sr=44100
        kr=441
        ksmps=100
        nchnls=2

;;Sample&Holds
```

instr 1

```
iamp            =   ampdb(p4)*4
iskiptime       =   p6
ifmamp          =   p7              ;% of total amp, 1 ist gleich db amp in p4
ifmrise =   p8*p3           ;%of total dur, 1=entire dur of note
```

```
ifmdec =    p9*p3          ;% of total duration
ifmoff  =   p3 - (ifmrise + ifmdec)
irvbgain        =    p11


asig2       soundin  "1)Mirar el río (Trans).aiff", iskiptime;;Voice, transposed 3 Octaves down (1st Verse)
kamp        linseg    0,ifmrise,ifmamp,ifmdec,0,ifmoff,0
a2          =         asig2*kamp



ascr            buzz        30000,400,10,int(4)
adiff           diff        ascr
anew            balance     adiff,ascr
agate           reson       a2,400,175;; Voice used as GATE for the S&H
asamp  samphold   anew,agate
ash             tone        asamp,1000

kbalance    line        0,p3,1
kfm0        linseg      0,p3/2,p4*1.75,p3,p4
a3          oscil       kfm0, (p5*1.36)+ash,int(4)
ash         =           a3+a2 ;; Sume of the S&H and the Voice

        outs   ash * kbalance,ash*(1-kbalance)
            ;garvbsig =garvbsig + ash*irvbgain
endin

;;1-MIRAR+SH.sco

t0 60
```

```
f1 0 2048 10 3 .5 .3 .25 .2 .167 .14 .125 .111; Sawtooth
f2 0 2048 10 7;Sinus
f3 0 2048 10 4 0 .3 0 .2 0 .14 0 .111; Square
f4 0 2048 10 8 1 1 1 .7 .5 .3 .1;Pulse


;ins  Start    Dur     AMP    Pitch   Skiptime   fmamp   ifmrise   ifmdec  rvbgain
i1       0     29.00    70      100        0          .4        .2          .9        .2
e
```

****

4)

;;**2-Y RECORDAR+SH.orc**

```
        sr=44100
        kr=441
        ksmps=100
        nchnls=2
```

;;S&H

instr 1

```
iamp            =   ampdb(p4)*4
iskiptime       =   p6
ifmamp          =   p7              ;% of total amp, 1 ist gleich db amp in p4
ifmrise         =   p8*p3           ;%of total dur, 1=entire dur of note
ifmdec          =   p9*p3          ;% of total duration
```

```
ifmoff =    p3 - (ifmrise + ifmdec)
irvbgain        =    p11


asig2          soundin  "2)Y recordar (TRANS).aiff", iskiptime;;Voice, transposed 3 Octaves down (2nd Verse)
kamp           linseg       0,ifmrise,ifmamp,ifmdec,0,ifmoff,0
a2             =            asig2*kamp



ascr       buzz             30000,400,10,int(4)
adiff      diff             ascr
anew       balance          adiff,ascr
agate      reson            a2,400,275;;Voice used as GATE for the S&H
asamp      samphold         anew,agate
ash        tone             asamp,1000

kbalance       line         0,p3,1
kfm0           linseg       0,p3/2,p4*2.75,p3,p4
a3             oscil        kfm0, (p5*1.57)+ash,int(4)
ash            =            a3+a2 ;;Sume of the S&H and the Voice

                    outs    ash * kbalance,ash*(1-kbalance)
                ;garvbsig =garvbsig + ash*irvbgain
endin
```

;;**2-Y RECORDAR+SH.sco**

```
t0 60
f1 0 2048 10 3 .5 .3 .25 .2 .167 .14 .125 .111; Sawtooth
f2 0 2048 10 7;Sinus
f3 0 2048 10 4 0 .3 0 .2 0 .14 0 .111; Square
f4 0 2048 10 8 1 1 1 .7 .5 .3 .1;Pulse


;ins Start    Dur     AMP    Pitch   Skiptime   fmamp   ifmrise   ifmdec  rvbgain
i1     0      27.00    70     100        0          .4        .2         .9        .2
e
```

****

5)

;;**3- SABER+SH.orc**

```
        sr=44100
        kr=441
```

```
ksmps=100
nchnls=2


;;S&H
```

instr 1

```
iamp            =   ampdb(p4)*4
iskiptime       =   p6
ifmamp          =   p7              ;% of total amp, 1 ist gleich db amp in p4
ifmrise         =   p8*p3           ;%of total dur, 1=entire dur of note
ifmdec =    p9*p3           ;% of total duration
ifmoff  =   p3 - (ifmrise + ifmdec)
irvbgain        =   p11


asig2           soundin  "3) Saber .. (TRANS) (aiff)", iskiptime ;;Voice, transposed 3 Octaves down (3rd Verse)
kamp            linseg     0,ifmrise,ifmamp,ifmdec,0,ifmoff,0
a2              =           asig2*kamp



ascr            buzz        30000,400,10,int(4)
adiff           diff        ascr
anew            balance     adiff,ascr
agate           reson       a2,400,300 ;;Voice used as GATE for the S&H
asamp  samphold   anew,agate
ash             tone        asamp,1000
```

```
kbalance      line        0,p3,1
kfm0          linseg      0,p3/2,p4*3,p3,p4
a3            oscil       kfm0, (p5*1.63)+ash,int(4)
ash           =           a3+a2;;Sume of the S&H and the Voice

          outs   ash * kbalance,ash*(1-kbalance)
endin
```

;;**3- SABER+SH.sco**

```
t0 60
f1 0 2048 10 3 .5 .3 .25 .2 .167 .14 .125 .111; Sawtooth
f2 0 2048 10 7;Sinus
f3 0 2048 10 4 0 .3 0 .2 0 .14 0 .111; Square
f4 0 2048 10 8 1 1 1 .7 .5 .3 .1;Pulse


