NEL Arduino-Based Motor Behavior File Format (*.ARDYMOTOR)

(Changes from previous versions are shown in red)

Version: -3 (incremental change from version -1, not version -2)
- (int8) - Format version.
- (uint16) - DayCode.
- (uint8) - Booth number.
- (uint8) - Number of characters in the rat's name.
    - (uchar) - Characters of the rat's name.
- (float32) - Input device position (in centimeters).
- (uint8) - Number of characters in the stage title.
    - (uchar) - Characters of the stage title.
- (uint8) - Number of characters in the device description.
    - (uchar) - Characters of the device description.
    - If the device is the pull, knob, or lever:
        - (float32) - Coefficients of the calibration equation (m,b).
    - If the device is the wheel or the knob:
        - (float32) - Number of degrees per tick.
- (uint8) - Number of characters in the constraint description.
    - (uchar) - Characters of the constraint description.
- (uint8) - Number of characters in the threshold units.
    - (uchar) - Characters of the threshold units.
- Repeat through all trials:
    - (uint32) - Trial Number.
        - A trial number of zero indicates a manual feeding or pause.
    - (float64) - Start time of trial (serial date number).
    - (uint8) - Outcome
        - H (72) = Hit
        - M (77) = Miss
        - F (70) = Manual Feed
        - P (80) = Pause
        - If the outcome was a pause:
            - (float64) - End time of the pause.
    - (float32) - Response window (in seconds).
    - (float32) - Threshold for trial initiation.
    - (float32) - Threshold for reward.
    - (uint8) - Number of hits/rewards.
        - (float64) - Hit/reward times (serial date number).
    - (uint8) - Number of VNS events.
        - (float64) - VNS event times (serial date number).
    - (uint32) - Number of samples in the sensor signal.
    - (int16) - Signal timepoints (in microseconds).
    - (float32) - Device signal values.
    - (int16) - IR signal values.

Version: -2
- (int16) - Format version.
- ~~(uint16) - DayCode.~~
- (uint16) - Booth number.
- (uint8) - Number of characters in the rat's name.
  - (uchar) - Characters of the rat's name.
- (float32) - Input device position (in centimeters).
- (uint8) - Number of characters in the stage title.
  - (uchar) - Characters of the stage title.
- (uint8) - Number of characters in the device description.
  - (uchar) - Characters of the device description.
  - If the device is the pull:
    - (float32) - Coefficients of the calibration equation (m,b).
  - If the device is the wheel or the knob:
    - (float32) - Number of degrees per tick.
- (uint8) - Number of characters in the constraint description.
  - (uchar) - Characters of the constraint description.
- (uint8) - Number of characters in the threshold units.
  - (uchar) - Characters of the threshold units.
- (float32) - Pre-trial sampling duration (in milliseconds).
- Repeat through all trials:
  - (uint32) - Trial Number.
    - A trial number of zero indicates a manual feeding or pause.
  - (float64) - Start time of trial (serial date number).
  - (uint8) - Outcome
    - H (72) = Hit
    - M (77) = Miss
    - F (70) = Manual Feed
    - P (80) = Pause
    - If the outcome was a pause:
      - (float64) - End time of the pause.
  - (float32) - Response window (in seconds).
  - (float32) - Threshold for trial initiation.
  - (float32) - Threshold for reward.
  - (uint8) - Number of hits/rewards.
    - (float64) - Hit/reward times (serial date number).
  - (uint8) - Number of VNS events.
    - (float64) - VNS event times (serial date number).
  - (uint32) - Number of samples in the sensor signal.
  - (uint16) - Signal timepoints (in microseconds).
  - (float32) - Device signal values.

- ○ (int16) - IR signal values.

Version: -1
- ● (int8) - Format version.
- ● (uint16) - DayCode.
- ● (uint8) - Booth number.
- ● (uint8) - Number of characters in the rat's name.
  - ○ (uchar) - Characters of the rat's name.
- ● (float32) - Input device position (in centimeters).
- ● (uint8) - Number of characters in the stage title.
  - ○ (uchar) - Characters of the stage title.
- ● (uint8) - Number of characters in the device description.
  - ○ (uchar) - Characters of the device description.
  - ○ If the device is the pull:
    - ■ (float32) - Coefficients of the calibration equation (m,b).
  - ○ If the device is the wheel or the knob:
    - ■ (float32) - Number of degrees per tick.
- ● (uint8) - Number of characters in the constraint description.
  - ○ (uchar) - Characters of the constraint description.
- ● (uint8) - Number of characters in the threshold units.
  - ○ (uchar) - Characters of the threshold units.
- ● Repeat through all trials:
  - ○ (uint32) - Trial Number.
    - ■ A trial number of zero indicates a manual feeding or pause.
  - ○ (float64) - Start time of trial (serial date number).
  - ○ (uint8) - Outcome
    - ■ H (72) = Hit
    - ■ M (77) = Miss
    - ■ F (70) = Manual Feed
    - ■ P (80) = Pause
    - ■ If the outcome was a pause:
      - ● (float64) - End time of the pause.
  - ○ (float32) - Response window (in seconds).
  - ○ (float32) - Threshold for trial initiation.
  - ○ (float32) - Threshold for reward.
  - ○ (uint8) - Number of hits/rewards.
    - ■ (float64) - Hit/reward times (serial date number).
  - ○ (uint8) - Number of VNS events.
    - ■ (float64) - VNS event times (serial date number).
  - ○ (uint32) - Number of samples in the sensor signal.
  - ○ (int16) - Signal timepoints (in microseconds).
  - ○ (float32) - Device signal values.
  - ○ (int16) - IR signal values.

Version: Original

- (uint16) - DayCode.
- (uint8) - Booth number.
- (uint8) - Number of characters in the rat's name.
    - (uchar) - Characters of the rat's name.
- (uint8) - Input device position (in inches).
- (uint8) - Response window (in seconds).
- (uchar) - Characters of the stage title.
- (uchar) - Characters of the device description.
- (uint8) - Bin size.
- (uint8) - Number of stimulus parameters.
    - (int16) - Number of characters in the name of parameter #1.
    - (uchar) - Characters of parameter #1 name.
    - …
- Repeat through all trials:
    - (uint16) - Threshold for reward.
    - (float64) - Start time of trial (serial date number).
    - (float64) - Hit/reward time (serial date number).
    - (float64) - Trial Outcome (0 = miss, 1 = hit w/ no stim., 2 = hit w/ stim.)
    - (uint32) - Number of beam breaks on IR#1
        - (float64) - Beam break times (serial date number).
    - (uint32) - Number of beam breaks on IR#2
        - (float64) - Beam break times (serial date number).
    - (uint32) - Number of beam breaks on IR#3
        - (float64) - Beam break times (serial date number).
    - (uint32) - Number of samples in the sensor signal.
        - (float64) - Signal values.
    - …