Protocol: Acoustic Startle

Date: 2/8/17

Originator: J Neal

Note:

Following is the MNBF protocol for Acoustic Startle. Shock Center performs Acoustic Startle in the MNBF with their equipment.

Habituation
1) Before moving mice to MNBF for testing, number the tail of each animal before placing in box.
2) Load boxes, as they are completed, onto a pallet for transportation to MNBF
3) Once inside MNBF, hang "Please enter quietly - Mice Habituating in anteroom" sign on outside of MNBF entrance door and on shelf above sink (the sign is stored on the announcement whiteboard).
4) Turn testing room lights on to their highest setting.
5) Bring mice to the open space just opposite the testing room door. Let habituate for 1 hour. During this time, run an empty Acoustic Startle session (see Steps #13 and 14) to ensure that all subjects are evenly exposed to stimuli in adjacent holding area.

Calibration
6) Attach and plug in standardization unit into chamber 1. Let warm up for 15 minutes before moving onto the next step.
7) Open SR-LAB program from desktop. Under Run, select Diagnostics.
8) Select File in the upper left hand corner of the screen and Open Diagnostic Database. Open the 'Calibrate.MDB' file.
9) On right hand table, select Remove All if old calibration data is present.
10) Select chamber to be calibrated and hit Start.
11) Observe the average millivolt value in the bottom right corner of the screen and wait until it levels out to a constant value. You will want a reading of 700-710 mV for >10 trials. To adjust, turn the Response Adjust dial on the right side of chamber.
12) Press stop button to end calibration and Remove All to clear data from table.
13) Repeat steps 8-10 for all chambers then close out of the Diagnostics window.

Setting up Experiment
14) Per MNBF protocol, mice are tested in Acoustic Startle chambers with chamber light OFF and fan ON. Check that chamber switches are set accordingly.
15) Back in SR-Lab program, under File, select Open Study Database. New databases are created periodically as they become full so there will be more than one to choose from. Always use the most recent database.
16) There are 8 chambers so create as many sessions as needed to test your entire cohort. To create test sessions:
    a. Select File and Create Session.
    b. Select Add Session ID and name session.
    c. Place a checkmark next to the session definition:
        Startle response curve_07sept2016
    d. Click Save Session and either add another session ID or close window.
17) To assign subjects to a session:
    a. Select File and Create Subjects.
    b. Select session to assign subjects to.
    c. Enter chamber # and subject ID.
    d. Click save and close.

Protocol: Acoustic Startle

Date: 2/8/17

Originator: J Neal

      e.   Create an empty session (with no animals) and run this during the habituation period (see Step #3).

Running Test

18) Move the 8 animals that are to be tested from the habituation rack onto a rolling metro cart and bring into testing room. Mice are usually housed 4 per side so a single duplex cage will be rolled into the testing room. Per MNBF protocol, in cases where there is not an even n=8 mice to be tested, do NOT split the cage to save time. For example, if each duplex side has n=5 mice then test in 2 different runs using only 5 chambers for each run to test the 10 mice. If you split the box you would test 5 from one side and 3 from the other which is incorrect.
19) Place each mouse into pre-assigned chamber inside of the animal enclosure tube and secure with snap-in doors
20) Select Run and Session. Under Session ID, scroll and select your pre-named session. Check all chambers that will be in use.
21) Click Start to begin.
22) A popup message will notify you when the session has ended (MNBF protocol takes 30 minutes.) Session data is automatically saved.
23) Return mice to their homecage and clean the load cell platform with 70% ethanol. Soak paper in 70% ethanol and push it through the enclosure to clean.
24) Repeat steps 16-21 for next group of mice.
25) After all mice have been tested and chambers cleaned, wipe enclosures down with Virkon cleaner.

Collecting Data

26) Select Run and Report. In bottom right of screen, Select Export Run Data and check sessions that you want to concatenate into a single data file.
27) Check that the file will be formatted in rows and saved as an Excel file.
28) Name and save file which will be saved in Local Disk (C:):
29) Email this file to yourself (since laptop is off network).