

mubu.track

MuBu track reference

Description

Reference to a track of a MuBu container allowing for optimized access to the track data. The reference is defined by the name of a MuBu container, a track id (index or name), and a buffer index. Once a `mubu.track` object is connected to a track, the access to the data is lock-free. The object is informed of all changes in the container's lists of tracks and buffers and reconnects the reference if necessary.

Arguments

<i>Name</i>	<i>Type</i>	<i>Opt</i>	<i>Description</i>
mubu name	symbol		Name of the referred MuBu container.
track id	atom		Identifier (index or name) of the referred track.

Messages

append	data [list]	Appends data to the referred track. The argument list of the message can contain data for one or more track elements. Depending on the track configuration, the argument list may include time-tags, matrix data (row by row), and labels. The concerned row, column or element of the matrix data can be specified by the <code>matrixcol</code> and <code>matrixrow</code> attributes (the other matrix elements being initialised to 0). For time-tagged tracks, the given time-tags may be constrained by the last time-tag.
appendpoints	data [list]	Appends data to the referred time-tagged track. Other than for the message <code>append</code> , time is expressed as an interval relative to the time-tag of the last element of the track. The argument list of the message can contain data for one or more track elements. Depending on the track configuration, the argument list may include matrix data (row by row), and label following the time interval. The concerned row, column or element of the matrix data can be specified by the <code>matrixcol</code> and <code>matrixrow</code> attributes (the other matrix elements being initialised to 0).
clear		Clears the referred track (setting its size to 0).
getextradata		Outputs extra data type [symbol: 'none' 'label'] (prefixed by 'extradata', from the 2nd outlet).
getinfo	key [symbol]	Outputs all track info items (without argument) or the info item for a given key (prefixed by 'info', from the 3rd outlet).
getname		Outputs the track name (prefixed by 'name', from the 2nd outlet).
getmatrixcolnames		Outputs the list of matrix column names (prefixed by 'matrixcolnames', from the 2nd outlet).
getmatrixcols		Outputs the number of matrix columns (prefixed by 'matrixcols', from the 2nd outlet).
getmatrixrows		Outputs the number of matrix columns (prefixed by 'matrixrows', from the 2nd outlet). A track that has been created with the attribute <code>matrixrowsvar</code> enabled, allows track elements for having a variable number of matrix rows. In this case, an index can be given as argument of the message to output

the number of row of the given track element. Otherwise, the maximum number of rows is output.

getmatrixrowsvar		Outputs whether the referred track allows track elements for having a variable number of matrix rows (prefixed by 'matrixrowsvar', from the 2nd outlet).
getmaxsize		Outputs maximum size (prefixed by 'maxsize', from the 2nd outlet).
getsize		Outputs current size (prefixed by 'size', from the 2nd outlet).
gettmetagged		Outputs whether track has time-tagged data (prefixed by 'timetagged', from the 2nd outlet).
getsampleperiod		Outputs sample period (prefixed by 'sampleperiod', from the 2nd outlet).
getsampleoffset		Outputs sample offset (prefixed by 'sampleoffset', from the 2nd outlet).
getsamplerate		Outputs sample rate (prefixed by 'samplerate', from the 2nd outlet).
fill	data [list]	Fills all track elements with the data given for one element. Depending on the track configuration, the argument list may include time-tag, matrix data (row by row), and label. The concerned row, column or element of the matrix data can be specified by the matrixcol and matrixrow attributes.
fillmatrix	matrix data [list]	Sets matrix data of all track elements to the matrix data given for one element (row by row). The concerned row, column or element of the matrix data can be specified by the matrixcol and matrixrow attributes.
filllabel	label [symbol]	Sets labels of all track elements to the given label.
filltime	time [float] step [float]	Sets time-tags of all track elements to the given time (with only one argument) or to equal time intervals starting from the given time.
get	index [int] size [int]	Outputs the data of one or more track elements as list from the 1st outlet. If no argument is given, the data of all track elements is output as a concatenated list. Optionally, a start index and size can be given. With a single index argument, the data of a single track element at the given index is output. Depending on the track configuration, the output list may include time-tags, matrix data (row by row), and labels. The concerned row, column or element of the matrix data can be specified by the matrixcol and matrixrow attributes.
getfloatindex	time [float]	Outputs a floating-point index from the 1st outlet. The floating-point index is composed of the index of the track element at or before the given time (integer part) and a ratio (fractional part) corresponding to the relative position of the given time between the element of that index and the next. The message applies to time-tagged and sampled tracks.
getindex	time [float]	Outputs the index of the track element at or before the given time from the 1st outlet. The message applies to time-tagged and sampled tracks.
getmatrix	index [int] size [int]	Outputs the matrix data of one or more track elements as a list from the 1st outlet. If no argument is given, the matrix data of all track elements are output as concatenated a list. Optionally, a start index and size can be given. When celled with a single index argument, the matrix data of a single track element at the given index is output. Depending on the track configuration, the output list may include time-tags, matrix data (row by row), and labels. The concerned row, column or element of the matrix data can be

