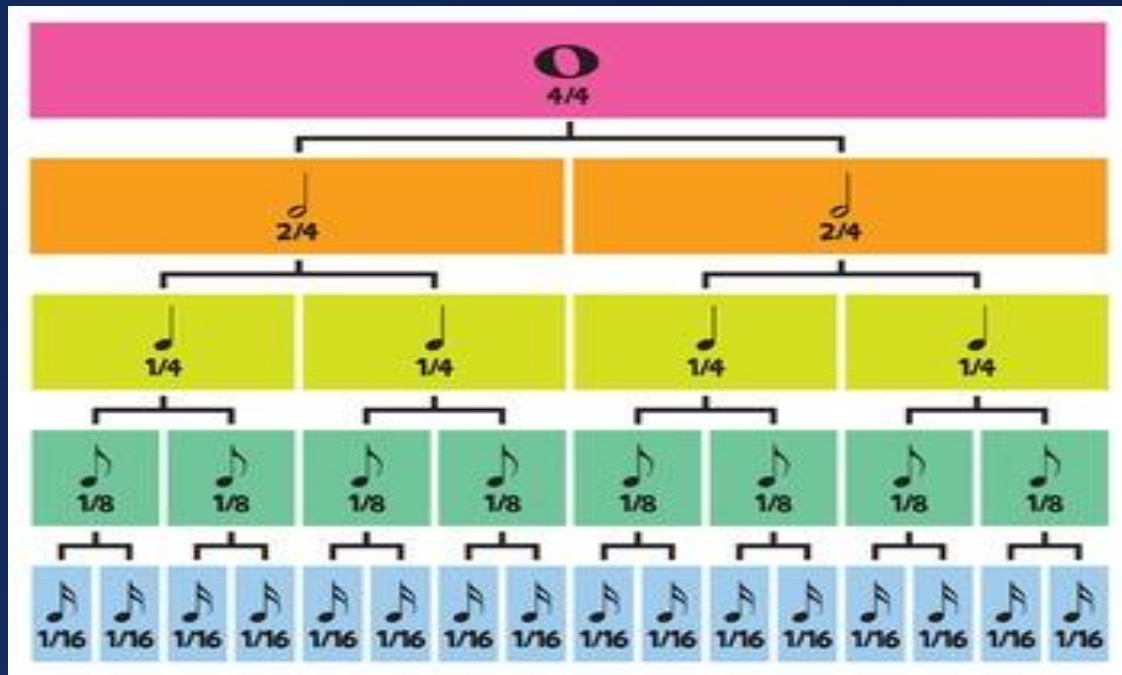


# *Diagram conversion into Music Notation*



# Diagram conversion into Music Notation

Duration




+ ...  $1/32$  ...  $1/64$  ... ( $1/128$ )

# Diagram conversion into Music Notation

## Duration

Enigma Duration Units / EDU  
(FINALE Music notation software)

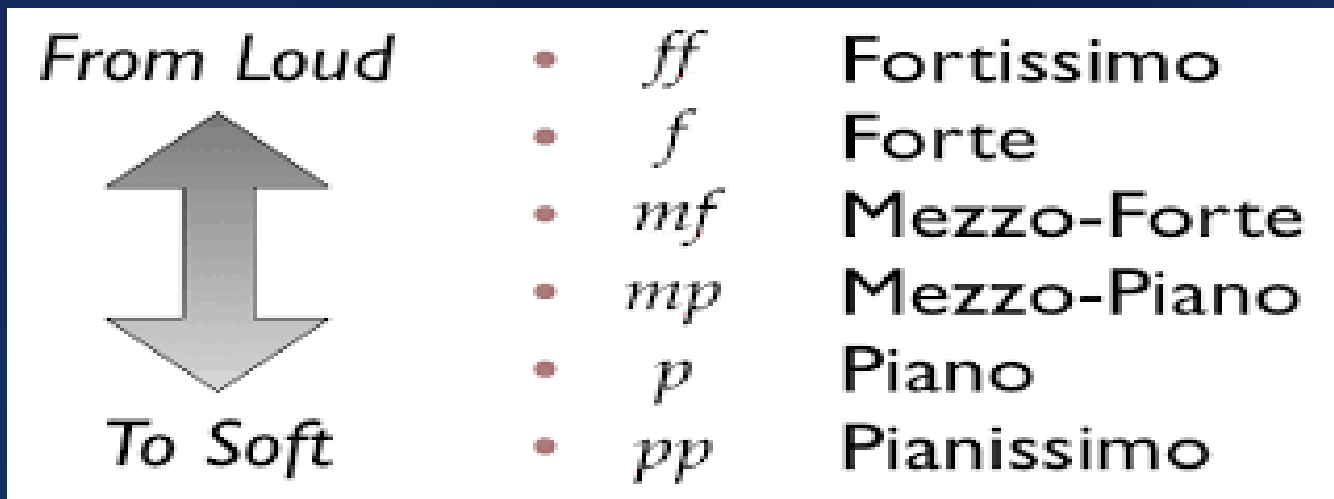
Notice the smallest division  
(32 units)



