



LipSync Wireless 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 |



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| | | | (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) |



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|-------------------------------|--------------------------------------|------------------|---|
| BT,0:0 | SUCCESS:BT,0:3 | FAIL:SETTINGS | Get Bluetooth module mode (0=Keyboard,1=Gamepad,2=Mouse,3=Mouse and Keyboard Combo) |
| BT,1:3 | SUCCESS:BT,1:{Bluetooth Module Mode} | FAIL:SETTINGS | Set Bluetooth module mode (0=Keyboard,1=Gamepad,2=Mouse,3=Mouse and Keyboard Combo) |
| CM,0:0 | SUCCESS:CM,0:{N} | FAIL:SETTINGS | Get Communication mode (0=USB , Bluetooth =1) |
| CM,1:{N} | SUCCESS:CM,1:{N} | FAIL:SETTINGS | Set Communication |
| 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) |

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 |