

## **OPERATION MANUAL**

(printable Help file)



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# Introduction

## What is daVinci?



**daVinci** is a software program designed to allow the creation and use of customized computer control screens with **Audia**<sup>®</sup> and **Nexia**<sup>™</sup> digital audio systems. The function and appearance of the graphic control interface can be tailored to the exact needs of the user. Individual or grouped sets of controls may be placed and assigned to specific system functions...or...component objects can be copied directly from the system design file into *daVinci* software, producing completely pre-assigned control surfaces. An array of drawing tools is provided for extensive graphic manipulation of controls, backgrounds, and labeling. Control screens can be created with the ability to easily navigate between multiple pages of operation. Once created, a control file is downloaded into the system, where it can then be accessed by multiple network computers running *daVinci* software. The software cannot alter the system design itself, and control access to the system may be password protected. System control may be provided using a combination of *daVinci* software, hardware control panels, and third-party RS-232, simultaneously.

# Architect's & Engineer's Specification

The control software program shall allow the creation and use of customized computer control screens with Audia<sup>®</sup> and Nexia<sup>™</sup> digital audio systems. The software shall allow function and appearance of the graphic control interface to be tailored to the exact needs of the user. Individual or grouped sets of controls may be placed and assigned to specific system functions, or component objects may be copied directly from the Audia or Nexia system design file into the control software, resulting in completely pre-assigned control surfaces. An array of drawing tools shall be provided for extensive graphic manipulation of controls, backgrounds, and labeling. Control screens may be created with the ability to easily navigate between multiple pages of operation. Once created, a custom control file may be downloaded into the Audia or Nexia system, where it can then be accessed by multiple network computers which are running the control software. The control software shall not alter the system design itself, and control access to the system shall be password protected. System control may be provided using a combination of the control software, hardware control panels, and third-party RS-232, simultaneously. Minimum recommended system requirements shall be: Windows<sup>®</sup> 2000/XP; Pentium<sup>®</sup> 4-1.5; 256MB RAM; 1280x1024 screen resolution.

The control software program shall be *daVinci*<sup>™</sup>.

Windows<sup>®</sup> is a registered trademark of Microsoft Corporation.

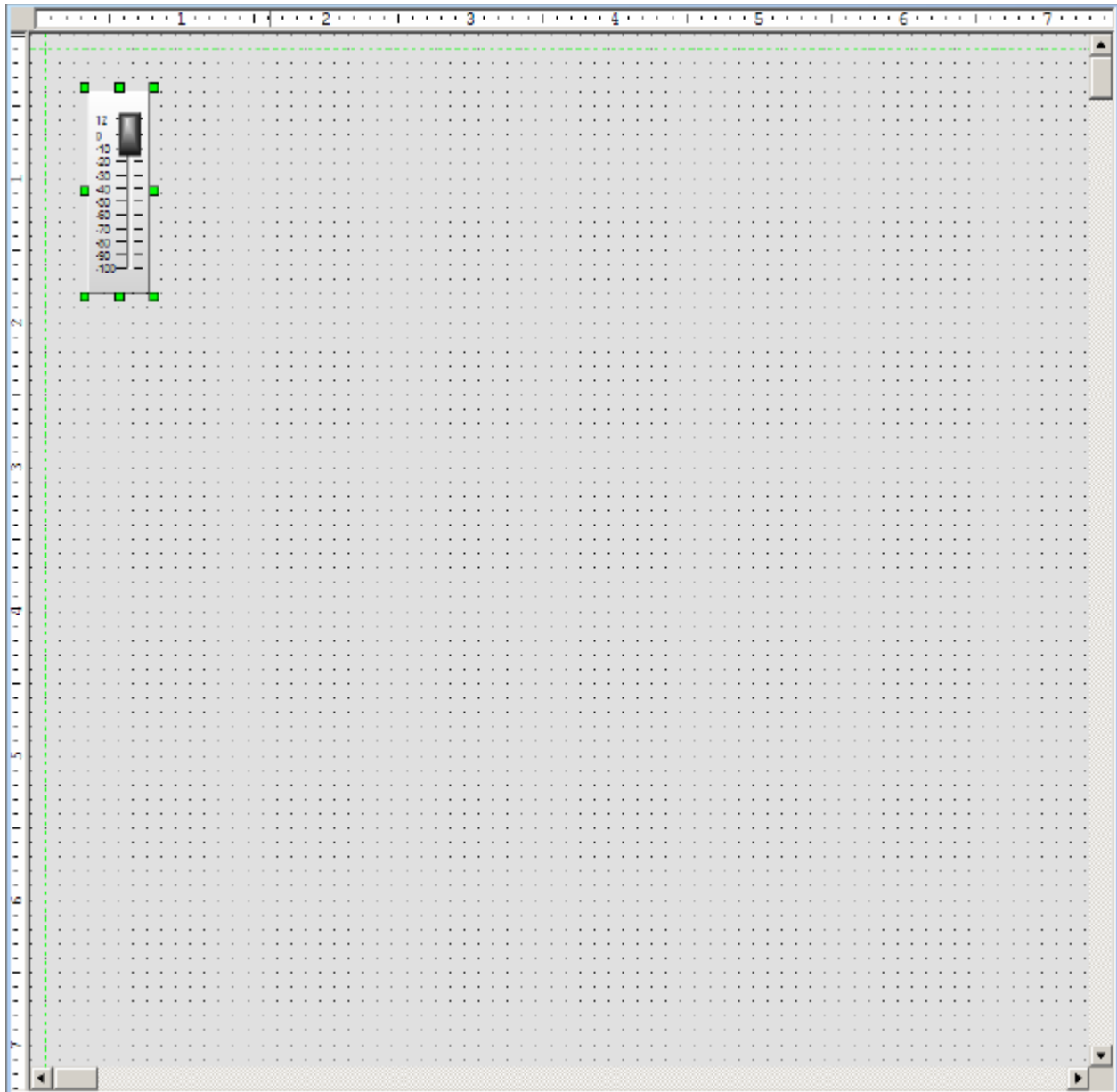
Pentium<sup>®</sup> is a registered trademark of Intel Corporation.

## Documentation

The information contained in this Help file can be printed in manual form (with Table of Contents and Index). Two PDF files are provided on the software CD for this purpose. The file *daVinci.pdf* is intended for printing on Letter (8.5" x 11") size paper. The file *daVinci-A4.pdf* is intended for printing on A4 (210mm x 297mm) size paper. These are printable Help files. Similar PDF files are also available on the software CD-ROM (for Audia/Nexia Help, RS-232 Control, and Quick Start Guide documents).

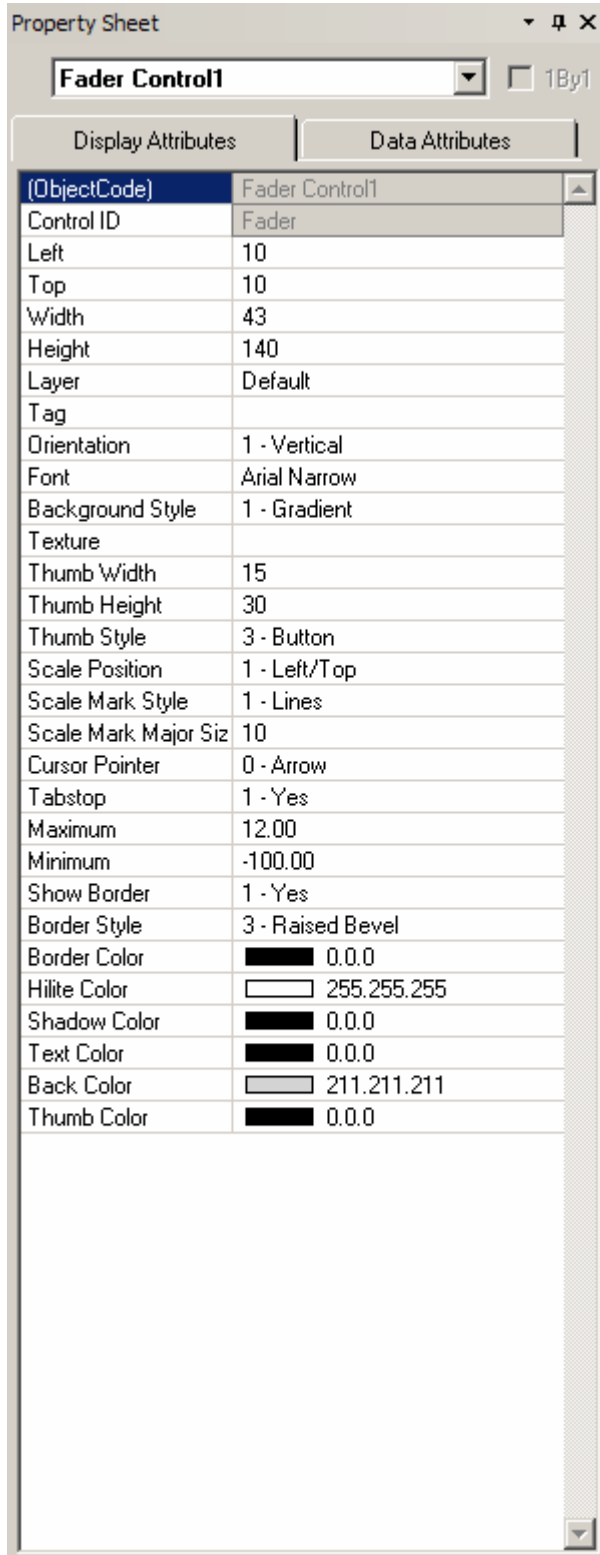
# Software Tools

## Surface



The Surface is where objects are arranged to create a custom control screen. Individual controls may be placed from the [Control Bar](#). Grouped sets of controls, representing typical multi-function system components, may be placed from the [Object Bar](#). The controls can then be customized and assigned to specific component functions within the system design, using the [Property Sheet](#). However, component objects may instead be copied directly from the system design file into the Surface, where they will appear as appropriately grouped and assigned controls.

# Property Sheet



The Property Sheet is where various attributes of an object selected in the **Surface** may be customized.

**Display Attributes** affect such things as position, size, shape, orientation, color, and labeling.

**Data Attributes** affect assignment of a control to a specific component in the system design file. Instance ID, DSP Block Type, Attribute, and Input/Output information must be available from the system design file. Grouped controls from the **Object Bar** require only an Instance ID, which can be assigned to the group as a whole by first disabling **1By1**. An alternative is to copy components from the system design file directly into the Surface, where they will appear as appropriately grouped and assigned controls. These controls can then receive further customization of their Display Attributes.