Rhythmic value	EDUs
double whole	8192
dotted whole	6144
whole	4096
dotted half	3072
half	2048
dotted quarter	1536
half note triplet	1365
quarter	1024
dotted eighth	768
triplet quarter	683
eighth	512
dotted sixteenth	384
triplet eighth	341
sixteenth	256
dotted 32nd	192
triplet sixteenth	171
32nd	128
dotted 64th	96
64th	64
dotted 128th	48
128th	32

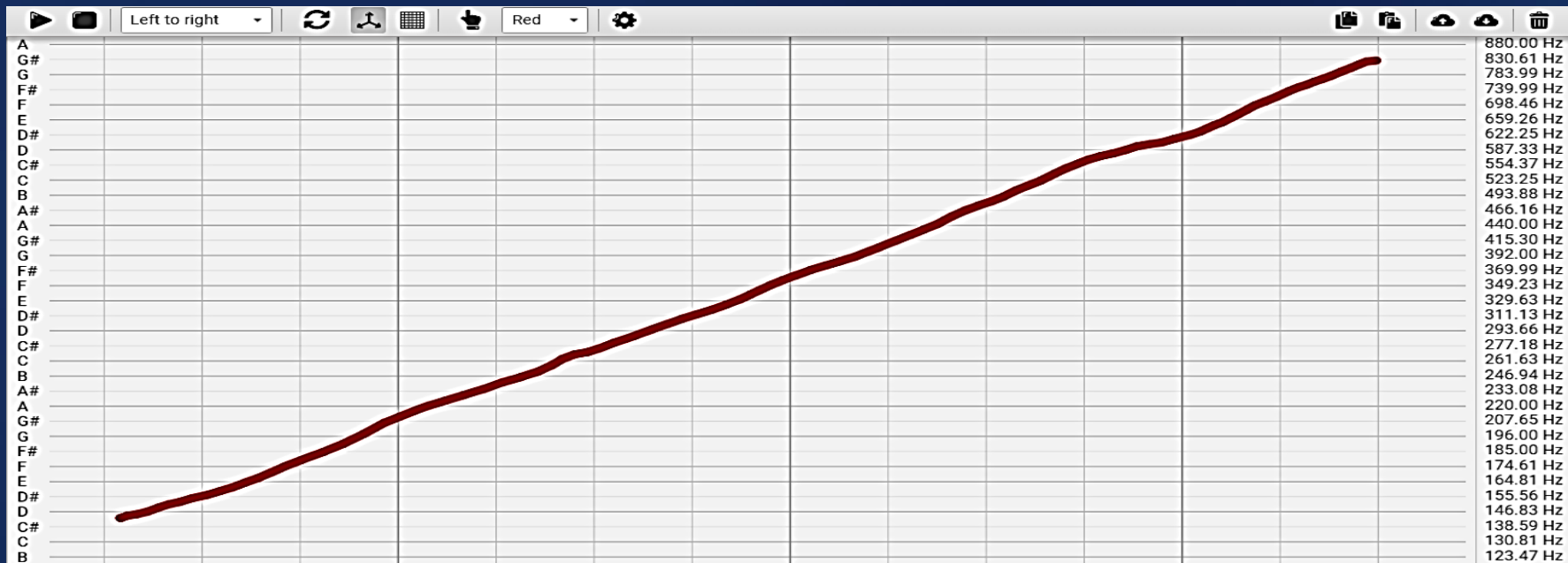
# Diagram conversion into Music Notation

## Dynamics



# Diagram conversion into Music Notation

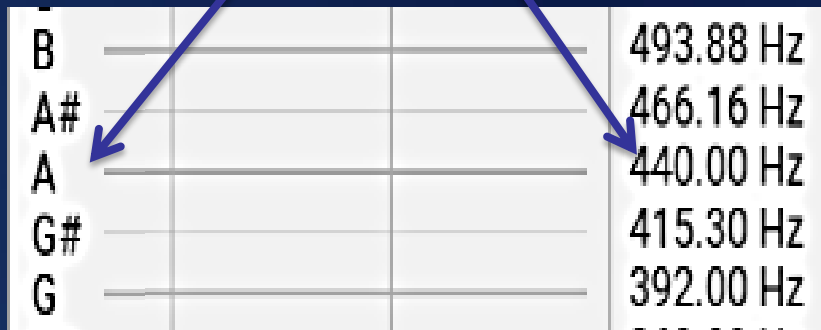
## Pitch



# Diagram conversion into Music Notation

## Pitch

Notice today's standard tuning



B			493.88 Hz
A#			466.16 Hz
A			440.00 Hz
G#			415.30 Hz
G			392.00 Hz

# *Diagram conversion into Music Notation*

How many parameters to use in a musical arrangement?

