XPANEL

BRANDING GRAPHICS CONTROL

User Manual

Vertigo Suite v5.4

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Introducing Xpanel

Xpanel is the Vertigo Suite's application that allows you to create and operate "soft" control panels for controlling the playout of graphics on external channel branding devices. Specifically, Xpanel can be used to control the following channel branding devices: Imagestore 750, Densite LGK-3901, Densite DSK-3901, Intuition, Intuition XG, Vertigo XG and HMP devices.

Xpanel's Design mode provides an environment for creating custom control panels that meet your specific functional needs. Building a control panel in Xpanel basically involves adding and configuring Xpanel's control objects (widgets), which provides operators with manual and automated controls for selecting and playing out branding graphics, as well as video and/or audio media on a single-channel or multiple channels. For example, panels may include controls for performing the following tasks:

- Cutting or fading up and down graphics on specific device keyers
- Viewing what media is currently keyed up on a specific device keyer
- Adjusting the gain, transparency and/or positioning media on device keyers
- Adjusting the levels and playing out voice-over audio, while ducking program audio
- Performing A/B mixing of incoming video sources using traditional cut and fade transitions
- Monitoring the health and alarms of connected devices

If your control needs extend beyond the abilities of Xpanel's objects, Xpanel also allows you to add primitive objects, which can be configured to perform actions based on playout/operator events or changes in tallies from the devices.

Xpanel also provides a station configuration, where channels and their associated devices are defined. This simplifies panel creation by abstracting away device specifics and allows for channel selection and ganged operation.

Once panels have been created and saved, they can be opened in Xpanel's Production mode and used by operators to control the on-air playout of graphics on the specified channel branding devices.

Getting started with Xpanel

To help get you started using Xpanel, this chapter provides you with information about installing and licensing the Xpanel software. Once installed, you must configure Xpanel to recognize and actively connect with a local or remote server (Xmedia Server).

Information and instructions to help you set-up and familiarize yourself with Xpanel are provided in the following sections:

> Note: For users who are unfamiliar with the Xmedia Server, it is the centralized asset management server and license manager for Vertigo applications and devices. The Xmedia Server can run locally as a service on the Xpanel workstation, or it can be a remote/central Xmedia Server device on the same network as the workstation running Xpanel. In both cases, the Xmedia Server contains the assets and the database that Xpanel uses to play out graphics and voice-over audio on branding devices. See Connecting Xpanel to an Xmedia Server, on page 5 for more information.

Installation and licensing information

Xpanel is packaged with the Vertigo Suite software installation wizard. It can be installed as part of the full installation or as an individual (standalone) component. In both cases, you simply need to run the installation wizard on a workstation that is on the same network as the Xmedia Server.

Information regarding the Vertigo Suite's hardware and network requirements, as well as instructions for installing and/or upgrading Xpanel, are available in the Vertigo Suite's Release Notes, which can be downloaded from the Documentation Library on the Grass Valley website (www.grassvalley.com).

Xpanel requires that a software application license be installed and validated on the Xmedia Server that it is connected to (local or remote). Therefore, once Xpanel is installed, you must contact Technical Support (support@grassvalley.com) to request a license key for Xpanel. Then you must apply and validate the license using the Vertigo Suite's License Manager, which stores the license on the Xmedia Server. Instructions for acquiring and validating Xpanel's application license are also provided in the Vertigo Suite's Release Notes.

> Note: Xpanel will not operate properly unless its connection to the Xmedia Server is active and a valid license is present. See page 6 for more information about resolving connection and license errors.

Starting Xpanel and connecting to the Xmedia Server

Open Xpanel by clicking **VertigoXmedia**>**Xpanel** from the Windows Start menu.

Each time Xpanel is opened, it verifies the connection to the server and the availability of the Xpanel license. If both conditions are successful, then Xpanel opens and is ready to be used. However, if either of these conditions is unsuccessful, an error message appears and prompts you to resolve the situation.

The following sections describe how to resolve situations in which Xpanel cannot connect to the Xmedia Server or find a valid license on startup.

- Connecting Xpanel to an Xmedia Server, on page 5
- Resolving a license error on startup, on page 6

> Note: If Xpanel's Startup options are configured to open in Production mode, a station configuration must be loaded from the Xmedia Server before Xpanel can actually open. See page 21 for more information.

Connecting Xpanel to an Xmedia Server

As a client application, Xpanel must always be connected to the Xmedia Server, which is the centralized asset management server and license manager for Vertigo applications and devices. The Xmedia Server can run locally as a service on the Xpanel workstation (automatically installed as part of the Vertigo Suite installation) or it can be a remote/central Xmedia Server device on the same network as the workstation running Xpanel. In both cases, the Xmedia Server contains the assets and the database that Xpanel uses to play out graphics and voice-over audio on branding devices.

While using Xpanel, the connection to the Xmedia Server must always be maintained (active), otherwise you will be prevented from performing tasks that involve browsing or saving to the Xmedia Server. Therefore, if for any reason the connection to the Xmedia Server fails (disconnected), you must re-establish the connection before continuing to use Xpanel.

> Note: Common reasons for losing the connection are that the Xmedia Server or the machine hosting Xpanel has lost its network connection (network is down, IP address has changed or network cable disconnected), the Xmedia Server service has been stopped, or the Xmedia Server machine has been shutdown or has crashed.

Resolving an Xmedia Server connection failure when opening Xpanel:

1 Open Xpanel by clicking **VertigoXmedia**>**Xpanel** from the Windows Start menu.

   If Xpanel cannot successfully connect to the Xmedia Server, an error message appears.

2 Click **Yes** and Xpanel's **Options** window opens and displays the Setup page.

3 Verify Xpanel's server connection configuration.

   - If the **Use Remote XMS** check box is unchecked, Xpanel is configured to connect to the local Xmedia Server, which was installed as part of the Vertigo Suite's installation package. Since Xpanel was unable to connect to the local Xmedia

Server on start up, you should verify that the Xmedia Server Service is actively running (**MS Control Panel**>**VertigoXmedia XmediaServer**>**Service Control**).

• If the **Use Remote XMS** check box is checked, Xpanel is configured to connect to a remote Xmedia Server (i.e. central Xmedia Server) that is on the same network as the Xpanel client workstation.

Since Xpanel was unable to connect to the remote Xmedia Server on start up, verify the accuracy of **Server name / IP** setting and the **Server Port** setting (14050). If these settings are incorrect, make the appropriate edits.

If these settings are correct, verify that the machine hosting the Xmedia Server is operating, that it is actively connected to the network, and its Xmedia Server Service is actively running.

4 Click **OK**.

If you made any changes to the server settings, a message box appears and informs you that you must restart Xpanel for the new server to take effect.

Xpanel should now open. If Xpanel still does not open, contact your system administrator to help troubleshoot any possible network problems.

Resolving a license error on startup

Resolving a license failure when opening Xpanel:

1 Open Xpanel by clicking **VertigoXmedia**>**Xpanel** from the Windows Start menu.

If Xpanel cannot successfully locate a valid Xpanel2 license on the Xmedia Server, an error message appears.

2 Evaluate and act according to the following:

• Click **Enter License** if you suspect that the cause of the license error is that the Xpanel2 license has not yet been installed and validated on the Xmedia Server. The License Manager opens and you can follow the instructions in the Release Notes for acquiring and installing a software license.

• Click **Change Server** if you suspect that the cause of the license error is that Xpanel is connected to the wrong Xmedia Server (the license resides on another Xmedia Server). Xpanel's **Options** window opens and displays the Setup page. Follow steps 3 and 4 on that describes how to resolve an Xmedia Server connection failure.

Overview of Xpanel's user interface

Xpanel has two work modes: Design and Production. Since each mode is used for different purposes, Xpanel's user interface provides unique interface features in each mode.

> Note: Which mode Xpanel opens in depends upon the **Start in Production mode** setting in Xpanel's Startup options (see page 8).

The **Production Mode** button located in the upper-right corner of the menu bar provides an easy way to identify which mode Xpanel is currently in.

`Production ▷` = **currently in Design Mode**

`Production ▷` = **currently in Production Mode**

To switch between Design and Production mode:

- Select the **View**>**Production Mode** menu command.

  Or,
- Press CTRL+P

  Or,
- Click the **Production Mode** button located in the upper-right corner of the menu bar.

> Note: In order to switch from Design mode to Production mode, a Station Configuration must be loaded in Xpanel. See Loading a station configuration, on page 21 for more information.
> Also note that you may be prompted to enter a password when trying to switch from Production mode to Design mode. See page 95 for more information.

The following sections provide a quick overview of the various user interface features, while the remaining chapters provide more detailed descriptions within procedural contexts:

- Design mode interface components, on page 8
- Production mode interface components, on page 10

The following sections provide instructions for managing and using Xpanel's interface, like opening/closing and docking/floating Xpanel's Views, as well as how to zoom in/out or pan across Xpanel's canvas.

- Opening and positioning Xpanel's Views, on page 12
- Zooming in/out of the canvas, on page 14
- Panning across the canvas, on page 14

Design mode interface components

Design mode is Xpanel's authoring environment that allows you to create and edit panels. This section provides a brief functional description of the main interface components in Design mode.
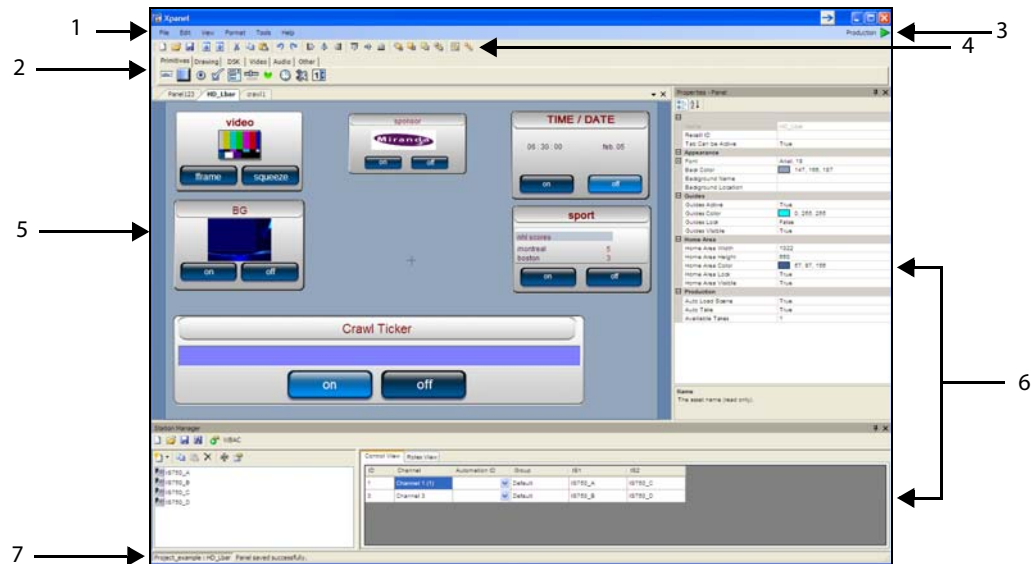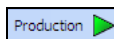
Fig. 2-1: An example of a panel open in Xpanel's Design mode

1 **Menus** - These menu commands provide access to the settings and administrative functions that are relevant to Xpanel's Design mode. See Xpanel's menus & toolbars, on page 107 for a description of each menu command.

2 **Objects toolbar** - Panels are created by adding control objects to the panel's canvas and setting their properties. The objects toolbar consists of six (6) thematic tabs that contain object buttons that can be dragged onto the panel. The objects become the mechanism by which operators control broadcast graphics. See Adding objects and primitives to a panel, on page 26 for a description of each object.

3 **Production mode button** - Xpanel has two work modes: Design and Production. Besides being a toggle button to switch from one mode to the other, the Production mode button also identifies Xpanel's currently mode.

 = currently in Design Mode

 = currently in Production Mode

4 **Panel Canvas toolbar** - When creating or editing a panel, the buttons in this toolbar provide quick access to many of the administrative, editing and formatting functions that are applied to the panel and its objects. See page 107 for a functional description of each button in the toolbar.

5 **Panel tabs and canvas** - Each panel is created upon a canvas (workspace) where objects are added and formatted into a functional control panel. Multiple panels can be opened simultaneously, in which case a tab for each panel appears on top of the canvas area. These panels can be stacked (default) or docked to the outer sides (side-by-side or up-down) by holding down the left-mouse button on a panel's tab and using the docking options. The panel's canvas also has properties that determine its

appearance and behavior. The following sections provide information and instructions on using the panel's canvas:

- Opening panels or projects, on page 23
- Configuring the panel's properties, on page 24
- Zooming in/out of the canvas, on page 14
- Panning across the canvas, on page 14

6 **Views** - Xpanel provides several different views, which are mainly software tools used in the creation and support of panels. As described on page 12, the views can be docked panels or floating windows, which can be displayed or hidden.

The following views are available in Xpanel:

- **Properties**: Panels are created by adding objects to the panel's canvas and setting their properties. When an object, or the canvas itself, is selected, its current properties settings are displayed in the Properties view. See page 24 and page 26 for more information.
- **Object List**: A list of the objects that are currently on the panel. Right-clicking the object allows you to select the Set as a drag & drop default and Reset the drag & drop default commands.
- **Asset Browser**: The Asset Browser allows you to browse and preview the Panels, Images, Data schemas that are stored on the Xmedia Server. Panels can be opened directly from the Asset Browser, images can be dragged onto the canvas and new data schemas can be created and linked to objects.
- **Action Editor**: All of the objects in Xpanel, except for primitives, are defined with a specific purpose or function. For example, the DSK object is a toggle button for keying up or down a graphic. The Action Editor allows you to add to the functionality of standard Xpanel objects or define the functionality of primitive objects by configuring and associating the objects with a set of actions to occur on an event. See Adding events and actions to primitives and objects, on page 69 for more information.
- **Script Editor**: The Script Editor allows you to create or edit custom VB scripts to provide more complex functionality to actions associated with Xpanel objects.
- **Station Manager** - Xpanel's Station Manager allows you to define the devices on the network and then create a station configuration, which groups the devices into channels. See Creating and loading a station configuration, on page 15 for more information.
- **RCP List** - The RCP List allows you to configure the RCP-BR devices on your network.

7 **Status bar** - The Status bar displays the name of the panel/project that is currently open in Xpanel. It also displays the status of a task that was just performed in Xpanel, like successful completion saving a panel or exporting assets.

Production mode interface components

Production mode is Xpanel's playout environment that allows you to load and use panels to control playout devices.

> Note: Production mode makes the panels live. Therefore, if your intent is to explore the interface or test the panel's behavior, ensure that the selected devices are not live on air.
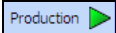
This section provides a brief functional description of the main interface components in Production mode.
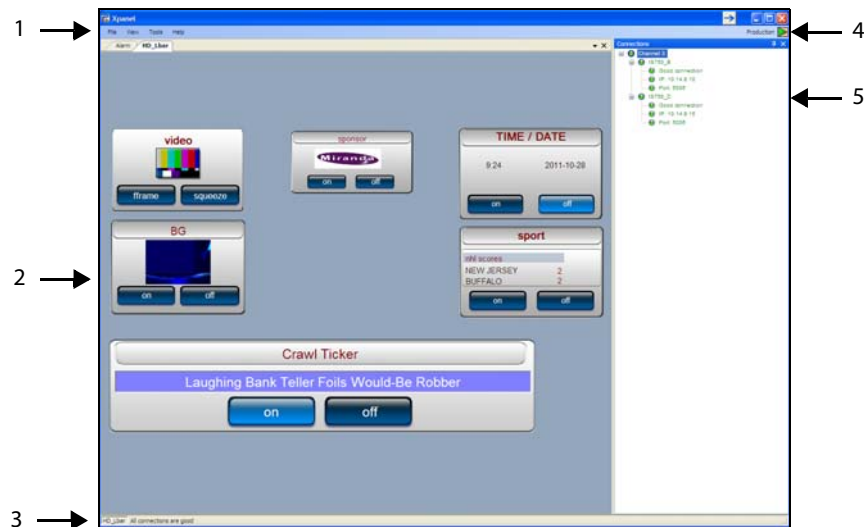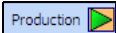
1 **Menus** - Located along the top of the interface, these menu commands provide access to Xpanel's setting and administrative functions that are relevant to Production mode. See Xpanel's menus & toolbars, on page 107 for a description of each menu command.

2 **Panels & Tabs** - In Production Mode, opened panels are displayed on the main area of the user interface. Multiple panels can be displayed at the same time, in which case a tab appears on top of each panel. When multiple panels are open, they can be stacked (default) or docked to the outer sides (side-by-side or up-down) by holding down the left-mouse button on a panel's tab and using the docking options.

In Production mode, operators can interact with the panel's objects (i.e. click buttons, set text, select media... etc.), but they cannot edit the panel or its objects.

When the **Show Alarm tab in production mode** setting is enabled (see page 103), the Alarms panel is loaded and displays the status of the device alarms and health meters for the connected devices.

3 **Status bar** - The Status bar displays the name of the panel/project that is currently open in Xpanel. It also displays the connection status of the devices associated with the panel. You can click on the status bar to open the Connections Monitor view.

4 **Production mode button** - Xpanel has two work modes: Design and Production. Besides being a toggle button to switch from one mode to the other, the Production mode button also identifies Xpanel's currently mode.

Production ▶ = currently in Design Mode

Production ▷ = currently in Production Mode

When Xpanel is intended to be used in Production mode only, it can be configured to open in Production mode and the ability to switch to Design mode can be restricted using a password protection. See page 95 for more information.

5 **Connection Monitor** - The Connection Monitor displays the connection status and properties for the channels and devices that are assigned to the objects on the panel(s) that are currently open in Xpanel. See Monitoring device connectivity, on page 102 for more information.

Opening and positioning Xpanel's Views

As described on page 8 and page 10, Xpanel provides you with several views, which are browsers and tools for building, configuring and monitoring the exact appearance and behavior of the panel and its objects.

To avoid cluttering Xpanel's interface and allow you to personalize the layout of your workspace, the views are hidden by default. The following sections describe how once the views are opened, they can be in the following states: floating, docked, hidden, pinned, or tabbed.

For users, who are unfamiliar with the behaviors of docked and floating UI panels, the following topics describe the basic tasks for controlling the layout of Xpanel views:

- Opening and closing views, on page 12
- Floating versus docked views, on page 12
- Positioning docked views, on page 13
- Auto-hidden and pinned views, on page 13

> Note: Views and their layouts persist after being switched between Xpanel's two modes, as well as across Xpanel sessions.

Opening and closing views

By default, the views are hidden from Xpanel's main interface since they are used during various stages panel building and usage.

- To open a view in either Design or Production mode, simply select the **View** menu and then choose one of the views. Alternatively if the view has one, you can use the view's keyboard shortcut.
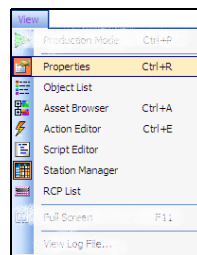
Design mode
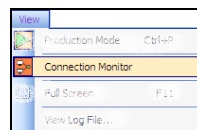
Production mode

- To close a view, either click the **X** button in the top-right corner of the view, or select **View** menu and the view's name once again or use the view's keyboard shortcut.

Floating versus docked views

Views can be docked to the outer sides of the Xpanel interface or float as independent windows. When a view is opened, it will appear in the state and position that it was last closed in. Double-click the view's title bar to toggle between docked and floating states.

Positioning docked views

Views can be docked along the outer sides of the Xpanel interface. When you hold down the mouse's left button over a view's title bar, docking guides appear to indicate where the view can be docked. To dock the view, simply drag the view's title bar onto the dock guide.
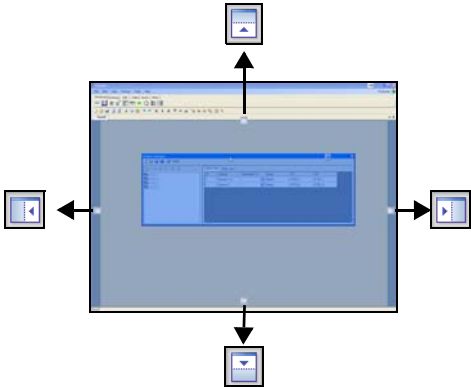
Fig. 2-2: Docking views to the outer sides of the Xpanel interface

Two or more docked elements can be docked in the same location by combining them into a single panel with multiple tabs, or by stacking them.

When you drag a view by its title bar (or tab) on top of another view, a multi-position docking tab appears. If you drag and drop the view onto one of the four outer guides, the new view will be stacked on top, below, or beside the current view in that location. If you drop the view onto the center guide or onto the docked view's title bar, the two views combine into a multi-tab view.
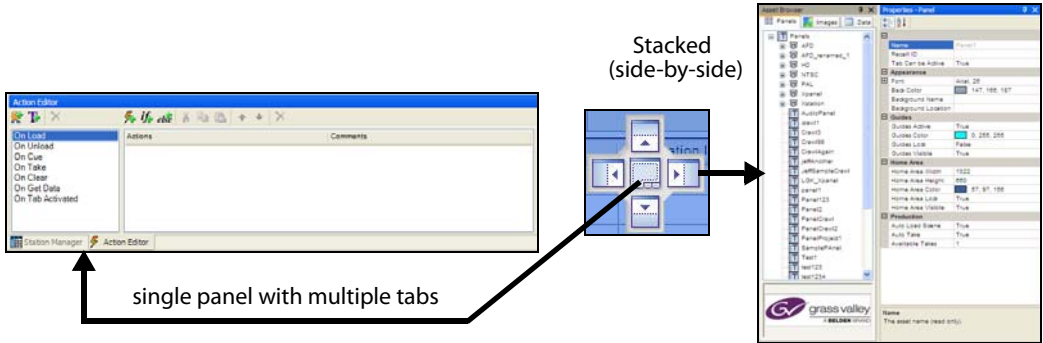
Fig. 2-3: Views sharing the same location (multi-tab or stacked)

Auto-hidden and pinned views

By default, docked views are pinned to their location, meaning that appear when opened and stay displayed until they are closed. Clicking the **Auto-Hide** button in the view's title bar changes the view's state from pinned to auto-hidden, which automatically hides the view on the side leaving only a tab. The view is not closed, just hidden. To make the view re-appear, simply hover the mouse pointer over the view's tab and click within the view. Each time you click outside of the view however, the view automatically hides.

To change the view from auto-hidden to pinned, simply click **Auto-Hide** button again.

Zooming in/out of the canvas

Whether Xpanel is in Design mode or Production mode, you may want to see a panel's objects in greater detail by zooming in on the canvas. Similarly, you can get an expanded or distanced view of the canvas by zooming out of the canvas.

There are several methods for zooming in or out of the canvas:

Mouse wheel

- Click anywhere on the canvas and roll the mouse wheel forward to zoom in or roll the mouse wheel backward to zoom out.

Alt key sequence

- Hold down the **ALT** key and the right mouse button, then drag a rectangle around the specific area that you want to zoom in on.

Home key / Spacebar

- Press the **Home** key or spacebar on your keyboard to completely fit the canvas within the Xpanel's current workspace's frame.

Panning across the canvas

When you zoom in on a portion of the canvas, you may not see certain areas of the canvas. Rather than zooming out and sacrificing the current zoomed view, you can maintain the zoom scale by panning across the canvas to the area that was otherwise outside of the window's display.

To pan across the canvas:

Holding down the **ALT** key and press the arrow keys on your keyboard to move the canvas toward the desired location.

Creating and loading a station configuration

Before using Xpanel to create panels and control devices, you must ensure that the devices that the panels will control are listed in Xpanel's Station Manager, which means that they are associated with the Xmedia Server. If a device is not listed, you must add the device's configuration profile to the Xmedia Server.

Once the devices are listed in the Station Manager, you must create a station configuration, which is a set of channel definitions that group the devices. The station configuration is then saved to the Xmedia Server and loaded in Xpanel so that you can set panel objects to control specific channels or devices.

The following sections provide instructions for how to create and load station configurations:

Fig. 3-1: Xpanel's Station Manager displays a station configuration that contains channels

Adding a device to the Station Manager

Xpanel's Station Manager identifies the output devices that are associated with the Xmedia Server and therefore can be controlled by the panels created in Xpanel. If a device is not listed in the Station Manager, you can add the device to the Xmedia Server by creating a profile that defines the device's connection and communication properties.

The following device types are supported and can be added to Xpanel's Station Manager.