;ins   Start    Dur     AMP     Pitch   Skiptime   fmamp   ifmrise    ifmdec  rvbgain
i1       0      24.00    70       100        0         .4        .2          .9        .2
e
```

****

6)

;;**4-Y QUE LOS+SH.orc**

```
          sr=44100
          kr=441
          ksmps=100
```

```
        nchnls=2

;;S&H
```
instr 1

```
iamp            =   ampdb(p4)*4
iskiptime       =   p6
ifmamp          =   p7              ;% of total amp, 1 ist gleich db amp in p4
ifmrise =   p8*p3           ;%of total dur, 1=entire dur of note
ifmdec =    p9*p3           ;% of total duration
ifmoff          =   p3 - (ifmrise + ifmdec)
irvbgain        =   p11


asig2           soundin         "4) Y que los (Trans).aiff", iskiptime ;;Voice, transposed 3 Octaves down (4th Verse)
kamp            linseg   0,ifmrise,ifmamp,ifmdec,0,ifmoff,0
a2              =          asig2*kamp



ascr            buzz         30000,400,10,int(4)
adiff           diff         ascr
anew            balance      adiff,ascr
agate           reson        a2,400,400 ;;Voice used as GATE for the S&H
asamp  samphold   anew,agate
ash             tone         asamp,1000

kbalance     line         0,p3,1
kfm0         linseg       0,p3/2,p4*4,p3,p4
a3           oscil        kfm0, (p5*2.57)+ash,int(4)
```

```
ash          =         a3+a2;;Sume of the S&H and the Voice

          outs   ash * kbalance,ash*(1-kbalance)
              ;garvbsig =garvbsig + ash*irvbgain
endin
```

;;**4-Y QUE LOS+SH.sco**

```
t0 60
f1 0 2048 10 3 .5 .3 .25 .2 .167 .14 .125 .111; Sawtooth
f2 0 2048 10 7;Sinus
f3 0 2048 10 4 0 .3 0 .2 0 .14 0 .111; Square
f4 0 2048 10 8 1 1 1 .7 .5 .3 .1;Pulse


;ins   Start     Dur      AMP     Pitch   Skiptime   fmamp   ifmrise    ifmdec  rvbgain
i1       0       23.00     70      100         0          .4         .2          .9         .2
e
```

****

7)

;;**AM+FM+STIMME(09b).orc**

```
          sr=44100
          kr=441
          ksmps=100
          nchnls=2
```

instr 5

```
iamp            =    ampdb(p4)/11
iskiptime       =    p6
ifmamp          =    p7              ;% of total amp, 1 ist gleich db amp in p4
ifmrise         =    p8*p3           ;%of total dur, 1=entire dur of note
ifmdec          =    p9*p3          ;% of total duration
ibalance        =    p10            ; 1=left-0=right
index           =   p11
ifmoff          =    p3 - (ifmrise + ifmdec)

asig5        soundin  "ARTE POET 1-EST.AIFF", iskiptime;; Whole first Stanza in original Pitch

kamp         linseg   0,ifmrise,ifmamp,ifmdec,0,ifmoff,0
a5           =        asig5*kamp

kfm          linseg      0,ifmrise,ifmamp,ifmdec,0,ifmoff,0
kndx           =       kfm * index
kfreqfm      line       p5,p3,p5*1.36
afm0         foscil     iamp, kfreqfm,1,1,kndx,1
afm1         foscil     iamp, kfreqfm*1.003,1.003,2.003,kndx,1
afm            =        kfm*(afm0 + afm1)
ainfm          =        a5*afm;; Whole first Stanza will amplitude modulated with 2 FM.

        outs   ainfm * ibalance,ainfm *(1 - ibalance)
endin
```

;;**AM+FM+STIMME(09b).sco**

```
t0 60
f1 0 2048 10 7              ; sinus

;2 FM + 1. Strophe komplett (Gesamtdauer = 42.56 Sek.)

;ins Start    Dur   AMP  Pitch  Skiptime  fmamp  ifmrise  ifmdec  ibalance  index(FM)
i5     0     14.18   30   40       0        .7      .1      .99      .01       4
i5    .36    14.18    >   70       0        .7      .1      .99       >          >
i5    .57    14.18    >   80       0        .7      .1      .99       >          >
i5    .63    14.18    >  110       0        .7      .1      .99       >          >
i5   1.57    14.18    >  120       0        .7      .1      .99       >          >
i5   1.75    14.18    >  140       0        .7      .1      .99       >          >
i5   2.75    14.18    >  150       0        .7      .1      .99       >          >
i5   3.00    14.18    >  160       0        .7      .1      .99       >          >
i5   4.00    14.18    >  180       0        .7      .1      .99       >          >
i5   7.00    14.18    >  210       0        .7      .1      .99       >          >
i5   8.00    14.18    >  220       0        .7      .1      .99       >          >
i5  11.00    14.18    >  280       0        .7      .1      .99       >          >
i5  12.00    14.18    >  300       0        .7      .1      .99       >          >
i5  14.00    14.18    >  330       0        .7      .1      .99       >          >
i5  15.00    14.18    >  360       0        .7      .1      .99       >          >
i5  16.00    14.18    >  440       0        .7      .1      .99       >          >
i5  18.00    14.18    >  450       0        .7      .1      .99       >          >
i5  21.00    14.18    >  490       0        .7      .1      .99       >          >
i5  22.00    14.18    >  540       0        .7      .1      .99       >          >
i5  28.00    14.18    >  660       0        .7      .1      .99       >          >
i5  30.00    14.18   33  770       0        .7      .1      .99      .99        15
e

