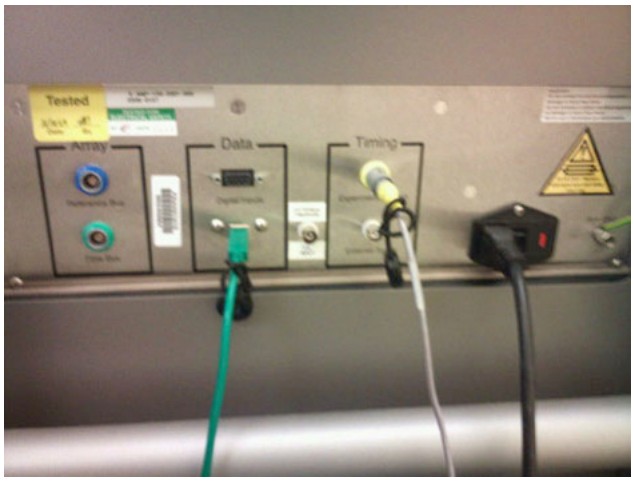
High-Density VEP Set-Up Checklist

MONITOR

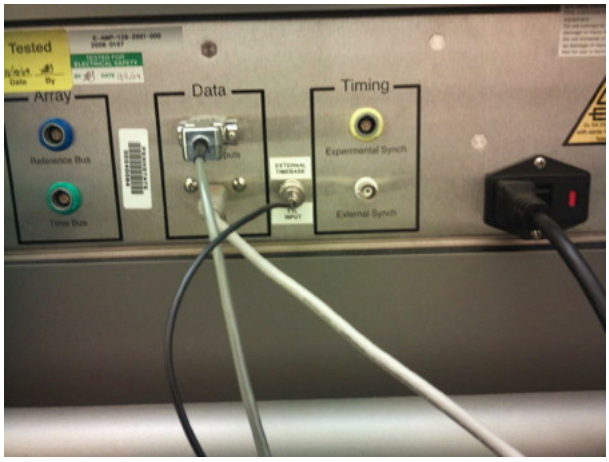
- Turn on the **CRT monitor** on the cart in 120G

AMPLIFIER

- In 120G Chandlee remove cables from amplifier and connect them to pegs on wall.



- Wheel amp between the monitor and the subject chair so that it is to the right of the subject chair. **ALWAYS PULL AMP BACKWARDS TO PREVENT TIPPING**
- Plug the 4 cords from the wall ports connecting rooms G and H into respective ports (Digital input, USB, and TTL input external timebase) of the amplifier.
- Turn power on (I = on).



- Turn small switch on amplifier to **NORMAL**
  - If this is on another setting during calibration and impedance check, you will see an error stating that everything is out of specification.
  - If there is an error, you must begin the setup from step one again.

COMPUTERS

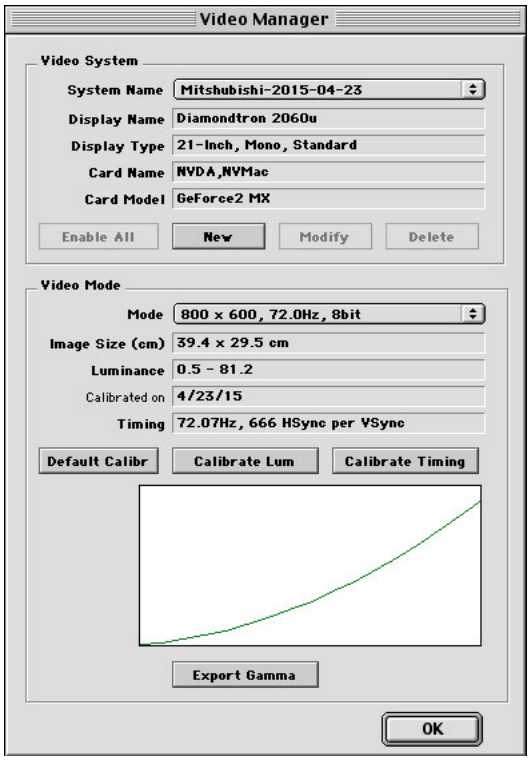
- In 120H Switch on power of large surge protector on bottom left shelf.

- Switch on power of smaller, thin surge protector on second shelf (ignore lights; always on).
- Turn on **PD Video** and **NetStation** computers, and both monitors.
    - If either monitor screen is unresponsive, you may need to toggle to the correct computer via the gray KVM switches on the top left (PD Video / Link 15) and right (NetStation / PD Host) shelf.
- Turn on external timebase, behind the monitors (switch is back, right side).
- Remove the plug from the external timebase outlet labeled **OUT**. (Clock Out stays in).