- Imagestore
- LGK
- DSK
- Intuition
- Intuition XG (Remote/Central Xmedia Server only)
- Vertigo XG (Remote/Central Xmedia Server only)
- HMP
- Xftp
- Xpublish Agent

> Note: Since several applications in the Vertigo Suite are capable of defining devices on the Xmedia Server using the Device Manager, it is possible that the device configuration profiles of some of the devices on your network are already present in the Station Manager. As such, when you open Xpanel and it is connected to the Xmedia Server, the devices that already exist in the Xmedia Server will appear in Xpanel's Station Manager.

To add a new device configuration to the Xmedia Server using the Station Manager:

1 Launch Xpanel's Station Manager by selecting the **View>Station Manager** menu command.

2 Click the **New Device** button and select the type of device from the drop-down list.

The **Device Properties** window appears.

> Note: **Intuition XG** and **Vertigo XG** devices are only listed if Xpanel is configured to connect to a remote/central Xmedia Server. See Starting Xpanel and connecting to the Xmedia Server, on page 5 for more information.

3 Complete the following fields on the Device Properties' General tab:
- **Name**: The name of the device.
- **Alias**: An optional field that provides an alternative name for the device on your network.
- **Description**: An optional field that lets you identify the device using a meaningful label. This is helpful for distinguishing similar devices at your facility.
- **Control IP**: The network location (IP address) or hostname of the selected device. The host must be available on the network.

- **Control Port**: The networking port that serves as a channel for sending commands to and from the device.

4 Select the Publishing tab and complete the following fields:

- **Publish IP**: The network location (IP address) or hostname of the of the machine to which assets are published when publishing to the selected device. This is usually set to the same address as the Control IP. Note that the host must be available on the network.

- **Publish Port**: The networking port that serves as a channel for publishing assets. Typically, this value is set to 5001.

5 Click **Save**.

The device is added to the device list in the Station Manager.

> Note: Notice that the image on the **New Device** button has changed and now displays the icon representing the device type of the last device added (e.g.   for Imagestore devices). This provides a shortcut to add a new device of that same type. If you want to add a new device that is a different type, click the drop-down list arrow portion of the **New Device** button and select the new device type.
>
> Another method for quickly adding a new device is to select an existing device and use the **Copy Device**   and **Paste Device** buttons   in the Device List's toolbar to create a copy of the device. Select the copy of the device and click the **Device Properties** button   . Edit the device's properties in the **Device Properties** window and click **Save**.

Creating and saving a new station configuration

The station configuration determines which channels and devices are available to be controlled by the panels created in Xpanel.

The following procedures describes how to create a station configuration by assigning devices from the Station Manager's Device List to the channels and then saving the station configuration to the Xmedia Server.

> Note: Although station configurations are saved to the Xmedia Server, they can only be used on instances of Xpanel that are connected to that server. The station configuration cannot be copied or exported to another server.

To create and save new station configuration:

1 Launch Xpanel's Station Manager by selecting the **View>Station Manager** menu command.

2 Click the **New Station** button   from the Station Manager's toolbar.

The channel configurator section of the Station Manager is empty.

3 Add a channel to the channel configurator section of the Station Manager and assign devices to the channel. See Adding a channel to the station configuration, on page 18.

4 Save the station configuration by clicking the **Save Station** button ![save icon] in the Station Manager's toolbar.

The **Save Station Configuration** window appears.

5 In the **Name** field, specify a name for the Station Configuration.

6 The **Author** field is automatically filled in with the current login user's name, but it can be edited.

7 The **Description** field is optional and lets you identify the station using a meaningful label.

8 Click **Save**.

Since the station is open, its name now appears in the Station Manager's toolbar.

Note: An alternative to using the **Save Station** button is to click the **Save and Load Station** button ![icon] in the Station Manager's toolbar. See Loading a station configuration, on page 21 for more information.

Adding a channel to the station configuration

The station configuration defines a set of channels, which identify the devices that make up the transmission path of a playout channel. A channel can consist of a single device or multiple devices that work together (i.e. an Imagestore device as the down-stream keyer for an Intuition XG device).

Each station configuration must contain at least one channel. The following procedure explains how to add a channel to the station configuration, as well as how to associate devices with the channel.

ID	Channel	Automation ID	Group	IS1	INT1
1	News		Default	IS750_15	
2	Sports		Default	IS14	
3	Nature		Default	IS750II	
4	Kids		Default	IS750X	INT1

Fig. 3-2: A typical channel setup in a station configuration

To create a new channel in Xpanel's Station Manager:

1 Launch Xpanel's Station Manager by selecting the **View>Station Manager** menu command.

2 Create a new station configuration or click the **Open Station** button ![icon] in the Station Manager's toolbar to open an existing station configuration.

3 Right-click in the channel configurator section of the Station Manager and select the **Add Channel** command.

A new channel row is immediately added to the channel configurator.

The following table defines a channel's default columns:

Column name	Description
ID	An ID number associated with the channel that determines its order in the Station Manager's channel configurator. You can edit the ID number by selecting the cell and typing a new number. When you click away or press Enter, the channel is automatically sorted in the Station Manager according to the ID number. Note that each channel's ID number must be unique.
Channel	The channel's name. You can rename the channel by clicking in the **Channel** cell and typing a new name, or by right-clicking on the channel and selecting the **Rename channel** command.
Automation ID	The Automation ID was once used for schedule-based publishing, but it has since been deprecated.
Group	If all of the channels are left as **Default**, then they will all be shown in one view on the Channel Selector. This works well if there are only a few channels, but if you want to show the channels in groups, then entering a Group name will separate the channels in the Channel Selector into their appropriate groups.
IS1	By default, new channels contain a device column called IS1, which represents an Imagestore device in the channel. If the channel that you want to define does not contain an Imagestore device, remove this device column by right-clicking on the column's heading and selecting the **Remove device column** command. If however the channel will contain an Imagestore device, drag the appropriate Imagestore device from the Station Manager's Device List and drop it onto the channel's IS1 cell. Another way to assign a device to a channel's device column is to right-click within the recipient cell and select the **Add device** command, which expands to display all of the available devices from the Device List of that device type. Select a device from the list.

> Note: The scope of this user manual is limited to explaining the definition of channels on the Control View tab. Please contact our Technical Support for questions regarding the Station Manager's Roles View tab.

4 Add an additional device column for each device in the channel.

Right-click on the channel and select the **Add device column** command, as well as the appropriate device type.
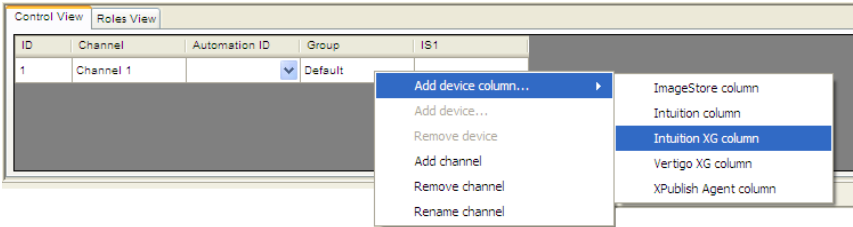
5 Add devices to the device columns by dragging the appropriate devices from the Station Manager's Device List and dropping them onto the channel's device columns.

> Note: A device can only be assigned to one channel. When a device is added to a channel, the device becomes disabled (grey) in the Station Manager's Device List to indicate that it is already dedicated to a channel. If that device is required by another channel, you must first remove it from its present channel. See Removing a device assignment from a channel, on page 20.

6 Save the channel to the station configuration by clicking the **Save Station** button in the Station Manager's toolbar.

Removing a device assignment from a channel

A device can only be assigned to one channel, so if that device is required by another channel, you must first remove it from its present channel.

To remove a device assignment from a channel:

1 Right-click on the channel cell that contains the device and select the **Remove device** command.

2 Click the **Save Station** button in the Station Manager's toolbar.

Removing a channel from a station configuration

To remove a channel from a Station Configuration:

1 Right-click anywhere within the channel and select the **Remove channel** command.

2 Click **Yes** when prompted to confirm that you want to remove the channel.

The channel is immediately removed from the station configuration.

3 Click the **Save Station** button in the Station Manager's toolbar.

Loading a station configuration

When creating or editing panels in Xpanel's Design mode, a station configuration must be loaded so that you can set panel objects to control specific channels or devices.

Also note that a station configuration must be loaded in Xpanel in order to access Xpanel's Production mode. Whether switching from Design mode to Production mode or if Xpanel's Startup options are configured to open in Production mode, Xpanel will not open Production mode until a station configuration is loaded first. Select Yes to open Xpanel's Options window and following the instructions below for loading a station configuration.

The two methods for loading a station configuration are described below.

Loading a station configuration using Xpanel's Options:

1   Select the **Tools>Options** menu command.

    The Options window appears.

2   Select the **Setup** tab and click the **Load** button in the Station configuration section.

    The **Open Station Configuration** window appears.

3   Select the station configuration that you want to load and click **Open**.

    The station configuration's name now appears in the **Station name** field in the **Options** window.

4   Click **OK**.

Loading a station configuration using Xpanel's Station Manager:

1   Create a new station configuration or click the **Open Station** button in the Station Manager's toolbar to open an existing station configuration.

2   Click the **Save and Load Station** button in the Station Manager's toolbar.

3   Click **OK** when prompted to confirm that you want to set Xpanel to use the open configuration.

    Xpanel saves the open station configuration and loads it as Xpanel's current station in Xpanel's **Options** settings (**Setup** tab > **Station name**).

Building and editing panels

Xpanel's Design mode provides the workspace and tools for building control panels that allow operators to interact with and control the preview and/or on air playout of graphics.

The following sections provide a generic workflow and introduces you to the control objects that are used to create control panels in Xpanel:

Opening panels or projects

Xpanel's Design mode allows you to build new panels and/or edit panels that already exist on your system.

Xpanel allows you to save multiple panels into one grouped file called a project, which has the extension `.xpp` and is not saved on the Xmedia Server, but locally instead. Each individual panel must already have been saved to the Xmedia Server before becoming part of a project. When the project is opened, all of the panels belonging to the project load in Xpanel.

The following sections provide instructions for opening a new or existing panels and projects in Xpanel:

Opening a new panel

When Xpanel's Startup options are not configured to auto-load a panel or project (see page 98), each time Xpanel is opened a new panel with a default name of **Panel1** is automatically created. You can use this empty panel to build a new panel.

If you are already working within Xpanel and you would like to create a new panel, perform one of the following to open a new panel:

- Select the **File>New** menu command.

Or,

- Press CTRL+N

Or,

- Click the **New** button ⬚ located in the Xpanel canvas' toolbar.

The new panel opens with an empty canvas and a tab that displays a default panel name (i.e. Panel1).

Opening an existing panel or project

When Xpanel's Startup options are configured to auto-load a panel or project, each time Xpanel is opened, the panel or project specified will automatically be loaded and displayed in Xpanel.

You can also access and open existing panels and projects using the following methods:

To open an existing panel:

- Select the **File**>**Open** menu command or press Ctrl+O. The **Open Panel** window appears. Navigate to and select the panel. Click **Open**.

  Or,

- Click the **Open** button ⬚ in the Design mode toolbar. The **Open Panel** window appears. Navigate to and select the panel. Click **Open**.

  Or,

- Open the **Asset Browser** (Ctrl+A) and select the **Panels** tab. Navigate to the panel and then double-click its name.

To open an existing project:

- Select the **File**>**Project**>**Open** menu command. The **Open Project** window appears. Navigate to and select the Xpanel project file (*.xpp). Click **Open**.

  > Note: Panels and projects created on another Vertigo Suite system can be imported into the system and then opened using the above methods.

Configuring the panel's properties

Xpanel's Design mode allows you to view and edit properties that determine the appearance and behavior of the panel and its components (i.e. canvas, home area, guides... etc.).

To display the panel's properties:

- If Xpanel's Properties view is not open, right-click anywhere on the panel (i.e. the canvas or home area, not on an object) and select the **Properties** command. The Properties view opens and displays the panel's current properties settings.

  Or,

- If Xpanel's Properties view is already open, select anywhere on the panel (the canvas or home area, not on an object) and the panel's current properties settings are displayed.

Property category	Properties and description
	• **Name**: The panel's current name. This is a read-only field. See Renaming a panel, on page 4 for instructions on how to rename a panel. • **Recall ID**: Allows you to set an ID that can be entered into the Recall ID field in Production mode to instantly call up the panel. • **Tab Can be Active**: Set to **False** if the panel should never become the current active panel.
Appearance	The Appearance properties allow you to change the color of the panel's canvas or display an image as canvas' background. • **Font**: Sets the default font properties (style, size...etc.) for Text objects added to the panel's canvas. • **Back Color**: Determines the solid color of the panel canvas' background. • **Background Name**: Allows you to select an image asset as the canvas' background rather than a solid background color and displays the image asset's name. • **Background Location**: Allows you to select an image asset as the canvas' background rather than a solid background color and displays the image asset's location.
Guides	Guides are virtual lines that are superimposed over the panel's canvas in Design mode. You can use the guides as a reference when arranging or aligning objects. While the guides are activated using the **Format>Add Guides** menu command, the Guides properties can be used to set the visibility, color and whether or not the guides are locked to a specific position. • **Guides Active**: Determines whether or not the guides will have snap-to functionality. • **Guides Color**: Determines the color of the guides. • **Guides Lock**: Determines whether or not the guides will be locked in place or available for repositioning. • **Guides Visible**: Determines whether or not the guides are visible.
Home Area	The Home Area is the area surrounding the panel's canvas. The Home Area properties allow you to set the size, color and visibility of the home area. • **Home Area Width**: Determines the width of the home area. • **Home Area Height**: Determine the height of the home. • **Home Area Color**: Determines the color of the home area. • **Home Area Lock**: Determines whether or not the home area can be resized by dragging from its edges and corners. • **Home Area Visible**: Determines whether or not the home area will be visible.
Production	• **Auto Load Scene**: Determines whether or not to automatically load the scene. • **Auto Take**: Determines whether or not to automatically take the panel to air. • **Available Takes**: Sets the number of takes that can be taken to air with the panel.

Adding objects and primitives to a panel

Panels are built by adding objects to the panel's canvas. Most of the objects are graphical controls or displays that have a specific purpose or logic associated to them. As such, once the object is added to the panel's canvas, you simply have to set the object's properties.

Unlike the other objects, primitives are raw graphical controls or displays that have limited or no logic associated to them. Besides having to set a primitives properties, you must also program its logic by associating specific actions to events using the Action Editor (see Adding events and actions to primitives and objects, on page 69).

The objects and primitives that can be used to build a panel are organized thematically in the Objects toolbar in Xpanel's Design mode.
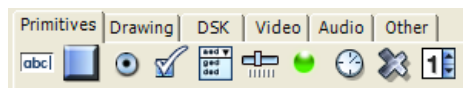
The following sections provide a brief introduction to each object and primitive:

- Primitive objects and their properties, on page 28
- Drawing objects and their properties, on page 33
- DSK objects and their properties, on page 35
- Video objects and their properties, on page 40
- Audio objects and their properties, on page 43
- Other objects and their properties, on page 48

To add an object or primitive to the panel's canvas:

1 Open a panel in Xpanel's Design mode.

2 Select a tab from the Objects toolbar.

3 Perform one of the following:

- Select the object's or primitive's icon and then drag and drop it onto the canvas.

Or,
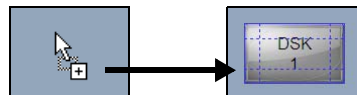
- Hold down the left mouse button and drag to set the desired size. The object/primitive is added to the panel when you release the mouse button.
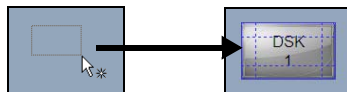
Note: If an existing panel contains objects that would like to include on a new panel, you can avoid starting from new by copying objects from one panel and pasting them onto the new panel. Note that all of the objects' property settings are also brought over.

Configuring an object's properties

Once an object or primitive has been added to the panel's canvas, you must configure its properties to determine its appearance and specific behavior.

To display an object's properties:

- If Xpanel's Properties view is already open, select the object on the canvas and the object's current properties settings are displayed.
- If Xpanel's Properties view is not already open, perform one of the following:
  - Right-click on the object and select the **Properties** command. The Properties view opens and displays the object's current properties settings.

    Or,
  - Select the object and then open the Properties view by selecting the **View>Properties** menu command or by pressing **Ctrl+R**. The Properties view opens and displays the object's current properties settings.
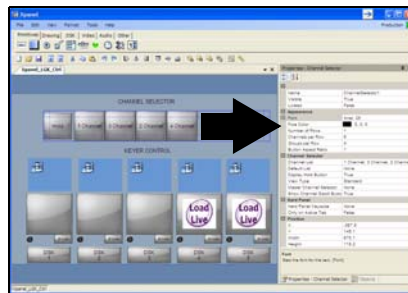
In this example, the Channel Selector's current properties settings are displayed in the Properties view.

Note: Selecting multiple objects displays their common properties in the Properties view, which allows you to set these common properties once for all of the selected objects rather than individually.

When a property is selected in the Properties View, a brief definition appears in the lower panel of the Properties view. To supplement these definitions, the following sections provide a brief introduction to each of the objects and primitives, as well as advice for how to set some of their main properties:

- Primitive objects and their properties, on page 28
- Drawing objects and their properties, on page 33
- DSK objects and their properties, on page 35
- Video objects and their properties, on page 40
- Audio objects and their properties, on page 43
- Other objects and their properties, on page 48
- Configuring an object's Control properties, on page 50

Primitive objects and their properties

Unlike other objects, primitives are raw graphical controls or displays that have limited or no logic associated to them. As such, you must set the primitive's properties and/or program its logic by associating specific actions and tallies to events using the Action Editor (see Adding events and actions to primitives and objects, on page 69).
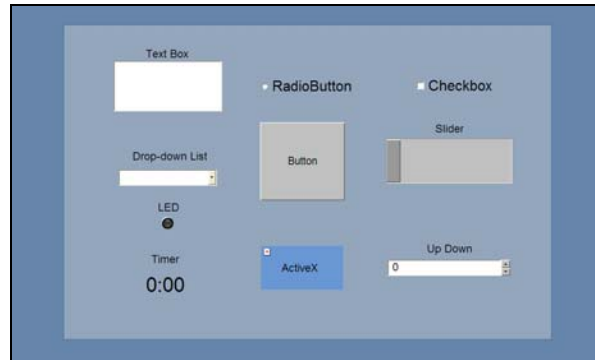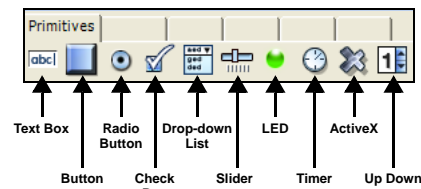
Fig. 4-1: Xpanel's Primitive objects

Text Box primitive

Adding a Text Box primitive allows you to type and display text inside a recessed box. Information can be entered manually or fed in from a data source (see Adding a data source to an object, on page 83).

When associated with the **On Update** event, a change to the text box's content can trigger actions that affect the playout's content and/or behavior (see page 70).

The text box object's properties can be edited to modify its appearance and behavior. For example, the following properties can be used to limit and/or determine the text's format:

- **Word Wrap**: When set to **False** (default), the text is displayed on one line until the end of the bounding box and the surplus is cut off. Setting this property to **True** allows text to wrap to the next line once it reaches the end of the bounding box.

- **Limit Width**: When set to **False** (default), unlimited amount of text can be entered in the text box. Setting this property to **True**, limits the amount of text entered to the width of the text box.

- **Max Length**: Specifies the maximum number of characters that can be entered in the text box in Production mode. (Default = 256)

- **Format**: Modifies the text displayed in the object to a specific format, which creates uniformity. Some of the available formats are: Upper case, lower case, long date, and time AM/PM.

Button primitive

Adding a Button primitive creates a button object, which is most often associated with the **On Click** event. When an operator clicks the button, actions are executed that affect the playout's content and/or behavior.

By default, Button primitives are configured to one state since the **Change State on Click** property is set to **False** (regardless of the value of the **Number of States** property).

Note: Keep as **False** if you are using tallies.

If you want the button to toggle between multiple states, set the **Change State on Click** property to **True** and set the **Number of States** property to the number of states desired (e.g. 3 states = ready, on, off).

The **State** property can be used to set and report the current state of the button. Accepted values range from 0 to the number of states specified in the **Number of States** property.

Text, colors and/or images can be applied to the button to help operators identify the purpose and/or state of the button.

- Use the **Text**, **Image Name**, **Image Location** and/or **Back Color** properties to edit and specify a main label, background image or background color for the button (regardless of the button's state). Another method for setting the button's background image is to drag an image asset from the Asset Browser and drop it directly on the button object.
- Use the **Image States** property to specify the background image/color and text to be used for each button state. Select property and click the ▾ button, which displays the controls for setting the image from an internal or XMS source, the background color and/or the text for each state of the button.
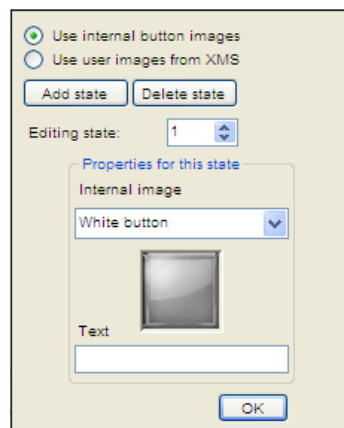
Radio Button primitive

Adding Radio Button primitives allows you to assign actions that trigger commands when selected/deselected by the operator either prior or during playout. Radio button objects are often associated with actions that are executed on the **On Selected** and **On Unselected** events.

Check Box primitive

Adding Check Box primitives allows you to assign actions that trigger commands when checked/unchecked by the operator either prior or during playout. Check box objects are most often associated with actions that are executed on the **On Checked** and **On Unchecked** events.

Drop-down List primitive

A Drop-down List primitive is often used to provide operators with a quick and limited list of options that can be selected.

The Drop-down list can be populated manually in Design mode by double-clicking the object and typing in each option separated by a carriage return (**Enter**). The drop-down list can also be populated with data fed in from a data source (see Linking data entities to a panel object, on page 93).

When associated with the **On Update** event, a change to the drop-down list's selection can trigger actions that affect the playout's content and/or behavior.

Slider primitive

A **Slider** primitive allow operators choose a value along a continuous range set between a minimum and maximum value. The slider's value can be selected in Production mode by either dragging the slider's handle to a precise value, or by double-clicking the slider's handle, typing a value and clicking off the object.

When associated with the **On Update** event, a change to the slider's value can trigger actions that affect the playout's content and/or behavior.

Use the following properties to format and establish the range of values for the slider primitive:

* **Orientation**: Determine whether the slider appears horizontally or vertically.
* **Text Position**: Determine if and where the slider's current value can is displayed (off, above, on the slider, or below).
* **Value**: The current value of that the slider's position represents.
* **Minimum**: The minimum value that the slider will accept and display.
* **Maximum**: The maximum value that the slider will accept and display.
* **Precision**: Determines the number of decimal places of the value for the slider's values.
* **Increment**: Determines the interval value by which the slider position will increase/decrease the current value.

LED primitive

A **LED** primitive is often used to provide operators with a visual cue based on the LED's state (color). A practical use of an LED object is to program other objects to change the LED's **State** property to alert operators of a operational state (i.e. a keyer is currently on/off).

The LED's **State** property can be set to the following:

* **Off** (Black)
* **On** (White)
* **Intermediate** (Green)
* **Error** (Red)

LED objects can be is associated with the **On Update** event, so that a change in their State can execute other actions.

The LED object's **Text** property displays a text string next to the LED. This text is often used to identify the LED object and/or provide instructions to the operator. How the LED object is added to the panel affects whether or not the text is immediately visible.

Drag & drop from the toolbar sets the Text property with a default value.

Select from the toolbar & click the canvas. The Text property is empty.
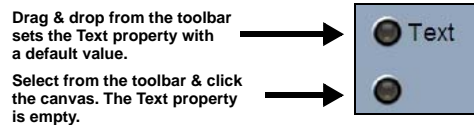
Timer primitive

Adding a Timer primitive allows you to create and display a timer object that can be set up to count up or down to/from specific times.

When associated with the **On Timer** event, an update to the timer object can trigger actions that affect the playout's content and/or behavior.

Use the following properties to set the timer's start, stop and interval values, as well as the format in which the timer will be displayed:

- **Start Time**: Sets the initial time at which the timer will start.
- **End Time**: Sets the time at which the timer will stop.
- **Interval**: Sets the interval at which the timer ticks. The smallest interval supported is 0.05 seconds.
- **Infinite**: Sets whether the timer is infinite or not.
- **Auto Start**: Sets whether or not the timer will automatically start upon entering Production mode.
- **Format**: Determines the time format in which the timer will be displayed (e.g. HH:MM:SS or MM:SS).

