

Window

COLLABORATORS

| | | | |
|---------------|--------------------------|------------------|------------------|
| | <i>TITLE :</i> Window | | |
| <i>ACTION</i> | <i>NAME</i> | <i>DATE</i> | <i>SIGNATURE</i> |
| WRITTEN BY | | January 19, 2025 | |

REVISION HISTORY

| <i>NUMBER</i> | <i>DATE</i> | <i>DESCRIPTION</i> | <i>NAME</i> |
|---------------|-------------|--------------------|-------------|
| | | | |

Contents

| | | |
|----------|-------------------|----------|
| 1 | Window | 1 |
| 1.1 | Window V1.00 | 1 |
| 1.2 | eventcode | 2 |
| 1.3 | eventgadget | 2 |
| 1.4 | eventwindow | 2 |
| 1.5 | waitwindowevent | 2 |
| 1.6 | windowevent | 3 |
| 1.7 | detachgadgetlist | 3 |
| 1.8 | openwindow | 4 |
| 1.9 | windowmousex | 7 |
| 1.10 | windowmousey | 8 |
| 1.11 | windowwidth | 8 |
| 1.12 | windowheight | 8 |
| 1.13 | windowx | 8 |
| 1.14 | windowy | 8 |
| 1.15 | windowrastport | 9 |
| 1.16 | movewindow | 9 |
| 1.17 | sizewindow | 9 |
| 1.18 | activatewindow | 9 |
| 1.19 | usewindow | 9 |
| 1.20 | closewindow | 9 |
| 1.21 | initwindow | 10 |
| 1.22 | windowid | 10 |
| 1.23 | busypointer | 10 |
| 1.24 | windowinnerheight | 10 |
| 1.25 | windowinnerwidth | 11 |
| 1.26 | detachmenu | 11 |
| 1.27 | eventqualifier | 11 |
| 1.28 | idcmp | 11 |

Chapter 1

Window

1.1 Window V1.00

Pure Basic Window library V1.00

Windows are essentials component of modern interfaces. Pure Basic provide you a full access to them.

Commands summary:

- ActivateWindow
- BusyPointer
- CloseWindow
- DetachGadgetList
- DetachMenu
- EventCode
- EventGadget
- EventQualifier
- EventWindow
- InitWindow
- MoveWindow
- OpenWindow
- SizeWindow
- UseWindow
- WindowEvent
- WindowID
- WindowInnerHeight
- WindowInnerWidth
- WindowWidth
- WindowHeight
- WindowX
- WindowY
- WindowRastPort
- WindowMouseX
- WindowMouseY

Example :

Window

1.2 eventcode

SYNTAX

```
Code.l = EventCode()
```

COMMAND

After a WindowEvent() result, check this function to determine whether gadgtools gadget has been activated.

ie: If the Gadget is:

```
+ CheckBox: EventCode() returns 1 or 0, to reflect the checkBox state
+ Palette : EventCode() returns the colour number that has been checked
+ Integer : EventCode() returns the number contained by the gadget
+ Option  : EventCode() returns the index of the selected option
+ ListView: EventCode() returns the index of the selected item
+ Slider  : EventCode() returns the current position of the slider
```

1.3 eventgadget

SYNTAX

```
#Gadget = EventGadget()
```

COMMAND

After a WindowEvent() result, check this function to determine which gadget or menu has been pushed (return the gadget or menu number)

1.4 eventwindow

SYNTAX

```
#Window = EventWindow()
```

COMMAND

After a WindowEvent() result, check this function to determine on which window the event has occur.

1.5 waitwindowevent

SYNTAX

```
IDCMP.l = WaitWindowEvent
```

FUNCTION

1.6 windowevent

SYNTAX

```
IDCMP.l = WindowEvent()
```

FUNCTION

Check if an event has occur on any of the open windows. To get the window number in which the event occurred, you need to use the EventWindowID() function.

