| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/InputEvent.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/java/awt/event/HierarchyListener.html)   [**NEXT CLASS**](http://docs.google.com/java/awt/event/InputMethodEvent.html) | [**FRAMES**](http://docs.google.com/index.html?java/awt/event/InputEvent.html)    [**NO FRAMES**](http://docs.google.com/InputEvent.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
| SUMMARY: NESTED | [FIELD](#3znysh7) | CONSTR | [METHOD](#1t3h5sf) | DETAIL: [FIELD](#26in1rg) | CONSTR | [METHOD](#49x2ik5) |

## **java.awt.event**

Class InputEvent

[java.lang.Object](http://docs.google.com/java/lang/Object.html)  
 [java.util.EventObject](http://docs.google.com/java/util/EventObject.html)  
 [java.awt.AWTEvent](http://docs.google.com/java/awt/AWTEvent.html)  
 [java.awt.event.ComponentEvent](http://docs.google.com/java/awt/event/ComponentEvent.html)  
 **java.awt.event.InputEvent**

**All Implemented Interfaces:** [Serializable](http://docs.google.com/java/io/Serializable.html) **Direct Known Subclasses:** [KeyEvent](http://docs.google.com/java/awt/event/KeyEvent.html), [MouseEvent](http://docs.google.com/java/awt/event/MouseEvent.html)

public abstract class **InputEvent**extends [ComponentEvent](http://docs.google.com/java/awt/event/ComponentEvent.html)

The root event class for all component-level input events. Input events are delivered to listeners before they are processed normally by the source where they originated. This allows listeners and component subclasses to "consume" the event so that the source will not process them in their default manner. For example, consuming mousePressed events on a Button component will prevent the Button from being activated.

**Since:** 1.1 **See Also:**[KeyEvent](http://docs.google.com/java/awt/event/KeyEvent.html), [KeyAdapter](http://docs.google.com/java/awt/event/KeyAdapter.html), [MouseEvent](http://docs.google.com/java/awt/event/MouseEvent.html), [MouseAdapter](http://docs.google.com/java/awt/event/MouseAdapter.html), [MouseMotionAdapter](http://docs.google.com/java/awt/event/MouseMotionAdapter.html), [Serialized Form](http://docs.google.com/serialized-form.html#java.awt.event.InputEvent)

| **Field Summary** | |
| --- | --- |
| static int | [**ALT\_DOWN\_MASK**](http://docs.google.com/java/awt/event/InputEvent.html#ALT_DOWN_MASK)            The Alt key extended modifier constant. |
| static int | [**ALT\_GRAPH\_DOWN\_MASK**](http://docs.google.com/java/awt/event/InputEvent.html#ALT_GRAPH_DOWN_MASK)            The AltGraph key extended modifier constant. |
| static int | [**ALT\_GRAPH\_MASK**](http://docs.google.com/java/awt/event/InputEvent.html#ALT_GRAPH_MASK)            The AltGraph key modifier constant. |
| static int | [**ALT\_MASK**](http://docs.google.com/java/awt/event/InputEvent.html#ALT_MASK)            The Alt key modifier constant. |
| static int | [**BUTTON1\_DOWN\_MASK**](http://docs.google.com/java/awt/event/InputEvent.html#BUTTON1_DOWN_MASK)            The Mouse Button1 extended modifier constant. |
| static int | [**BUTTON1\_MASK**](http://docs.google.com/java/awt/event/InputEvent.html#BUTTON1_MASK)            The Mouse Button1 modifier constant. |
| static int | [**BUTTON2\_DOWN\_MASK**](http://docs.google.com/java/awt/event/InputEvent.html#BUTTON2_DOWN_MASK)            The Mouse Button2 extended modifier constant. |
| static int | [**BUTTON2\_MASK**](http://docs.google.com/java/awt/event/InputEvent.html#BUTTON2_MASK)            The Mouse Button2 modifier constant. |
| static int | [**BUTTON3\_DOWN\_MASK**](http://docs.google.com/java/awt/event/InputEvent.html#BUTTON3_DOWN_MASK)            The Mouse Button3 extended modifier constant. |
| static int | [**BUTTON3\_MASK**](http://docs.google.com/java/awt/event/InputEvent.html#BUTTON3_MASK)            The Mouse Button3 modifier constant. |
| static int | [**CTRL\_DOWN\_MASK**](http://docs.google.com/java/awt/event/InputEvent.html#CTRL_DOWN_MASK)            The Control key extended modifier constant. |
| static int | [**CTRL\_MASK**](http://docs.google.com/java/awt/event/InputEvent.html#CTRL_MASK)            The Control key modifier constant. |
| static int | [**META\_DOWN\_MASK**](http://docs.google.com/java/awt/event/InputEvent.html#META_DOWN_MASK)            The Meta key extended modifier constant. |
| static int | [**META\_MASK**](http://docs.google.com/java/awt/event/InputEvent.html#META_MASK)            The Meta key modifier constant. |
| static int | [**SHIFT\_DOWN\_MASK**](http://docs.google.com/java/awt/event/InputEvent.html#SHIFT_DOWN_MASK)            The Shift key extended modifier constant. |
| static int | [**SHIFT\_MASK**](http://docs.google.com/java/awt/event/InputEvent.html#SHIFT_MASK)            The Shift key modifier constant. |