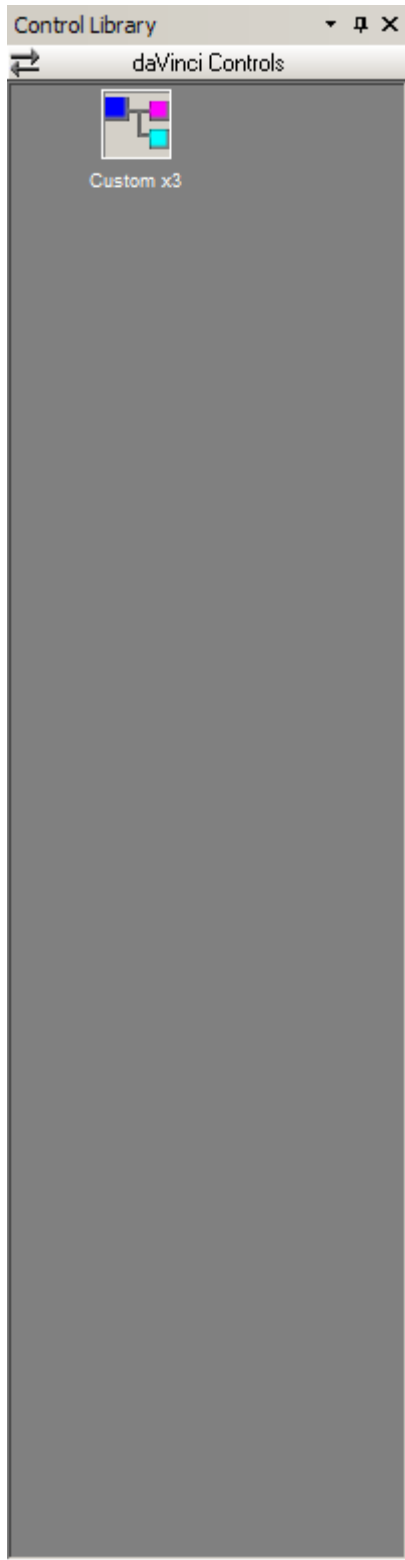
Data Attributes also include User Access Level, which can be used to make specific controls inaccessible for certain **User Accounts**, and **Gang Group**, which allows multiple controls of the same type to have combined operation.

Data Attributes are available only for control type objects. Display Attributes are available for all objects, including non-control objects such as text boxes, frames, and the Surface background.

Certain Display Attributes, such as position, size, shape, color, and labeling, can be customized within the Surface itself. Some of these can be done by simply dragging the object, others can be done through selections made from either the **Layout Bar** or the **Format Bar**.

To close the Property Sheet, click on the "X" in the upper right corner. The Property Sheet may again be opened by selecting it from the **Layout Bar**. When open, the Property Sheet appears to the left of the Surface during the design process. It is not accessible during actual control or test sessions.

# Control Library



The Control Library provides a convenient location for storing customized or often-used controls. Simply select an object in the Surface and copy it into the Control Library (Alt+drag or right-click copy/paste). An icon for the control appears under the selected category (default: daVinci Controls). The icon can be re-named by selecting it, then clicking on the text. New category files (.apl) may be created by right-clicking over the Control Library.

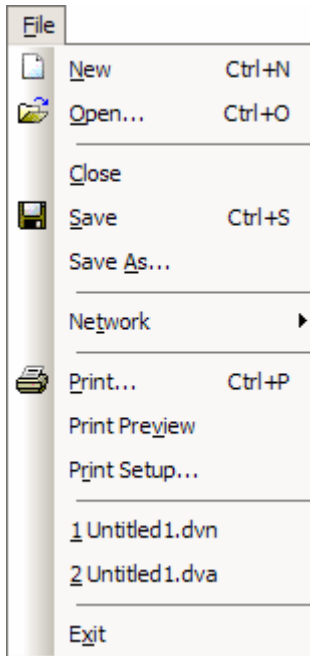
When a category is selected, the available components appear under the category heading. A vertical scroll bar will appear if all available components in a category cannot be displayed. To place a control, simply drag the icon into the Surface.

To close the Control Library, click on the "X" in the upper right corner. The Control Library may again be opened by selecting a category from the [Control Library Menu](#). It can also be accessed via [View Menu>Toolbars](#). When open, the Control Library appears to the left of the Surface during the design process. It is not accessible during actual control or test sessions



# Menus

## File Menu



**New** starts a fresh control file. **Open** retrieves a previously saved file. **Close** shuts the current file, and saves changes. **Save** stores the current file. **Save As** stores the current file with a choice of directory location and file name. **NOTE:** File extensions are: *.dva* for Audia and *.dvn* for Nexia.

**Network** provides a **sub-menu** of related functions.

**Print** opens a dialog box to adjust printer settings and print the Surface. **Print Preview** displays anticipated printing results, based on Print Setup. **Print Setup** opens a dialog box to adjust printer settings.

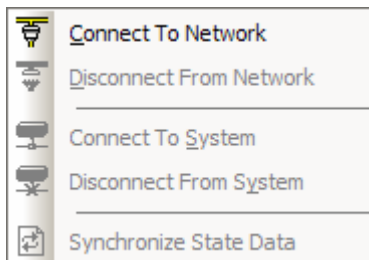
Recently saved files are listed at the bottom of the menu, for easy access.

**Exit** closes the *daVinci* program, with a prompt to save the file if necessary. If a file is open during Exit, that file will re-open at next session.

The menu shows associated **toolbar** icons and keyboard shortcuts.

## sub-menus

### Network Menu

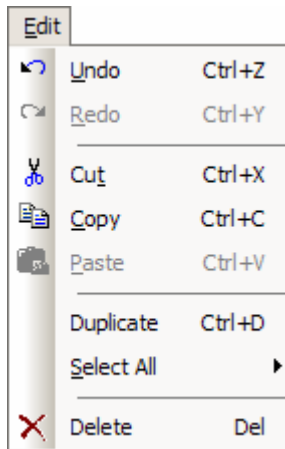


**Connect To Network** establishes communication with, and provides a list of, all Audia and Nexia devices on the network. **Disconnect From Network** ends communication with all devices on the network.

**Connect To System** establishes communication with selected Audia or Nexia systems on the network. **Disconnect From System** ends communication with selected systems on the network. **Synchronize State Data** manually updates control data to match system devices.

The menu shows associated **toolbar** icons.

## Edit Menu



**Undo** cancels the most recent action. **Redo** cancels the previous Undo. **Cut** moves selected objects to the Clipboard. **Copy** replicates selected objects to the Clipboard. **Paste** places objects from the Clipboard into the Surface. **Duplicate** replicates objects into both the Surface and the Clipboard. Duplicate works with only one selected object at a time.

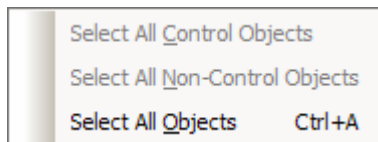
**Select All** provides a **sub-menu** of related functions.

**Delete** removes selected objects from the Surface, without replicating them to the Clipboard.

The menu shows associated **toolbar** icons and keyboard shortcuts.

## sub-menus

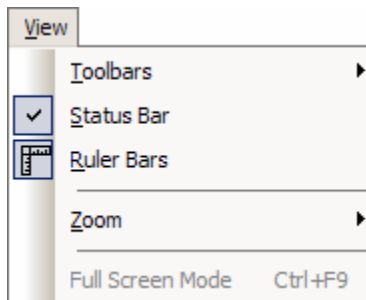
### Select All Menu



**Select All Control Objects** chooses only control related objects, such as faders and meters, in the Surface. **Select All Non-Control Objects** chooses only non-control related objects, such as text and frames, in the Surface. **Select All Objects** chooses all control and non-control related objects in the Surface.

The menu shows associated keyboard shortcuts.

## View Menu



**Toolbars** provides a **sub-menu** of related functions.

**Status Bar** reveals the **Status Bar** at the bottom of the Surface. **Ruler Bars** reveals rulers along the top and side of the Surface.

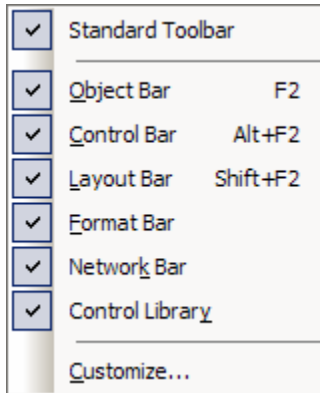
**Zoom** provides a **sub-menu** of related functions.

**Full Screen Mode** allows the **Administrator** to select **full-screen** view.

The menu shows associated **toolbar** icons and keyboard shortcuts.

## sub-menus

### Toolbars Menu

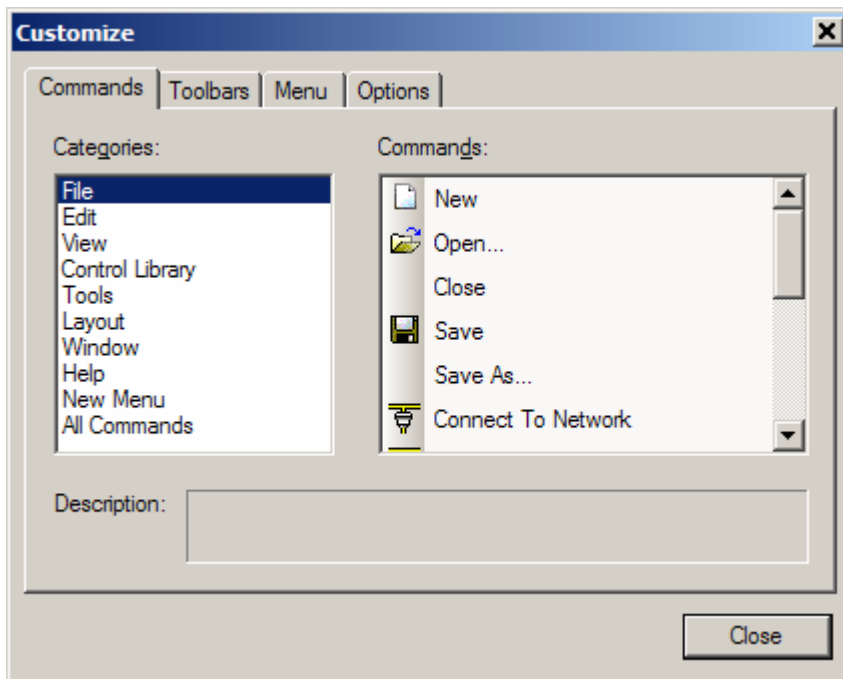


The Toolbars Menu allows the following to be revealed or hidden: **Standard Toolbar**; **Object Bar**; **Control Bar**; **Layout Bar**; **Format Bar**; **Network Bar**; **Control Library**.

