### **Experimental Parameter Definitions**

#### **Target Session Parameters**

* **Pop Target:** Integer (i.e. 2) When using a single cursor, pop-circles can be used to align the hands prior to movement start. When this is done, the targets for the single cursor use the *targetR*, and all cursor parameters are taken for right hand settings. The pop-circles are taken from the Pop Target start position for the left hand, and end position for the right hand.
* **Start Circle Diameter (Left Hand)**: Diameter of the left start circle in meters (ie. 0.035).
* **Target Center Diameter (Left Hand)**: The diameter of a circle centered on the center of the target in which 10 points will be scored. Twice this score 3 points, and three times this will score 1 point.
* **Target Circle Diameter (Left Hand)**: Diameter of the left target in meters (ie. 0.035).
* **Target Color**: The color that the target will change to after the target color delay, following trial start for left hand.
* **Target Color Change Delay:** The time delay in seconds, following trial start, that the target will turn the color specified in target color for left hand.
* **Target Jump Delay:** Time (in seconds) to jump target, following start of trial for left hand.
* **Target Jump Target Number:** Number of target to jump for left hand; if ends or end of the target >3, then the target jumps of screen, and the score is based on the original target.
* **Target Jump Center Diameter (Left Hand)**: The diameter of a circle centered on the center of the target at which a target jump will occur if target jump delay conditions are met.
* **Target Number**: Target number for left hand
* **Trace ID**: Number representing trace file.
* **Velocity Lower End**: The low range for the velocity ‘target’. If the checkbox on the front window is checked, and in range, the spatial points will occur.
* **Velocity Upper End**: The high range for the velocity ‘target’. If the checkbox on the front window is checked, and in range, the spatial points will occur.

#### **Trial Session Parameters**

* **Circle Time**: Amount of time in seconds (ie. 0.3) that the cursor must sit in start circle prior to go-signal.
* **Constant Displace Cursor X**: Constant displacement of right cursor relative to finger in meters (ie. 0.035). Must specify timing with *CURSOR JUMP*. If *CJEND* is shorter than trial duration, the cursor will jump back to undisplaced condition between trials.
* **Constant Displace Cursor Y**: Constant displacement of left cursor relative to finger in meters (ie. 0.035). *MUST* specify timing with *CURSOR JUMP*. If *CJEND* is shorter than trial duration, the cursor will jump back to undisplaced condition between trials.
* **Cursor Perpendicular (Left)**: (0.01 - 10) This allows for two manipulations —
  + 1) The gain of a *virtual coriolis* force
  + 2) When coupled with ‘Displace Cursor with Hand’ checkbox in front window, it allows forearm rotation to produce perpendicular cursor displacement. This must be coupled with a reduced perpendicular gain to restrict perpendicular cursor movement to forearm rotation motion
* **Cursor Feedback**: Show left cursor feedback during the trial (boolean: 0 = false, 1 = true).
* **Cursor Feedback End Time**: Time to stop giving feedback of the left hand in seconds (ie. 0.90). The time when left cursor feedback stops being shown in seconds, relative to the beginning of movement (trigger). Set to greater than duration for full feedback time.
* **Cursor Feedback Start Time**: Time to start giving feedback of the left hand in seconds (ie. 0.3) The time when left cursor feedback starts to be shown in seconds, relative to the beginning of movement ( trigger). Set to zero for full feedback time.
* **Cursor Jump End Time (Left):** The delay in seconds (ie. 0.90) for the left hand cursor jump to return to normal ( no jump) after movement starts. Set to greater than duration for constant displacement.
* **Cursor Jump Start Time:** The delay in seconds (ie. 0.30) for the left hand cursor jump, after movement start. Set to zero for constant displacement.
* **Feedback Radius Setting (Left)**: When left hand feedback radius is shown (0 = only within trials, 1 = only between trials, 2 = both within and between trials).
* **Feedback Radius End Time (Left)**: The distance from the center of the start circle, in meters (ie. 0.15) when left cursor feedback *STOPS* being shown. This can allow a donut of feedback.
* **Feedback Radius Start time (Left)**: The distance from the center of the start circle, in meters (ie. 0.05), when left cursor feedback *STARTS* being shown. Set to 0 to show full feedback.
* **Final Position Circle:** Drops a circle at the end of the movement of the left hand, determined by either reversal point (if reversal is checked) or by velocity cutoff (boolean: 0 = false, 1 = true).
* **Parallel Gain (Left Hand):** Gain of left cursor parallel to direction of target in decimals (ie. 1.5). For complete gain change, set this equal to *Perpendicular Gain Left Hand.*
* **Perpendicular Gain (Left Hand):** Gain of left cursor perpendicular to direction of target in **d**ecimals (ie. 1.5). For complete gain change, set this equal to *Parallel Gain Left Hand.*
* **Go Tone Delay:** Delay in the ‘go’ tone to start trial in seconds. If you start the trial with ‘trigger on go’ or ‘reaction time’, you can start collecting before the subject gets the go tone.
* **Hand**: Specify with 0 = right; 1 = left; 2 = both; for a single cursor, use 0 for right and set *Handsepstart* to a small number (ie. 0.01) and *Handsepend* (ie. 1.0) to a larger number.
* **Hand Path Trial Feedback**: Show hand path after trial left: Boolean (0 = false, 1 = true) ; show left hand knowledge of results in form of hand-path after trial for KR duration set on front window.

* **Hand Separation Distance End:** Maximum distance in meters (ie. 0.30) that the hands need to be separated to show one cursor. If more than this, the cursor turns red, then disappears. If zero, two hands are shown with separate cursors, This value together with handsepstart determines whether one cursor condition occurs.

* **Hand Separation Distance Start:** Minimum distance in meters (ie. 0.03) that the hands need to be separated to show one cursor. If less than this, the cursor turns red, then disappears. If zero, two hands are shown with separate cursors. THis value together with handsepend determines whether one cursor condition occurs.
* **Intertrial Delay:** Time delay between trials in seconds. This delay will prevent another trial from starting until the delay is over.
* **Preparation Time:** The time between target display and 4th tone.
* **Reach Through Points**: Boolean (0 = false, 1 = true). Points are based on the closest point of the cursor path to the center of the target. You can reach through the target and score 10 if you pass through the target center.

* **Rotate Angle:** Displacement dependent rotation in degrees (ie. 30, 330), relative to the start circle; *MUST* be positive, clockwise from 0 to 360.

* **Score Feedback**: Boolean (0 = false, 1 = true). Whether score is given for the left hand.
* **Tolerance Time:** The window that is used to determine timing error(s).
* **Trial Condition:** Enter the number ,starting with ‘1’, corresponding to the conditions set in the trial conditions dialog from window 1.
* **Trial Duration**: Trial duration in seconds (ie. 0.3).
* **Trigger 1 Delay:** Delay in seconds (ie. 0.3) that external Analog TTL trigger output that will occur relative to beginning of movement (trigger is -4 to +8 volts). Need to have external trigger checked on the front window.
* **Trigger by Cursor Distance:** The distance in meters that the cursor has traveled in order for the analog trigger to occur. If set to zero, then the trigger will completely depend on the trigger delay parameter.
* **Trigger 2 Delay**: Trigger 2 delay in seconds.
* **Trigger 2 By Cursor Distance:** The distance in meters that the cursor has traveled in order for the analog trigger to occur. If set to zero, then the trigger will completely depend on the trigger delay parameter.