

Kaleido-Alto Kaleido-Quad Kaleido-Quad-Dual Multi-Image Display Processor User's Manual

M791-9900-106

6 October 2008



Miranda

Technologies Inc.

3499 Douglas-B.-Floreani

St-Laurent, Québec, Canada H4S 1Y6

Tel. 514-333-1772

Fax 514-333-9828

www.miranda.com

© 2008 Miranda Technologies Inc.

Safety Compliance Information

Safety Compliance

This equipment complies with:

- CSA C22.2 No. 60950-1-03 / Safety of Information Technology Equipment, Including Electrical Business Equipment.
- UL 60950-1 (1st Edition) / Safety of Information Technology Equipment, Including Electrical Business Equipment.
- IEC 60950-1 (1st Edition) / Safety of Information Technology Equipment, Including Electrical Business Equipment.

CAUTION

These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so. Refer all servicing to qualified service personnel. Servicing should be done in a static-free environment.

Electromagnetic Compatibility

- This equipment has been tested for verification of compliance with FCC Part 15, Subpart B, class A requirements for Digital Devices.
- This equipment complies with the requirements of:
EN 55022 Class A, Electromagnetic Emissions,
EN 61000-3-2 & -3-3, Disturbance in Supply Systems
EN 61000-4-2, -3, -4, -5, -6, -8 & -11 Electromagnetic Immunity

Table of Contents

1	Kaleido-Alto, Kaleido-Quad and Kaleido-Quad-Dual User's Manual	1
1.1	Introduction	1
1.2	Installation and Connection	1
2	Kaleido-Alto/Quad/Quad-Dual System Concepts	2
2.1	Software Components	2
2.2	Visual Elements	2
3	Getting Started with the Kaleido-Alto/Quad/Quad-Dual	3
3.1	Quick Tour of the System	3
3.2	The Task Bar	4
3.3	Using a Layout	5
3.3.1	Editing Text ID	5
3.3.2	Assigning a New Channel to a Monitor	6
3.3.3	Making a Monitor Display Full Screen	6
3.3.4	Changing a Monitor's Aspect Ratio	6
3.3.5	Configuring Automatic Aspect Ratio for a Monitor	7
3.3.6	Configuring Automatic Aspect Ratio for a Monitor's Raster Image	7
3.3.7	Configuring Default Aspect Ratios	8
3.3.8	Displaying an AFD/WSS Format Indicator on a Monitor	9
3.3.9	Displaying an Overscanned Video Signal	9
3.3.10	Cropping a Monitor	9
3.3.11	Displaying Time Code on a Monitor	10
3.3.12	Displaying Safe Area Markers in a Monitor	10
3.3.13	Calibrating a Video Signal	10
3.3.14	Displaying a 3D Border Around a Monitor	11
3.3.15	Selecting the Audio Signal to be Monitored	11
3.3.16	Clock Display	11
3.3.17	Timers	11
3.4	Some Notes about Importing Layouts from KEdit	12
4	System Parameters	15
4.1	System Status	15
4.2	System Settings	17
4.2.1	Input Panel	18
4.2.2	Date/Time	18
4.2.3	NTP Settings	18
4.2.4	Video Settings	19
4.2.5	Audio Settings	23
4.2.6	Output Configuration	26
4.2.7	Kaleido-Alto ID	28
4.2.8	Network Configuration	28
4.2.9	Serial Ports Configuration	28
4.2.10	Volume	29
4.2.11	Power Up	29
4.2.12	Disable Actions	29
4.2.13	Mouse Configuration	30

4.2.14	Options	30
4.2.15	SNMP Settings	30
5	Controlling Kaleido-Alto/Quad/Quad-Dual Using the Kaleido-RCP or a Keyboard	33
5.1	Kaleido-RCP Remote Control Panel Description	33
5.2	Using a Keyboard to Control a Kaleido-Alto/Quad/Quad-Dual	35
5.3	Kaleido-RCP Operation in Details	35
5.3.1	Accessing a Single Kaleido-Alto/Quad/Quad-Dual Using the Kaleido-RCP	35
5.3.2	Accessing all Kaleido-Alto/Quad/Quad-Dual Units Using the Kaleido-RCP	36
5.3.3	Restricting Control of Kaleido-Alto/Quad/Quad-Dual Units.....	36
5.3.4	Recalling a Layout.....	36
5.3.5	Selecting a Monitor Within a Layout.....	36
5.3.6	Assigning a Channel to a Monitor	37
5.3.7	Changing the Video Screen Aspect Ratio Within a Monitor.....	37
5.3.8	Audio Monitoring.....	37
5.3.9	Full Screen Display.....	37
5.3.10	Moving a Timer Within a Layout.....	37
5.3.11	Resetting the Kaleido-RCP	38
6	Channels, Layouts and Alarms Management.....	39
7	Andromeda Port Settings.....	40
8	Using XML Commands with the Kaleido-Alto/Quad/Quad-Dual	43
8.1	Commands	43
8.2	A Typical Session.....	51
9	Installing Fonts on the Kaleido-Alto/Quad/Quad-Dual	55
	Contact Us!.....	58

1 Kaleido-Alto, Kaleido-Quad and Kaleido-Quad-Dual User's Manual

1.1 Introduction

The Kaleido-Alto, Kaleido-Quad and Kaleido-Quad-Dual multi-image processors can display multiple video inputs (up to 10 for the Alto, up to 4 for the Quad, up to 8 for the Quad-Dual) on a single high-resolution output (2 for the Quad-Dual). The Kaleido-Alto/Quad/Quad-Dual combines the display of video windows, audio level metering, text identification labeling, tallies, and on-screen status indicators, in a convenient 1RU frame. Various models are offered to support SDI video, composite video or the auto-detection of composite and SDI. Four stereo audio level meters can be displayed inside or outside each video window. Audio sources can be extracted from the embedded audio inside the SDI signals, or input via optional audio mezzanines providing 4 or 10 AES or analog stereo input signals. A DVI input allows the insertion of an external computer signal to fill the background of the video layout (not available with the Kaleido-Quad-Dual). The layout can be created using the KEdit software and applied to the system afterward. Layouts and frequently-used functions can be operated via the Kaleido-RCP remote control panel or via a mouse/pointer interface. The Kaleido-Alto/Quad/Quad-Dual is an ideal solution in areas where a limited number of signals need to be monitored with fine picture quality. Its compact 1RU frame is a real asset in areas where space is restricted.

1.2 Installation and Connection

Please see the Installation Guide for detailed instructions on setting up your Kaleido-Alto, Kaleido-Quad or Kaleido-Quad-Dual unit, and on configuring the necessary network connections for its operation.

2 Kaleido-Alto/Quad/Quad-Dual System Concepts

2.1 Software Components

There are two software components associated with the Kaleido-Alto/Quad system:

- The **Kaleido-Alto/Quad/Quad-Dual** software is already installed in the Kaleido-Alto/Quad/Quad-Dual unit, and performs all functions associated with integrating data streams and presenting the multi-image display.
- The **KEdit** layout editor software runs on a remote computer connected to the Kaleido-Alto, Kaleido-Quad, or Kaleido-Quad-Dual through an IP interface. It is used to create the on-screen layouts used by the Kaleido-Alto/Quad/Quad-Dual.

2.2 Visual Elements

Kaleido-Alto/Quad/Quad-Dual replaces the traditional physical display devices in a monitor wall, such as video monitors, audio meters and tally lamps, with graphical representations. The objects and images that appear on the screen of the Kaleido-Alto/Quad/Quad-Dual multi-image display and of the computer running KEdit Layout Editor will be referred to as *visual elements*. A visual element is the on-screen manifestation of a data stream.

There is a one-to-one correspondence between the visual elements in a layout in KEdit, and those presented on the Kaleido-Alto/Quad/Quad-Dual multi-image display.

However, there is an essential difference between the visual elements as presented by these two systems:

- The multi-image output represents the exact program stream being processed. Its visual elements show a dynamic, real-time representation of the data in the program stream. UMDs, status and tally indicators change shape and color according to the information status. All objects are drawn with details and resolution. Text appears with a cleanly rendered font.
- The KEdit layout editor software is used offline to create the elements to be used in the actual Kaleido-Alto/Quad/Quad-Dual multi-image display output. As such, it has no knowledge of the actual information that the Kaleido-Alto/Quad/Quad-Dual is processing. KEdit's representation is static, and the visual elements are displayed as icons, of the correct size and position, but without dynamic program content.

While the KEdit screen shows a good representation of the final output, the user is advised to look at the actual Kaleido-Alto/Quad/Quad-Dual output on the monitor wall screen, to verify that the output is as desired.

This manual describes operation of the Kaleido-Alto/Quad/Quad-Dual. The use of the KEdit software to create layouts for the Kaleido-Alto/Quad/Quad-Dual is described in its own manual, which is available as online help when you are running the KEdit software.

3 Getting Started with the Kaleido-Alto/Quad/Quad-Dual

3.1 Quick Tour of the System

Once the Kaleido-Alto/Quad/Quad-Dual is properly set up and powered, it immediately displays a multi-image output. A default layout is used to monitor the incoming feeds. This figure shows the principal features of a layout.

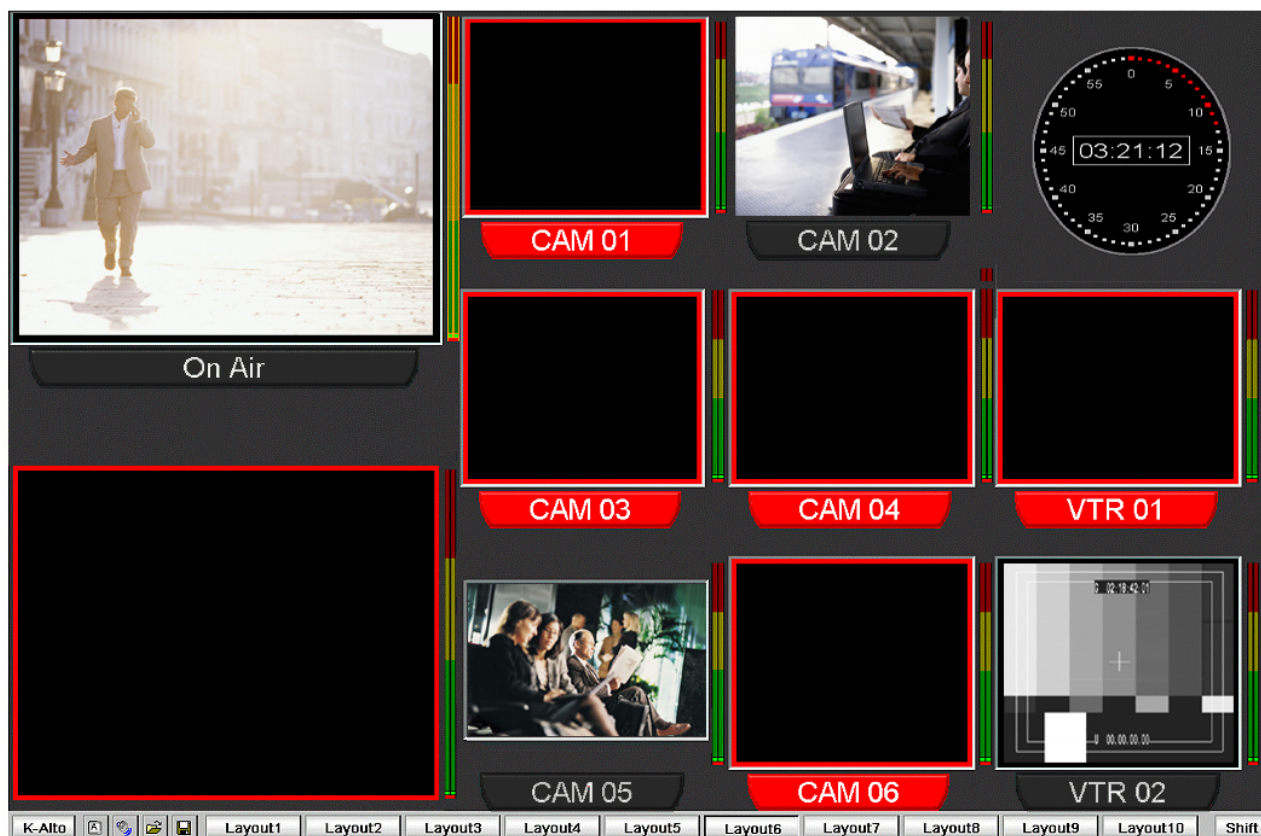


Figure 3.1 Kaleido-Alto layout

The first thing that you notice is the visual elements: there are several windows with UMD information underneath, VU meters, clock, tallies, and timers (not shown in the image above). All these elements may be configured to suit your monitoring preferences, as explained in the following sections. In addition, when the mouse is moved toward the bottom of the screen, a task bar appears. The layout selection buttons are used to quickly change the layout being displayed. The **K-Alto**, **Quad**, or **Quad-Dual** button gives access to system parameters, and other buttons are used to control the windows and layouts. When using the Kaleido-RCP remote control panel, its buttons allow much of the same functions and flexibility as if you were using a mouse.