| **Fields inherited from class java.awt.event.**[**ComponentEvent**](http://docs.google.com/java/awt/event/ComponentEvent.html) |
| --- |
| [COMPONENT\_FIRST](http://docs.google.com/java/awt/event/ComponentEvent.html#COMPONENT_FIRST), [COMPONENT\_HIDDEN](http://docs.google.com/java/awt/event/ComponentEvent.html#COMPONENT_HIDDEN), [COMPONENT\_LAST](http://docs.google.com/java/awt/event/ComponentEvent.html#COMPONENT_LAST), [COMPONENT\_MOVED](http://docs.google.com/java/awt/event/ComponentEvent.html#COMPONENT_MOVED), [COMPONENT\_RESIZED](http://docs.google.com/java/awt/event/ComponentEvent.html#COMPONENT_RESIZED), [COMPONENT\_SHOWN](http://docs.google.com/java/awt/event/ComponentEvent.html#COMPONENT_SHOWN) |

| **Fields inherited from class java.awt.**[**AWTEvent**](http://docs.google.com/java/awt/AWTEvent.html) |
| --- |
| [ACTION\_EVENT\_MASK](http://docs.google.com/java/awt/AWTEvent.html#ACTION_EVENT_MASK), [ADJUSTMENT\_EVENT\_MASK](http://docs.google.com/java/awt/AWTEvent.html#ADJUSTMENT_EVENT_MASK), [COMPONENT\_EVENT\_MASK](http://docs.google.com/java/awt/AWTEvent.html#COMPONENT_EVENT_MASK), [consumed](http://docs.google.com/java/awt/AWTEvent.html#consumed), [CONTAINER\_EVENT\_MASK](http://docs.google.com/java/awt/AWTEvent.html#CONTAINER_EVENT_MASK), [FOCUS\_EVENT\_MASK](http://docs.google.com/java/awt/AWTEvent.html#FOCUS_EVENT_MASK), [HIERARCHY\_BOUNDS\_EVENT\_MASK](http://docs.google.com/java/awt/AWTEvent.html#HIERARCHY_BOUNDS_EVENT_MASK), [HIERARCHY\_EVENT\_MASK](http://docs.google.com/java/awt/AWTEvent.html#HIERARCHY_EVENT_MASK), [id](http://docs.google.com/java/awt/AWTEvent.html#id), [INPUT\_METHOD\_EVENT\_MASK](http://docs.google.com/java/awt/AWTEvent.html#INPUT_METHOD_EVENT_MASK), [INVOCATION\_EVENT\_MASK](http://docs.google.com/java/awt/AWTEvent.html#INVOCATION_EVENT_MASK), [ITEM\_EVENT\_MASK](http://docs.google.com/java/awt/AWTEvent.html#ITEM_EVENT_MASK), [KEY\_EVENT\_MASK](http://docs.google.com/java/awt/AWTEvent.html#KEY_EVENT_MASK), [MOUSE\_EVENT\_MASK](http://docs.google.com/java/awt/AWTEvent.html#MOUSE_EVENT_MASK), [MOUSE\_MOTION\_EVENT\_MASK](http://docs.google.com/java/awt/AWTEvent.html#MOUSE_MOTION_EVENT_MASK), [MOUSE\_WHEEL\_EVENT\_MASK](http://docs.google.com/java/awt/AWTEvent.html#MOUSE_WHEEL_EVENT_MASK), [PAINT\_EVENT\_MASK](http://docs.google.com/java/awt/AWTEvent.html#PAINT_EVENT_MASK), [RESERVED\_ID\_MAX](http://docs.google.com/java/awt/AWTEvent.html#RESERVED_ID_MAX), [TEXT\_EVENT\_MASK](http://docs.google.com/java/awt/AWTEvent.html#TEXT_EVENT_MASK), [WINDOW\_EVENT\_MASK](http://docs.google.com/java/awt/AWTEvent.html#WINDOW_EVENT_MASK), [WINDOW\_FOCUS\_EVENT\_MASK](http://docs.google.com/java/awt/AWTEvent.html#WINDOW_FOCUS_EVENT_MASK), [WINDOW\_STATE\_EVENT\_MASK](http://docs.google.com/java/awt/AWTEvent.html#WINDOW_STATE_EVENT_MASK) |

