

VA336/546 interactive sound

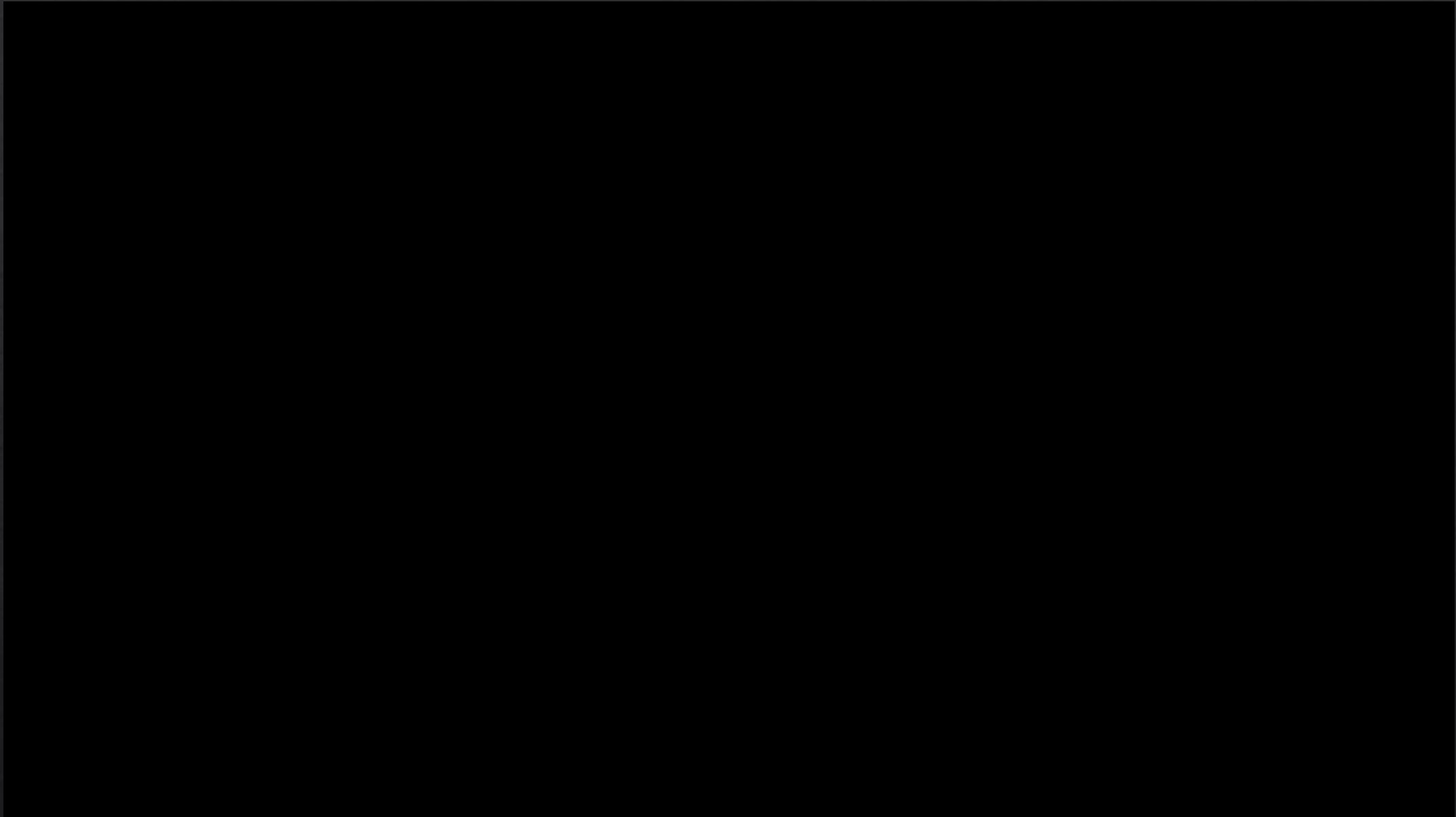
Week 10

Week9-Audio Visual Interactions Part II

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Web: selcukartut.com/teaching



