| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/MidiMessage.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*** |
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| [**PREV CLASS**](http://docs.google.com/javax/sound/midi/MidiFileFormat.html)   [**NEXT CLASS**](http://docs.google.com/javax/sound/midi/MidiSystem.html) | [**FRAMES**](http://docs.google.com/index.html?javax/sound/midi/MidiMessage.html)    [**NO FRAMES**](http://docs.google.com/MidiMessage.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
| SUMMARY: NESTED | [FIELD](#2et92p0) | [CONSTR](#tyjcwt) | [METHOD](#3dy6vkm) | DETAIL: [FIELD](#4d34og8) | [CONSTR](#3rdcrjn) | [METHOD](#lnxbz9) |

## **javax.sound.midi**

Class MidiMessage

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

**All Implemented Interfaces:** [Cloneable](http://docs.google.com/java/lang/Cloneable.html) **Direct Known Subclasses:** [MetaMessage](http://docs.google.com/javax/sound/midi/MetaMessage.html), [ShortMessage](http://docs.google.com/javax/sound/midi/ShortMessage.html), [SysexMessage](http://docs.google.com/javax/sound/midi/SysexMessage.html)

public abstract class **MidiMessage**extends [Object](http://docs.google.com/java/lang/Object.html)implements [Cloneable](http://docs.google.com/java/lang/Cloneable.html)

MidiMessage is the base class for MIDI messages. They include not only the standard MIDI messages that a synthesizer can respond to, but also "meta-events" that can be used by sequencer programs. There are meta-events for such information as lyrics, copyrights, tempo indications, time and key signatures, markers, etc. For more information, see the Standard MIDI Files 1.0 specification, which is part of the Complete MIDI 1.0 Detailed Specification published by the MIDI Manufacturer's Association (<http://www.midi.org>).

The base MidiMessage class provides access to three types of information about a MIDI message:

* The messages's status byte
* The total length of the message in bytes (the status byte plus any data bytes)
* A byte array containing the complete message

MidiMessage includes methods to get, but not set, these values. Setting them is a subclass responsibility.

The MIDI standard expresses MIDI data in bytes. However, because JavaTM uses signed bytes, the Java Sound API uses integers instead of bytes when expressing MIDI data. For example, the [getStatus()](http://docs.google.com/javax/sound/midi/MidiMessage.html#getStatus()) method of MidiMessage returns MIDI status bytes as integers. If you are processing MIDI data that originated outside Java Sound and now is encoded as signed bytes, the bytes can can be converted to integers using this conversion:

int i = (int)(byte & 0xFF)

If you simply need to pass a known MIDI byte value as a method parameter, it can be expressed directly as an integer, using (for example) decimal or hexidecimal notation. For instance, to pass the "active sensing" status byte as the first argument to ShortMessage's [setMessage(int)](http://docs.google.com/javax/sound/midi/ShortMessage.html#setMessage(int)) method, you can express it as 254 or 0xFE.

**See Also:**[Track](http://docs.google.com/javax/sound/midi/Track.html), [Sequence](http://docs.google.com/javax/sound/midi/Sequence.html), [Receiver](http://docs.google.com/javax/sound/midi/Receiver.html)

| **Field Summary** | |
| --- | --- |
| protected  byte[] | [**data**](http://docs.google.com/javax/sound/midi/MidiMessage.html#data)            The MIDI message data. |
| protected  int | [**length**](http://docs.google.com/javax/sound/midi/MidiMessage.html#length)            The number of bytes in the MIDI message, including the status byte and any data bytes. |

| **Constructor Summary** | |
| --- | --- |
| protected | [**MidiMessage**](http://docs.google.com/javax/sound/midi/MidiMessage.html#MidiMessage(byte%5B%5D))(byte[] data)            Constructs a new MidiMessage. |

