

# MiscValueCell

**Inherits From:** TextFieldCell : ActionCell : Cell : Object

**Declared In:** MiscValueCell.h

## Class Description

A **MiscValueCell** adds <sup>a</sup>up<sup>o</sup> and <sup>a</sup>down<sup>o</sup> arrows to a TextFieldCell. The primary advantage of this class is that it allows the user to scroll through a list of choices yet sends far fewer action messages than the equivalent combination of individual controls, sending the target the action only after the button is released. A **MiscStringArray** or a **StringList** (found as a MiniExample) can be attached to provide text strings that get shown instead of numbers.

A valid string list object responds to:

-(char \*) **stringAt**:(int)item;

-(unsigned int) **count**;

The value sent to **stringAt**: will be in the range 0 - **count**. When the **stringList** instance variable is set, the ranges as set in IB (or wherever) are ignored and the string list defines the range of its values. Of course, **stringAt**: can create its return value any way it likes.

## Instance Variables

```
id      idUp;
id      idDown;
id      stringList;
double  actualValue;
double  limitMinValue;
double  limitMaxValue;
double  limitMinBound;
double  limitMaxBound;
double  sizeStep;
double  sizeAltStep;
BOOL    fExpandLow;
BOOL    fExpandHigh;
BOOL    fLoop;
BOOL    fValidRect;
int     fAltKeyDown;
NXRect  rectFrame;
```

idUp	The ButtonCell for the up arrow button.
idDown	The ButtonCell for the down arrow button.
stringList	An object to provide strings in place of values.
actualValue	The numeric value since the display may be a string.
limitMinValue	The absolute lower limit of allowable values.
limitMaxValue	The absolute upper limit of allowable values.
limitMinBound	The adjustable lower limit for stopping the value when using the buttons.
limitMaxBound	The adjustable upper limit for stopping the value when using the buttons.
sizeStep	The amount to change the value by when a button is clicked.
sizeAltStep	The amount to use when the Alternate key is down during the click.
fExpandLow	Declares that limitMinBound is actually being used.
fExpandHigh	Declares that limitMaxBound is actually being used.
fLoop	Used to keep things sane in the setXXXValue: methods. (Stops endless looping).
fValidRect	Used by the drawing methods to keep track of the width adjustment.
fAltKeyDown	Set from the triggering event so the actions for the buttons can know.

rectFrame

Used by the drawing methods to keep track of the width adjustment.

## Method Types

Initializing

± initTextCell:  
± copyFromZone:

Changing a MiscValueCell

± setBezeled:  
± setBordered:  
± setEditable:

Manipulating a MiscValueCell

± setMinValue:  
± setMaxValue:  
± setMinBoundary:  
± setMaxBoundary:  
± setStepSize:  
± setAltStepSize:  
± setExpandMin:  
± setExpandMax:  
± setStringList:

Querying values

± minValue

± maxValue  
± minBoundary  
± maxBoundary  
± stepSize  
± altStepSize  
± expandMin  
± expandMax  
± stringList

Archiving

± read:  
± write:  
± awake  
± awakeFromNib

## Instance Methods

### **altStepSize**

±(double) **altStepSize**

Returns the amount the value will change when a button is clicked while Alternate is held down.

See also: ± **setAltStepSize:**, ± **setStepSize:**, ± **stepSize**

## **awake**

± **awake**

Sends a message so the value will be properly displayed. Returns **self**.

See also: **-awakeFromNib**

## **awakeFromNib**

± **awakeFromNib**

Sends self an awake message. Returns **self**.

See also: ± **awake**

## **copyFromZone:**

± **copyFromZone:**(NXZone \*)*zone*

Copies the MiscValueCell and also copies the ButtonCells inside. Returns the new object.

## **expandMax**

±(BOOL) **expandMax**

Returns YES if **maxBoundary** is in effect stopping the arrow buttons from reaching **maxValue**.

See also: ± **expandMin**, ± **maxBoundary**, ± **maxValue**, ± **minBoundary**, ± **minValue**, ± **setExpandMax**, ±

**€setExpandMin, ± setMaxBoundary, ± setMaxValue, ± setMinBoundary, ± setMinValue**

### **expandMin**

**±(BOOL) expandMin**

Returns YES if **minBoundary** is in effect stopping the arrow buttons from reaching **minValue**.