Duration

Dynamics

Pitch



One?

Two?

All?

# *Diagram conversion into Music Notation*

Now that we have chosen our parameters,  
how do we calibrate the vertical-axis' starting point?

Duration                                            Which value ?

Dynamics                                            Which dynamic ?

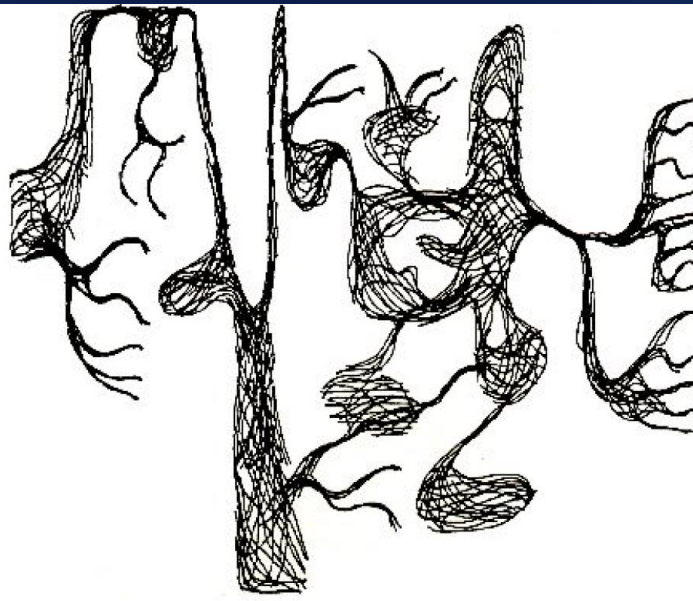
Pitch                                                    Which pitch?

# Diagram conversion into Music Notation

I. Xenakis (1922 – 2001)

Πολυαγωγή / UPIC

Unité Polyagogique Informatique de CEMAMu,  
(Centre d'Etudes de Mathématique et Automatique Musicales)

