

JSON Message Definitions

Raw Configuration:

<example>

```
{
  "raw": {
    "stream": "enable"
  }
}
```

<schema>

```
{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "type": "object",
  "properties": {
    "raw": {
      "type": "object",
      "properties": {
        "stream": {
          "type": "string",
          "enum": [
            "disable",
            "enable"
          ],
          "description": "Enables or Disables Raw Data Streaming"
          "default": "disable"
        }
      },
      "required": [
        "stream"
      ]
    }
  },
  "required": [
    "raw"
  ]
}
```

IMU Configuration:

<example>

```
{
  "imu": {
    "accelerometer": "disable",
    "gyroscope": "enable",
    "magnetometer": "disable",
    "temperature": "disable"
  }
}
```

<schema>

```
{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "type": "object",
  "properties": {
    "imu": {
      "type": "object",
      "properties": {
        "accelerometer": {
          "type": "string",
          "enum": [
            "enable",
            "disable"
          ],
          "description": "Enables or disables logging of accelerometer data",
          "default": "disable"
        },
        "gyroscope": {
          "type": "string",
          "enum": [
            "disable",
            "enable"
          ],
          "default": "disable",
          "description": "Enables or disables logging of gyroscope data"
        },
        "magnetometer": {
          "type": "string",
          "enum": [
            "enable",
            "disable"
          ],
          "description": "Enables or disables logging of magnetometer data",
          "default": "disable"
        },
        "temperature": {
          "type": "string",
          "enum": [
            "enable",
            "disable"
          ],
          "description": "Enables or disables logging of temperature data",
          "default": "disable"
        }
      },
      "required": [
        "accelerometer",
        "gyroscope",
        "magnetometer",
        "temperature"
      ]
    }
  }
}
```

```

    ]
  }
},
"required": [
  "imu"
]
}

```

Raw Data Stream:

<example>

```

{
  "raw": {
    "device": "TAS1D44140005",
    "timestamp": 1427113646,
    "acceleration": [
      {
        "x": 0.0003,
        "y": 1.0002,
        "z": 0.0001
      },
      {
        "x": 0.0001,
        "y": 0.0003,
        "z": 1.0001
      }
    ]
  }
}

```

<schema>

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "type": "object",
  "properties": {
    "rawdata": {
      "type": "object",
      "properties": {
        "timestamp": {
          "id": "http://jsonschema.net/rawdata/timestamp",
          "type": "integer",
          "description": "Unix timestamp"
        },
        "acceleration": {
          "type": "array",
          "items": [
            {
              "type": "object",
              "properties": {
                "x": {
                  "type": "number"
                }
              }
            }
          ]
        }
      }
    }
  }
}

```

```

        },
        "y": {
            "type": "number"
        },
        "z": {
            "type": "number"
        }
    }
},
],
"description": "Array of acceleration objects"
}
},
"required": [
    "timestamp",
    "acceleration"
]
}
},
"required": [
    "rawdata"
]
}
}

```

Enumeration Response:

<example> (reported as devices are found)

```

{
    "device": "TAS1D44140007"
}

```

<schema>

```

{
    "$schema": "http://json-schema.org/draft-04/schema#",
    "id": "http://jjsonschema.net",
    "type": "object",
    "properties": {
        "device": {
            "id": "http://jjsonschema.net/device",
            "type": "string"
        }
    },
    "required": [
        "device"
    ]
}

```

<example> (reported at conclusion of enumeration)

```

{

```

```

    "devices": [
      "TAS1D44140005",
      "TAS1C32140059"
    ]
  }

<schema>
{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "type": "object",
  "properties": {
    "devices": {
      "type": "array",
      "items": [
        {
          "type": "string"
        },
        {
          "type": "string"
        }
      ]
    },
    "description": "Device serial numbers discovered during enumeration"
  },
  "required": [
    "devices"
  ]
}

```

Device Status Response:

```

<example>
{
  "status": {
    "device": "TAS1D4414007",
    "utcOffset": "-18000",
    "raw": {
      "streaming": "disabled"
    },
    "imu": {
      "accelerometer": "disabled",
      "gyroscope": "disabled",
      "magnetometer": "disabled",
      "temperature": "disabled"
    },
    "epoch": {
      "startdatetime": "07-06-2015 09:47:00",
      "stopdatetime": "07-30-2015 08:49:00"
    }
  }
}

```

