

Screen

COLLABORATORS

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

REVISION HISTORY

NUMBER	DATE	DESCRIPTION	NAME

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Chapter 1

Screen

1.1 Screen V1.00

Pure Basic Screen library V1.00

'Screen' signifie 'écran' et c'est une particularité de l'AmigaOS par rapport aux autres systèmes d'exploitation. En effet, chaque application peut avoir son propre écran avec ses propres caractéristiques (nombre de couleurs, taille, mode...) en fonction de ses besoins. Que ce soit pour un jeu ou une application, les écrans utilisés restent les mêmes. Ce sont eux la base du système d'affichage sur Amiga.

Commandes disponibles:

- CloseScreen
- FindScreen
- FindFrontScreen
- FlashScreen
- HideScreen
- InitScreen
- OpenScreen
- ScreenBarHeight
- ScreenDepth
- ScreenFontHeight
- ScreenHeight
- ScreenID
- ScreenMouseX
- ScreenMouseY
- ScreenRastPort
- ScreenWidth
- ShowScreen
- UseScreen
- ViewPort

Exemple:

Open screens

1.2 findscreen

Syntaxe

```
ScreenID.l = FindScreen(#Screen, ScreenName$)
```

Résumé

Trouve un écran public grâce à son nom et l'attache à l'identifiant donné. Si la valeur retournée 'ScreenID' est NULLE, alors l'écran est introuvable.

#Screen: Identifiant numérique de l'écran trouvé.

ScreenName\$: Nom de l'écran à trouver. Si vous spécifiez un nom nul ("") alors l'écran public par défaut sera retourné. Pour capturer l'écran du 'Workbench' il suffit de mettre "Workbench" pour le nom de l'écran.

1.3 findfrontscreen

Syntaxe

```
ScreenID.l = FindFrontScreen(#Screen)
```

Résumé{ub}

Trouve l'écran se trouvant à l'avant plan de l'affichage et l'attache à l'identifiant donné. Si la valeur retournée 'ScreenID' est NULLE, alors aucun écran est ouvert sur le système.

#Screen = Identifiant numérique de l'écran trouvé.

1.4 openscreen

Syntaxe

```
ScreenID.l = OpenScreen(#Screen, Width, Height, Depth, TagListID)
```

Résumé

Ouvre un nouvel écran en accord avec les paramètres donnés. Si la valeur retournée 'ScreenID' est NULLE, alors l'écran n'a pas été ouvert. Un fois ouvert, il devient l'écran courant.

#Screen: Identifiant numérique pour l'écran qui vient d'être ouvert.

Width: Largeur de l'écran.

Height: Hauteur de l'écran.

Depth: Profondeur de l'écran (nombre de couleurs)

TagListID: Identifiant de la taglist à utiliser. Pour obtenir cet identifiant facilement, il est conseillé d'utiliser la fonction TagListID() . ↵

Tags disponibles

#SA_Left
 #SA_Top
 #SA_Width
 #SA_Height

The defaults for the #SA_Left, #SA_Top, #SA_Width, and #SA_Height tags end up being a bit complex. If none of these tags are specified, and no NewScreen structure is used, then the left/top/width/height correctly match the display clip of your screen (see #SA_DClip and #SA_Overscan).

The difficulty comes with overscanned screens, because the normal value of #SA_Left or #SA_Top for such a screen may be non-zero. If a NewScreen structure is supplied, then the left/top/width/height come originally from there. If no NewScreen structure is supplied, but a non-default #SA_Width (#SA_Height) is specified, then #SA_Left (#SA_Top) defaults to zero instead. In these cases, the left and top edge may not be what you want.

If you need to specify explicit width or height, or supply a NewScreen, you must supply correct values for #SA_Left and #SA_Top. The correct normal values are the display clip rectangle's MinX and MinY values respectively. If you are using the #SA_DClip tag, then you already have a rectangle to consult for these values. If you are using #SA_Overscan to get one of the standard overscan types, you may use QueryOverscan() to get a rectangle for that overscan type.