Most used IDCMP are: #IDCMP_GADGETUP (a gadget is pressed)
#IDCMP_CLOSEWINDOW (window's closegadget is pushed)
#IDCMP_MENUPICK (a menu has be chosen)

For a full list and definition of IDCMP, look here: IDCMP

Example:

```
InitWindow(0)
InitTagList(2)

ResetTagList(#WA_IDCMP, #IDCMP_CLOSEWINDOW | #IDCMP_MENUPICK | #IDCMP_GADGETUP)
AddTag(#WA_Flags, #WFLG_CLOSEGADGET)
If OpenWindow(0, 100, 100, 100, 100, TagListID())

Repeat

Repeat
VWait()
IDCMP.l = WindowEvent()
Until IDCMP

Until IDCMP = #IDCMP_CLOSEWINDOW

Endif

End
```

1.7 detachgadgetlist

SYNTAX

```
DetachGadgetList()
```

STATEMENT

Detach the current window's gadgetlist (if any). Note that the window display isn't refreshed, so you can still see the gadgets, but you can't push them any more (it's only the imagery which is visble).

You can use a combination of DetachGadgetList()/AttachGadgetList() to change 'on the fly' a window gadgetlist.

1.8 openwindow

SYNTAX

```
WindowID.l = OpenWindow(#Window, x, y, Width, Height, TagList)
```

FUNCTION

Opens a new window according to the specified taglist. The new window becomes the used window. You don't need to use the UseWindow() command to set it. If the WindowID is NULL, the window can't be opened.

Available tags:

```
#WA_Left
#WA_Top
#WA_Width
#WA_Height
#WA_DetailPen    - NOTE: only overrides NewWindow.DetailPen of -1!
#WA_BlockPen     - NOTE: only overrides NewWindow.BlockPen of -1!
#WA_IDCMP
#WA_Flags        - initial values for Flags before looking at other
                  Boolean component Tag values
#WA_Gadgets
#WA_Title
#WA_CustomScreen - also implies CUSTOMSCREEN property
#WA_SuperBitMap  - also implies #WFLG_SUPER_BITMAP refresh mode.
#WA_MinWidth
#WA_MinHeight
#WA_MaxWidth
#WA_MaxHeight
```

These Boolean tag items are alternatives to the NewWindow.Flags Boolean attributes with similar names.

```
#WA_SizeGadget    - equivalent to #WFLG_SIZEGADGET
#WA_DragBar       - equivalent to #WFLG_DRAGBAR
#WA_DepthGadget  - equivalent to #WFLG_DEPTHGADGET
#WA_CloseGadget  - equivalent to #WFLG_CLOSEGADGET
#WA_Backdrop     - equivalent to #WFLG_BACKDROP
#WA_ReportMouse  - equivalent to #WFLG_REPORTMOUSE
#WA_NoCareRefresh - equivalent to #WFLG_NOCAREREFRESH
#WA_Borderless   - equivalent to #WFLG_BORDERLESS
#WA_Activate     - equivalent to #WFLG_ACTIVATE
#WA_RMBTrap      - equivalent to #WFLG_RMBTRAP
#WA_WBenchWindow - equivalent to #WFLG_WBENCHWINDOW
                  (system PRIVATE)
#WA_SimpleRefresh - only specify if TRUE
#WA_SmartRefresh  - only specify if TRUE
#WA_SizeBRight   - equivalent to #WFLG_SIZEBRIGHT
#WA_SizeBBottom  - equivalent to #WFLG_SIZEBBOTTOM
#WA_GimmeZeroZero - equivalent to #WFLG_GIMMEZEROZERO
#WA_NewLookMenus - equivalent to #WFLG_NEWLOOKMENUS
```

The following tag items specify new attributes of a window.

```
#WA_ScreenTitle - You can specify the screen title associated
```

with your window this way, and avoid a call to `SetWindowTitles()` when your window opens.

`#WA_AutoAdjust` - a Boolean attribute which says that it's OK to move or even shrink the dimensions of this window to fit it on the screen, within the dimension limits specified by `MinWidth` and `MinHeight`. Someday, this processing might be sensitive to the currently visible portion of the screen the window will be opening on, so don't draw too many conclusions about the auto-adjust algorithms. (Normally, this attribute defaults to `FALSE`. However, if you call `OpenWindowTags()` or `OpenWindowTagList()` with a `NULL` `NewWindow` pointer, this attribute defaults to `TRUE`).