3.2 The Task Bar

Moving the mouse toward the bottom of the screen calls up the task bar.

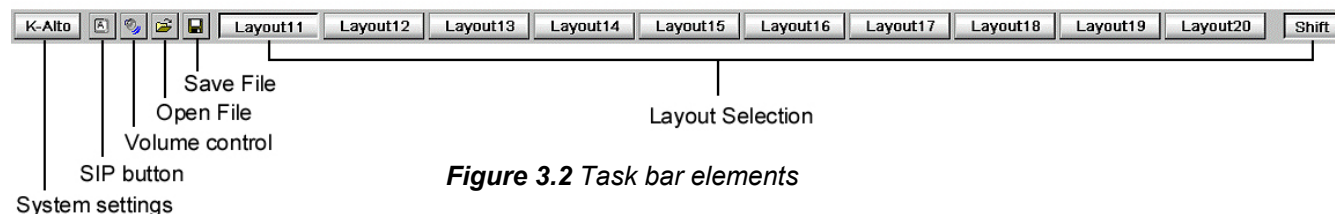


Figure 3.2 Task bar elements

The **K-Alto**, **Quad**, or **Quad-Dual** button (the name identifies the system in use) opens a menu giving access to the system settings and status information. These are described in detail in section 4 “System Parameters”.

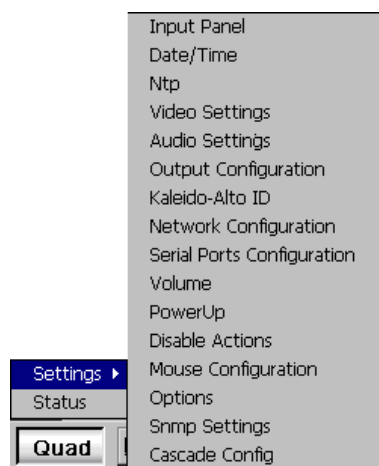


Figure 3.3 Settings menu

The **Software Input Panel (SIP)** button

To open the input panel, click the keycap icon on the task bar, and a keyboard will appear at the bottom right corner of the screen. Use the mouse to click keycaps. To move this panel, point to the Input Panel title bar, and then click and drag the panel while holding the mouse button.

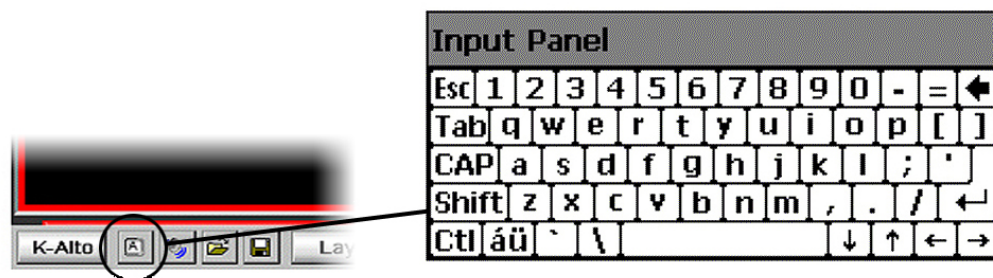


Figure 3.4 SIP keyboard

The **volume control** button controls the volume of the channel being monitored. When you click this button on the task bar, a long slider appears, with three additional buttons. Moving the slider changes the volume as expected; the **Mute** button mutes the audio signal and the **-20dB** button attenuates it accordingly. Click the **Select** button to specify which audio group to monitor for each channel, in the case of embedded audio. See 4.2.5 “Audio Settings” for details. If the volume is changed by using the RCP or keyboard, the volume control will also appear on screen, and can be used to monitor the changes as they are made.



Figure 3.5 Volume control

The **Open** and **Save** buttons allow access to the Kaleido-Alto/Quad/Quad-Dual frame's internal file system, where layout, channel, and alarm definitions are stored.

The **layout selection** buttons enable a quick change of layout. Initially, these buttons are mapped to the 20 default layouts preconfigured on the Kaleido-Alto/Quad/Quad-Dual frame. A set of 10 buttons is visible at once on the task bar; click the **Shift** button to access the other 10 buttons. The first 10 default layouts are suitable for a 16:9 display, while layouts 11 to 20 are for a 4:3 display. To rename a layout button, right-click the button, and then click **Rename Recall Button** on the shortcut menu; the button label becomes editable.

Note: *Whenever you change the properties of any layout component (video aspect ratio, timer settings, clock settings, etc.), remember to save the layout if appropriate; otherwise the changes will be lost as soon as another layout is displayed on the Kaleido-Alto/Quad/Quad-Dual monitor screen.*

3.3 Using a Layout

In this section you will learn how to “use” the layout and understand the different parameters associated with the video images. Each window in the layout, with a video screen coupled with audio and data information, is called a “monitor”.

To personalize your layout, you will use the mouse supplied with the unit. Note that you do not need a physical keyboard to type text: the system includes a built-in software input panel (SIP).

If input signals are already connected to your unit, they will appear immediately on the screen. Each monitor is configured to include a video image, an audio signal and data information. This grouping of signals and data is called a “channel”, and may be changed by using KEdit. Multiple channel definitions may be stored on the Kaleido-Alto/Quad/Quad-Dual frame. A channel may be assigned to any window within a layout; windows may be renamed, their aspect ratios may be changed, aspect ratio markers may be displayed, etc. Detailed instructions are given below.

Note: *To understand the difference between monitors and channels, consider the following:*

- A **Monitor** is analogous to a common TV set: it has a screen, speakers, possibly the option to display the closed captioning (CC), and some on-screen text to identify the current program.
- A **Channel** is conceptually the same as a broadcast or cable channel (which includes video, audio, closed captioning text, program information, etc) captured by the TV set. Assigning a channel to a Kaleido-Alto/Quad/Quad-Dual monitor is equivalent to switching a TV set to a numbered channel.

3.3.1 Editing Text ID

Right-clicking a monitor's text ID bar makes the text editable. To change the text, you need to use a keyboard – either a physical, USB keyboard connected to the unit, or the SIP keyboard. Note that you need to click the SIP keyboard first, and then select the name bar. Whether you use the SIP keyboard or a physical keyboard, you need to press the Enter key to validate the new text ID or the Esc key to cancel your change.

Note: If you switch to a different layout, the new text ID will be lost. If you wish to associate the new ID with the channel, you need to save it using the **Save** button. Saving it will ensure that the channel stays with the new name throughout all the layouts.

3.3.2 Assigning a New Channel to a Monitor

Right-clicking a monitor on the screen brings up the monitor configuration menu. The first option on this menu is **Assignment**. Click **Assignment** to display the channel selection as shown in figure 3.6. The current channel assignment for this window is dimmed. Select any channel to be displayed in the monitor; a channel may be assigned to more than one monitor, but the actual input signal will only be visible in the last monitor assignment.

Note: You can see at a glance which channel is assigned to which monitor by clicking the Tab key on the SIP keyboard. Alternatively press Tab on an external keyboard or SELECT on the Kaleido-RCP – (see section 5 “Controlling Kaleido-Alto/Quad/Quad-Dual Using the Kaleido-RCP or a Keyboard”).

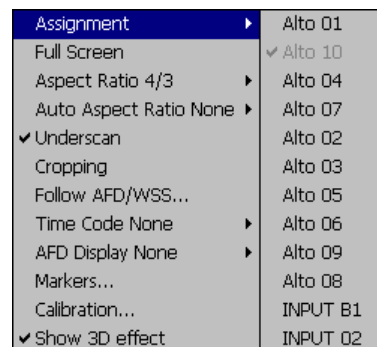


Figure 3.6 Channel selection

3.3.3 Making a Monitor Display Full Screen

The next option on the monitor configuration menu is **Full Screen**, which makes the selected monitor window fill up the screen. When a monitor has been enlarged to full screen, right-click on it and you will notice that a check mark appears next to **Full Screen** on the menu; click **Full Screen** again to restore the previous layout.

Note: The full screen layout is configurable via KEdit, and can be saved as default by pressing the FULL SCREEN key on the Kaleido-RCP for more than 7 seconds (see section 5.3 “Kaleido-RCP Operation in Details”).

3.3.4 Changing a Monitor's Aspect Ratio

If the video input signal is of a different aspect ratio than the monitor in which it is displayed, you may change the monitor's aspect ratio to display the signal without deformation. The available selections are **4:3**, **16:9**, and a custom ratio if one was defined when the layout was created in KEdit.

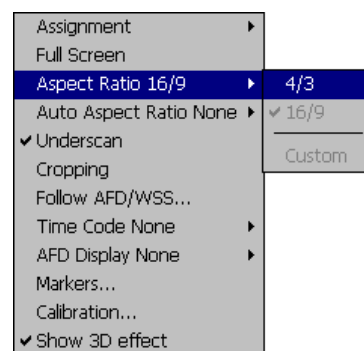
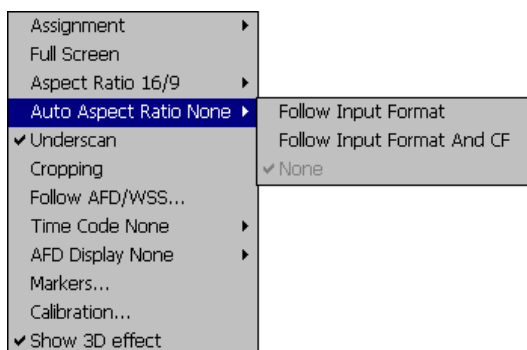


Figure 3.7 Aspect ratio selection

3.3.5 Configuring Automatic Aspect Ratio for a Monitor

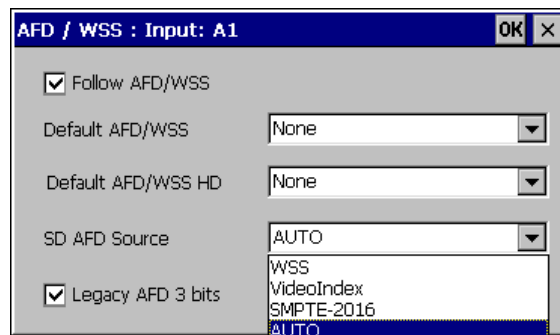
The aspect ratio of a monitor window can be automatically adjusted according to the video input format. On the monitor configuration menu, point to **Auto Aspect Ratio**, and then click the appropriate option:

- **Follow Input Format:** The monitor will change its aspect ratio depending on the input signal's aspect ratio.
- **Follow Input Format And CF:** The monitor will change its aspect ratio according to the AFD Coded Frame. If there is no AFD encoded within the input signal, then the system will use the default value for the current input format as configured on your system (see section 3.3.7 "Configuring Default Aspect Ratios" for details).
- **None:** The monitor will not change its aspect ratio. This is the default setting.