#SA_Depth (defaults to 1)
 #SA_DetailPen (defaults to 0)
 #SA_BlockPen (defaults to 1)
 #SA_Title (defaults to NULL)
 #SA_Font (defaults to NULL, meaning user's preferred monospace font)
 #SA_BitMap (whose existence also implies CUSTOMBITMAP).

Several tags are Booleans, which means that depending on whether their corresponding ti_Data field is zero (FALSE) or non-zero (TRUE), they specify Boolean attributes. The ones corresponding to Boolean flags in the NewScreen.Type field are:

#SA_ShowTitle (defaults to TRUE)
 #SA_Behind (equiv. to SCREENBEHIND) (defaults to FALSE)
 #SA_Quiet (equiv. to SCREENQUIET) (defaults to FALSE)

The following tags provide extended information to Intuition when creating a screen:

#SA_Type: ti_Data corresponds to the SCREENTYPE bits of the NewScreen.Type field. This should be one of PUBLICSCREEN or CUSTOMSCREEN. The other bits of the NewScreen.Type field must be set with the appropriate tags (#SA_Behind, #SA_Quiet, etc.)

#SA_DisplayID: ti_Data is a 32-bit extended display mode ID, as defined in the <graphics/modeid.h> include file (V39 and up) or in <graphics/displayinfo.h> (V37 and V38).

#SA_Overscan: ti_Data contains a defined constant specifying one of the system standard overscan dimensions appropriate for the display mode of the screen. Used with the Width and Height dimensions STDSCREENWIDTH and STDSCREEN, this makes it trivial to open an overscanned or standard dimension screen. You may also hand-pick your various dimensions for overscanned or other screens, by specifying screen position and dimensions explicitly, and by using #SA_DClip to explicitly specify an overscanned DisplayClip region.

The values for ti_Data of this tag are as follows:

OSCAN_TEXT - Text Overscan region. A region which is completely on screen and readable ("text safe"). A preferences data setting, this is backward equivalent with the old MoreRows, and specifies the DisplayClip and default dimensions of the Workbench screen. This is the default.

OSCAN_STANDARD - Also a preferences setting, this specifies a rectangle whose edges are "just out of view." This yields the most efficient position and dimensions of on-monitor presentations, such as games and artwork.

OSCAN_MAX - This is the largest rectangular region that the graphics library can handle "comfortably" for a given mode. Screens can smoothly scroll (hardware pan) within this region, and any DisplayClip or Screen region within this rectangle is also legal. It is not a preferences item, but reflects the limits of the graphics hardware and software.

OSCAN_VIDEO - This is the largest region that the graphics library can display, comfortable or not. There is no guarantee that all smaller rectangles are valid. This region is typically out of sight on any monitor or TV, but provides our best shot at "edge-to-edge" video generation.

Remember, using overscan drastically effects memory use and chip memory bandwidth. Always use the smallest (standard) overscan region that works for your application.

#SA_DClip: ti_Data is a pointer to a rectangle which explicitly defines a DisplayClip region for this screen. See QueryOverscan() for the role of the DisplayClip region.

Except for overscan display screens, this parameter is unnecessary, and specifying a standard value using #SA_Overscan is normally an easier way to get overscan.

#SA_AutoScroll: this is a Boolean tag item, which specifies that this screens is to scroll automatically when the mouse pointer reaches the edge of the screen. The operation of this requires that the screen dimensions be larger than its DisplayClip region.

#SA_PubName: If this field is present (and ti_Data is non-NULL), it means that the screen is a public screen, and that the public screen name string is pointed to by ti_Data. Public screens are opened in "PRIVATE" mode and must be made public using PubScreenStatus(screen, 0).

#SA_Pens: The ti_Data field (if non-NULL) points to a UWORD array of pen specification, as defined for struct DrawInfo. This array will be used to initialize the screen's DrawInfo.dri_Pens array.