- Make sure that white round switch on top of the left KVM switch is set to B.

- On PD Video computer, open Power Diva Video 3.4 software. (icon label says alias)

- In Power Diva Video, go to Configuration > Video Manager. In **Mode** window, make sure the calibrated video setting is selected:
    - 800 x 600, 72 Hz, 8 bit

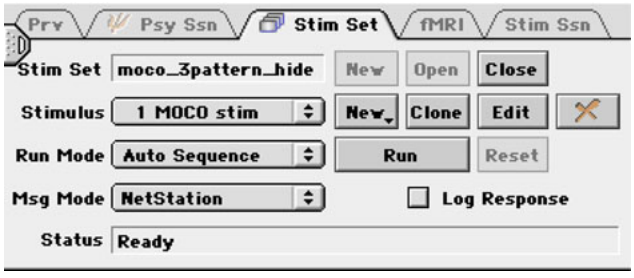


- Click **OK**

Prepare Stimuli

For Child and Adult

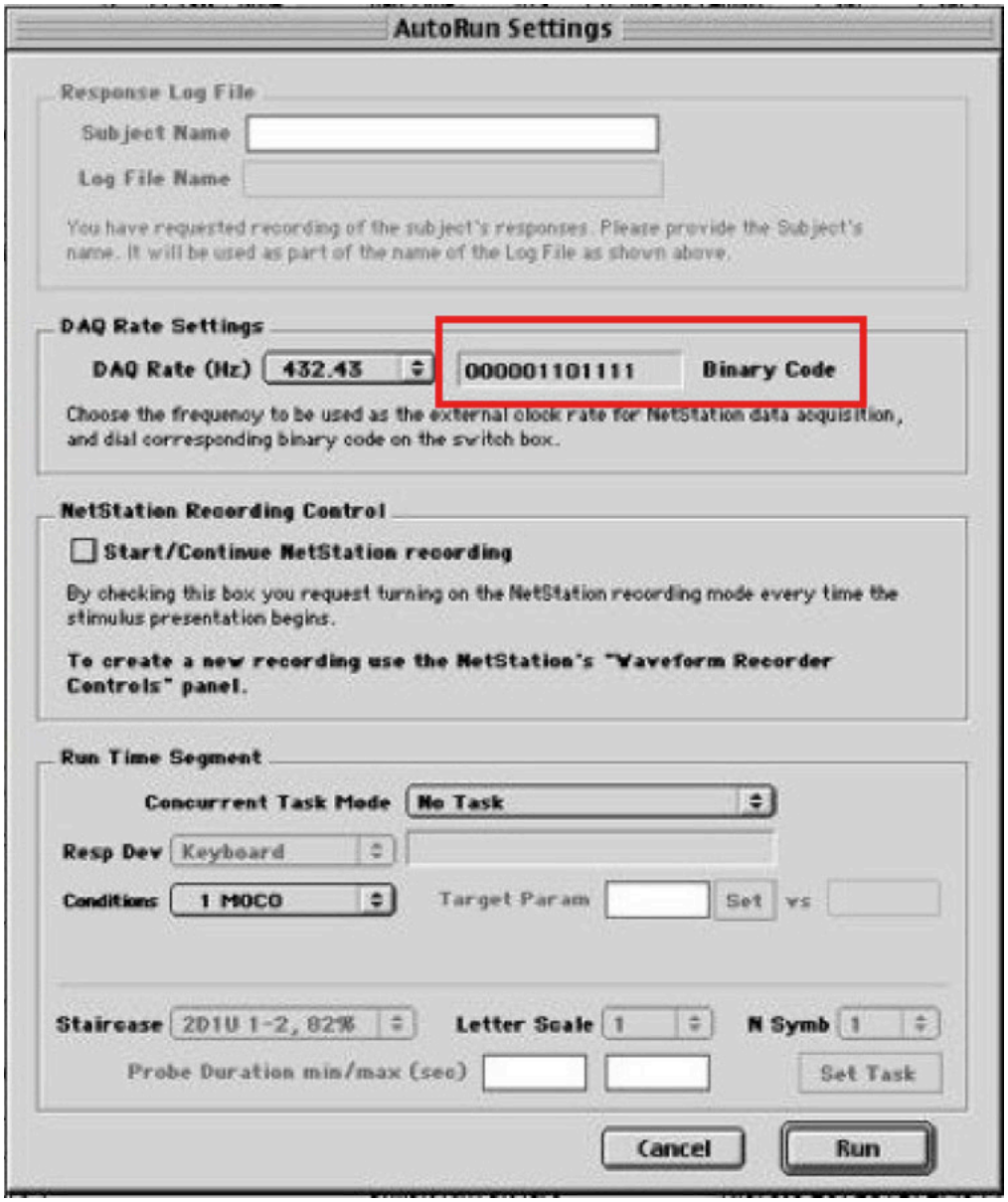
- In Run mode (pull-down tab), choose **Auto Sequence**.
- In Msg mode (pull-down tab), choose **Net Station**.
- In Stim Set, Go to Open, and choose the appropriate stimulus set.
    - Child
        - mofo_tuning_child_20150428
    - Adult
        - moco_3pat_hidens_20150428