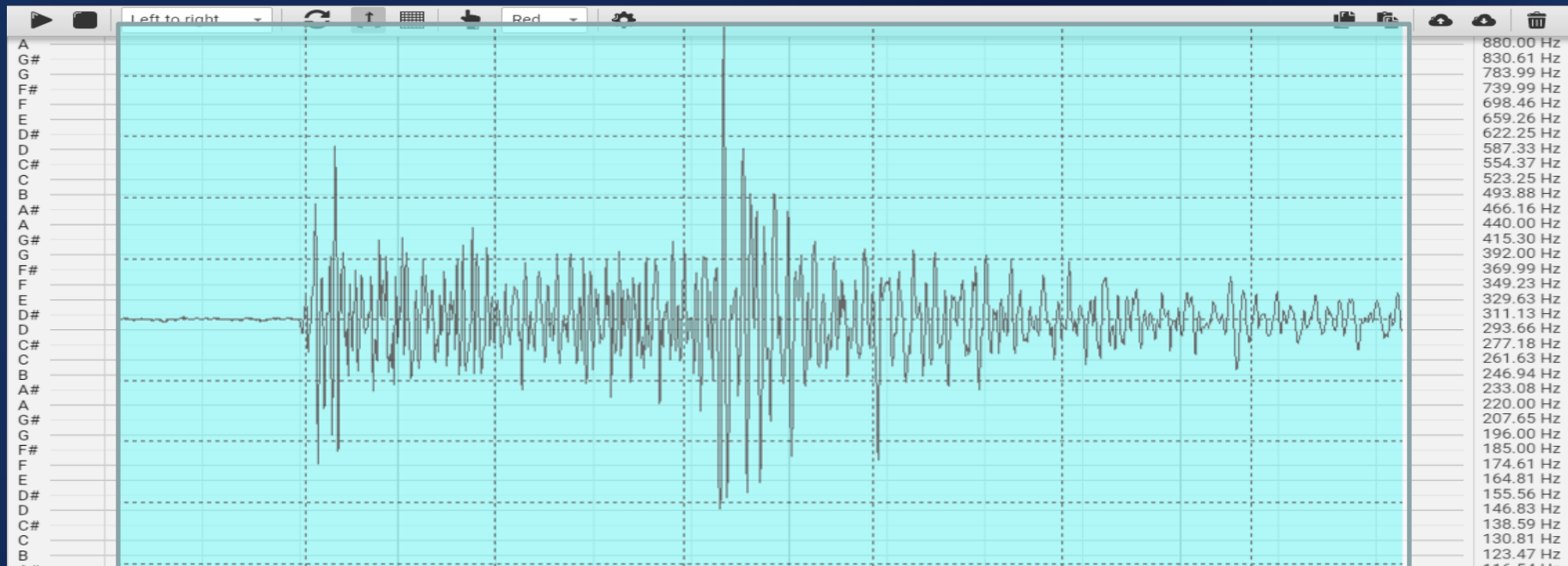


# Diagram conversion into Music Notation

iMuSciCA

Music Whiteboard

Pitch

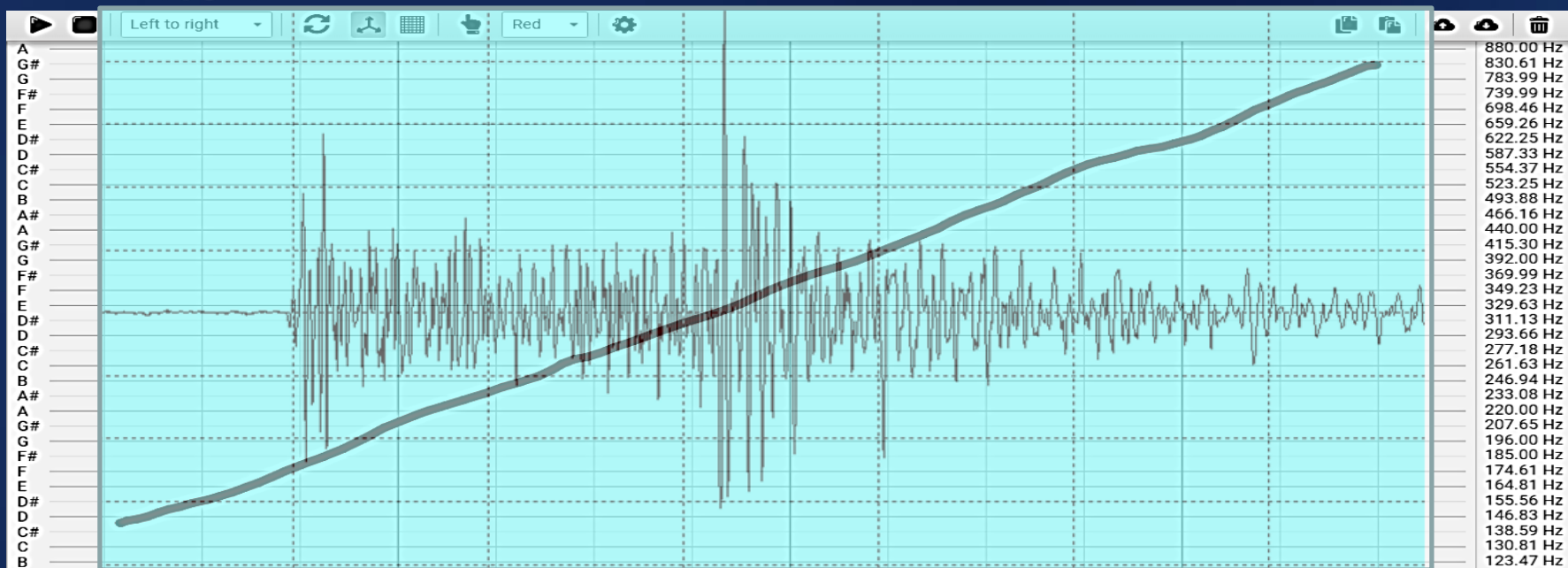


# Diagram conversion into Music Notation

iMuSciCA

Music Whiteboard

