| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/Track.html) | [**Tree**](http://docs.google.com/package-tree.html) | [**Deprecated**](http://docs.google.com/deprecated-list.html) | [**Index**](http://docs.google.com/index-files/index-1.html) | [**Help**](http://docs.google.com/help-doc.html) | | --- | --- | --- | --- | --- | --- | --- | --- | | | ***Java™ Platform***  ***Standard Ed. 6*** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| [**PREV CLASS**](http://docs.google.com/javax/sound/midi/SysexMessage.html)   [**NEXT CLASS**](http://docs.google.com/javax/sound/midi/Transmitter.html) | [**FRAMES**](http://docs.google.com/index.html?javax/sound/midi/Track.html)    [**NO FRAMES**](http://docs.google.com/Track.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
| SUMMARY: NESTED | FIELD | CONSTR | [METHOD](#3znysh7) | DETAIL: FIELD | CONSTR | [METHOD](#tyjcwt) |

## **javax.sound.midi**

Class Track

[java.lang.Object](http://docs.google.com/java/lang/Object.html)  
 **javax.sound.midi.Track**

public class **Track**extends [Object](http://docs.google.com/java/lang/Object.html)

A MIDI track is an independent stream of MIDI events (time-stamped MIDI data) that can be stored along with other tracks in a standard MIDI file. The MIDI specification allows only 16 channels of MIDI data, but tracks are a way to get around this limitation. A MIDI file can contain any number of tracks, each containing its own stream of up to 16 channels of MIDI data.

A Track occupies a middle level in the hierarchy of data played by a [Sequencer](http://docs.google.com/javax/sound/midi/Sequencer.html): sequencers play sequences, which contain tracks, which contain MIDI events. A sequencer may provide controls that mute or solo individual tracks.

The timing information and resolution for a track is controlled by and stored in the sequence containing the track. A given Track is considered to belong to the particular [Sequence](http://docs.google.com/javax/sound/midi/Sequence.html) that maintains its timing. For this reason, a new (empty) track is created by calling the [Sequence.createTrack()](http://docs.google.com/javax/sound/midi/Sequence.html#createTrack()) method, rather than by directly invoking a Track constructor.

The Track class provides methods to edit the track by adding or removing MidiEvent objects from it. These operations keep the event list in the correct time order. Methods are also included to obtain the track's size, in terms of either the number of events it contains or its duration in ticks.

**See Also:**[Sequencer.setTrackMute(int, boolean)](http://docs.google.com/javax/sound/midi/Sequencer.html#setTrackMute(int,%20boolean)), [Sequencer.setTrackSolo(int, boolean)](http://docs.google.com/javax/sound/midi/Sequencer.html#setTrackSolo(int,%20boolean))

| **Method Summary** | |
| --- | --- |
| boolean | [**add**](http://docs.google.com/javax/sound/midi/Track.html#add(javax.sound.midi.MidiEvent))([MidiEvent](http://docs.google.com/javax/sound/midi/MidiEvent.html) event)            Adds a new event to the track. |
| [MidiEvent](http://docs.google.com/javax/sound/midi/MidiEvent.html) | [**get**](http://docs.google.com/javax/sound/midi/Track.html#get(int))(int index)            Obtains the event at the specified index. |
| boolean | [**remove**](http://docs.google.com/javax/sound/midi/Track.html#remove(javax.sound.midi.MidiEvent))([MidiEvent](http://docs.google.com/javax/sound/midi/MidiEvent.html) event)            Removes the specified event from the track. |
| int | [**size**](http://docs.google.com/javax/sound/midi/Track.html#size())()            Obtains the number of events in this track. |
| long | [**ticks**](http://docs.google.com/javax/sound/midi/Track.html#ticks())()            Obtains the length of the track, expressed in MIDI ticks. |

| **Methods inherited from class java.lang.**[**Object**](http://docs.google.com/java/lang/Object.html) |
| --- |
| [clone](http://docs.google.com/java/lang/Object.html#clone()), [equals](http://docs.google.com/java/lang/Object.html#equals(java.lang.Object)), [finalize](http://docs.google.com/java/lang/Object.html#finalize()), [getClass](http://docs.google.com/java/lang/Object.html#getClass()), [hashCode](http://docs.google.com/java/lang/Object.html#hashCode()), [notify](http://docs.google.com/java/lang/Object.html#notify()), [notifyAll](http://docs.google.com/java/lang/Object.html#notifyAll()), [toString](http://docs.google.com/java/lang/Object.html#toString()), [wait](http://docs.google.com/java/lang/Object.html#wait()), [wait](http://docs.google.com/java/lang/Object.html#wait(long)), [wait](http://docs.google.com/java/lang/Object.html#wait(long,%20int)) |

| **Method Detail** |
| --- |

### add

public boolean **add**([MidiEvent](http://docs.google.com/javax/sound/midi/MidiEvent.html) event)

Adds a new event to the track. However, if the event is already contained in the track, it is not added again. The list of events is kept in time order, meaning that this event inserted at the appropriate place in the list, not necessarily at the end.

**Parameters:**event - the event to add **Returns:**true if the event did not already exist in the track and was added, otherwise false

### remove

public boolean **remove**([MidiEvent](http://docs.google.com/javax/sound/midi/MidiEvent.html) event)

Removes the specified event from the track.

**Parameters:**event - the event to remove **Returns:**true if the event existed in the track and was removed, otherwise false

### get

public [MidiEvent](http://docs.google.com/javax/sound/midi/MidiEvent.html) **get**(int index)  
 throws [ArrayIndexOutOfBoundsException](http://docs.google.com/java/lang/ArrayIndexOutOfBoundsException.html)

Obtains the event at the specified index.

**Parameters:**index - the location of the desired event in the event vector **Throws:** ArrayIndexOutOfBoundsException - if the specified index is negative or not less than the current size of this track. [ArrayIndexOutOfBoundsException](http://docs.google.com/java/lang/ArrayIndexOutOfBoundsException.html)**See Also:**[size()](http://docs.google.com/javax/sound/midi/Track.html#size())

### size

public int **size**()

Obtains the number of events in this track.

**Returns:**the size of the track's event vector

### ticks

public long **ticks**()

Obtains the length of the track, expressed in MIDI ticks. (The duration of a tick in seconds is determined by the timing resolution of the Sequence containing this track, and also by the tempo of the music as set by the sequencer.)

**Returns:**the duration, in ticks**See Also:**[Sequence.Sequence(float, int)](http://docs.google.com/javax/sound/midi/Sequence.html#Sequence(float,%20int)), [Sequencer.setTempoInBPM(float)](http://docs.google.com/javax/sound/midi/Sequencer.html#setTempoInBPM(float)), [Sequencer.getTickPosition()](http://docs.google.com/javax/sound/midi/Sequencer.html#getTickPosition())

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| SUMMARY: NESTED | FIELD | CONSTR | [METHOD](#3znysh7) | DETAIL: FIELD | CONSTR | [METHOD](#tyjcwt) |

[Submit a bug or feature](http://bugs.sun.com/services/bugreport/index.jsp)

For further API reference and developer documentation, see [Java SE Developer Documentation](http://docs.google.com/webnotes/devdocs-vs-specs.html). That documentation contains more detailed, developer-targeted descriptions, with conceptual overviews, definitions of terms, workarounds, and working code examples.

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