

COMPUTER MUSIC LANGUAGES AND SYSTEMS

HW #1

HARMONIZER

EFFECT

WITH SUPERCOLLIDER

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# INTRODUCTION

- Goal of the assignment?
- How does it work?
- Main functionalities and added functionalities

# DEVELOPMENT

```
graph LR; A[Handling the input signals] --- B["\\mic"]; B --- C["\\audio"]; D[Implementing the harmonizer] --- E["\\harmonizer"]; E --- F["\\harmController"]; G[Reverberation effect] --- H["\\rev"]
```

Handling the input  
signals

"\\mic"

"\\audio"

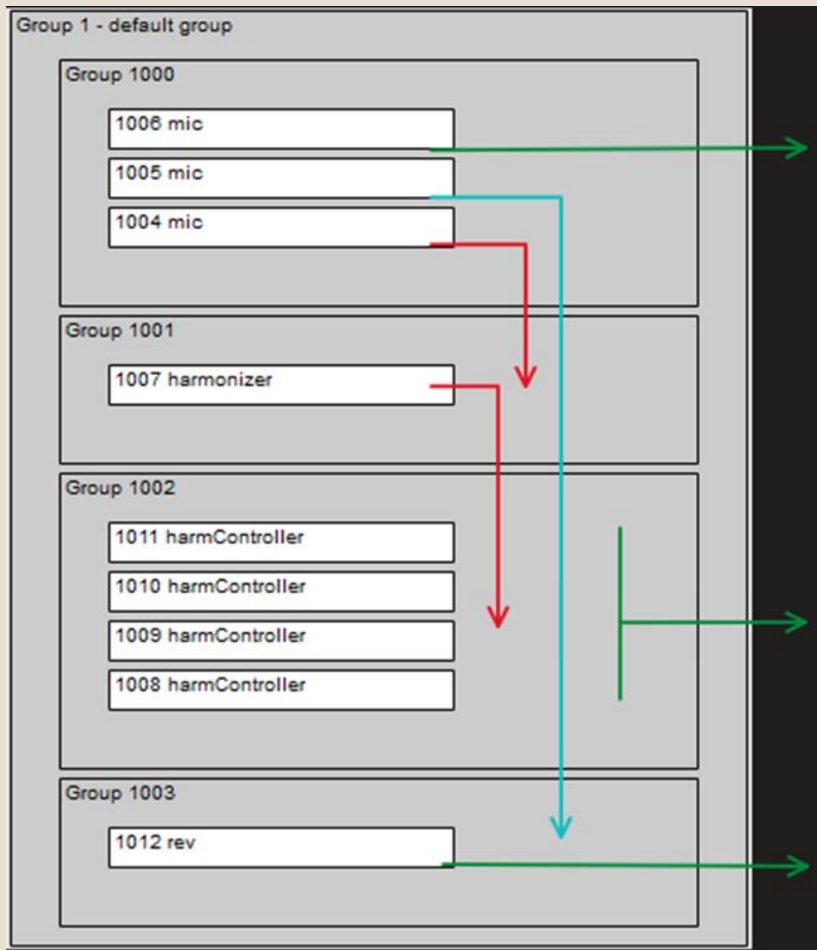
Implementing the  
harmonizer

"\\harmonizer"

"\\harmController"

Reverberation  
effect

"\\rev"




# ARCHITECTURE

- Three different copies of the input signal
- Two main functions combining synthesizers into the final harmonizer
- Harmonizer divided into 4 groups for easier mixing

# HARMONIZATION

- Pitch-shifted signal is obtained by increasing/lowering the pitch of the original signal by a preset diatonic interval
- Knowing the musical key is essential!
- Associating numbers with notes for the convenience

	C	C#/D $\flat$	D	D#/E	E	F	F#/G $\flat$	G	G#/A $\flat$	A	A#/B $\flat$	B
	0	1	2	3	4	5	6	7	8	9	10	11  
6th below	-8	-8	-9	-8	-9	-8	-9	-8	-8	-9	-8	-9
4th below	-5	-4	-5	-4	-5	-5	-6	-5	-4	-5	-5	-6
3rd above	+4	+4	+3	+4	+3	+4	+3	+4	+4	+3	+4	+3
5th above	+7	+8	+7	+8	+7	+7	+6	+7	+8	+7	+7	+6

# USER INTERFACE

## HARMONIZER

Source



1

Pan



0

Sixth  
Down



0

Pan



0

Fourth  
Down



0

Pan



0

Third Up



0

Pan



0

Fifth Up



0

Pan



0

Play with mic

Play with file

STOP

Key

C

Pitch disp



0

Time disp



0

## REVERB

Wet Amp



0

Room



0

Wet/Dry



0

Damp



0

# THANK YOU!

Do you have any questions?

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