For Infant

- In Run mode (pull-down tab), choose **Baby Mode**.
- In Msg mode (pull-down tab), choose **Net Station**.
- In Stim Set, Go to Open, and choose the appropriate stimulus set.
    - inf_2pat_lamrad_20150428 (most used)
    - inf_2pat_lamrot_20150428
    - inf_2pat_radrot_20150428

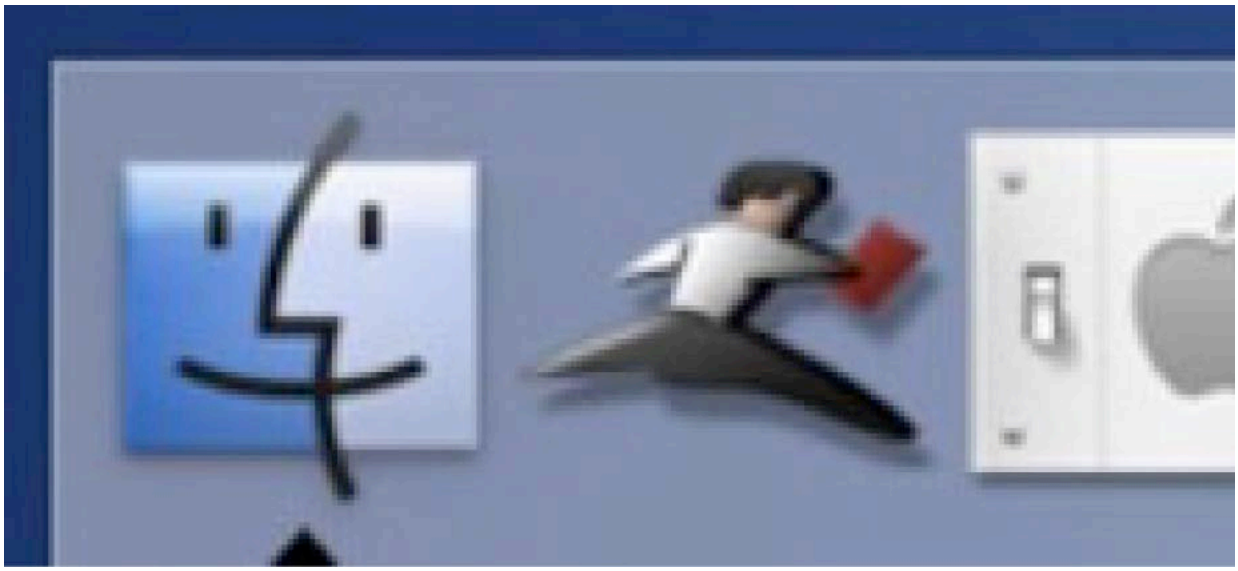
- Press the **Run** button. In the DAQ Rate Settings window, there is a binary code to confirm. On the side of the external time box facing you, there are silver switches (**up = 1, down = 0**). Read the binary code in the PD Video window from **RIGHT to LEFT**, and check to make sure that the switches on the timing box correspond to this code. If they don't match, notify the PI. If they do, press **Cancel**.



Prepare Net Station

- Go to the Net Station computer and log in with the **gilmorelab** account (w/ lab password - **0baby0**).