```

<schema>
{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "id": "http://jsonschema.net",
  "type": "object",
  "properties": {
    "status": {
      "id": "http://jsonschema.net/status",
      "type": "object",
      "properties": {
        "device": {
          "id": "http://jsonschema.net/status/device",
          "type": "string"
        },
        "utcOffset": {
          "id": "http://jsonschema.net/status/utcOffset",
          "type": "string"
        },
        "raw": {
          "id": "http://jsonschema.net/status/raw",
          "type": "object",
          "properties": {
            "streaming": {
              "id": "http://jsonschema.net/status/raw/streaming",
              "type": "string",
              "enum": [
                "enabled",
                "disabled"
              ]
            }
          }
        }
      },
      "imu": {
        "id": "http://jsonschema.net/status/imu",
        "type": "object",
        "properties": {
          "accelerometer": {
            "id": "http://jsonschema.net/status/imu/accelerometer",
            "type": "string",
            "enum": [
              "enabled",
              "disabled"
            ]
          },
          "gyroscope": {
            "id": "http://jsonschema.net/status/imu/gyroscope",
            "type": "string",
            "enum": [

```

```

        "enabled",
        "disabled"
    ]
},
"magnetometer": {
    "id": "http://jsonschema.net/status/imu/magnetometer",
    "type": "string",
    "enum": [
        "enabled",
        "disabled"
    ]
},
"temperature": {
    "id": "http://jsonschema.net/status/imu/temperature",
    "type": "string",
    "enum": [
        "enabled",
        "disabled"
    ]
}
}
},
"epoch": {
    "id": "http://jsonschema.net/status/epoch",
    "type": "object",
    "properties": {
        "startdatetime": {
            "id": "http://jsonschema.net/status/epoch/epochStart",
            "type": "string"
        },
        "stopdatetime": {
            "id": "http://jsonschema.net/status/epoch/epochStop",
            "type": "string",
        }
    }
}
},
"required": [
    "device",
    "utcOffset",
    "raw",
    "imu",
    "epoch"
]
}
},
"required": [
    "status"
]
}

```

Error Response:

<example>

```
{
  "error": {
    "code": "3",
    "description": "Unrecognized Configuration",
    "extra": "inu, mageenometer"
  }
}
```

<schema>

```
{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "id": "http://jsonschema.net",
  "type": "object",
  "properties": {
    "error": {
      "id": "http://jsonschema.net/error",
      "type": "object",
      "properties": {
        "code": {
          "id": "http://jsonschema.net/error/code",
          "type": "integer",
          "exclusiveMinimum": true,
          "exclusiveMaximum": true
        },
        "description": {
          "id": "http://jsonschema.net/error/description",
          "type": "string"
        },
        "extra": {
          "id": "http://jsonschema.net/error/extra",
          "type": "string"
        }
      },
      "required": [
        "code",
        "description"
      ]
    },
    "required": [
      "error"
    ]
  }
}
```

<codes - descriptions>

0 - No Device Connected

- 1 - Device Not Found
- 2 - Device Enumeration In Progress
- 3 - Unrecognized Configuration
- 4 - SDK Access Disabled
- 5 - Device Connection Failed
- 6 - Device Is Busy
- 7 - Wireless Transfer Error
- 8 - Epoch Download Error
- 9 - Date Format Error

Device Connection Messages:

<example>

```
{  
  "deviceConnected": "TAS1D44140007"  
}
```

<schema>

```
{  
  "$schema": "http://json-schema.org/draft-04/schema#",  
  "id": "http://jsonschema.net",  
  "type": "object",  
  "properties": {  
    "deviceConnected": {  
      "id": "http://jsonschema.net/deviceConnected",  
      "type": "string"  
    }  
  },  
  "required": [  
    "deviceConnected"  
  ]  
}
```

<example>

```
{  
  "deviceDisconnected": "TAS1D44140007"  
}
```

<schema>

```
{  
  "$schema": "http://json-schema.org/draft-04/schema#",  
  "id": "http://jsonschema.net",  
  "type": "object",  
  "properties": {  
    "deviceDisconnected": {  
      "id": "http://jsonschema.net/deviceConnected",  

```

```

        "type": "string"
    },
    "required": [
        "deviceDisconnected"
    ]
}

```

Epoch Download Request Messages:

<example>

```

{
  "epoch": {
    "startdatetime": "07-07-2015 04:05:00",
    "stopdatetime": "07-07-2015 04:06:00"
  }
}

```

<schema>

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "id": "http://jsonschema.net",
  "type": "object",
  "properties": {
    "epoch": {
      "id": "http://jsonschema.net/epoch",
      "type": "object",
      "properties": {
        "startdatetime": {
          "id": "http://jsonschema.net/epoch/epochStart",
          "type": "string",
        },
        "stopdatetime": {
          "id": "http://jsonschema.net/epoch/epochStop",
          "type": "string",
        }
      },
    },
    "required": [
      "startdatetime",
      "stopdatetime"
    ]
  }
},