| **Method Summary** | |
| --- | --- |
| abstract  [Object](http://docs.google.com/java/lang/Object.html) | [**clone**](http://docs.google.com/javax/sound/midi/MidiMessage.html#clone())()            Creates a new object of the same class and with the same contents as this object. |
| int | [**getLength**](http://docs.google.com/javax/sound/midi/MidiMessage.html#getLength())()            Obtains the total length of the MIDI message in bytes. |
| byte[] | [**getMessage**](http://docs.google.com/javax/sound/midi/MidiMessage.html#getMessage())()            Obtains the MIDI message data. |
| int | [**getStatus**](http://docs.google.com/javax/sound/midi/MidiMessage.html#getStatus())()            Obtains the status byte for the MIDI message. |
| protected  void | [**setMessage**](http://docs.google.com/javax/sound/midi/MidiMessage.html#setMessage(byte%5B%5D,%20int))(byte[] data, int length)            Sets the data for the MIDI message. |

| **Methods inherited from class java.lang.**[**Object**](http://docs.google.com/java/lang/Object.html) |
| --- |
| [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)) |

| **Field Detail** |
| --- |

### data

protected byte[] **data**

The MIDI message data. The first byte is the status byte for the message; subsequent bytes up to the length of the message are data bytes for this message.

**See Also:**[getLength()](http://docs.google.com/javax/sound/midi/MidiMessage.html#getLength())

### length

protected int **length**

The number of bytes in the MIDI message, including the status byte and any data bytes.

**See Also:**[getLength()](http://docs.google.com/javax/sound/midi/MidiMessage.html#getLength())

| **Constructor Detail** |
| --- |

### MidiMessage

protected **MidiMessage**(byte[] data)

Constructs a new MidiMessage. This protected constructor is called by concrete subclasses, which should ensure that the data array specifies a complete, valid MIDI message.

**Parameters:**data - an array of bytes containing the complete message. The message data may be changed using the setMessage method.**See Also:**[setMessage(byte[], int)](http://docs.google.com/javax/sound/midi/MidiMessage.html#setMessage(byte%5B%5D,%20int))

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

### setMessage

protected void **setMessage**(byte[] data,  
 int length)  
 throws [InvalidMidiDataException](http://docs.google.com/javax/sound/midi/InvalidMidiDataException.html)

Sets the data for the MIDI message. This protected method is called by concrete subclasses, which should ensure that the data array specifies a complete, valid MIDI message.

**Throws:** [InvalidMidiDataException](http://docs.google.com/javax/sound/midi/InvalidMidiDataException.html)

### getMessage

public byte[] **getMessage**()

Obtains the MIDI message data. The first byte of the returned byte array is the status byte of the message. Any subsequent bytes up to the length of the message are data bytes. The byte array may have a length which is greater than that of the actual message; the total length of the message in bytes is reported by the [getLength()](http://docs.google.com/javax/sound/midi/MidiMessage.html#getLength()) method.

**Returns:**the byte array containing the complete MidiMessage data

### getStatus

public int **getStatus**()

Obtains the status byte for the MIDI message. The status "byte" is represented as an integer; see the [discussion](#3znysh7) in the MidiMessage class description.

**Returns:**the integer representation of this event's status byte

### getLength

public int **getLength**()

Obtains the total length of the MIDI message in bytes. A MIDI message consists of one status byte and zero or more data bytes. The return value ranges from 1 for system real-time messages, to 2 or 3 for channel messages, to any value for meta and system exclusive messages.

**Returns:**the length of the message in bytes

### clone

public abstract [Object](http://docs.google.com/java/lang/Object.html) **clone**()

Creates a new object of the same class and with the same contents as this object.

**Overrides:**[clone](http://docs.google.com/java/lang/Object.html#clone()) in class [Object](http://docs.google.com/java/lang/Object.html) **Returns:**a clone of this instance.**See Also:**[Cloneable](http://docs.google.com/java/lang/Cloneable.html)

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[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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