| **Fields inherited from class java.util.**[**EventObject**](http://docs.google.com/java/util/EventObject.html) |
| --- |
| [source](http://docs.google.com/java/util/EventObject.html#source) |

| **Method Summary** | |
| --- | --- |
| void | [**consume**](http://docs.google.com/java/awt/event/InputEvent.html#consume())()            Consumes this event so that it will not be processed in the default manner by the source which originated it. |
| int | [**getModifiers**](http://docs.google.com/java/awt/event/InputEvent.html#getModifiers())()            Returns the modifier mask for this event. |
| int | [**getModifiersEx**](http://docs.google.com/java/awt/event/InputEvent.html#getModifiersEx())()            Returns the extended modifier mask for this event. |
| static [String](http://docs.google.com/java/lang/String.html) | [**getModifiersExText**](http://docs.google.com/java/awt/event/InputEvent.html#getModifiersExText(int))(int modifiers)            Returns a String describing the extended modifier keys and mouse buttons, such as "Shift", "Button1", or "Ctrl+Shift". |
| long | [**getWhen**](http://docs.google.com/java/awt/event/InputEvent.html#getWhen())()            Returns the timestamp of when this event occurred. |
| boolean | [**isAltDown**](http://docs.google.com/java/awt/event/InputEvent.html#isAltDown())()            Returns whether or not the Alt modifier is down on this event. |
| boolean | [**isAltGraphDown**](http://docs.google.com/java/awt/event/InputEvent.html#isAltGraphDown())()            Returns whether or not the AltGraph modifier is down on this event. |
| boolean | [**isConsumed**](http://docs.google.com/java/awt/event/InputEvent.html#isConsumed())()            Returns whether or not this event has been consumed. |
| boolean | [**isControlDown**](http://docs.google.com/java/awt/event/InputEvent.html#isControlDown())()            Returns whether or not the Control modifier is down on this event. |
| boolean | [**isMetaDown**](http://docs.google.com/java/awt/event/InputEvent.html#isMetaDown())()            Returns whether or not the Meta modifier is down on this event. |
| boolean | [**isShiftDown**](http://docs.google.com/java/awt/event/InputEvent.html#isShiftDown())()            Returns whether or not the Shift modifier is down on this event. |

| **Methods inherited from class java.awt.event.**[**ComponentEvent**](http://docs.google.com/java/awt/event/ComponentEvent.html) |
| --- |
| [getComponent](http://docs.google.com/java/awt/event/ComponentEvent.html#getComponent()), [paramString](http://docs.google.com/java/awt/event/ComponentEvent.html#paramString()) |

| **Methods inherited from class java.awt.**[**AWTEvent**](http://docs.google.com/java/awt/AWTEvent.html) |
| --- |
| [getID](http://docs.google.com/java/awt/AWTEvent.html#getID()), [setSource](http://docs.google.com/java/awt/AWTEvent.html#setSource(java.lang.Object)), [toString](http://docs.google.com/java/awt/AWTEvent.html#toString()) |

| **Methods inherited from class java.util.**[**EventObject**](http://docs.google.com/java/util/EventObject.html) |
| --- |
| [getSource](http://docs.google.com/java/util/EventObject.html#getSource()) |

| **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()), [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** |
| --- |

### SHIFT\_MASK

public static final int **SHIFT\_MASK**

The Shift key modifier constant. It is recommended that SHIFT\_DOWN\_MASK be used instead.