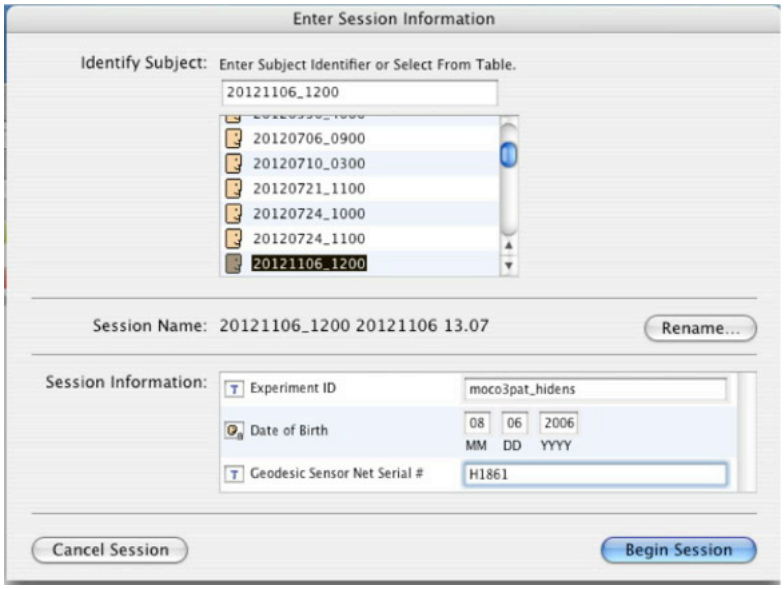
- In the dock at the bottom of the screen, click on the icon for Net Station (purple icon) to open the program.



- When the window pops up, there should be a key symbol with the words **Wenger** on the bottom left-hand side. If it is not there, this means that the NS HASP key is not plugged in.
- In the Net Station window, click **New Session**
- Select the session template labeled **Power Diva Setup**.

AFTER PARTICIPANT ARRIVES

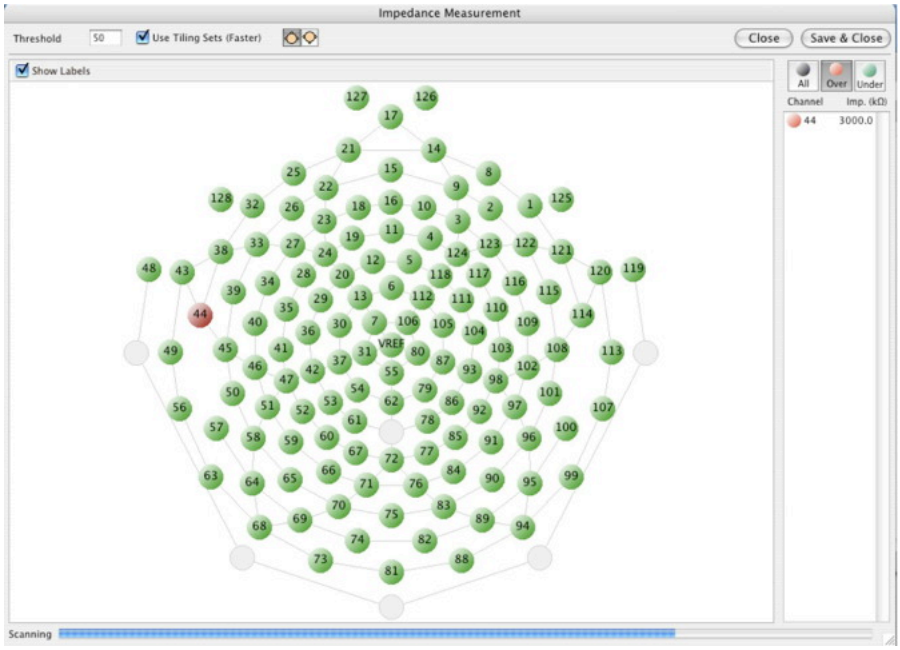
- Enter participant ID, Experiment Name, Date of birth, and net serial number. Lab uses the following standard ID number for each session: YYMMDD_ID# (Test Date_Participant ID number).