**********************
```

8)

;;FiltARTE1.orc
sr = 44100
kr = 441
ksmps = 100
nchnls = 2

instr 1

```
  iamp          =    (ampdb(p4)) - 3
  ifreqstart    =    p5  ; Ausgang Freq. für Filter
  ifreqend      =    p6  ; Ende Freq. für Filter
  ibandwidth    =    p7  ; Bandbreite des Filters
  iskiptime     =    p8
  ifmrise       =    p9*p3          ;%of total dur, 1=entire dur of note
  ifmdec        =    p10*p3           ;% of total duration
  iamp1         =    p11              ;% of total amp, 1 ist gleich db amp in p4  für FM
  ifmoff        =    p3 - (ifmrise + ifmdec)


kfiltfreq         line       p5, p3, p6
kbandwidth    linseg     p7,p3,p7*1.5
kbalanceleft  linseg     0,7,0.25,7,0.50,8,0.8
kbalanceright linseg     0.8,7,0.50,7,0.25,8,0
```

;AM between 2 Signals with the voice, then filtered

```
asig1           soundin    "ARTE POET 1-EST.AIFF", iskiptime
asig1filt       =                asig1/40; wenig Pegel, um die Filter und AM  nicht zu übersteuern
aamasig1        =          (asig1filt * asig1filt)/1.6 ; AM1
afilt           reson       aamasig1,kfiltfreq, kbandwidth
asigamfilt      =          afilt

;Chowning FM (TWICE)

ktabelle        randh      int(100),p3,0
kfreqfm1        line        300,p3,400
kfreqfm2                                line        300,p3,275
kampfm          linseg     0,ifmrise,iamp1,ifmdec,0,ifmoff,0
kindex          line       0,p3,7
kndx              =        kampfm * kindex

afm0            foscil     p4*7, kfreqfm1 ,ktabelle,ktabelle,kndx,1
afm1            foscil     p4*7, kfreqfm2,1,3,kndx,1
afm               =        kampfm* (afm0 + afm1);
afmamfilt         =        (afm * asigamfilt)/77        ;; filtered AM1 *(FM1+FM2) =AM2


          outs             afmamfilt * kbalanceleft, afmamfilt * kbalanceright

endin
```

;;FiltARTE1.sco

```
t0 60
```

f1 0 2048 10 7 ;Sine wave

; ins strt dur amp startfr endfr bdw skptm fmrise fmdec fmamp
  i10 0 15.0 7 7000 8000 210 0 .15 1 .9
e
; The voice will be amplitude modulated with itself then it will be filtered by RESON (dynamically), then 2 FM
; will be produced and added. Output: the FMs will be multiplied with the filtered amplitude modulated voice (AM between
; AMfilt and the 2 FMs)

****

9)

;;FiltARTE2.orc

sr = 44100
kr = 441
ksmps = 100
nchnls = 2

garvbsig init 0

instr 1

```
  iamp          =    (ampdb(p4)) - 3
  ifreqstart    =   p5  ; Ausgang Freq. für Filter
  ifreqend      =    p6  ; Ende Freq. für Filter
  ibandwidth    =   p7  ; Bandbreite des Filters
```

```
  irvbgain      =   p8
  iskiptime     =   p9
  ifmrise       =   p10*p3          ;%of total dur, 1=entire dur of note
  ifmdec        =   p11*p3          ;% of total duration
  iamp1         =   p12             ;% of total amp, 1 ist gleich db amp in p4  für FM
  ifmoff        =   p3 - (ifmrise + ifmdec)


kfiltfreq       line      p5, p3, p6
kbandwidth      linseg    p7,p3,p7*1.5
kbalanceleft    linseg    0,7,0.25,7,0.50,8,0.8
kbalanceright   linseg    0.8,7,0.50,7,0.25,8,0

;AM between 2 Signals with  human voice, then filtered


asig1           soundin   "ARTE POET 1-EST.AIFF", iskiptime
asig1filt       =         asig1/40;wenig Pegel, um die Filter und AM  nicht zu übersteuern
aamasig1        =         (asig1filt * asig1filt)/1.6 ; AM1
afilt           reson     aamasig1,kfiltfreq, kbandwidth
asigamfilt      =         afilt

;Chowning FM (TWICE)

ktabelle        randh     int(100),p3,0
kfreqfm1        line      300,p3,400
kfreqfm2                                line      300,p3,275
kampfm          linseg    0,ifmrise,iamp1,ifmdec,0,ifmoff,0
kindex          line      0,p3,7
kndx            =         kampfm * kindex
```

```
afm0            foscil    p4*7, kfreqfm1 ,ktabelle,ktabelle,kndx,1
afm1            foscil    p4*7, kfreqfm2,1,3,kndx,1
afm               =        kampfm* (afm0 + afm1);
afmamfilt         =        (afm * asigamfilt)/77        ;; filtered AM1 *(FM1+FM2) =AM2


          outs             afmamfilt * kbalanceleft, afmamfilt * kbalanceright

  garvbsig      =         garvbsig + afmamfilt * p8
endin
```

instr 100

```
 krvbtime   line   .36,p3-8,7

asig0           reverb     garvbsig, krvbtime
kbalanceleft    linseg     0,7,0.25,7,0.50,8,0.8
kbalanceright   linseg     1,7,0.50,7,0.25,8,0
        outs    asig0 * kbalanceleft , asig0 * kbalanceright
  garvbsig      =         0
endin
```

;;FilARTE2.sco