**Customize** opens a **dialog box** for customizing the toolbars.

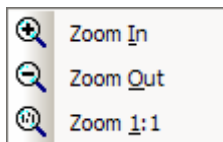
The menu shows associated keyboard shortcuts.

### Customize



**Customize** allows existing toolbars and menus to be edited, and new ones to be created. Certain aspects of appearance may also be personalized.

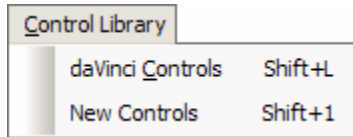
### Zoom Menu



**Zoom In** increases magnification of Surface in 25% increments. **Zoom Out** decreases magnification of Surface in 25% increments. **Zoom 1:1** returns magnification of Surface to 100%.

The menu shows associated **toolbar** icons.

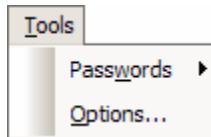
## Control Library Menu



The Control Library Menu provides a list of control categories from the **Control Library**. When a category is selected from the menu, the Control Library opens to that category automatically.

The menu shows associated keyboard shortcuts.

## Tools Menus

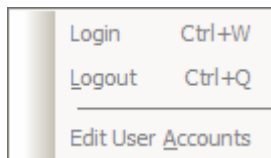


**Passwords** provides a **sub-menu** of related functions.

**Options** opens a dialog box for adjusting software behavior. The dialog box has three tabs: **General**; **Display**; and **Network**.

## sub-menus

### Passwords Menu

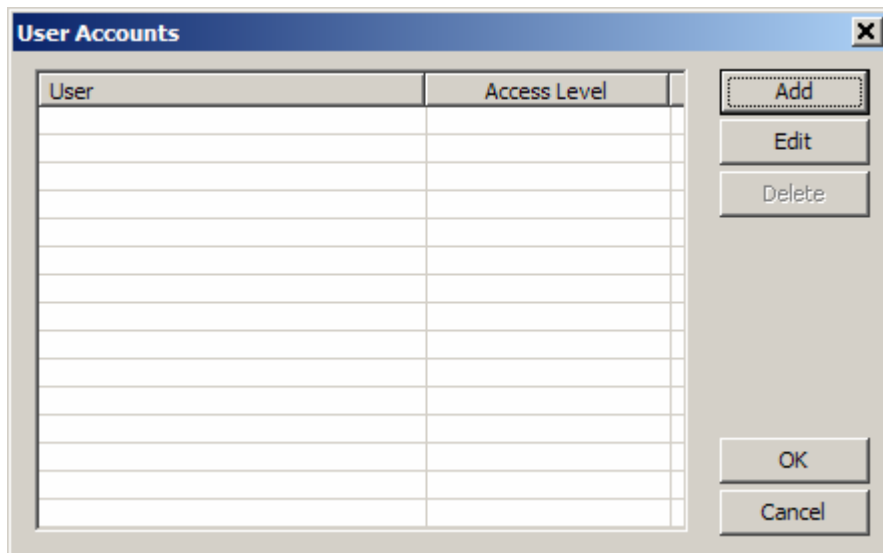


**Login** and **Logout** allow direct access to a *daVinci* control surface that is currently running on a computer connected to the system network. Login will require a User Name and Password, as established under **User Accounts**.

**Edit User Accounts** opens a **dialog box** for restricting user control access.

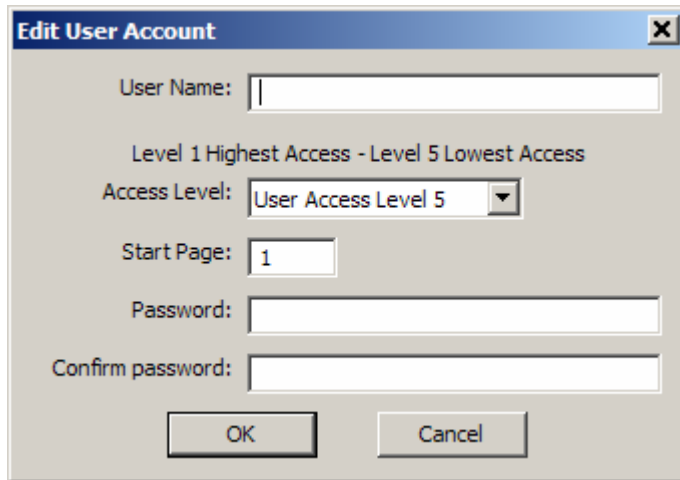
The menu shows associated keyboard shortcuts.

## User Accounts



**User Accounts** allow control access to be restricted. In addition to password protection, a **User** name is assigned to an **Access Level**. Individual controls may be assigned to one of five prioritized Access Levels via the **Property Sheet**. **Add** or **Edit** opens a **dialog box** for creating accounts. **Delete** removes selected accounts. **OK** (off-line) stores accounts as part of the *daVinci* file, which must then be saved. **Send** (on-line) stores accounts into the system.

## Edit User Accounts



**Edit User Account**

User Name:

Level 1 Highest Access - Level 5 Lowest Access

Access Level:

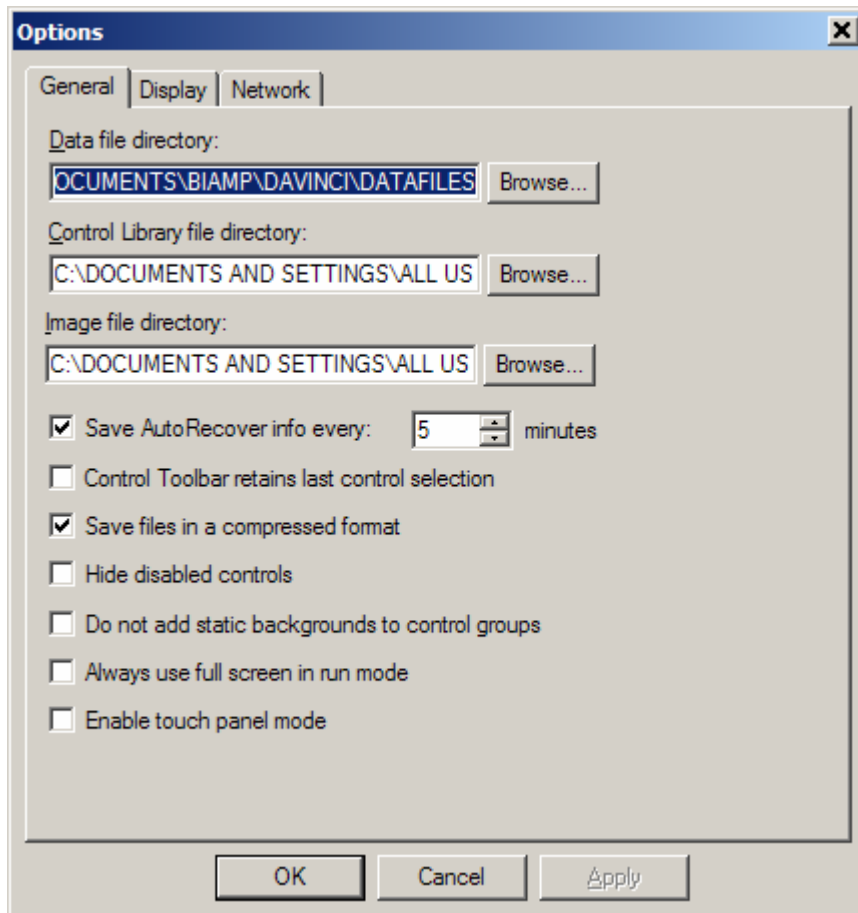
Start Page:

Password:

Confirm password:

**Edit User Account** allows creation and editing of accounts. An account requires a **User Name** and **Password**. **Start Page** determines which **control page** is to be accessed initially by this user. An **Access Level** is also assigned. The Access Level determines which controls will be available to that user. Control objects are also assigned to Access Levels, via the **Property Sheet**. There are five prioritized Access Levels. Level 1 accounts can access all controls, Level 2 accounts can access all but Level 1 assigned controls, Level 3 accounts can access all but Level 1 & 2 assigned controls, and so forth. Inaccessible controls will be visible, but disabled. They can instead be made invisible via **General Options**.

## General Options



**Options**

General | Display | Network

Data file directory:  
 

Control Library file directory:  
 

Image file directory:  
 

Save AutoRecover info every:  minutes

Control Toolbar retains last control selection

Save files in a compressed format

Hide disabled controls

Do not add static backgrounds to control groups

Always use full screen in run mode

Enable touch panel mode

**Data, Control Library, and Image** files may be saved to specified directory locations.

**Save AutoRecover** time may be adjusted or disabled.

**Control Toolbar retains last control selection** may be enabled for repeated placement into Surface.

**Save files in compressed format** may be disabled.

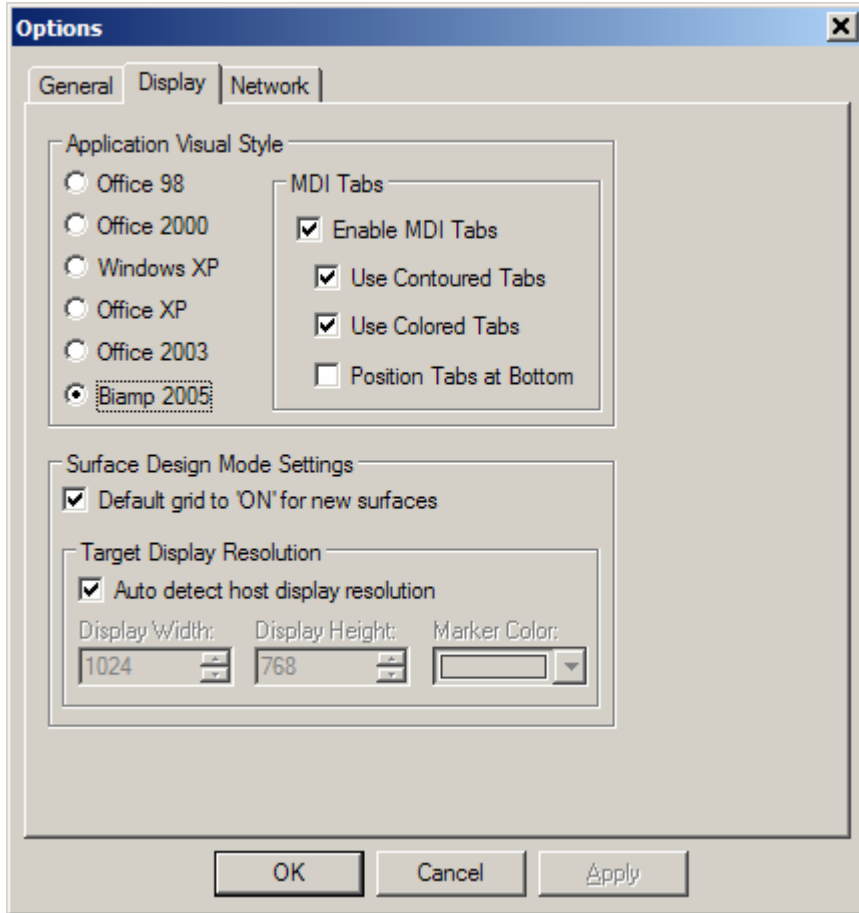
**Hide disabled controls** may be enabled so **inaccessible** controls are hidden instead of grey.