Assignment Review

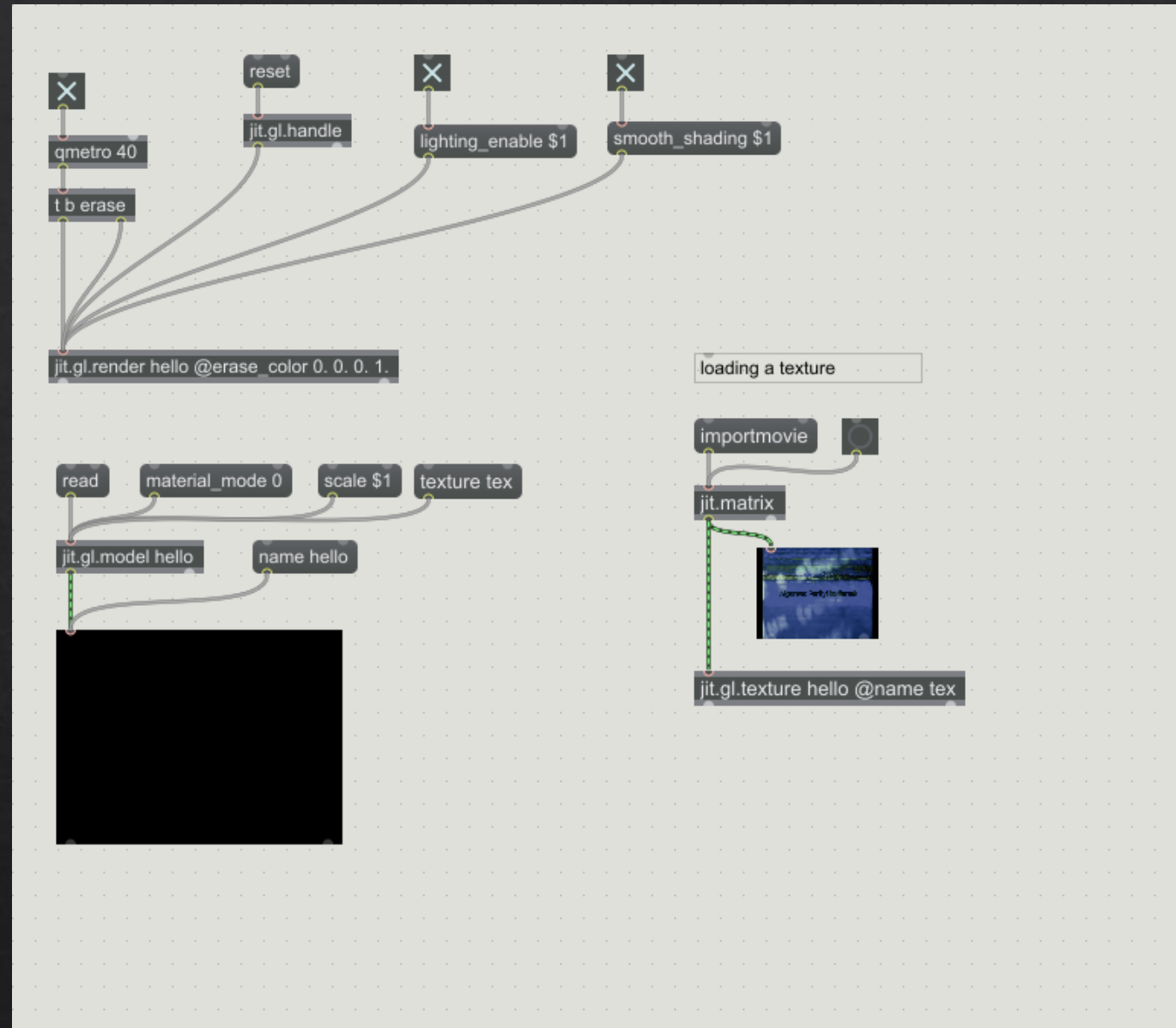
Create sampler device that record audio on your demand and loops continuously

3d in Jitter

Render space : jit.gl.render

The jit.gl.render object requires a single argument -- a name that will be attached to its OpenGL context. The OpenGL drawing can be sent to any named jit.window, jit.pwindow or jit.matrix object. Use the drawto destination message to change the destination on which the drawing results will be visible. When drawing to a jit.matrix object, the matrix must be sent to a pwindow or otherwise made visible in order to view the drawing

