

**Gadget**

**COLLABORATORS**

	<i>TITLE :</i> Gadget		
<i>ACTION</i>	<i>NAME</i>	<i>DATE</i>	<i>SIGNATURE</i>
WRITTEN BY		July 31, 2024	

**REVISION HISTORY**

NUMBER	DATE	DESCRIPTION	NAME

# Contents

<b>1</b>	<b>Gadget</b>	<b>1</b>
1.1	Gadget	1
1.2	activategadget	2
1.3	buttongadget	2
1.4	checkboxgadget	2
1.5	creategadgetlist	3
1.6	cyclegadget	3
1.7	disablegadget	4
1.8	freegadget	4
1.9	gadgetbevelbox	4
1.10	getgadgetstate	4
1.11	getgadgettext	5
1.12	initgadget	5
1.13	integergadget	5
1.14	listviewgadget	6
1.15	nogadgetborder	8
1.16	numbergadget	8
1.17	optiongadget	9
1.18	palettegadget	10
1.19	refreshgadget	11
1.20	scrollergadget	11
1.21	setgadgetattribute	12
1.22	setgadgetfont	12
1.23	setgadgetstate	12
1.24	setgadgettaglist	12
1.25	setgadgettext	13
1.26	slidergadget	13
1.27	stringgadget	14
1.28	textgadget	15

# Chapter 1

## Gadget

### 1.1 Gadget

PureBasic Gadget library

Gadgets in PureBasic are based on the AmigaOS 'GadTools' library and provide a very easy way to setup the layout. All the gadgets types are supported.

Commands summary:

- ActivateGadget
- ButtonGadget
- CheckBoxGadget
- CreateGadgetList
- CycleGadget
- DisableGadget
- FreeGadget
- GadgetBevelBox
- GetGadgetState
- GetGadgetText
- InitGadget
- IntegerGadget
- ListViewGadget
- NoGadgetBorder
- NumberGadget
- OptionGadget
- PaletteGadget
- RefreshGadget
- ScrollerGadget
- SetGadgetAttribute
- SetGadgetFont
- SetGadgetState
- SetGadgetTagList
- SetGadgetText
- SliderGadget
- StringGadget
- TextGadget

Examples:

---

Gadget Demo

## 1.2 activategadget

### SYNTAX

```
Result = ActivateGadget(#Gadget)
```

### FUNCTION

Cause the specified #Gadget to be activated, but only if its a string or integer gadget. Result will show if the activation have taken place, TRUE if it have and FALSE if its not. And the gadget can't be disabled.

Note:

====

The #Gadget will only be activated if these set of conditions are met, only to ensure that user won't be interrupted.

- \* The window where the gadget is must be active.
- \* No other gadgets may be in use, including system gadgets.
- \* The right mouse button (ie. menus) cant be held down.

## 1.3 buttongadget

### SYNTAX

```
ButtonGadget(#Gadget,x,y,Width,Heighth,Text$)
```

### COMMAND

Create a button gadget on the current window. #Gadget will be the number returned by EventGadgetID(). The x and y will set the position, x=0 and y=0 will put the gadget at topleft in client area. Width and Heighth set the dimension of the gadget and Text\$ supply the text that will be put into the gadget, set it to zero if no text is wanted.

Available tags that could be passed with SetGadgetTagList() to this command, if the default settings need to be changed.

#GA\_Immediate (BOOL)

-----

Hear #IDCMP\_GADGETDOWN events from button gadget (defaults is FALSE). (V39)

## 1.4 checkboxgadget

---

## SYNTAX

```
CheckBoxGadget (#Gadget, x, y, Width, Height, Text$)
```

## COMMAND

Create a checkbox gadget in the current window. #Gadget will be the number returned by EventGadgetID(). The x and y will set the position, x=0 and y=0 will put the gadget at topleft in client area. Width and Height set the dimension of the gadget and Text\$ is an optional label that will be put at right side of the checkbox, but if its not wanted just set it to zero.

```
  |__| Enable automatic saving.
```

Available tags that could be passed with SetGadgetTagList() to this command, if the default settings need to be changed.

```
#GTCB_Scaled (BOOL)
```

```
-----
```

If true, then checkbox imagery will be scaled to fit the gadget's width & height. Otherwise, a fixed size of CHECKBOXWIDTH by CHECKBOXHEIGHT will be used. (defaults is FALSE) (V39)

## 1.5 creategadgetlist

## SYNTAX

```
Result = CreateGadgetList()
```

## FUNCTION

Use this function to make it possible to attache gadgets to the current window.

