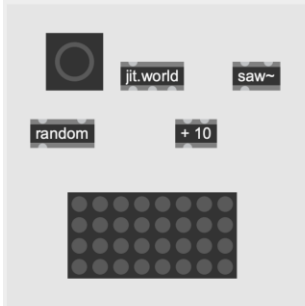
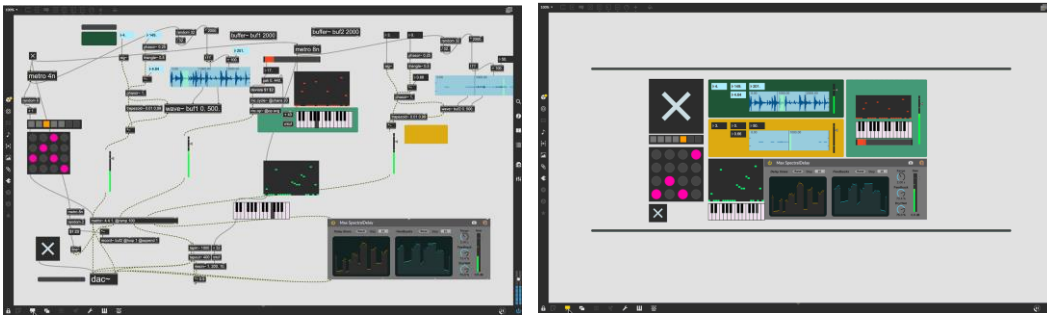


## Lecture 14 – Intro to Max

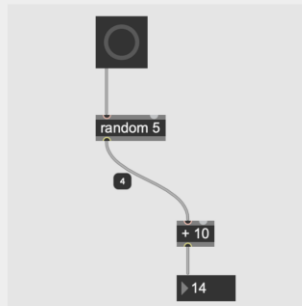
Instructor: Hao-Wen Dong

### What is Max?

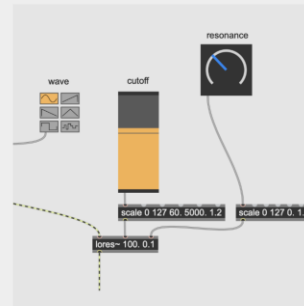
- [cycling74.com/products/max](http://cycling74.com/products/max)



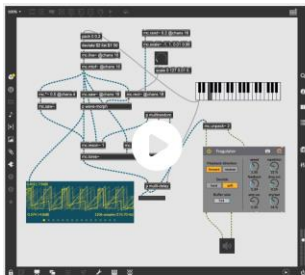
Each object does something. Max has objects that generate sound waves, represent hardware, or provide a UI for interaction.



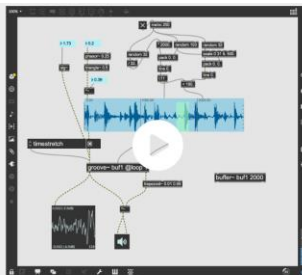
Patchcords connect one object to another. This connection lets objects share their output with connected objects.



Connect UI objects like dials and sliders to provide control values or display results. Modulate, map and scale data to get just the right results.



Design a custom synthesizer with as many oscillators and effects as you wish.



Manipulate samples in every way, including timestretch and pitch shifting.



Build up more layered sounds using MC objects to patch multichannel audio.


(Source: [cycling74.com/products/max](http://cycling74.com/products/max))

- Follow the analog synthesizer design (patch & cords)



(Source: Pete Brown from Gambrills, MD, USA via [Wikimedia](#))

- Jitter – Visuals for Max – [cycling74.com/products/jitter](http://cycling74.com/products/jitter)