Refer. Folder named 1-loadingamodel



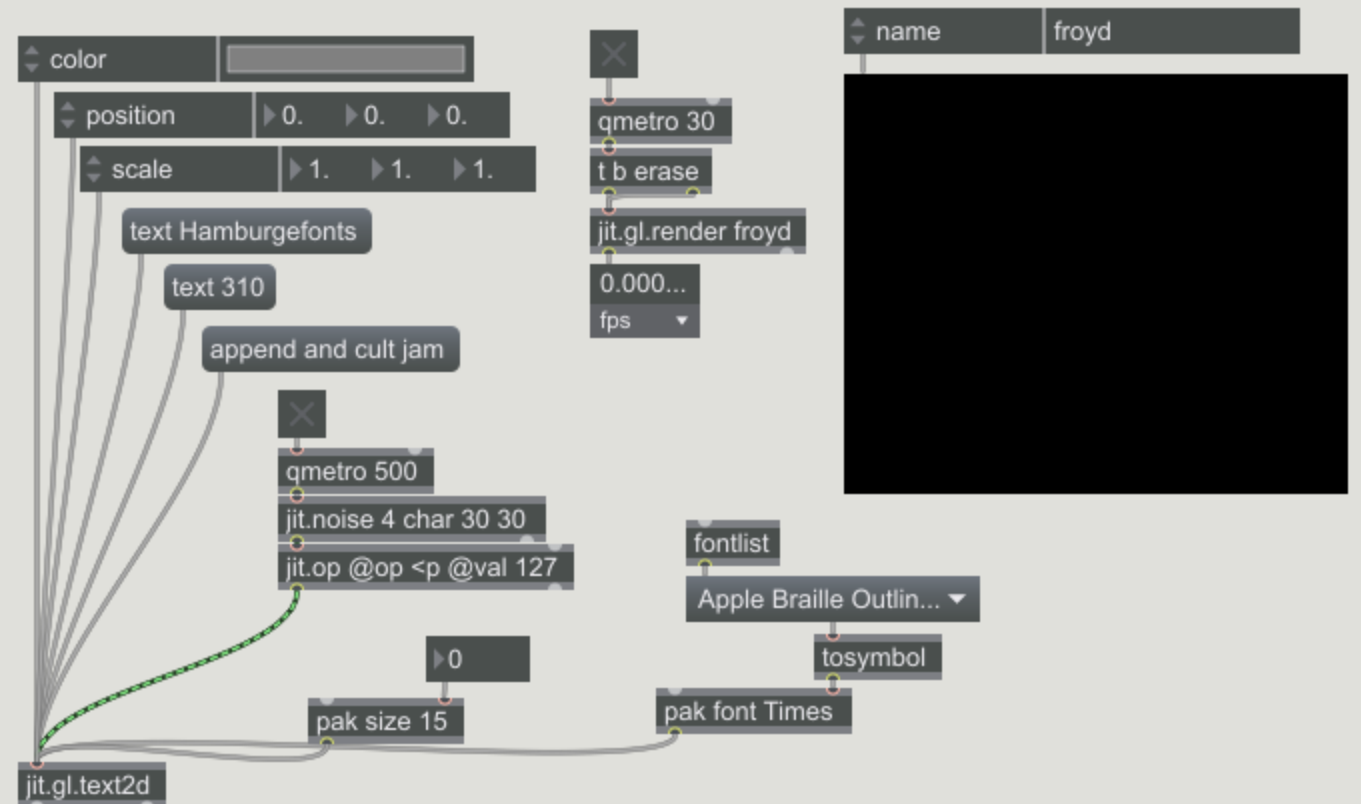
3d in Jitter

Render space example : jit.gl.text2d

jit.gl.text2d

Render bitmap text

Draws bitmap text in the named drawing context. The text can be sent as a symbol, a list of symbols, or as a jit.matrix containing char data. When a jit.matrix is used, each row of the matrix is interpreted as one line of text.




Max MSP Externals : Using Package Manager

File > Show Package Manager

Example: CV

[HOME](#) | [INSTALLED PACKAGES](#) | [CV.JIT](#)



cv.jit

by Jean-Marc Pelletier

Version 1.8.0

Show in Filebrowser

Disable

About

A collection of max/msp/jitter externals, abstractions and help files for computer vision applications originally authored by Jean-Marc Pelletier.

[Website](#)

Uploaded On: 12/3/2015
Last Update: 12/3/2015

Rating
★★★★★ 12

Categories

Video and Graphics, Utilities

Tags

jitter, computer vision, hardware, camera, externals

System Requirements

Max: Runs with all versions of Max
OSX: All versions (32bit, 64bit)
Windows: All versions (32bit, 64bit)

[Report a problem with this package](#)

Files

- ▶ externals
- ▶ extras
- ▶ help
- ▶ misc
- ▶ patchers

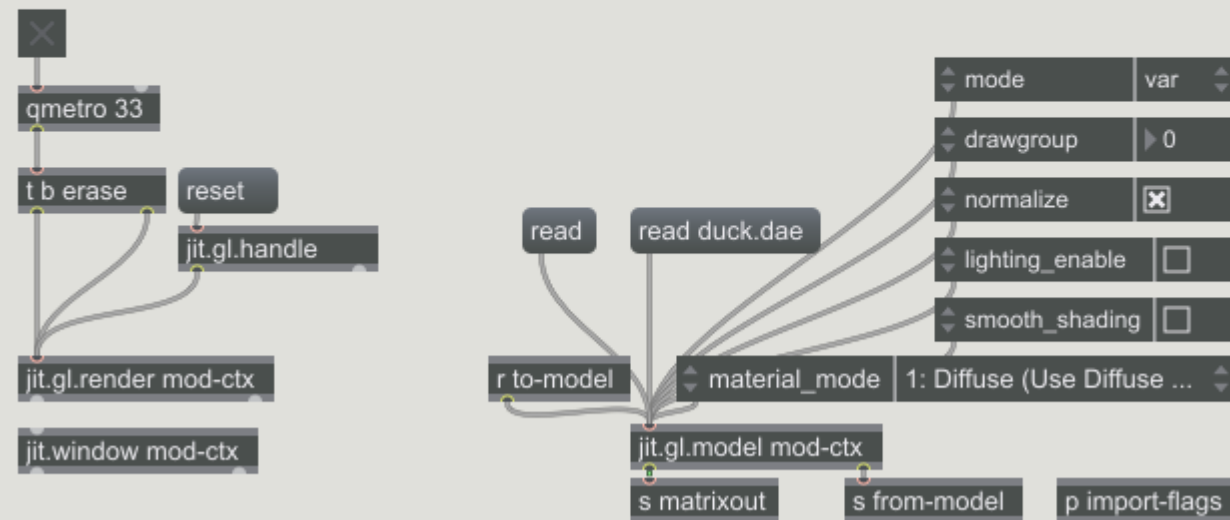
3d in Jitter

Render space example : jit.gl.model

jit.gl.model

Read and draw various 3D model formats

jit.gl.model Reads and draws a variety of 3D model formats, such as OBJ, Collada, and Blender. Only tessellated polygons are drawn, and surfaces that are not tessellated are converted before drawing. Certain model formats, such as Collada, support skinned animation.