## Pitch

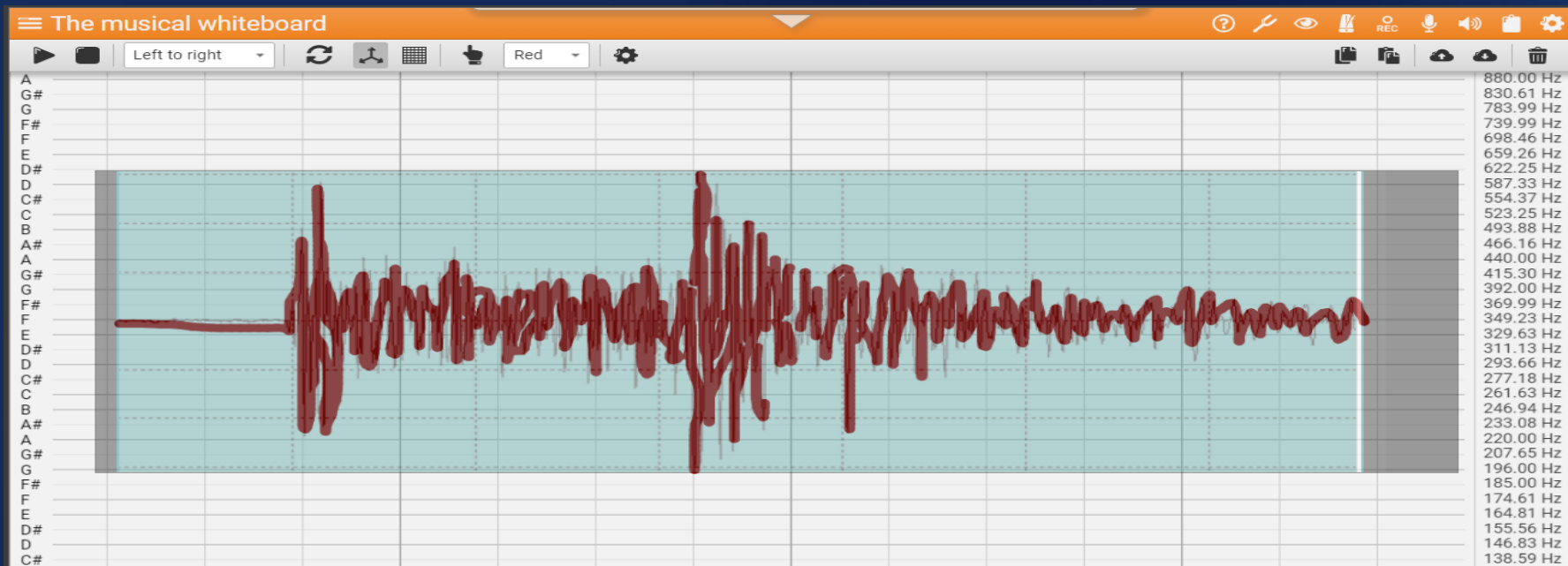


# Diagram conversion into Music Notation

[Offline](#)

## Pitch (example 1)

[Online](#)

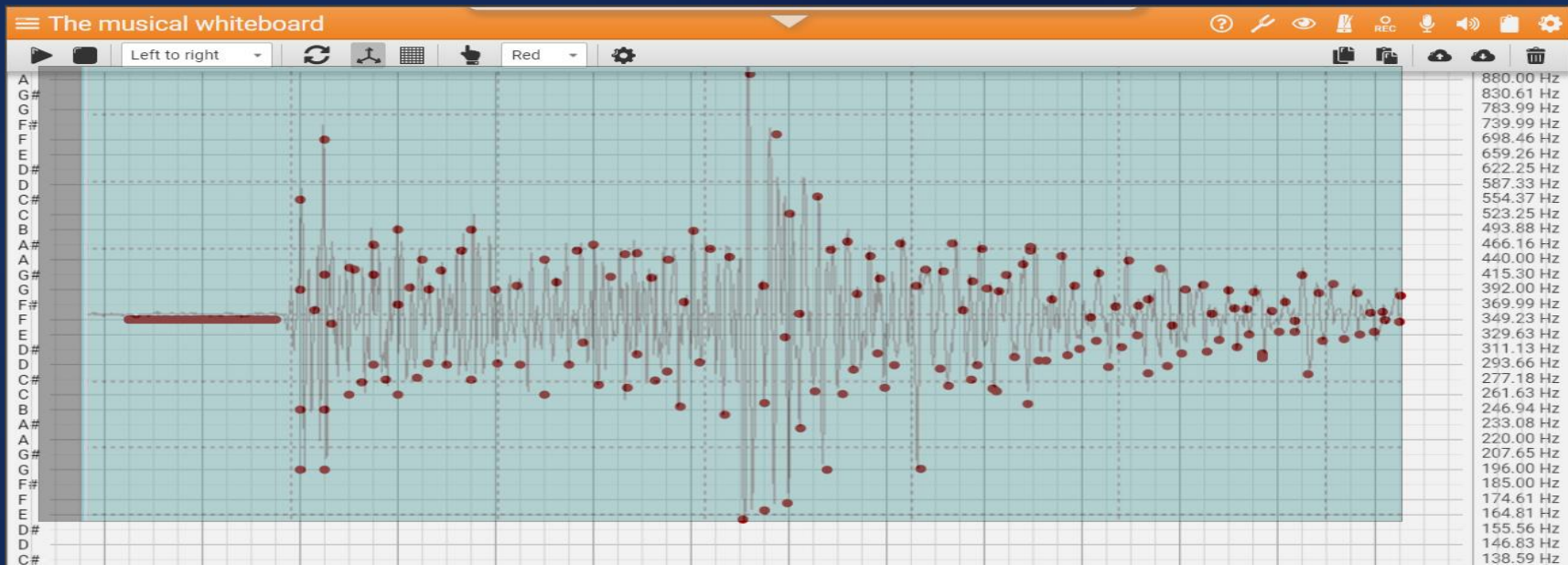


# Diagram conversion into Music Notation

[Offline](#)