`#WA_InnerWidth`

`#WA_InnerHeight` - You can specify the dimensions of the interior region of your window, independent of what the border thicknesses will be. You probably want to specify `#WA_AutoAdjust` to allow Intuition to move your window or even shrink it so that it is completely on screen.

Note: using these tags puts some reasonable restrictions on the gadgets you can specify as "border" gadgets when you open your window. Since border gadgets determine the border dimensions and hence the overall dimensions of your window, those dimensions cannot be used calculating the position or dimensions of border gadgets.

Here's the complete list of restrictions:

- `#GACT_LEFTBORDER` gadgets cannot be `GFLG_RELWIDTH` if `#WA_InnerWidth` is used. ←
- `#GACT_RIGHTBORDER` gadgets MUST be `GFLG_RELRIGHT` if `#WA_InnerWidth` is used. ←
- `#GACT_TOPBORDER` gadgets cannot be `GFLG_RELHEIGHT` if `#WA_InnerHeight` is used. ←
- `#GACT_BOTTOMBORDER` gadgets MUST be `GFLG_RELBOTTOM` if `#WA_InnerHeight` is used. ←

`#WA_PubScreenName` - This tag item declares that you want your window to open as a visitor window on the public screen whose name is pointed to by `(UBYTE *) ti_Data`.

`#WA_PubScreen` - Open as a visitor window on the public screen whose address is provided as `(struct Screen *) ti_Data`. To ensure that this screen remains open long enough, you must either:

- 1) Be the screen's owner
- 2) have another window already open on the screen
- 3) use `LockPubScreen()`

Using `exec.library/Forbid()` is not sufficient.

You can provide `ti_Data` to be `NULL` (zero), without any of the above precautions, to specify the default public screen.

`#WA_PubScreenFallback` - This Boolean attribute specifies that a

visitor window should "fall back" to opening on the default public screen if the explicitly specify public screen is not available.

#WA_WindowName - this visionary specification of a window rendezvous name string is not yet implemented.

#WA_Colors - this equally great idea about associating a palette specification with the active window may not ever be implemented.

#WA_Zoom - ti_Data points to an array of four WORD's to be used as the initial Left/Top/Width/Height of the "alternate Zoom position and dimensions." The presence of this tag item implies that you want a Zoom gadget, even though you might not have a sizing gadget.

New for V39: if the initial zoom-box left and top are both set to ~0, then Intuition will give your window "size-only" zooming, meaning that zooming the window will not affect the left/top unless the window needs to be moved on-screen.

#WA_MouseQueue - This tag specifies a limit for the number of outstanding IDCMP_MOUSEMOVE IntuiMessages that Intuition will send to your window. You can change the value of this limit after the window is open using SetMouseQueue().

#WA_RptQueue - This tag specifies a limit for the number of outstanding repeated-IDCMP_RAWKEY, repeated-IDCMP_VANILLAKEY, and repeated-IDCMP_IDCMPUPDATE IntuiMessages that Intuition will send to your window. Currently, there is no function to adjust the repeat-key queue.

#WA_BackFill - ti_Data is a pointer to a Hook structure that the Layers library will call when your window needs "backfilling." See layers.library/InstallLayerHook().

#WA_MenuHelp - ti_Data is a boolean. If true, enables the MenuHelp feature for this window. See IDCMP_MENUHELP above. (V37)

#WA_NotifyDepth - ti_Data is a boolean. Set to true if you would also like IDCMP_CHANGEWINDOW events sent to your window when it is depth-arranged. Normally, such events are only sent for movement or resizing of the window. IDCMP_CHANGEWINDOW events originating from depth-arrangement have a Code equal to CWCODE_DEPTH, as opposed to CWCODE_MOVESIZE. (V39)

#WA_Checkmark - (ti_Data is struct Image *) Image to use as a checkmark in menus. Prior to V39, or if #WA_NewLookMenus is not specified, the default will be the traditional checkmark in the original colors. Under V39 and higher, if you have requested #WA_NewLookMenus then the default will be an appropriately colored checkmark scaled to the screen's font. Alternately, you can provide a custom one, which you can~design yourself or get from sysiclass (use this if your menu-font is different from the screen's font).