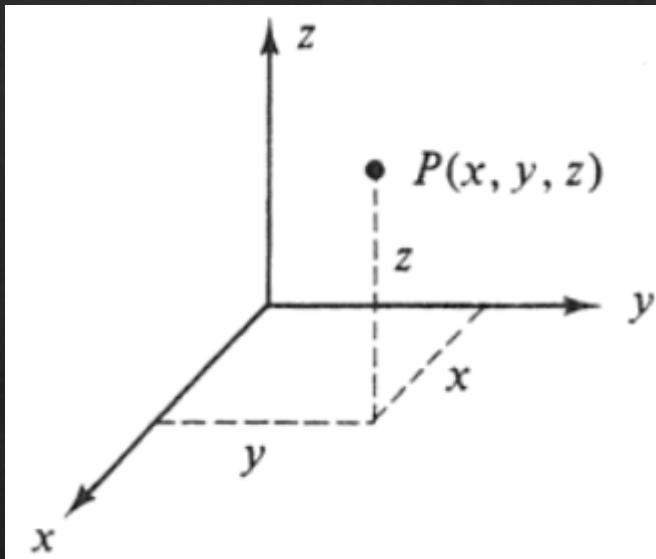
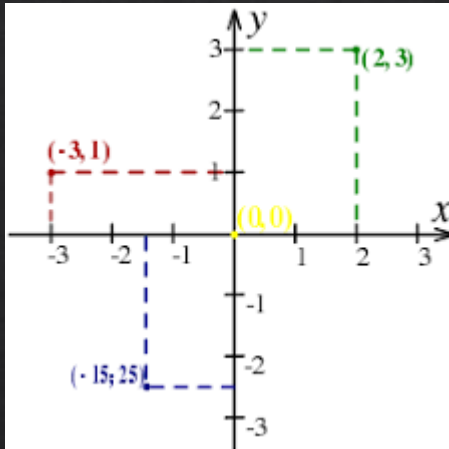
Break

How to implement spectrum analysis?