ActiveX primitive

Adding an ActiveX primitive allows you to integrate a third party or custom component into the panel.

In the **Class Name** property, type the registered classname of the ActiveX object. For example, if adding the Microsoft Media Player, you would enter
`MediaPlayer.MediaPlayer.1`

Alternatively, you can select the **Class Name** property and click the ▣ button to open the ActiveX Browser window. Select an application from the list and click **OK**. The application is added to the ActiveX object. If applicable, additional properties are added to the **ActiveX Properties** category within the Properties view, which allow you to edit the application's user properties.

Up Down primitive

An **Up Down** primitive is provide operators with text box that displays a current value. In Production mode, the up and down arrow buttons next to the text box are used for incrementing or decrementing a value between set minimum and maximum values. Operators can also type a valid value directly within the text box.

When the Up Down primitive is associated with the **On Update** event, a change to the value can trigger actions that affect the playout's content and/or behavior.

Use the following properties to establish the range of values for the Up Down primitive:

- **Value**: The current value of the Up Down box.
- **Minimum**: The minimum value that the Up Down box will accept and display.
- **Maximum**: The maximum value that the Up Down box will accept and display.
- **Precision**: Determines the number of decimal places of the value for the Up Down box's values.
- **Increment**: Determines the interval value by which the Up Down box will increase/decrease the current value.

Drawing objects and their properties

Unlike most objects that provide a control mechanism, the main purpose of the objects within the Drawing tab are to provide visual or organizational aids, which make the panels more user-friendly for operators.
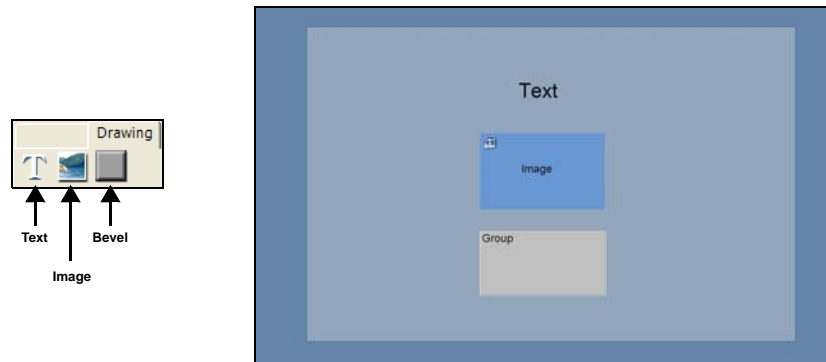
Fig. 4-2: Xpanel's Drawing objects

Text object

Adding a Text object to the panel allows you to display a text string, which is often used to label other objects on the panel or for providing instructions to the operator.

When you require the text object to be confined to a limit space on the panel, we recommend setting the object's **Word Wrap** property to **True**, which allows the text to wrap to the next line once it reaches the end of the bounding box.

A text object's **Allow Edits** property determines if the text displayed in a text object can be edited in Production mode. By default, this property is set to **False**, since Text objects are mainly used as static labels/headings on the panel. However, setting this property to **True** allows operators to edit the text. This opens the object to other possibilities too in that its behavior can then be similar to that of the Text Box primitive. Text can be manually entered into the object or configured to receive data from a data source.

Image object

Adding an Image object to the panel creates a placeholder upon which you can add a static representation of an image asset.

To add an image asset to an image object (in Design mode):

- Either double-click the image object or right-click on the image object and select the **Edit** command. The **Open Image** window appears. Select the image asset and click **Open**.

  Or,

- Open the Asset Browser and select the **Images** tab. Drag an image asset from the Asset Browser and drop it onto the image object.

  > Note: A quick method for adding an image object to the panel is to drag and drop an image asset from the Asset Browser directly onto the panel. Using this method eliminates the need to create the image object first.

If the desired image is not already stored within the system (i.e. Xmedia Server), you can use the **File>Ingest** menu command to add it to the system as a Vertigo Image asset.

When the Image object's **Allow Edits** property is set to **True** (default), operators can change the image asset associated with the object in Production mode. By associating the editable Image object with an **On Update** event, it can be used to trigger actions that can affect the playout's content or behavior.

Image objects can also be configured to act like a one state button, which allows them to be associated with the **On Click** event to trigger actions that can also affect the playout's content or behavior.

Bevel object

Adding a Bevel object provides you with a box shape that is useful for identifying groupings or subdivisions on the panel. The Bevel object's background can be a solid color or transparent (leaving just outline frame), and/or you can display a label for the Bevel using its **Text** property.

The Bevel object creates a box or background upon which other objects can be placed. The Bevel provides the visual effect of a grouping or sub-dividing the panel.

DSK objects and their properties

DSK (Downstream Keyer) objects are panel controls that allow operators to select, edit, view and control media content or fill & key signals that are played out on the keyer(s) of specified playout devices.
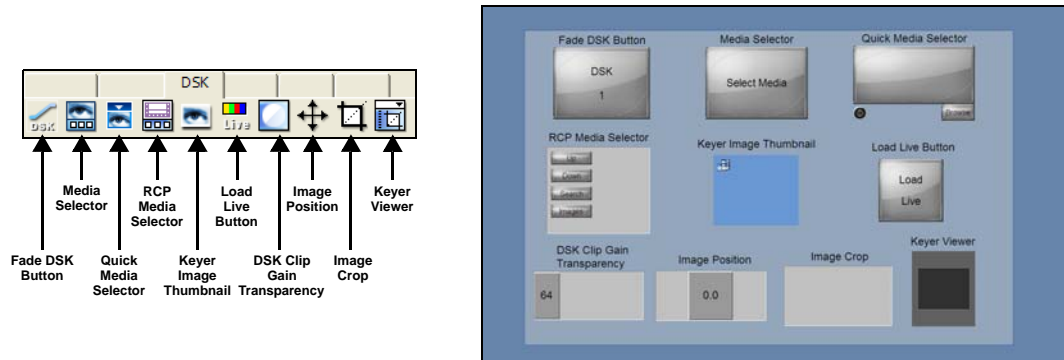
Fig. 4-3: Xpanel's DSK objects

Note: Each DSK object that is added to the panel must be configured to control specific channel(s), device(s) and a keyer using the object's **Control** properties (see Configuring an object's Control properties, on page 50).

Fade DSK Button object

The Fade DSK button object is a toggle control for cutting up or down the media content that is currently loaded onto the keyers. Which channels, devices and the exact keyer that are associated with the button is determined by setting the button's Control properties (**Devices**, **Channels**, **Keyer**). The speed at which the keyer is brought up/down is determined by the **Fade Rate**, which is specified in fields from 0 to 100).

In Production mode, the DSK Fade Button appears grey when the keyer is cut down and red when it is cut up.

The Fade DSK button can also be configured to be in an armed state, which means that the content is pre-loaded and ready to go to air when a Take command is triggered (i.e. Take Button object is clicked).

When you set the Fade DSK button's **Armable** property to **True**, two LEDs (**Cut** & **Fade**) appear with the DSK button, which allows you to determine the transition style for cutting up/down the keyer (see page 100).
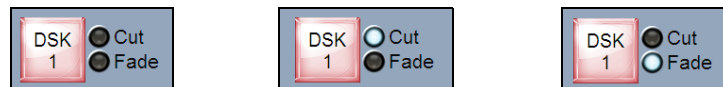
Media Selector object

In Production mode, selecting the Media Selector object opens the Browse Media Window, which allows you to browse and load Images, Animations, Scenes and Generic assets that

reside on the specified playout devices or select a **Load Live** to select an external fill and key for the selected keyer.

Once selected, the media is loaded onto the specified keyer. If the keyer is up, then the media is immediately taken to air. If the keyer is down, you must use another object, like the **Fade DSK button**, or actions triggered by the **On Load** event to take it to air.

When adding a Media Selector object, we suggest that you also add a **Keyer Image Thumbnail object** to display a proxy image of the asset that is loaded by the Media Selector when in Production mode.

When browsing devices that have a lot of media, enter a string in the Search Filter and only media containing that string is displayed.

Quick Media Selector object

In Production mode, selecting the Quick Media Selector's **Browse** button opens the Browse Media Window, which allows you to browse and load Images, Animations, Scenes and Generic assets that reside on the specified playout devices or select a **Load Live** to select an external fill and key for the selected keyer.
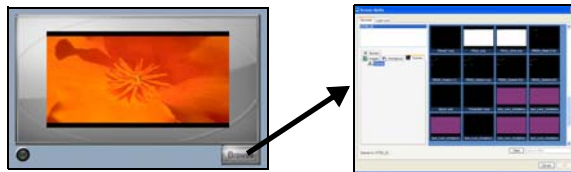
Unlike the Media Selector object, the Quick Media Selector provides an area for displaying the currently selected asset. Note that the object's LED is dark, which indicates that the asset has not yet been loaded to the device(s). To load the asset, click the proxy image area of the object. The LED changes color and the asset is loaded. If the keyer is up, then the media is immediately taken to air. If the keyer is down, you must use another object, like the **Fade DSK button**, or actions triggered by the **On Load** event to take it to air.

When browsing devices that have a lot of media, enter a string in the Search Filter and only media containing that string is displayed.

RCP Media Selector object

The RCP Media Selector object provides a control interface that provides a look and functionality similar to the RCP.

The RCP Media Selector allows you to browse and load media that is stored on the specified device. In Production mode, you can use the last button to display the assets of the **Images**, **Animations**, **Scenes**, or **Audio** categories, as well as view the live inputs available for **Load Live**.

When browsing a category, the RCP Media Selector displays only some of the assets at a time, so use the **Up** and **Down** buttons to scroll through the assets.

The **Search** button launches a search engine, which you can use to locate assets based portions or the complete file name.
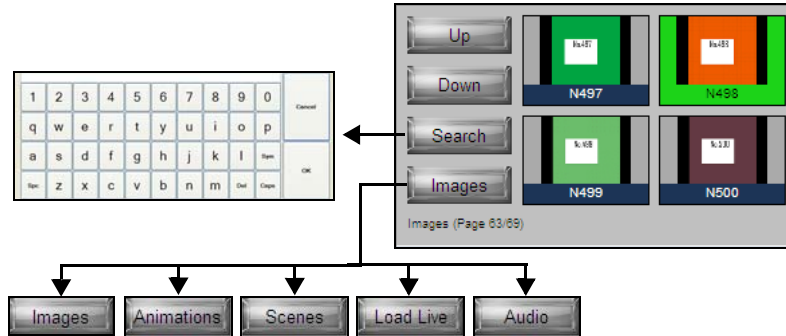
Keyer Image Thumbnail object

The **Keyer Image Thumbnail** object displays a proxy image of the asset that is currently loaded to the specified keyer. This allows operators see on the panel exactly which asset is currently loaded. This Keyer Image Thumbnail object is often used in conjunction with other objects that load media onto keyers, like **Fade DSK Button**, **Media Selector**, **Load Live Button** or **RCP Media Selector**.

The Keyer Thumbnail object displays the asset that was selected and loaded to the keyer by the Media Selector button.
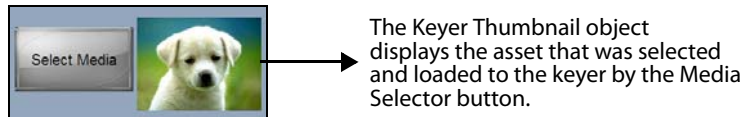
Load Live Button object

The **Load Live Button** object allows you to load a specific Fill and Key video input signal (associated with the Imagestore, LGK and DSK devices) to the specified keyer.

In Production mode, when the Load Live Button is clicked the signal specified in the object's **Input** property is loaded onto the specified keyer. Once selected, the media is loaded onto the specified keyer. If the keyer is up, then the video feed is immediately taken to air. If the keyer is down, you must use another object, like the **Fade DSK button**, or actions triggered by the **On Load** event to take the video feed to air.

When adding a Load Live Button object, we suggest that you also add a **Keyer Image Thumbnail object** to display a proxy image input video source that is loaded by the Load Live Button when in Production mode.

DSK Clip Gain Transparency object

The **DSK Clip Gain Transparency** object produces a slider or an Up Down box that allows operators to set either the clip, gain or transparency value for the keyed signal.

The DSK Clip Gain Transparency object's **Slider Appearance** property determines if the control is a slider (**True**) or an Up Down box (**False**). The object's **Orientation** property determines whether the slider is horizontal or vertical.

You must instantiate the control by selecting one of the following in the object's **CGT type** property:

- **Clip**: The level under which the key signal is forced to black (64 - 940).
- **Gain**: Amplifies the signal forcing grey levels to approach white (64-940).
- **Transparency**: Affects the luminance of the key and therefore the amount of background allowed in the output (0 - 512).

Image Position object

The **Image Position** object produces a slider or an Up Down box that allows operators to set or reposition the horizontal and/or vertical center of the media content loaded on the keyer.

- **Slider Appearance**: Determines if the control is a slider (**True**) or an Up Down box (**False**).
- **Orientation**: If the Slider appearance property is set to **True**, this property determines whether the slider is horizontal or vertical.
- **Positioning Type**: Determines if the Image Position object will control the image's X position or Y position.
- **Positioning Mode**: Determines the precision by which the Image Position object will control the movement of the image. Choose from either **Coarse** or **Fine**.

The following example demonstrates a **Keyer Viewer** object and two **Image Position** objects that allow us to view and control the positioning of the image that is loaded on the keyer.
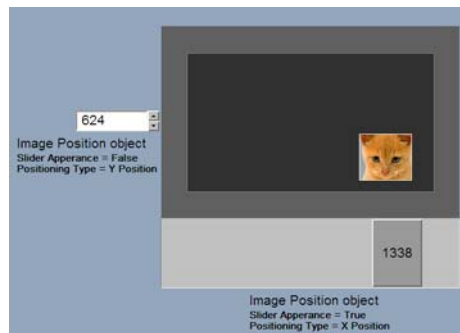
> Note: In Production mode, clicking a precise point in the Keyer Viewer moves the image to that position and the Image Position object's values are immediately updated.

Image Crop object

The **Image Crop** object produces a slider or an Up Down box that allows operators to crop visible portions of the image on the keyer without affecting the asset itself.

The Image Crop object's **Slider Appearance** property determines if the control is a slider (**True**) or an Up Down box (**False**). If the Slider Appearance property is set to **True**, the **Orientation** property determines whether the slider is horizontal or vertical.

The **Crop Type** property determines if the left, right, top or bottom portion of the image is cropped.

The following example demonstrates a **Keyer Viewer** object and four **Image Crop** objects that allow us to view and control the cropping of the image that is loaded on the keyer. The cropping area is displayed with a diagonal hatching and the colour of the image is inverted.
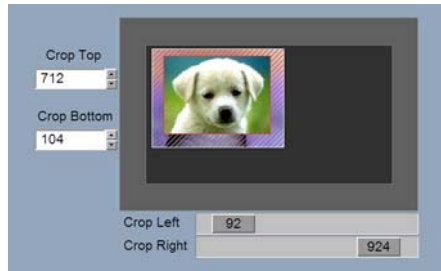
Keyer Viewer object

The **Keyer Viewer** object previews on the panel, the currently loaded media content or video input as it will appear on the keyer when taken to air. The Keyer Viewer object is often used in conjunction with other objects that allow you to load, position and format the media onto keyers, like **Media Selector**, **Image Position** and **Image Crop** objects.

> Note: In Production mode, clicking a precise point in the Keyer Viewer moves the image to that position and the Image Position object's values are immediately updated.

Video objects and their properties

Video objects are panel controls that allow operators to control the program video and/or audio that is played out on the specified playout devices. Specifically, these objects can be used to fade to down the output program video and/or audio by applying A/B mixing of the incoming video sources using cut, V-fade, U-fade or arbitrary asymmetric V-fade transitions.
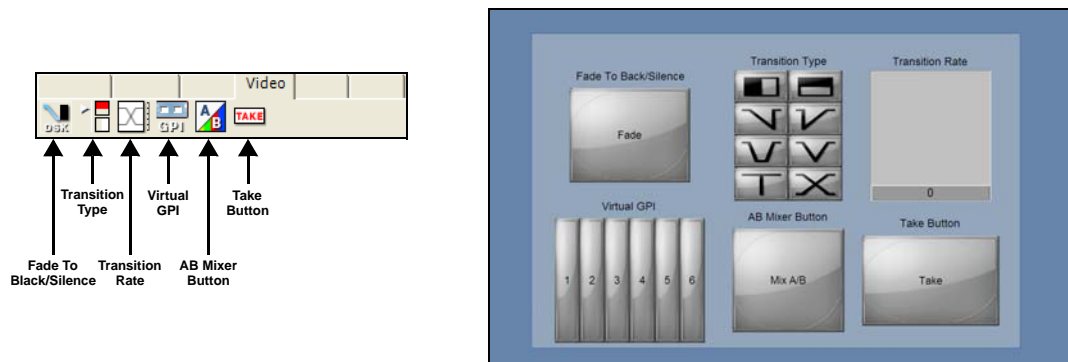
Fig. 4-4: Xpanel's Video objects

Note: Each Video object that is added to the panel must be assigned to control specific channel(s) and device(s) using the object's **Control** properties (see Configuring an object's Control properties, on page 50).

Fade To Black/Silence object

Adding a **Fade To Black/Silence** object to a panel creates a toggle button that allows operators to fade down the keyers to black output and/or fade the voice-over audio to silence.

In Production mode, the area under the **Fade** label turns red when the keyer is faded to black.

Since this object produces a button, you must define the behavior and fade rate using the object's **Fade to Black** (**True/False**), **Fade to Silence** (**True/False**) and **Fade Rate** (**1** and **999** fields, **0** indicates a cut transition) properties.

Note: Fading to black/silence is considered to be an emergency measure since it immediately fades the keyer to and from black, and the voice-overs to and from silence.

Transition Type object

Adding a **Transition Type** object to a panel allows operators to choose the transition style that is used when the device's A/B mixer moves the program output between two SDI video input streams.

Wipe (Right-Left)		Wipe (Bottom-Top)
Fade-Cut		Cut-Fade
U-Fade		V-Fade
Cut		Cross-fade
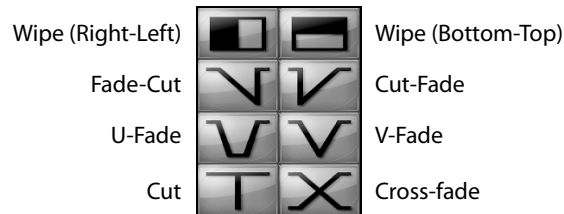
Which channels and devices are associated with the Transition Type object is determined by setting its **Devices** and **Channels** properties.

The Transition Type object can also be configured to be in an armed state, which means that the transition type can be pre-loaded and ready to go to air when a **Take** command is triggered (i.e. Take Button object is clicked).

When the Transition Type object's **Armable** property is to **True**, the wipe transitions are removed and only the Fade transitions can be selected.

> Note: The rate at switch the transition occurs is not a property of the Transition Type object. Operators set the transition rate using a **Transition Rate** object on the panel.

Transition Rate object

The **Transition Rate** object produces a slider or an Up Down box that allows operators to set the fade/wipe transition rate from **1** and **200** fields, or **0** to indicate a cut transition.

Which channels and devices are associated with the Transition Rate object is determined by setting its **Devices** and **Channels** properties.

The **Slider Appearance** property determines if the control is a slider (**True**) or an Up Down box (**False**). If the **Slider Appearance** property is set to **True**, the object's **Orientation** property determines whether the slider is horizontal or vertical.

Virtual GPI object

The **Virtual GPI** object allows operators to control up to 18 GPI triggers that are configured for the specified device(s).

Which channels and devices are associated with the Virtual GPI object is determined by setting the object's **Devices** and **Channels** properties.

Map the Virtual GPI buttons to the device's GPIs using the drop-down in the **GPI List** property.

The Virtual GPI object can also be configured to be armed using the **Armable** property (see page 100 for more information).

AB Mixer Button object

The **AB Mixer** object produces a toggle button that allows operators to transition the SDI video source that is being played out on the specified channel(s) and device(s) from one video input source to another (Input A to Input B, and vice versa).

Which channels and devices are associated with the AB Mixer Button object is determined by setting the object's **Devices** and **Channels** properties.

When adding an AB Mixer object to a panel, we recommend also adding a **Transition Type object**, which allows operators to select the transition style for the A/B mix. If the Transition Type object is not selected, then the AB Mixer uses the last transition type used or the device's default transition type.

The rate at which the transition from one video source to the other occurs is determined by the AB Mixer object's **Transition Rate** property, whose value can be set from **1** and **200** fields, or **0** to indicate a cut transition.

Take Button object

Adding a **Take Button** object to a panel allows operators to manually trigger a **Take** command to all of the objects associated with the same channel(s) and device(s), which is determined by setting the Take Button object's **Devices** and **Channels** properties

When the Take button is selected in Production mode, armed objects and objects (i.e. primitives or the panel) that contain actions associated with the **On Take** event are immediately executed. This means that multiple events can be triggered simultaneously. See for more information.

Audio objects and their properties

Audio objects are panel controls that allow operators to select and control the audio files or external audio source that are played out as voice overs with the program audio on the specified playout device(s). Voice-overs adjust the combined levels of the background audio and incoming voice-over.
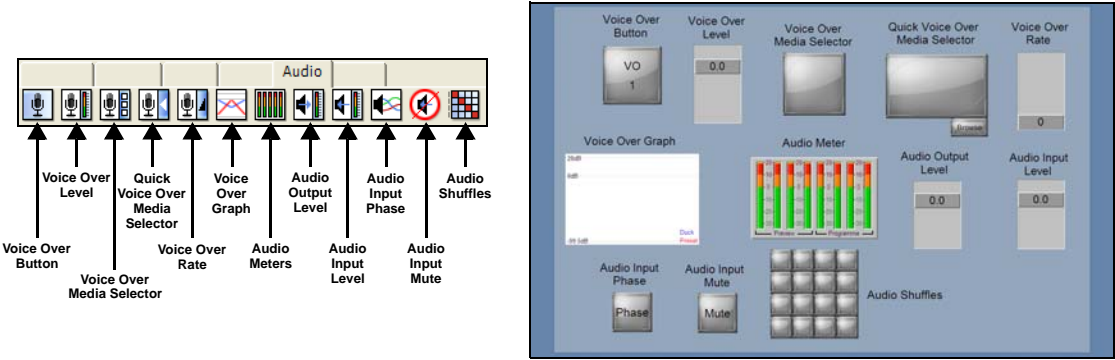
Fig. 4-5: Xpanel's Audio objects

> Note: Each Audio object that is added to the panel must be assigned to control specific channels, devices, and a voice-over or Easyplay layer using the object's **Control** properties (see Configuring an object's Control properties, on page 50).

Voice Over Button object

The **Voice Over Button** object is a toggle switch that allows operators to cut up or down the loaded audio file or external audio on the specified device(s). Which channels, devices and the exact voice-over layer that are associated with the button is determined by setting the button's Control settings (**Devices**, **Channels**, **Voice Over**).

In Production mode, the Voice Over Button appears red when the voice over is active (i.e. playing) and grey when it is not.

The Voice Over button can also be configured to be in an armed state, which means that the audio is pre-loaded and immediately ready to be taken to air when a **Take** command is triggered (i.e. Take Button object is clicked). When you set the **Armable** property to **True**, the Arm LED appears with the Voice Over button. Clicking the Voice Over button arms or disarms the Voice Over as indicated by the LED's state (see page 100).

Voice Over Level and Voice Over Graph

The **Voice Over Level** object produces a slider or an Up Down box that allows operators to set either the preset value for the voice over and duck level for the background (program) audio.

Voice overs adjust the combined levels of the background audio and incoming voice-over so the audio level does not exceed the original background volume. The diagram shows how the duck and voice over presets adjust the actual audio levels.
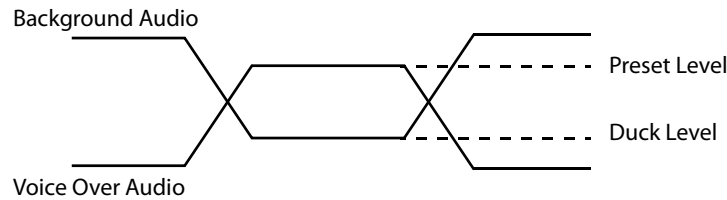
You must instantiate the Voice Over Level object by selecting either **Duck Level** or **Preset Level** from the object's **Level type** property. The duck value is the amount by which the background audio level is attenuated when the voice over is fully on. The voice over preset value is the level of the voice over audio when the voice-over is fully on. Both values are given in decibels from -99.5 dB to +28.0 dB.