## Pitch (example 2)

[Online](#)

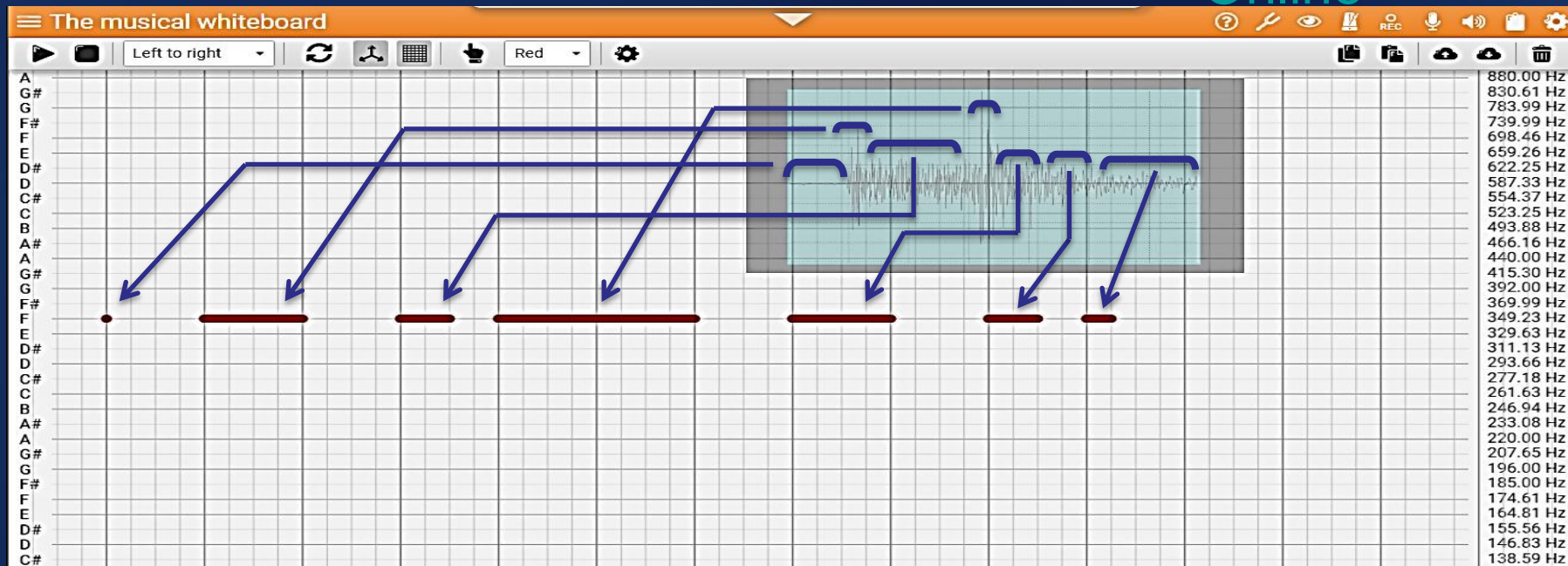


# Diagram conversion into Music Notation

[Offline](#)