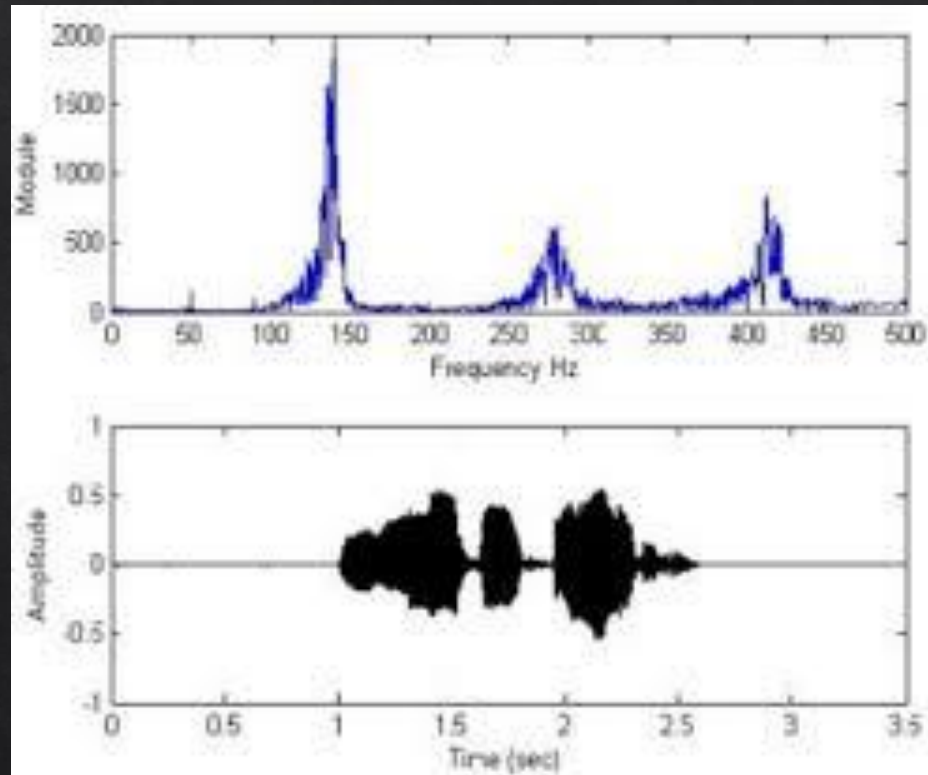
Defining FFT



Exploring Building Blocks of a System

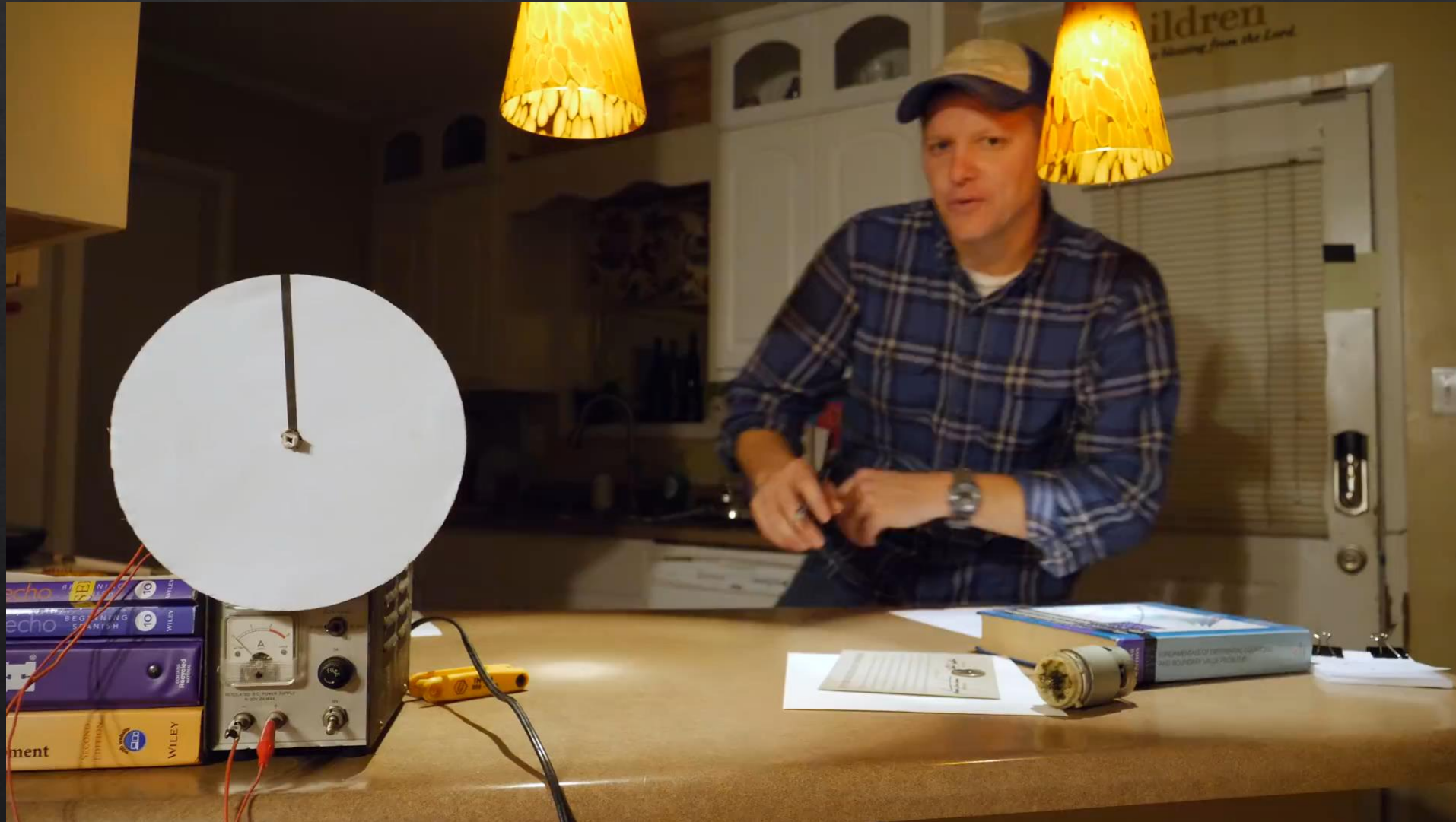


Time Domain vs Frequency Domain



Analyzing an audio spectrum content

Fourier Analysis



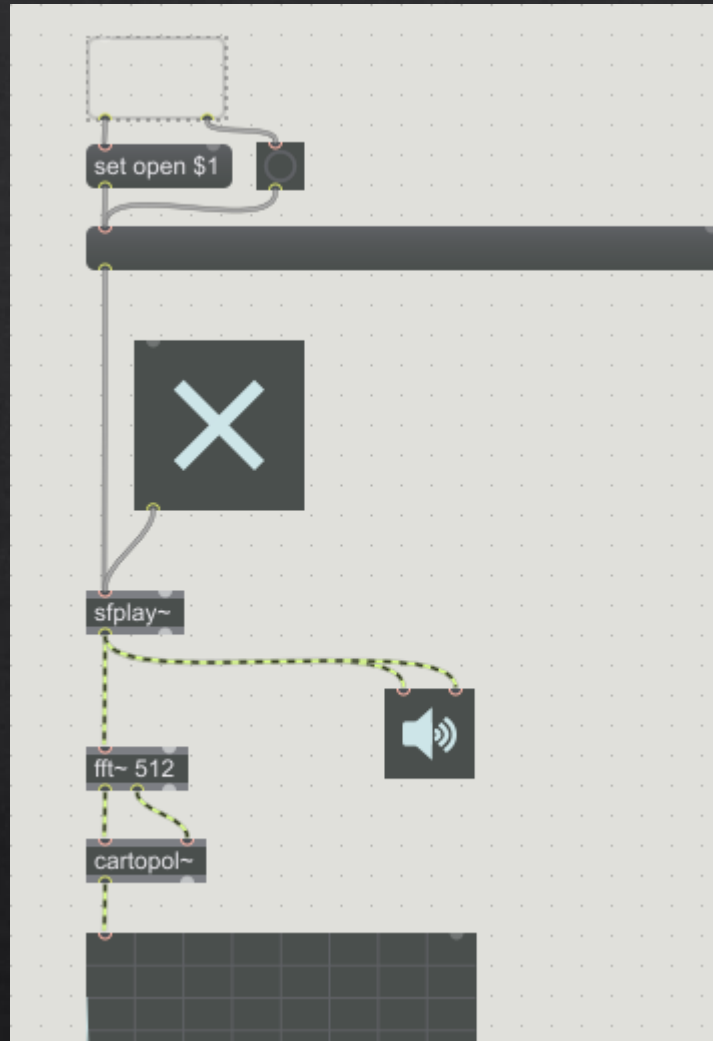
Can we draw anything?