**Do not add static backgrounds to control groups** removes the background image from grouped objects placed from the **Object Toolbar**.

**Always use full screen in run mode** automatically hides menus and toolbars when control surfaces are **opened** or in **Test Mode**.

**Enable touch panel mode** removes 'focus rectangle' from the selected control.

## Display Options



**Application Visual Style** allows a choice of different styles of appearance. This affects various elements of the *daVinci* software.

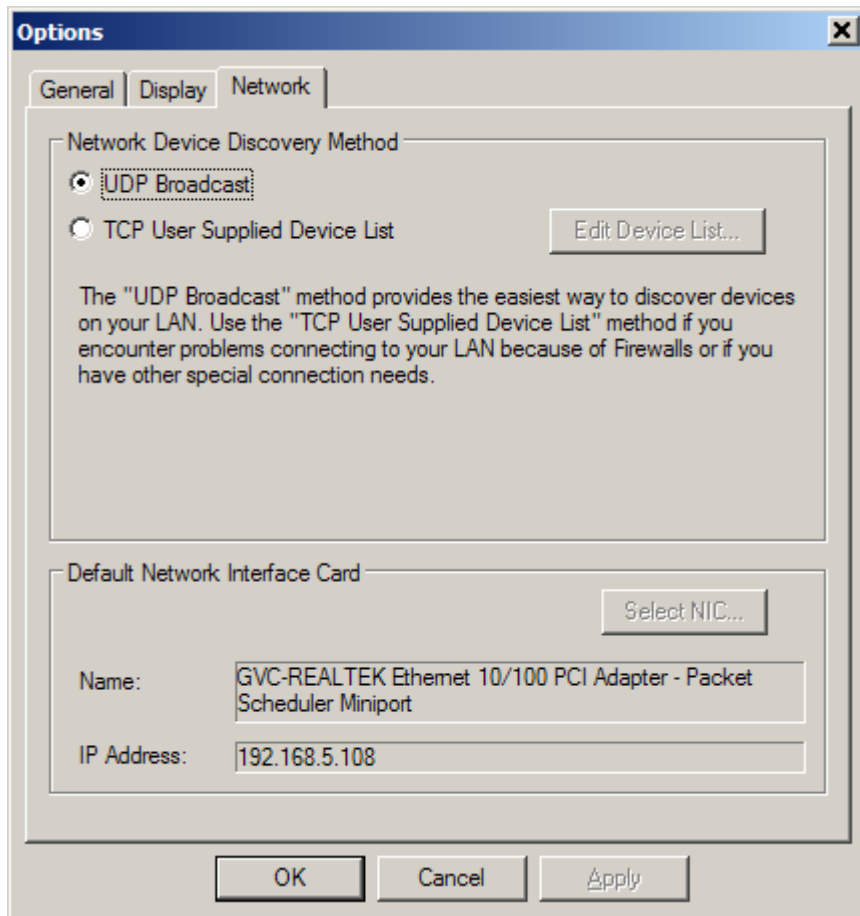
**MDI Tabs** affects the appearance of Multiple Document Interface tabs specifically, and will change the available **Window Menu** items if disabled

**Surface Design Mode Settings** affect default surface appearance.

**Default grid to "ON" for new Surfaces** may be disabled, which will start new files with the **Grid** off.

**Target Display Resolution** is detected automatically, but can instead be specified, which will then provide boundary makers in the Surface during design mode.

## Network Options



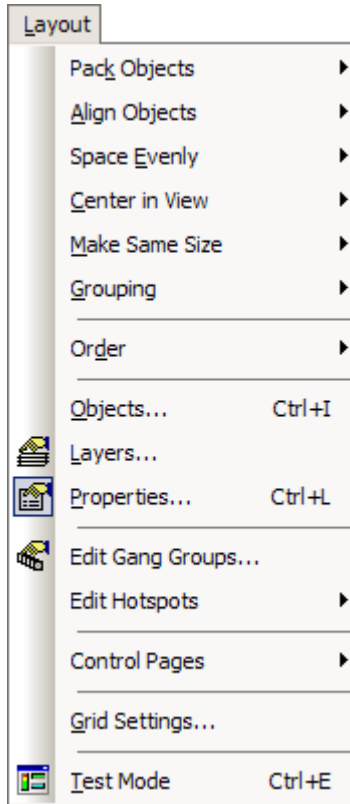
**Network Device Discovery Method** allows the user to choose a method to **Connect To Network**.

**UDP Broadcast** is the default 'message' based routine, which looks for devices on a common network.

**TCP User Supplied Device List** allows connection to a specified list of device IP addresses. This approach is 'communication' based, and allows the user to: avoid firewall conflicts; create custom device lists; access multiple sub-networks; connect remotely via modem.

**Default Network Interface Card** allows selection of a specific network interface card (NIC), when multiple cards are available on the computer being used to run *daVinci* software.

## Layout Menu



**Pack Objects**, **Align Objects**, **Space Evenly**, **Center In View**, **Make Same Size**, **Grouping**, and **Order** each provides a sub-menu of related functions.

**Objects** opens the **Object Sheet**.

**Layers** opens the **Layers Sheet**.

**Properties** opens the **Property Sheet**.

**Edit Gang Groups** opens the **Gang Group** dialog box.

**Edit Hotspots** provides a **sub-menu** of related functions.

**Control Pages** provides a **sub-menu** of related functions.

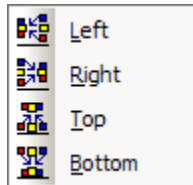
**Grid Settings** opens a **Grid Settings** dialog box.

**Test Mode** disables editing and allows off-line testing of controls.

The menu shows associated **toolbar** icons and keyboard shortcuts.

## sub-menus

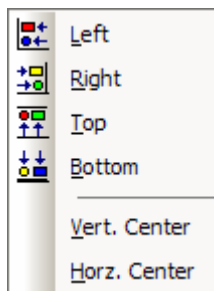
### Pack Objects Menu



**Left** packs selected objects next to each other, aligned on the left. **Right** packs selected objects next to each other, aligned on the right. The target location for packing Left/Right is the top-most selected object. **Top** packs selected objects next to each other, aligned on the top. **Bottom** packs selected objects next to each other, aligned on the bottom. The target location for packing Top/Bottom is the left-most selected object.

The menu shows associated **toolbar** icons.

### Align Objects Menu

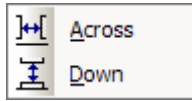


**Left** aligns selected objects on the left. **Right** aligns selected objects on the right. **Top** aligns selected objects on the top. **Bottom** aligns selected objects on the bottom. **Vert. Center** aligns selected objects on a vertical center-line. **Horz. Center** aligns selected objects on a horizontal center-line. The primary selected object (green handles) becomes the target for alignment.

The menu shows associated **toolbar** icons.



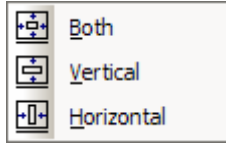
## Space Evenly Menu



**Across** spaces selected objects horizontally. **Down** spaces selected objects vertically. The two most-distant objects become the reference for spacing evenly.

The menu shows associated [toolbar](#) icons.

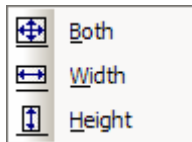
## Center In View Menu



**Both** centers selected objects within the visible Surface, both vertically and horizontally. **Vertical** centers selected objects vertically within the visible Surface. **Horizontal** centers selected objects horizontally within the visible Surface.

The menu shows associated [toolbar](#) icons.

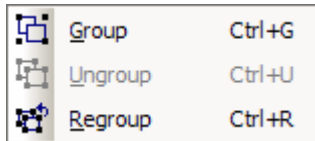
## Make Same Size Menu



**Both** sizes selected objects both in width and height. **Width** sizes selected objects in width only. **Height** sizes selected objects in height only. The primary selected object (green handles) becomes the reference for sizing.

The menu shows associated [toolbar](#) icons.

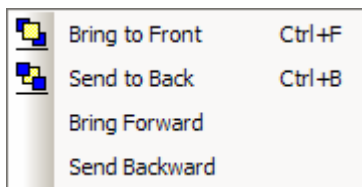
## Grouping Menu



**Group** combines selected objects into a single object. **Ungroup** separates a grouped object into the individual objects. **Regroup** combines the most recently ungrouped objects.

The menu shows associated [toolbar](#) icons and keyboard shortcuts.

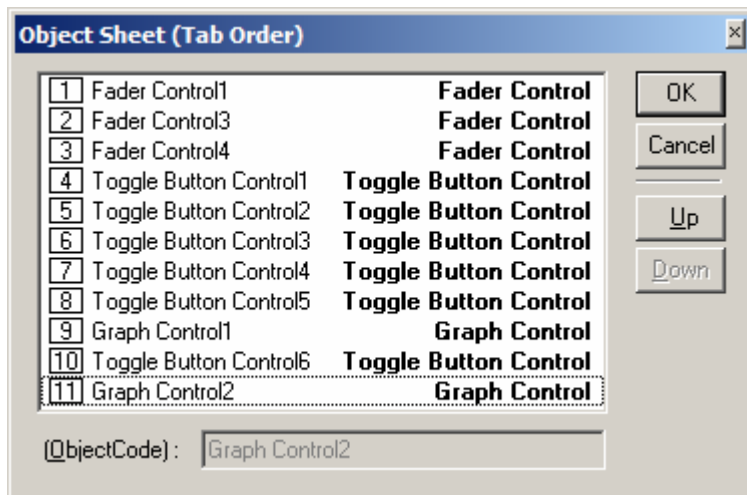
## Order Menu



**Bring To Front** moves selected objects in front of all other objects. **Send To Back** moves selected objects behind all other objects. **Bring Forward** moves selected objects forward relative to others. **Send Backward** moves selected objects backward relative to others.

