



## LipSync Mouse Command List

Command	Success Response	Failure Response	Description
<b>SETTINGS</b>	SUCCESS:SETTINGS	FAIL:SETTINGS	Enter Settings mode
<b>EXIT</b>	SUCCESS:EXIT	FAIL:SETTINGS	Exit Settings mode
<b>MN,0:0</b>	SUCCESS:MN,0:1	FAIL:SETTINGS	Get Model number (1=Mouse)
<b>VN,0:0</b>	SUCCESS:VN,0:V{N.NN}	FAIL:SETTINGS	Get version number (V{N.NN})
<b>SS,0:0</b>	SUCCESS:SS,0:{Level}	FAIL:SETTINGS	Get mouse cursor speed value (Level)
<b>SS,1:1</b>	SUCCESS:SS,1:{Level}	FAIL:SETTINGS	Decrease the speed using command (Level)
	MANUAL:SS,1:{Level}		Decrease the speed using push button (Level)
<b>SS,1:2</b>	SUCCESS:SS,1:{Level}	FAIL:SETTINGS	Increase the speed using command (Level)
	MANUAL:SS,1:{Level}		Increase the speed using push button (Level)
<b>PT,0:0</b>	SUCCESS:PT,0:{Threshold 1% to 50%}:{Nominal Pressure}	FAIL:SETTINGS	Get pressure threshold (threshold 1% to 50%) (Nominal Pressure V)
<b>PT,1:{threshold 1% to 50%}</b>	SUCCESS:PT,1:{Threshold 1% to 50%}:{Nominal Pressure}	FAIL:SETTINGS	Set pressure threshold (threshold 1% to 50%) (Nominal Pressure V)
<b>RA,0:0</b>	SUCCESS:RA,0:{Rotation Angle}	FAIL:SETTINGS	Get rotation angle (deg)
<b>RA,1:{Angle: 0-359}</b>	SUCCESS:RA,1:{Rotation Angle}	FAIL:SETTINGS	Set rotation angle (0,90,180,270 deg)
<b>DM,0:0</b>	SUCCESS:DM,0:{Debug Mode}	FAIL:SETTINGS	Get debug mode value ( 0=debug mode disabled,1=debug mode enabled)
<b>DM,1:0</b>	SUCCESS:DM,1:0	FAIL:SETTINGS	Set debug mode value to 0 (Disabled)
<b>DM,1:1</b>	SUCCESS:DM,1:1	FAIL:SETTINGS	Set debug mode value to 1 (Enabled)
	LOG:1:{xHighNeutral,xLowNeutral,yHighNeutral,yLowNeutral}		Log initialization values once if debug mode is enabled
	LOG:2:{xHighMax,xLowMax,yHighMax,yLowMax}		Log calibration values once if debug mode is enabled
	LOG:3:{xHigh,xLow,yHigh,yLow}		Log FSR values if debug mode is enabled until debug mode is disabled
<b>RM,0:0</b>	SUCCESS:RM,0:{Raw Mode}	FAIL:SETTINGS	Get Raw mode value ( 0=raw mode disabled,1=raw mode enabled)
<b>RM,1:0</b>	SUCCESS:RM,1:0	FAIL:SETTINGS	Set Raw mode value to 0 (Disabled)
<b>RM,1:1</b>	SUCCESS:RM,1:1	FAIL:SETTINGS	Set Raw mode value to 1 (Enabled)
	RAW:1:{x,y,action}:{xHigh,xLow,yHigh,yLow}	FAIL:SETTINGS	Log raw values if raw mode is enabled until raw mode is disabled
<b>IN,0:0</b>	SUCCESS:IN,0:{xHighNeutral,xLowNeutral,yHighNeutral,yLowNeutral}	FAIL:SETTINGS	Get joystick initialization values (xHighNeutral,xLowNeutral,yHighNeutral,yLowNeutral)