## 1.6 cyclegadget

## SYNTAX

```
CycleGadget (#Gadget, x, y, Width, Height, Text$, Labels())
```

## COMMAND

Create a cycle gadget on the current window. #Gadget will be the number returned by EventGadgetID(). The x and y will set the position, x=0 and y=0 will put the gadget at topleft in client area. Width and Height set the dimension of the gadget and Text\$ supply an optional label to be put at the left, set it to zero if no label is wanted. The Labels() parameter that will be the content of the cycle gadget is an array of strings and the last one must not contain any characters, as this one define that no more labels is to be expected.

```
Dim CycleGadgetItems.s(3)
  CycleGadgetItems(0) = "Item1"
```

```
CycleGadgetItems(1) = "Item2"  
CycleGadgetItems(2) = "Item3"
```

```
-----  
Choose your Item: | | Item1 |  
-----
```

There is no available tags for this command as all possible settings is supported within this or other functions.

## 1.7 disablegadget

### SYNTAX

```
DisableGadget (#Gadget, State)
```

### STATEMENT

Disable or enable a gadget. If State = 1, the gadget will be disable, if State = 0 then it will be enabled.

## 1.8 freegadget

### SYNTAX

```
FreeGadget (#Gadget)
```

### STATEMENT

Cause the specified #Gadget to be freed, but if -1 is used then its all the gadgets on the current window that will be freed.

## 1.9 gadgetbevelbox

### SYNTAX

```
GadgetBevelBox(x, y, Width, Height, Style)
```

### STATEMENT

Draw a bevelbox in the current window at the specified position and with specified dimension. Style could be either raised 0 or recessed 1.

## 1.10 getgadgetstate

### SYNTAX

```
Result = GetGadgetState (#Gadget)
```

### FUNCTION

Get the state of any gadget at any time, button, string and text gadgets will always return zero.

---

## 1.11 getgadgettext

### SYNTAX

```
Text$ = GetGadgetText(#Gadget)
```

### FUNCTION

Return the text content of a string or text gadget, other gadget types will always return "".

## 1.12 initgadget

### SYNTAX

```
Result = InitGadget(#MaxGadgets)
```

### COMMAND

Initialize the gadget environment. You must put this command before using any of the other gadget function and also check Result if you want to be sure its alright.

## 1.13 integergadget

### SYNTAX

```
IntegerGadget(#Gadget,x,y,Width,Height,Text$,Content)
```

### COMMAND

Create a integer gadget in the current window. #Gadget will be the number returned by EventGadgetID(). The x and y will set the position, x=0 and y=0 will put the gadget at topleft in client area. Width and Height set the dimension of the gadget and Text\$ is an optional label that will be put at the left, but if its not wanted just set it to zero. Content is the number that will be put in the gadget.

Available tags that could be passed with SetGadgetTagList() to this command, if the default settings need to be changed.

```
#GA_Immediate (BOOL)
```

```
-----
```

Hear #IDCMP\_GADGETDOWN events from integer gadget (defaults to FALSE). (V39)

```
#GA_TabCycle (BOOL)
```

```
-----
```

Set to TRUE so that pressing <TAB> or <Shift-TAB> will activate the next or previous such gadget. (defaults to TRUE, unlike regularIntuition string gadgets which default to FALSE). (V37)

```
#GTIN_MaxChars (UWORD)
```

```
-----
```

