JOS Activities, Fall 2024

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JOS Update

Oct 23, 2024

Where I am Coming From

My Path to CCRMA

Musician : Math : Physics : EE : Control : DSP : System ID : SAIL/CCRMA ('76):

Center for Computer Research in Music and Acoustics (CCRMA)

Stanford AI Lab (SAIL) 60s-80s

Stanford Knoll (main campus)

John Chowning

Max Mathews

Also: Andy Moorer, John Grey, Leland Smith, Earl Schubert, John Pierce, . . .
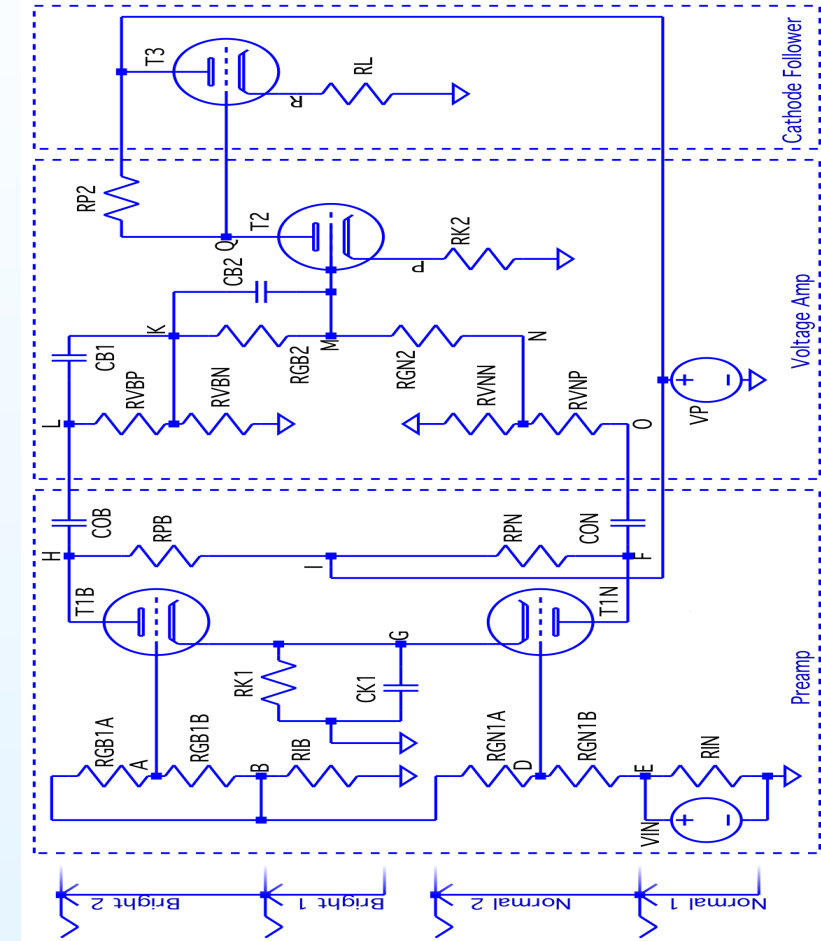
JOS Motivation

(a) Some Gig

(b) Tube Amp (Digitize it!)
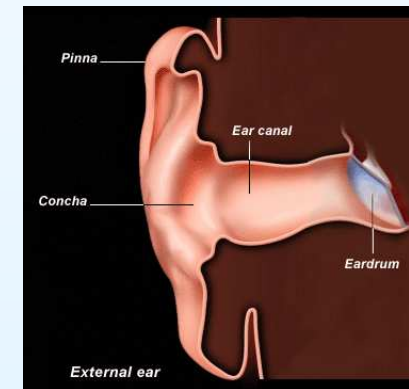
JOS Courses Developed for CCRMA (and EE)

- **Music 320A**: AUDIO SPECTRUM ANALYSIS

- **Music 320B**: AUDIO FILTER ANALYSIS AND STRUCTURES

- **Music 420A**: **PHYSICAL** AUDIO SIGNAL PROCESSING

- **Music 421A**: **TIME-FREQUENCY** AUDIO SIGNAL PROCESSING

420A

$\longrightarrow$

421A

All four textbooks **free online**

Current JOS Activities

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1. *Physical modeling synthesis* of guitars, basses, and effects (mostly with moForte)
2. *Free Open-Source Software Contributions* — lately "`scipy.cpp`" (ADC-24 Online)
3. Keeping up with *papers* and *code* from the Web (Arxiv, GitHub, …)
4. *Friday Afternoons at CCRMA:* DSP Seminars, Meetings, …
5. *Music 320 Extensions* (320e): Tutorials building on Music 320, *by request,* such as:

   (a) FM Spectra [done]
   (b) General Digital Filter Design [DSP Seminar before Thanksgiving this quarter]
   (c) Classic Analog Filter Design (plus Digitization) [soon]
   (d) Parametric Equalizers [soon]

6. *Research collaborations* with graduate students here and elsewhere (≈ 6 now)
7. *To-Do List* currently 17,304 lines long ($\smile$)

For the latest, refresh my *CCRMA home page* at
`https://ccrma.stanford.edu/~jos/`