```
t0 60
f1 0 2048 10 7  ;Sine wave

; ins     strt      dur
i100       0         22
```

```
; ins     strt      dur     amp      startfr     endfr        bdw   rvsnd   skptm    fmrise  fmdec   fmamp
  i10      0        15.0    7        7000        8000         210    .1        0       .15       1        .9
e
; The voice will be amplitude modulated with itself then it wil be filtered by RESON (dynamically) then 2 FM  will be produced and added.
; Output: the FMs will be multiplied with the filtered amplitude modulated voice (AM between AMfilt and  the 2 FMs)
```

****

C-Sound orc. and sco. Files ("*Time Files* ")
Chowning FM Samples for the "TIEMPO"-SAMPLES

;;**TiempoSample 1 - Orchestralfile**

```
sr=44100
kr=441
ksmps=100
nchnls=1

instr  1

iamp            =    ampdb(p4)
iskiptime       =    p6
ifmamp          =    p7              ;% of total amp, 1 ist gleich db amp in p4
ifmrise =    p8*p3           ;%of total dur, 1=entire dur of note
ifmdec =    p9*p3          ;% of total duration
ifmoff  =    p3 - (ifmrise + ifmdec)
```

```
kfreqfm         line        30,p3,33
kampfm          linseg      0,ifmrise, ifmamp, ifmdec, 0, ifmoff, 0
kindex line      0,p3,15
kndx            =           kampfm * kindex
ktabelle1       randh       ( int(200)),p3,0


afm0              foscil     iamp, kfreqfm , ktabelle1, ktabelle1+1, kndx,1
afm1              foscil     iamp, kfreqfm*1.001, 1.001, 2.001,kndx,1
afm                 =        kampfm*(afm0 + afm1)

                  out        afm
endin
```

;;**TiempoSample 1 - Scorefile**

```
t0 60
f1 0 2048 10 7                                      ; Sine
f2 0 2048 10 1 .5 .3 .25 .2 .167 .14 .125 .111      ; Sawtooth
f3 0 2048 10 1 0 .3 0 .2 0 .14 0 .111          ; Square
f4 0 2048 10 1 1 1 1 .7 .5 .3 .1                    ;Pulse
```

;AM

```
;ins Start     Dur    AMP  Pitch  Skiptime   fmamp   ifmrise    ifmdec
i1     0       7.0     80      0          0          .6         .2          .9

e
```

;;**TiempoSample 2 - Orchestralfile**

```
sr=44100
kr=441
ksmps=100
nchnls=1

instr 1

iamp            =   ampdb(p4)
iskiptime       =   p6
ifmamp          =   p7              ;% of total amp, 1 ist gleich db amp in p4
ifmrise         =   p8*p3           ;%of total dur, 1=entire dur of note
ifmdec          =   p9*p3          ;% of total duration
ifmoff  =   p3 - (ifmrise + ifmdec)

ktabelle                randh    (100 + int(100)), p3, 0
kfreqfmcr               line      157,p3,175
;kfreqfmmd              line      275,p3,300
kfreqfmmd               line       57,p3,36
kampfm                  linseg    0, ifmrise, ifmamp, ifmdec, 0, ifmoff, 0
kindex          line      4,p3,11
kndx                    =       kampfm * kindex
ktabelle                randh    int (100),p3,0
kbalance                line      0,p3,1

afm0            foscil    iamp, kfreqfmcr, ktabelle-100, ktabelle-100, kndx,1
afm1            foscil    iamp, kfreqfmmd*1.004, 1.004, 2.004, kndx, 1
afm               =       kampfm* (afm0 + afm1)
kbalance          line      0,p3,1
```

```
ainam                   =       afm
                    out         ainam
endin
```

;;**TiempoSample 2 - Scorefile**

```
t0 60
f1 0 2048 10 7                                  ; Sine
f2 0 2048 10 1 .5 .3 .25 .2 .167 .14 .125 .111  ; Sawtooth
f3 0 2048 10 1 0 .3 0 .2 0 .14 0 .111           ; Square
f4 0 2048 10 1 1 1 1 .7 .5 .3 .1                 ;Pulse
```

;AM

```
;ins Start     Dur    AMP  Pitch  Skiptime   fmamp   ifmrise    ifmdec
i1      0       7.0     80      0          0          .6          .2          .9

e
```

;;**TiempoSample 3 - Orchestralfile**

```
sr=44100
kr=441
ksmps=100
nchnls=1

instr  1
```

```
iamp        =   ampdb(p4)
iskiptime   =   p6
ifmamp      =   p7              ;% of total amp, 1 ist gleich db amp in p4
ifmrise     =   p8*p3           ;%of total dur, 1=entire dur of note
ifmdec      =   p9*p3          ;% of total duration
ifmoff      =   p3 - (ifmrise + ifmdec)


kfreqfm      line        66,p3,77
kampfm       linseg    0,ifmrise,ifmamp,ifmdec,0,ifmoff,0
kindex       line      0,p3,16
kndx          =        kampfm * kindex
ktabelle1    randh   ( int (360)),p3,0


afm0          foscil    iamp, kfreqfm , ktabelle1, ktabelle1+1, kndx,1
afm1          foscil    iamp, kfreqfm*1.001,1 .001, 2.001,kndx,1
afm             =        kampfm*( afm0 + afm1)

              out       afm
endin
```

;;**TiempoSample 3 - Scorefile**

```
t0 60
f1 0 2048 10 7                                      ; Sine
f2 0 2048 10 1 .5 .3 .25 .2 .167 .14 .125 .111      ; Sawtooth
f3 0 2048 10 1 0 .3 0 .2 0 .14 0 .111          ; Square
f4 0 2048 10 1 1 1 1 .7 .5 .3 .1                    ;Pulse
```

;AM