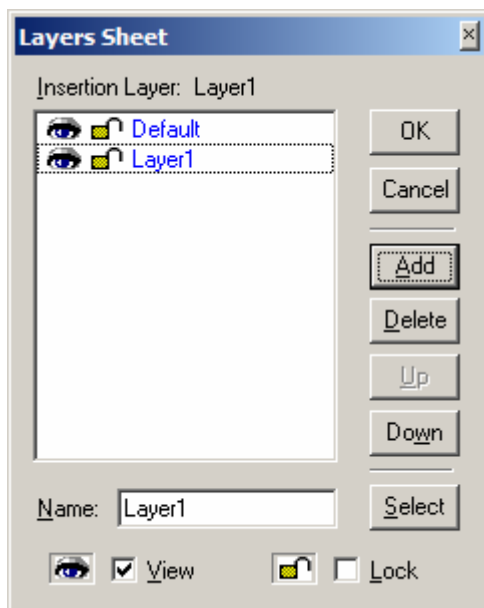
The menu shows associated [toolbar](#) icons and keyboard shortcuts.

## Object Sheet



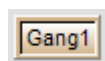
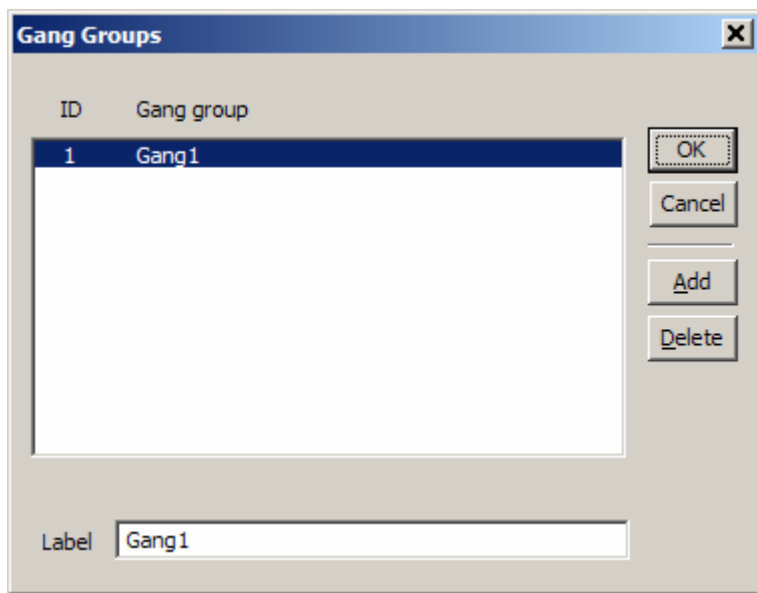
**Object Sheet** provides a list of all objects on the **current page** of the Surface. This list includes the object type and tab order for each Object Code (unique object name). When the Object Sheet is closed, object selection may be done sequentially using the keyboard Tab key. The Tab Order for this type of selection can be changed in the Object Sheet, by selecting an object in the list then either dragging it or using **Up** and **Down**. An object may also be selected directly from the list.

## Layers Sheet



**Layers Sheet** provides an editable table of Layer properties. Layers can be used to separate a Surface into multiple parts. Layers can be organized with regards to object types, system segments, or any other criteria. The **Default** Layer always remains, but other Layers may be created or removed using **Add** and **Delete**. Layers may be selected directly from the list. **Up** and **Down** change the position of a Layer in the list only (Layers are not stacked, so this does not affect Tab Order or visual overlapping). All objects in a given Layer can be selected with **Select**. Added Layers may be given a custom **Name**. **View** turns on/off visibility of a Layer in the Surface. **NOTE: Objects cannot be selected when the current Layer is invisible.** **Lock** prevents a Layer from being changed or selected. Lock and View may also be accessed by double-clicking on the corresponding icons within the list.

## Gang Group



**Gang Group** allows multiple controls of the same type to have combined operation. A Gang Group must first be created in this list. Then multiple controls of the same type may be assigned to that group via the **Property Sheet**. **NOTE:** *Instance ID, DSP Block Type, Attribute, and Input/Output must be assigned for objects in a gang, even to achieve proper control behavior in Test Mode.* Gang Groups are created or removed using **Add** and **Delete**.

When a new Gang Group is added, a Toggle Button control appears, which is already assigned to gang/un-gang all of the controls in that Gang Group. Gang controls may be deleted if not needed. User-created **Toggle Button** controls may also be assigned as Gang controls.

When assigning controls to a Gang Group (via the **Property Sheet**), some or all of the controls may be assigned as Master. Gang Group and Master control behavior varies by control type.

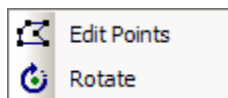
**Toggle Button** controls: When the state of a Master control is toggled (on/off) by clicking on it, other Master controls in that Gang will also toggle (on/off), regardless of their original state. Non-Master controls will simply assume the same state (on/off) as the Master control.

**Fader, Edit, and Edit Spin** controls: When the setting of a Master control is changed, all other controls in that Gang are changed accordingly, so as to maintain the same relative offsets. The range of the Master control is restricted, so that no other (offset) controls may travel outside of their range. When a non-Master control setting is changed, no other controls in that Gang are affected.

**Graph** controls: Graphs cannot be assigned as Master controls. All Graph controls within a Gang will follow the active control exactly, on an individual filter basis. With Parametric EQs or All-Pass Filters it is possible to gang controls that have a different number of filter bands. In this case, only the common filter bands (those that are first in initial numerical order) are ganged together.

**NOTE:** *If a ganged control is modified as the result of a preset recall, then no ganging behavior occurs.*

## Edit Hotspots Menu

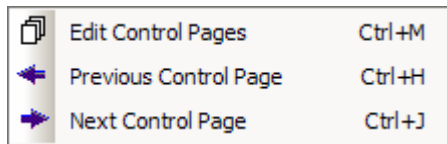


**Edit Points** reveals the line connections on a selected **Hotspot**, for manual editing of the shape. Additional Edit Points can also be added to the Hotspot.

**Rotate** reveals handles on a selected **Hotspot**, for manual rotation of the shape. Rotation for a selected Hotspot can also be assigned via the **Property Sheet**

The menu shows associated **toolbar** icons.

## Control Pages Menu



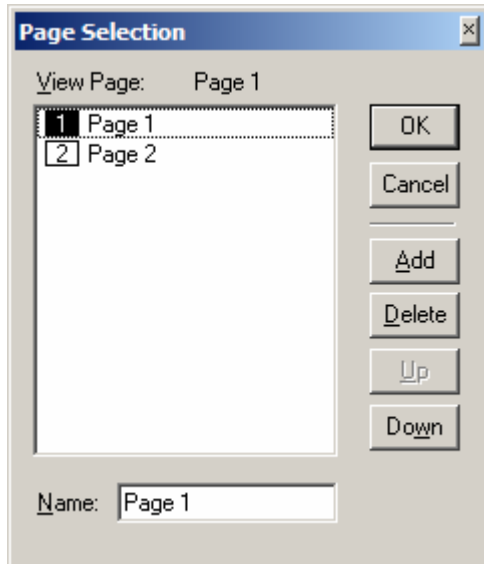
**Edit Control Pages** opens the **Page Selection** dialog box.

**Previous Control Page** reveals the prior page in the Surface.

**Next Control Page** reveals the following page in the Surface.

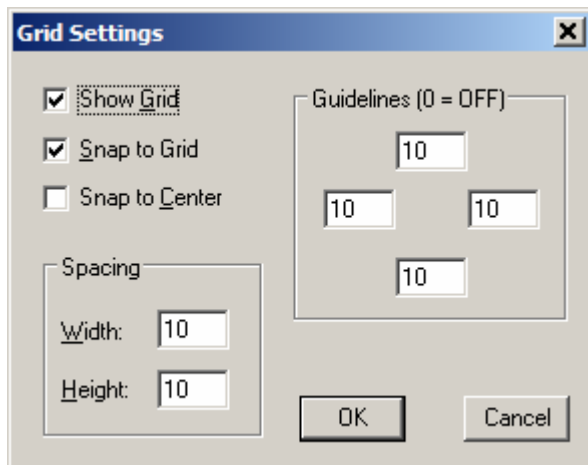
The menu shows associated **toolbar** icons and keyboard shortcuts.

## Page Selection



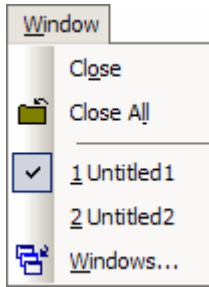
**Page Selection** provides an editable table of Pages. Pages can be used to separate a Surface into multiple parts. Pages can be organized with regards to object types, system segments, or any other criteria. The default **Page 1** may be re-named, but always remains. Other Pages may be created or removed using **Add** and **Delete**. Pages may be selected directly from the list. **Up** and **Down** change the position of a Page in the list, which also affects Page selection order. Any Page may be given a custom **Name**.

## Grid Settings



**Grid Settings** allows the Surface Grid to be customized. **Show Grid** turns the Grid on/off. **Snap To Grid** forces the upper-left corner of an object to align with grid-marks. **Snap To Center** forces objects to center around grid-marks. **Spacing** determines the space between grid-marks (in pixels). **Guidelines** changes the location (in pixels) of the blue, dotted guidelines (initially found near the edges of the Surface).

## Windows Menu



**Close** will close the active Surface (*daVinci* file). **Close All** will close all currently open Surfaces (*daVinci* files).

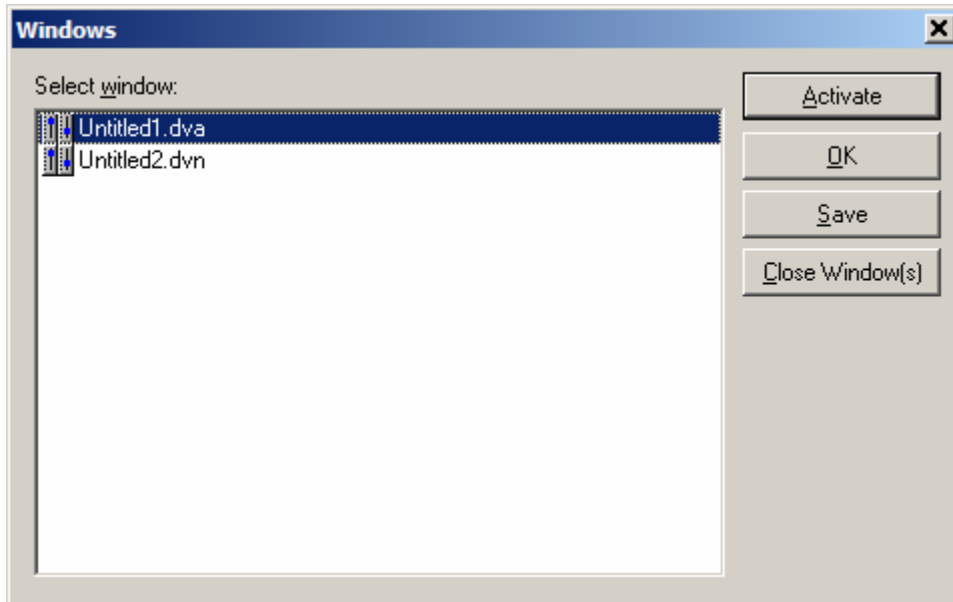
Currently open files are listed at the bottom of the menu, for easy access.