The maximum number of digits that the integer gadget is to hold (defaults to 10). (V36)

```
#GTIN_EditHook (struct Hook *)
-----
Hook to use as a custom integer gadget edit hook (StringExtend->
EditHook) for this gadget. GadTools will allocate the
StringExtend->WorkBuffer for you.
(defaults to NULL). (V37)

#STRINGA_ExitHelp (BOOL)
-----
Set to TRUE to have the help-key cause an exit from the integer
gadget. You will then receive an #IDCMP_GADGETUP event with
Code = 0x5F (rawkeyfor help). (defaults to FALSE) (V37)

#STRINGA_Justification
-----
Controls the justification of the contents of an integer gadget.
Choose one of STRINGLEFT, STRINGRIGHT, or STRINGCENTER (defaults
to STRINGLEFT). (V37)

#STRINGA_ReplaceMode (BOOL)
-----
If TRUE, this integer gadget is in replace-mode (defaults to FALSE
(insert-mode)). (V37)
```

## 1.14 listviewgadget

### SYNTAX

```
ListviewGadget (#Gadget, x, y, Width, Height, Text$, ListBase)
```

### COMMAND

Create a listview gadget in the current window. #Gadget will be the number returned by EventGadgetID(). The x and y will set the position, x=0 and y=0 will put the gadget at topleft in client area. Width and Height set the dimension of the gadget and Text\$ is an optional label that will be put above it, but if its not wanted just set it to zero. ListBase is the pointer given by the ListBase() function and its a linked list, created with NewList, with a structure type like this one:

```
Structure ListView
  Pad.w      ; Skip these two first bytes.
  String.s   ; The string to display in the listview.
EndStructure
```

List Content:

```
-----
|Item 1      | |
|Item 2      | |
|Item 3      |_|
|            |_|
|            |_|
```

Available tags that could be passed with `SetGadgetTagList()` to this command, if the default settings need to be changed.

#GTLV\_Top (WORD)

-----

Top item visible in the listview. This value will be made reasonable if out-of-range (defaults to 0). (V36)

#GTLV\_MakeVisible (WORD)

-----

Number of an item that should be forced within the visible area of the listview by doing minimal scrolling. This tag overrides #GTLV\_Top. (V39)

#GTLV\_ReadOnly (BOOL)

-----

If TRUE, then listview is read-only (defaults to FALSE). (V36)

#GTLV\_ScrollWidth (UWORD)

-----

Width of scroll bar for listview. Must be greater than zero (defaults to 16). (V36)

#LAYOUTA\_Spacing (UWORD)

-----

Extra space to place between lines of listview (defaults to 0). (V36)

#GTLV\_ItemHeight (UWORD)

-----

The exact height of an item. This is normally useful for listviews that use the #GTLV\_CallBack rendering hook (defaults to `ng->ng_TextAttr->ta_YSize`). (V39)

#GTLV\_CallBack (struct Hook \*)

-----

Callback hook for various listview operations. As of V39, the only callback supported is for custom rendering of individual items in the listview. The call back hook is called with:

A0 - struct Hook \*

A1 - struct LVDrawMsg \*

A2 - struct Node \*

The callback hook \*must\* check the `lvdm_MethodID` field of the message and only do processing if it equals `LV_DRAW`. If any other value is passed, the callback hook must return `LVCB_UNKNOWN`

#GTLV\_MaxPen (UWORD)

-----

The maximum pen number used by rendering in a custom rendering callback hook. This is used to optimize the rendering and scrolling of the listview display (default is the maximum pen number used by all of `TEXTPEN`, `BACKGROUNDPEN`, `FILLPEN`, `TEXTFILLPEN`, and `BLOCKPEN`). (V39)

## 1.15 nogadgetborder

### SYNTAX

```
NoGadgetBorder (#Gadget)
```

### STATEMENT

Must be put after a gadget declaration and will remove the border around the specified gadget ie:

```
ButtonGadget (1,10,10,100,100,"Hello",0)
NoGadgetBorder(1)
```

## 1.16 numbergadget

### SYNTAX

```
NumberGadget (#Gadget, x, y, Width, Height, Text$, Content)
```

### COMMAND

Create a number gadget in the current window. The x and y will set the position, x=0 and y=0 will put the gadget at topleft in client area. Width and Height set the dimension of the gadget and Text\$ is an optional label that will be put at the left, but if its not wanted just set it to zero. Content is the number to put into the gadget.

This gadget is output only so user cant affect it so there will be no return by GadgetEventID().