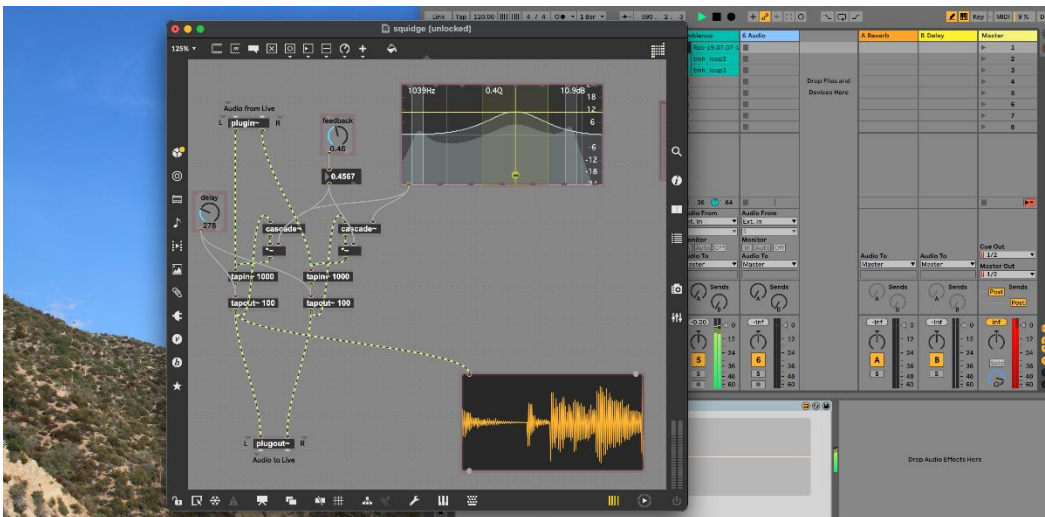


### Make Visual Music

Max includes full-featured, expandable video and graphics tools with Jitter. Jitter is optimized for realtime audiovisual work, and is easy to combine with audio, sequencing, and modulation like everything else in Max.

(Source: [cycling74.com/products/max](http://cycling74.com/products/max))

- Live for Max – Run Max in Ableton Live – [cycling74.com/products/maxforlive](http://cycling74.com/products/maxforlive) & [ableton.com/en/live/max-for-live](http://ableton.com/en/live/max-for-live)



(Source: [cycling74.com/products/maxforlive](http://cycling74.com/products/maxforlive))

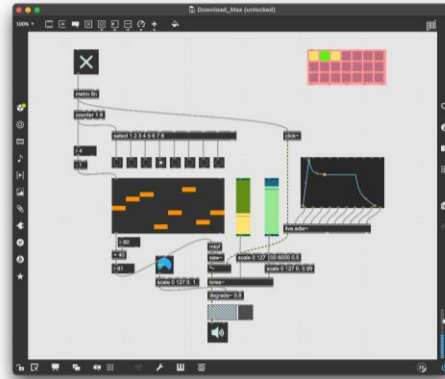
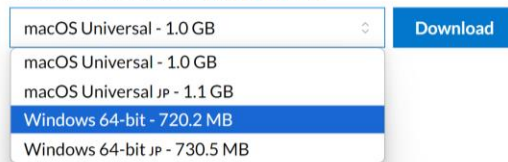
- JavaScript, NodeJS, C/C++, Java in Max – [cycling74.com/products/extend-max](http://cycling74.com/products/extend-max)

- Download Max at [cycling74.com/downloads](https://cycling74.com/downloads)

## Download Max 8

Try Max for free for 30 days, including the RNBO Demo

VERSION 8.6.5 | OCT 8, 2024 | [RELEASE NOTES](#)

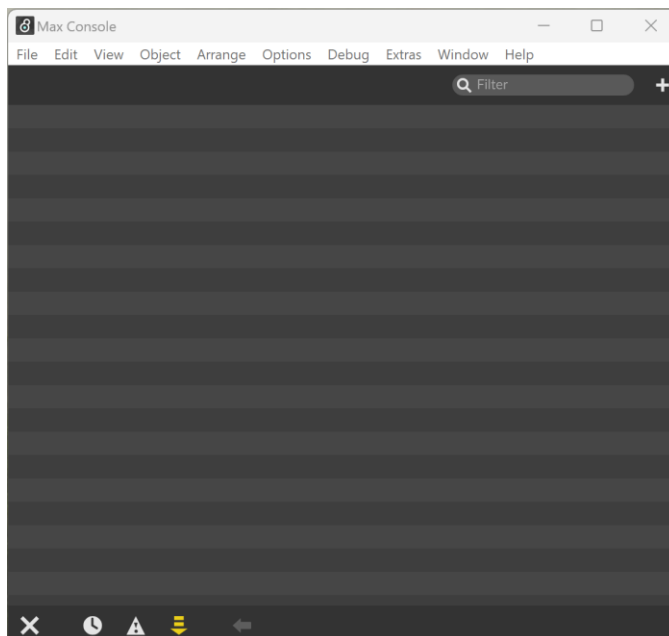


(Source: [cycling74.com/downloads](https://cycling74.com/downloads))