#WA_AmigaKey - (ti_Data is struct Image *) Image to use as the Amiga-key symbol in menus. If #WA_NewLookMenus is not specified, the default will be the traditional Amiga-key symbol in the original colors. If you've requested #WA_NewLookMenus, then the default will be an appropriately colored Amiga-key scaled to the screen's font. Alternately, you can provide a custom one, which you can design yourself or get from sysiclass (use this if your menu-font is different from the screen's font). (V39)

#WA_Pointer - (APTR) The pointer you wish to associate with your window. If NULL, you are requesting the Preferences default pointer. Custom pointers should be allocated by performing a NewObject() on "pointerclass". (See <intuition/pointerclass.h>). Defaults to NULL. This tag is also recognized by SetWindowPointerA(). (V39)

#WA_BusyPointer (BOOL) - Set to TRUE to request the Preferences busy-pointer. If FALSE, your pointer will be as requested by #WA_Pointer. Defaults to FALSE. This tag is also recognized by SetWindowPointerA(). (V39)

#WA_PointerDelay - (BOOL) Set to TRUE to defer changing your pointer for a brief instant. This is typically used along with setting the busy pointer, especially when the application knows it may be busy for a very short while. If the application clears the pointer or sets another pointer before the delay expires, the pending pointer change is cancelled. This reduces short flashes of the busy pointer. This tag is also recognized by SetWindowPointerA(). (V39)

#WA_HelpGroup - (ULONG) Normally, only the active window can receive IDCMP_GADGETHELP messages. However, an application with multiple windows will want all its windows to be able to receive help when any of them are active. First obtain a unique help ID with utility.library/GetUniqueID(), then pass it as ti_Data of this tag to all your windows. See HelpControl(). (V39)

#WA_HelpGroupWindow - (struct Window *) Instead of using #WA_HelpGroup, you can pass a pointer to another window whose HelpGroup you wish this window to belong to. (V39)

#WA_TabletMessages - (BOOL) Set to TRUE to request extended IntuiMessages for your window. If a tablet driver is generating IESUBCLASS_NEWTABLET input events, you will be able to receive extended tablet information with most IntuiMessages. See the eim_TabletData field of the ExtIntuiMessage structure. Defaults to FALSE. (V39)

1.9 windowmousex

SYNTAX

x.w = WindowMouseX()

FUNCTION

Returns the mouse position relative to the left of the current window. Values can be positive or negative.

1.10 windowmousey

SYNTAX

`y.w = WindowMouseY()`

FUNCTION

Returns the mouse position relative to the top of the current window. Values can be positive or negative.

1.11 windowwidth

SYNTAX

`width.w = WindowWidth()`

FUNCTION

Return the width, in pixels, of the current window.

1.12 windowheight

SYNTAX

`height.w = WindowHeight()`

FUNCTION

Returns the height, in pixels, of the current window.

1.13 windowx

SYNTAX

`x.w = WindowX()`

FUNCTION

Returns the left position, in pixels, of the current window.

1.14 windowy

SYNTAX

`y.w = WindowY()`

FUNCTION

Returns the top position, in pixels, of the current window.

1.15 windowrastport

SYNTAX

```
rastport.l = WindowRastPort()
```

FUNCTION

Returns the rastport of the current window.

1.16 movewindow

SYNTAX

```
MoveWindow(x, y)
```

STATEMENT

Move the window to the specified coordinates.

1.17 sizewindow

SYNTAX

```
SizeWindow(width, height)
```

STATEMENT

Resize the window to the given dimensions.

1.18 activatwindow

SYNTAX

```
ActivateWindow()
```

STATEMENT

Activate the current window.