Available tags that could be passed with SetGadgetTagList() to this command, if the default settings need to be changed.

```
#GTNM_Border (BOOL)
```

```
-----
```

If TRUE, this flag asks for a recessed border to be placed around the gadget. (V36)

```
#GTNM_FrontPen (UBYTE)
```

```
-----
```

The pen to use when rendering the number (defaults to DrawInfo->dri\_Pens[TEXTPEN]). (V39)

```
#GTNM_BackPen (UBYTE)
```

```
-----
```

The pen to use when rendering the background of the number (defaults to leaving the background untouched). (V39)

```
#GTNM_Justification (UBYTE)
```

```
-----
```

Determines how the number is rendered within the gadget box. GTJ\_LEFT will make the rendering be flush with the left side of the gadget, GTJ\_RIGHT will make it flush with the right side, and GTJ\_CENTER will center the number within the gadget box. Under V39, using this tag also required using {#GTNM\_Clippped, TRUE}, otherwise the text would not show up in the gadget. This has ben fixed in V40.

```
(defaults to GTJ_LEFT). (V39)
```

```
#GTNM_Format (STRPTR)
```

```
-----
```

C-Style formatting string to apply on the number before display. Be sure to use the 'l' (long) modifier. This string is processed using `exec.library/RawDoFmt()`, so refer to that function for details. (defaults to "%ld") (V39)

```
#GTNM_MaxNumberLen (ULONG)
```

```
-----
```

Maximum number of bytes that can be generated by applying the #GTNM\_Format formatting string to the number (excluding the NULL terminator). (defaults to 10). (V39)

```
#GTNM_Clipped (BOOL)
```

```
-----
```

Determine whether text should be clipped to the gadget dimensions (defaults to FALSE for gadgets without borders, TRUE for gadgets with borders). (V39)

## 1.17 optiongadget

### SYNTAX

```
OptionGadget(#Gadget,x,y,Width,Height,Labels())
```

### COMMAND

Create a option gadget in the current window. #Gadget will be the number returned by `EventGadgetID()`. The x and y will set the position, x=0 and y=0 will put the gadget at topleft in client area. Width and Height set the dimension of the gadget. Labels() parameter that represents the text that will be put at right side of each knob is an array of strings and the last one must not contain any characters, as this define that no more labels is to be expected.

```
Dim OptionGadgets.s(3)
OptionGadgets(0) = "January"
OptionGadgets(1) = "February"
OptionGadgets(2) = "March"

  _
|_| January

  _
|_| February

  _
|_| March
```

Available tags that could be passed with `SetGadgetTagList()` to this command, if the default settings need to be changed.

```
#GTMX_Spacing (UWORD)
```

```
-----
```

The amount of space between each choice of a set of mutually exclusive gadgets. This amount is added to the font height to



```
#GTPA_ColorTable (UBYTE *)
-----
Pointer to a table of pen numbers indicating which colors should
be used and edited by the palette gadget. This array must contain
as many entries as there are colors displayed in the palette gadget.
The array provided with this tag must remain valid for the life of
the gadget or until a new table is provided. (default is NULL, which
causes a 1-to-1 mapping of pen numbers). (V39)

#GTPA_NumColors (UWORD)
-----
Number of colors to display in the palette gadget. This override
#GTPA_Depth and allows numbers which aren't powers of 2. (defaults
to 2) (V39)
```

## 1.19 refreshgadget

### SYNTAX

```
RefreshGadget(#Gadget)
```

### STATEMENT

Cause the specified #Gadget to be refreshed, but if -1 is used then its all the gadgets on the current window that will be refreshed.

## 1.20 scrollergadget

### SYNTAX

```
ScrollerGadget(#Gadget, x, y, Width, Height, Text$, Total, Visible)
```

### COMMAND

Create a scroller gadget on the current window. #Gadget will be the number returned by EventGadgetID(). The x and y will set the position, x=0 and y=0 will put the gadget at topleft in client area. Width and Height set the dimension of the gadget and Text\$ supply an optional label to be put at left side of the gadget, set it to zero if no label is wanted. Total represent the whole amount of the scrollable area and Visible represent the amount of the visible area.