The Voice Over Level object's **Slider Appearance** property determines if the control is a slider (**True**) or an Up Down box (**False**). If the **Slider Appearance** property is set to **True**, the **Orientation** property determines whether the slider is horizontal or vertical.

Adding a **Voice Over Graph** object to the panel provides operators with a visual representation of the preset and duck levels. Since the Voice Over Graph is a read-only control, it must be used with Voice Over Level objects.
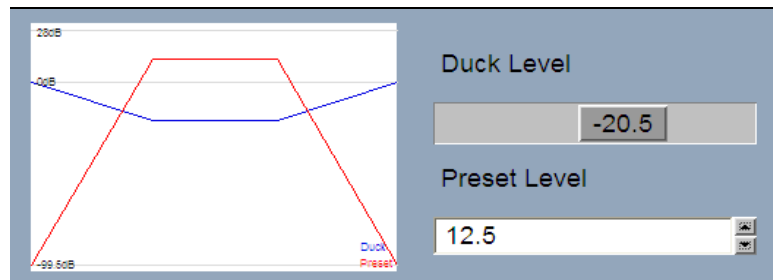
Voice Over Media Selector object

In Production mode, selecting the Voice Over Media Selector object opens the Browse Media Window, which allows you to browse the audio asset files that reside on the specified playout device(s) and then load them on the specified Easyplay layer.
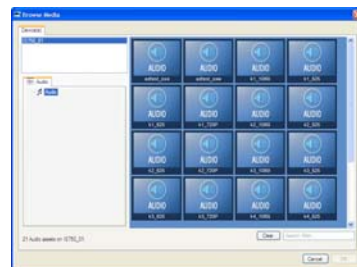
Once selected, the audio file is loaded onto the specified Easyplay layer, but it is not yet played out on air. You must use another object, like the **Voice Over button** or actions triggered by the **On Load** event to actually take the audio to air on the playout devices.

Quick Voice Over Media Selector object

In Production mode, selecting the Quick Voice Over Media Selector object's **Browse** button opens the Browse Media Window, which allows you to browse the audio asset files that reside on the specified playout device(s) and then load them on the specified Easyplay layer.
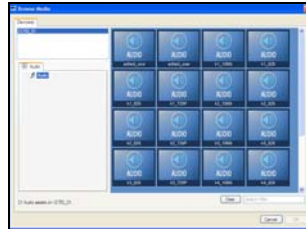
Unlike the **Voice Over Media Selector** object, the Quick Voice Over Media Selector displays the name of the currently selected audio asset. Note however, that the object the asset has not yet been loaded to the device(s). To load the asset, click the object's button area.

Note that although the audio file is loaded, it is not yet played out on air. You must use another object, like the **Voice Over button** or actions triggered by the **On Load** event to actually take the audio to air.

Voice Over Rate object

The **Voice Over Rate** object produces a slider or an Up Down box that allows operators to set a rate at which the audio file ducks down the program audio and plays out the voice over (audio file or external audio source).

The **Slider Appearance** property determines if the object is a slider (**True**) or an Up Down box (**False**). If the **Slider Appearance** property is set to **True**, the object's **Orientation** property determines whether the slider is horizontal or vertical.

Audio Meters object

Adding an **Audio Meter** object allows operators to monitor the current audio levels on the preview and program outputs.

There are several properties associated with Audio Meter objects that allow you to configure the look and behavior of the Audio Meter object. For example, the **Meter Style** property allows you to set the format in which the Audio Meter appears, either as **Bars** or an **Analogue** display. The **Number of Pairs** property allows a value of up to 24 to display up to 48 channels in the Audio Meter object (Meter Style = Bars).
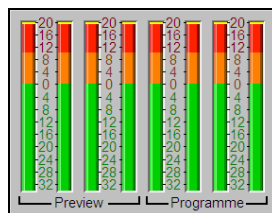
Audio Output Level object

The **Audio Output Level** object produces a slider or an Up Down box that allows operators to set the program output audio level to a value between -99.5 dB to +28.0 dB.

The Audio Output Level object's **Slider Appearance** property determines if the control is a slider (**True**) or an Up Down box (**False**). If the **Slider Appearance** property is set to **True**, the **Orientation** property determines whether the slider is horizontal or vertical.

Audio Input Level object

The **Audio Input Level** object produces an Up Down box or slider control that allows operators to set the program input audio level to a value between -99.5 dB to +28.0 dB.

The Audio Input Level object's **Appearance** property determines if the control is an **Up Down box** or a **Slider**. If the **Appearance** property is set to **Slider**, the **Orientation** property determines whether the slider is horizontal or vertical.

The **Input** and **Input Channel** properties specify the input source (**Input A** or **Input B**) and audio channel to use.

Audio Input Phase object

The **Audio Input Phase** object is a toggle button that allows operators to invert the input signal's phase.

Use the object's **Input** and **Input Channel** properties to specify the input source (**Input A** or **Input B**) and the audio channel.

Audio Input Mute object

The **Audio Input Mute** object is a toggle button that allows operators to mute the incoming program audio.

Use the object's **Input** and **Input Channel** properties to specify the input source (**Input A** or **Input B**) and the audio channel.

Audio Shuffles object

The **Audio Shuffles** object provides audio mixer blocks that allow operators to control the audio input or voice over with audio shuffle presets that were defined on the playout device.
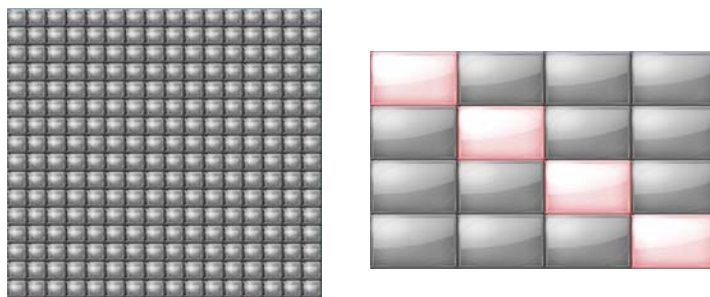
In the **Shuffle size** property drop-down list, select either **16x16** (default) or **4x4** to determine the number of audio mixer blocks in the object.

In the **Shuffle type** property, specify which audio input the Audio Shuffles object is meant to control. The options in this drop-down list are dependent upon which **Shuffle size** value is selected.

Shuffle size	Shuffle Type values
16x16	• Feed 1 • Feed 2 • Feed 3 • Feed 4 • Voice Over 1 • Voice Over 2 • Voice Over 3 • Voice Over 4 • Voice Over 5 • Voice Over 6 • Voice Over 7 • Voice Over 8 • Output PGM • Output PVW • Output CLN • Output MON
4x4	• Input A • Input B • Input Vo

Other objects and their properties

The **Other** tab contains only four objects types: Channel Selector, Alarm Display, Health Meter and Hard Panel Brightness. The following table provides functional descriptions of each of these objects.
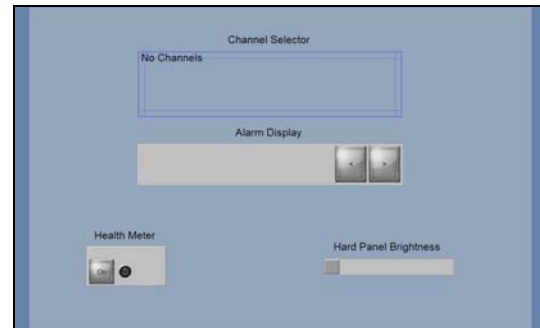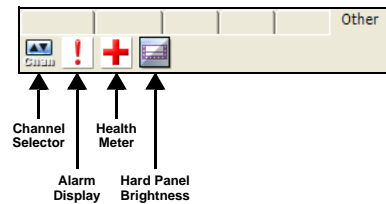
Fig. 4-6: Xpanel's Other objects

Channel Selector object

Normally, each object on a panel is configured to control specific channels and devices using the object's **Channels** and **Devices** properties. As such, you cannot control a different channel in Production mode without returning to Design mode and manually editing the objects' properties.

The **Channel Selector** object solves this issue by defining Channel buttons which represent a channel profile. In Production mode, operators can select a Channel button from the Channel Selector to determine which channel the panel's operations will apply to. The following sections provide instructions for how to configure and use a Channel Selector:

- Configuring an object's Control properties, on page 50
- Creating a Channel Selector, on page 53
- Selecting channels using a Channel Selector, on page 99

Alarm Display object

Adding an **Alarm Display object** to a panel allows operators to monitor the status of device(s) that have been configured to be alarmed. The type of information displayed on the Alarm Display is the device's name, IP address, connection status, and device type and software version.

If multiple devices are associated with the object, use the left and right arrows to move from one device's status to another.
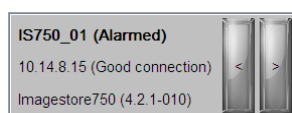
Health Meter object

Playout devices can be configured to continually monitor and set off alarms to identify error conditions that may affect the performance or health of the device.

Adding **Health Meter** objects to a panel allows operators to monitor the current readings of a device and be alerted if an alarm occurs. If the reading for the particular device condition falls outside of the expected range, an alarm is triggered and the Health Meter's LED turns red to alert the operator of the potential problem. An alarm can be turned on or off by toggling the **On** button.

Health Meter objects can only monitor one type alarm at a time. Therefore, you must choose one of the following alarm types from the object's **Health Value** property:

• No alarm selected	• Hard Disk Status
• PSU1 (right) Low	• PSU1 (top) Low
• PSU1 (right) High	• PSU1 (top) High
• PSU2 (left) Low	• PSU2 (bot) Low
• PSU2 (left) High	• PSU2 (bot) High
• Internal +3.3V	• PSU1 (right) Status
• Internal +5.0V	• PSU1 (left) Status
• +12 V	• Fan Speed (RPM)
• -5V	• Hot Swap Status
• Internal Unreg	• PSU1 (right) +12V
• Under Temperature	• PSU2 (left) +12V
• Over Temperature	• Main Voltage
• Internal Fault	• DVE Voltage
• -12V	• Audio Voltage
• +5V	

Hard Panel Brightness object

The **Hard Panel Brightness** object adds an Up Down box or slider to the panel so that operators can adjust the brightness of the RCP-BR device's touchscreen, where 1 is the dimmest and 8 the brightest.

The Hard Panel Brightness object's **Appearance** property determines if the control is an **Up Down box** or a **Slider**. The object's **Orientation** property determines whether the slider is horizontal or vertical.

Configuring an object's Control properties

When an object is selected, its properties are displayed in the Properties view. The **Control** category contains properties that determine to which devices, channels and keyer/audio layer the object's actions are applied.

The following sections provide information and advice for how to set an object's control properties:

Channels: Dedicated versus interactive channel control

The **Channels** property is used to determine to which channel the object's actions will be applied. The following sections describe two ways of configuring an object's Channels property, depending upon whether you want the object's channel control to be dedicated or interactive.

Dedicated channel control

If the object is meant to always control specific channels and devices, we recommend dedicating the object to control specific channels by setting the object's Control properties (**Devices** and **Channels**) to the specific channels and devices to be controlled. When the panel is brought into Production mode, the object's actions only apply to the channels specified in the object's **Channels** property. You cannot change the object's Channels properties, without returning to Design mode and manually making edits to these properties.

You can configure an object to control a single or multiple channels by selecting from among the channels listed in the Channels property's drop-down control. Note that the channel list is automatically populated with the channels from the currently loaded station configuration.
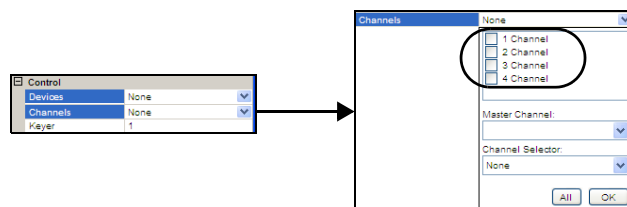
Fig. 4-7: Configuring an object to be dedicated to specific channels

When you select two or more channels, the **Master Channel** field is automatically filled in with the first channel that was selected. You can set any of the selected channels as the Master Channel. The importance of the master channel is that the Xpanel only displays the status of this channel. Indication such as which media is loaded into a channel or which keyers are cut up is based on tallies coming back from this device. The object's other selected channels are known as 'slave' channels so any action carried out on the panel will be carried out on these channels, but the status of these channels will not be reflected in Xpanel.

Interactive channel control using a Channel Selector object

If you want the ability in Production mode to choose the channel(s) that an object's actions will be applied to, then we recommend that you add a Channel Selector object to the panel and then associate the object's **Channels** property to the **Channel Selector** object, rather than to specific channels.
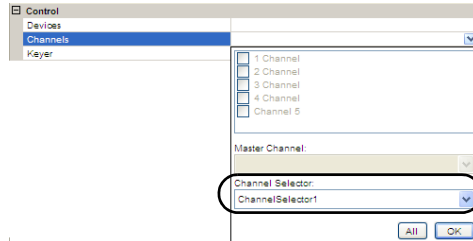
Fig. 4-8: Setting an object to be controlled by a channel selector

As explained in Creating a Channel Selector, on page 53, a Channel Selector object maps individual channels from the Station Configuration to buttons in the Channel Selector. In Production mode, operators can then choose which channel the objects' action will be carried out on. If the Channel Selector is configured with a **Hold** button, the operator can gang channels, which means selecting two or more channels so that operations carried out on the panel are sent simultaneously to all of the ganged channels (multiple channels). See Selecting channels using a Channel Selector, on page 99 for information and instructions on using a Channel Selector.

Devices: Selecting which devices to control

An object's **Devices** property is used to determine to which devices the object's actions will be applied. You need not specify the specific devices, rather you select the device columns in which the devices were placed for each channel.

Note that the device list in the Devices property pull-down is automatically populated with the device columns from the currently loaded station configuration. Therefore, you may want to have the Station Manager view open to see exactly which devices are assigned to each channel's device columns.
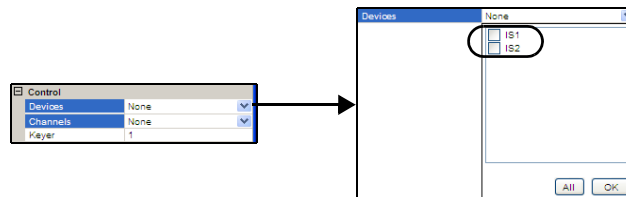
Fig. 4-9: Setting an object's Devices property

Keyer, Voice Over and Easyplay Layers

Many objects require you to specify which device layer the object's actions will apply. The following table describes that depending upon the type of object, the property for specifying the device layer may be either **Keyer**, **Voice Over** or **Easyplay Layer**.

Keyer	All DSK related objects, as well as the **Fade to Black/Silence** object have a **Keyer** property. You must specify a numerical value (1 to 4) to identify the device's keyer layer that the object's actions will be applied.
Voice Over	The **VO Button**, **VO Level**, **VO Rate** and **VO Graph** objects have a **Voice Over** property. You must specify a numerical value (1 to 16) to identify the device's voice-over layer onto which the object's actions will be applied.
Easyplay Layer	The **Voice Over Media Selector** and **Quick Voice Over Media Selector** objects both have an **Easyplay Layer** property. The Easyplay layer property specifies onto which of the device's Easyplay layers the Media Selector object will load the audio file.

Creating a Channel Selector

When the panel is brought into Production mode, a Channel Selector object allows operators to choose the channel that an object's actions will be applied to. Operators can switch easily between individual channels and thereby use the same objects to control multiple channels.

The Channel Selector can also be used to gang the channels, which means selecting two or more channels so that operations carried out on the panel are sent simultaneously to all of the ganged channels (multiple channels).

After you have created and configured a Channel Selector object, see Selecting channels using a Channel Selector, on page 99 for information and instructions on using a Channel Selector in Production mode.

Adding and configuring a channel selector:

1 Ensure that a Station Configuration is currently loaded in Xpanel.

2 Add a **Channel Selector** object to the panel.

   The Channel Selector first appears as an empty text object that displays **No Channels**.
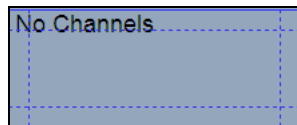
3 Display the channel selector's properties by opening the **Properties** view (**Ctrl+R**) and selecting the channel selector object.

4 Set the **Number of Rows**, **Channels per Row** and **Groups per Row** properties, which determines the number of channel buttons (usually one per channel) and the number of rows in which they will be displayed.

5 Select the **Channel List** property and click the ⬚ button, which opens the **Select channels** window.

6 Assign the Station Configuration's channel to the Channel Selector's buttons by moving them from the **Available channels** list to the **Selected channel** list and then click **OK**. The order in which they appear in the **Selected channels** list determines which button they are assigned to. For example, first in the list is assigned to the first button, second in list is assigned to second button...
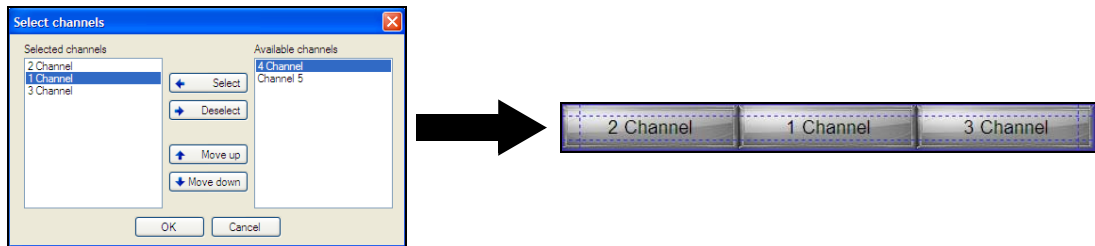
Fig. 4-10: Assigning channels to the Channel Selector's buttons

7 Optional - Select the **Default List** property and specify which channel(s) the Channel Selector will have selected by default.

8 Optional - If you would like the ability to gang channels, then set the **Display Hold Button** property to **True**. This produces a **Hold** button within the Channel Selector so that you can select multiple channels in Production mode.

> Note: As an alternative to adding and using the Hold button, operators can right-click on the Channel Selector's channel buttons in Production mode to select multiple channels.

9 In the **View Type** property, select one of the following settings to determine the format of the channel selector:

Standard	(Default) - The Standard view shows the channels as defined in the **Channel List** property. The channel groups as defined in the station configuration are ignored.
Grouped	The Grouped view shows all the channels defined in the current station configuration and groups them according to the groups in the station configuration. A User section can also be used to define a channel group during operation. The **Channel List** property is ignored in this mode.
Working	The Working view shows a list of most recently used channels from another channel selector. The **Master Channel Selector** property must be set to the main channel selector. The **Channel List** property is ignored in this view.

10 Be sure to return to the other objects on the panel and set their **Channels** property's **Channel Selector** field (see).
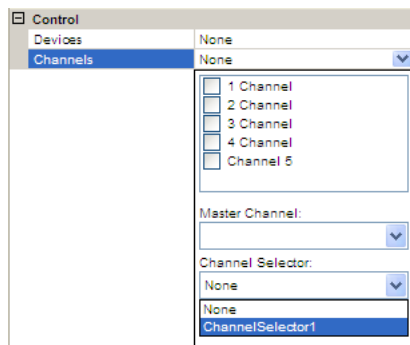
> Note: Once the panel is built and the objects are appropriately associated with the Channel Selector, see Selecting channels using a Channel Selector, on page 99 for instructions on how to use the Channel Selector in Production mode.

Positioning and formatting objects on the canvas

Once objects and/or primitives have been added to the panel's canvas, you will want to position and format them so that the panel's layout is functional and user-friendly.

The following sections provide information and instructions for positioning and formatting panel objects:

- Selecting, grouping, and/or layering objects on the canvas, on page 55
- Grouping and ungrouping objects on the canvas, on page 56
- Layering objects on the canvas, on page 57
- Resizing objects, on page 58
- Moving and positioning objects on the canvas, on page 60
- Cutting, copying and pasting objects to/from the canvas, on page 63

Selecting, grouping, and/or layering objects on the canvas

To edit and position the objects properly on the canvas, you will have to select the individual objects. For edits or positioning that affects several objects, it may be quicker to group the objects before performing the edits.

The following sections provide instructions for selecting and/or grouping objects on the canvas:

- Selecting a single object on the canvas, on page 55
- Selecting multiple objects on the canvas, on page 56
- Grouping and ungrouping objects on the canvas, on page 56
- Layering objects on the canvas, on page 57

Selecting a single object on the canvas

The most common way to select an object that has been added to the canvas is by simply clicking once directly on the object. Once you have clicked the object, a blue grid (object zones) appears on top of the object indicating that it has been selected and that it is now the primary object on the canvas (see Resizing objects using object zones, on page 58 for more information on object zones).
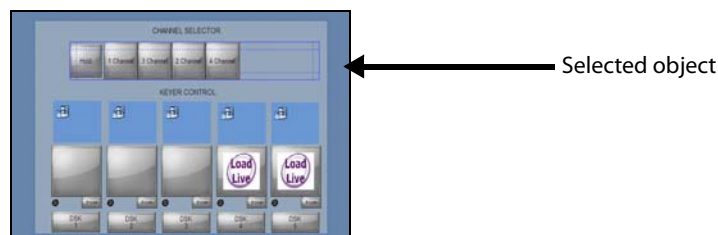
Fig. 4-11: An object zone grid on top of the object indicates that the object has been selected

An alternative technique for selecting individual objects is to hold down the left mouse button and drag the pointer completely around the object and then release. If the entire object was inside the dragged box, then the blue object zone grid appears on the object indicating that the object has been selected.

Selecting multiple objects on the canvas

There are situations when it is more effective to select multiple objects on the canvas. For example, you may want to use the **Media Selector**, **Keyer Image Thumbnail** and the **Fade DSK Butto**n objects together to make a control used for keying graphics up and down. If you wanted to move these objects to another location on the canvas, you would want to select them all, possibly group them, and then move them as one object, rather than as individual objects.
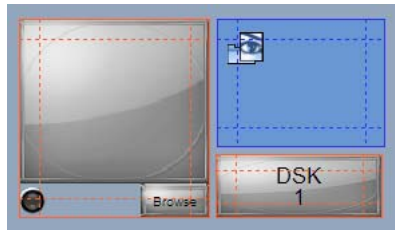
Fig. 4-12: Red object zone grids appear when multiple objects are selected on the canvas

To select multiple objects on the canvas:

- Hold down the **Ctrl** or **Shift** key on your keyboard, then click directly on each of the objects.

  When the first object is selected, a blue grid (object zones) appears on top of the object indicating that it has been selected and that it is now the primary object on the canvas. However, when you select the next object, the first object's grid changes to red, indicating that it is still selected but no longer the primary object. Meanwhile the second object that was selected now appears with a blue object zone grid indicating that it was the last, and now primary, object selected.

Or,

- Hold down the left mouse button and drag the pointer completely around all of the objects to be selected and then release.

  If all of the objects were inside the dragged box, the blue and red object zone grids appear on the objects indicating that these objects are selected.

Grouping and ungrouping objects on the canvas

Grouping objects basically means taking several separate objects that are selected together and makes them into a single object. Grouping objects is very useful when you want to keep several elements together, or when you want to apply the same operation to them all (i.e. move to a new location, set common properties or copy/cut & paste). At a later time, you can ungroup the object and return the object to being individual objects.

Ungrouped objects   Grouped object
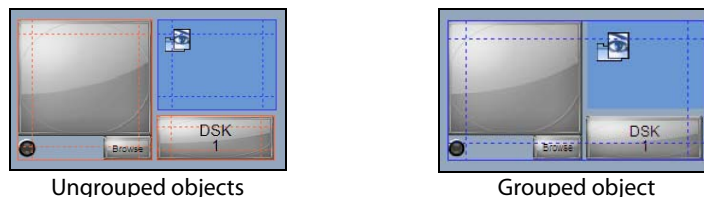
Fig. 4-13: Objects can be grouped so that they can be edited as one object

To group objects:

1 Select the objects to be grouped.

2 Select the **Format**>**Group** menu command, or click the **Group** 🗖 button Xpanel's toolbar.

  A blue border surrounds the grouped objects to indicate that the group is selected.

To ungroup objects:

1 Select the group.

  A blue grid appears over the object.

2 Select the **Format**>**Ungroup** menu command, or click the **Ungroup** 🗖 button on Xpanel's toolbar.

  The blue border disappears and each object is bordered in red and/or blue.