```
;ins Start     Dur    AMP  Pitch  Skiptime   fmamp   ifmrise    ifmdec
i1     0       7.0     80      0          0          .6         .2          .9

e
```

;;**TiempoSample 4 - Orchestralfile**

```
sr=44100
kr=441
ksmps=100
nchnls=1


instr  1

iamp            =    ampdb(p4)
iskiptime       =    p6
ifmamp          =    p7                ;% of total amp, 1 ist gleich db amp in p4
ifmrise         =    p8*p3             ;%of total dur, 1=entire dur of note
ifmdec          =    p9*p3          ;% of total duration
ifmoff          =    p3 - (ifmrise + ifmdec)


kfreqfm                 line          490,p3,450
kampfm                  linseg     0,ifmrise,ifmamp,ifmdec,0,ifmoff,0
kindex                  line       0,p3,18
kndx                      =        kampfm * kindex
```

```
ktabelle1                  randh   ( int(36)),p3,100


afm0              foscil    iamp, kfreqfm , ktabelle1+1, int(3), kndx, 1
afm1              foscil    iamp, kfreqfm*1.001, 1.001, 2.001, kndx,1
afm                  =        kampfm*(afm0 + afm1)
          out       afm
endin
```

;;**TiempoSample 4 - Scorefile**

```
t0 60
f1 0 2048 10 7                                          ; Sine
f2 0 2048 10 1 .5 .3 .25 .2 .167 .14 .125 .111     ; Sawtooth
f3 0 2048 10 1 0 .3 0 .2 0 .14 0 .111          ; Square
f4 0 2048 10 1 1 1 1 .7 .5 .3 .1                    ;Pulse
```

;AM

```
;ins Start     Dur    AMP  Pitch  Skiptime   fmamp   ifmrise    ifmdec
i1     0        7.0     80      0          0          .6         .2          .9

e
```

;;**TiempoSample 5 - Orchestralfile**

```
sr=44100
kr=441
```

```
ksmps=100
nchnls=2
garvbsig   init 0

instr  1

iamp            =    ampdb(p4)
iskiptime       =    p6
ifmamp          =    p7                ;% of total amp, 1 ist gleich db amp in p4
ifmrise         =    p8*p3             ;%of total dur, 1=entire dur of note
ifmdec          =    p9*p3            ;% of total duration
irvbgain        =    p10
ifmoff          =    p3 - (ifmrise + ifmdec)

ktabelle          randh     (100 + int(100)),p3,0
kfreqfmcr         line       57,p3,63
kfreqfmmd         line       63,p3,36
kampfm            linseg     0,ifmrise,ifmamp,ifmdec,0,ifmoff,0
kindex            line       4,p3,11
kndx                 =        kampfm * kindex
kbalance          line        0,p3,1

afm0              foscil     iamp, kfreqfmcr , ktabelle-100, ktabelle-100, kndx,int(4)
afm1              foscil     iamp, kfreqfmmd*1.002, 1.002, 2.002, kndx, int(4)
afm                  =        kampfm*(afm0 + afm1)

outs        afm * kbalance, afm *(1 - kbalance)

garvbsig= garvbsig+afm*p10
endin
```

instr 2

```
krvbtime    line     .36,p3,15
asig        reverb       garvbsig,krvbtime
        outs    asig,asig
garvbsig=0

endin
```

;;**TiempoSample 5 - Scorefile**

```
t0 60
f1 0 2048 10 9                                  ; Sine
f2 0 2048 10 1 .5 .3 .25 .2 .167 .14 .125 .111  ; Sawtooth
f3 0 2048 10 1 0 .3 0 .2 0 .14 0 .111       ; Square
f4 0 2048 10 1 1 1 1 .7 .5 .3 .1                ;Pulse

;AM
;ins Start     Dur     AMP  Pitch  Skiptime   fmamp   ifmrise    ifmdec  irvbgain
i1     0        4.0     80      0          0          .6         .2          .9       .5
i2     0       15.0
e
```

****

Arte Poética (I)
CommonMusic Algorithms

1)

(**Merge** CompleteWords ()
;;Grundalgorithmus für "ARTE POETICA (I)". Dauer= 8 Min. 02 Sek.(Samples auf den Akai S1000=> "agua", "mirar", ;;"tiempo", "río", "recordar".)
;; Die Länge (ohne das Inkrement) jedes Algorithmus wird von *CalculateLength* bestimmt,wobei die Länge vom
;;Inkrement immer verschieden sein soll.
;; Samplesdauer auf dem Sampler (AKAI) ---> (C4->Ursprüngliche Tonhöhe)
;; Alle Algorithmen enden (fast) an der selben Zeitpunkt (Minute 8)

(loop for beg from 1 to 5
for n in '(Mirar2 río2 tiempo2 agua2 recordar2)
for begin in '(0 4 16 36 77)
for Inkrement in '(.36 .57 .63 1.57 1.75)
for Ton in '(c4 c4 c4 c4 c4)
for MidiKanal in '(0 3 1 2 4);; MidiChannel 1 2 3 4 5 (Die Reihenfolge der Samples beim Akai ist (Mirar-Tiempo-agua-río-recordar)
for Durchlauf in '(0 1 2 3 4)
for Samplelength in '(0.580 0.543 0.911 0.685 0.722)
for totalDauer in '(160 280 190 30 22);;Die Grenze von der maximalen Dauer (ohne Inkrement) wird in Sek. gesetzt.
for DauerInterval in '(11 7 14 8 12)
for AnfangAmplitude in '(.236 .257 .363 .257 .236)
for MaxAmplitude in '(.8 .8 .9 .8 .8)

