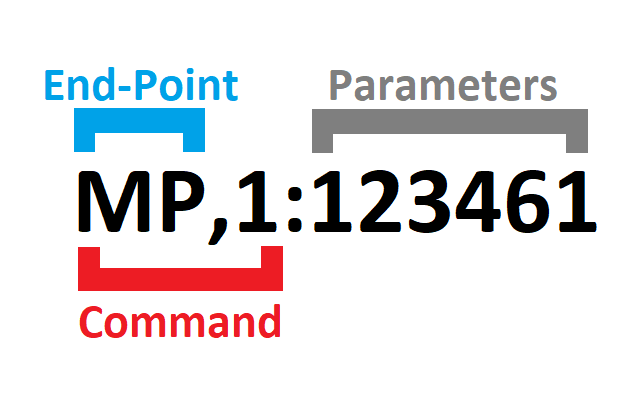
## LipSync Gaming Command List

|  |  |  |  |
| --- | --- | --- | --- |
| 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,0:2 | FAIL,{N}:Command | Get Model number (2=Gaming) |
| 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:{Joystick Sensitivity Level} | FAIL,{N}:Command | Get the joystick sensitivity value (Level) |
| SS,1:{Joystick Sensitivity Level:0-10} | SUCCESS,0:SS,1:{Joystick Sensitivity Level} | FAIL,{N}:Command | Set the joystick sensitivity value (Level) |
|  | MANUAL,0:SS,1:{Joystick Sensitivity Level} |  | Set the joystick sensitivity 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 (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) |
| MP,0:0 | SUCCESS,0:MP,0:{NNNNNN} | FAIL,{N}:Command | Get Button mapping ( Example: SUCCESS,0:MP,0:125670) |
| MP,1:  {NNNNNN} | SUCCESS,0:MP,1:{NNNNNN} | FAIL,{N}:Command | Set Button mapping ( Example: MP,1:125670) |
| DZ,0:0 | SUCCESS,0:DZ,0:{Deadzone Value} | FAIL,{N}:Command | Get the deadzone value |
| DZ,1:{ Deadzone :30-250} | SUCCESS,0:DZ,1:{ Deadzone Value} | FAIL,{N}:Command | Set the deadzone value ( Example: SUCCESS,0:DZ,1:30) |
| BM,0:0 | SUCCESS,0:BM,0:{Button Mode Value} | FAIL,{N}:Command | Get the button mode value (1 = Digital Mode , 2 = Analog Mode) |
| BM,1:{ Button Mode Value:1-2} | SUCCESS,0:BM,1:{Button Mode Value} | FAIL,{N}:Command | Set the button mode value (1 = Digital Mode , 2 = Analog Mode) |
| FR,1:{Rest 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



## 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 Digital Actions

|  |  |  |
| --- | --- | --- |
| Action Number | Output Action | Description |
| 0 | (No action) | No action |
| 1 | Button 1 Click | Presses and immediately releases Button 1. |
| 2 | Button 2 Click | Presses and immediately releases Button 2. |
| 3 | Button 3 Click | Presses and immediately releases Button 3. |
| 4 | Button 4 Click | Presses and immediately releases Button 4. |
| 5 | Button 5 Click | Presses and immediately releases Button 5. |
| 6 | Button 6 Click | Presses and immediately releases Button 6. |
| 7 | Center Reset | Initiates center reset routine to set joystick center position. |
| 8 | Calibration | Initiates joystick calibration routine to set joystick limits and reset joystick center. |

## Output Analog Actions

|  |  |  |
| --- | --- | --- |
| Action Number | Output Action | Description |
| 0 | (No action) | No action |
| 1 | Button 1 Press | Presses Button 1. |
| 2 | Button 2 Press | Presses Button 2. |
| 3 | Button 3 Press | Presses Button 3. |
| 4 | Button 4 Press | Presses Button 4. |
| 5 | Button 5 Press | Presses Button 5. |
| 6 | Button 6 Press | Presses Button 6. |
| 7 | Center Reset | Initiates center reset routine to set joystick center position. |
| 8 | Calibration | Initiates joystick calibration routine to set joystick limits and reset joystick center. |

## Digital Action Mapping

|  |  |
| --- | --- |
| Input Action | LipSync Gaming Action |
| Short Puff | 1 : Button 1 Press and Release |
| Short Sip | 2 : Button 2 Press and Release |
| Long Puff | 5 : Button 5 Press and Release |
| Long Sip | 6 : Button 6 Press and Release |
| Very Long Puff | 7 : Center Reset |
| Very Long Sip | 0 : No action |

## Analog Action Mapping

|  |  |
| --- | --- |
| Input Action | LipSync Gaming Action |
| Puff | 1 : Button 1 Press |
| Sip | 2 : Button 2 Press |

## 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 |