> Note: When objects are grouped, the group has a set of properties that can be edited to determine the group's positioning and/or which devices and channel it will control.

Layering objects on the canvas

Xpanel's layering commands allow you to move objects to the top layer for display or editing, as well as sending the object behind others, like in the case of a bevel primitive or a background image.

To bring an object one step closer to the front:

1 Select the object.

  A blue grid appears over the object.

2 Click the **Bring Forward** button 🗖 on Xpanel's toolbar, or select the **Format**>**Layering**>**Bring Forward** menu command.

  The object moves one layer closer to the front.

To send an object one step toward the back:

1 Select the object.

  A blue grid appears over the object.

2 Click the **Send Backward** button 🗖 on Xpanel's toolbar, or select the **Format**>**Layering**>**Send Backward** menu command.

  The object moves one layer to the back.

To bring an object to the front:

1 Select the object.

  A blue grid appears over the object.

2 Click the **Bring to Front** button 🗖 on Xpanel's toolbar, or select the **Format**>**Bring to Front**>**Layering** menu command.

  The object moves to the first (top) layer.

To send an object to the back:

1 Select the object.

  A blue grid appears over the object.

2 Click the **Send to Back** button ⊞ on Xpanel's toolbar, or select the **Format**>**Layering**>**Send to Back** menu command.

The object moves back to the furthest layer.

Resizing objects

Regardless of the size of the object or primitive when it is added to the canvas, you will probably need to edit the object/primitive's size to make it larger, smaller, wider, thinner..., so that it fits within the panel's layout and/or the object's content fits.

The following sections provide information and instructions regarding the different ways that you can resize objects on the canvas:

- Resizing objects using object zones, on page 58
- Resizing objects using Xpanel's Size commands, on page 59
- Resizing objects using the Width and Height properties, on page 59

Resizing objects using object zones

When you select an object that has been placed on the canvas, a grid appears on top of the object, dividing it into multiple zones. The blue grid indicates that this is the primary object, which is the last or only object selected. When multiple objects are selected at the same time, the primary object displays a blue grid, while the others will have a red grid. Identifying the primary object is extremely helpful in formatting situations like aligning objects. If you were aligning objects all other selected objects (overlaid with a red grid to indicate that they are not the primary object) would align with the primary object.
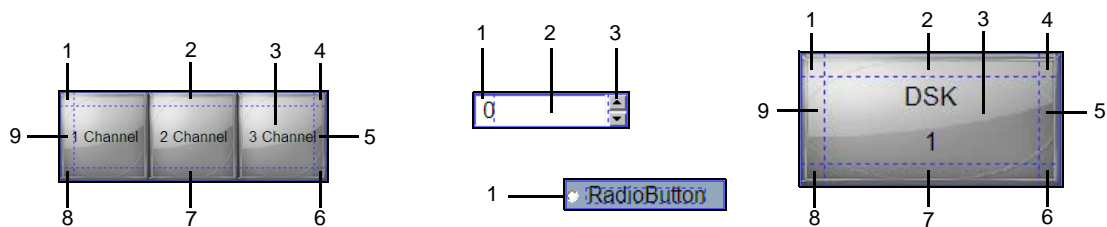
Fig. 4-14: An object's zones, indicated by a blue/red grid, can be used to resize or move the object

When you hover the pointer over the object zones, the pointer transforms into a two-headed directional arrow. Clicking and dragging the object zones of objects, and some types of primitives, allows you to resize (stretch and shrink) the object in a free-form fashion in the direction that it is being dragged. To maintain the scaling of the object while resizing, simply hold down the **Shift** button on your keyboard, while dragging the outer zones of the object. As well, dragging from the central zone allows you to move the object around the canvas.

Note: Pressing **ESC** before releasing the mouse button aborts the move, copy or resize operation.

Resizing objects using Xpanel's Size commands

When you have multiple objects on the panel, you can use Xpanel's **Size** commands to resize one or many objects relative to another object.
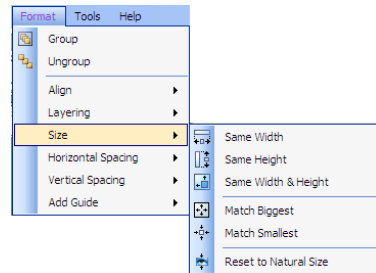
Fig. 4-15: Xpanel's Size commands allows you to size objects relative to other objects

To size objects based on the size of another object:

1 Select a group of objects, making sure that you select the primary object last.

   The primary object is the one that you would like all others sized relative to. The primary object's selection lines appear in blue, whereas those of others appear in red. You can change the primary object by clicking a selected object.

2 Select one of the following **Format**>**Size** menu commands:

Same Width	Resizes all selected objects to the same width as the primary object.
Same Height	Resizes all selected objects to the same height as the primary object.
Same Width & Height	Resizes all selected objects to the same width and height as the primary object.
Match Biggest	Resizes all selected objects to the same size using the largest width and height values from amongst all of the selected objects (the values do not have to be from the same object).
Match Smallest	Resizes all selected objects to the same size using the smallest width and height values from amongst all of the selected objects (the values do not have to be from the same object).
Reset to Natural Size	Applies to image objects only. Resets the size of the image object to the actual size of the image's original size.

Resizing objects using the Width and Height properties

When you select a single object and the Properties view is open (**View**>**Properties**), the object's dimensions are displayed in the **Width** and **Height** properties. Editing the settings of these properties immediately changes the object's size.

Similarly, if you select multiple objects or a group of objects, you can collectively resize all of the objects belonging to that selection by setting the **Width** and **Height** properties. This

results in all of the objects being exactly the same size. Note however, that you may need to reposition the object afterwards.

Moving and positioning objects on the canvas

Once you have added objects to the canvas you will want to create an attractive and functional layout by positioning and aligning the objects on the panel's canvas:

- Moving objects on the canvas, on page 60
- Positioning objects using the Align commands, on page 61
- Positioning objects using Spacing commands, on page 62
- Positioning objects using guides, on page 63

Moving objects on the canvas

There are several ways to move and position objects around the canvas. Which method you choose to use depends on the precision of placement that you desire.

The most common and convenient way of moving objects on the canvas is to click the center zone of the object and drag the object to the new location. This method is convenient, but it is lacks the precision that is sometimes necessary. Meanwhile, an ortho move provides the convenience of dragging the object, but strictly in a vertical or horizontal direction from its current position (right angles only).

If you require more precision than the dragging or ortho methods provide, you can nudge the object to the exact desired position. Nudging uses the arrow keys on your keyboard to move the object using predetermined increments. Coarse nudging moves the object by approximately 6 points with each keystroke, while fine nudging moves it only 1.4 points with each keystroke.

To perform an ortho move:

- Hold down the **SHIFT** key while dragging the object from its central zone.

To coarsely nudge an object:

- With the object selected, hold down the **SHIFT** key while pressing one of the arrow keys.

To finely nudge an object:

- With the object selected, press one of the arrow keys.

Positioning objects using the Align commands

Use the **Align** commands to place objects on the canvas so that they are vertically, horizontally, or center-aligned in relation to other objects on the canvas.
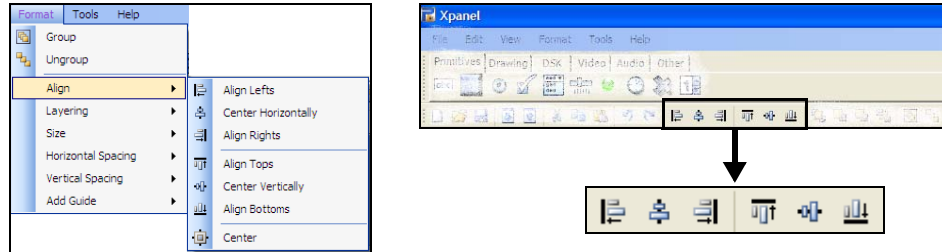
Fig. 4-16: Xpanel's Align menu commands and toolbar buttons

To align objects using the Align commands:

1 Select a group of objects, making sure that you select the primary object last.

The primary object is the one that you would like all others aligned with, and its selection lines appear in blue, whereas those of others appear in red. You can change the primary object by clicking a selected object.

2 Select one of the following commands from the **Format>Align** menu, or select one of the icons from the **Align** toolbar on the Xstudio interface.

Menu item	Icon	What it does
Align Lefts		Aligns all selected objects with the left edge of the primary object.
Center Horizontally		Aligns all selected objects with the horizontal centre (y-axis) of the primary object.
Align Rights		Aligns all selected objects with the right edge of the primary object.
Align Tops		Aligns all selected objects with the top edge of the primary object.
Center Vertically		Aligns all selected objects with the vertical centre (x-axis) of the primary object.
Align Bottoms		Aligns all selected objects with the bottom edge of the primary object.
Centers	Menu command only	Aligns all selected objects with both the horizontal and vertical centers of the primary object.

Positioning objects using Spacing commands

Use the **Horizontal Spacing** and/or **Vertical Spacing** commands to quickly make the spacing equal between objects, as well as to increase, decrease or remove the spacing all together.
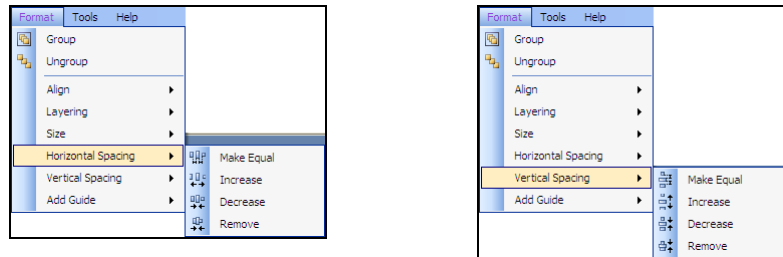
To adjust the spacing between objects using the Horizontal Spacing and Vertical Spacing commands:

1 Select the group of objects that you want to adjust the relative spacing of.

2 Select one of the following commands from the **Format**>Horizontal Spacing or **Format**>Vertical Spacing menu.

Menu commands	What it does
Make Equal	**Horizontal**: Makes equal space between the selected objects using the outermost objects as endpoints. **Vertical**: Makes equal space between the selected objects using the top and bottom objects as the end points.
Increase	Increases the horizontal or vertical spacing by one grid unit based on the primary object.
Decrease	Decreases the horizontal or vertical spacing by one grid unit based on the primary object.
Remove	**Horizontal**: Removes the horizontal space so that the objects are aligned with their edges touching, based on the primary object. **Vertical**: Removes the vertical spacing so that the object's borders are touching, based on the primary object.

Note: If using the Vertical/Horizontal Spacing command does not produce the results you want, try to manually rearrange some of the objects and repeat the command.

Positioning objects using guides

Guides are virtual lines that are superimposed over the panel's canvas in Design mode. Adding guides to the canvas allows you to align objects along common vertical or horizontal reference lines. Once the objects are added to the canvas, you can superimpose guides to the canvas and when an object is dragged near a guide, it automatically snaps to it. You can add one or many guides to the canvas.
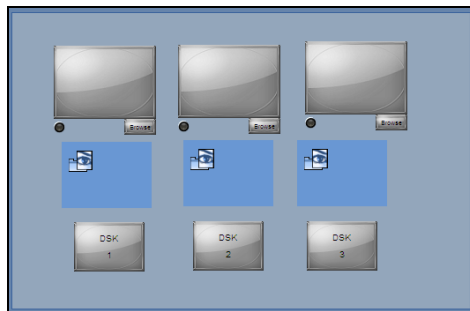
Objects added to the canvas by drag-and-drop
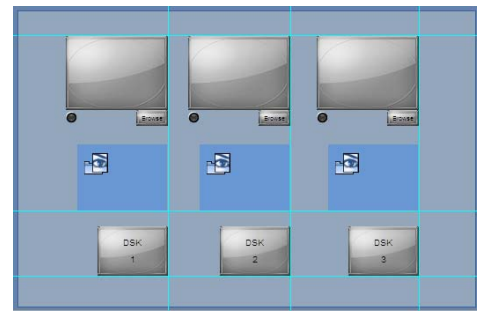
The objects snap to the multiple guides, which helps organize and align the objects

While the guides are activated using the **Format>Add Guides** menu command, the canvas' **Guides** properties can be used to set the visibility, color and whether or not the guides are locked to a specific position. See Configuring the panel's properties, on page 24 for more information.

To add a guide to the canvas:

1 Select **Format>Add Guide** and then either **Horizontal** or **Vertical**.

2 Add the guide to the canvas:

- If you selected **Horizontal**, drag the guide from the top or bottom of the outer border of the canvas.

- If you selected **Vertical**, drag the guide from the left or right side of the outer border of the canvas.

3 Adjust the placement of the guide by dragging the guide up or down on the canvas.

To delete a guide:

1 Move the mouse over the guide until the cursor becomes a double-headed arrow.

2 Select the guide and drag it out of the window.

Cutting, copying and pasting objects to/from the canvas

You can move, duplicate, and/or replace objects on the canvas by using the **cut** and **copy** commands to place an object on the system's clipboard and then place the object on the same canvas or another panel's canvas using the **Paste** command.

Note that when you use the **Cut** or **Copy** commands, the cut or copied object remains on the clipboard until you choose **Cut** or **Copy** again.

To cut, copy and paste objects:

1 Select the object(s).

2 Select one of the following from the **Edit** menu:

- The **Cut** command (**CTRL + X**) to remove the object and move a copy onto the clipboard.

Or,

- The **Copy** command (**CTRL + C**) to keep the original object where it is and move a copy to the clipboard.

To paste a copy of the object, select the **Paste** (**CTRL + V**) command from the **Edit** menu.

> Note: **Cut**, **Copy** and **Paste** are also available in Xpanel's Design mode toolbar ![toolbar icons].

To move a copy of the object out from the original:

- Hold down the CTRL key while moving the copy out from the original. If you release the CTRL key before the mouse button, the object will not be copied -- only moved.

To move a copy of the object out from the original at right angles only:

- Hold down the CTRL and SHIFT keys while moving the copy out from the original. If you release the CTRL key before the mouse button, the object will not be copied -- only moved.

Saving a panel

In the Vertigo workflow, all assets and panels are centrally stored in the Xmedia Server (either a central or local Xmedia Server). Therefore, once you have created a new panel, or made changes to an existing panel, you must save it to the Xmedia Server.

When changes have been made to a new or existing panel in Xpanel, an asterisks appears next to the panel's name on panel's tab. The asterisks indicates that the changes have not yet been saved to the Xmedia Server. Note that if you attempt to close a panel that has unsaved changes, Xpanel will display a message prompting you to save the panel.
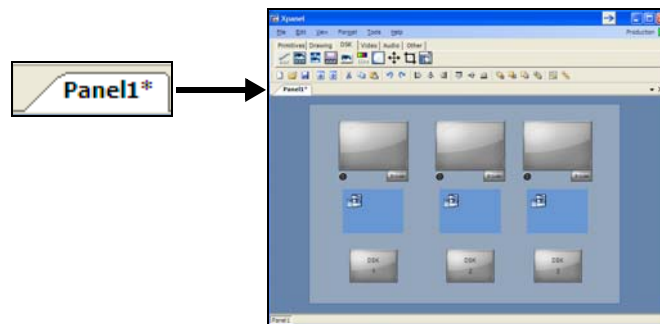
Fig. 4-17: The asterisks indicates that the panel contains unsaved changes

To save a panel:

1 If multiple panels are open, select the panel to be saved to make it the active panel in Xpanel.

2 Save the panel using one of the following methods:

- Select the **File>Save (Ctrl+S)** menu command.

Or,

- Click the Save button 💾 in Xpanel's toolbar.

Or,

- Right-click the panel's tab and select the **Save** command.

If you are saving the asset for the first time, the Save window appears and allows you to determine the storage location (i.e. folder), specify the name of the panel, the name of the person who authored the panel and a short description of the panel. Click **Save** to commit the changes and save the panel to the Xmedia Server.

If saving changes to an existing assets, Xpanel simply saves the panel using the current name without opening the **Save** window.

If you want to save the currently selected panel using another name and/or location, select the **File>Save As** menu command. This essentially allows you to create a copy of the panel using a different name.

Adding panels to a project

Xpanel allows you to save multiple panels into one grouped file called a project, which has the extension `.xpp` and is not saved on the Xmedia Server, but locally instead. Each individual panel must already have been saved to the Xmedia Server before becoming part of a project. Later when the project is opened, all of the panels belonging to the project load in Xpanel.

Saving panels as a part of a project, is a convenient way to organize/group panels that are commonly used together, for transporting panels (exporting and then importing), and projects could even be used as another method to switch between channels. Note that projects also include panel layout information. Therefore if panels have been docked and arranged in a certain way, then the project will store and recall that information.

To save a panel as part of a new project:

1 Open each panel that will be a part of the project.

2 Select the **File>Project>Save** menu command.

The **Save Project** window appears and allows you to determine the local storage location and specify the name of the project.

3 Click **Save** to complete.

To save a panel as part of an existing project:

1 Open the project.

2 Create a new panel or open an existing panel.

3 Save the new panel to the Xmedia Server and/or save any changes made to the existing panels.

4 Select the **File>Project>Save** menu command.

> Note: You can save an existing project under a different name or in a different location by using the **File>Project>Save As** menu command.

Exporting and importing a panel or project

To transfer panels and projects between two separate Vertigo Suite installations, you can export the panels or project from one and import them into the other. Exporting wraps the panel's or project's components into a portable VxM Export file folder, which can then be transferred to and imported into a separate Vertigo Suite installation.

> Note: Since station configuration is not exported with the panels/project, once the panels are imported into the new system, you must re-assign the channels and devices to each object on the panel and/or channel selector.

To export a panel or project:

1 With the panel or project open in Xpanel, select **File>Export** and then select either the **Export panel** or **Export project** command.

   If the panel or project contains unsaved changes, you will be prompted to save before proceeding.

   The **Save As** window appears and automatically assigns the `VxM_Export_*` file name and type.

   > Note: You can only export a single panel at a time when using the **Export panel** command. To export multiple panels in batches, consider grouping the panels into a project and then exporting the project.

2 Select the destination directory for the export file and click **Save**.

   The Export folder can now be transferred to the new system.

To import a panel or project:

1 After transferring the VxM Export folder to the new system and launch Xpanel.

2 Select **File>Import** and then select either the **Import panel** or **Import project** command.

   The **Import panel with assets** window appears.

3 Navigate to the directory where the VxM Export folder is located.

4 Open the Vxm Export folder and double-click the `VxM_Export_*.exp` file.

5 The Import window appears and identifies all of the assets that will be imported from the export file to the target XMS. An icon in front of the asset's name indicates whether the asset is being added or is being updated .

   The assets are displayed in a tree-structure that represents the assets' destination among the target server's categories. Newly created categories are indicated by the icon.

   The Import window can also contain a list of error or warning messages to alert users of problems that may occur if the import is performed. For example, some categories may have to be renamed and some assets will not be able to be categorized because of name conflicts. Clicking on an asset that shows either an error or warning icon highlights the associated messages. Similarly, clicking on a message will select the corresponding asset or category in the tree.

6 After inspecting the import contents, select the **Import** button to proceed with the import or select **Cancel** to abort the import.

- If importing a panel, the panel is automatically added to the media server using the same category structure and placement as the original category assignment.

- If importing a project, the panels belonging to the project are automatically added to the media server using the same category structure and placement as the original category assignment. The panels are loaded and the following window appears, asking you to save the loaded panels as a project.

The Import window remains open after **Import** is clicked so that it can be referenced when looking for newly imported assets. Select the **Close** button to close the **Import** window.

7 Optional: Verify that the asset was properly imported by opening the Asset Browser and navigating to the category where you expected the asset to be stored.

Closing panels

Xpanel offers several ways to close a panel. Regardless of which method is used, if the are unsaved changes on the panel, you will be prompted to save the panel before closing it.

To close an panel that is currently open in Xpanel:

- Click the **Close** button ☒ located in the upper-right corner of the panel.

Or,

- Select the **File>Close** menu command.

Or,

- Right-click on the panel's tab and select the **Close** command.

> Note: Right-clicking the panel's tab exposes the **Close All But this** command, which allows you to immediately close all open panels, except for the currently selected one.

Adding events and actions to primitives and objects

Xpanel's Action Editor allows you to configure the panel, primitives or control objects to perform actions in response to events or changes in tallies from the devices. A simple example to illustrate this concept is that a button primitive (the object) on a control panel can be set in the Action Editor so that when it is clicked (the event) during playout, a specific audio file starts to play (the action).

To configure the panel, primitives and/or objects to perform actions based on events or changes in tallies:

1 In Xpanel's Design mode, open the Action Editor (**Ctrl+E**).

2 Select the primitive, object or panel.

3 Select a standard event from the Action Editor (applies only to: panels, primitives, channel selectors, text objects, image objects and bevel objects).

   Or,

   Add a user event or tally event to the Action Editor.

4 With the event selected, do one of the following:

   • Add an **If** condition and define the condition using the Expression Builder.
     Add actions to the condition and set the actions' parameters.

   Or,

   • Add an **If** condition and define the condition using the Expression Builder.
     Add action(s) to the event's conditions and set the action's parameters.
     Add an **Else** statement and add actions to the Else statement and set the action's parameters.

   Or,

   • Add actions directly to the event and set the actions' parameters.

The following sections provide functional descriptions and instructions for using the Action Editor to add actions and events to primitive objects:

Selecting a standard event

Selecting a primitive, drawing category objects, a channel selector or the panel's canvas displays standard events in the Action Editor that can be associated with actions. Not all standard events are available to every type of object though. The object type and its functionality determines the applicable standard events. For example, when a Check Box primitive is the selected object, the standard events that can trigger actions are limited to: **On Load**, **On Unload**, **On Checked**, **On Unchecked** and **On Get Data**.

Standard Events
for a Check Box
primitive →

> Note: If you have a special requirement that is not covered by existing standard events, you can create custom events (User Defined events) that can be triggered in response to another event, or have actions executed whenever certain database variables change (Data Arrival events). See Adding a user event, on page 72 for more details and instructions.

The following table lists and describes each of the standard events that may appear in the Action Editor.

On Alarm State Changed	The **On Alarm State Changed** event is only available to Alarm Display objects. This event is triggered when the state of a device's alarm changes.
On Channel Changed	The **On Channel Changed** event is only available to Channel Selector objects. This event triggers actions when a new channel is selected from the Channel Selector in Production mode.
On Checked	The **On Checked** event is available to check box objects. This event is triggered when the check box is selected (check mark).
On Clear	The **On Clear** event is triggered by a graphic being cleared from the output device. This event is available to text, text box, drop-down list, image and timer objects, as well as the panel.
On Click	The **On Click** event is available when an image object to be used like a button. In other words, when the operator clicks the image actions are triggered.
On Click (State #)	The **On Click (State #)** event is only available to button objects. The button's **Number of States** property determines the number of these events that appear in the Action Editor. This event is triggered when the button enters the specified state.
On Cue	The **On Cue** event is triggered by a graphic being cued as next to be sent to the output device. This event is available to text, text box, drop-down list, image and timer objects.

On Get Data	The **On Get Data** event is triggered when the user sends a command requesting that data be retrieved from its source. For example, a page could have been programmed to get data every time it is refreshed by the user. This event is available to text, text box, radio button, check box, drop down list, timer objects, as well as the panel.
On Load	The **On Load** event is triggered by a graphic entering Production mode or being opened while in Production mode. This event is available to all objects, as well as the panel.
On Selected	The **On Selected** event is only available to radio button objects. This event is triggered when the radio box is selected (filled in).
On Tab Activated	The **On Tab Activated** event is only available when the panel's canvas is selected. This event is triggered when the panel's tab is selected in Production mode.
On Take	The **On Take** event is triggered by a graphic being sent to the output device. This event is available to text, text box, drop down list, image, timer and ActiveX objects, as well as the panel.
On Timer	The **On Timer** event is triggered when the timer is updated, which is determined by the Timer object's **Interval** property.
On Unchecked	The **On Unchecked** event is only available to check box objects. This event is triggered when the check box is deselected (cleared).
On Unload	The **On Unload** event is triggered by a graphic leaving Production mode. This event is available to all objects, as well as the panel.
On Unselected	The **On Unselected** event is only available to radio button objects. This event is triggered when the radio box is deselected (cleared).
On Update	The **On Update** event is triggered by changes to an image, drop down list, slider, LED, Up Down box, text or text box object, followed by the user clicking off the object. The event is signalled not during the change, but after it has been completed and the object is no longer selected. For example, if a text box's contents are being edited, the **On Update** is triggered only after the edits have been made, not during.