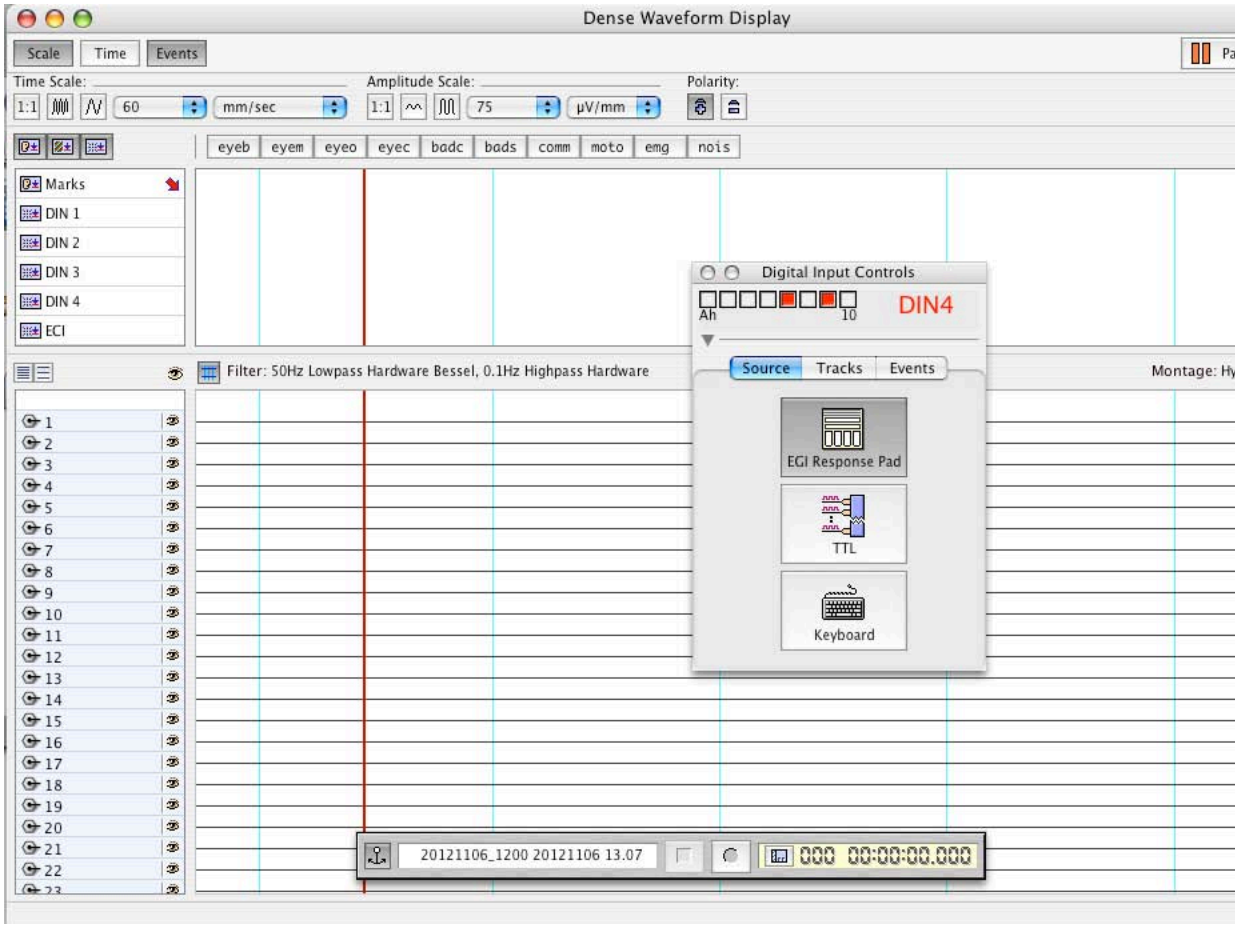
- **Begin Session**.
- Run Zeros and Gains (should run automatically). The net cannot be plugged into the articulating arm at this time.

- Complete EEG Net Placement. (separate protocol)
- After netting, plug the net into the articulating arm.

- Measure Impedance
    - Go to the **Panels** menu at the top of the screen and select **Impedance**
    - Then click the **Measure Impedance** button.
    - Adjust channels as necessary.
    - Click **Save & Close** when satisfactory.
    - If the incorrect impedance check appears, double check that both connectors on the amplifier are securely plugged in.



- Go to the **Panels** menu at the top of the screen and select **Dense Waveform Display**.