**See Also:**[Constant Field Values](http://docs.google.com/constant-values.html#java.awt.event.InputEvent.SHIFT_MASK)

### CTRL\_MASK

public static final int **CTRL\_MASK**

The Control key modifier constant. It is recommended that CTRL\_DOWN\_MASK be used instead.

**See Also:**[Constant Field Values](http://docs.google.com/constant-values.html#java.awt.event.InputEvent.CTRL_MASK)

### META\_MASK

public static final int **META\_MASK**

The Meta key modifier constant. It is recommended that META\_DOWN\_MASK be used instead.

**See Also:**[Constant Field Values](http://docs.google.com/constant-values.html#java.awt.event.InputEvent.META_MASK)

### ALT\_MASK

public static final int **ALT\_MASK**

The Alt key modifier constant. It is recommended that ALT\_DOWN\_MASK be used instead.

**See Also:**[Constant Field Values](http://docs.google.com/constant-values.html#java.awt.event.InputEvent.ALT_MASK)

### ALT\_GRAPH\_MASK

public static final int **ALT\_GRAPH\_MASK**

The AltGraph key modifier constant.

**See Also:**[Constant Field Values](http://docs.google.com/constant-values.html#java.awt.event.InputEvent.ALT_GRAPH_MASK)

### BUTTON1\_MASK

public static final int **BUTTON1\_MASK**

The Mouse Button1 modifier constant. It is recommended that BUTTON1\_DOWN\_MASK be used instead.

**See Also:**[Constant Field Values](http://docs.google.com/constant-values.html#java.awt.event.InputEvent.BUTTON1_MASK)

### BUTTON2\_MASK

public static final int **BUTTON2\_MASK**

The Mouse Button2 modifier constant. It is recommended that BUTTON2\_DOWN\_MASK be used instead. Note that BUTTON2\_MASK has the same value as ALT\_MASK.

**See Also:**[Constant Field Values](http://docs.google.com/constant-values.html#java.awt.event.InputEvent.BUTTON2_MASK)

### BUTTON3\_MASK

public static final int **BUTTON3\_MASK**

The Mouse Button3 modifier constant. It is recommended that BUTTON3\_DOWN\_MASK be used instead. Note that BUTTON3\_MASK has the same value as META\_MASK.

**See Also:**[Constant Field Values](http://docs.google.com/constant-values.html#java.awt.event.InputEvent.BUTTON3_MASK)

### SHIFT\_DOWN\_MASK

public static final int **SHIFT\_DOWN\_MASK**

The Shift key extended modifier constant.

**Since:** 1.4 **See Also:**[Constant Field Values](http://docs.google.com/constant-values.html#java.awt.event.InputEvent.SHIFT_DOWN_MASK)

### CTRL\_DOWN\_MASK

public static final int **CTRL\_DOWN\_MASK**

The Control key extended modifier constant.

**Since:** 1.4 **See Also:**[Constant Field Values](http://docs.google.com/constant-values.html#java.awt.event.InputEvent.CTRL_DOWN_MASK)

### META\_DOWN\_MASK

public static final int **META\_DOWN\_MASK**

The Meta key extended modifier constant.

**Since:** 1.4 **See Also:**[Constant Field Values](http://docs.google.com/constant-values.html#java.awt.event.InputEvent.META_DOWN_MASK)

### ALT\_DOWN\_MASK

public static final int **ALT\_DOWN\_MASK**

The Alt key extended modifier constant.

**Since:** 1.4 **See Also:**[Constant Field Values](http://docs.google.com/constant-values.html#java.awt.event.InputEvent.ALT_DOWN_MASK)

### BUTTON1\_DOWN\_MASK

public static final int **BUTTON1\_DOWN\_MASK**

The Mouse Button1 extended modifier constant.

**Since:** 1.4 **See Also:**[Constant Field Values](http://docs.google.com/constant-values.html#java.awt.event.InputEvent.BUTTON1_DOWN_MASK)

### BUTTON2\_DOWN\_MASK

public static final int **BUTTON2\_DOWN\_MASK**

The Mouse Button2 extended modifier constant.

**Since:** 1.4 **See Also:**[Constant Field Values](http://docs.google.com/constant-values.html#java.awt.event.InputEvent.BUTTON2_DOWN_MASK)

### BUTTON3\_DOWN\_MASK

public static final int **BUTTON3\_DOWN\_MASK**

The Mouse Button3 extended modifier constant.