Adding a user event

User events are used when you have a requirement that cannot be met by any of the standard events. Since they cannot be triggered by the system, they are usually triggered by calling a **Send Event** action in response to another event.

A common use for a user event is triggering actions required by more than one object. For example, if you had several buttons on a panel that used a common set of actions, you could create a User event on one of the objects to contain the common actions. Next, you would use the **Send Event** action for every object requiring these actions in order to send the User event to the object with the common actions. The result is akin to a function call or a subroutine, and it reduces the margin of error when modifications to the common action set are required, since changes only need to be made once.

To create a user event:

1   Select the panel or the object for which you would like the event available.

   If the event is for the panel itself, click anywhere where there are no objects.

2   In the Action Editor, click the **Add User Event** ![icon] button.

   The **Add new user event** window appears.

3   Enter a name for your event in the field provided.

4   Click **OK**.

   You can now add actions to the event as required.

Example: Parametrized User events

User events can include parameters to supply more information to be used within the action. Since parametrized User events are only likely to be used in very specific cases, what follows is a generic example of a control panel that allows the operator to set the text of one text box, and at the click of the button the text changes slightly and also appears in another text box.

To create a panel using parametrized User events:

1   Create a new control panel with three (3) text boxes and a button.
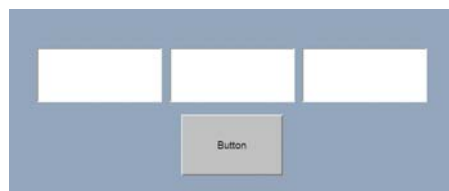
2   Select **Textbox2** and then display the **Action Editor** (**CTRL + E**).

   You will create a new event for Textbox2.

3   Click the **Add User Event** ![icon] button.

4   In the **Add new user event** window, type a name for the event followed immediately by in parentheses into which you will enter a parameter name. For example, `MyEvents(text)`. Then click **OK** and the custom event is added immediately to the Events List.

5   You will now assign a **Send Event** action to the button object. This will send the new event to Textbox2.

a Select the button object on the panel.

b Select **On Click (State 0)** from the Event list.

c Click the **Add Action** ⚡ button.

d Select the **Send Event** action from the **<Define Actions>** drop-down list.
The Send Event is immediately added to the Action Table.

6 In the **Action Parameters**, enter the name of your event in the **Event Name** field followed by a parentheses into which you will enter `Control:Textbox1`. For example, `MyEvent(Control:Textbox1)`.

This means that whatever text is entered in Textbox1 becomes the parameter for the **User** event.

7 In the **Target** field, enter `Control:Textbox2`.

This means that when the button is clicked, it sends the custom event to Textbox2 (which is expecting it) with the contents of Textbox1 as the parameter.
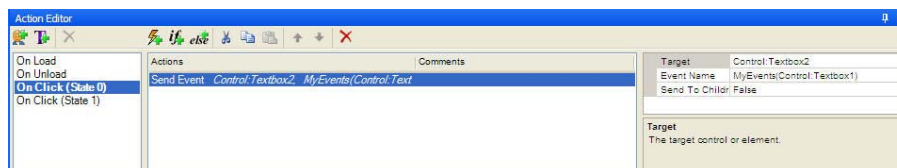
8 Select Textbox2 on the panel and then select your custom event from the Event list.

9 Click the **Add Action** ⚡ button and select the **Set Text** action from the **<Define Actions>** drop-down list.
The **Set Text** action is immediately added to the Action Table.

10 In the **Source** field of the **Action Parameters**, type **Event:** and then the event parameter. For example, if your User event is `MyEvent(text)`, you would enter `Event:text`.

- You can also format the **Source** parameter. For example, to make the parameter text appear uppercase you would put `Event:text` in parentheses and precede it with `ucase`.

- You could also append text by using **&** and then text in quotation marks. For example, your entry could look like this: `ucase(Event:text & " is coming up next")`.

11 In the **Target** field, type `Control:Textbox3`.

This indicates that Textbox3 will be receiving the text specified by the User Defined event parameter. In this case, the text is coming from Textbox1, and will be formatted and extended by the time it reaches Textbox3.
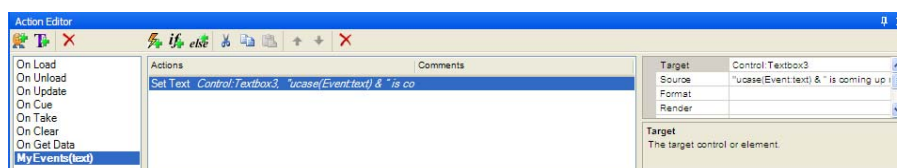
12 Switch to Production mode (**CTRL + P**).

Type text in Textbox1, click the button, and then watch the text appear in Textbox3.

Adding a tally event

When devices, like the Imagestore 750, have tallies turned on, the device sends callbacks when the state of a keyer or its properties change. Xpanel's objects can be programmed to report the status of a device or execute actions in response to a tally coming back from the device.

> Note: Unlike standard and user events, tally events can only be added to objects, not to the panel.

To add a tally event to the panel's Action Editor:

1 Select the object that the tally event will be added to.

2 In the Action Editor, click the **Add tally event** button.

The **Add New Tally Event** window appears.

3 Select the channel (or the channel selector) and the device(s) that will return tally callbacks to Xpanel.

> Note: If you select two or more devices, Xpanel executes actions associated with the tally event if any one of the devices returns an appropriate tally callback.

4 Select a tally event from the following expandable categories of tallies:

- **Tallies**: Standard tally callbacks that represent changes to the state of the device.
- **Command armed tallies**: Tally callbacks that represent changes when armable objects are set to an armed state.
- **Command disarmed tallies**: Tally callbacks that represent changes when armable objects are set to a disarmed state.

> Note: When a tally is selected, a brief description of the tally is provided in the **Tally description** section of the **Add New Tally Event** window.

5 Configure the selected tally's parameters in the **Tally variables** section.

The **Filter Value** column allows you to define conditions that must be true when the tally is received in order to carry out the action(s). The example below demonstrates that the actions associated with the DSK State tally will only be carried out when the tally is received and the Tally Keyer value is 1 and the Tally State is 0.

6 Click OK.

The **Add New Tally Event** window closes and the tally event is added to the Action Editor as On Tally (`<name_of_tally>`). You can now add conditions and/or actions to the tally event as you would for any other event type (see).

Example: Adding tally events to display the state of a DSK

The following procedure demonstrates how to configure a button primitive on a panel to display the current state of a device's DSK using a DSK State tally event. More precisely, when keyer 1 on the device is up and Xpanel receives a DSK State tally, the button will turn

red and display "ON"; when Xpanel receives a DSK State tally indicating that keyer 1 is down, the button will turn blue and display "OFF".
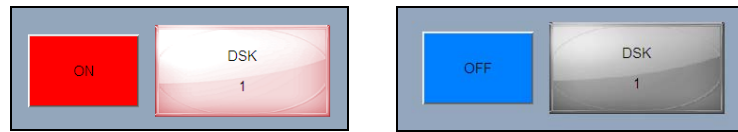
When DSK State Tally = 1   When DSK State Tally = 0

1 Add a button primitive to a panel.

2 Open the Action Editor (Ctrl+E) and select the button primitive.

3 Add and configure a DSK State tally event to execute actions when Xpanel receives a tally from the device that keyer 1 is cut up.

  a Click the **Add tally event** button.

  b In the **Add New Tally Event** window, select the channel (or the channel selector) and the device.

  c In the **Tally** section, expand the **Tallies** category and select **DSK State**.

  d In the **Tally variables** section, set the **Keyer** filter to 1 and **State** filter to 1.

  e Click OK.

The **On Tally (DSK State-Filtered)** tally event is added to the Action Editor.
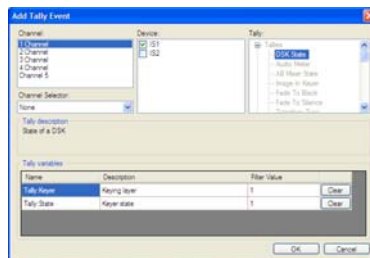
Fig. 5-1: Add a DSK State Tally event to the Button primitive

4 Select the **On Tally (DSK State-Filtered)** tally event and add the Set Back Color action to turn the button's background color to red when the tally reports keyer 1 is cut up.

  a Click the **Add action** button to add an action.

  b Select **Set Back Color** from the drop-down list of actions.

  c Specify the Set Back Color's Action Parameters to:

    • **Target**: `Control:Button1`

    • **Color**: `255,0,0`

5 Select the **On Tally (DSK State-Filtered)** tally event and add Set Text action to change the button's text to "ON" when the tally reports keyer 1 is cut up.

  a Click the **Add action** button to add an action.

  b Select **Set Text** from the drop-down list of actions.

  c Specify the Set Text's Action Parameters to:

    • **Target**: `Control:Button1`

    • **Source**: `ON`

6 Select the **On Tally (DSK State-Filtered)** tally event and add the Set Property action to change the button's state to match the tally's state.

a Click the **Add action** [icon] button to add an action.

b Select **Set Property** from the drop-down list of actions.

c Specify the Set Property's Action Parameters to:

- **Target**: `Control:Button1`
- **Property**: `State`
- **Value**: `Tally:State`
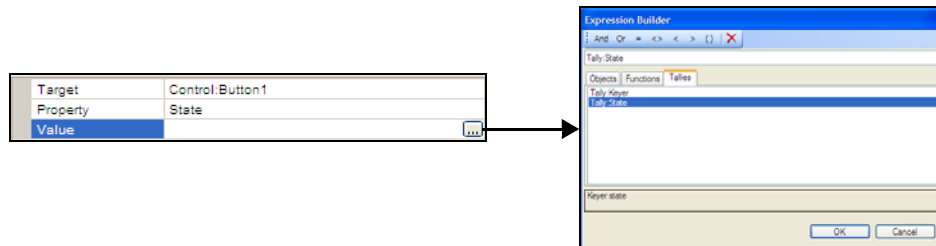
7 Add and configure another DSK State tally event to execute actions when Xpanel receives a tally from the device that keyer 1 is cut down.

a Click the **Add tally event** [icon] button.

b In the **Add New Tally Event** window, select the channel (or the channel selector) and the device.

c In the **Tally** section, expand the **Tallies** category and select **DSK State**.

d In the **Tally variables** section, set the **Keyer** filter value to 1 and **State** filter value to 0.

e Click OK.

The **On Tally (DSK State-Filtered)** tally event is added to the Action Editor.

8 Since we want this second tally event to contain actions that are similar to those in the first DSK State tally event, we'll copy and paste the actions and then edit the necessary action parameters.

a Select the first On Tally (DSK State - Filtered) tally event that you created.

b While holding down the Shift key, click the Copy [icon] button from the Action Editor's toolbar.

c Select the second On Tally (DSK State - Filtered) tally event that you created and click the Paste [icon] button.

The second DSK State tally event now contains the exact same actions as the first DSK State tally event.

9 Edit the action parameters for the Set Back Color and Set Text actions (do not edit the Set Property action):

a Select the Set Back Color action and edit its parameters to:

- **Target**: `Control:Button1`
- **Color**: `0,128,255`

b Select the Set Text action and edit its parameters to:

- **Target**: `Control:Button1`
- **Source**: `OFF`

10 Add a **Fade DSK button** object to the panel, which will be used to test the behavior of the button object in Production mode by manually control the cutting up/down of the keyer.

    a Add a **Fade DSK button** object to the panel by dragging the Fade DSK Button from the objects toolbar and dropping it onto the panel's canvas.

    b Open Xpanel's **Properties** view (**Ctrl+R**) and select the Fade DSK button.

    c Set the **Devices** and **Channels** properties to match the ones specified in the tally events (i.e. `IS1` and `1 Channel`).

    d Verify that the **Keyer** property is set to 1.

11 Save the panel and switch to Production mode.

The two buttons may appear generic (grey), until Xpanel receives its first DSK State tally. Once the tally is received, the button reacts according to the programmed behavior (red = on, blue = off).

Initial display when entering Production mode   When DSK State Tally = 0   When DSK State Tally = 1

Fig. 5-2: The button's expected behavior in Production mode when a DSK State tally is received

12 Click the Fade DSK button to change the state of the DSK and test the behavior of the button.

Adding actions to an event

To add functionality to primitive objects and/or the panel, you must specify the actions that are to be executed in response to an event (standard, user or tally). The following sections describe the two methods for adding actions to an event:

- Add actions to an event so that they will be executed every time the event is encountered. This involves adding default or custom actions directly to the event and setting the actions' parameters. See Adding actions directly to the event, on page 78 for more information and instructions.

Or,

- Add a condition (If or If/Else) which evaluates the user-defined criteria and then determines whether or not to execute the actions defined within the condition statements. See Adding conditions to an event's action list, on page 78 for more information and instructions.

Adding actions directly to the event

If you want actions to be executed every time the primitive or panel encounters the event, then you must add the actions directly to the event and define the action's parameters.

1 With the event selected in the Action Editor, click the **Add Action** ⚡ button.

   The `<Define action>` drop-down list appears in the Action Editor.

2 Select one of the standard actions from the drop-down list.

> Note: If the Action Editor's standard actions do not perform the specific functions that you require, you can select the **Custom** action, which allows you to use scripts to define the desired logic and behavior. See Using scripts to define a custom action, on page 80 for more information.

3 Set the action's parameters which appear in the right-hand section of the Action Editor. Note that when a parameter is selected, a brief description of the parameter appears below the parameter list.

4 Optional: Click on the Action's **Comment** column and type a user-friendly description of the purpose or behavior of the action.

Adding conditions to an event's action list

Adding a condition (If or If/Else) allows more sophisticated logic to be applied by evaluating and then determining which actions are executed based on user-defined criteria.

When an **If** condition is added to an event, the specified actions will only be executed when the If condition is true. If the condition is not satisfied/true, then no action is executed. For example, when the button primitive is clicked (On Click event), if the state on DSK keyer 1 is up (If condition), then display the text "`DSK 1 On`" in a text box primitive (Set Text action).

Adding an Else statement below an If condition allows you to execute specified actions that will be executed when the If condition is false. Building on the example above, if the DSK keyer 1 is up (If condition), then display the text "`DSK 1 On`" in a text box primitive (Set Text

action), otherwise display the text "`DSK 1 Off`" in a text box primitive (Else statement & Set Text action).

To add and define an If condition:

1 With the event selected in the Action Editor, click the **Add Condition** button.

2 Click the button in the **Define condition** row.

The Expression Builder window appears, which allows you to build the condition that will be evaluated and must be true for the action(s) to be executed.

3 Using the Expression Builder, create the condition's logic and then click **OK**.

When building condition statements and setting some properties or parameters (step 5), Xpanel uses prefixes to specify the origins of objects and data. See Prefixes (Control:, Data:, L:, G:), on page 94 for more information on the prefixes that Xpanel uses to identify objects and data.

4 Click **<Define action>** and select an action from the drop-down list.

> Note: If the Action Editor's standard actions do not perform the specific functions that you require, you can select the **Custom** action, which allows you to use scripts to define the desired logic and behavior. See Using scripts to define a custom action, on page 80 for more information.

5 Set the action's parameters which appear in the right-hand section of the Action Editor. Note that when a parameter is selected, a brief description of the parameter appears below the parameter list.

6 Optional: Click on the Action's **Comment** column and type a user-friendly description of the purpose or behavior of the action.

To add and define an Else statement:

1 With the event selected in the Action Editor and an If condition defined in the Action Editor, click the **Add Else** button.

2 Click <Define action> and select an action from the drop-down list.

> Note: If the Action Editor's standard actions do not perform the specific functions that you require, you can select the **Custom** action, which allows you to use scripts to define the desired logic and behavior. See Using scripts to define a custom action, on page 80 for more information.

3 Set the action's parameters which appear in the right-hand section of the Action Editor. Note that when a parameter is selected, a brief description of the parameter appears below the parameter list.

When setting some properties or parameters, Xpanel uses prefixes to specify the origins of objects and data. See Prefixes (Control:, Data:, L:, G:), on page 94 for more information on the prefixes that Xpanel uses to identify objects and data.

4 Optional: Click on the Action's **Comment** column and type a user-friendly description of the purpose or behavior of the action.

Using scripts to define a custom action

If the Action Editor's default actions do not perform the specific functions that you require, you can create custom actions that allow you to use scripts to define the desired logic and behavior.

To create a custom action:

1 Select **Custom** from the Action drop-down list.

The Action Parameters section at right is replaced by the Custom Actions list, which will contain any previous custom actions you or another user may have created.

2 Select an existing custom action.

Or,

Edit an existing custom action by right-clicking on the action and then selecting **Edit** from the popup menu. The Script Editor opens allowing you to edit and save the action's script.

Or,

Create a new one by right-clicking on a custom action and then selecting **New** from the popup menu. The Script Editor opens allowing you to create and save a script for the new custom action. Contact our technical support department for more information regarding the "Producer API".

Duplicating, moving and ordering actions

Rather than creating and configuring a whole new action, you can make a duplicate copy an existing action by copying and pasting it into the same or a different event/tally. Similarly, you can remove an action from one event/tally by cutting it and then pasting it into another (see page 76). You can also delete any unwanted actions by selecting the action and clicking the **Delete button** or pressing the **Delete key.**

Since the action list's order determines the execution sequence, you may need to use the Action Editor's Move Up and Move Down buttons to re-arrange the order in which the actions appear in the list. The **Move item up** and **Move item down** buttons can also be used to move actions in or out of conditions

✂ **Cut**	Cuts the currently selected action. Navigate to the event/tally where you want to move the action(s) to and click the **Paste** button.
	Holding down the **Shift** key while clicking the **Cut** button cuts all actions from the currently selected event or tally.
	Holding down the **Ctrl** key while selecting actions allows you to select multiple actions. Once selected, click the Cut button to cut the selected actions.
📄 **Copy**	Makes a copy of the currently selected action. Navigate to the event/tally that you want to add the action(s) to and click the **Paste** button.
	Holding down the **Shift** key while clicking the **Copy** button copies all actions from the currently selected event or tally.
	Holding down the **Ctrl** key while selecting actions allows you to select multiple actions. Once selected, click the Copy button to make copies of the selected actions.

Paste	Pastes the last cut or copied action(s) into the currently selected action row.
Delete	Deletes the currently selected action(s) from the event or tally. Holding down the **Shift** key while clicking the **Delete** button deletes all actions for the currently selected event or tally.
Move item up	Moves the currently selected action up one place in the event/tally's action list. Holding down the **Shift** key while clicking the **Move item up** button moves the currently selected action to the top of the list, making it the first action to be triggered by the event/tally.
Move item down	Moves the currently selected action down one place in the event/tally's action list. Holding down the **Shift** key while clicking the **Move item down** button moves the currently selected action to the bottom of the list, making it the last action to be triggered by the event/tally.

Adding a data source to an object

Xpanel and the Data Server allow you to configure Text Box, Text and Drop-down List objects to receive content from data sources, like databases, Excel spreadsheet files, delimited text files or RSS feeds.

When associated with a data source, the object is automatically populated with the most recent content belonging to the data source. For example, a text box object can be configured to display "live" information fed to it from an RSS feed. Similarly, the options within a drop-down list can automatically be updated if it is linked to a spreadsheet, delimited text file or database that has been edited.

Linking a data source to an object also provides the opportunity for actions to be executed when the object triggers an event (i.e. **On Update**). For example, when the RSS feed updates the text belonging to a text box, a device command can be executed to display the text on a device.

The following procedure provides high-level instructions and link to information for defining a data source and linking it to a panel object.

To define data sources that can be linked to objects:

1 Open Xpanel's Asset Browser (Ctrl+A) and select the **Data** tab.

2 Add a new schema.

A schema is a holding space for one or more data sources. To link data to an object, Xpanel must first be told where the data is coming from. This is done by setting up one or more data sources within a container called a schema. Once Xpanel recognizes the data source's existence within the schema, the source can be used over and over again. See page 85 for more information about creating and using schemas.

3 From your new schema, create a **data entity**.

A data entity combines specific data from a data source with instructions for displaying them. There are three types of data entities:

  • Creating a snapshot
  • Creating a ticker
  • Creating a multi-ticker

4 Link items from a data entity to the panel's object. See Linking data entities to a panel object, on page 93.

5 Optional: Add and configure actions to be executed when the object is updated. See Adding actions to an event, on page 78.

Connecting Xpanel to the Data Server

The Data Server is a service that is responsible for managing data coming from various feeds by providing live updates of data values when requested, and distributing the data to the appropriate recipients. The Data Server can run locally on the Xpanel workstation (automatically installed as part of the Vertigo Suite installation) or it can be run on a remote/central Xmedia Server device on the same network as the workstation running Xpanel.

The connection to the Data Server is optional, in that Xpanel will run even if the connection to the Data Server is down. However, data sources and variables will not work unless the connection is active. Common reasons for losing the connection are that the Xmedia Server or the machine hosting Xpanel has lost its network connection (network is down, IP address has changed or network cable disconnected), the Data Server service has been stopped, or the Xmedia Server machine has been shutdown.
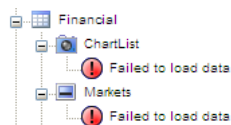
Fig. 6-1: Data cannot be retrieved unless Xpanel is actively connected to the Data Server

Setting Xpanel's connection to the Data Server:

1 With Xpanel open, select the **Tools**>**Options** window to open and displays the Setup page.

2 Verify Xpanel's Data Server connection configuration.

- If you want to connect to the Data Server that is running locally, the **Use Remote Data Server** check box should be unchecked.

If Xpanel is unable to connect to the local Data Server, you should verify that the Data Server Service is actively running (**MS Control Panel**>**VertigoXmedia DataServer**>**Service Control**).

- If you want to connect to the Data Server that is running on a remote Xmedia Server (i.e. central Xmedia Server) that is on the same network as the Xpanel client workstation, the **Use Remote XMS** check box should be checked.

If Xpanel is unable to connect to the remote Xmedia Server on start up, verify the accuracy of **Server name / IP** setting and the **Server Port** setting (14060). If these settings are incorrect, make the appropriate edits.

If these settings are correct, verify that the machine hosting the Data Server is operating, that it is actively connected to the network, and its Xmedia Server Service is actively running.

3 Click **OK**.

If you made any changes to the server settings, a message box appears and informs you that you must restart Xpanel for the new server to take effect.

Creating and configuring data schemas

For data links to work, Xpanel must first recognize where the data is coming from. This is done by setting up one or more data sources within a schema. Once the data source exists, it can be used over and over again to create data entities (i.e. snapshots, tickers and multi-tickers). When you create a schema, you specify at least one data source and its identifying information (e.g. location, whether it is a database, Excel file, text file... etc.).

The following topics provide more information and instructions for creating and working with schemas:

- Creating a new data schema, on page 85
- Editing schemas, on page 87
- Renaming or saving a copy of a schema with a new name, on page 87
- Deleting schemas, on page 87

Creating a new data schema

To create a new data schema:

1 Open Xpanel's Asset Browser (Ctrl+A) and select the **Data** tab.

2 Right-click anywhere within the Asset Browser and select the **New Schema** command.

The **Data Schema Settings** window appears.

3 In the **Name** field, enter the name you would like to assign to the schema.

4 Click the **New** drop-down list and select one of the following data sources:

- **Database**
- **Excel Spreadsheet**
- **Delimited Text File**
- **RSS**

Depending on your choice, different fields will display in the **Data source settings**.

| Database | Excel Spreadsheet | Delimited Text File | RSS |
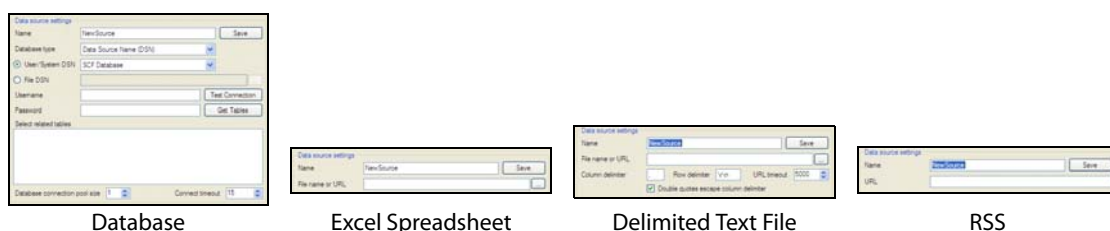
5 If you chose **Database** from the **Data Source Type** drop-down list:

a Make a selection from the **Database type** drop-down list:

- **Data Source Name (DSN)**
- **Microsoft Access (*.mdb)**
- **Microsoft SQL Server**
- **Oracle Server**

b If you chose **Data Source Name**, select either the **User/System DSN** or the **File DSN** radio button. If opting for **User/System DSN**, make a selection from the drop-down

list; if opting for **File DSN**, enter the file name in the field provided or click ▣ to browse. If required, enter the **user name** and **password**.

c If you chose **Microsoft Access**, specify the file name in the **Access database** field (click ▣ to browse).

d If you chose **Microsoft SQL Server** or **Oracle Server**, specify the name of the computer hosting the server in the **Server name** field, the name of the database in the **Database** field, and the **Username** and **Password** to connect to the server in the appropriate fields.

e Click the **Test Connection** button to ensure the connection to the database works (unless you opted for Microsoft Access, in which case it is not necessary). If successful, the database's tables will automatically display.

f If desired, you can skip testing the connection and simply click the **Get Tables** button to display the various tables within the database.

g Select one or more tables from the **Select related tables from the following list** section to make them available in the data source (hold down the **Shift** or **Ctrl** key for multiple selections).

h Specify the **Database connection pool size**. This specifies the number of database connections that are permitted to be reused.

i Specify the **Connect timeout**, which is a timeout in seconds.