Fourier Analysis: <https://www.youtube.com/watch?v=QVuU2YCwHjw&t=54s>

&

<http://www.jezzamon.com/fourier/>

FFT in Max



Network Communication in Max

Introduction to OSC

Open Sound Control (OSC) is a protocol for communication among computers, sound synthesizers, and other multimedia devices that is optimized for modern networking technology. Bringing the benefits of modern networking technology to the world of electronic musical instruments, OSC's advantages include interoperability, accuracy, flexibility, and enhanced organization and documentation.

<http://opensoundcontrol.org/introduction-osc>

Type of data

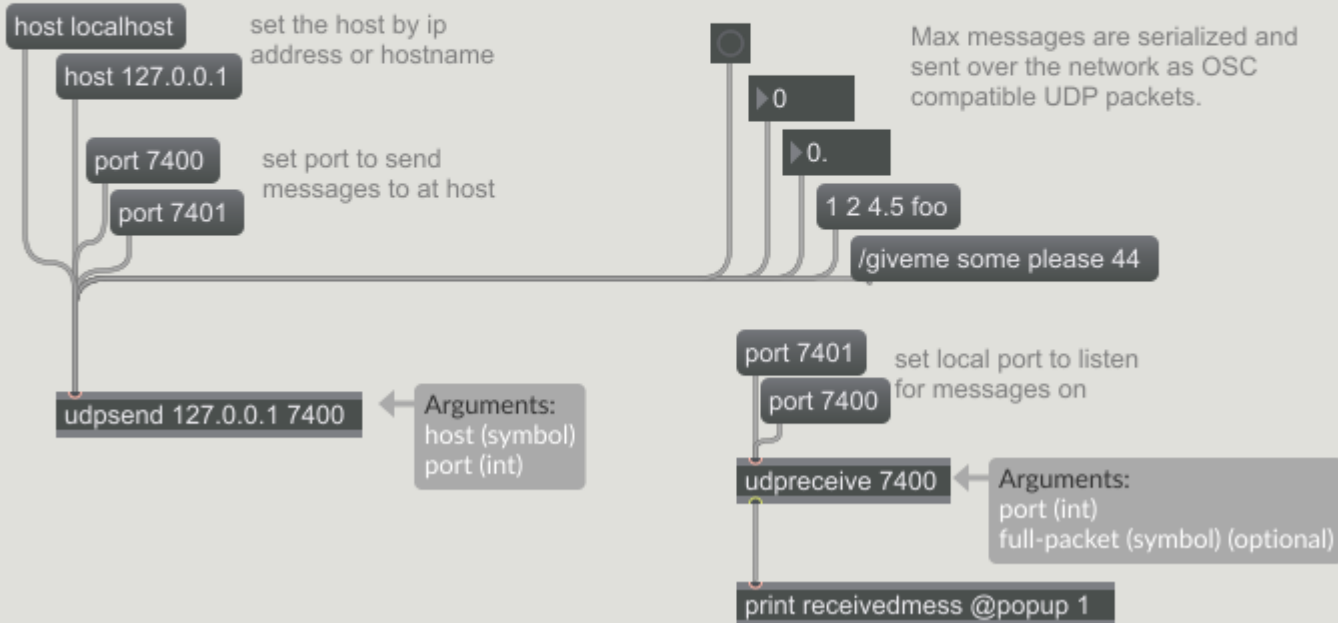
http://opensoundcontrol.org/spec-1_0

Network Communication in Max

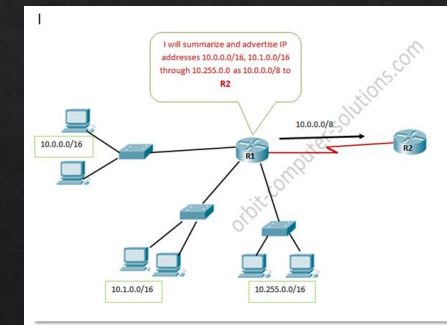
udpreceive

Receive messages over a network

Receives messages transmitted over a network using the User Datagram Protocol (UDP).