See also: **± expandMax, ± maxBoundary, ± maxValue, ± minBoundary, ± minValue, ± setExpandMax, ± €setExpandMin, ± setMaxBoundary, ± setMaxValue, ± setMinBoundary, ± setMinValue**

### **initTextCell**

**± initTextCell:(const char \*)sz**

Initializes the receiver to contain the string sz. The hard limits are set to 0 and 100 and the soft limits are not active. the step size is set to 1 and the Alternate step size is set to 10. The Cell has the Bezeled style, is Editable and is not Continuous. Returns **self**.

### **maxBoundary**

**±(double) maxBoundary**

Returns the current limit that the value will stop at when the up arrow button is being used to change the value. This limit can be changed by entering a larger value using the keyboard. This limit will be set the highest value entered that is still within the bounds of **maxValue**. It cannot be reduced except programmatically.

See also:  $\pm$  **expandMax**,  $\pm$  **expandMin**,  $\pm$  **maxValue**,  $\pm$  **minBoundary**,  $\pm$  **minValue**,  $\pm$  **setExpandMax**,  $\pm$  **setExpandMin**,  $\pm$  **setMaxBoundary**,  $\pm$  **setMaxValue**,  $\pm$  **setMinBoundary**,  $\pm$  **setMinValue**

### **maxValue**

$\pm$ (double) **maxValue**

Returns the highest value this field is allowed to reach. This limit cannot be exceeded in any way. **maxBoundary** can match this value and then have no effect.

See also:  $\pm$  **expandMax**,  $\pm$  **expandMin**,  $\pm$  **maxBoundary**,  $\pm$  **minBoundary**,  $\pm$  **minValue**,  $\pm$  **setExpandMax**,  $\pm$  **setExpandMin**,  $\pm$  **setMaxBoundary**,  $\pm$  **setMaxValue**,  $\pm$  **setMinBoundary**,  $\pm$  **setMinValue**

### **minBoundary**

$\pm$ (double) **minBoundary**

Returns the current limit that the value will stop at when the down arrow button is being used to change the value. This limit can be changed by entering a smaller value using the keyboard. This limit will be set the lowest value entered that is still within the bounds of **minValue**. It cannot be increased except programmatically.

See also:  $\pm$  **expandMax**,  $\pm$  **expandMin**,  $\pm$  **maxBoundary**,  $\pm$  **maxValue**,  $\pm$  **minValue**,  $\pm$  **setExpandMax**,  $\pm$  **setExpandMin**,  $\pm$  **setMaxBoundary**,  $\pm$  **setMaxValue**,  $\pm$  **setMinBoundary**,  $\pm$  **setMinValue**

## **minValue**

±(double) **minValue**

Returns the lowest value this field is allowed to reach. This value cannot be exceeded in any way. **minBoundary** can match this value and then have no effect.

See also: ± **expandMax**, ± **expandMin**, ± **maxBoundary**, ± **maxValue**, ± **minBoundary**, ± **setExpandMax**, ± **setExpandMin**, ± **setMaxBoundary**, ± **setMaxValue**, ± **setMinBoundary**, ± **setMinValue**

## **read:**

± **read:**(NXTypedStream \*)*stream*

Reads a MiscValueCell from *stream*. This also reads in the ButtonCells used as subcells. Returns **self**.

See also: ± **write:**

## **setAltStepSize:**

± **setAltStepSize:**(double)*size*

Sets the amount the value will change when a button is clicked while Alternate is being held down. Returns **self**.

See also: ± **altStepSize:**, ± **setStepSize:**, ± **stepSize**

**setBezeled:**

± **setBezeled:**(BOOL)*flag*

if *flag* is YES, sets both the TextFieldCell and the ButtonCell subcells to have the (standard) bezeled frames. If *flag* is NO, the TextFieldCell is set depending on the state of the **bordered** attribute and the ButtonCells and set to have no frame. Returns **self**.

See also: ± **setBordered:**

**setBordered:**

± **setBordered:**(BOOL)*flag*

If *flag* is YES, the TextFieldCell gets a black frame, otherwise it has no frame at all. The ButtonCells are set to have no frames regardless of *flag* because they do not have a bordered-not-bezeled style. Returns **self**.

See also: ± **setBezeled:**

**setEditable:**

± **setEditable:**(BOOL)*flag*

If *flag* is YES, sets the TextFieldCell to normal editable mode. If *flag* is NO, sets non-editable, but also sends **setSelectable:YES** so the buttons will still work. Returns **self**.

**setExpandMax:**

± **setExpandMax**:(BOOL)*flag*

If *flag* is YES then **maxBoundary** has an effect on the upper limit of the field value when it's adjusted with the arrow buttons. Returns **self**.