6 If you chose **Excel Spreadsheet** from the **Data Source Type** drop-down list, provide the required information in the **File Name or URL** field (click ▣ to browse).

> Note: Only `.xls` files are supported. Excel's `.xlsx` files are not supported.

7 If you chose **Delimited Text File** from the **Data Source Type** drop-down list:

a Provide the required information in the **File Name or URL** field (click ▣ to browse).

b Specify the characters that will act as the column and row delimiters in the text file. By default, the **Column delimiter** is set to a comma character and the **Row delimiter** is set to `\r\n` (carriage return and line feed).

c Set the **URL Timeout** property in milliseconds (default = 5000).

d If the Column delimiter is set to comma and your text file data contains a text string with an intentional comma (i.e. Smith, Daniel, Jones, Mary), you can avoid the unintentional breaking on commas by putting the text between double quotations (i.e. "Smith, Daniel", "Jones, Mary") and enabling the **Double quotes escape column delimiter** parameter.

8 If you chose **RSS** from the **Data Source Type** drop-down list, enter the **URL**.

RSS commonly-used XML format distributes news headlines, links and abstracts collected from the Web. There are many sites available that conform to this format. For a sampling, refer to **http://www.newsisfree.com/**. From there you can create an account and then start browsing the free news feeds.

> Note: Make sure the web site you are entering is correct and up-to date.

9 Click the **Save** button to save the new data source. It displays at left under **Data Sources**.

10 Repeat steps 3 to 10 until all data sources for the schema have been created, then click **OK**. This closes the **Data Schema Settings** window.

Editing schemas

When editing a schema, you are editing data source details.

To edit a schema:

1 Open Xpanel's Asset Browser (Ctrl+A) and select the **Data** tab.

2 Right-click on the schema that is to be edited and select the **Edit** command.

The **Data Schema Settings** window appears.

3 Select a data source from the list at left.

4 Click the **Edit** button. The **Data source settings** fields are displayed.

For a description of each data source setting, please refer to page 85.

Or,

Click the **Delete** button to delete the data source from the schema.

5 When done making changes, click the **Save** button and then click **OK** to exit the **Data Schema Settings** window.

Renaming or saving a copy of a schema with a new name

You can rename a schema right-clicking on a schema and then selecting one of the following commands:

• **Edit** - This option opens the **Data Schema Setting** window, where you can edit the schema's name in the **Name** field.

• **Rename** - This option should only be used if you have just created your schema and would like to rename it.

• **Save As** - This option creates a copy of the schema while keeping the old one. Any links to panels, for example, are preserved as long as the original schema exists. However, if you delete the old version all data links will break.

> Note: If you have already used your schema to create tickers, snapshots etc., it is not recommended that you use the **Rename** option, since the data entities will be affected by the name change, and data links to objects will be broken.

Deleting schemas

To delete a schema:

1 Right-click on the schema that is to be deleted and select the **Delete** command.

2 The **Delete Data Schema** window appears and warns you that by deleting the schema, all associated data entities (i.e. snapshots and tickers) will also be deleted.

Click **Yes** to confirm that you want to delete the schema.

Creating and configuring data entities

Snapshots, tickers and multi-tickers are all data entities -- combinations of specific data from a data source (more than one data source in the case of multi-tickers), and instructions on how to display the data once it has been linked to an object (e.g. in ticker format, as a snapshot value).

The following sections describe how to create and edit data entities:

- Creating a snapshot, on page 88
- Creating a ticker, on page 90
- Creating a multi-ticker, on page 92
- Editing and deleting data entities, on page 92
- Renaming or saving a copy of a data entity with a new name, on page 92

Creating a snapshot

A snapshot is a table of data values that is periodically refreshed. Use a snapshot to display a single data value, in contrast to a ticker which cycles through a set of values.

To create a snapshot:

1 Open Xpanel's Asset Browser (Ctrl+A) and select the **Data** tab.

2 Right-click on the schema that you want to add the snapshot to and select the **New Snapshot** command.

   The **Data Snapshot Settings** window appears.

3 In the **Snapshot Name** field enter a name for your snapshot.

4 In the **Data source** drop-down list, select one of the data sources that is already defined in the schema.

   The Data Setting fields that are displayed depend on the type of data source selected.

   If the Data source is an Excel Spreadsheet:

   - Verify the **Excel file** path (read-only) and specify the sheet name in the **Sheet name** field.

   If the Data source is a text file:

   - Verify the **Text file** path (read-only).

   If the Data source is an RSS:

   - Verify the **URL** path (read-only).

   If the Data source is a database:

   a Select one or more tables from the **Select table(s)** section (hold down the SHIFT or CTRL key for multiple selections)

   b Select the columns to be returned from the query in the **Select Return Column(s)**. To change the titles of selected columns, click the **Edit Column Names** button. When the **Column Headers** dialog box displays, click in a column name to make the text editable.

   c To have only specific records returned, use the **Set Key** area. To use stock information as an example, you could display only stocks that have gone up or down by $1.00 or more.

d Each line in the Set Key area represents a filter on the available data and is expressed as a condition on the value of a column. Select a column name and operator from the drop-down list in their respective columns. The value can either be entered as a constant or can be set to the value of another column by choosing a column name from the drop down list in the **Value** column. Alternatively, it is possible to set a DYNAMIC VALUE by choosing <DYNAMIC> from the drop-down list.

e To sort returned records, use the **Set Sorting Order** table. Click in the **Name** column to display a drop-down list that contains all column names of the selected tables in the data source. Once the column has been selected, click in the **Order** row to display the drop-down list that contains your two choices: **Ascending** and **Descending**.

5 In the **Refresh Rate** field, enter the time interval in seconds that will separate data refreshes, or select the **Never Refresh** check box to deactivate the **Refresh Rate** field.

6 In the **Garbage Collect** field, enter the time interval at which the system will purge outdated instances of data variables.

7 In the **Max Rows** field, enter the maximum number of rows to be returned by the query. This will ensure that the system's performance will not be hampered by the retrieval of unnecessarily large tables. If you would prefer that there be no limit on the number of rows returned by the query, enter 0.

8 The value of the **Stale Interval** field represents the frequency at which the system checks to see if the data has been updated. If the data has not been updated with the specified time, a warning is sent to the Xpanel log file. Note that the Stale Interval value must either be left blank (default) or be a value greater than the Refresh Rate value.

9 Click **OK**.

This closes the **Data Snapshot Settings** window.

To view the new snapshot, expand the schema in the Asset Browser.
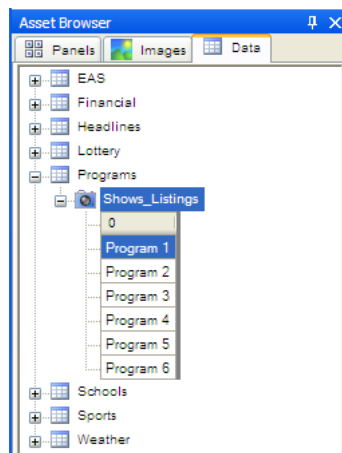
Fig. 6-2: New snapshot is listed under the schema

Creating a ticker

Use a ticker when you want to scroll through a data set, displaying one or more items at preset intervals. The item or items will be replaced with new content from a selected source.

To create a ticker:

1 Open Xpanel's Asset Browser (Ctrl+A) and select the **Data** tab.

2 Right-click on the schema that you want to add the snapshot to and select the **New Ticker** command.

    The **Data Ticker Settings** window appears.

3 In the **Ticker Name** field enter a name for your ticker.

4 Specify the **Ticker Settings**:

    a In the **Interval (sec)** field, select the number of seconds you would like to elapse before displaying the next data item.

    b In the **Items** field, select the number of data rows that are available for display.

    c In the **Increment** field, select the number of rows you would like to increment. The number of items must always be equal to or less than the increment number to avoid data items being skipped.

    d In the **Burst** field, select the number of data items you would like initially sent from the **Data Server** to the output device. If no burst is required, leave the count at 0.

    > Note: The **Burst** setting is used with crawling or rolling tickers, and ensures that the first data item will not repeat itself if subsequent data items are not sent to the device in time. If using the **Burst** setting, it must be reset every time you go to **Production** mode using two **Ticker Command** actions (**Reset** and **Start**) associated with the panel's **On Load** event.

    e Select the **Refresh only at end** check box to refresh ticker data only after it has gone through the entire table.

    f Select the **Start By Default** check box to have the ticker start running as soon as its host control panel or page is activated. This is the only way to start it without setting up an action.

    g Select the **Wrap around** check box to have the ticker wrap. This feature is useful if your ticker is showing, say, three data items at a time and you want to ensure that if you reach the end of your table and there are only two items left, that you don't end up with a blank item. In this case, if **Wrap around** were selected the first item from the table would go to air as the last item.

    h Select the **Loop** check box to have the ticker start at the beginning of the table and play again after it has reached the end.

    i Enable the **Individualised** property when you want to allow each client to control the state of the ticker independently.

5 In the **Data source** drop-down list, select one of the data sources that is already defined in the schema.

    The Data Setting fields that are displayed depend on the type of data source selected.

If the Data source is an Excel Spreadsheet:

- Verify the **Excel file** path (read-only) and specify the sheet name in the **Sheet name** field.

If the Data source is a text file:

- Verify the **Text file** path (read-only).

If the Data source is an RSS:

- Verify the **URL** path (read-only).

If the Data source is a database:

a Select one or more tables from the **Select table(s)** section (hold down the SHIFT or CTRL key for multiple selections).

b Select the columns to be returned from the query in the **Select Return Column(s)**. To change the titles of selected columns, click the **Edit Column Names** button. When the **Column Headers** dialog box displays, click in a column name to make the text editable.

c To have only specific records returned, use the **Set Key** area. To use stock information as an example, you could display only stocks that have gone up or down by $1.00 or more.

d Each line in the Set Key area represents a filter on the available data and is expressed as a condition on the value of a column. Select a column name and operator from the drop-down list in their respective columns. The value can either be entered as a constant or can be set to the value of another column by choosing a column name from the drop down list in the **Value** column. Alternatively, it is possible to set a DYNAMIC VALUE by choosing <DYNAMIC> from the drop-down list.

e To sort returned records, use the **Set Sorting Order** table. Click in the **Name** column to display a drop-down list that contains all column names of the selected tables in the data source. Once the column has been selected, click in the **Order** row to display the drop-down list that contains your two choices: **Ascending** and **Descending**.

6 In the **Refresh Rate** field, enter the time interval in seconds that will separate data refreshes, or select the **Never Refresh** check box to deactivate the **Refresh Rate** field.

7 In the **Garbage Collect** field, enter the time interval at which the system will purge outdated instances of data variables.

8 In the **Max Rows** field, enter the maximum number of rows to be returned by the query. This will ensure that the system's performance will not be hampered by the retrieval of unnecessarily large tables. If you would prefer that there be no limit on the number of rows returned by the query, enter 0.

9 The value of the **Stale Interval** field represents the frequency at which the system checks to see if the data has been updated. If the data has not been updated with the specified time, a warning is sent to the Xpanel log file. Note that the Stale Interval value must either be left blank (default) or be a value greater than the Refresh Rate value.

10 Click **OK**.

This closes the **Data Ticker Settings** window.

To view the new ticker, expand the schema in the Asset Browser.

Creating a multi-ticker

A multi-ticker looks and acts exactly like a ticker, except that it takes its data from more than one data source within a single schema. This allows you to run through all data from one and then immediately move on to the next one.

To create a multi-ticker:

1 Open Xpanel's Asset Browser (Ctrl+A) and select the **Data** tab.

2 Right-click on the schema that you want to add the snapshot to and select the **New Multi-ticker** command.

The **Data Multi-ticker Settings** window appears.

3 In the **Multi-ticker Name** field enter a name for your ticker.

4 Specify the **Ticker Settings** by following the instructions in step 4 on page 90.

5 Under **Sub-Tickers** click the **New** button. This enables the fields under Individual **Sub-Ticker Settings**. The sub-tickers are individual tickers that make up the multi-ticker.

6 Within **Sub-ticker Settings**, enter a name for the sub-ticker in the **Sub-Ticker Name** field.

7 Follow steps 5 to 9 on page 90 to complete the rest of the sub-ticker information.

8 Click the **Save** button to save the new sub-ticker. It is immediately added to the **Sub-tickers** section.

9 Repeat steps 5 to 8 from this procedure until all data sources for the multi-ticker have been created, then click **OK**. This closes the **Data Multi-ticker Settings** window.

To view the new multi-ticker, expand the schema in the Asset Browser.

Editing and deleting data entities

To edit or delete data entities:

1 Open Xpanel's Asset Browser (Ctrl+A) and select the **Data** tab.

2 Expand the schema that contains the data entity.

3 Right-click the data entity that is to be edited or deleted:

• Select the **Edit** command. The data entities Settings window appears. Make the appropriate edits and click **OK**.

Or,

• Select the **Delete** command. When the **Delete data ticker** window appears, click **Yes** to confirm that you want to delete the data entity.

Renaming or saving a copy of a data entity with a new name

The same issues surrounding the **Rename** versus the **Save As** functions for schemas also applies to snapshots, tickers and multi-tickers (see Renaming or saving a copy of a schema with a new name, on page 87). Basically, renaming is risky unless you have just created the data entity. Any links you have made with it on a panel will be broken.

Saving a data entity as something else creates a copy of it while keeping the original and any links created with it.

Linking data entities to a panel object

Data linking is the process of connecting data to objects, so that the object's content is always fed the most recent information from the data source. For example, to display headlines from a newswire feed you must link the data source to the object displaying the data (e.g. a text box).

To create a data link:

1 Ensure that both the Properties view (**Ctrl+R**) and the Asset Browser (Ctrl+A) are open.

2 Select the Data tab in the Asset Browser and navigate to the schema and data entity that will populate the panel object.

3 Expand the data entity to display its contents.

4 Add or select the object (Text box, Text or drop-down list) that will receive data from the data entity. The object's properties now appear in the Properties view.

5 Create the data link by dragging a data item or data column heading from the data entity directly onto the object on the panel.

> Note: When creating data links, bear in mind that only one data item can be assigned to an object. Therefore, if your data source has multiple columns and you would like to display data from more than one, you'll need to set up several text boxes. Furthermore, you'll need to ensure that the data item for each text box comes from the same row, otherwise your data will be out of sync.
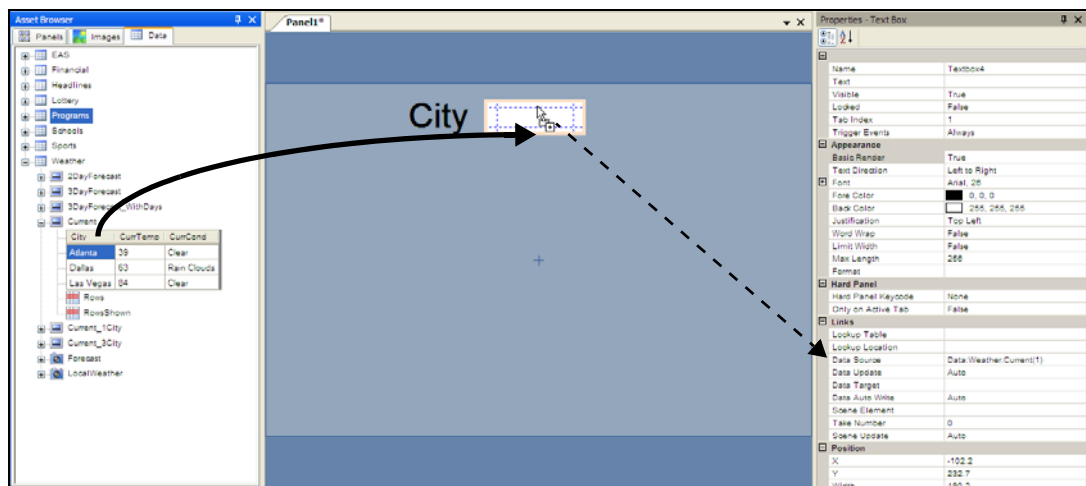
The object's **Data Source** property is automatically filled in with the data source's path (i.e. `Data:<schema>:<dataEntity>(<column#>,<Row#>)`. Note the prefix that Xpanel uses to specify the origins of the data. See Prefixes (Control:, Data:, L:, G:), on page 94 for more information on the prefixes that Xpanel uses to identify objects and data.

Prefixes (Control:, Data:, L:, G:)

When setting some properties or parameters, Xpanel uses prefixes to specify the origins of objects and data. While you can type these in along with the object name or data source, Xpanel's drag and drop functionality makes it unnecessary for the most part by automatically filling all required information.

The following table identifies the most common prefixes used:

Prefix	Signifies
Control:	A control object, e.g. **Control:MyControlObject**. This prefix is commonly used in the Action Editor to identify the control object that the action's parameters apply to (e.g. **Target** or **Source**). See Adding actions to an event, on page 78.
Data:	A data item from the Data Server, e.g. **Data:Schools:SchoolsClosed(1,1)**. This prefix is commonly used in the **Data Source** property to identify the data item that is linked to an object. See Linking data entities to a panel object, on page 93.
L: **G:**	• A local data server variable, e.g. **L:SelectedStock**. • A global data server variable, e.g. **G:StationID**. Local and global database variables are created on the fly whenever a reference to one is made in a property value or action parameter. It is also possible for controls to set the value of these variables such that other controls may read them. Local database variables can only be used within the control panel that created them and are destroyed when the panel exits Production mode. Global database variables, on the other hand, are shared amongst all control panels and remain in the database even after exiting Production mode.

Lookup table properties

Objects that have a **Data Source** property, most likely also have a **Lookup Table** and **Lookup Table Location** properties.

Lookup tables are created in Xstudio, the Vertigo Suite's template authoring application, and they provide a way of defining replacement values for incoming data. For example, an object that is being fed the full city names from a live data source, cross references the city name against a lookup table and then displays the city's abbreviation. Refer to the Xstudio User Manual for instructions on how to create and use Lookup tables.

In the context of using lookup table in Xpanel, if lookup tables are saved on the same Xmedia Server that Xpanel is connected to, you can use these lookup tables to replace the values coming into an object linked to a data source. How you apply a lookup table depends on where the data is coming from:

- If data is being fed in from a data source, you would use the **Lookup Table** and **Lookup Table Location** properties in the **Properties** view to select the lookup table and identify its location on the Xmedia Server.

- If the lookup table is replacing text coming from somewhere other than a data source, e.g. the contents of a text box being set into another text box, you would use the Action Editor's **Expression Builder** to create a LOOKUP expression (see page 69).

Operating panels in Production mode 7

Xpanel's Production mode allows operators to open panels that were built in Xpanel's Design mode and use them to control the playout of graphics on external channel branding devices. Production mode also allows operators to monitor the Xpanel's connection to the devices associated with the loaded panels, as well as monitor the health and alarms of connected devices.

For the most part, the mechanics of operating panels in Production mode are the same as most Windows-based user interface controls (e.g. clicking buttons or setting values using a slider or up/down box). Well designed panels should be user-friendly and intuitive so that operators can easily identify and use the controls. Operators who would like to learn more about the purpose and functionality the individual objects are encouraged to consult Adding objects and primitives to a panel, on page 26.
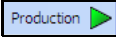
The following sections provide information and instructions for opening panels in Production mode and using some of the less intuitive controls, like channel selectors and how to arm and take certain objects. Information is also provided to explain how operators can use Xpanel's monitoring and logging features to oversee the status and details of Xpanel's operations.

Opening panels and projects in Production mode

Once you have created a panel in Xpanel's Design mode, you will want to test its functionality and usability by switching to Xpanel's Production mode.

To switch from Design mode to Production mode:

- Select the **View>Production Mode** menu command.

Or,

- Press CTRL+P

Or,

- Click the **Production Mode** button [Production ▶] located in the upper-right corner of the menu bar.

> Note: In order to open in Production mode, a valid station configuration must be loaded in Xpanel. If a station configuration is not already loaded, you will be prompted to load a station configuration before Production mode is opened. See Loading a station configuration, on page 21 for more information.
>
> Opening a panel in Production mode makes the panel live and enables the **On Load** event, which may trigger actions. Therefore, if your intent is to explore the interface or test the panel's behavior, ensure that the selected devices are not live on air.

When in Production mode, perform one of the following to open another panel or project:

To open an existing panel:

a Select the **File>Open** menu command or press Ctrl+O.

The **Open Panel** window appears.

b Navigate and select the desired panel.

c Click **Open**.

To open an existing project:

a Select the **File**>**Project**>**Open** menu command.

The **Open Project** window appears.

b Navigate and select the desired project.

c Click **Open**.

> Note: If Xpanel is in full screen Production mode and you want to open a new panel or project, press the F11 key to leave full screen mode and then use the procedures above to open the panel(s). Press F11 again to return to full screen mode.

Xpanel startup for operator control workstations

Operators do not need to have access to Xpanel's Design mode when Xpanel is used for playout control on an operator control workstation. In such operational situations, we recommend configuring Xpanel's Startup options to automatically open in full screen Production mode, as well as automatically load a specific panel or project. You can also restrict operators from accessing Xpanel's Design mode by enabling a password requirement in order to switch from Production mode to Design mode.

To set up Xpanel for an operator control workstation:

1 Launch Xpanel.

2 Open the **Options** window by selecting the **Tools>Options** menu command.

3 Select the **Startup** tab.

4 Optional - Enable the **Start in full screen mode** setting to ensure that Xpanel's user interface is full screen each time the application is opened.

When Production mode is in Full Screen, the Xpanel title bar and menus are hidden and the remaining portions of the user interface expand to cover the full screen. Use the F11 keyboard button to toggle between Full Screen and regular view.

Regular view (Full Screen disabled)   Full Screen mode
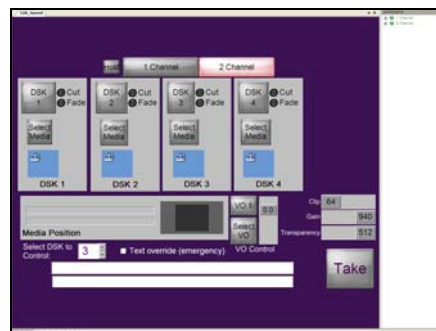
5 Enable the **Start in production mode** setting to have Xpanel automatically start up in Production mode each time it is opened.

In order to open in Production mode, a valid station configuration must be loaded in Xpanel. Therefore, if the **Start in production mode** setting is enable and a station configuration is not already loaded, you will be prompted to load a station configuration before Xpanel can open in Production mode. See Loading a station configuration, on page 21 for more information.

6 Optional - The **Optional password for Edit mode** field becomes available when the **Start in Production mode** setting is enabled. This field allows you to restrict the ability to switch from Production mode to the Design mode by requiring a password.

To implement the password protection, simply type the password in the field. Later when you click **OK** (further in this procedure), you are prompted to confirm the password by retyping the password.

Once the password protection is configured, when an operator attempts to enter Design mode from Production mode, they are asked to provide a password. Only by providing a correct password will they be able to change modes.

7 Optional - If you configure Xpanel to start in full screen Production mode, we recommend that you also set either the **Auto-load panel** or **Auto-load project** options, which will automatically load the specified panel or project each time Xpanel is started.

Use the **Browse** button to navigate to and select the desired panel or project.

> Note: Loading a panel in Production mode makes the panel live and enables the **On Load** event, which may trigger actions. Therefore, if your intent is to explore the interface or test the panel's behavior, ensure that the selected devices are not live on air.