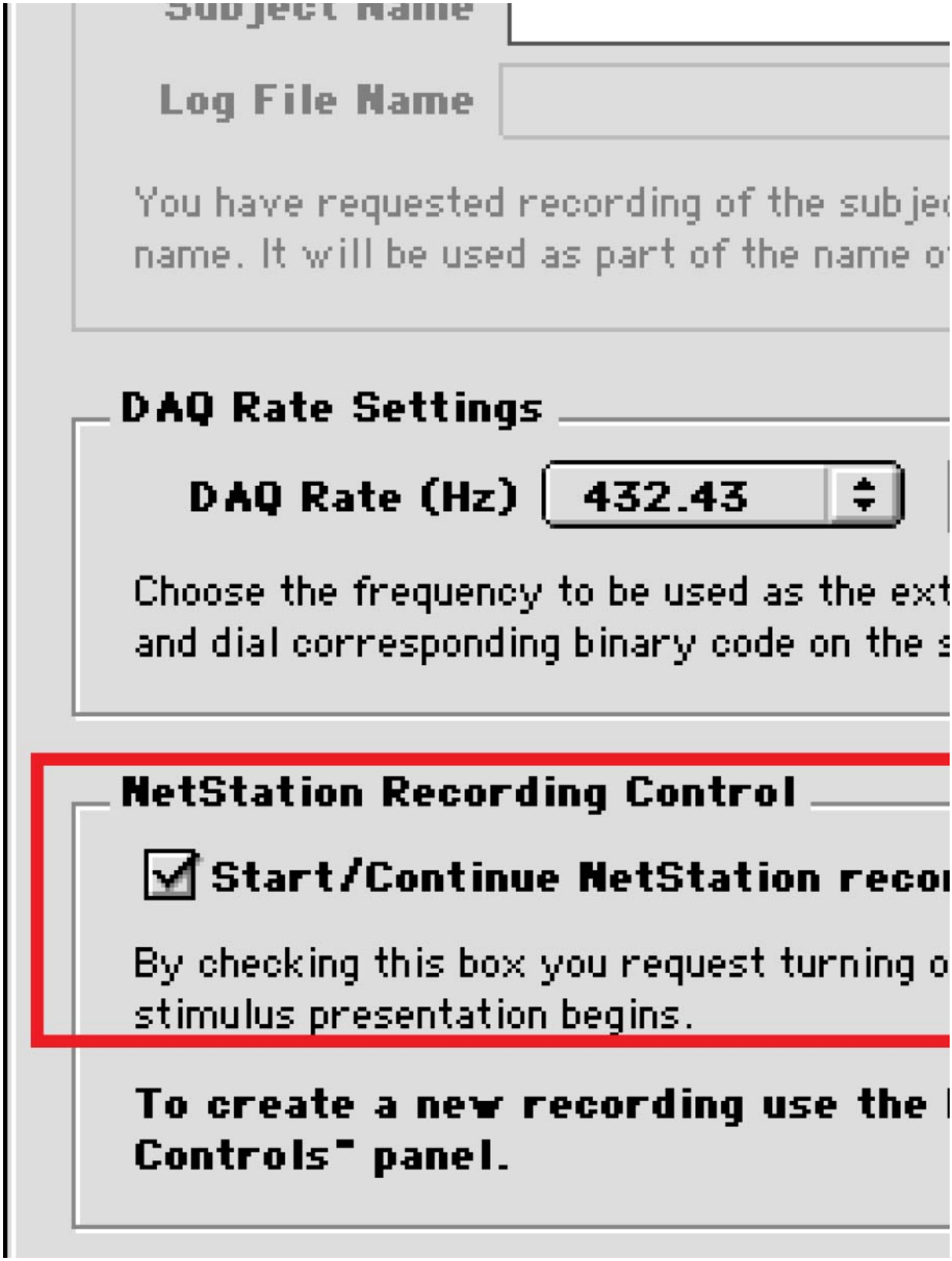
- Turn small switch on amplifier to **EXTERNAL TIMEBASE**.