```
do

(let* ((Noten Ton)
(Kanal Midikanal)
(Ink Inkrement)
(Durchl Durchlauf)
(Spllght Samplelength)
(TotDauer TotalDauer)
(DauerIntervall  DauerInterval)
(AnfAmp AnfangAmplitude)
(MaxAmp MaxAmplitude))

(algorithm (name n) midi-note (start begin)
(vars (i Ink)  (FreqRatio 1) (MomentDauer DauerIntervall) (amp1 AnfAmp) (amp2 MaxAmp)
(Länge 0) (CumulateDauer 0) (Increment 0)(DL Durchl))

(setf DL dl)
(setf Länge (CalculateLength i (+ Spllght Momentdauer)  TotDauer)) ;; Die Zahl der Elementen
(setf Channel kanal)
(setf Increment  i )
(setf FreqRatio (between 1 1.007))
(setf Note (item (steps 1 from Noten):kill länge))
(setf Note (item(pitches (steps 1 from Noten))))
(setf note (* note FreqRatio)) ;;Multiply the Pitch by Random number with a Ratio < 1 Octave
(setf Rhythm (incf MomentDauer Increment))
(setf Duration Rhythm)
(setf Amplitude (interpl (mod count Länge)   0  amp1
(- Länge 1)  amp2))
(setf MomentDauer Duration)
(setf CumulateDauer (+ MomentDauer CumulateDauer))
```

```
(if  ( equal ( + 1 count) Länge)(PRINT (LIST (QUOTE CumulateDauer-------->) (/ CumulateDauer 60.0) (quote min.--->)dl)))
(if  ( equal ( + 1 count) Länge)(PRINT (LIST (QUOTE Länge-------->)  Länge  (quote Length--->)Channel)))
```

);;End of **algorithm**

```
(defun CalculateLength (Increment SampleDauer GesamtDauer)
;;Durch diese Funktion wird die Länge jedes Alg. kalkuliert
(let* ((index 0)(Cumulate 0)(Länge 0)(MomentDauer 0));;(Länge ist wie Length dh. wieviele Elemente wird index haben)
(setf Increment
(cond
((And(> Increment 1) (< increment 10)(/ Increment 10.0)))
((And(> Increment 10) (< increment 100)(/ Increment 100.0)))
((And(> Increment 100) (< increment 1000)(/ Increment 1000.0)))
( Increment )))
(setf Länge  (-(Truncate SampleDauer Increment)1));;DURCH DIESE DIVISION WIRD LÄNGE KALKULIERT
(loop
(setf index(+ index 1))
(setf MomentDauer (incf MomentDauer Increment))
(setf Cumulate     (incf Cumulate MomentDauer))
(cond
((Or(> index Länge) (> Cumulate GesamtDauer))(return  (- index 1))))
;(Print (list (/ Cumulate 60)  (quote min.bei.Länge)  länge ))
);;of Loop


);;of let*
```

);; end of CalculateLength

);; end of Let* (of Loop)
);;end of LOOP
) ;; End of **Merge**

Dauer des Merges

;(CUMULATEDAUER--------> 6.5 MIN.---> 4)
;(lLäNGE-------->| 15 LENGTH---> 4)
;(CUMULATEDAUER--------> 7.505 MIN.---> 3)
;(lLäNGE-------->| 19 LENGTH---> 2)
;(CUMULATEDAUER--------> 7.926666666666664 MIN.---> 0)
;(lLäNGE-------->| 29 LENGTH---> 0)
;(CUMULATEDAUER--------> 7.917500000000002 MIN.---> 1)
;(lLäNGE-------->| 30 LENGTH---> 3)
;(CUMULATEDAUER--------> 8.749999999999996 MIN.---> 2)
;(lLäNGE-------->| 24 LENGTH---> 1)

****

2)

(**Merge** TruncatedWords ()
;; Die Länge jedes Algorithmus wird von CalculateLength bestimmt,wobei die Länge vom

```
;;Inkrement immer gleich sein soll
;; Samplesdauer auf dem Sampler (AKAI) ---> 7.0 Sek (C4->Ursprüngliche  Tonhöhe)
;;  Alle  Algorithmen enden an der selben Zeitpunkt

(loop for beg from 1 to 5
for n in '(Mirar río tiempo agua recordar )
for begin in '(0 0 0 0 0)
for Inkrement in '(.003 .003 .003 .003 .003)
for Inkrement2 in '(.000036 .000057 .000063 .0000157 .0000175 )
for Ton in '( c4 c4 c4 c4 c4 )
for MidiKanal in '(0 3 1 2 4 );; MidiChannel 1 2 3 4 5 !!!!
for Durchlauf in '(0 1 2 3 4);;
for Samplelength in '( 0.580 0.543 0.911 0.685 0.722 )
for totalDauer in '(66 66 66 66 66);;Die Grenze von  der maximalen Dauer wird in Sek. gesetzt.
do

(let* ((Noten Ton)
(Kanal Midikanal)
(Ink Inkrement)
(Ink2 Inkrement2)
(Durchl Durchlauf)
(Spllght Samplelength)
(TotDauer TotalDauer))


(algorithm (name n) midi-note (start begin)
(vars (i Ink)  (FreqRatio 1) (MomentDauer 0) (amp .0175) (Länge 0) (CumulateDauer 0) (Increment 0)(DL Durchl))

(setf DL dl)
(setf Länge (CalculateLength i Spllght TotDauer)) ;; Die Zahl der Elementen des Algorithmus wird berechnet.
```