8 Click OK to commit the Start-up options settings.

The new Start-up options' setting will be applied next time Xpanel is launched.

Selecting channels using a Channel Selector

In Production mode, a Channel Selector object allows you to choose the channel(s) that an object's operations will be applied to. You can select and execute on one channel at a time or gang the channels (select two or more channels) so that operations carried out on the panel are sent simultaneously to all of the ganged channels.

While the appearance and style of the Channel Selector may be different depending upon the object's properties settings, the basic operation of the Channel Selector is very similar in most cases. Regardless of the **View Type** setting, the main operational features are the channel buttons, which are mapped to specific channels and devices. See Creating a Channel Selector, on page 53 for more information about configuring a Channel Selector object in Design mode.

View Type = Standard

View Type = Grouped

Fig. 7-1: Click the channel buttons in the Channel Selector to activate a channel assignment

To select a channel operators simply have to click a channel button. Once selected, operations carried out by objects associated with the Channel Selector will be executed on that channel. In Production mode, the color of the Channel Selector's channel buttons change depending upon its current state.

Grey = Not selected/active

Red = Selected/active

Red with alert symbol = Selected, but a device is disconnected

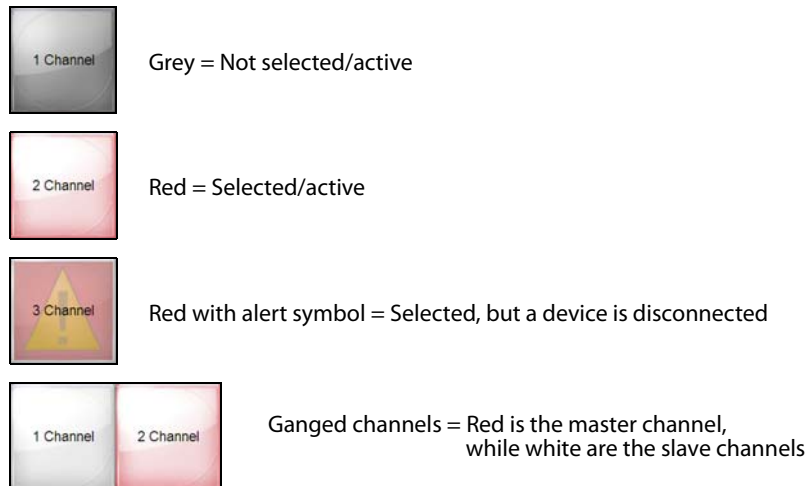Ganged channels = Red is the master channel, while white are the slave channels

Fig. 7-2: States of the channel buttons

Note: When the panel is loaded, one or several channel buttons may already be selected if the Channel Selector's **Default List** property was set.

There are two methods for ganging channels in a Channel Selector:

- If the **Display Hold Button** property was set to **True**, a **Hold** button will appear within the Channel Selector. Select the **Hold** button, then click the channels that you would like to gang together. The first channel selected appears in red and is designated as the Master Channel, while the others appear in white and are the slave channels.

Or,

- If the Channel Selector does not have a **Hold** button (**Display Hold Button** property was set to **False**), you can right-click on the Channel Selector's channel buttons in Production mode to select multiple channels.

Using armed states (Arm & Take)

Using a technique called Arm & Take, operators can ready multiple objects on the panel in Production mode and then execute their operations simultaneously by clicking the **Take** button.

When an object's **Armable** property is set to **True**, operators can put objects into a ready state by clicking the object so that the button or LED changes color. The object's operations are prepared and remain in an armed state until a Take command is triggered (clicking the **Take** button). Once the Take command is triggered, the operations associated with all of the armed objects on the panel are carried out.

For example, if keyer 1 is currently down (grey), but it is armed to cut up when the **Take** button is clicked. Keyer 2 is currently on air (red), but it is armed to fade down when the **Take** button is clicked. Keyer 3 is also currently on air (red), but since it is not armed (neither of the LEDs are active), its state will remain unchanged when the **Take** button is clicked.

Fig. 7-3: Arm & Take example

The sections below provides descriptions of the specific behavior of the four (4) Xpanel objects that can be configured to be armable.

Fade DSK button objects

The Fade DSK button object is a toggle control for cutting up or down the media content that is currently loaded onto the keyers.

In Production mode, the DSK Fade Button appears grey when the keyer is cut down and red when it is cut up.

When the Fade DSK button's **Armable** property is set to **True**, two LEDs (**Cut** & **Fade**) appear with the DSK button (see page 35). Clicking the DSK button toggles the button between its armed states (armed-cut, armed-fade, disarmed).

Refer to the example above for a short description of the Fade DSK button's arm & take behavior.

Transition Type objects

The **Transition Type** object allows you to choose the transition style that is used when the device's A/B mixer moves the program output between two SDI video input streams.

When the Transition Type object's **Armable** property is set to **True**, you can choose the transition type that will be used when a **Take** command is triggered (i.e. <Active>Take Button object is clicked). In addition to the Transition Type, the transition rate at the time the object is armed is also locked in and used when a **Take** command is triggered.

Note: Wipe transitions are removed when the Transition Type object is armed.

Virtual GPI objects

The **Virtual GPI** object allows you to control up to 18 GPI triggers that are configured for the specified device(s).

When the Virtual GPI's **Armable** property is set to **True**, you can arm one or several of the Virtual GPI buttons by simply clicking the individual buttons, which turns them from grey (disarmed) to red (armed). They will remain it this state until the **Take** button is clicked, at which time the operations associated with the armed GPI buttons will be carried out.

Voice Over button objects

The **Voice Over Button** object is a toggle switch that allows you to cut up or down the loaded audio file or external audio on the specified device(s).

In Production mode, the Voice Over Button appears red when the voice over is active (i.e. playing) and grey when it is not.

When the Voice Over button's **Armable** property is set to **True**, an **Arm** LED appears next to the Voice Over button (see page 43). Clicking the Voice Over button toggles the button between its armed state (Arm LED active) and disarmed state (Arm LED inactive).

The example below demonstrates that VO 1 is currently up (red), but it is armed to be cut down when the **Take** button is clicked. VO 2 is not currently on air (grey), but it is armed to cut up when the **Take** button is clicked. VO 3 is also currently off air (grey), but since it is not armed (the LED is inactive), its state will remain unchanged when the **Take** button is clicked.

Monitoring device connectivity

In Production mode, it is crucial that operators be aware of and have control over the connections between Xpanel and the devices. As such, when Xpanel is in Production mode, operators can monitor the connection status displayed in the lower-left status bar. The status bar's messages (below) allow operators to casually monitor the connection status.

All connections are good: Please click here for more information   Connection error: Please click here for more information

As the status bar messages state, more details are available by clicking the status bar, which opens Xpanel's **Connections Monitor** view.
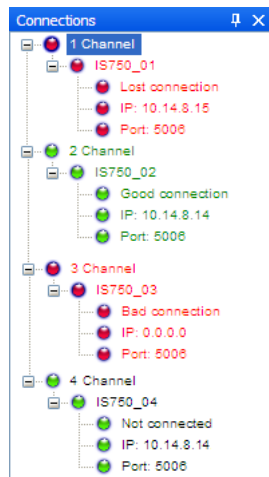

Fig. 7-4: Xpanel's Connection Monitor view

> Note: Another way to open the Connection Monitor is to select the **View>Connections Monitor** menu command.

The Connections Monitor allows operators to monitor and manage the connections by displaying the devices' connection status and details. The devices are organized by channel and display the device's connection state, IP address, and port. If the connection is good, the channel and device details are green. However, if the connection is down, the channel and device details are red.

Devices may be in the following states:

- **Good connection**: The network connection and the communication port between Xpanel and the device are open and active. These conditions allow for proper communication between Xpanel and the device.

- **Not connected**: While the network connection is good, the operator has disconnected Xpanel (closed the communication port) by using the **Force disconnect of <device_name>** command.

- **Lost connection**: The network connection was good, but something has caused that connection to fail (e.g. network goes down or network cable disconnected). Xpanel automatically tries to re-establish the network connection. If the connection is re-established, then the status changes to **Good Connection**. However, if the connection cannot be re-established, then the status changes to **Bad Connection**.

• **Bad connection**: Xpanel cannot connect to the specified device through the network connection. This may indicate that the network is down, the wrong IP address is specified for the device, or the network cable is disconnected. Once the problem is resolved, use the **Reconnect all used devices** command to reconnect Xpanel to the device.

Operators can connect and disconnect devices listed in the Connection Monitor by right-clicking on a device's heading and selecting the following commands:

• **Reconnect all used devices**: Attempts to reconnect all listed devices whose state reads **Not connected**.

• **Force disconnect of <device_name>**: Allows the operator to disconnect a device from Xpanel, which closes the communication but not the physical connection between Xpanel and the device. The device's state changes from **Good connection** to **Not connected** when this command is used. Use the **Reconnect all used devices** command to reconnect the device.

Monitoring device alarms

Enabling the **Show alarm tab in Production mode** setting (**Tools>Options>Diagnostics**) opens the Alarm panel, which shows the status of the device alarms for devices associated with the current channels. The device alarms must have been configured on the device itself in order to be displayed on the Alarms panel.

> Note: The device must be actively connected to Xpanel for the alarms to be displayed on the Alarms panel. See Monitoring device connectivity, on page 102 for more information.
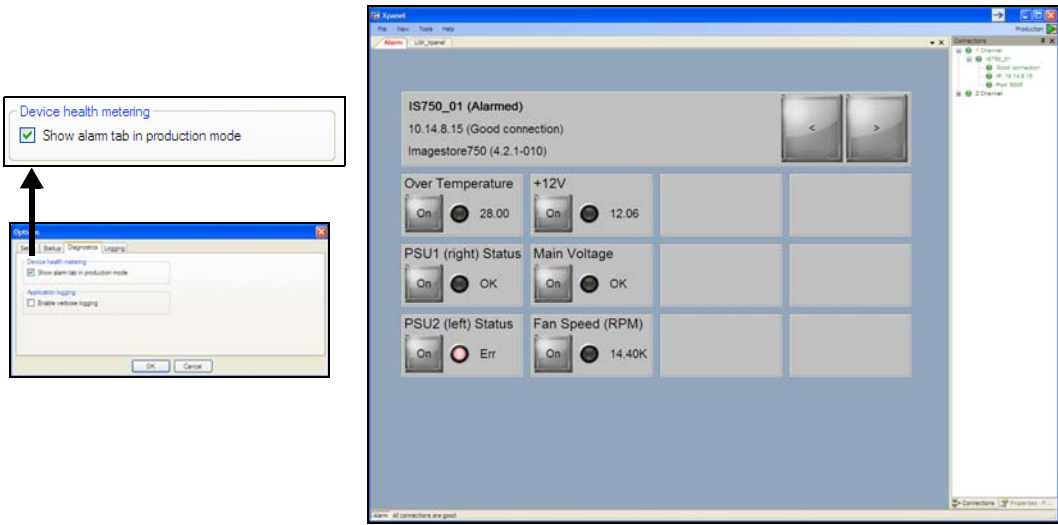

Fig. 7-5: Device alarms are displayed on the Alarms panel in Xpanel's Production mode

Clicking the arrow buttons [ ] on the Alarm panel allows you to scroll through the available devices, in which case the device information and alarms are updated and represent the selected device.

If any of the device readings fall outside the expected range, the Alarm panel's tab turns red and the LED on the specific alarm's health meter will also turn red to highlight the potential problem. You can turn alarms on or off by toggling the **On** button within the appropriate alarm's health meter box.

> Note: You can add and configure your own device alarms directly to the panel using Xpanel's Health Meter objects. See Health Meter object, on page 49 for more information.

Configuring and viewing Xpanel's log files

As Xpanel operates, events are recorded to a log text file, which is stored under the Windows system directory for application specific data.

Since the log files thoroughly track and record Xpanel's events during operation, they are a great tool to use for diagnosing error conditions or unexpected behaviors.

Xpanel's Logging options allow you to specify the categories of events that you want to be recorded in the Xpanel log files, as well as the maximum number and size of Xpanel log files that will be archived. As well, the **Enable verbose logging** setting on the **Diagnostics** tab can be used to supplement the basic logging information.
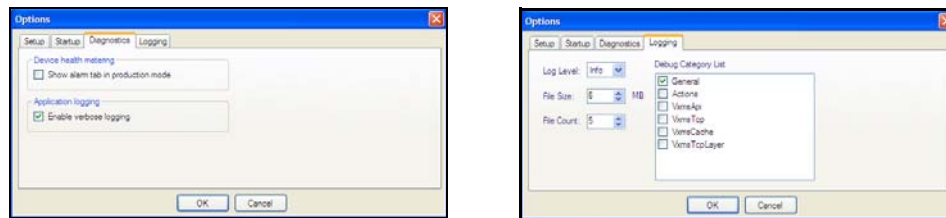
Fig. 7-6: Xpanel's log file settings are present on the Diagnostics and Logging options tabs

Although the default values are sufficient for most operating conditions, the following settings can be configured on the Logging tab in Xpanel's Options window (**Tools>Options**).

- **Log Level** - This sets the default log level used by all logging categories except those that have been checked in the Debug Categories list. The choices are:
  - **Error** - Only log errors and essential operations.
  - **Warn** - Log unsuccessful operations that may indicate a problem (in addition to all messages logged at the Error level).
  - **Info** - (Default) Log important events that occur during normal conditions (in addition to all messages logged at the Warn level).

  It is recommended to set the Log Level to Info in order to provide enough information in the logs to diagnose common problems without affecting performance.
- **File Size** - Sets the maximum memory size for each log file created per run. The default value is 6 MB.
  - **File Count** - Specifies the maximum number of `Xpanel*.log` files that will be stored. A large enough number should be chosen to store over a day's worth of logs. This way if a problem happens the relevant log files will be available. Once the

maximum number of files is reached, the oldest log file will be replaced by a new one. The default value is 5.

- **Debug Category List** - Select the types of debug logging (categories) that you would like to record in the Xpanel log file:
  - **General** - General logging that does not fit under any other category.
  - **VxmsApi** - Logs client-side calls to the Xmedia Server.
  - **VxmsTcp** - Logs client-side socket communication with the Xmedia Server using the principal Xmedia Server connection.
  - **VxmsCache** - Logs client-side activity in the Xmedia Server cache.
  - **VxmsTcpLayer** - Logs client-side socket communication with the Xmedia Server used by the cache and publishing.

To view Xpanel's current log file:

- Select the **View>View Log File** menu command.

  The current log file opens in Notepad.

Xpanel's menus & toolbars

Xpanel's commands are thematically organized within the menus at the top of the main interface window. Note that the menus in Design mode and Production mode differ slightly since the purpose and required functionality are different in each mode.

When Xpanel is in Design mode, the toolbar provides you with easy access to some of the most frequently used commands.

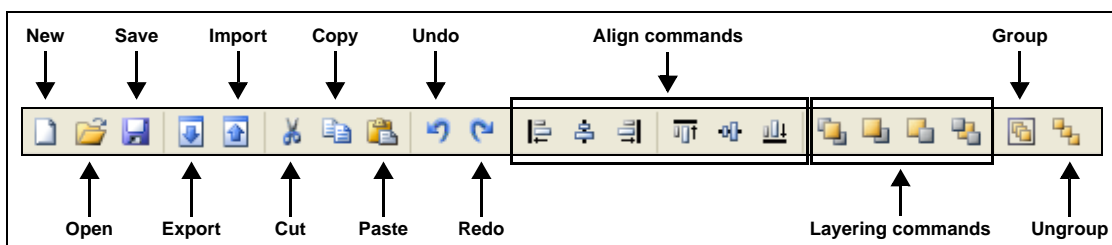Fig. A-1: The toolbar in Xpanel's Design mode provides quick access to frequently used commands

The following sections provide functional definitions of the Xpanel's menu commands and toolbar buttons:

- File menu commands, on page 108
- Edit menu commands, on page 109
- View menu commands, on page 109
- Format menu commands, on page 111
- Tools menu commands, on page 113
- Help menu commands, on page 113

File menu commands

The **File** menu contains commands that are related to opening, saving, importing or exporting panels or projects.

Each of the **File** menu commands is described in the following table:

New	Design mode only. Opens a new, empty panel in Xpanel. See Opening panels or projects, on page 23 for more information.
Open	Opens the **Open Panel** window, which lets you select an existing panel to open. See Opening panels or projects, on page 23 for more information.
Save	Design mode only. Saves changes made to the currently selected panel, as well as any specified metadata. If saving the panel for the first time, it opens the **Save Panel** window (otherwise it simply saves using the current panel name). See Saving a panel, on page 64 for more information.
Save As	Design mode only. Opens the **Save Panel** window, which allows you to save the currently selected panel using a new name and/or directory location.
Close	Closes the currently selected panel. If the panel contains unsaved changes, the **Close Panel** window appears and offer you the opportunity to save the changes before closing the panel.
Project	A project consists of multiple panels that are saved within one project file (*.xpp). Each panel is an individual asset on the system, but instead of opening each panel independently, opening the project file opens all associated panels automatically. • **Open**: Opens the **Open Project** window, which lets you select an existing Xpanel project to open. • **Save**: Saves changes made to the currently open project and its panels. If saving the project for the first time, it opens the **Save Project** window (otherwise it simply saves using the current project name). • **Save As**: Opens the **Save Project** window, which allows you to save the currently selected project using a new name and/or directory location.
Export	• **Export panel**: Opens the **Save As** window, which allows you to export the selected panel by sending a copy of the panel out of Xpanel and into a VxM Export folder which can be saved anywhere on your system. • **Export project**: Opens the **Save As** window, which allows you to export the open project by sending a copy of the project (and its panels) out of Xpanel and into a VxM Export folder which can be saved anywhere on your system.
Import	• **Import panel**: Opens the **Import panel with assets** window, which allows you to navigate to and then import panels that were created in Xpanel and exported from a separate system/network. • **Import project**: Opens the **Import panel with assets** window, which allows you to navigate to and then import a project that was created in Xpanel and exported from a separate system/network.

Ingest	Opens the **Ingest** window, which allows you to ingest image files into the system so that they can be added to the panel. See page 33 for more information.
	Note that the image files are ingested into the content server, but they are not published to the devices (unless auto-publishing is setup on the Xmedia Server). We recommend that you use the Vertigo Suite's Xplorer or Xstudio applications to ingest media to be used on the devices (i.e. images, cel animations, video and audio clips...etc.).
Exit	Allows you to quit Xpanel, prompting you first to save if any edits have not yet been saved.

Edit menu commands

The **Edit** menu is only available in Design mode since it contains commands that are related to editing content on the panels during panel building tasks.

Undo	Allows you to undo an edit on the currently selected panel.
Redo	Allows you to redo (repeat) an edit on the currently selected panel.
Cut	Cuts the selected object(s) on the currently selected panel to the clipboard.
Copy	Copies the selected object(s) on the currently selected panel to the clipboard.
Paste	Pastes the clipboard contents onto the currently selected panel. Alternative access:
Delete	Deletes the selected object(s).
Select All	Selects all objects on the currently selected panel.

View menu commands

The **View** menu contains commands that are related to displaying or hiding windows and tools that are used to create and/or operate panels.

Each of the **View** menu commands is described in the following table:
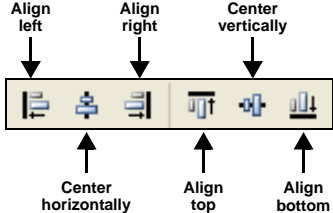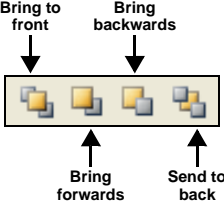
Production Mode	Switches between Xpanel's two modes: Design mode and Production mode.
Connection Monitor	Production mode only. Opens the **Connections** view, which displays the connection status of all the channels and devices that are assigned to objects on the panel. See Monitoring device connectivity, on page 102 for more information.
Properties	Design mode only. Opens the **Properties** view, which displays the current properties and settings belonging to the selected object(s) or the panel's canvas.

Object List	Design mode only. Opens the **Objects** view, which displays a list of the objects that are currently on the panel. Selecting an object in the Objects view selects the object on the panel. Right-clicking the object allows you to select the Set as a drag & drop default and Reset the drag & drop default commands.
Asset Browser	Design mode only. Opens the **Asset Browser** view, which allows you to browse and preview the Panels, Images, Data schemas that are stored on the system. Panels can be opened directly from the Asset Browser, images can be dragged onto the canvas and new data schemas can be created and linked to objects.
Action Editor	Design mode only. Opens the **Action Editor** view, which allows you to add to the functionality of standard Xpanel objects or define the functionality of primitive objects by configuring and associating the objects with a set of actions to occur on an event. See Adding events and actions to primitives and objects, on page 69 for more information.
Script Editor	Design mode only. Opens the **Script Editor** view, which allows you to create or edit custom VB scripts to provide more complex functionality to actions associated with Xpanel objects.
Station Manager	Design mode only. Opens the **Station Manager** view, which allows you to define the devices on the network and then create a station configuration, which groups the devices into channels. See Creating and loading a station configuration, on page 15 for more information.
RCP List	Design mode only. Opens the **RCPs** view, which allows you to define and configure the RCP-BR devices on your network.
Full Screen	Changes Xpanel to Full Screen mode, in which case the Xpanel title bar and menus are hidden and the remaining portions of the user interface expand to cover the full screen. This mode is most often used when Xpanel is used on an operator controlled workstation. Use the F11 keyboard button to toggle between Full Screen and regular view. Xpanel can also be configured to open in full screen mode by enabling the **Start in full screen mode** setting in Xpanel's Startup options (see page 97).
View Log File	When selected, this command opens the current log file in Notepad. The log file stores the processes and errors that occurred during your Xpanel session and is useful when debugging.

Format menu commands

The **Format** menu is only available in Design mode since it contains commands that use when building and editing panels, like positioning and sizing the objects placed on the panel.

Each of the **Format** menu commands is described in the following table:

Group	Takes several separate objects selected together on the currently selected panel and groups them into a single grouped object. See Grouping and ungrouping objects on the canvas, on page 56 for more information.
Ungroup	Ungroups a single grouped object on the currently selected panel back into separate objects. See Grouping and ungrouping objects on the canvas, on page 56 for more information.
Align	The **Align** commands allow you to place objects on the canvas so that they are vertically, horizontally, or center-aligned in relation to other objects on the canvas. See Positioning objects using the Align commands, on page 61 for a description of each of the Align commands. Alternative access: Toolbar buttons
Layering	The layering commands allow you to move objects to the top layer for display or editing, as well as sending the object behind others. See Layering objects on the canvas, on page 57 for a description of each of the Layering commands. Alternative access: Toolbar buttons
Size	Allows you to resize one or many objects relative to another object using the following commands: • **Same Width** • **Same Height** • **Same Width & Height** • **Match Biggest** • **Match Smallest** • **Reset to Natural Size**

Horizontal Spacing **Vertical Spacing**	The **Horizontal Spacing** and/or **Vertical Spacing** commands allow you to quickly make the spacing equal between objects, as well as to increase, decrease or remove the spacing all together. Choose from the following commands: • **Make Equal** • **Increase** • **Decrease** • **Remove** See Positioning objects using Spacing commands, on page 62 for a description of each of the Spacing commands.

Add Guide	Allows you to display virtual lines on the canvas that you can use as a reference when arranging or aligning objects. See Positioning objects using guides, on page 63 for more information.
	• **Horizontal**:
	  Makes a horizontal guide available for dragging into the canvas from the top of the window.
	• **Vertical**:
	  Makes a vertical guide available for dragging into the canvas from the left side of the window.

Tools menu commands

The Tools>Options menu command launches the **Options** window that contains all of the settings for configuring Xpanel's **Setup**, **Startup**, **Diagnostics** and **Logging** options. Refer to the following sections for more information:

- Connecting Xpanel to an Xmedia Server, on page 5
- Xpanel startup for operator control workstations, on page 97
- Monitoring device alarms, on page 103
- Configuring and viewing Xpanel's log files, on page 104

The Tools>License Manager menu command launches the Vertigo Suite's License Manager window, which lists the Vertigo licenses currently installed on the system, as well as allowing you to add and validate new licenses.

Help menu commands

The **Help>About** menu command displays the product information splash screen that identifies the version of the Vertigo Suite you are currently using. Click the splash screen to close it.

Grass Valley Technical Support

For technical assistance, contact our international support center, at 1-800-547-8949 (US and Canada) or +1 530 478 4148.

To obtain a local phone number for the support center nearest you, please consult the Contact Us section of Grass Valley's Web site (www.grassvalley.com).

An online form for e-mail contact is also available from the Web site.

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