**Windows** opens a **dialog box** for working with multiple open files.

The Window menu changes when MDI tabs are disabled under **Display Options**.

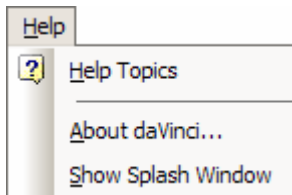
The menu also shows associated **toolbar** icons.

## Windows



**Activate** will switch to the selected file. **Save** will save the selected file. **Close Window(s)** will close selected files.

## Help Menu



**Help Topics** opens this *daVinci* Help file.

**About daVinci** and **Show Splash Window** open software version informational screens.

The menu also shows associated **toolbar** icons.

# Toolbars

## Standard Toolbar



Toolbar icon names appear when the mouse is positioned over them.

**New, Open, Save,** and **Print** functions are the same as found on the [File Menu](#).

**Cut, Copy, Paste, Undo,** and **Redo** functions are the same as found on the [Edit Menu](#).

The **Help** function is the same as found on the [Help Menu](#).

Toolbars are opened/closed and customized via the [View Menu](#), and may be positioned as desired.

## Object Bar



Toolbar icon names appear when the mouse is positioned over them.

The Object Bar allows grouped sets of controls, which represent typical system design components, to be placed into the Surface. These grouped controls are organized in the same categories as found in the Audia and Nexia design software: **Input Output; Mixers; Equalizers; Filters; Crossovers; Dynamics; Routers; Delays; Controls; Meters;** and **Generators**.

Each category is represented by an icon, with a drop-down menu to the right. To place an object, first choose the appropriate category, then select the desired component from the drop-down menu. Once the component has been selected, simply left-click at the desired location in the Surface. With certain controls, this will produce a pop-up window of configuration options, which must match the component being controlled. Then, an [Instance ID](#) must also be assigned to match the component being controlled. **NOTE:** *Components may instead be copied from a compiled Audia or Nexia design file, and pasted directly into the daVinci Surface, eliminating the need to manually set component options and Instance ID.*

The Object Bar also provides the option of either a select cursor or a text cursor. The select cursor (default) is for object selection, placement, and manipulation. The text cursor is for placing static text objects into the Surface. Text can then be manipulated via the [Property Sheet](#).

Toolbars are opened/closed and customized via the [View Menu](#), and may be positioned as desired.

## Control Bar



Toolbar icon names appear when the mouse is positioned over them.

The Control Bar allows individual controls to be placed into the Surface. These controls are categorized strictly by available control types: **Picture**; **Frame**; **Edit**; **Edit-Spin**; **Button**; **Toggle Button**; **Fader**; **Meter**; **LED**; **Grid**; **Graph**; **Paging**; and **Hotspot**.

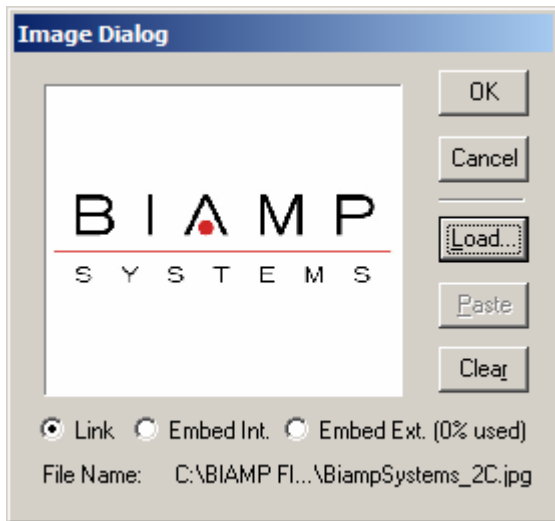
Each control type is represented by an icon. To place an object, first click on the appropriate icon, then simply click at the desired location in the Surface. With certain control types, this will produce a pop-up window of configuration options, which must match the component being controlled. Then, **Data Attributes** must also be assigned to match the component being controlled. **NOTE: Components may instead be copied from a compiled Audia or Nexia design file, and pasted directly into the daVinci Surface, eliminating the need to manually set component options and Data Attributes.**

The Control Bar also provides the option of either a select cursor or a text cursor. The select cursor (default) is for object selection, placement, and manipulation. The text cursor is for placing static text objects into the Surface. Text can then be manipulated via the **Property Sheet**.

Toolbars are opened/closed and customized via the **View Menu**, and may be positioned as desired.

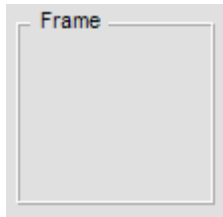
## Controls

### Picture



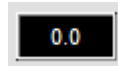
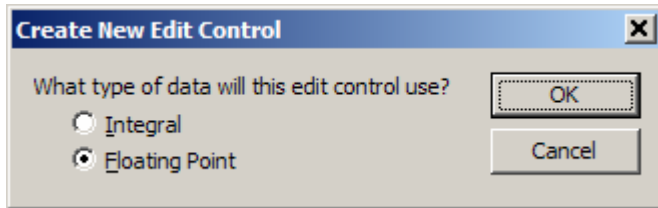
**Pictures** are non-control related images that can be used as backgrounds or for placing logos, icons, etc. Selecting **Picture** and clicking in the Surface will produce the **Image Dialog** box. **Load** allows browsing for desired image files. Supported file formats include: BMP, JPEG, GIF, EMF, WMF, TIFF, PNG, & ICO. **Paste** allows placing images from the Clipboard. **Clear** eliminates the selected image, without placing. **Link** references the original image file. **Embed Int.** will copy the image to a standard memory location within Audia or Nexia. **Embed Ext.** will copy the image to a dedicated image memory location (Audia only). **File Name** allows embedded images to be given an identifying name, which appears in the **Property Sheet**. Linked files indicate their file name and directory location. Appearance may be manipulated in the Surface or edited in the **Property Sheet**.

## Frame



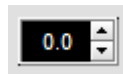
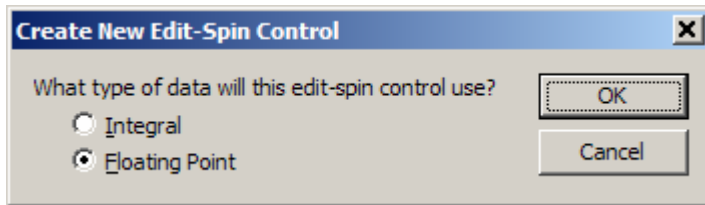
**Frames** are non-control related images that can be used to frame and label individual or grouped controls, or entire segments of a control screen. Appearance may be manipulated in the Surface or edited in the [Property Sheet](#).

## Edit



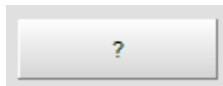
**Edit** controls display values and allow adjustments via keyboard entry. **Integral** controls are used for Logic Delay times and CobraNet bundle numbers (whole numbers only). **Floating Point** controls are used for levels (including decimal values). Appearance may be manipulated in the Surface or edited in the [Property Sheet](#).

## Edit-Spin



**Edit-Spin** controls display values and allow adjustments via keyboard entry or mouse. **Integral** controls are used for Logic Delay times and CobraNet bundle numbers (whole numbers only). **Floating Point** controls are used for levels (including decimal values). Appearance may be manipulated in the Surface or edited in the [Property Sheet](#).

## Button



**Button** controls provide momentary behavior, and can be used for mouse selection of functions such as recalling Presets and sending Command Strings. Buttons can also be assigned software Application related functions such as Fullscreen, Start/Stop Audio, User Login/Logout, and Exit daVinci. Appearance may be manipulated in the Surface or edited in the [Property Sheet](#).

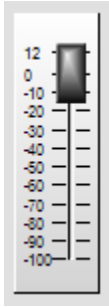
## Toggle Button



**Toggle Button** controls provide latching behavior, and can be used for mouse selection of functions such as Muting or Inverting of signals. Toggle Buttons can also be assigned software Application related functions such as Ganging Controls. Appearance may be manipulated in the Surface or edited in the [Property Sheet](#).

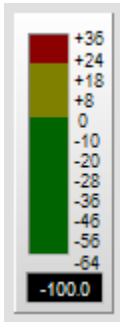


## Fader



**Fader** controls allow mouse adjustment of signal levels. Appearance may be manipulated in the Surface or edited in the [Property Sheet](#).

## Meter



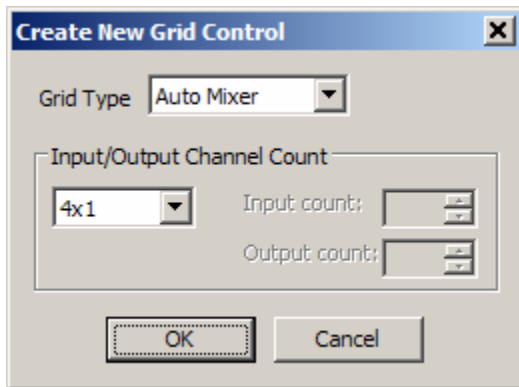
**Meter** controls provide display of signal levels. Appearance may be manipulated in the Surface or edited in the [Property Sheet](#).

## LED



**LED** controls display the status of functions such as Muting, Inverting, and Presence of signals. Appearance may be manipulated in the Surface or edited in the [Property Sheet](#).