3.3.6 Configuring Automatic Aspect Ratio for a Monitor's Raster Image

The aspect ratio of the video raster inside a monitor can be automatically adjusted according to metadata descriptors encoded within the input signal. HD signals are assumed to include an AFD (SMPTE 2016) format descriptor. For SD signals, a format descriptor can be encoded as an AFD 2016 descriptor, or within the Video Index (AFD VI), or else as WSS metadata. The aspect ratio information can be encoded according to different standards. The following table shows the different standards and their availability according to the signal type:



Input Format	AFD Standard		
	SMPTE RP-186 VI	ITU-R BT.1119-2 WSS	SMPTE 2016-2 AFD-ANC
PAL BGDHI	–	Yes	–
SECAM	–	–	–
Component Y only 50Hz	–	Yes	–
SD-SDI 625	Yes	Yes	Yes
NTSC M	–	–	–
PAL M	–	–	–
Component Y only 60Hz	–	–	–
SD-SDI 525	Yes	–	Yes
1080i 50Hz	–	–	Yes
720p 50Hz	–	–	Yes
1080i 59.94Hz	–	–	Yes
720p 59.94Hz	–	–	Yes
1080p 23.98Hz	–	–	Yes
1080p 29.97Hz	–	–	Yes

The format descriptor can automatically be detected by the system or you can set which descriptor type is to be used. More than one descriptor type can be present, in which case the system will first look for AFD 2016, then AFD VI, and finally WSS.

To configure automatic aspect ratio for a monitor's raster image:

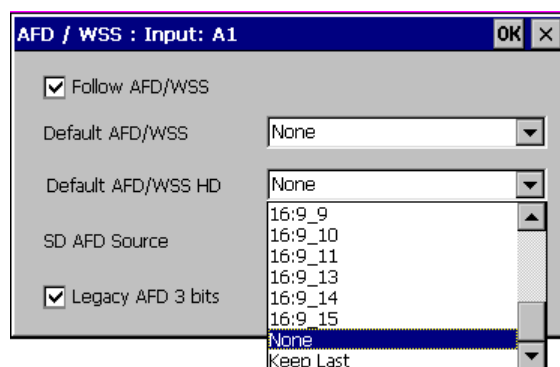
1. On the monitor configuration menu, click **Follow AFD/WSS** to open the **AFD/WSS** window, and then select the **Follow AFD/WSS** check box.
2. Select the appropriate AFD source for SD signals, and the default aspect ratios to be used for HD and for SD signals. See section 3.3.7 "Configuring Default Aspect Ratios" for calibration details.
3. Select the **Legacy AFD 3 bits** check box if appropriate.
Note: AFD VI metadata can be encoded on 4 bits, or on 3 bits (legacy).
4. Click **OK**, and then save the layout.0.

Note: These settings are not limited to the current layout. They apply to the current input signal throughout the system. Monitors with the same channel assignment will thus behave consistently.

3.3.7 Configuring Default Aspect Ratios

If there is no AFD encoded within the input signal, then the system will use the default aspect ratio for the current input format. Hence, if the input signal is HD, the system will use the **Default AFD/WSS HD** value; otherwise it will use the **Default AFD/WSS** value. The following aspect ratio values are supported:

4:3_2	4:3_10	16:9_2	16:9_10
4:3_3	4:3_11	16:9_3	16:9_11
4:3_4	4:3_13	16:9_4	16:9_13
4:3_8	4:3_14	16:9_8	16:9_14
4:3_9	4:3_15	16:9_9	16:9_15



In addition to these values, you can select **None** or **Keep Last** as the default. If the default value is set to **Keep Last**, then the system will use the aspect ratio that was last decoded on the input channel. If the default value is set to **None** (or if it is set to **Keep Last** but no valid descriptor has been decoded so far), then the system will fall back to the aspect ratio that is considered to be the default for the signal type. The following table shows the typical aspect ratio for all the supported video signal formats:

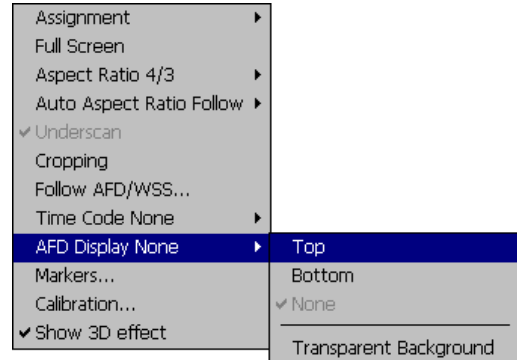
Input Format	Aspect Ratio
PAL BGDHI	4:3
SECAM	
Component Y only 50Hz	
SD-SDI 625	
NTSC M	
PAL M	
Component Y only 60Hz	
SD-SDI 525	

Input Format	Aspect Ratio
1080i 50Hz	16:9
720p 50Hz	
1080i 59.94Hz	
720p 59.94Hz	
1080p 23.98Hz	
1080p 29.97Hz	

3.3.8 Displaying an AFD/WSS Format Indicator on a Monitor

You may display an AFD/WSS format indicator on a monitor. Right-click the monitor to open the monitor configuration menu. The current status appears next to **AFD Display**, and clicking this option opens a sub-menu with the following options:

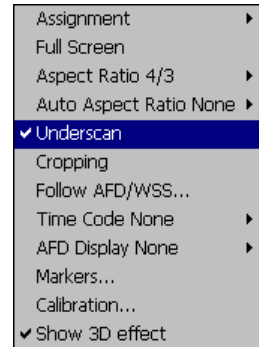
- **Top** will display the AFD/WSS format indicator at the top left of the monitor.
- **Bottom** will display the AFD/WSS format indicator at the bottom right of the monitor.
- **None** will turn off the AFD/WSS format indicator.
- **Transparent Background** – when this option is selected (a check mark is shown), the AFD/WSS format indicator will appear against the video; otherwise it will appear in an opaque grey box.



Note: This setting applies to the selected monitor within the current layout.

3.3.9 Displaying an Overscanned Video Signal

In overscan mode, the monitor displays most of the active video picture, gently cropped to mask those lines that may contain VITC and CC. By default, your Kaleido-Alto/Quad/Quad-Dual displays the entire active picture area plus a portion of the horizontal and vertical blanking areas. A checkmark appears next to **Underscan** on the monitor configuration menu to indicate that the underscan mode is active. Click **Underscan** to remove the check mark and switch to overscan mode. Click **Underscan** again to revert to underscan mode.



3.3.10 Cropping a Monitor

You may customize the overscan margins for a monitor in your display if you wish. The margins can be set in KEdit when the layout is created, or on the Kaleido-Alto/Quad/Quad-Dual frame while the layout is in use. Right-click the monitor to bring up the monitor configuration menu, and then click **Cropping**. A window opens, in which you can adjust the position of all four sides individually, as a percentage of height or width, to crop the video picture to your requirements.

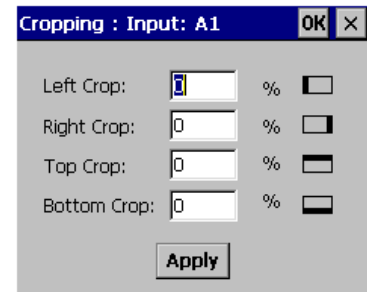
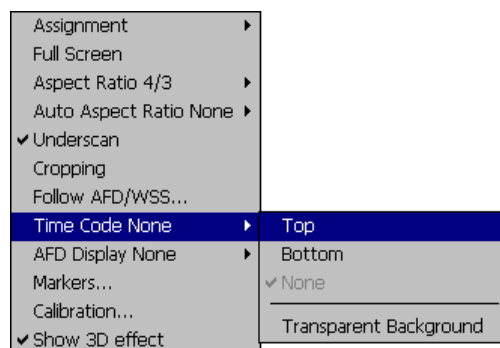


Figure 3.8 Monitor cropping

3.3.11 Displaying Time Code on a Monitor

You may display a time code on a monitor. Right-click the monitor to open the monitor configuration menu. The current status appears next to **Time Code**, and clicking this option opens a sub-menu with the following options:

- **Top** – display the time code at the top right of the display
- **Bottom** – display the time code at the bottom left of the display
- **None** – turn off the time code display
- **Transparent Background** – when this option is selected (a check mark is shown), the time code will appear against the video; otherwise the time code will appear in an opaque grey box.



3.3.12 Displaying Safe Area Markers in a Monitor

You can add safe area markers on a monitor to show how a 4:3 input signal would display on a 16:9 screen or vice-versa. To add safe area markers on a monitor:

1. Click **Markers** on the monitor configuration menu to open the **Markers** window.
2. Select the appropriate check box depending on the monitor's aspect ratio. Alternatively, select both check boxes to always have markers displayed whenever the monitor's aspect ratio changes.
3. Click **OK** to apply your selection.



Figure 3.9 Markers display selection

Note: Safe area markers are typically not used in conjunction with the AFD/WSS decoding. Since the safe area is always computed against the underscanned input signal (before cropping), markers may not be visible on the resulting raster picture depending on the amount of cropping.

3.3.13 Calibrating a Video Signal

For monitoring purposes, you may want to modify the input signal calibration. Click **Calibration** on the monitor configuration menu to display the **Video Calibration** window. You can adjust the **Brightness**, **Contrast**, **Hue**, **Color** and **Sharpness** parameters directly by using the sliders. To reset the signal to “factory” calibration click **Default**. Click **Custom** to apply your calibration to the video signal. A built-in deinterlacer may also improve the display of the video signal; the choice of decoding filter - **Adaptive**, **Temporal** or **Spatial** – depends highly on the contents of the image. Most artifacts will disappear with **Adaptive**. The simplest way to select a decoding filter is to pass through each one and compare their performance on your monitoring display.

Note: when using the **Temporal** decoding filter, the **Sharpness** parameter is not available.

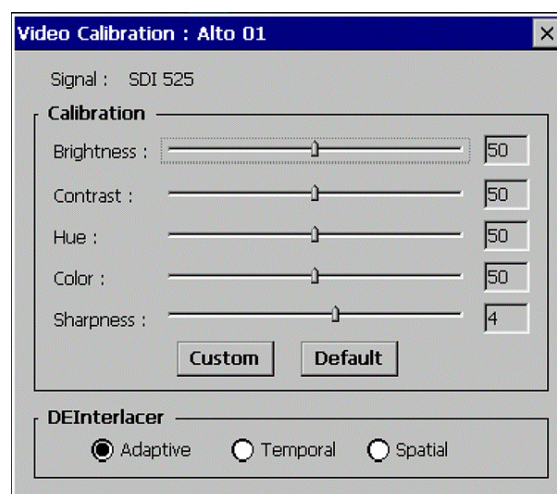


Figure 3.10 Video Calibration window

3.3.14 Displaying a 3D Border Around a Monitor

To put emphasis on a monitor, you may add a 3D frame around it. Simply select **Show 3D effect** in the monitor configuration menu.