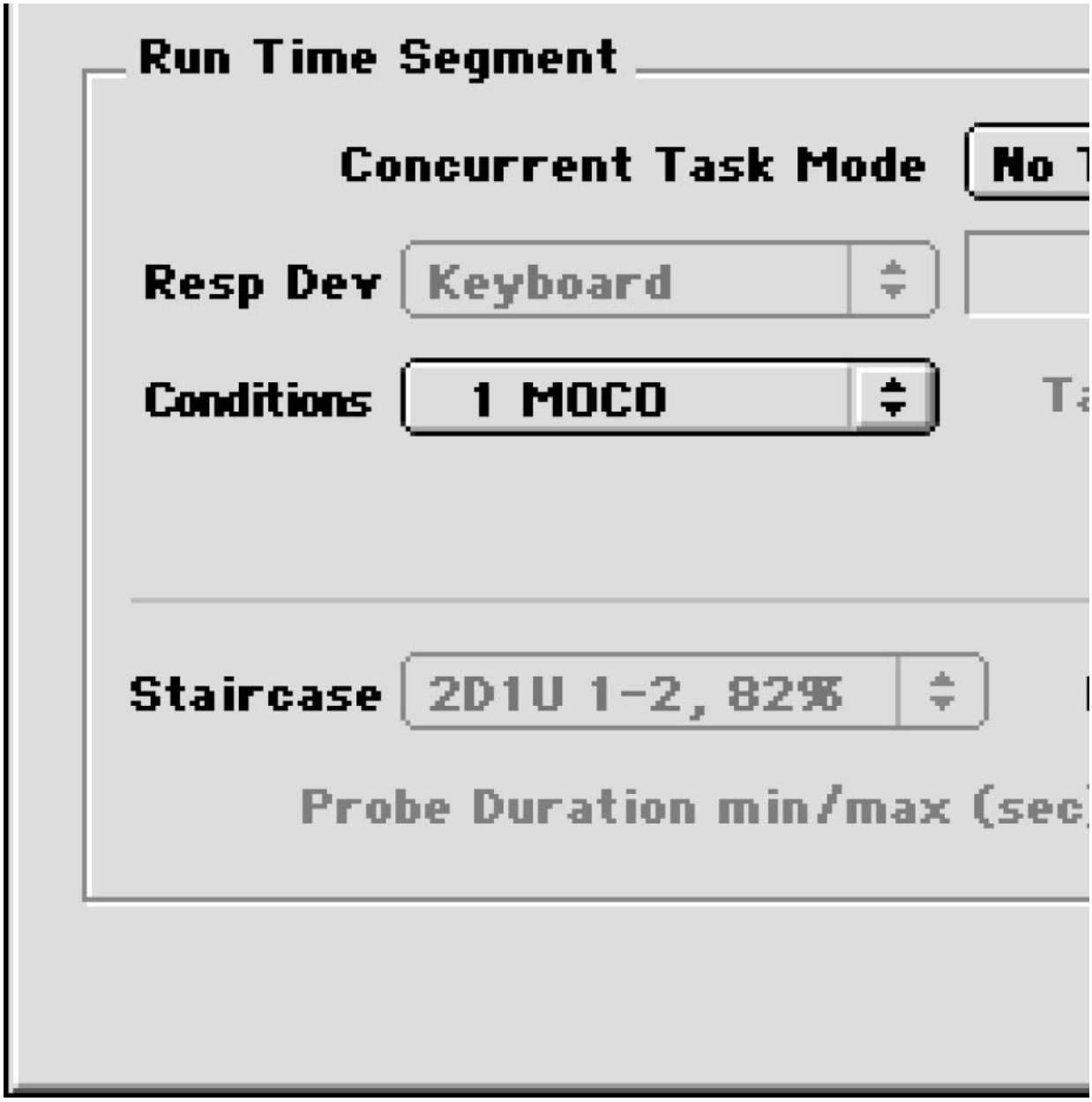
Experimental Setup

- The monitor should be located 60cm from the bridge of the nose on the participant
- The chair height should be set so the participant is looking directly at the **X** in the middle of the screen.
- High Density
    - Baby Mode (Researcher in the room)
        - Record: Use the Keyboard to record (**R**)
            - When recording there is an **X** in the middle of the screen.
        - Pause Study: Use the keyboard to pause (**W**)
            - When paused there is an **X** with a **circle** around it in the midde of the screen
        - Use the toys to keep attention toward the monitor
    - Auto Sequence
        - Pause Study: The keyboard **space bar** in the testing chamber or on the PD Video computer
        - Continue Study: The **Continue** button must be clicked in the Power Diva software
- Low Density
    - Game controller is used to record and pause