- Written in C++ using JUCE (a cross-platform application framework)
- Supports only macOS and Windows
- 30-day free license (better save it for final project) Written in **C++** using **JUCE** (a cross-platform application framework)

### Example 1: Getting Started (“1\_basics.maxpat”)

- Create a new patch (Ctrl-N)
- Max console: the “backend” of Max

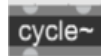


- Lock/unlock (**Ctrl-E**) (button at the bottom left)



- Top navigation bar

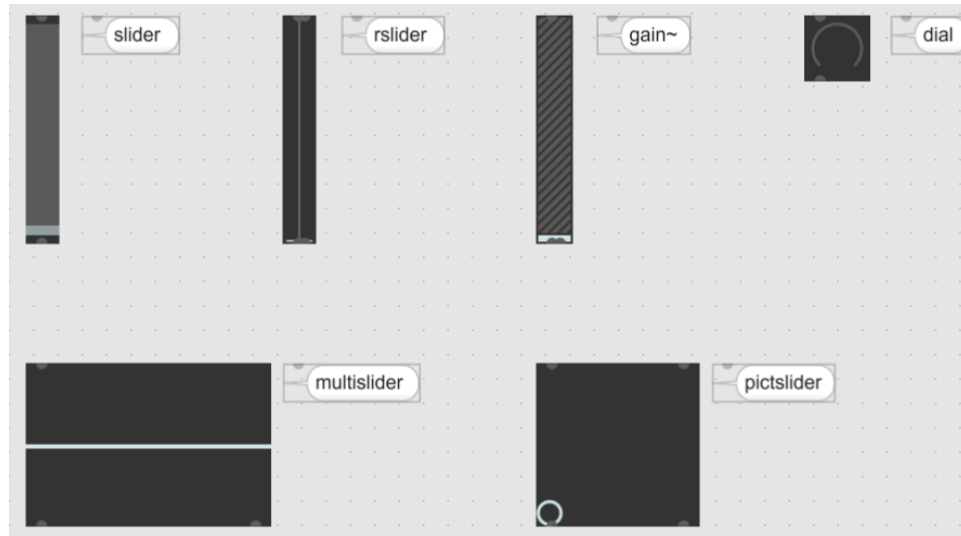
- Object (**n**)



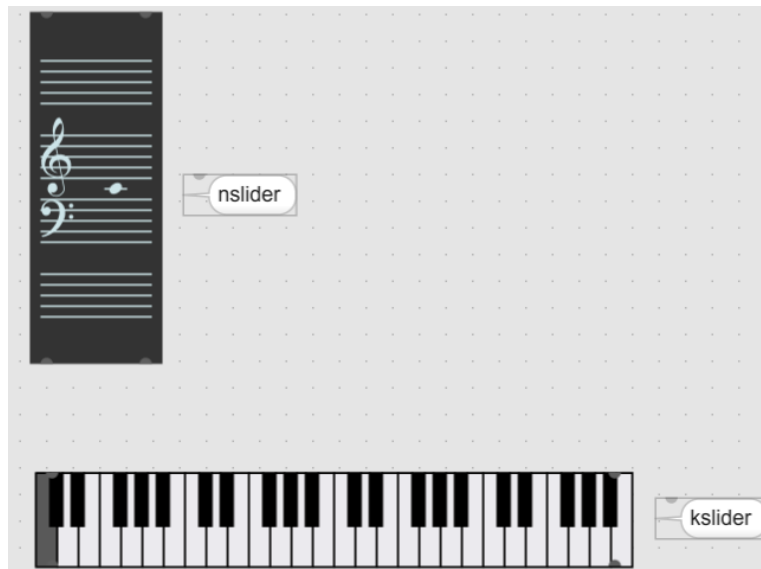
- Toggle (**t**)