Available tags that could be passed with SetGadgetTagList() to this command, if the default settings need to be changed.

```
#GA_Immediate (BOOL)
-----
Hear every #IDCMP_GADGETDOWN event from scroller (defaults to
FALSE). (V36)

#GTSC_Top (WORD)
-----
Top visible in area scroller represents (defaults to 0). (V36)
```

```
#GTSC_Arrows (UWORD)
```

```
-----
```

Asks for arrows to be attached to the scroller. The value supplied will be taken as the width of each arrow button for a horizontal or scroller, the height of each button for a vertical scroller (the other dimension will match the whole scroller). (V36)

```
#PGA_Freedom
```

```
-----
```

Whether scroller is horizontal or vertical. Choose LORIENT\_VERT or LORIENT\_HORIZ (defaults to LORIENT\_HORIZ). (V36)

## 1.21 setgadgetattribute

SYNTAX

```
SetGadgetAttribute(#Gadget, TagListID)
```

STATEMENT

Change the attributes of the given #Gadget and that will be done with the same tags that is specified for each gadget type.

## 1.22 setgadgetfont

SYNTAX

```
SetGadgetFont(FontID)
```

STATEMENT

Sets the font which will be used by newly created gadgets.

## 1.23 setgadgetstate

SYNTAX

```
Result = SetGadgetState(#Gadget, State)
```

FUNCTION

Set a new state for the specified #Gadget, button, string and text gadgets will not be affected but that could be seen on Result as it is TRUE if the new state is set.

## 1.24 setgadgettaglist

SYNTAX

```
SetGadgetTagList(TagListID)
```

STATEMENT

---

Pass a taglist, to the next call, to any function that create a gadget, like ButtonGadget() and more.

## 1.25 setgadgettext

### SYNTAX

```
SetGadgetText (#Gadget, Content$)
```

### STATEMENT

Change the text content of the specified #Gadget, that is a string or text gadget, no other gadget types will be affected but, that could be seen on Result when its TRUE.

## 1.26 slidergadget

### SYNTAX

```
SliderGadget (#Gadget, x, y, Width, Heighth, Text$, Min, Max)
```

### COMMAND

Create a slider gadget on the current window. #Gadget will be the number returned by EventGadgetID(). The x and y will set the position, x=0 and y=0 will put the gadget at topleft in client area. Width and Heighth set the dimension of the gadget and Text\$ supply an optional label to be at left of gadget, set it to zero if no label is wanted. Min define the lowest value and Max the highest value available.

Available tags that could be passed with SetGadgetTagList() to this command, if the default settings need to be changed.

```
#GA_Immediate (BOOL)
```

```
-----
```

If you want to hear each slider #IDCMP\_GADGETDOWN event (defaults to FALSE). (V36)

```
#GTSL_Level (WORD)
```

```
-----
```

Current level of slider (defaults to 0). (V36)

```
#GTSL_MaxLevelLen (UWORD)
```

```
-----
```

Maximum length in characters of level string when rendered beside slider (defaults to 2). (V36)

```
#GTSL_LevelFormat (STRPTR)
```

```
-----
```

C-Style formatting string for slider level. Be sure to use the 'l' (long) modifier. This string is processed using exec.library/RawDoFmt(), so refer to that function for details. (defaults to "%ld"). (V36)

```
#GTSL_LevelPlace
-----
One of PLACETEXT_LEFT, PLACETEXT_RIGHT, PLACETEXT_ABOVE, or PLACETEXT_BELOW,
indicating where the level indicator is to go relative to slider
(default to PLACETEXT_LEFT). (V36)

#GTSL_DisFunc ( LONG (*function)(struct Gadget *, WORD) )
-----
Function to calculate level to be displayed. A number-of-colors slider
might want to set the slider up to think depth, and have a (1 << n)
function here. Defaults to none. Your function must take a pointer
to gadget as the first parameter, the level (a WORD) as the second,
and return the result as a LONG. (V36)

#GTSL_MaxPixelLen (ULONG)
-----
Indicates the maximum pixel size used up by the level display for any
value of the slider. This is mostly useful when dealing with proportional
fonts. (defaults to FontWidth*MaxLevelLen). (V39)

#GTSL_Justification (UBYTE)
-----
Determines how the level display is to be justified within its allotted
space. Choose one of GTJ_LEFT, GTJ_RIGHT, or GTJ_CENTER (defaults to
GTJ_LEFT). (V39)

#PGA_Freedom
-----
Set to LORIENT_VERT or LORIENT_HORIZ to have a vertical or horizontal
slider (defaults to LORIENT_HORIZ). (V36)
```