specified by the `matrixcol` and `matrixrow` attributes.

<code>getlabel</code>	<code>index [int]</code> <code>size [int]</code>	Outputs the labels of one or more track elements as a list from the 1st outlet. If no argument is given, the labels of all track elements are output as a concatenated list. Optionally, a start index and size can be given. With a single index argument, the label of a single track element at the given index is output.
<code>getmax</code>	<code>index [int]</code> <code>size [int]</code>	Outputs the maxima of the matrix data from the 1st outlet. The maxima corresponding to each matrix element (row by row) are output as a list. If no argument is given, the maxima over all track elements are output. Optionally, a start index and size can be given. The concerned row, column or element of the matrix data can be specified by the <code>matrixcol</code> and <code>matrixrow</code> attributes.
<code>getmean</code>	<code>index [int]</code> <code>size [int]</code>	Outputs the mean values of the matrix data from the 1st outlet. The mean values corresponding to each matrix element (row by row) are output as a list. If no argument is given, the mean values over all track elements are output. Optionally, a start index and size can be given. The concerned row, column or element of the matrix data can be specified by the <code>matrixcol</code> and <code>matrixrow</code> attributes.
<code>getmin</code>	<code>index [int]</code> <code>size [int]</code>	Outputs the minima of the matrix data from the 1st outlet. The minima corresponding to each matrix element (row by row) are output as a list. If no argument is given, the minima over all track elements are output. Optionally, a start index and size can be given. The concerned row, column or element of the matrix data can be specified by the <code>matrixcol</code> and <code>matrixrow</code> attributes.
<code>getnextindex</code>	<code>time [float]</code>	Outputs the index of the track element after the given time. The message applies to time-tagged and sampled tracks.
<code>gettime</code>	<code>index [int]</code> <code>size [int]</code>	Outputs the time-tags of one or more track elements as a list from the 1st outlet. If no argument is given, the time-tags of all track elements are output as a concatenated list. Optionally, a start index and size can be given. With a single index argument, the time-tag of a single track element at the given index is output.
<code>getstddev</code>	<code>index [int]</code> <code>size [int]</code>	Outputs the standard deviation of the matrix data from the 1st outlet. The standard deviation corresponding to each matrix element (row by row) are output as a list. If no argument is given, the standard deviation over all track elements are output. Optionally, a start index and size can be given. The concerned row, column or element of the matrix data can be specified by the <code>matrixcol</code> and <code>matrixrow</code> attributes.
<code>info</code>	<code>info [list]</code>	Sets or inserts track info items given as an interleaved list of keys [<code>symbol</code>] and values [<code>atom</code>].
<code>insert</code>	<code>index [int]</code> <code>data [list]</code>	Inserts data into the track. The argument list of the message (following the index) can contain data for one or more track elements. Depending on the track configuration, the argument list may include time-tags, matrix data (row by row), and labels. The concerned row, column or element of the matrix data can be specified by the <code>matrixcol</code> and <code>matrixrow</code> attributes (the other matrix elements being initialised to 0). For time-tagged tracks, the given time-tags may be constraint by the time-tags of the previous and following track elements.
<code>insertpoints</code>	<code>data [list]</code>	Inserts data into a time-tagged track. The argument list of the message can contain data for one or more track elements including a time-tag for each element. Other than for the

message insert, the time-tags for each matrix element is taken into account in order to insert each element at the given position. Depending on the track configuration, the argument list may include matrix data (row by row), and labels. The concerned row, column or element of the matrix data can be specified by the `matrixcol` and `matrixrow` attributes (the other matrix elements being initialised to 0).