3.3.15 Selecting the Audio Signal to be Monitored

The assigned channel in each monitor may or may not have an audio signal present; the audio level indicator next to the video image shows you if there is indeed audio. As you can only listen to one audio signal at a time, you select the channel you wish to monitor by clicking the corresponding audio level indicator. A contrasting line appears around the audio level indicator.

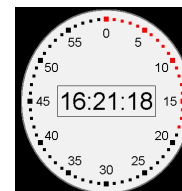
Note: There may be more several AES audio group embedded in a serial digital signal. You may select which audio group to monitor using the **System Status** window; this window is described in 4.2.5 “Audio Settings”.

3.3.16 Clock Display

If your layout includes a clock (analog or digital), you can set it to use the unit's internal time reference, or use an external source from a serial port (see the notes below). You may also set it to a different time zone or specify a time offset from the time reference. You may choose whether to display frames in the time window.

15:28:57

Right-click the clock you wish to configure. The **Clock Settings** window appears. Select the appropriate options for your purposes, and specify a time offset if needed (for instance, you may want to adjust the offset at the Daylight Saving Time change dates). Click **OK**, and then save the layout.



Notes:

- When using the unit's internal clock as the time reference, the correct time of day needs to be set in the system settings. See section 4.2.2 “Date/Time” for details.
- To receive a time code signal from a serial port on a Kaleido-Alto or Kaleido-Quad, use Miranda's Little Red to connect a Linear Time Code source (on a BNC connector) to RS-232, as described in section 4.2.9 “Serial Ports Configuration”. On a Kaleido-Quad-Dual, the time code input can be connected via the MISC IN/OUT connector on the rear panel. See the Installation Manual for details.

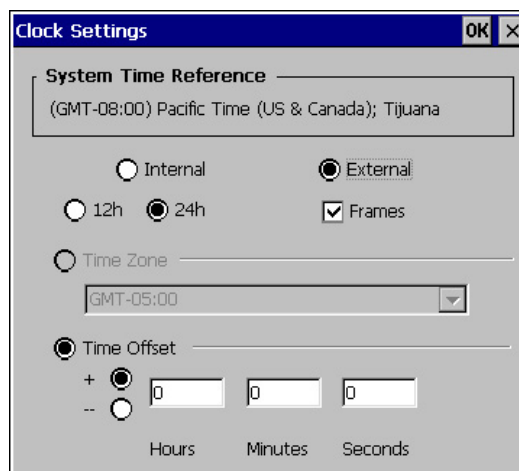


Figure 3.11 Clock Settings window

3.3.17 Timers

When a timer is available in a layout, you may use it to either count down or count up a specific time interval. Additionally, you can set it to display the remaining time to a specific time of day. To change the timer behavior (e.g. count down, count up, or display remaining time), click the top right icon. The icon cycles through the available options. The down-pointing arrow indicates a countdown timer, an up-pointing arrow indicates a count up timer and the hourglass icon indicates a remaining time counter.

The timer provides controls to start, stop, loop and reset a timer. To access the controls, click the double arrow in the lower right corner of the timer.

Countdown timer:

The countdown timer is identified by an arrow pointing downward: see figure 3.12 below. To set the time interval to count down from, click the time display to access edit mode. Enter the desired time interval; the seconds are entered first, then minutes and finally hours. Press Enter when finished editing. To start the timer, click the double arrow in the lower right corner to access the controls. Click the **Play** button to start the timer. To stop it, click the **Stop** button. Click **Reset** to reset the timer or click the **Loop** button to loop the count cycle.

Count up timer:

The count up timer is identified by an arrow pointing upward: see figure 3.13 below. To set the time interval to count up to, click the time display to access edit mode. Enter the desired time interval; the seconds are entered first, then minutes and finally hours. Press Enter when finished editing. To start the timer, click the double arrow in the lower right corner to access the controls. Click the **Play** button to start the timer. To stop it, click the **Stop** button. Click **Reset** to reset the timer or click the **Loop** button to loop the count cycle.

Remaining time counter:

The remaining time counter is identified by an hourglass icon: see figure 3.14 below. To set the target time, click the time display to switch to edit mode. Enter the desired time of day; the seconds are entered first, then minutes and finally hours. Click Enter when finished editing. To start the timer, click the double arrow in the lower right corner to access the controls. Click the **Play** button to start the timer. To stop it, click the **Stop** button. The **Reset** button is not used with this function.

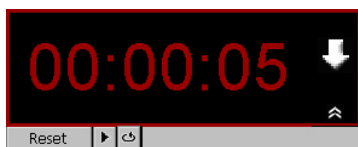


Fig. 3.12 Countdown timer

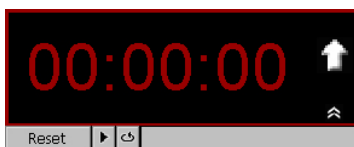


Fig. 3.13 Count up timer

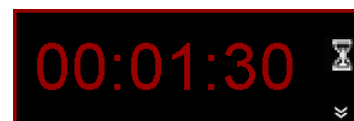


Fig. 3.14 Remaining time counter
(controls not shown)

3.4 Some Notes about Importing Layouts from KEdit

Layouts are created in KEdit, and sent to the Kaleido-Alto, Kaleido-Quad, or Kaleido-Quad-Dual using the **Export To Kaleido-Alto** dialog box: on KEdit's **File** menu, click **Export layout** (see KEdit's online documentation for details). KEdit creates layouts for these products, but also for the Kaleido-K2. As the feature set of Kaleido-K2 is different, there are a number of points you should be aware of when creating layouts destined for a Kaleido-Alto, Kaleido-Quad or Kaleido-Quad-Dual.

Feature	Limitation
Online operation	Not supported.
Actions	Must be assigned to a Layout element.
Alarms	Restricted alarms set. Must be assigned to a Layout element. Video – only "Loss of Video". Audio – only "Audio Silence" and "Overload". Calibration of alarms not supported.
Audio meters	Only vertical meters, horizontal not supported. No control of appearance.

Feature	Limitation
	<p>No phase meter.</p> <p>Limited scales.</p> <p>VU and Kaleido Classic audio scales are not supported, so make sure your layout does not include audio meters configured to use these scales, or else the scale will be replaced by a default scale.</p>
Images	<p>You can export backgrounds and logos to your Alto, Quad or Quad-Dual along with the layout, but be aware that the Alto/Quad/Quad-Dual unit supports a limited color palette of 256 colors. If your image was created with a large color palette, then rendering it onto the Alto, Quad or Quad-Dual may adversely affect its appearance, and large image files, especially JPEG images, may take a long time to display.</p> <p>Note: The Kaleido-Alto/Quad/Quad-Dual does not support bitmap images, so only export images to Kaleido-Alto/Quad/Quad-Dual in JPEG or PNG formats.</p>
International font support	<p>KEdit can create layouts that may include text in a wide spectrum of international fonts. The Kaleido-Alto/Quad/Quad-Dual system displays the character sets of any such fonts that are installed in its font database. However, certain fonts, such as Arabic fonts, involve complex rules that change the sequence of character presentation at certain points ("bidirectional" fonts), and the Kaleido-Alto/Quad/Quad-Dual does not fully support such rules. For instance, in KEdit you could type Arabic text with vocalization and other diacritic marks, but these may not be correctly positioned on the Kaleido-Alto/Quad/Quad-Dual. When assigning text to text labels, etc. using an international font, be sure to verify the final rendering on the Kaleido-Alto/Quad/Quad-Dual output.</p>
UMD, Tally	Only horizontal UMDs, vertical not supported.
Clock	<p>No digital clock.</p> <p>The analog clock is a hybrid that is not specified completely in KEdit. Insert an analog clock in the layout, and configure it directly on the Alto/Quad.</p>
Border	No flashing border for warning and error indication.
Transparency	Not supported.
Error latching	Not supported.
Video time-code viewer	Not supported.
Logo	Not supported.
Alarm group inhibit button	Not supported.
MPEG monitor	Not supported.
Service ID indicator	Not supported.
Streaming viewer	Not supported.
Closed-caption status indicator	Not supported.
Closed-captioning text	Not supported.
V-Chip status indicator	Not supported.

Component count

While KEdit allows you to create large layouts with many components, those destined for use on a Kaleido-Alto, Kaleido-Quad or Kaleido-Quad-Dual must respect limitations on the total number of components that can appear in a layout, and within each of the monitors in that layout, as shown here:

Component type	Max # of components in a ...	
	Layout	Monitor
Monitor	12	
Video screen	12*	1
Audio meter	10	6
Status indicator	5	5
Tally	4	4
Text label	12	2
UMD	12	2
Timer	5	
Clock	5	
Logo	5	

* All video screens must be within a monitor, and a monitor can only contain one video screen.

4 System Parameters

This section will detail all system parameters, including video and audio settings.

4.1 System Status

On the task bar click the **K-Alto**, **Quad**, or **Quad-Dual** button, and then click **Status** to open the **System Status** window. This window includes four tabs that provide information about your system.

The **System** tab contains basic information about the unit.

- The name of the unit, its address, IP and MAC addresses (some of these settings may be changed; see 4.2.8 “Network Configuration”), and the capacity and usage of the unit’s hard drive.
- The software, firmware and hardware version numbers are indicated. In the event of a system upgrade, the software and firmware numbers will reflect the change.
- The RS-232, RS-422 A and RS-422 B ports settings are listed. To configure the port settings click **Network Configuration** on the **Settings** menu.

Note: There is no RS-232 port on the Quad-Dual, in which case this line in the window will be blank. The Quad-Dual has built-in Little Red time code functionality.

- At the bottom, the status of the power supply (or supplies if the optional redundant supply is installed) and cooling fans is reported as:
 - **Ok** if installed and functioning normally,
 - **Defective** if the supply or fan is faulty,
 - **Absent** if no supply or fan is installed.
- The number of fans varies with the system type.

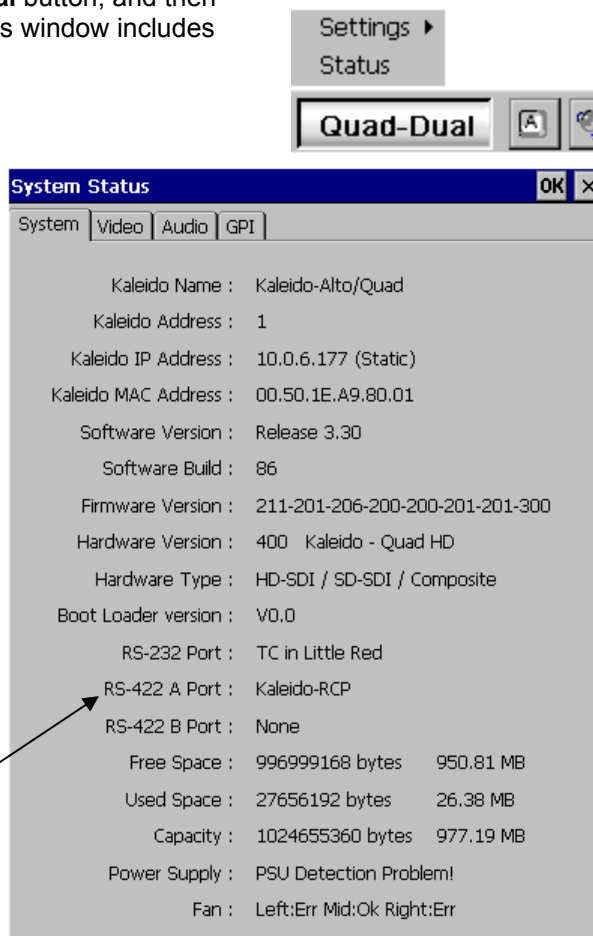
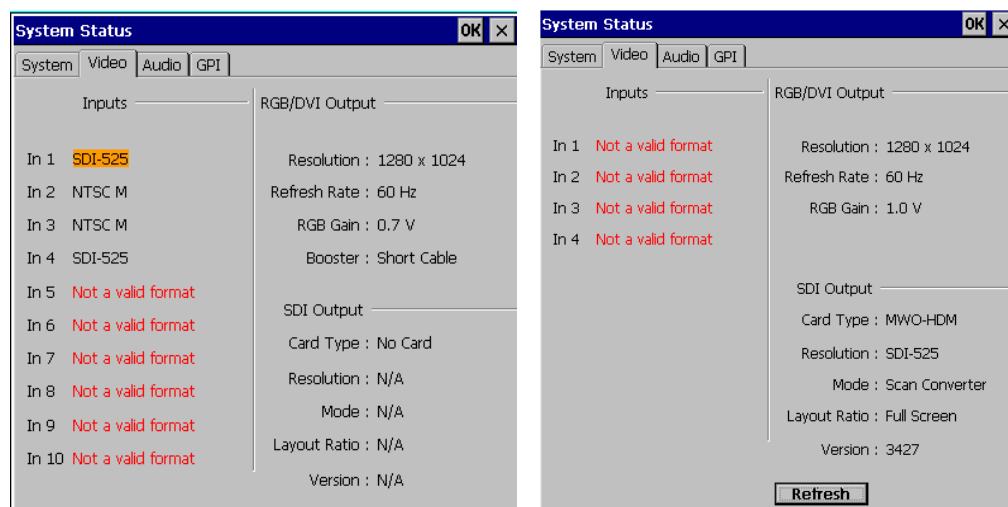