1.19 usewindow

SYNTAX

```
UseWindow(#Window)
```

STATEMENT

Make the given window, the currently-used window.

1.20 closewindow

SYNTAX

```
CloseWindow(#Window)
```

STATEMENT

Close the given window.

1.21 initwindow

SYNTAX

```
result.l = InitWindow(#NumWindowMax)
```

FUNCTION

Init all the Window environments for later use. You must put this function at the top of your source code if you want to use the Window commands. You can test the result to see if the Window environment is correctly initialized.

#NumWindowMax : Maximum number of windows to handle.

1.22 windowid

SYNTAX

```
WindowID.l = WindowID()
```

FUNCTION

Returns the Intuition Window pointer.

1.23 busypointer

SYNTAX

```
BusyPointer(State)
```

FUNCTION

State = 0 or 1. If State = 1 a busypointer will be displayed for the current window, else the normal pointer will be displayed.

1.24 windowinnerheight

SYNTAX

```
Result.w = WindowInnerHeight()
```

FUNCTION

Returns the current window's inner-height, in pixels, (window's height without the top and bottom border heights)

1.25 windowinnerwidth

SYNTAX

```
Result.w = WindowInnerWidth()
```

FUNCTION

Returns the used window's inner-width, in pixels, (window's width without the left and right border widths)

1.26 detachmenu

SYNTAX

```
DetachMenu()
```

STATEMENT

Detach the menu from the currently used window. It's often used to change the menu layout and re-attach the new menu (AttachMenu()).

1.27 eventqualifier

SYNTAX

```
Qualifier = EventQualifier()
```

STATEMENT

Get the 'Qualifier' from the last keypress. The Qualifier is the alternate keys you press while you press a key (ie: shit, control..).

1.28 idcmp

IDCMP is an acronym for : 'Intuition Direct Communication Message Port'

Background: The Amiga interface system (called Intuition) communicates with the rest of the Amiga libraries through the message ports. All Windows opened have a message port which recieves all the information needed.

For example, when you press the mouse button on a gadget, a message is sent to the window stating: 'A gadget has been pushed'. This is the role of the IDCMPs, which are constants, and each one corresponds to a different action. Here is the list of all the events that can happen in your window.

Note: to recieve the messages, you need to say it when you open your window (with the #WA_IDCMP, <Your IDCMP you want to recieve here> inside the taglist)

All these constants are in the AmigaLibs.res file.

IDCMP Description:

- #IDCMP_NEWSIZE is the flag that tells Intuition to send an IDCMP message to you after the user has resized your window. At this point, you could examine the size variables in your window structure to discover the new size of the window. See also the #IDCMP_CHANGEWINDOW IDCMP flag.
 - #IDCMP_REFRESHWINDOW when set will cause a message to be sent whenever your window needs refreshing. This flag makes sense only with #WFLG_SIMPLE_REFRESH and #WFLG_SMART_REFRESH windows.
 - #IDCMP_MOUSEBUTTONS will get reports about mouse-button up/down events broadcast to you (Note: only the ones that don't mean something to Intuition. If the user clicks the select button over a gadget, Intuition deals with it and you don't find out about it through here).
 - #IDCMP_MOUSEMOVE will work only if you've set the #WFLG_REPORTMOUSE flag above, or if one of your gadgets has the #GACT_FOLLOWMOUSE flag set. Then all mouse movements will be reported here, providing your window is active.
 - #IDCMP_GADGETDOWN means that when the User "selects" a gadget you've created with the #GACT_IMMEDIATE flag set, the fact will be broadcast through the IDCMP.
 - #IDCMP_GADGETUP means that when the user "releases" a gadget that you've created with the #GACT_RELVERIFY flag set, the fact will be broadcast through the IDCMP. This message is only generated if the release is "good", such as releasing the select button over a Boolean gadget, or typing ENTER in a string gadget.
 - #IDCMP_MENUPICK selects that menu number data will be sent via the IDCMP.
 - #IDCMP_CLOSEWINDOW means broadcast the #IDCMP_CLOSEWINDOW event through the IDCMP rather than the console.
 - #IDCMP_RAWKEY selects that all #IDCMP_RAWKEY events are transmitted via the IDCMP. Note that these are absolutely RAW keycodes, which you will have to translate before using. Setting this and the MOUSE flags effectively eliminates the need to open a Console device to get input from the keyboard and mouse. Of course, in exchange you lose all of the console features, most notably the "cooking" of input data and the systematic output of text to your window.
 - #IDCMP_VANILLAKEY is for developers who don't want the hassle of #IDCMP_RAWKEYS. This flag will return all the keycodes after translation via the current country-dependent keymap. When you set this flag, you will get IntuiMessages where the Code field has a decoded ANSI character code representing the key struck on the keyboard. Only codes that map to a single character are returned: you can't read such keys as HELP or
-