#SA_Pens is also used to decide that a screen is ready to support the full-blown "new look" graphics. If you want the 3D embossed look, you must provide this tag, and the ti_Data value cannot be NULL. If it points to a "minimal" array, containing just the terminator ~0, you can specify "new look" without providing any values for the pen array.

The way the DrawInfo pens are determined is Intuition picks a default pen-array. Then, any pens you supply with #SA_Pens override the defaults, up until the ~0 in your array.

If the screen is monochrome or old-look, the default will be the standard two-color pens.

If the screen is two or more planes deep, the default will be the standard four-color pens, which now include the new-look menu colors.

If the screen has the #SA_LikeWorkbench property, the default will be the user's preferred pen-array, changeable through preferences.

The following two tag items specify the task and signal to be issued to notify when the last "visitor" window closes on a public screen. This support is to assist envisioned public screen manager programs.

#SA_PubTask: Task to be signalled. If absent (and #SA_PubSig is valid), use the task which called OpenScreen() or OpenScreenTagList().

#SA_PubSig: Data is a UBYTE signal number (not flag) used to notify a task when the last visitor window closes on a public screen.

#SA_Colors: ti_Data points to an array of ColorSpec structures (terminated with ColorIndex = -1) which specify initial values of the screen's color palette.

#SA_FullPalette: this is a Boolean attribute. Prior to V36, there were just 7 RGB color values that Intuition maintained in its user preferences (playfield colors 0-3, and colors 17-19 for the sprite). When opening a screen, the color map for the screen's viewport is first initialized by graphics (graphics.library/GetColorMap()) then these

seven values are overridden to take the preferences values.

In V36, Intuition maintains a full set of 32 preferences colors. If you specify TRUE for #SA_FullPalette, Intuition will override ALL color map entries with its full suite of preferred colors. (Defaults to FALSE).

#SA_ErrorCode: ti_Data points to a ULONG in which Intuition will stick an extended error code if OpenScreen[TagList]() fails. Values are of this include 0, for success, and:

- OSERR_NOMONITOR - monitor for display mode not available.
- OSERR_NOCHIPS - you need newer custom chips for display mode.
- OSERR_NOMEM - couldn't get normal memory
- OSERR_NOCHIPMEM - couldn't get chip memory
- OSERR_PUBNOTUNIQUE - public screen name already used
- OSERR_UNKNOWNMODE - don't recognize display mode requested
- OSERR_TOODEEP - screen too deep to be displayed on this hardware (V39)
- OSERR_ATTACHFAIL - An illegal attachment of screens was requested (V39)

NOTE: These values are not the same as some similar return values defined in graphics.library/ModeNotAvailable().

#SA_SysFont: ti_Data selects one of the system standard fonts specified in preferences. This tag item overrides the NewScreen.Font field and the #SA_Font tag item.

Values recognized in ti_Data at present are:

- 0 - old DefaultFont, fixed-width, the default.
- 1 - Workbench screen preferred font. You have to be very font sensitive to handle a proportional or larger than traditional screen font.

NOTE WELL: if you select sysfont 1, windows opened on your screen will not inherit the screen font, but rather the window RastPort will be initialized to the old-style DefaultFont (sysfont 0).

Attached screen tags: V39 supports attached screens, where one or more child screens can be associated with a parent screen. Attached screens depth-arrange as a group, and always remain adjacent depth-wise. Independent depth-arrangement of child screens is possible through the V39 ScreenDepth() call. If a child screen is made non-draggable through {#SA_Draggable, FALSE}, then it will drag exclusively with the parent. Normal child screens drag independently of the parent, but are pulled down when the parent is. Use the #SA_Parent, #SA_FrontChild, and #SA_BackChild tags to attach screens.

#SA_Parent: If you wish to attach this screen to an already-open parent screen, use this tag and set ti_Data to point to the parent screen. See also #SA_FrontChild and #SA_BackChild. (V39).

