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| Title | **Syntax and semantics of microphone sensor capabilities** |
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| Abstract | This contribution illustrates the basic JSON schema structure for representing microphone sensor capabilities in a standardized data format. The semantics and examples of the microphone sensor capabilities are presented. |
| Purpose | To start discussion on purpose of the standard |
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# Introduction

This contribution illustrates the basic JSON schema structure for representing microphone sensor capabilities in a standardized data format. The semantics and examples of the microphone sensor capabilities are presented.

# Data formats for microphone sensor capabilities

## General

This sub-clause specifies a sensor capability of a microphone sensor.

## Syntax

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| "microphoneSensorCapabilityData": {  "type": "object",  "properties": {  "sensorCapabilityBaseData": {  "$ref": "#/definitions/sensorCapabilityBaseData"  },  "microphoneType": {  "type": "string",  "enum": [  "condenser",  "dynamic",  "ribbon",  "carbon",  "piezoelectric",  "fiber optic",  "laser",  "liquied",  "MEMS"  ]  },  "transducerArrayType: {  "type": "string",  "enum": [  "single array",  "linear array",  "curvilinear",  "phased",  "annular",  "matrix array",  "MEMS"  ]  },  "probeType": {  "type": "string",  "enum": [  "linear",  "sector",  "convex",  "carbon",  "trapezoid"  ]  },  "polarPattern": {  "type": "string",  "enum": [  "omnidirectional",  "bi-directional",  "subcardioid",  "cardioid",  "hypercardioid",  "supercardioid",  "shotgun"  ]  },  "frequencyRange" : {  "type": "object",  "properties": {  "minFrequency": {"type": "number"},  "maxFrequency": {"type": "number"},  }  },  "pickSensitivity": {"type": "number"}  }  } |

## Semantics

Semantics of the microphoneSensorCapabilityData:

| Name | Definition | |
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| microphoneSensor CapabilityData | Tool for describing a microphone sensor capability. | |
| microphoneType | | Defines the type of microphone | |
| transducerArrayType | | Defines array types of transducer probes | |
| probeType | | Defines the probing type of transducer | |
| polarPattern | | Defines polar pattern of transducer | |
| frequencyRange | | The pickup frequency range in Hz | |
| minFreqeuncy | | Minimum frequency in Hz | |
| maxFrequency | | Maximum frequency in Hz | |
| pickSensitivity | | Pick sensitivity of transducer in mV/Pa | |

## Examples

This example shows the description of a microphone sensing capability with the following semantics. The microphone in this example is a condenser type, and the transducer is a single array type. The polar pattern is cardioid and has a frequency range of 20-20000Hz.

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| {  "sensorCapabilityBaseData": {},  "microphoneType": "Condenser",  "transducerArrayType": "single array",  "polarPattern": "Cardioid",  "frequencyRange": {  "minFrequency": 20  "maxFrequency": 20000  }  } |