Figure 4.1 System Status window, System tab

The **Video** tab lists the type and format of all video inputs connected to the unit, as well as the output settings currently selected. Additionally, when an embedded audio signal is being monitored, the corresponding SDI input is highlighted as shown figure in 4.2 (a) below. In figure 4.2 (b), the panel shows a MWO-HDM monitoring output mezzanine installed (lower right corner). Note that there is no equalizer (“Booster”) in the Kaleido-Quad-Dual, per figure 4.2 (b).



(a) Kaleido-Alto

(b) Kaleido-Quad-Dual

Figure 4.2 System Status window, Video tab

The **Audio** tab shows the status of every audio signal connected to the unit, and indicates if an optional audio card is installed.

- Embedded AES audio signals are listed here for each valid SDI input: there may be up to four audio groups per input, each consisting of two signal pairs (or four signals).

Note: From this tab, you may also select which audio signal to monitor by clicking on a pair. The selected pair is then highlighted, and becomes audible.

- The window displays status information for only one of the two audio groups (1-2, or 3-4) at a time; to view the other audio group, click the corresponding button.

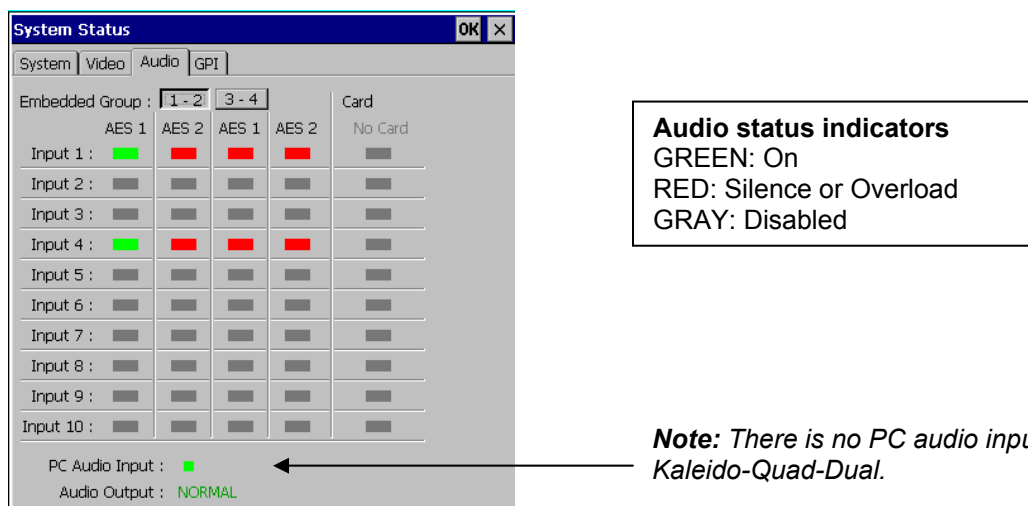


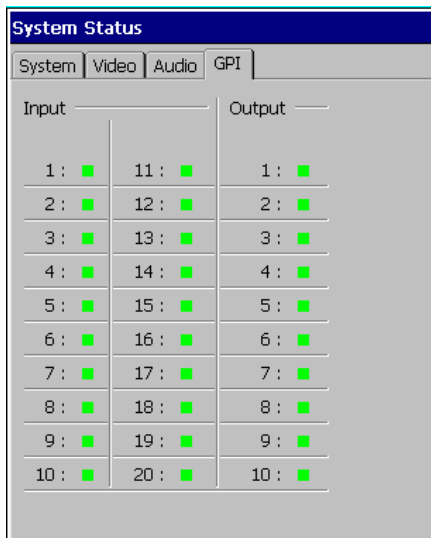
Figure 4.3 System Status window, Audio tab

- If your system includes an optional audio card, the status of the audio signal connected to the card is also shown in this window. The status indicators are dimmed if no card is installed.

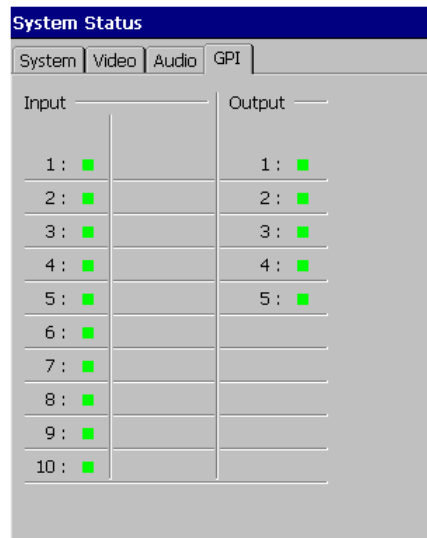
The **GPI** tab lists the active GPI inputs connected to the unit, and the status of the GPI outputs.

- GPI inputs are used to activate alarms.
- GPI outputs are generated by Actions.
- GPI input and output configurations are defined within KEdit.

	GPI Inputs	GPI Outputs
Kaleido-Alto	20	10
Kaleido-Quad	20	10
Kaleido-Quad-Dual	10	5



(a) Kaleido-Alto & Kaleido-Quad



(b) Kaleido-Quad-Dual

Figure 4.4 System Status window, GPI tab

4.2 System Settings

On the task bar click the **K-Alto**, **Quad**, or **Quad-Dual** button, and then point to **Settings**. The **Settings** menu provides resources that will let you configure the system's interaction with your existing hardware and set some basic controls.

Click an option on the menu to open the related control panel.

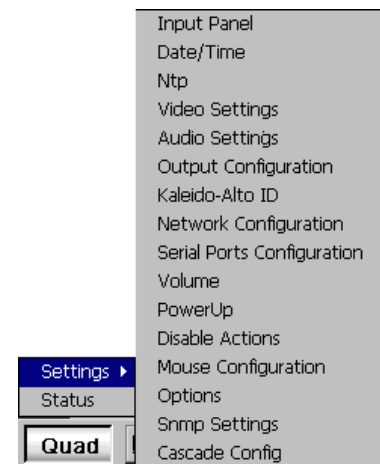


Figure 4.5 Settings menu

4.2.1 Input Panel

The **Input Panel Properties** window allows changing the size of the keys on the SIP keyboard. Click **Options** and choose between **Large keys** and **Small keys**. You can also use the **Use gesture** feature to replace some keys on the keyboard such as Enter and the spacebar.

Note: Other properties (such as the input methods) are not supported yet.

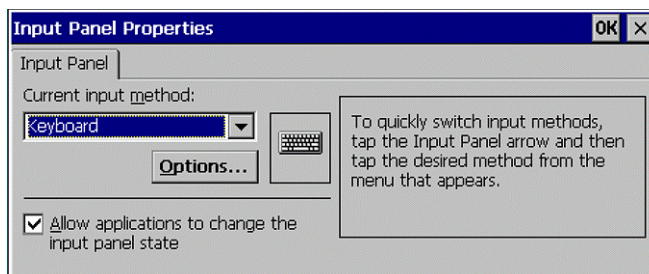


Figure 4.6 Input Panel Properties window

4.2.2 Date/Time

The **Date/Time** window is where you set the internal time reference. Start by setting the time zone that you wish to use. Set the date on the calendar by selecting the month using the left/right arrows and clicking the correct date; set the current time using the up arrow/down arrow buttons. Click **Apply** to apply your changes.

Note: The **Automatically adjust clock for daylight saving** feature of the underlying operating system is not supported by the Kaleido-Alto/Quad/Quad-Dual, so the check box is inoperative.

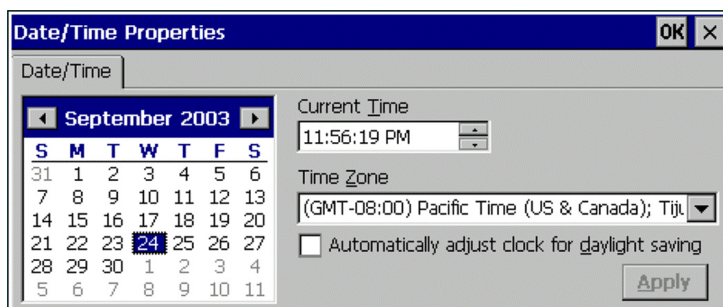


Figure 4.7 Date/Time Properties window

4.2.3 NTP Settings

To make sure the internal clocks of all units in your system are set to the same time, it is possible to synchronize them against an NTP time server, by selecting **Automatically synchronize with an Internet time server**. Type the server name or IP address, and then click **Update Now**. Click **Apply** to save your settings; click **OK** to save your settings and close the window; click **Cancel** to close the window and discard any unsaved changes. Your unit's internal clock will be automatically synchronized every 60 minutes.

Alternatively, to perform a manual synchronization, type an NTP time server name or IP address, click **Update Now**, and then click **Cancel**.

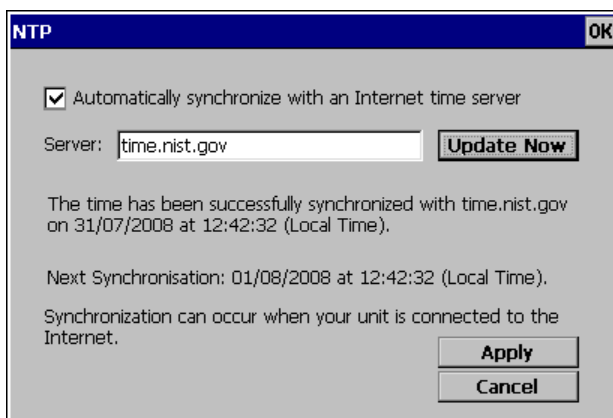


Figure 4.8 NTP window

Note: Valid DNS settings are needed if you wish to use a server name (e.g., `time.nist.gov`). See section 4.2.8 “Network Configuration” for details.

4.2.4 Video Settings

Video Settings opens a window in which you can choose to set the video error detection parameters:

- individually for each input by clicking the button for the input you want to set up, or
- for all channels at once, by clicking the **All Inputs** button at the top.