#SA_FrontChild: If you wish to attach an already-open child

screen to this screen, set `ti_Data` to point to the child screen. The child screen will come to the front of the family defined by the parent screen you are opening. See also `#SA_Parent` and `#SA_BackChild`. (V39)

`#SA_BackChild`: If you wish to attach an already-open child screen to this screen, set `ti_Data` to point to the child screen. The child screen will go to the back of the family defined by the parent screen you are opening. See also `#SA_Parent` and `#SA_FrontChild`. (V39)

`#SA_BackFill`: `ti_Data` is a pointer to a backfill hook for the screen's `Layer_Info`.
(see `layers.library/InstallLayerInfoHook()`). (V39).

`#SA_Draggable`: `ti_Data` is a boolean. Set to `FALSE` if you wish your screen to be non-draggable. This tag should be used very sparingly!. Defaults to `TRUE`. For child screens (see `#SA_Parent`, `#SA_FrontChild`, and `#SA_BackChild`) this tag has a slightly different meaning: non-draggable child screens are non-draggable with respect to their parent, meaning they always drag exactly with the parent, as opposed to having relative freedom. Also see `ScreenPosition()`. (V39)

`#SA_Exclusive`: `ti_Data` is a boolean. Set to `TRUE` if you never want your screen to share the display with another screen. This means that your screen can't be pulled down, and will not appear behind other screens that are pulled down. Your screen may still be depth arranged, though. Use this tag sparingly! Defaults to `FALSE`. Starting with V40, attached screens may be `#SA_Exclusive`. Setting `#SA_Exclusive` for each screen will produce an exclusive family. (V39).

`#SA_SharePens`: For those pens in the screen's `DrawInfo->dri_Pens`, Intuition obtains them in shared mode (see `graphics.library/ObtainPen()`). For compatibility, Intuition obtains the other pens of a public screen as `PENF_EXCLUSIVE`. Screens that wish to manage the pens themselves should generally set this tag to `TRUE`. This instructs Intuition to leave the other pens unallocated. Defaults to `FALSE`. (V39).

`#SA_Colors32`: Tag to set the screen's initial palette colors at 32 bits-per-gun. `ti_Data` is a pointer to a table to be passed to the `graphics.library/LoadRGB32()` Résumé. This format supports both runs of color registers and sparse registers. See the autodoc for that Résumé for full details. Any color set here has precedence over the same register set by `#SA_Colors`. (V39).

`#SA_Interleaved`: `ti_Data` is a boolean. Set to `TRUE` to request an interleaved bitmap for your screen. Defaults to `FALSE`. If the system cannot allocate an interleaved bitmap for you, it will attempt to allocate a non-interleaved one (V39).

`#SA_VideoControl`: `ti_Data` points to a taglist that will be

passed to `VideoControl()` after your screen is open. You might use this to turn on border-sprites, for example. (V39).

#SA_ColorMapEntries: `ti_Data` is the number of entries that you wish Intuition to allocate for this screen's ColorMap. While Intuition allocates a suitable number for ordinary use, certain graphics.library features require a ColorMap which is larger than default. (The default value is `1<<depth`, but not less than 32). (V39)

#SA_LikeWorkbench: `ti_Data` is boolean. Set to TRUE to get a screen just like the Workbench screen. This is the best way to inherit all the characteristics of the Workbench, including depth, colors, pen-array, screen mode, etc. Individual attributes can be overridden through the use of tags. (`#SA_LikeWorkbench` itself overrides things specified in the `NewScreen` structure). Attention should be paid to hidden assumptions when doing this. For example, setting the depth to two makes assumptions about the pen values in the `DrawInfo` pens. Note that this tag requests that Intuition ATTEMPT to open the screen to match the Workbench. There are fallbacks in case that fails, so it is not correct to make enquiries about the Workbench screen then make strong assumptions about what you're going to get. (Defaults to FALSE). (V39)

#SA_MinimizeISG: `ti_Data` is boolean. For compatibility, Intuition always ensures that the inter-screen gap is at least three non-interlaced lines. If your application would look best with the smallest possible inter-screen gap, set `ti_Data` to TRUE. If you use the new graphics `VideoControl()` `VC_NoColorPaletteLoad` tag for your screen's `ViewPort`, you should also set this tag. (V40)

1.5 screenmousex

Syntaxe

```
x.w = ScreenMouseX()
```

Résumé

Retourne la position de la souris par rapport au coté gauche de l'écran courant.