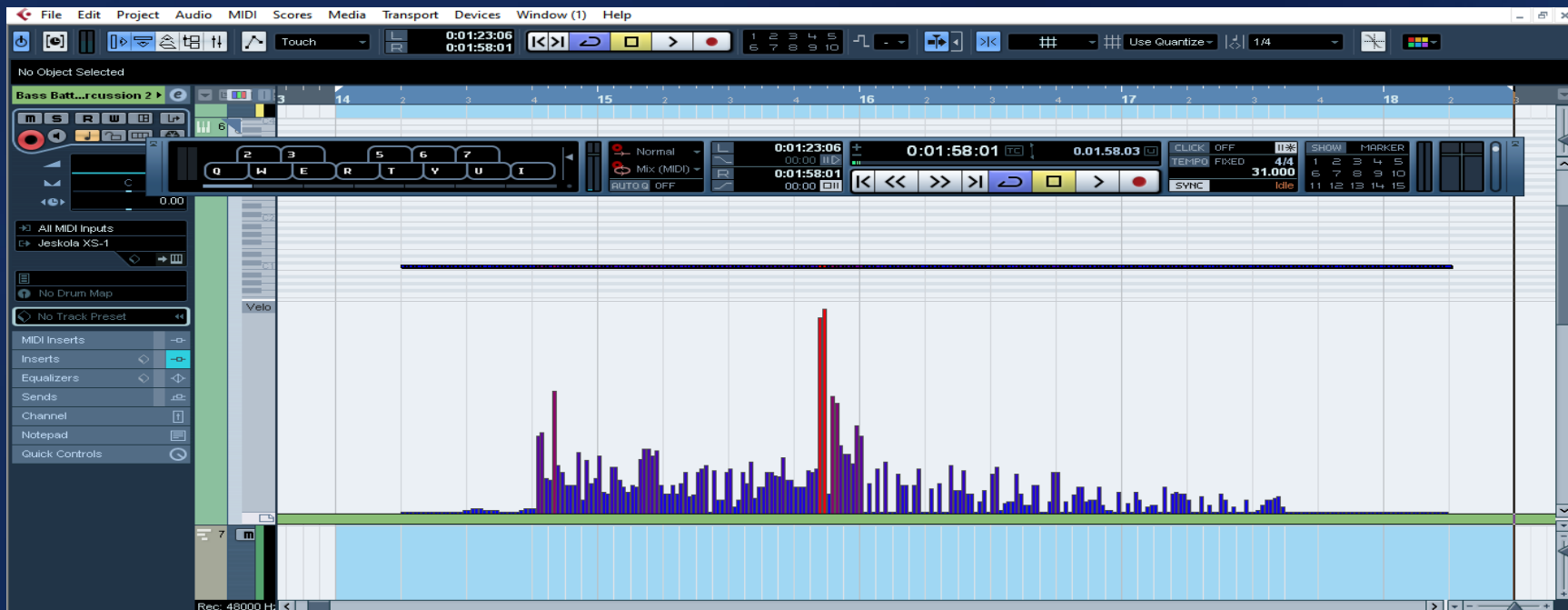
## Duration

[Online](#)



# Diagram conversion into Music Notation

## Dynamics (musical velocity)

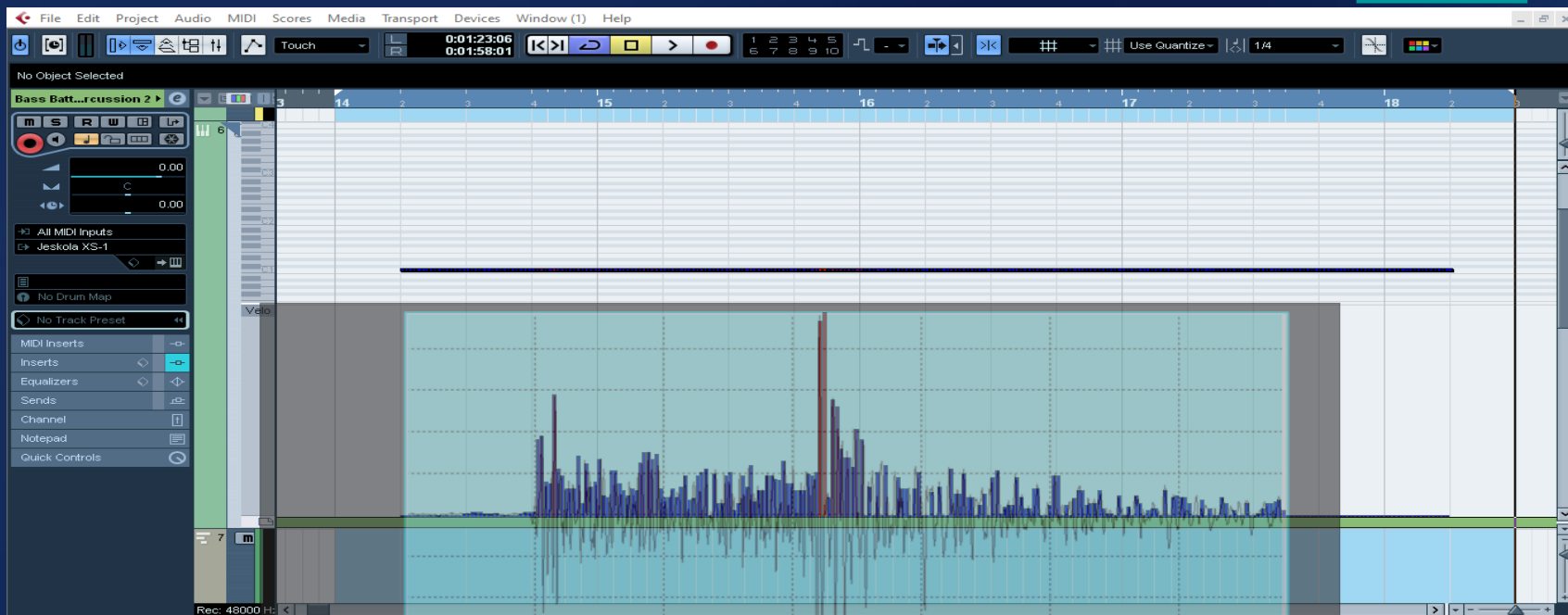


# Diagram conversion into Music Notation

[Offline](#)