the function keys with #IDCMP_VANILLAKEY.

NEW FOR V36: If you have both #IDCMP_RAWKEY and #IDCMP_VANILLAKEY set, Intuition will send an #IDCMP_RAWKEY event for those *downstrokes* which do not map to single-byte characters ("non-vanilla" keys). In this way you can easily detect cursor keys, function keys, and the Help key without sacrificing the convenience of #IDCMP_VANILLAKEY. NB: A side-effect of having both #IDCMP_RAWKEY and #IDCMP_VANILLAKEY set is that you never hear #IDCMP_RAWKEY upstrokes, even for keys that caused #IDCMP_RAWKEY downstrokes.

- #IDCMP_INTUITICKS gives you simple timer events from Intuition when your window is the active one; it may help you avoid opening and managing the timer device. With this flag set, you will get only one queued-up INTUITICKS message at a time. If Intuition notices that you've been sent an #IDCMP_INTUITICKS message and haven't replied to it, another message will not be sent. Intuition receives timer events and considers sending you an #IDCMP_INTUITICKS message approximately ten times a second.
 - #IDCMP_DELTAMOVE gives raw (unscaled) input event delta X/Y values. This is so you can detect mouse motion regardless of screen/window/display boundaries. This works a little strangely: if you set both #IDCMP_MOUSEMOVE and #IDCMP_DELTAMOVE. IDCMPFlags, you will get #IDCMP_MOUSEMOVE messages with delta x/y values in the MouseX and MouseY fields of the IDCMPMessage.
 - #IDCMP_NEWPREFS indicates you wish to be notified when the system-wide Preferences changes. For V36, there is a new environment mechanism to replace Preferences, which we recommend you consider using instead.
 - Set #IDCMP_ACTIVEWINDOW and #IDCMP_INACTIVEWINDOW to get messages when those events happen to your window. Take care not to confuse this "ACTIVEWINDOW" with the familiar sounding, but totally different "WINDOWACTIVE" flag. These two flags have been supplanted by "#IDCMP_ACTIVEWINDOW" and "#WFLG_WINDOWACTIVE". Use the new equivalent terms to avoid confusion.
 - Set #IDCMP_DISKINSERTED or #IDCMP_DISKREMOVED to learn when removable disks are inserted or removed, respectively.
 - #IDCMP_IDCMPUPDATE is a new class for V36 which is used as a channel of communication from custom and boopsi gadgets to your application.
 - #IDCMP_CHANGEWINDOW is a new class for V36 that will be sent to your window whenever its dimensions or position are changed by the user or the functions SizeWindow(), MoveWindow(), ChangeWindowBox(), or ZipWindow().
 - #IDCMP_MENUHELP is new for V37. If you specify the #WA_MenuHelp tag when you open your window, then when the user presses the HELP key on the keyboard during a menu session, Intuition will
-

- terminate the menu session and issue this even in place of an #IDCMP_MENUHELP message.
- NEVER follow the NextSelect link for MENUHELP messages.
 - You will be able to hear MENUHELP for ghosted menus. (This lets you tell the user why the option is ghosted.)
 - Be aware that you can receive a MENUHELP message whose code corresponds to a menu header or an item that has sub-items (which does not happen for MENUHELP). The code may also be MENUNULL.
 - LIMITATION: if the user extend-selects some checkmarked items with the mouse, then presses MENUHELP, your application will only hear the MENUHELP report. You must re-examine the state of your checkmarks when you get a MENUHELP.
 - Availability of MENUHELP in V36 is not directly controllable. We apologize...
 - #IDCMP_GADGETHELP is new for V39. If you turn on gadget help for your window (using the HelpControl() function, then Intuition will send #IDCMP_GADGETHELP messages when the mouse passes over certain gadgets or your window. The IntuiMessage->Code field is normally ~0, but a boopsi gadget can return any word value it wishes.