In either case, the **Video Signal Detection Calibration** window will open allowing you to set the error detection parameters. The window header identifies the specific video input you are setting up (**Video input: 1**, in the example below) or **ALL** if you selected to set up all channels at once. The window contents are the same in both cases.

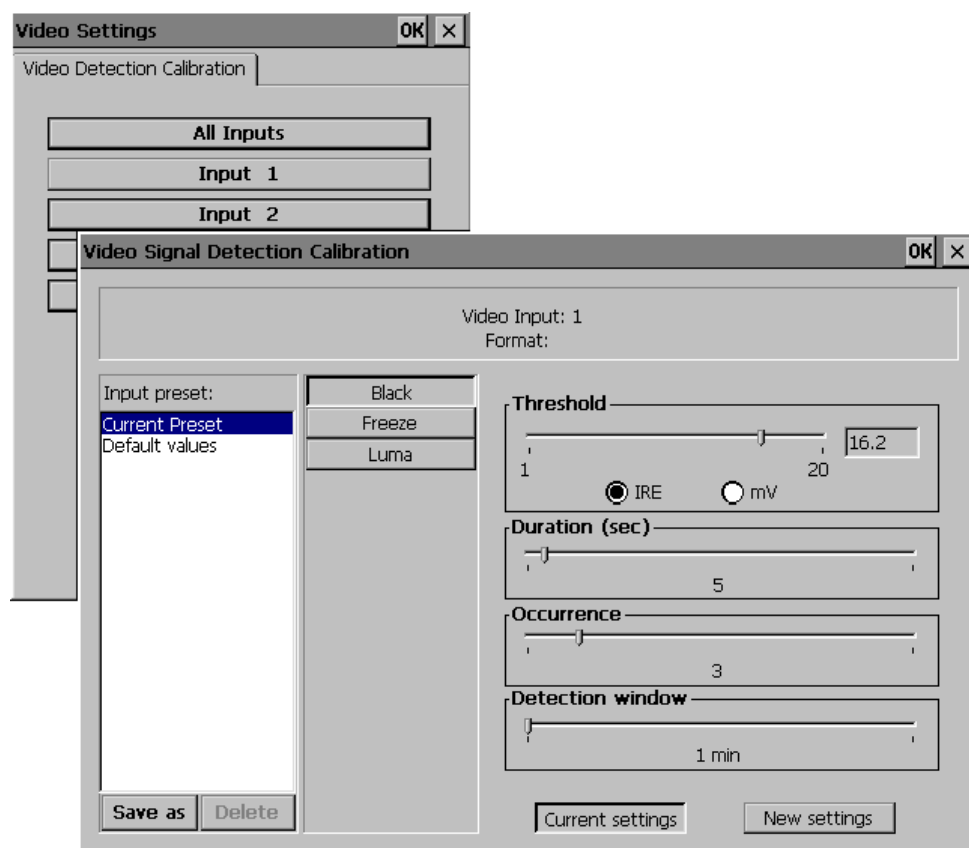


Figure 4.9 Video Signal Detection Calibration window

When a single input is selected, the format of the video at that input is shown.

Use the buttons in the center of the frame to select among the available errors types: **Black**, **Freeze**, or **Luma**.

Note: These options are not available on Kaleido-Alto with Board Revision earlier than 300. This earlier hardware supports only the **Loss of Video** error.

Using the Video Signal Detection Calibration window

You can use this window to:

- establish the criteria for determining whether an error has been detected,
- save multiple sets of criteria for future use,
- return to a previously-saved set of criteria,
- return to a default set of criteria.

When you open the window to adjust a **single input**, the values shown as the “current settings” are the last value stored for that input.

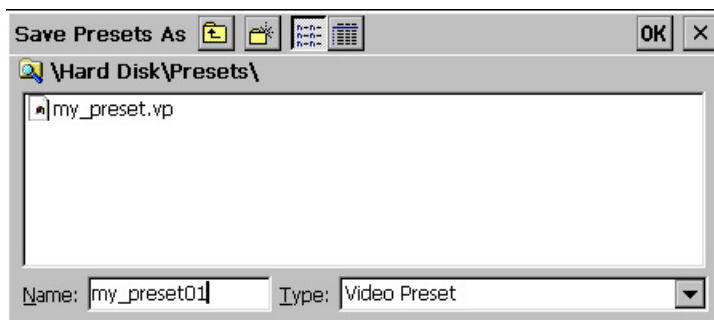
When you open the Window to adjust **all inputs**, the values shown as the “current settings” are the set of values stored when you last adjusted all inputs (if you have not previously done so, they are the default values). This set of values is saved separately, as individual inputs may have been set since the last “all inputs” adjustment

To establish a new set of criteria for error detection:

1. Select an error type by clicking an error type button (**Black**, **Freeze** or **Luma**).
2. Adjust the **Threshold**, **Duration**, **Occurrence** and **Detection Window** controls to suit your requirements. The function of these controls is described below for each error type. Use the **Current Settings** and **New Settings** buttons at the bottom to switch your view between the original settings and your new settings.
3. When you are finished adjusting the settings, click **OK** at the top of the window to save them as the current settings, replacing the set you started with, or click **[X]** to close the window and leave the settings unchanged.

To save a set of criteria for future use:

1. Establish a set of criteria as described in the previous section.
2. Click the **Save as** button, below the **Input preset** list, at the left of the window.
3. Name the new set of criteria in the window that opens. If you use an existing name, you will overwrite the old criteria with the new values.
4. Click **OK** to add the new set to the **Input preset** list.



To return to a previously-saved set of criteria:

1. Click the name of the set of the criteria in the **Input preset** list. That set will appear in the adjustment window as New Settings. Use the **New Settings** / **Current Settings** buttons to switch between the two views.
2. Click **OK** at the top of the window to load that set as the current settings, replacing the original set, or click **[X]** to close the window without replacing the current settings.

To return to a default set of criteria:

1. Click **Default values** in the **Input preset** list. That set will appear in the adjustment window as New Settings. Use the **New Settings** / **Current Settings** buttons to switch between the two views.
2. Click **OK** at the top of the window to load the default set as the current settings, replacing the original set, or click **[X]** to close the window without replacing the current settings.

The criteria for error detection for the three types of video errors are set up as follows:

Black: use the four sliders to set up the conditions that must be detected in order for a “Black” alarm to be raised:

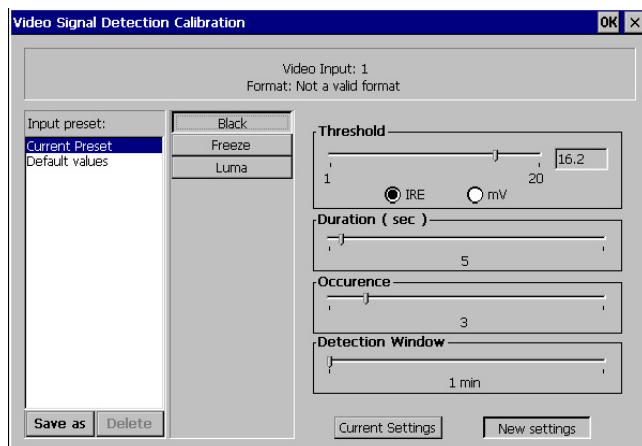


Figure 4.10 Video signal detection calibration for “Black” error

- **Threshold:** Set the level (in IRE or mV) below which the signal will be considered to be black.
- **Duration:** Set the time period for which the signal must be continuously detected as black before an error event will be flagged.
- **Occurrence:** Set the number of error events that must be flagged within the Detection Window before a “Black” alarm will be raised.
- **Detection Window:** Set the time interval over which error events will be counted. This window consists of the specified time before the present; i.e. the previous n minutes where n is the slider setting. As events recede into the past they fall out of the Detection Window and are no longer counted.

Freeze: use the four sliders to set up the conditions that must be detected in order for a “Freeze” alarm to be raised.

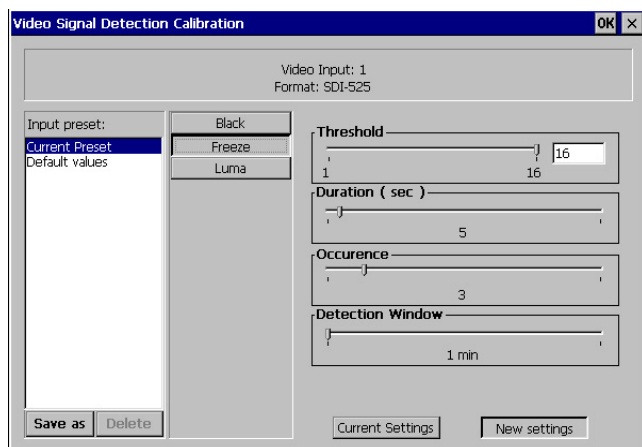


Figure 4.11 Video signal detection calibration for “Freeze” error

- **Threshold:** Set the level (in arbitrary units) below which the signal will be considered to be frozen. This is a subjective setting, as it must take account of the noise level in the signal in determining whether successive images are the same.
- **Duration:** Set the time period for which the signal must be continuously detected as frozen before an error event will be flagged.
- **Occurrence:** Set the number of error events that must be flagged within the Detection Window before a “Freeze” alarm will be raised.
- **Detection Window:** Set the time interval over which error events will be counted. This window consists of the specified time before the present; i.e. the previous n minutes where n is the slider setting. As events recede into the past they fall out of the detection window and are no longer counted.

Luma: use the four sliders to set up the conditions that must be detected in order for a “Luma” alarm to be raised:

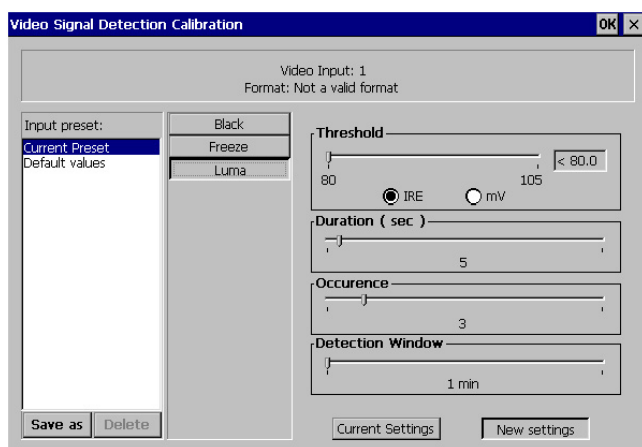


Figure 4.12 Video Signal Detection Calibration for “Luma” Error

- **Threshold:** Set the level (in IRE or mV) above which the Luma level will be considered to be too high.
- **Duration:** Set the time period for which the Luma signal must be continuously detected as too high before an error event will be flagged.
- **Occurrence:** Set the number of error events that must be flagged within the detection window before a “Luma” alarm will be raised.
- **Detection Window:** Set the time interval over which error events will be counted. This window consists of the specified time before the present; i.e. the previous n minutes where n is the slider setting. As events recede into the past they fall out of the detection window and are no longer counted.

4.2.5 Audio Settings

The **Audio Settings** window has three tabs that give access to settings for various audio parameters.

The **Audio Meters** tab provides the option of setting the rise time of the audio meters associated with audio from the audio card. Select between **Instantaneous**, or **10 ms**.

Note that the rise time for embedded audio is always instantaneous.

You may also select the 0 dBu reference point for analog monitoring of digital signals. Select between:

- -24 dBFS = 0 dBu (per SMPTE RP-155)
- -18 dBFS = 0 dBu (per EBU RP-68).