## Dynamics (musical velocity)

[Online](#)



# Diagram conversion into Music Notation

[Offline](#)

## Dynamics (musical velocity)

[Online](#)

Sonification Seismogram Bass Drum Velocity

The image displays a musical score titled "Sonification Seismogram Bass Drum Velocity" for three parts: Concert Bass Drum, Con. BD, and another Con. BD. The score is written in bass clef with a 4/4 time signature. A tempo marking at the top indicates a quarter note equals 31. The Concert Bass Drum part features dynamics such as *mf*, *f*, *mf*, *f*, *mp*, *pp*, *mp*, *mf*, and *mp*. The first Con. BD part includes dynamics like *mp*, *fff*, *pp*, *f*, *mp*, *mf*, *sfpp*, *pp*, *mf*, *mp*, *mf*, *p*, *mf*, *mp*, *sfpp*, *mf*, and *mp*. The second Con. BD part includes dynamics like *mf*, *f*, *mf*, and *p*. The score uses various musical notations including accents, slurs, and dynamic markings to represent the velocity data.

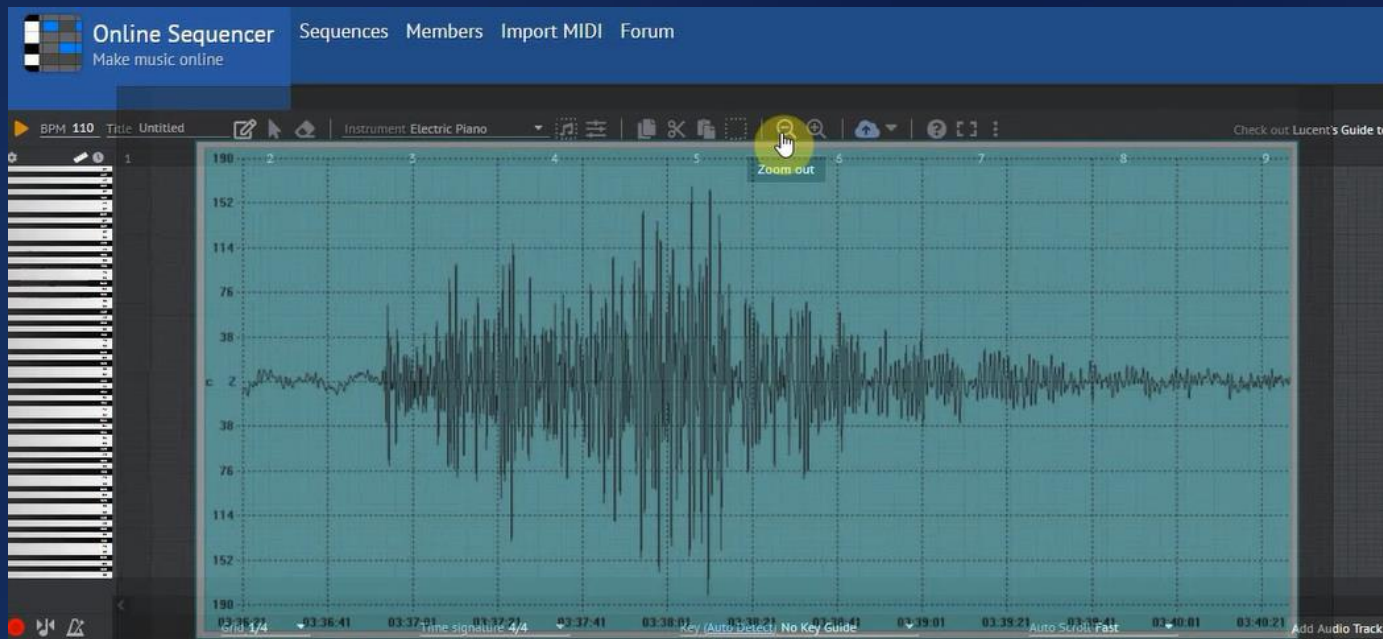
# Diagram conversion into Music Notation

Offline

MIDI sequence

Musical Instrument Digital Interface

Online



# *Diagram conversion into Music Notation*

## Useful Links

### [iMuSciCA Workbench](#)

You can experiment on the first tool

### [Online Sequencer](#)

### [More applications](#)

Including sonification from data

### [Pure Ref application](#)

Download and install after donation

(you can choose zero amount if you don't want to donate)

## More...

- [Music and STEM - multiple sides of the same coin](#) (paper)
- [Sonification and Leitmotiv](#) (sonification principles and soundscapes)
- [Seismograms](#)

# *Diagram conversion into Music Notation*

Πέτρος Στεργιόπουλος

Petros Stergiopoulos

[plagiavlitis@ea.gr](mailto:plagiavlitis@ea.gr)