Ordinarily, gadget help is only processed for the active window. When Intuition has determined that the mouse is pointing at a gadget which has the GADGETHELP property, you will be sent an #IDCMP_GADGETHELP message whose IAddress points to the gadget. When the mouse is over your window but not over any help-aware gadget, you will be sent a message whose IAddress is the window itself. When the mouse is not over your window, Intuition sends a message whose IAddress is zero.

A multi-window application can use the #WA_HelpGroup or #WA_HelpGroupWindow tags to indicate that all its windows belong in a group. (The help group identifier should be obtained with utility.library/GetUniqueID().) This makes Intuition test gadget help in all windows of the group when any one of them is the active one. Inactive windows whose #WA_HelpGroup matches the active window's receive #IDCMP_GADGETHELP messages when the mouse is over that window or any of its help-aware gadgets. The GADGETHELP message with an IAddress of zero means the mouse is not over the active window or any other window of the same group. It is always sent to the active window (which is not necessarily the window in your group that last got a message).

To maximize performance, gadget help is not checked while the mouse is travelling quickly, or if it has not moved at all since the last test. As well, if Intuition discovers that the mouse is still over same gadget and that gadget does not wish to send a different IntuiMessage->Code from the last message, no new IntuiMessage is sent.

- #IDCMP_REQVERIFY is the flag which, like #IDCMP_SIZEVERIFY and ...
 - #IDCMP_MENUVERIFY (see immediately below), specifies that you want to make sure that your graphical state is quiescent before something extraordinary happens. In this case, the extraordinary event is that a rectangle of graphical data is about to be blasted into your Window. If you're drawing directly into its screen, you probably will wish to make sure that you've ceased drawing before the user is allowed to bring up the DMRequest you've set up, and the same for when system has a request for the user. Set this flag to ask for that verification step.
 - #IDCMP_REQCLEAR is the flag you set to hear a message whenever a requester is cleared from your window. If you are using #IDCMP_REQVERIFY to arbitrate access to your screen's bitmap, it is safe to start your output once you have heard an #IDCMP_REQCLEAR for each #IDCMP_REQSET.
 - #IDCMP_REQSET is a flag that you set to receive a broadcast for each requester that is opened in your window. Compare this with #IDCMP_REQCLEAR above. This function is distinct from #IDCMP_REQVERIFY. This functions merely tells you that a requester has opened, whereas #IDCMP_REQVERIFY requires you to respond before the requester is opened.
 - #IDCMP_MENUVERIFY is the flag you set to have Intuition stop and wait for you to finish all graphical output to your window before rendering the menus. Menus are currently rendered in the most memory-efficient way, which involves interrupting output to all windows in the screen before the menus are drawn. If you need to finish your graphical output before this happens, you can set this flag to make sure that you do.
 - #IDCMP_SIZEVERIFY means that you will be doing output to your window which depends on a knowledge of the current size of the window. If the user wants to resize the window, you may want to make sure that any queued output completes before the sizing takes place (critical text, for instance). If this is the case, set this flag. Then, when the user wants to size, Intuition will send you the #IDCMP_SIZEVERIFY message and Wait() until you reply that it's OK to proceed with the sizing. NOTE: when we say that Intuition will Wait() until you reply, what we're really saying is that user will WAIT until you reply, which suffers the great negative potential of User-Unfriendliness. So remember: use this flag sparingly, and, as always with any IDCMP Message you receive, reply to it promptly! Then, after user has sized the window, you can find out about it using #IDCMP_NEWSIZE.
-