<code>matrixrows</code>	<code>index [int]</code>	Set number of matrix rows of the track element at the given index. The message applies only to tracks that allow track elements for having a variable number of matrix rows (<code>matrixrowsvar</code> enabled).
<code>(mouse)</code>		(internal)
<code>print</code>		Prints a summary of the track's content into the Max window.
<code>refer</code>	<code>mubu name [symbol]</code> <code>track id [atom]</code>	Sets the referred MuBu container and track.
<code>sample</code>	<code>time [float]</code> <code>period [float]</code> <code>size [float]</code>	Outputs a list of linearly interpolated matrix data corresponding to the given time from the 1st outlet. If no argument is given, the interpolated matrix data of all track elements are output as concatenated list (using the current sample rate of the track). Optionally, a start time, (sampling) period, and size (number of output track elements) can be given. With a single argument, the linearly interpolated matrix data of a single track element corresponding to the given time is output. The concerned row, column or element of the matrix data can be specified by the <code>matrixcol</code> and <code>matrixrow</code> attributes.
<code>sampleperiod</code>	<code>sample period [float]</code>	Sets sample period (and sample rate).
<code>sampleoffset</code>	<code>sample offset [float]</code>	Sets sample offset (time of the first element of a sampled track).
<code>samplerate</code>	<code>sample rate [float]</code>	Sets sample rate (and sample period).
<code>set</code>	<code>index [int]</code> <code>data [list]</code>	Sets the data of one or more track elements at the given index from a list. Depending on the track configuration, the given list may include time-tags, matrix data (row by row), and labels. The concerned row, column or element of the matrix data can be specified by the <code>matrixcol</code> and <code>matrixrow</code> attributes.
<code>setmatrix</code>	<code>index [int]</code> <code>matrix data [list]</code>	Sets the matrix data of one or more track elements at the given index from a list. The concerned row, column or element of the matrix data can be specified by the <code>matrixcol</code> and <code>matrixrow</code> attributes.
<code>setlabel</code>	<code>index [int]</code> <code>lables [list]</code>	Sets the labels of one or more track elements at the given index from a list.
<code>settime</code>	<code>index [int]</code> <code>time-tags [list]</code>	Sets the time-tags of one or more track elements at the given index from a list.
<code>size</code>	<code>size [int]</code>	Sets the track size (number of elements). The track elements may be truncated or added with initialised data.
<code>remove</code>	<code>index [int]</code>	Removes one or more track elements at the given index.

	size [int]	
removepoints	start time [float] end time [float]	Removes one or more track elements from a time-tagged track. The elements to be removed are specified by their time or a time interval.
write	file path [symbol]	Exports the data of the track into a file. Currently only writing of plain text files is supported (see also the messages write and writeall of mubu and imubu).

Plain Text Files

In plain text files, the each track element is represented as a single line of white-space separated items. The matrix data is represented as a single list of numbers (row by row). If present in the track, time-tags are written into the first column and labels into the last column.

Attributes

<i>Name</i>	<i>Type</i>	<i>g/s</i>	<i>Description</i>
bufferindex	int		Index of the referred buffer.
extradata	symbol		Extra data type of the referred track (read only, can be changed via mubu or imubu).
matrixcol	atom		Matrix column concerned by messages that output or modify matrix data.
matrixcolnames	atom		Matrix column names of the referred track (read only, can be changed via mubu or imubu).
matrixcols	int		Number of matrix columns names of the referred track (read only, can be changed via mubu or imubu).
matrixrow	atom		Matrix row concerned by messages that output or modify matrix data.
matrixrows	int		Number of matrix rows of the referred track (read only, can be changed via mubu or imubu).
matrixrowsvar	int		Indicates whether the referred track allows track elements for a having variable number of matrix rows (read only, can be changed via mubu or imubu).
maxsize	int		Maximum track size (read only, can be changed via mubu or imubu).
mubuname	symbol		Name of the referred MuBu container.
name	symbol		Name of the referred track.
sampleoffset	float		Sample offset of the referred track.
sampleperiod	float		Sample period of the referred track.
samplerate	float		Sample rate of the referred track.
silent	int		Enables or disables updates to listeners of the referred track.
size	int		Size (number of track elements) of the referred track.
timetagged	int		Indicates whether the referred track contains time-tagged (or sampled) elements.
trackid	atom		Identifier of the referred track.

[Information for box attributes common to all objects](#)

Examples

See Also

<i>Name</i>	<i>Description</i>
mubu	MuBu, multi-buffer container for sound description and motion capture data
imubu	Graphical interface around a MuBu container