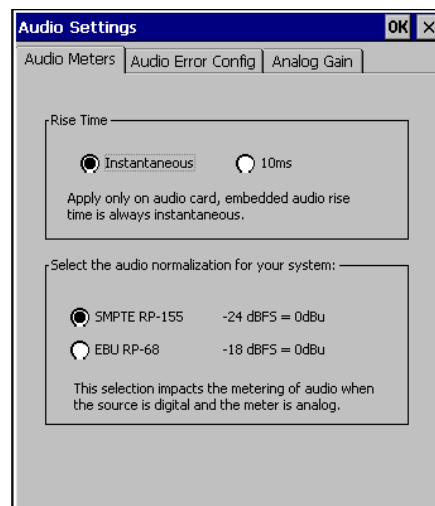


Figure 4.13 Audio settings

The **Audio Error Config** tab allows you to set the conditions under which an audio error will be detected for each of the embedded audio channels entering the Kaleido-Alto/Quad/Quad-Dual. This can be done:

- individually for each channel (select the appropriate embedded group by clicking either the **1-2** or the **3-4** button at the top, and then click the desired AES button for the input signal), or
- for all channels at once (by clicking the **Embedded Gr.** button at the top left).

In either case, the **Audio Signal Detection Calibration** window will open allowing you to set the error detection parameters. The window header will identify the specific audio channel you are setting up (in the example below: Video input 1, AES group 1, AES Channel 1) or ALL if you selected to set up all channels at once. The window contents are the same in both cases:

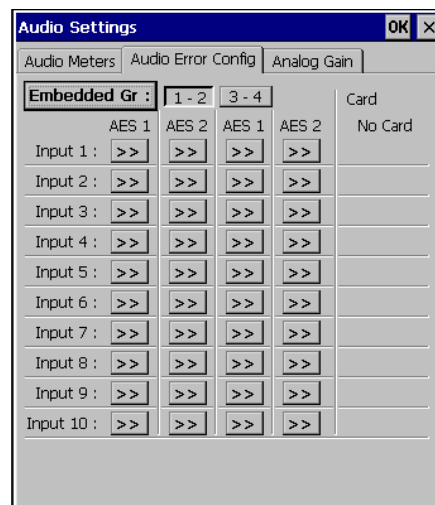


Figure 4.14 Audio Error Config tab

Using the Audio Signal Detection Calibration window

You can use this window to:

- establish the criteria for determining whether an error has been detected
- save multiple sets of criteria for future use
- return to a previously-saved set of criteria
- return to a default set of criteria

When you open the window to adjust a **single input**, the values shown are the “current settings”, the last value stored for that input.

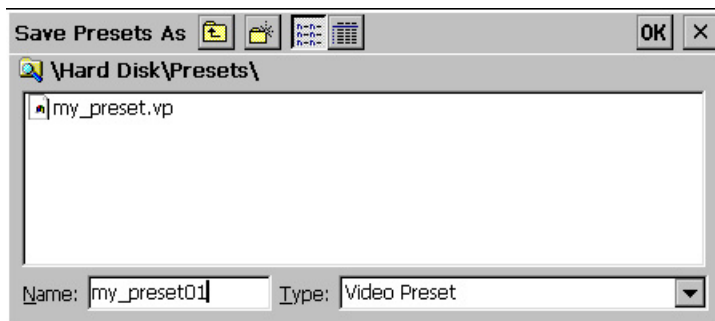
When you open the Window to adjust **all inputs**, the values shown as the “current settings” are the set of values stored when you last adjusted all inputs (if you have not previously done so, they are the default values). This set of values is saved separately, as individual inputs may have been set since the last “all inputs” adjustment

To establish a new set of criteria for error detection:

1. Select an error type by clicking an error type button (**Silence** or **Overload**).
2. Adjust the **Threshold**, **Duration**, **Occurrence** and **Detection Window** controls to suit your requirements. The function of these controls is described below for each error type. Use the **Current Settings** and **New Settings** buttons at the bottom to switch your view between the original settings and your new settings.
3. When you are finished adjusting the settings, click **OK** at the top of the window to save them as the current settings, replacing the set you started with, or click **[X]** to close the window and leave the settings unchanged.

To save a set of criteria for future use:

1. Establish a set of criteria as described in the previous section.
2. Click **Save as** below the **Input preset** list at the left of the window.
3. Name the new set of criteria in the **Name** box at the bottom of the window that opens, and select **Audio Preset** from the **Type** list. If you use an existing name, you will overwrite the old criteria set with the new values.
4. Click **OK** to add the new set to the **Input preset** list.



To return to a previously-saved set of criteria:

1. Click the appropriate set in the **Input preset** list. That set will appear in the adjustment window as “new settings”. Use the **New settings** / **Current settings** buttons to alternate between the two views.
2. Click **OK** at the top of the window to load that set as the current settings, replacing the original set, or click **[X]** to close the window without replacing the current settings.

To return to a default set of criteria:

1. Click **Default Values** in the **Input preset** list. The default set will appear in the adjustment window as New Settings. Use the **New settings** / **Current settings** buttons to alternate between the two views.
2. Click **OK** at the top of the window to load the default set as the current settings, replacing the original set, or click **[X]** to close the window without replacing the current settings.

The criteria for error detection for the two types of audio error are set up as follows:

Silence: use the four sliders to set up the conditions that must be detected in order for a “Silence” alarm to be raised:

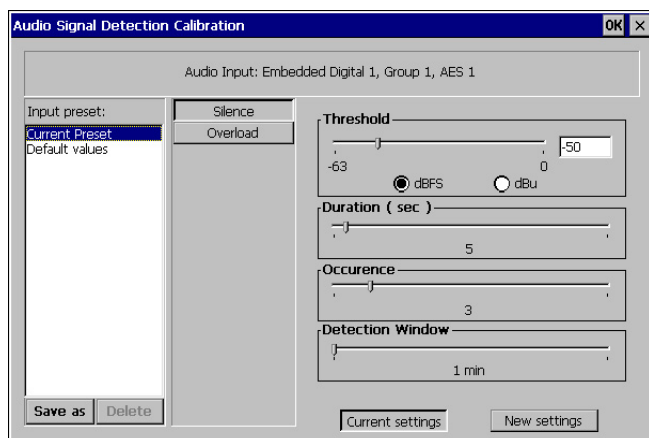


Figure 4.15 Audio signal detection calibration for “Silence” error

- **Threshold:** Set the level (in dBFS or dBu) below which the signal will be considered to be silent.
- **Duration:** Set the time period for which the signal must be continuously detected as silent before an error event will be flagged.
- **Occurrence:** Set the number of error events that must be flagged within the Detection Window before a “Silence” alarm will be raised.
- **Detection Window:** Set the time interval over which error events will be counted. This window consists of the specified time before the present; i.e. the previous n minutes where n is the slider setting. As events recede into the past they fall out of the Detection Window and are no longer counted.

Overload: use the four sliders to set up the conditions that must be detected in order for an “Overload” alarm to be raised:

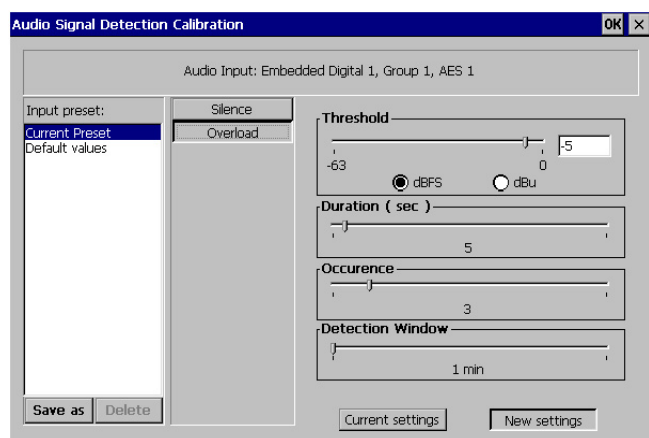


Figure 4.16 Audio signal detection calibration for “Overload” error

- **Threshold:** Set the level (in dBFS or dBu) above which the signal will be considered to be in overload.
- **Duration:** Set the time period for which the signal must be continuously detected as in overload before an error event will be flagged.
- **Occurrence:** Set the number of error events that must be flagged within the detection window before an “Overload” alarm will be raised.

- Detection Window:** Set the time interval over which error events will be counted. This window consists of the specified time before the present; i.e. the previous n minutes where n is the slider setting. As events recede into the past they fall out of the detection window and are no longer counted.

The **Analog Gain** tab provides a slider for each of the inputs of the analog audio card, allowing the gain levels to be set. The gain can be adjusted from 0 to 30 dB in steps of 6 dB.

Note: This tab is only present when an analog audio card is installed.

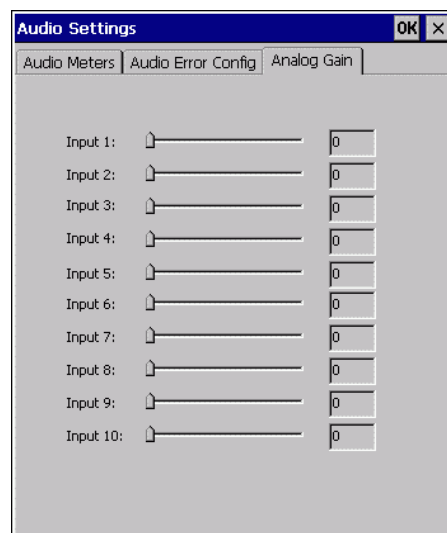


Figure 4.17 Analog gain adjustment for the input channels.

4.2.6 Output Configuration

Output configuration must be set according to the capabilities and installation conditions of your display device (plasma monitor, video projector, etc.). Select the correct resolution and frequency in the list: 1920 x 1080, 1600 x 1200, 1024 x 768, 1280 x 1024, 1280 x 768, 1360 x 768 and 800 x 600, all at 50 or 60 Hz.

Note: The 1920 x 1080 and 1600 x 1200 images are presented in letterbox format – see the *Kaleido-Alto/Quad Installation Manual* for details. Certain Kaleido-Alto models and hardware revisions do not support these formats, which will only appear in the **Resolution** list if they are supported (again, see the *Installation Manual* for details).

You may have to manually change the resolution on the display device if it does not lock on the Kaleido-Alto/Quad/Quad-Dual's output automatically. The **RGB Gain** value may be changed to increase the video dynamic range; some displays accept 1.0 Vp-p while others do not. A built-in cable equalizer (not available on the Kaleido-Quad-Dual) provides compensation for the output cable length; try the different cable length categories (**Short Cable**, **Medium Cable** and **Long Cable**) if the signal seems to be noisy.

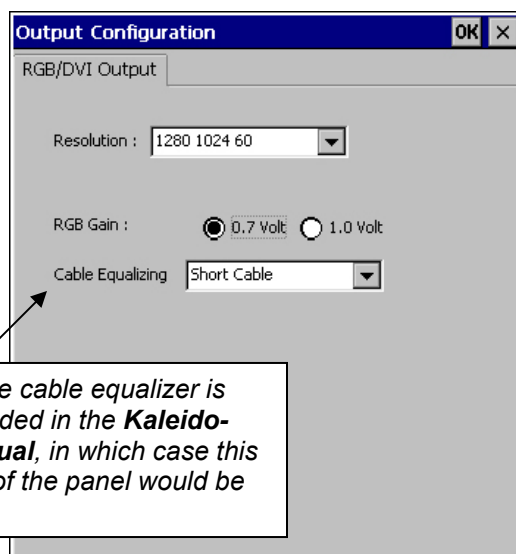


Figure 4.18 Output Configuration window, RGB/DVI Output tab

An optional monitoring mezzanine can be installed in the Alto/Quad/Quad-Dual to convert its main RGB/DVI output to an SD or HD SDI format. Two mezzanine models are available: MWO-SDM and MWO-HDM. When a monitoring mezzanine is installed, an additional tab named **SDI Output** provides controls over the monitoring output.