An **Internet Protocol address (IP address)** is a numerical label assigned to each device connected to a computer network that uses the Internet Protocol for communication. An IP address serves two main functions: host or network interface identification and location addressing.



Network Communication in Max

Try connection router : interactivesound

Password: va336546

What is your ip?

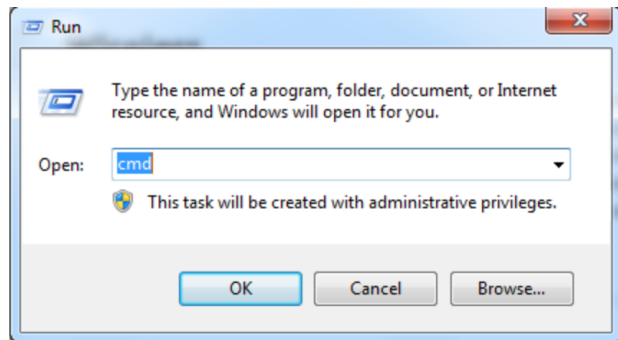
Network Communication in Max

For Windows OS

Step 1 Open the Command Prompt

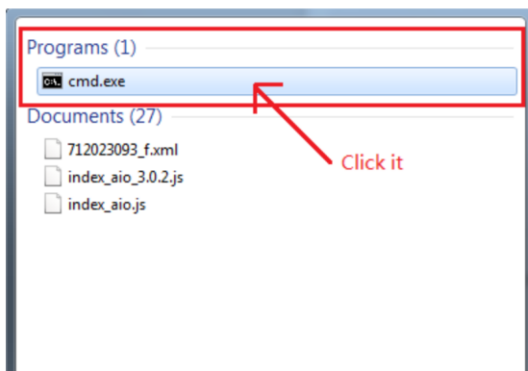
Solution 1

Press the **Windows** and **R** keys on your keyboard at the same time, you can see a small window as below pop up, then enter "**cmd**" into the field. Press enter to open the command prompt.



Solution 2

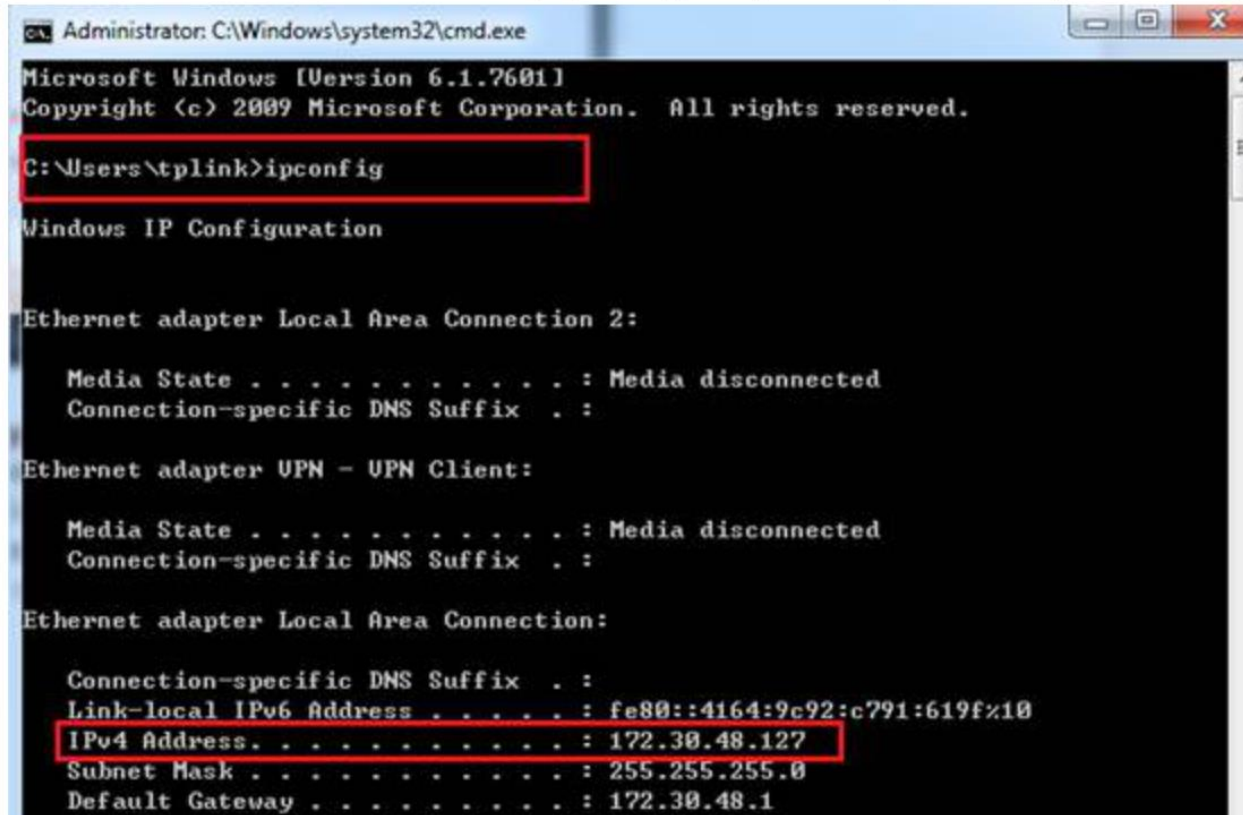
Click on the **Windows** button on the bottom left of your screen, then start typing "**cmd**" into the "**Start search**" box on the bottom near t button. Click on the "**cmd**" under programs to open the command prompt.