## 1.27 stringgadget

### SYNTAX

```
StringGadget(#Gadget,x,y,Width,Height,Text$,Content$)
```

### COMMAND

Create a string gadget on the current window. #Gadget will be the number returned by EventGadgetID(). The x and y will set the position, x=0 and y=0 will put the gadget at topleft in client area. Width and Height set the dimension of the gadget and Text\$ supply an optional label to be put on left side of the gadget, set it to zero if no label is wanted. Content\$ is a string that will be put into the string gadget.

```
Enter your name: |_____|
```

Available tags that could be passed with SetGadgetTagList() to this command, if the default settings need to be changed.

```
#GA_TabCycle (BOOL)
-----
```

Set to TRUE so that pressing <TAB> or <Shift-TAB> will activate the

next or previous such gadget. (defaults to TRUE, unlike regular Intuition string gadgets which default to FALSE). (V37)

#GTST\_EditHook (struct Hook \*)

-----  
Hook to use as a custom string gadget edit hook (StringExtend->EditHook) for this gadget. GadTools will allocate the StringExtend->WorkBuffer for you. (defaults to NULL). (V37)

#STRINGA\_ExitHelp (BOOL)

-----  
Set to TRUE to have the help-key cause an exit from the string gadget. You will then receive an #IDCMP\_GADGETUP event with Code = 0x5F (rawkey for help). (V37)

#STRINGA\_Justification

-----  
Controls the justification of the contents of a string gadget. Choose one of #STRINGLEFT, #STRINGRIGHT, or #STRINGCENTER (defaults to #STRINGLEFT). (V37)

#STRINGA\_ReplaceMode (BOOL)

-----  
If TRUE, this string gadget is in replace-mode (defaults to FALSE (insert-mode)). (V37)

## 1.28 textgadget

### SYNTAX

TextGadget (#Gadget, x, y, Width, Height, Text\$, Content\$)

### COMMAND

Create a text gadget in the current window. The x and y will set the position, x=0 and y=0 will put the gadget at topleft in client area. Width and Height set the dimension of the gadget and Text\$ is an optional label that will be put at the left, but if its not wanted just set it to zero. Content\$ is the text to be put into the gadget.

This gadget is output only so user cant affect it so there will be no return by GadgetEventID().

Available tags that could be passed with SetGadgetTagList() to this command, if the default settings need to be changed.

#GTTX\_CopyText (BOOL)

-----  
This flag instructs the text-display gadget to copy the supplied text string, instead of using only pointer to the string. This only works for the initial value of GTTX\_Text set at CreateGadget() time. If you subsequently change GTTX\_Text, the new text will be referenced by pointer, not copied. Do not use this tag with a NULL GTTX\_Text. (V37)

#GTTX\_Border (BOOL)

-----

If TRUE, this flag asks for a recessed border to be placed around the gadget. (V36)

#GTTX\_FrontPen (UBYTE)

-----

The pen to use when rendering the text (defaults to DrawInfo->dri\_Pens[TEXTPEN ← ]). (V39)

#GTTX\_BackPen (UBYTE)

-----

The pen to use when rendering the background of the text (defaults to leaving the background untouched). (V39)

#GTTX\_Justification (UBYTE)

-----

Determines how the text is rendered within the gadget box. GTJ\_LEFT will make the rendering be flush with the left side of the gadget, GTJ\_RIGHT will make it flush with the right side, and GTJ\_CENTER will center the text within the gadget box. Under V39, using this tag also required using {GTNM\_Clippped, TRUE}, otherwise the text would not show up in the gadget. This has been fixed in V40. (defaults to GTJ\_LEFT). (V39)

#GTTX\_Clippped (BOOL)

-----

Determine whether text should be clipped to the gadget dimensions (defaults to FALSE for gadgets without borders, TRUE for gadgets with borders). (V39)

---