



LipSync Mouse Command List

Command	Success Response	Failure Response	Description
SETTINGS	SUCCESS,0:SETTINGS	FAIL,{N}: Command	Enter Settings mode
EXIT	SUCCESS,0:EXIT	FAIL,{N}: Command	Exit Settings mode
MN,0:0	SUCCESS,0:MN,0:1	FAIL,{N}:Command	Get Model number (1=Mouse)
VN,0:0	SUCCESS,0:VN,0:V{N.NN}	FAIL,{N}:Command	Get version number (V{N.NN})
SS,0:0	SUCCESS,0:SS,0:{Cursor Speed Level}	FAIL,{N}:Command	Get the mouse cursor speed value (Level)
SS,1:{Cursor Speed Level:0-10}	SUCCESS,0:SS,1:{Cursor Speed Level}	FAIL,{N}:Command	Set the mouse cursor speed value (Level)
	MANUAL,0:SS,1:{Cursor Speed Level}		Set the mouse cursor speed value (Level)
PT,0:0	SUCCESS,0:PT,0:{Threshold 5% to 50%}:{Nominal Pressure V*100}	FAIL,{N}:Command	Get puff pressure threshold (threshold 5% to 50%) (Nominal Pressure)
PT,1:{threshold 10% to 50%}	SUCCESS,0:PT,1:{Threshold 5% to 50%}:{Nominal Pressure V*100}	FAIL,{N}:Command	Set puff pressure threshold (threshold 5% to 50%) (Nominal Pressure)
ST,0:0	SUCCESS,0:PT,0:{Threshold 5% to 50%}:{Nominal Pressure V*100}	FAIL,{N}:Command	Get sip pressure threshold (threshold 5% to 50%) (Nominal Pressure)
ST,1:{threshold 5% to 50%}	SUCCESS,0:PT,1:{Threshold 5% to 50%}:{Nominal Pressure V*100}	FAIL,{N}:Command	Set sip pressure threshold (threshold 5% to 50%) (Nominal Pressure)
PV,0:0	SUCCESS,0:PV,0:{Nominal Pressure}	FAIL,{N}:Command	Get pressure value (Nominal Pressure)
RA,0:0	SUCCESS,0:RA,0:{Rotation Angle}	FAIL,{N}:Command	Get rotation angle (deg)
RA,1:{Angle: 0-359}	SUCCESS,0:RA,1:{Rotation Angle}	FAIL,{N}:Command	Set rotation angle (0,90,180,270 deg)
DM,0:0	SUCCESS,0:DM,0:{Debug Mode}	FAIL,{N}:Command	Get debug mode value (0=debug mode disabled,1=debug mode enabled)
DM,1:0	SUCCESS,0:DM,1:0	FAIL,{N}:Command	Set debug mode value to 0 (Disabled)
DM,1:1	SUCCESS,0:DM,1:1	FAIL,{N}:Command	Set debug mode value to 1 (Enabled)
	LOG,1:{0,0,0,xHighNeutral,xLowNeutral,yHighNeutral,yLowNeutral}		Log initialization values once if debug mode is enabled
	LOG,2:{0,0,0,xHighMax,xLowMax,yHighMax,yLowMax}		Log calibration values once if debug mode is enabled
	LOG,3:{x,y,action,xHigh,xLow,yHigh,yLow}		Log cursor and FSR values if debug mode is enabled until debug mode is disabled
IN,0:0	SUCCESS,0:IN,0:{xHighNeutral,xLowNeutral,yHighNeutral,yLowNeutral}	FAIL,{N}:Command	Get joystick initialization values (xHighNeutral,xLowNeutral,yHighNeutral,yLowNeutral)
IN,1:1	SUCCESS,0:IN,1:{xHighNeutral,xLowNeutral,yHighNeutral,yLowNeutral}	FAIL,{N}:Command	Perform joystick initialization using command