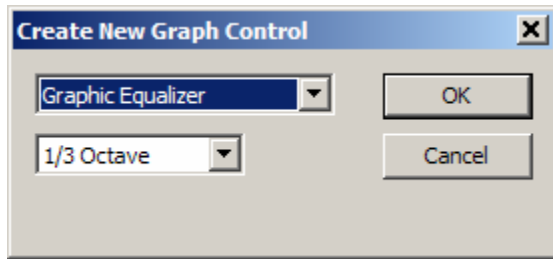
## Grid



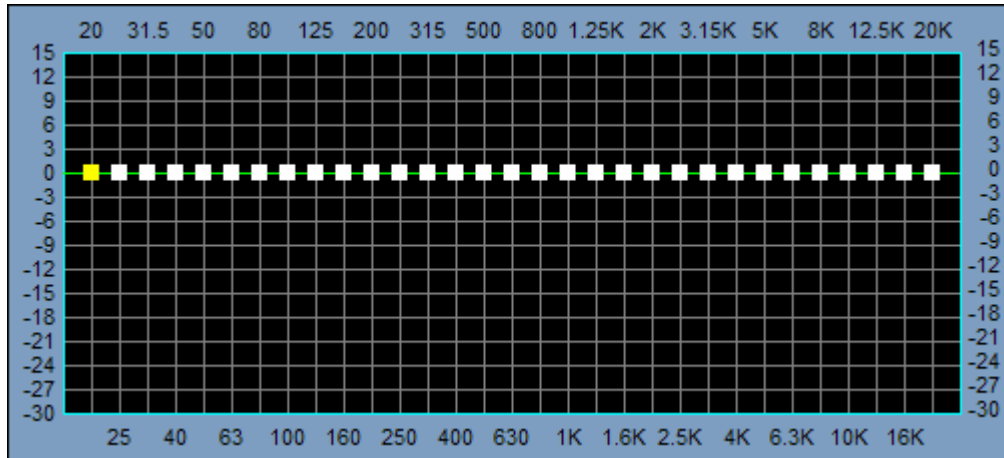
**Grid** controls display and allow mouse selection of input/output assignments for components such as Mixers and Routers. Appearance may be manipulated in the Surface or edited in the [Property Sheet](#).



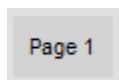
## Graph



**Graph** controls display and allow mouse adjustment of components such as Equalizers, Filters, and Crossovers. Appearance may be manipulated in the Surface or edited in the [Property Sheet](#).



## Paging



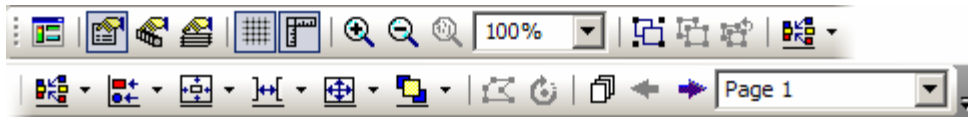
**Paging** controls allow mouse navigation between multiple pages of a control surface. Appearance may be manipulated in the Surface or edited in the [Property Sheet](#).

## Hotspot



**Hotspot** controls are polygons that are drawn on the Surface, and assigned [Application](#) or [Paging](#) functions. To draw a Hotspot, left-click and drag the mouse. This creates a primary Edit Point and begins a line. Release the mouse button at the desired location to complete the line. Additional Edit Points (and lines) will be placed with subsequent left-clicks. A Hotspot shape is completed either by right-clicking or by left-clicking back on the primary Edit Point. Hotspots can be edited via the [Layout Menu](#) and [Property Sheet](#). Hotspots may appear as visible objects or as invisible areas placed over graphic images.

## Layout Bar



Toolbar icon names appear when the mouse is positioned over them.

**Test Mode, Property Sheet, Edit Gang Groups, Layers Sheet, Grouping, Packing, Aligning, Centering, Spacing, Sizing, Order, Hotspot,** and **Page** functions are the same as found on the [Layout Menu](#).

**Toggle Ruler** and **Zoom** functions are the same as found on the [View Menu](#).

**Toggle Grid** turns the Surface [Grid](#) on/off.

Toolbars are opened/closed and customized via the [View Menu](#), and may be positioned as desired.

## Format Bar



Toolbar icon names appear when the mouse is positioned over them.

**Font, Font Size, Bold,** and **Italic** affect the lettering styles used in object text. **Left, Center,** and **Right** affect paragraph justification of object text. **BackColor** affects the background of the Surface or selected objects. **TextColor** affects the object text. **ForeColor** affects the lower & right borders of objects. **HiliteColor** affects the upper & left borders of objects. **PenWidth** affects the borders of objects.

Toolbars are opened/closed and customized via the [View Menu](#), and may be positioned as desired.

## Network Bar



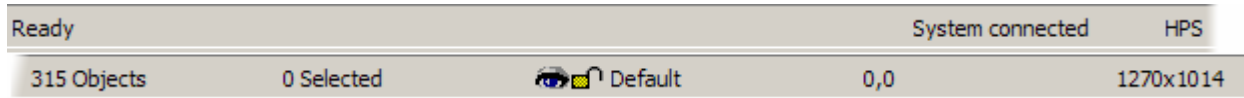
Toolbar icon names appear when the mouse is positioned over them.

**Connect To Network, Disconnect From Network, Connect To System, Disconnect From System,** and **Sync Data** functions are the same as found on the [File Menu](#).

**Send Configuration** transmits *daVinci* control file data to the selected Audia or Nexia system.

Toolbars are opened/closed and customized via the [View Menu](#), and may be positioned as desired.

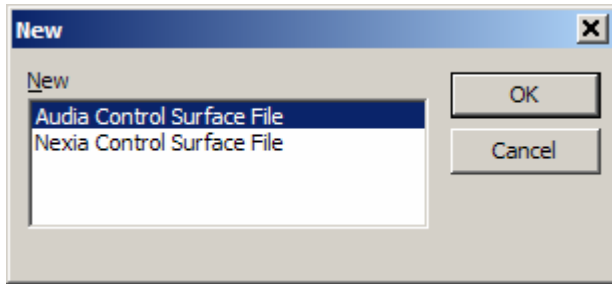
## Status Bar



The **Status Bar**, along the bottom of the main screen, provides system information. System status and tool tips are indicated on the far left side. System/network connection status is indicated in the middle. This includes an indication of **LPS** (Low Privilege Session) or **HPS** (High Privilege Session). When multiple users are connected, HPS is granted to the first user on-line. Only the HPS user has **Administrative access**. The right side of the Status Bar indicates Surface information, including: number of objects on current page, number of object selected, Layer status, object location, and object size.

# Designing Control Surfaces

## Placing Objects



Start the *daVinci* software program, and close any unwanted files that may have opened automatically from a previous session. Start a **new file** and select either Audia or Nexia as the type of system to be controlled. To continue working with a previously saved file, **open** that file instead. **NOTE:** File extensions are: **.dva** for Audia and **.dvn** for Nexia.

Begin placing control objects into the **Surface**. This can be done in three different ways:

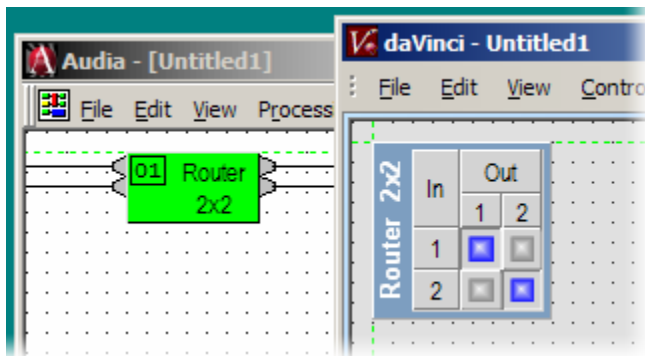
1) Place individual controls from the **Control Bar**. Individual controls must then have **Data Attributes** assigned to them via the **Property Sheet**. Data Attributes include the **Instance ID**, **DSP Block Type**, **Attribute**, and **Input/Output** for the specific component being controlled. This information must be available from the Audia or Nexia system design file.



2) Place grouped sets of controls from the **Object Bar**. Controls from the Object Bar represent typical Audia or Nexia system design components. Therefore, only an **Instance ID** is required for the group as a whole (all other **Data Attributes** are pre-assigned). The Instance ID is assigned via the **Property Sheet**, by first disabling **1By1**. This information must be available from the Audia or Nexia system design file.

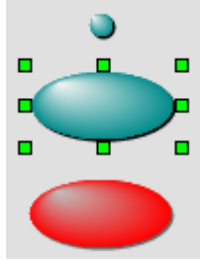


3) Copy component objects from a compiled Audia or Nexia system design file, and paste them directly into the *daVinci* Surface. **Data Attributes** are automatically copied from the system design component(s) into the resulting *daVinci* control object(s), and do not require assignment via the **Property Sheet**. The resulting controls will be individual and/or grouped depending upon the types of component(s) copied.



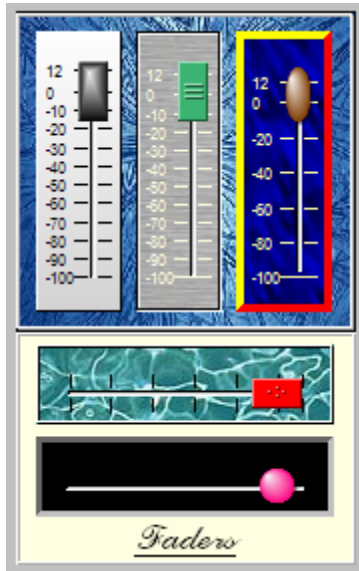
*Result of Router copied from Audia to daVinci*

# Customizing Appearance



The position of an object may be changed by dragging the object within the Surface. The size and shape of an object may be changed by dragging the green handles that appear when the object is selected. Position, size, and shape may also be edited in the **Display Attributes** of the **Property Sheet**.

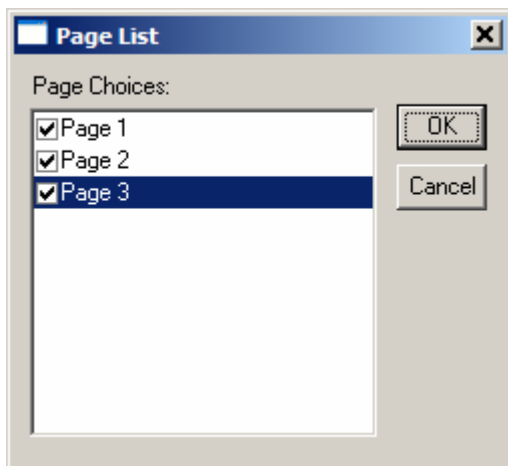
The color of various aspects of an object may be edited in the **Format Bar** and in the **Display Attributes** of the **Property Sheet**. Some color aspects that may be edited include: **On/Off**, **Text**, **Border**, **Back**, **Fore**, **Hilite**, and **Shadow**.



Certain objects allow more in-depth editing of appearance, including such aspects as: **Border Style & Width**, **Scale Markings**, **Button or Thumb (knob) Style**, **Control Orientation**, etc.

**Textures** may be applied as the background for certain objects. Textures are images imported via the **Display Attributes** of the **Property Sheet**. **Pictures** may also be imported, from the **Control Bar**, for use as Surface backgrounds or placement of logos, etc. Textures and Pictures both utilize the **Image Dialog** box. **Frames** may be placed from the **Control Bar**, for organizing and labeling associated controls. **Text (Static Controls)** may be placed from either the **Object Bar** or the **Control Bar**. Text/Static Controls can also help organize and label, as well as provide backgrounds for, other controls. Pictures, Frames, and Text/Static Controls may be **Grouped** with associated controls, so they might all be selected and positioned as one object. The appearance of the **Surface** itself can be edited in ways similar to those described above.