**Since:** 1.4 **See Also:**[Constant Field Values](http://docs.google.com/constant-values.html#java.awt.event.InputEvent.BUTTON3_DOWN_MASK)

### ALT\_GRAPH\_DOWN\_MASK

public static final int **ALT\_GRAPH\_DOWN\_MASK**

The AltGraph key extended modifier constant.

**Since:** 1.4 **See Also:**[Constant Field Values](http://docs.google.com/constant-values.html#java.awt.event.InputEvent.ALT_GRAPH_DOWN_MASK)

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

### isShiftDown

public boolean **isShiftDown**()

Returns whether or not the Shift modifier is down on this event.

### isControlDown

public boolean **isControlDown**()

Returns whether or not the Control modifier is down on this event.

### isMetaDown

public boolean **isMetaDown**()

Returns whether or not the Meta modifier is down on this event.

### isAltDown

public boolean **isAltDown**()

Returns whether or not the Alt modifier is down on this event.

### isAltGraphDown

public boolean **isAltGraphDown**()

Returns whether or not the AltGraph modifier is down on this event.

### getWhen

public long **getWhen**()

Returns the timestamp of when this event occurred.

### getModifiers

public int **getModifiers**()

Returns the modifier mask for this event.

### getModifiersEx

public int **getModifiersEx**()

Returns the extended modifier mask for this event. Extended modifiers represent the state of all modal keys, such as ALT, CTRL, META, and the mouse buttons just after the event occurred

For example, if the user presses **button 1** followed by **button 2**, and then releases them in the same order, the following sequence of events is generated:

MOUSE\_PRESSED: BUTTON1\_DOWN\_MASK  
 MOUSE\_PRESSED: BUTTON1\_DOWN\_MASK | BUTTON2\_DOWN\_MASK  
 MOUSE\_RELEASED: BUTTON2\_DOWN\_MASK  
 MOUSE\_CLICKED: BUTTON2\_DOWN\_MASK  
 MOUSE\_RELEASED:   
 MOUSE\_CLICKED:

It is not recommended to compare the return value of this method using == because new modifiers can be added in the future. For example, the appropriate way to check that SHIFT and BUTTON1 are down, but CTRL is up is demonstrated by the following code:

int onmask = SHIFT\_DOWN\_MASK | BUTTON1\_DOWN\_MASK;  
 int offmask = CTRL\_DOWN\_MASK;  
 if ((event.getModifiersEx() & (onmask | offmask)) == onmask) {  
 ...  
 }

The above code will work even if new modifiers are added.

**Since:** 1.4

### consume

public void **consume**()

Consumes this event so that it will not be processed in the default manner by the source which originated it.

**Overrides:**[consume](http://docs.google.com/java/awt/AWTEvent.html#consume()) in class [AWTEvent](http://docs.google.com/java/awt/AWTEvent.html)

### isConsumed

public boolean **isConsumed**()

Returns whether or not this event has been consumed.

**Overrides:**[isConsumed](http://docs.google.com/java/awt/AWTEvent.html#isConsumed()) in class [AWTEvent](http://docs.google.com/java/awt/AWTEvent.html) **See Also:**[consume()](http://docs.google.com/java/awt/event/InputEvent.html#consume())

### getModifiersExText

public static [String](http://docs.google.com/java/lang/String.html) **getModifiersExText**(int modifiers)

Returns a String describing the extended modifier keys and mouse buttons, such as "Shift", "Button1", or "Ctrl+Shift". These strings can be localized by changing the awt.properties file.

**Parameters:**modifiers - a modifier mask describing the extended modifier keys and mouse buttons for the event **Returns:**a text description of the combination of extended modifier keys and mouse buttons that were held down during the event.**Since:** 1.4

| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/InputEvent.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/java/awt/event/HierarchyListener.html)   [**NEXT CLASS**](http://docs.google.com/java/awt/event/InputMethodEvent.html) | [**FRAMES**](http://docs.google.com/index.html?java/awt/event/InputEvent.html)    [**NO FRAMES**](http://docs.google.com/InputEvent.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
| SUMMARY: NESTED | [FIELD](#3znysh7) | CONSTR | [METHOD](#1t3h5sf) | DETAIL: [FIELD](#26in1rg) | CONSTR | [METHOD](#49x2ik5) |

[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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