See also: ± **expandMax**, ± **expandMin**, ± **maxBoundary**, ± **maxValue**, ± **minBoundary**, ± **minValue**, ± **setExpandMin**, ± **setMaxBoundary**, ± **setMaxValue**, ± **setMinBoundary**, ± **setMinValue**

**setExpandMin**:

± **setExpandMin**:(BOOL)*flag*

If *flag* is YES then **minBoundary** has an effect on the lower limit of the field value when it's adjusted with the arrow buttons. Returns **self**.

See also: ± **expandMax**, ± **expandMin**, ± **maxBoundary**, ± **maxValue**, ± **minBoundary**, ± **minValue**, ± **setExpandMax**, ± **setMaxBoundary**, ± **setMaxValue**, ± **setMinBoundary**, ± **setMinValue**

**setMaxBoundary**

± **setMaxBoundary**:(double)*value*

Sets the highest value the field will allow when using the arrow buttons to adjust the value. This value can be exceeded and altered by typing a value greater than this limit. This value will be adjusted to match the entered amount with an additional limitation that it will stop at **maxValue**. Returns **self**.

See also: ± **expandMax**, ± **expandMin**, ± **maxBoundary**, ± **maxValue**, ± **minBoundary**, ± **minValue**, ± **setExpandMax**, ± **setExpandMin**, ± **setMaxValue**, ± **setMinBoundary**, ± **setMinValue**

### **setMaxValue**

± **setMaxValue**:(double)*value*

Sets the highest value the field will allow. There is no way to exceed this limit from the interface. **maxBoundary** will stop expanding when it gets to this value. Returns **self**.

See also: ± **expandMax**, ± **expandMin**, ± **maxBoundary**, ± **maxValue**, ± **minBoundary**, ± **minValue**, ± **setExpandMax**, ± **setExpandMin**, ± **setMaxBoundary**, ± **setMinBoundary**, ± **setMinValue**

### **setMinBoundary**

± **setMinBoundary**:(double)*value*

Sets the lowest value the field will allow when using the arrow buttons to adjust the value. This value can be exceeded and altered by typing a value lower than this limit. This value will be adjusted to match the entered amount with an additional limitation that it will stop at **minValue**. Returns **self**.

See also: ± **expandMax**, ± **expandMin**, ± **maxBoundary**, ± **maxValue**, ± **minBoundary**, ± **minValue**, ± **setExpandMax**, ± **setExpandMin**, ± **setMaxBoundary**, ± **setMaxValue**, ± **setMinValue**

### **setMinValue**

± **setMinValue**:(double)*value*

Sets the lowest value the field will allow. There is no way to exceed this limit from the interface. **minBoundary**

will stop expanding when it gets to this value. Returns **self**.

See also: **± expandMax, ± expandMin, ± maxBoundary, ± maxValue, ± minBoundary, ± minValue, ± €setExpandMax, ± setExpandMin, ± setMaxBoundary, ± setMaxValue, ± setMinBoundary**

### **setStepSize:**

**± setStepSize:(double)size**

Sets the amount the value will change when a button is clicked. Returns **self**.

See also: **± altStepSize:, ± setAltStepSize:, ± stepSize**

### **setStringList:**

**± setStringList:anObject**

Sets the object to be asked for display strings. *anObject* should respond to **stringAt:** and **count** messages. When a string list is set the range limits are all ignored and the cell is set to non-editable. The value of the cell will only fit within a range defined by *anObject's* **count** method. Returns **self**.

*anObject's* **stringAt:** method should take an **int** as its argument and return a **char \*** with the correct string to be displayed for the given value. The value of the argument will range from 0 to **count** - 1. This arrangement has been created to allow the MiscValueCell to be connected to a MiscStringArray or a StringList (found in the MiniExamples) object in Interface Builder so lists may be created, displayed and dealt with with no additional code.

See also:  $\pm$  **stringList**

### **stepSize**

$\pm$ (double) **stepSize**

Returns the amount the value will change when a button is clicked.

See also:  $\pm$  **altStepSize:**,  $\pm$  **setAltStepSize:**,  $\pm$  **setStepSize:**

### **stringList**

$\pm$  **stringList**

Returns the object that is taking the task of providing the display strings.

See also:  $\pm$  **setStringList:**

### **write:**

$\pm$  **write:**(NXTypedStream \*)*stream*

Writes the MiscValueCell and its ButtonCells to *stream*. The images in the ButtonCells only get archived once so redundancy is kept down. Returns **self**.

See also:  $\pm$  **read:**