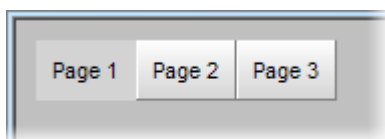
# Adding Control Pages



**Control Pages** can be used to separate a Surface into multiple parts. Control Pages can be organized with regards to object types, system segments, or any other criteria. Control Pages may be added to the control surface via the **Layout Menu** or **Layout Bar**.

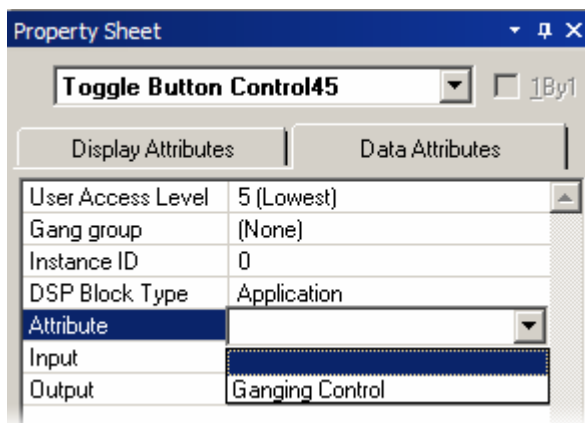
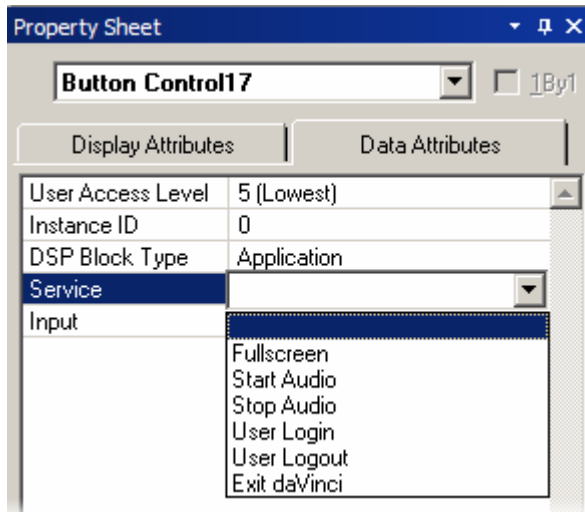
Once new Pages have been added, **Paging Controls** may then be placed on each page from the **Control Bar**. When Paging Controls are placed onto a Page, a **Page List** will appear, allowing controls to be assigned for navigation to specific other Pages within the control surface.

Paging Controls may be assigned to their own Pages, as well as to other Pages. This type of assignment produces a set of buttons that indicates the currently selected Page.



**Hotspots** may also be assigned as Paging Controls. Page access can be **password** restricted, by assigning **Access Levels** to the Paging Controls in **User Accounts**. The **appearance** of Paging Controls may also be edited.

# Application Controls



Certain objects may be assigned to perform special **Application** functions, under **DSP Block Type** in the **Data Attributes** tab of the **Property Sheet**.

**Button** and **Hotspot** controls may be assigned the following types of **Application** functions:

**Full Screen** allows selection of full-screen or minimized views of the control surface. **NOTE:** *Full Screen* view can be selected to be automatic, under *Tools>Options>General*.

**Start/Stop Audio** allows audio signals to be muted or un-muted for the entire system being controlled.

**User Login/Logout** allows controls to be placed on the control surface for *Login/Logout*.

**Exit daVinci** ends the current control session and *exits* the *daVinci* program.

**Toggle Button** controls may be assigned the following types of **Application** functions:

**Ganging Controls** allows controls in a common **Gang Group** to be ganged or un-ganged.

## Testing Control Surfaces

**Test Mode** may be entered at any time during the design process, from either the **Layout Menu** or the **Layout Bar**. Test Mode temporarily disables all editing of the control surface, closes the **Property Sheet** and **Control Library** (if open), and allows the operational behavior of controls to be tested 'off-line'. Test Mode will automatically enter Full Screen mode, if selected under **Tools>Options>General**. **NOTE:** *The 'Esc' key may be used to escape Full Screen while still in Test Mode*. Entering Test Mode will also produce a prompt to save any changes that may have been made to the file.

# Sending Control Surfaces

## Network Considerations

The computer must have a 10/100 BaseT network card (NIC) installed. When connecting directly to the Ethernet port on a single **Audia**® or **Nexia**™ unit, a 'cross-over' CAT5 cable is used. When connecting to a network (or system) of multiple Audia or Nexia units, a 'straight-through' CAT5 cable is used (via an Ethernet switch). If Ethernet switches are 'managed', be careful to assign all connections to 10 BaseT.

Ethernet has a cable length limitation of 100 meters, between the Ethernet switch and an Audia or Nexia device. However, fiber-optic cable may be used to extend this distance limitation to 2 km. Fiber-optic cable can be used with switches that have fiber-optic ports, or media converters can be used to interface fiber-optic cable with standard RJ-45 ports.

The computer must be assigned an IP address (under Network Card Settings>Properties). Most computers set TCP/IP address automatically, but **Audia** and **Nexia** devices require manual assignment. During the Audia or Nexia system design, each unit will have been set to a unique IP address (example: 192.168.1.101 and 192.168.1.102). This information must be available from the system design file. The computer must then be assigned to that same network, but also with a unique IP address (example: 192.168.1.200).

Many system designs require only a single **Audia** or **Nexia** device. These are systems where the number of inputs/outputs, and the amount of DSP processing, does not exceed that of a standard configuration. When a single unit is used, network considerations are simplified. The only Ethernet connection is that between the computer and the **Audia** or **Nexia** device ('cross-over' CAT5 cable). A 'cross-over' cable is included with each device. **NOTE:** *Audia systems may include similar (but separate) network connections for CobraNet™. Nexia systems may include separate connections for NexLink, which utilize 'straight-through' CAT5 cables only.*

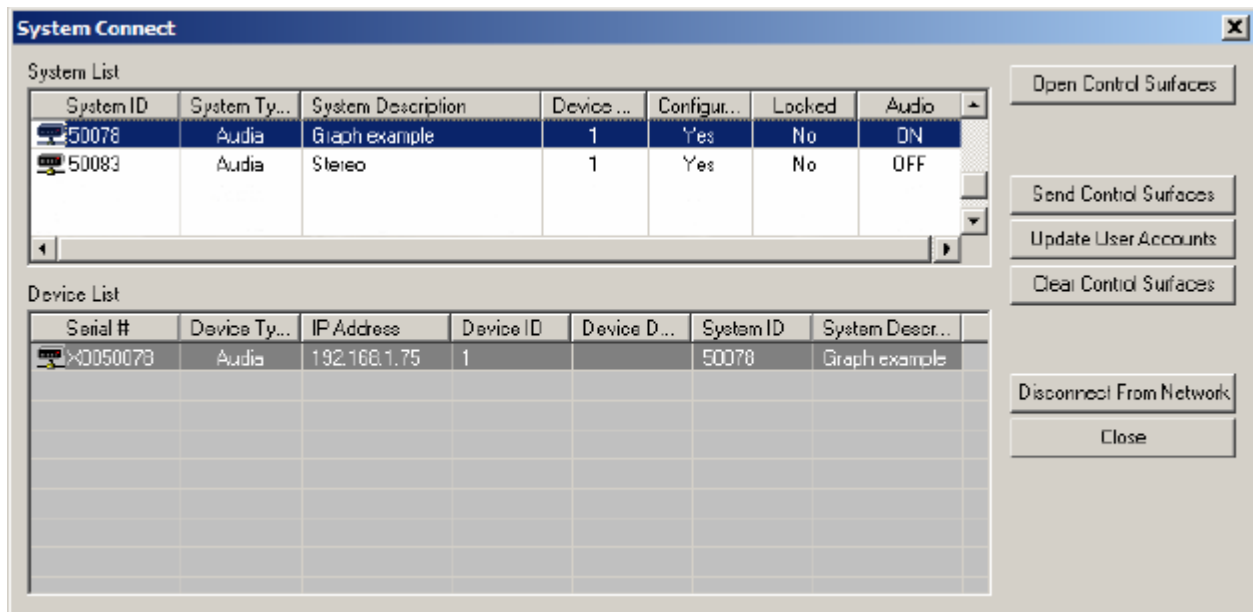


# Accessing Control Surfaces

Once the computer is prepared for communication, use the **File Menu** or **Network Bar** to **Connect To Network**. This produces a **System Connect** screen, allowing the appropriate system to be selected from the **System List**.

**Open Control Surfaces** retrieves any *daVinci* file that has already been sent to the system. This will require a User Name and Password, as established under **User Accounts**.

**Send Control Surfaces** stores the currently open/active *daVinci* file into the system. **Update User Accounts** allows changes to the *daVinci* file **User Accounts** to be sent to the system. **Clear Control Surfaces** allows any existing *daVinci* file to be removed from the system. **NOTE:** *Send Control Surfaces, Update User Accounts, and Clear Control Surfaces require an 'Administrator' password. The Administrator password can be either the 'Designer' level or 'Technician' level password from the Audia or Nexia system design itself (not the daVinci file). The 'Administrator' must also be connected at the 'High Privilege Session' position (first connected user) as indicated in the Status Bar.*



# Preparing Control Surfaces

Typically, there will be one or more dedicated computers connected to the network, with *daVinci* software running, and user access to the control surface available via **Login/Logout**. This requires that the control surface first be sent to the system.

The control surface is initially sent to the system by the **Administrator**, who can utilize certain **Application Controls** to prepare the control surface for the end-user. These Application Controls would have been included in the control surface design, and assigned to a restricted **User Access Level**. The Administrator can use these controls to put the control surface into a 'user mode' (such as Full Screen), which the end-user cannot exit from. The Administrator will then Logout of the control surface, leaving it active on the computer(s) for user **Login/Logout**. **NOTES:** *Login/Logout may also be assigned to Application Controls on the control surface, which can be made accessible to the end-user. Full Screen mode can be automatic whenever control surfaces are opened or tested, as selected under Tools>Options>General.*

# Using Control Surfaces

Typically, there will be one or more dedicated computers connected to the [network](#), with *daVinci* software running, and user access to the control surface available via [Login/Logout](#). Dedicated Login/Logout controls may also be available on the control surface. Login requires a User Name and Password, as established under [User Accounts](#).

If the control surface is unavailable (*daVinci* software and/or computer shut down), then the user may need to [Connect To Network](#) and **Open Control Surfaces**. **NOTE:** *This approach may bypass some 'user mode' settings established by the Administrator.*

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