1.6 screenmousey

Syntaxe

```
y.w = ScreenMouseY()
```

Résumé

Retourne la position de la souris par rapport au haut de l'écran courant.

1.7 screendepth

Syntaxe

```
Result.w = ScreenDepth()
```

Résumé

Retourne la profondeur de l'écran courant.

1.8 screenwidth

Syntaxe

```
width.w = ScreenWidth()
```

Résumé

Retourne la largeur de l'écran courant.

1.9 screenheight

Syntaxe

```
height.w = ScreenHeight()
```

Résumé

Retourne la hauteur de l'écran courant.

1.10 showscreen

Syntaxe

```
ShowScreen()
```

STATEMENT

Fait passer l'écran courant à l'avant plan.

1.11 hidescreen

Syntaxe

```
HideScreen()
```

STATEMENT

Fait passer l'écran courant à l'arrière plan.

1.12 usescreen

Syntaxe
UseScreen(#Screen)

STATEMENT
Change l'écran courant par l'écran spécifié.

#Screen: Identifiant numérique de l'écran.

1.13 viewport

Syntaxe
Result.l = ViewPort()

Résumé
Retourne la valeur du 'ViewPort' de l'écran courant. Cette fonction a été écrite uniquement pour les programmeurs expérimentés.

1.14 screenbarheight

Syntaxe
Result.b = ScreenBarHeight()

Résumé
Retourne la hauteur de la barre de menu de l'écran courant. Utile pour ouvrir les fenêtre juste en dessous, par exemple.

1.15 screenfontheight

Syntaxe
Result.b = ScreenFontHeight()

Résumé
Retourne la hauteur de la police par défaut de l'écran courant.

1.16 closescreen

Syntaxe
CloseScreen(#Screen)

STATEMENT
Ferme l'écran spécifié.

#Screen: Identifiant numérique de l'écran à fermer.

1.17 initscreen

Syntaxe

```
Résultat = InitScreen(#NumScreenMax)
```

Résumé

Initialise l'environnement nécessaire à la gestion des futurs écrans. Vous devez appeler cette fonction avant les autres fonctions de cette bibliothèque. Si le 'Résultat' est NUL, alors l'environnement n'a pu être initialisé.

#NumScreenMax: Nombre maximal d'écrans à gérer ultérieurement.

1.18 screenid

Syntaxe

```
ScreenID.l = ScreenID()
```

Résumé

Retourne l'identification de l'écran, nécessaire pour quelques fonctions des autres bibliothèques PureBasic comme `Fade()` , `GetScreenPalette` ...

1.19 screenrastport

Syntaxe

```
RastPort.l = ScreenRastPort()
```

Résumé

Retourne la valeur du 'RastPort' de l'écran courant, principalement utilisé par la fonction " `DrawingOutput()` " LINK "PureBasic:Help/2DDrawing.guide/ ↵ `DrawingOutput`" } de la bibliothèque '2D Drawing'.

Exemple

```
DrawingOutput(ScreenRastPort()) ; Defini l'écran courant comme sortie graphique ↵  
    pour les  
                                ; fonctions de dessin 2D.  
  
BoxFill(10, 10, 100, 100)      ; Dessine une boîte sur l'écran courant.
```

1.20 flashscreen

Syntaxe

```
FlashScreen()
```

Résumé

Emet un flash sur l'écran courant.