

# Zone

The Zone class inherits all properties and methods of the [Element](#) class.

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## Element

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## Class Hierarchy

- [AudioFile](#)
- [Element](#)
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  - [Effect](#)
  - [Instance](#)
  - [Layer](#)
    - [Program](#)
  - [MidiModule](#)
  - [ModulationMatrixRow](#)
  - [Slot](#)
  - [Zone](#)
- [Event](#)
- [LoadProgress](#)
- [ParameterDefinition](#)

## Classes

### Zone Class

#### Description

The [Element](#) object of a zone can be obtained with [findZones](#) or [getZone](#). It has the following fields.

**Available in:** Controller, Processor.

#### Fields

<b>.keyLow</b>	The lowest key of the zone.	number
<b>.keyHigh</b>	The highest key of the zone.	number
<b>.velLow</b>	The lowest velocity of the zone.	number
<b>.velHigh</b>	The highest velocity of the zone.	number

#### Example

```
-- print the key and velocity range of the first zone in the program
zone = this.program.findZones(true)[1]
print(zone.keyLow)
print(zone.keyHigh)
print(zone.velLow)
print(zone.velHigh)
```

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## Constructors

## Zone Constructor

**Zone()**

### Description

Constructor to create a new [Zone](#) object.

**Available in:** Controller.

### Return Values

Returns a new [Zone](#) object.

### Example

```
-- This function creates different types of objects in the Program Tree.
-- The objects in the Program Tree do not have a name. You will see only their icons.
function createProgram()
  local inst = this.program.instance
  local prg = Program()
  local bus = Bus()
  prg:appendBus(bus)
  inst:setProgram(prg, 1)
  local layer = Layer()
  prg:appendLayer(layer)
  layer:appendZone(Zone())
  local mm = MidiModule('MIDI Player')
  layer:appendMidiModule(mm)
  local fx = Effect('Distortion')
  bus:appendEffect(fx)
end

createProgram()
```

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## Methods

## getModulationMatrixRow

`getModulationMatrixRow(rowNumber)`

### Description

Function to obtain the [ModulationMatrixRow](#) object of the specified modulation matrix row. The modulation matrix row is determined by the [Zone](#) object of the zone and the index of the modulation matrix row.

**Available in:** Controller, Processor.

### Arguments

<b>rowNumber</b>	The index of the modulation matrix row in the range from 1 to 32.	number
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### Return Values

The [ModulationMatrixRow](#) object of the specified modulation matrix row.

### Example

```
-- get the element object of the first zone in the program
zone = this.program:findZones(true)[1]
-- get the element object of the first modulation matrix row
modRow = zone:getModulationMatrixRow(1)
-- print the row number of the specified modulation matrix row
print(modRow.rowNumber)
```

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## getOutputBus

`getOutputBus()`

### Description

Function to retrieve the currently assigned output bus of a zone or bus.

**Available in:** Controller, Processor.

### Return Values

Returns the [Bus](#) object of the currently assigned output bus or `nil` if the default routing is used.

### Example

```
-- raise an error if no output bus is assigned
zone = this.parent:getZone()
assert(zone:getOutputBus(), "No output bus assigned. The default routing is used!")
```

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## setOutputBus

`setOutputBus(bus)`

### Description

Function to assign the output of a zone or bus to the specified output bus. The sending zone or bus is determined by its [Element](#) object. The receiving output bus is specified by its [Bus](#) object. Setting the output bus to `nil` enables the default signal routing for the zone or bus.

Output busses that are higher up in the hierarchy of the **Program Tree** can be assigned freely. If the sending bus and the receiving output bus have the same parent layer, the output bus must come later in the signal flow.

**Available in:** Controller.

### Arguments

<b>bus</b>	The <a href="#">Bus</a> object of the bus that you want to assign, or <code>nil</code> . <a href="#">Bus</a> or <code>nil</code>
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### Example

```
-- assign the output of the zone to the Master output bus of the plug-in
zone = this.parent:getZone()
masterbus = this.program.instance:getBus(1)

zone:setOutputBus(masterbus)

print("Output of "..zone.name.." is assigned to "..masterbus.name..".")
```

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