- Sliders:



- Advanced sliders



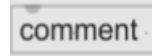
- Message (**m**)



- Button (**b**)



- Comment (**c**)



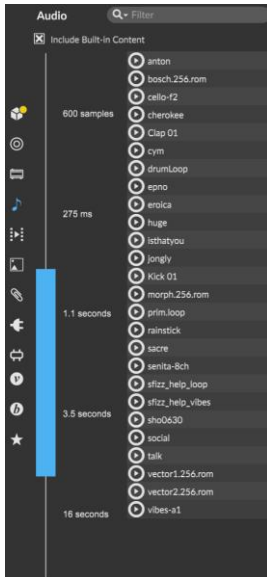
- Number (**i, f**)



- **Ctrl-Shift-H** for help!
- **Ctrl-Shift-R** for reference
- **Ctrl-Shift-A** to auto align

## Example 2: Playlist ("2\_playlist.maxpat")

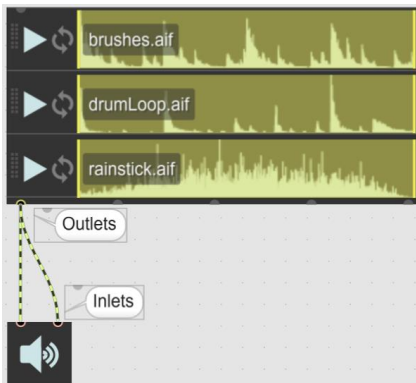
- Example audio



- "ezdac~" object



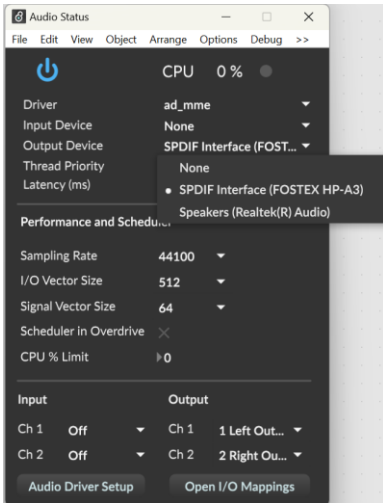
- Inlets & outlets



- Audio on/off toggle & meter/gain (at the bottom right)



- Audio I/O setup (“Options >> Audio Status”)



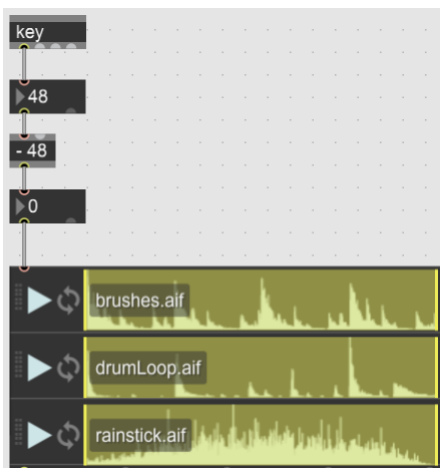
- “gain” object



- “meter~”, “scope~” and “specscope~” objects



- Control the playlist by the number keys



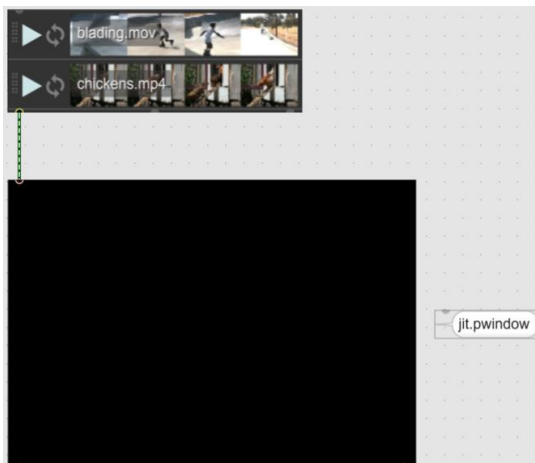
- Cord types
  - Gray cords are “values” or “messages”
  - Yellow cords are “signals”