```
;(setf Channel (between 0 4)) ;;MIDIChannel Wahl in Random
(setf Channel kanal)
(setf Increment  i )
(setf FreqRatio (between 0.9 1.1))
(setf Note (item (steps 1 from Noten):kill länge))
(setf Note (item(pitches (steps 1 from Noten))))
(setf note (* note FreqRatio)) ;;Multiply the Pitch by Random number with a Ratio < 1 Octave
(setf Rhythm (incf MomentDauer (+ ink2 Increment)))
(setf Duration Rhythm)
(setf Amplitude (interpl (mod count Länge)   0 amp
(/ länge 1.57).7
(- Länge 1) amp))
(setf MomentDauer Duration)
(setf CumulateDauer (+ MomentDauer CumulateDauer))




(if  ( equal ( + 1 count) Länge)(PRINT (LIST (QUOTE CumulateDauer-------->) (/ CumulateDauer 60.0) (quote min.--->)dl)))
(if  ( equal ( + 1 count) Länge)(PRINT (LIST (QUOTE Länge-------->)  Länge  (quote Length--->)dl)))
```

);;End of **algorithm**.

```
(defun CalculateLength (Increment SampleDauer GesamtDauer)
;;Durch diese Funktion wird die Länge jedes Alg. kalkuliert
(let* ((index 0)(Cumulate 0)(Länge 0)(MomentDauer 0));;(Länge ist wie Length dh. wieviele Elemente wird index haben)
(setf Länge (-(Truncate SampleDauer Increment)1));;DURCH DIESE DIVISION WIRD LÄNGE KALKULIERT
(loop

(setf index(+ index 1))
```

```
(setf MomentDauer (incf MomentDauer Increment))
(setf Cumulate     (incf Cumulate MomentDauer))
(cond
((Or(> index Länge) (> Cumulate GesamtDauer))(return  (- index 1)))

(t 'LängeundGesamtdauersindkleiner))
;(Print (list (/ Cumulate 60)  (quote min.bei.Länge)  länge ))
);;of Loop


);;of let*

);; end of CalculateLength



);; end of Let* (of Loop)
);;end of LOOP
) ;; End of Merge
```

Dauer des Merges

```
;(CUMULATEDAUER--------> 0.8299754999999985 MIN.---> 1)
;(lLäNGE-------->| 180 LENGTH---> 1)
;(CUMULATEDAUER--------> 0.9375167999999993 MIN.---> 0)
;(lLäNGE-------->| 192 LENGTH---> 0)
;(CUMULATEDAUER--------> 1.1029922750000012 MIN.---> 3)
;(lLäNGE-------->| 209 LENGTH---> 3)
;(CUMULATEDAUER--------> 1.1036506250000016 MIN.---> 4)
;(lLäNGE-------->| 209 LENGTH---> 4)
```

;(CUMULATEDAUER--------> 1.1202922499999992 MIN.---> 2)
;(lLäNGE-------->| 209 LENGTH---> 2)

****

3)

(**Merge** ChownFM1 ()
;;Die Samples werden am Anfang teilweise gelesen.
;; Die Länge jedes Algorithmus wird von *CalculateLength* bestimmt,wobei die Länge vom
;;Inkrement immer gleich sein soll(Length = SampleDauer / Increment
;; Samplesdauer auf dem Sampler (AKAI) ---> 7.0 Sek (C4->Ursprüngliche Tonhöhe)
;; NICHT Alle Algorithmen enden an der selben Zeitpunkt (TotalDauer:1Min:10Sek)

(loop for beg from 1 to 4
for n in '(FMIncfi0 FMIncfi1 FMIncfi2 FMIncfi3)
for begin in '(0 7 15 59) ;;Start wird von der GesamtDauer von c4 (Akai S1000)
for Inkrement in '(.175 .175 .175 .175)
for Inkrement2 in '(.0063 .0157 .175 .175)
for Ton in '(c4 c4 c4 c4)
for Durchlauf in '(0 1 2 3);;
for Samplelength in '(7 7 7 7)
for totalDauer in '(125 118 110 74);;Die Grenze von der maximalen Dauer wird in Sek. gesetzt.(ohne Inkrement)
do

(let* ((Noten Ton)
(Ink Inkrement)
(Ink2 Inkrement2)
(Durchl Durchlauf)

```
(Spllght Samplelength)
(TotDauer TotalDauer))


(algorithm (name n) midi-note (start begin)
(vars (i Ink)  (FreqRatio 1) (MomentDauer 0) (amp .275) (Länge 0) (CumulateDauer 0) (Increment 0) (DL Durchl))


(setf DL dl)
(setf Länge (CalculateLength i Spllght TotDauer)) ;; Die Zahl der Elementen des Algorithmus wird berechnet
(setf Channel (item(items 0 1 2 6 in heap)));;MidiChannels 1 2 3 7 (Samples "Tiemposample1" "Tiemposample2" "Tiemposample3"  und
"ARTE Poetica                                                    ;;1.verso")
(setf Increment  i )
(setf FreqRatio (between .5 2.5))
(setf Note (item (steps 1 from Noten):kill länge))
(setf Note (item(pitches (steps 1 from Noten))))
(setf NOTE (COND
((= Channel 6)(* note 1))
((* note FreqRatio))))
(setf Rhythm (incf MomentDauer (+ ink2 Increment)))
(setf Duration Rhythm)
(setf Amplitude (interpl (mod count Länge) 0 amp
(- Länge 1) .8))
(setf MomentDauer Duration)
(setf CumulateDauer (+ MomentDauer CumulateDauer))