Makers Making Change LipSync Mouse Command List

			(xHighNeutral,xLowNeutral,yHighNeutral,yLowNeutral)
	MANUAL,0:IN,1:{xHighNeutral,xLowNeutral,yHighNeutral,yLowNeutral}		Perform joystick initialization using push button or sip/puff (xHighNeutral, xLowNeutral,yHighNeutral,yLowNeutral)
JV,0:0	SUCCESS,0:JV,0:{xHigh,xLow,yHigh,yLow}	FAIL,{N}:Command	Get joystick FSR values: {xHigh,xLow,yHigh,yLow}
CA,0:0	SUCCESS,0:CA,0:{xHighMax,xLowMax,yHighMax,yLowMax}	FAIL,{N}:Command	Get joystick calibration values (xHighMax,xLowMax,yHighMax,yLowMax)
CA,1:1	SUCCESS,0:CA,1:0	FAIL,{N}:Command	Perform joystick calibration using command
	SUCCESS,0:CA,1:1	FAIL,{N}:Command	Perform joystick calibration using command (Step 1)
	SUCCESS,0:CA,1:2	FAIL,{N}:Command	Perform joystick calibration using command (Step 2)
	SUCCESS,0:CA,1:3	FAIL,{N}:Command	Perform joystick calibration using command (Step 3)
	SUCCESS,0:CA,1:4	FAIL,{N}:Command	Perform joystick calibration using command (Step 4)
	SUCCESS,0:CA,1:5:{xHighMax,xLowMax,yHighMax,yLowMax}	FAIL,{N}:Command	Perform joystick calibration using command (Step 5) (xHighMax,xLowMax,yHighMax,yLowMax)
	MANUAL,0:CA,1:0		Perform joystick calibration using push button
	MANUAL,0:CA,1:1		Perform joystick calibration using push button (Step 1)
	MANUAL,0:CA,1:2		Perform joystick calibration using push button (Step 2)
	MANUAL,0:CA,1:3		Perform joystick calibration using push button (Step 3)
	MANUAL,0:CA,1:4		Perform joystick calibration using push button (Step 4)
	MANUAL,0:CA,1:5:{xHighMax,xLowMax,yHighMax,yLowMax}		Perform joystick calibration using push button (Step 5) (xHighMax,xLowMax,yHighMax,yLowMax)
CT,0:0	SUCCESS,0:CT,0:{changeTolerance}	FAIL,{N}:Command	Get drift change tolerance value
CT,1:{Change Tolerance: 0-30}	SUCCESS,0:CT,1:{changeTolerance}	FAIL,{N}:Command	Set drift change tolerance value
MP,0:0	SUCCESS,0:MP,0:{NNNNNN}	FAIL,{N}:Command	Get Button mapping (Example: SUCCESS,0:MP,0:123465)
MP,1:{NNNNNN}	SUCCESS,0:MP,1:{NNNNNN}	FAIL,{N}:Command	Set Button mapping (Example: MP,1:123465)
SL,0:0	SUCCESS,0:SL,0:{Scroll Speed Level}	FAIL,{N}:Command	Get the mouse scroll speed value (Level)
SL,1:{Scroll Speed Level:0-10}	SUCCESS,0:SL,1:{Scroll Speed Level}	FAIL,{N}:Command	Set the mouse scroll speed value (Level)



FR,1:{Reset Type: 0-1}	SUCCESS,0:FR,1:{Reset Type: 0-1}	FAIL,{N}:Command	Perform factory reset (0 = Hard Reset , 1 = Soft Reset)
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API Format

End-Point Parameters
MP,1:123461
Command

Response Code

Response Status	Response Code	Description
SUCCESS	0	The command has successfully performed.
FAIL	0	The serial API mode is not enabled. Please enter the serial API mode.
FAIL	1	The requested command does not exist. Returns the response code and the requested parameter.
FAIL	2	The requested command exists, but the entered parameter is in incorrect format. Returns the response code and the requested parameter.
FAIL	3	The requested command exists, but the entered parameter is out of range. Returns the response code and the current value stored in the EEPROM.

Input Actions

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



Output Actions Options

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

Action Mapping

Input Action	LipSync Mouse Action
Short Puff	1 : Left Click
Short Sip	2 : Right Click
Long Puff	3: Drag Mode
Long Sip	4 : Scroll Mode
Very Long Puff	6: Center Reset
Very Long Sip	0: No Action

Example

INPUT	RESPONSE	ACTION
SETTINGS	SUCCESS,0:SETTINGS	LipSync Ready for API Command
VN,0:0	SUCCESS,0:VN,0:30	LipSync return firmware version 3.0

INPUT	RESPONSE	ACTION
SETTINGS	SUCCESS,0:SETTINGS	LipSync Ready for API Command
PT,0:0	SUCCESS,0:PT,0:10	LipSync return current puff pressure threshold of 10%
PT,1:20	FAIL,0:PT,1:20	(Attempt to set puff pressure threshold failed – need to resend SETTINGS for each command)
SETTINGS	SUCCESS,0:SETTINGS	LipSync Ready for API Command
PT,1:20	SUCCESS,0:PT,1:20:266	LipSync set new puff pressure threshold of 20% and returned current nominal pressure of