```

```
"required": [  
  "epoch"  
]  
}
```

Epoch Download Response Messages:

<example>

```
{  
  "epoch": {  
    "startdatetime": "07-07-2015 04:05:00",  
    "stopdatetime": "07-07-2015 04:06:00",  
    "epochData": [  
      {  
        "timespamp": "07-07-2015 04:05:00",  
        "xCounts": 20,  
        "yCounts": 100,  
        "zCounts": 30,  
        "steps": 0,  
        "heartRate": 0,  
        "wearDetect": 1  
      },  
      {  
        "timespamp": "07-07-2015 04:06:00",  
        "xCounts": 10,  
        "yCounts": 40,  
        "zCounts": 200,  
        "steps": 0,  
        "heartRate": 0,  
        "wearDetect": 1  
      }  
    ]  
  }  
}
```

<schema>

```
{  
  "$schema": "http://json-schema.org/draft-04/schema#",  
  "id": "http://jsonschema.net",  
  "type": "object",  
  "properties": {  
    "epoch": {  
      "id": "http://jsonschema.net/epoch",  
      "type": "object",
```

```
"properties": {
  "startdatetime": {
    "id": "http://jsonschema.net/epoch/startdatetime",
    "type": "string"
  },
  "stopdatetime": {
    "id": "http://jsonschema.net/epoch/stopdatetime",
    "type": "string"
  },
  "epochData": {
    "id": "http://jsonschema.net/epoch/epochData",
    "type": "array",
    "items": [
      {
        "id": "http://jsonschema.net/epoch/epochData/0",
        "type": "object",
        "properties": {
          "timespamp": {
            "id": "http://jsonschema.net/epoch/epochData/0/timespamp",
            "type": "string"
          },
          "xCounts": {
            "id": "http://jsonschema.net/epoch/epochData/0/xCounts",
            "type": "integer"
          },
          "yCounts": {
            "id": "http://jsonschema.net/epoch/epochData/0/yCounts",
            "type": "integer"
          },
          "zCounts": {
            "id": "http://jsonschema.net/epoch/epochData/0/zCounts",
            "type": "integer"
          },
          "steps": {
            "id": "http://jsonschema.net/epoch/epochData/0/steps",
            "type": "integer"
          },
          "heartRate": {
            "id": "http://jsonschema.net/epoch/epochData/0/heartRate",
            "type": "integer"
          },
          "wearDetect": {
            "id": "http://jsonschema.net/epoch/epochData/0/wearDetect",
```

```

        "type": "integer"
    }
}
},
{
    "id": "http://jsonschema.net/epoch/epochData/1",
    "type": "object",
    "properties": {
        "timespamp": {
            "id": "http://jsonschema.net/epoch/epochData/1/timespamp",
            "type": "string"
        },
        "xCounts": {
            "id": "http://jsonschema.net/epoch/epochData/1/xCounts",
            "type": "integer"
        },
        "yCounts": {
            "id": "http://jsonschema.net/epoch/epochData/1/yCounts",
            "type": "integer"
        },
        "zCounts": {
            "id": "http://jsonschema.net/epoch/epochData/1/zCounts",
            "type": "integer"
        },
        "steps": {
            "id": "http://jsonschema.net/epoch/epochData/1/steps",
            "type": "integer"
        },
        "heartRate": {
            "id": "http://jsonschema.net/epoch/epochData/1/heartRate",
            "type": "integer"
        },
        "wearDetect": {
            "id": "http://jsonschema.net/epoch/epochData/1/wearDetect",
            "type": "integer"
        }
    }
}
]
}
},
"required": [
    "startdatetime",

```

```

        "stopdatetime",
        "epochData"
    ]
}
},
"required": [
    "epoch"
]
}

```

Epoch Download Progress Messages:

<example>

```

{
  "epochDownload": {
    "state": "started",
    "progress": 55
  }
}

```

<schema>

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "id": "http://jsonschema.net",
  "type": "object",
  "properties": {
    "epochDownload": {
      "id": "http://jsonschema.net/epochDownload",
      "type": "object",
      "properties": {
        "state": {
          "id": "http://jsonschema.net/epochDownload/state",
          "type": "string",
          "enum": [
            "started",
            "completed"
          ]
        },
        "progress": {
          "id": "http://jsonschema.net/epochDownload/progress",
          "type": "integer",
        }
      },
    },
  }
}

```

```
},  
  "required": [  
    "epochDownload"  
  ]  
}
```