# Makers Making Change

A Neil Squire Program

## Makers Making Change LipSync Mouse Command List

<b>IN,1:1</b>	SUCCESS:IN,1:{xHighNeutral,xLowNeutral,yHighNeutral,yLowNeutral}	FAIL:SETTINGS	Perform joystick initialization using command (xHighNeutral,xLowNeutral,yHighNeutral,yLowNeutral)
	MANUAL:IN,1:{xHighNeutral,xLowNeutral,yHighNeutral,yLowNeutral}		Perform joystick initialization using push button or sip/puff (xHighNeutral,xLowNeutral,yHighNeutral,yLowNeutral)
<b>CA,0:0</b>	SUCCESS:CA,0:{xHighMax,xLowMax,yHighMax,yLowMax}	FAIL:SETTINGS	Get joystick calibration values (xHighMax,xLowMax,yHighMax,yLowMax)
<b>CA,1:1</b>	SUCCESS:CA,1:0	FAIL:SETTINGS	Perform joystick calibration using command
	SUCCESS:CA,1:1	FAIL:SETTINGS	Perform joystick calibration using command (Step 1)
	SUCCESS:CA,1:2	FAIL:SETTINGS	Perform joystick calibration using command (Step 2)
	SUCCESS:CA,1:3	FAIL:SETTINGS	Perform joystick calibration using command (Step 3)
	SUCCESS:CA,1:4	FAIL:SETTINGS	Perform joystick calibration using command (Step 4)
	SUCCESS:CA,1:5:{xHighMax,xLowMax,yHighMax,yLowMax}	FAIL:SETTINGS	Perform joystick calibration using command (Step 5) (xHighMax,xLowMax,yHighMax,yLowMax)
	MANUAL:CA,1:0		Perform joystick calibration using push button
	MANUAL:CA,1:1		Perform joystick calibration using push button (Step 1)
	MANUAL:CA,1:2		Perform joystick calibration using push button (Step 2)
	MANUAL:CA,1:3		Perform joystick calibration using push button (Step 3)
	MANUAL:CA,1:4		Perform joystick calibration using push button (Step 4)
	MANUAL:CA,1:5:{xHighMax,xLowMax,yHighMax,yLowMax}		Perform joystick calibration using push button (Step 5) (xHighMax,xLowMax,yHighMax,yLowMax)
<b>CT,0:0</b>	SUCCESS:CT,0:{changePercent,xHighChangeTolerance,xLowChangeTolerance,yHighChangeTolerance,yLowChangeTolerance}	FAIL:SETTINGS	Get change tolerance values based on max value of FSRs and change tolerance percentage
<b>MP,0:0</b>	SUCCESS:MP,0:{NNNNNN}	FAIL:SETTINGS	Get Button mapping ( Example: SUCCESS:MP,0:123465)
<b>MP,1:{NNN NNN}</b>	SUCCESS:MP,1:{NNNNNN}	FAIL:SETTINGS	Set Button mapping ( Example: MP,1:123465)
<b>FR,0:0</b>	SUCCESS:FR,0:0	FAIL:SETTINGS	Perform factory reset

## Input Actions

Input Action	Description
<b>Short Puff</b>	< 3 seconds
<b>Short Sip</b>	< 3 seconds
<b>Long Puff</b>	3-5 seconds
<b>Long Sip</b>	3-5 seconds
<b>Very Long Puff</b>	> 5 seconds
<b>Very Long Sip</b>	> 5 seconds

## Output Actions Options

Action Number	Output Action	Description
<b>0</b>	(No action)	No action
<b>1</b>	Left Click	Presses and immediately releases a left click.
<b>2</b>	Right Click	Presses and immediately releases a right click.
<b>3</b>	Drag Mode	Initiates drag mode. Left click is pressed and held down. Cancelled with short puff or short sip.
<b>4</b>	Scroll Mode	Initiates Scroll mode. Vertical motion of joystick generates mouse scroll wheel movements. Cancelled with short puff or short sip.
<b>5</b>	Middle Click	Presses and immediately releases a middle click.
<b>6</b>	Center Reset	Initiates center reset routine to set joystick center position.
<b>7</b>	Calibration	Initiates joystick calibration routine to set joystick limits and reset joystick center.

## Action Mapping

Input Action	LipSync Mouse Action
<b>Short Puff</b>	1 : Left Click
<b>Short Sip</b>	2 : Right Click
<b>Long Puff</b>	3: Drag Mode
<b>Long Sip</b>	4 : Scroll Mode
<b>Very Long Puff</b>	6: Center Reset
<b>Very Long Sip</b>	5: Middle Click



## Example

INPUT	RESPONSE	ACTION
<b>SETTINGS</b>	SUCCESS:SETTINGS	LipSync Ready for API Command
<b>VN,0:0</b>	SUCCESS:VN,0:V3.0	LipSync return firmware version 3.0

INPUT	RESPONSE	ACTION
<b>SETTINGS</b>	SUCCESS:SETTINGS	LipSync Ready for API Command
<b>PT,0:0</b>	SUCCESS:PT,0:10	LipSync return current pressure threshold of 10%
<b>PT,1:20</b>	FAIL:SETTINGS	(Attempt to set pressure threshold failed – need to resend SETTINGS for each command)
<b>SETTINGS</b>	SUCCESS:SETTINGS	LipSync Ready for API Command
<b>PT,1:20</b>	SUCCESS:PT,1:20:50	LipSync set new pressure threshold of 20% and returned current nominal pressure of