(if  ( equal ( + 1 count) Länge)(PRINT (LIST (QUOTE CumulateDauer-------->) (/ CumulateDauer 60.0) (quote min.--->)DL)))
(if  ( equal ( + 1 count) Länge)(PRINT (LIST (QUOTE Länge-------->)  Länge  (quote Length--->)DL)))

);;End of algorithm
```

```
(defun CalculateLength (Increment SampleDauer GesamtDauer)
;;Durch diese Funktion wird die Länge jedes Alg. kalkuliert
(let* ((index 0)(Cumulate 0)(Länge 0)(MomentDauer 0));;(Länge ist wie Length dh. wieviele Elemente wird index haben)
(setf Increment
(cond
((And(> Increment 1) (< increment 10)(/ Increment 10.0)))
((And(> Increment 10) (< increment 100)(/ Increment 100.0)))
((And(> Increment 100) (< increment 1000)(/ Increment 1000.0)))
( Increment )))
(setf Länge  (-(Truncate SampleDauer Increment)1));;DURCH DIESE DIVISION WIRD LÄNGE KALKULIERT
(loop
(setf index(+ index 1))
(setf MomentDauer (incf MomentDauer Increment))
(setf Cumulate     (incf Cumulate MomentDauer))
(cond
((Or(> index Länge) (> Cumulate GesamtDauer))(return  (- index 1))))
;(Print (list (/ Cumulate 60)  (quote min.bei.Länge)  länge ))
);;of Loop
);;of let*

);; end of CalculateLength

);; end of Let* (of Loop)
);;end of LOOP
) ;; End of Merge


**********
```

4)

(**Merge** ChownFM2 ();; Die Länge jedes Algorithmus wird von *CalculateLength* bestimmt,wobei die Länge vom
;;Inkrement immer gleich sein soll(Length = SampleDauer / Increment
;; Samplesdauer auf dem Sampler (AKAI) ---> 7.0 Sek (C4->Ursprüngliche Tonhöhe)
;; NICHT Alle Algorithmen enden an der selben Zeitpunkt (TotalDauer:3Min:28Sec)

```
(loop for beg from 1 to 4
for n in '(FMIncfi5 FMIncfi6 FMIncfi7 FMIncfi8)
for begin = (random 20)
for Inkrement in '( .175 .175 .175 .175)
for Inkrement2 in '( .0063 .0157 .175 .175)
for Ton in '(c3 c3 c3 c3);;; Oktave tiefer als beim Merge ChownFM1!!!!!!
for Durchlauf in '(5 6 7 8);;
for Samplelength in '(7 7 7 7)
for totalDauer in '(125 118 110 74);;Die Grenze von der maximalen Dauer wird in Sek. gesetzt.(ohne Inkrement)
do

(let* ((Noten Ton)
(Ink Inkrement)
(Ink2 Inkrement2)
(Durchl Durchlauf)
(Spllght Samplelength)
(TotDauer TotalDauer))
```

(**algorithm** (name n) midi-note (start begin)

```
(vars (i Ink)  (FreqRatio 1) (MomentDauer 0) (amp .275) (Länge 0) (CumulateDauer 0) (Increment 0) (DL Durchl))


(setf DL dl)
(setf Länge (CalculateLength i Spllght TotDauer)) ;; Die Zahl der Elementen des Algorithmus wird berechnet
(setf Channel (item(items 0 1 2 3 in heap)));;MidiChannels 1 2 3 4 (Samples "TiempoSample1" "TiempoSample2" "TiempoSample3"
;; und "TiempoSample4")
(setf Increment  i )
(setf FreqRatio (between .5 1.5))
(setf Note (item (steps 1 from Noten):kill länge))
(setf Note (item(pitches (steps 1 from Noten))))
(setf NOTE (COND
((= Channel 6)(* note 1))
((* note FreqRatio))))
(setf Rhythm (incf MomentDauer (+ ink2 Increment)))
(setf Duration Rhythm)
(setf Amplitude (interpl (mod count Länge) 0 amp
(- Länge 1) .7))
(setf MomentDauer Duration)
(setf CumulateDauer (+ MomentDauer CumulateDauer))

(if  ( equal ( + 1 count) Länge)(PRINT (LIST (QUOTE CumulateDauer-------->) (/ CumulateDauer 60.0) (quote min.--->)DL)))
(if  ( equal ( + 1 count) Länge)(PRINT (LIST (QUOTE Länge-------->)  Länge  (quote Length--->)DL)))

);;End of algorithm.

(defun CalculateLength (Increment SampleDauer GesamtDauer)
;;Durch diese Funktion wird die Länge jedes Alg. kalkuliert
(let* ((index 0)(Cumulate 0)(Länge 0)(MomentDauer 0));;(Länge ist wie Length dh. wieviele Elemente wird index haben)
(setf Increment
```

```
(cond
((And(> Increment 1) (< increment 10)(/ Increment 10.0)))
((And(> Increment 10) (< increment 100)(/ Increment 100.0)))
((And(> Increment 100) (< increment 1000)(/ Increment 1000.0)))
( Increment )))
(setf Länge  (-(Truncate SampleDauer Increment)1));;DURCH DIESE DIVISION WIRD LÄNGE KALKULIERT
(loop
(setf index(+ index 1))
(setf MomentDauer (incf MomentDauer Increment))
(setf Cumulate     (incf Cumulate MomentDauer))
(cond
((Or(> index Länge) (> Cumulate GesamtDauer))(return  (- index 1))))
;(Print (list (/ Cumulate 60)  (quote min.bei.Länge)  länge ))
);;of Loop
);;of let*

);; end of CalculateLength
);; end of Let* (of Loop)
);;end of LOOP
);; End of Merge

**********
```