Network Communication in Max

Step2 Type "ipconfig" and press enter

This will display a list of your network connection information. Near the top of the list, look for "**IPv4 Address**" under either Wireless Network Connection or Local Area Connection (depending on if your computer is using Wi-Fi or not).



```
Administrator: C:\Windows\system32\cmd.exe
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\tplink>ipconfig

Windows IP Configuration

Ethernet adapter Local Area Connection 2:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . :

Ethernet adapter UPN - UPN Client:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . :


Ethernet adapter Local Area Connection:

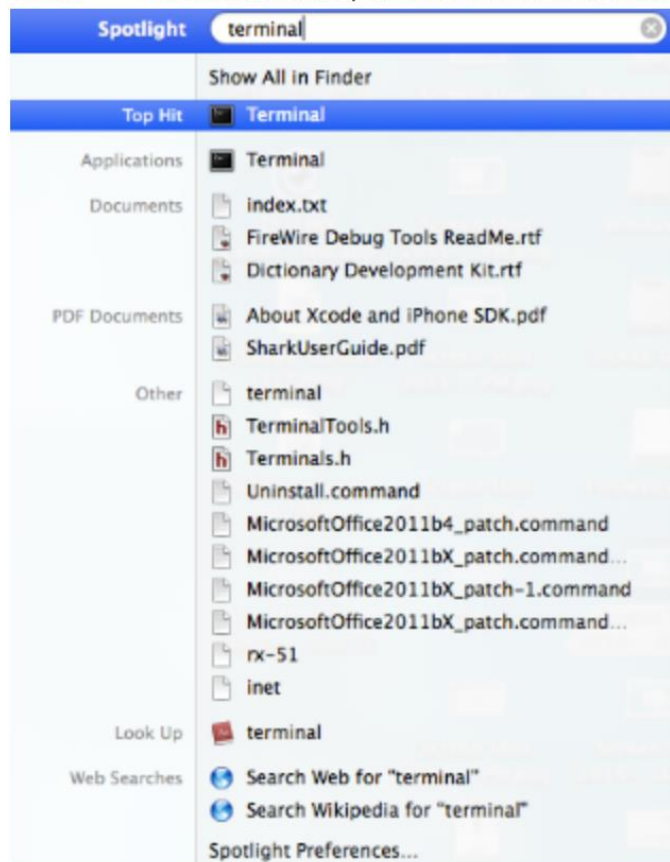
    Connection-specific DNS Suffix  . :
    Link-local IPv6 Address . . . . . : fe80::4164:9c92:c791:619f%10
    IPv4 Address. . . . . : 172.30.48.127
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 172.30.48.1
```


Network Communication in Max

For MAC OS

Step 1 Open the Terminal.

Click  in the taskbar, put **Terminal** in the search bar and select **Terminal** in the list.



Step 2 Use the ifconfig command.

After we select **Terminal**, press **Return** key on your keyboard. Put **ifconfig** in the command window and press **Return** key again. Your IP address will be displayed next to the "inet" entry in et0 or Wi-Fi1.

```
tp-linktp-link — bash — 80x24
en0: flags=8863<UP,BROADCAST,SMART,RUNNING,SIMPLEX,MULTICAST> mtu 1500
options=b<RXCSUM,TXCSUM,VLAN_HWTAGGING>
ether 58:b0:35:f8:04:6d
inet6 fe80::5ab0:35ff:fe8:46d%en0 prefixlen 64 scopeid 0x4
inet 192.168.0.102 netmask 0xfffff00 broadcast 192.168.0.255
nd6 options=1<PERFORMNOD>
media: 100baseTX <full-duplex,flow-control>
status: active
en1: flags=8863<UP,BROADCAST,SMART,RUNNING,SIMPLEX,MULTICAST> mtu 1500
ether f8:1e:df:ef:26:16
inet6 fe80::fa1e:dfff:feef:2616%en1 prefixlen 64 scopeid 0x5
inet 169.254.192.107 netmask 0xffff0000 broadcast 169.254.255.255
nd6 options=1<PERFORMNOD>
media: autoselect
status: active
fw0: flags=8822<BROADCAST,SMART,SIMPLEX,MULTICAST> mtu 4078
lladdr d8:30:62:ff:fe:fb:a9:b6
media: autoselect <full-duplex>
status: inactive
p2p0: flags=8843<UP,BROADCAST,RUNNING,SIMPLEX,MULTICAST> mtu 2304
ether 0a:1e:df:ef:26:16
media: autoselect
status: inactive
TP-LINKs-MacBook-Pro:~ tp-linktp-link$
```