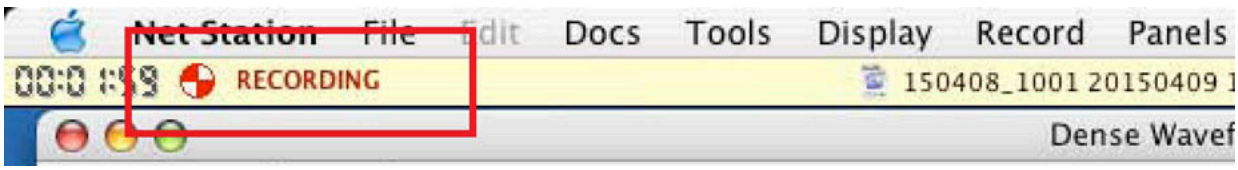
Run Experiment

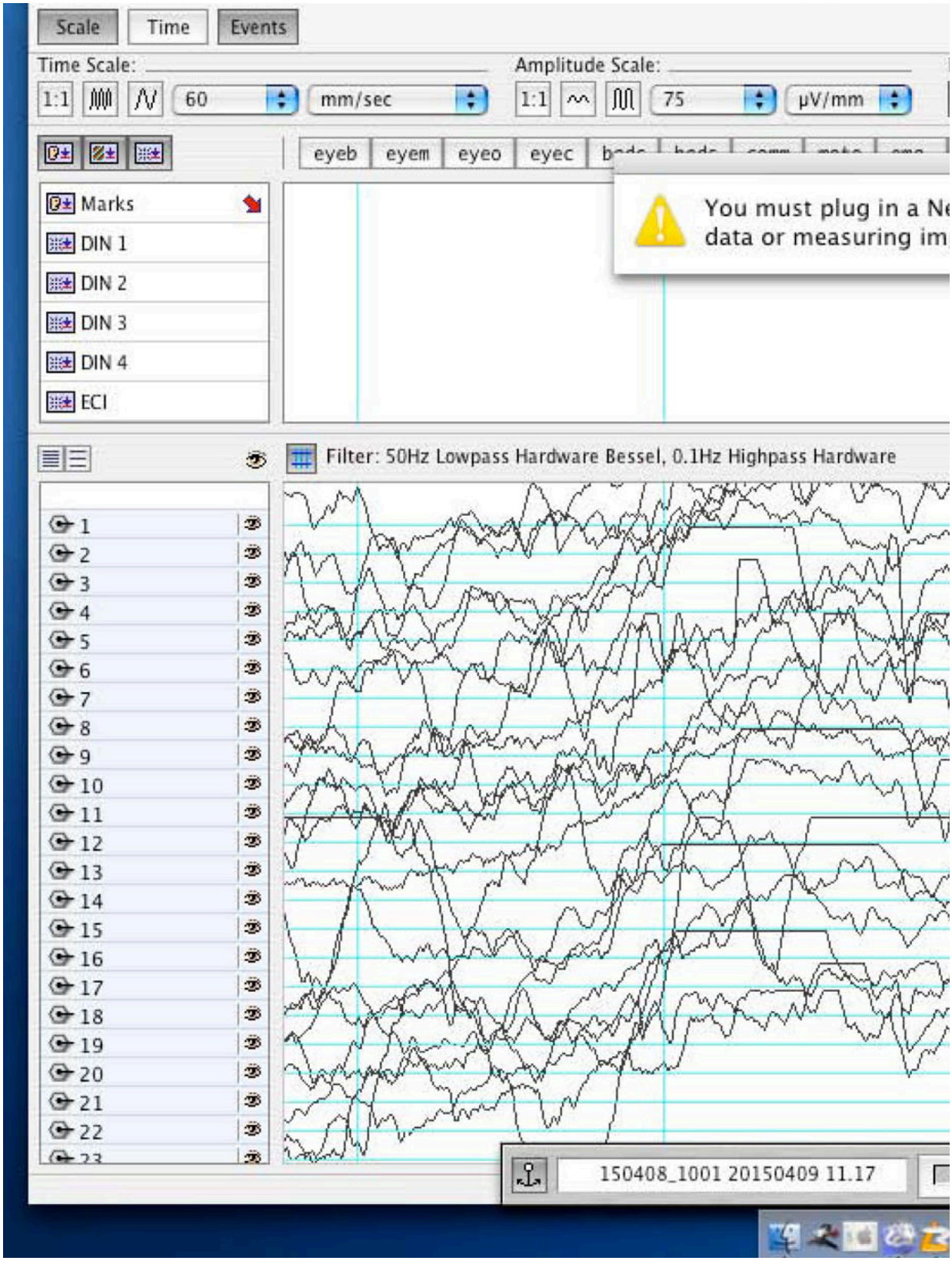
- In Power Diva Video, press the **Run** button in the **Stim Set** window
- The **Auto Run Settings** window will open
- **Check the box** in the Net Station Recording control window labeled **Start/Continue Net Station Recording**
- Press **Run**.


Subject Name
Log File Name
You have requested recording of the subje
name. It will be used as part of the name o
DAQ Rate Settings
DAQ Rate (Hz)
432.43
Choose the frequency to be used as the ext
and dial corresponding binary code on the s
NetStation Recording Control
Start/Continue NetStation reco
By checking this box you request turning o
stimulus presentation begins.
To create a new recording use the
Controls" panel.



- Try to get the following number of blocks of data:
    - Infant: 6
    - Child: 10
    - Adult: 12
- On the Net Station computer, make sure the “Recording” symbol is displayed on the upper left-hand side of the screen. Also, make sure the event flag labeled “DIN4” is present, as well as a flag below this with the condition number (e.g., “c004”).
    - the flag "p003" means that the study was paused




Scale
Time
Events
Time Scale:
1:1
60
mm/sec
Amplitude Scale:
1:1
75
µV/mm
eyeb
eyem
eyeo
eyec
Marks
DIN 1
DIN 2
DIN 3
DIN 4
ECI
You must plug in a Ne
data or measuring im
Filter: 50Hz Lowpass Hardware Bessel, 0.1Hz Highpass Hardware
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
150408_1001 20150409 11.17

AFTER SESSION

- Once recording is complete, select the **close session** button on the Net Station computer (this saves the session).
- Return computers and other devices to their default settings.
- Return and replug amplifier to its default setup.
- Clean net and begin data export (separate protocols).