### Example 3: Video with jitter ("3\_video.maxpat")

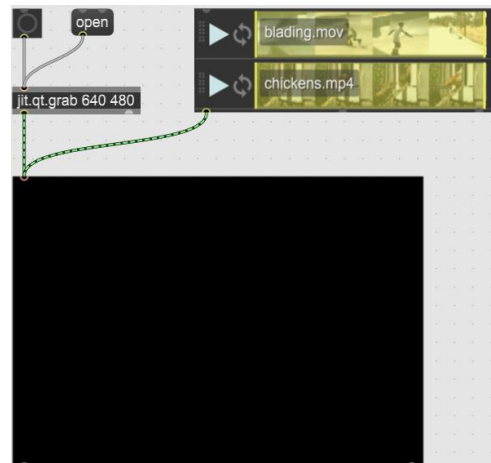
- Example videos



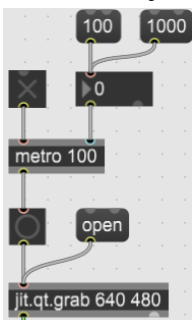
- jit.pwindow object



- jit.qt.grab object



- Green cords are "video signals"
- Bang message
- "open" message
- "metro" object

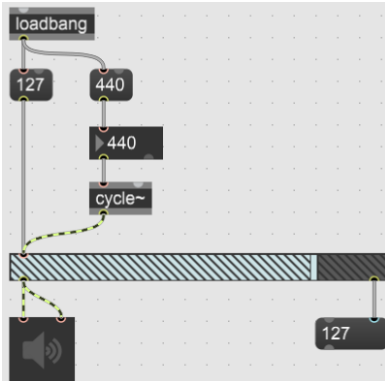


## Example 4: Pictslider ("4\_pictslider.maxpat")

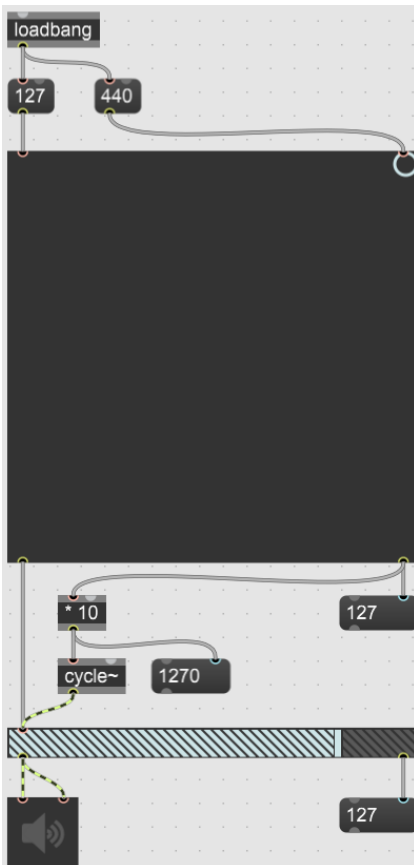
- "cycle~" & number object



- "loadbang" object



- "pictslider" object

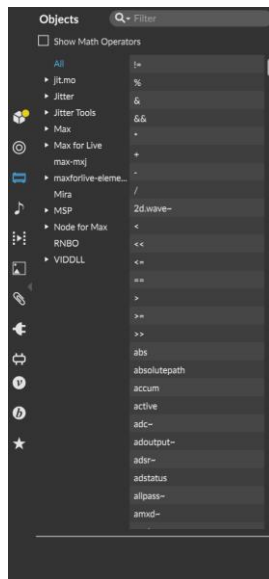


- "\* N" object

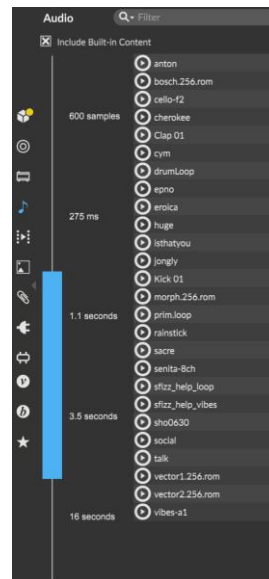


## More on the interface

- Right navigation bar
  - Search
  - Documentation
  - Inspector
  - Max console
  - Audio output
- Left navigation bar
  - Objects



## Audio



## Video



## Images