The monitoring mezzanine may be used as a routing switcher (see the table below) or a scan converter, and may also output a test signal (color bars).

	Routing Switcher
Kaleido-Alto	10x1
Kaleido-Quad	4x1
Kaleido-Quad-Dual	n/a

When the **Routing Switcher** is selected as shown in figure 4.19 (a) (**10x1**, so this is a Kaleido-Alto), any of the Alto or Quad's inputs may be directed to the monitoring output by clicking on the corresponding window. This is particularly useful for a QC application where any of the inputs may be viewed on a Waveform Monitor, as an example.

Note: If your system is a Kaleido-Quad-Dual, the **Routing Switcher** portion of the window will be blank.

When the **Scan Converter** option is selected as shown in figure 4.19 (b), the mezzanine converts the main RGB/DVI output of the Kaleido-Alto/Quad/Quad-Dual into an HD or SD video signal. A pull-down list displays the available HD or SD SDI output formats. A check box allows retaining of the original output's aspect ratio, in the case where the display device is of a different aspect ratio.

The **Detail Enhancer** and **Sharpness** sliders allow the user to select a value in the range 0 to 16, 8 being the default (nominal) value in all output formats. The detail enhancer increases high frequency components thereby increasing fine detail and edges. The **Sharpness** slider allows an aliasing adjustment to be chosen, 0 being maximum anti-aliasing and 16 maximum aliasing (or maximum sharpness), resulting in more or less perceived flickering.

You may also choose to output a color-bar test pattern at the MWO-HDM or MWO-SDM output: select the **Color Bars** check box.

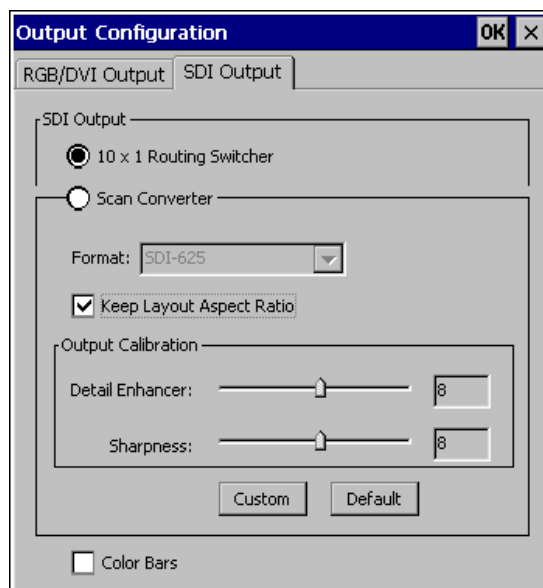


Figure 4.19 (a) Output Configuration window, SDI Output tab (Kaleido-Alto shown)

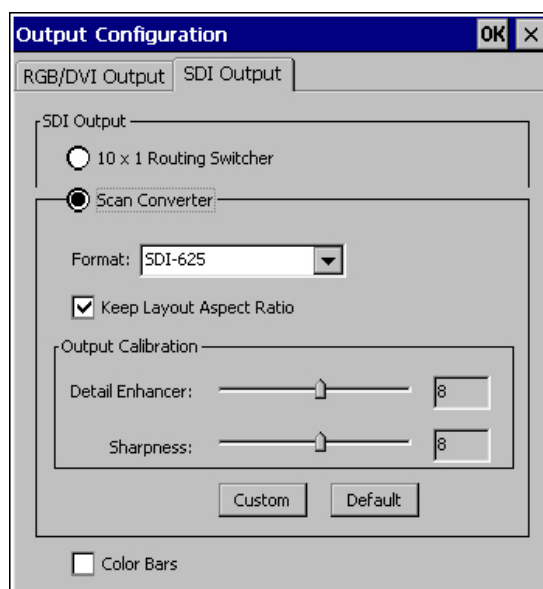


Figure 4.19 (b) Output Configuration window, SDI Output tab (Kaleido-Alto shown)

4.2.7 Kaleido-Alto ID

The **Kaleido-Alto ID** window is where a unique name and ID is given to a system. The unique ID is used by a remote control panel or other equipment for RS-422 communications purposes. As an example, several Kaleido-Alto/Quad/Quad-Dual systems, each with its own ID number, may be controlled individually by the optional Kaleido-RCP. The unit's name may also be changed, although the utility of this information is limited for the time being.

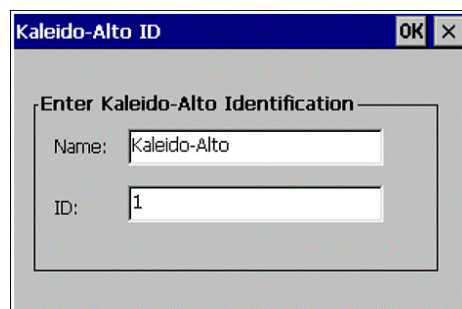


Figure 4.20 Kaleido-Alto ID window

4.2.8 Network Configuration

In **Network Configuration**, specify the network settings for your system. If your local network uses the DHCP protocol to dynamically allocate an IP address on startup, select the **Obtain an address via DHCP** option; otherwise, you must specify a static IP address, as well as the appropriate subnet, gateway, and DNS information. Consult your network administrator if you are unsure about this.



Figure 4.21 Network Configuration window

4.2.9 Serial Ports Configuration

The **Serial Ports** window allows configuration of the serial communication ports. They may be used to communicate with third-party devices to provide tally information and dynamic text for UMDs and Text Labels, or interface with the Kaleido-RCP or a time code reader such as Miranda's Little Red. Details on how to use the data can be found in the KEdit software's online help manual.

Assign a function to each port as needed:

- When using a Kaleido-RCP with the unit, select **Kaleido-RCP** from the list of **RS-422 A** devices.
- When using a Little Red Time Code Reader, select **TC in Little Red** from the list of **RS-232** devices. There is no RS-232 port on the Kaleido-Quad-Dual, and Little Red functionality is built in.

Note: TSL and Andromeda protocols are mutually exclusive; when one is selected for a communication port, the other protocol is not available on other ports as only one communication protocol may be used with the Kaleido-Alto/Quad/Quad-Dual at any time. Communication port parameters are set according to the selected function; for Andromeda in particular, parameters may be changed manually if required. See section 7 "Andromeda Port Settings".

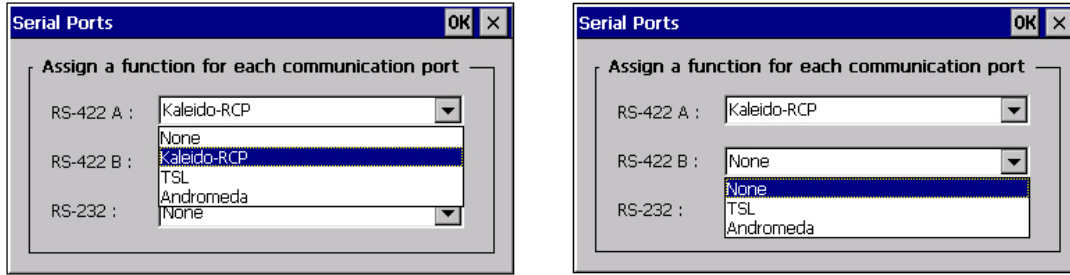
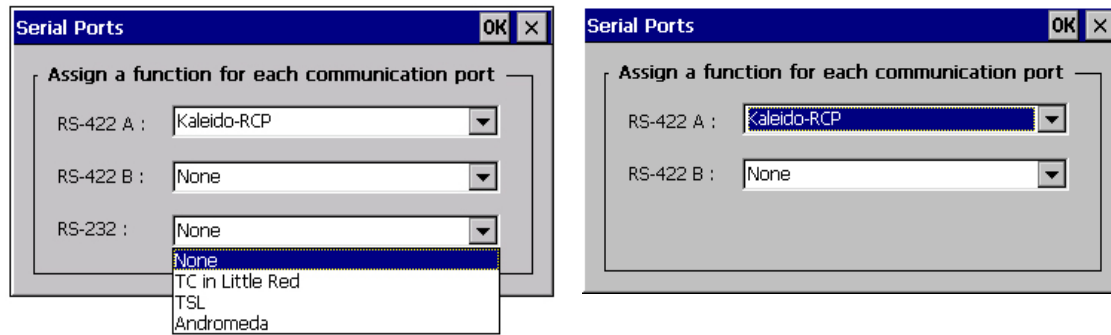


Figure 4.22 Serial Ports window, RS-422A and RS-422B configuration



(a) Kaleido-Alto & Kaleido-Quad

(b) Kaleido-Quad-Dual

Figure 4.23 Serial Ports window, RS-232 configuration

4.2.10 Volume

The **Volume** menu option invokes the same volume control slider described on page 5.

4.2.11 Power Up

The **PowerUp** menu option opens up the **Save Default Layout** window; click the **Save** button to save the position of each window as the system default, which will be used when powering up. This layout will appear after 5 seconds when power-up is initiated. The current layout is re-applied once the application is up and running (10 seconds later).

4.2.12 Disable Actions

Disable Actions opens the **Action Settings** window, showing the **Actions Enabled** check box. Clearing this check box disables all actions on the Kaleido-Alto/Quad/Quad-Dual. This is of most use when a sequence of actions is inadvertently triggered that enters a loop. The only way to get out of the loop is to disable actions using this window, and then examine the sequence of actions and eliminate the problem.

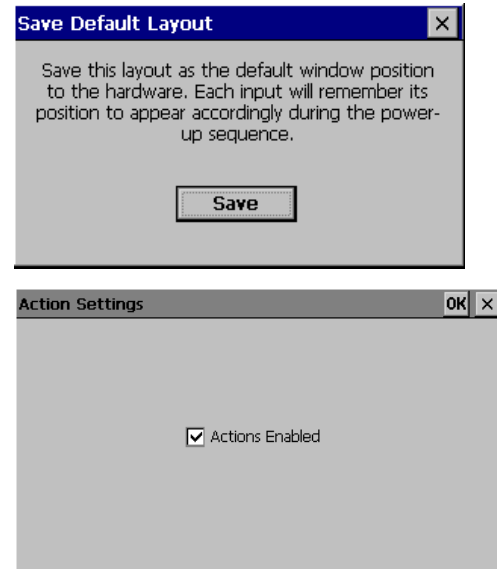


Figure 4.25 Action Settings window

4.2.13 Mouse Configuration

Mouse Configuration sets the time duration since the last mouse movement after which the mouse pointer will become invisible on the screen. The pointer will immediately become visible again if the mouse is moved.

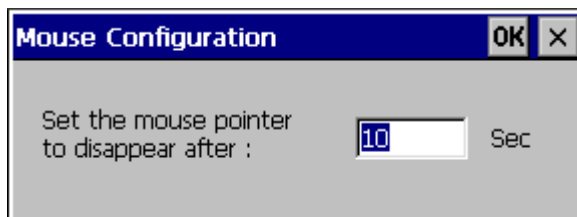


Figure 4.26 Mouse Configuration window

4.2.14 Options

Options opens a window that allows the user to activate the Embedded Audio and/or the SNMP option on the Kaleido-Alto/Quad/Quad-Dual. If you wish to purchase either of these options, contact your sales representative. Once the option is purchased, you will be sent a key that is exclusive to your Kaleido (i.e. based on the serial number). Enter the key in the **Embedded Audio** or **SNMP** box, and click **Validate**. Once the key is validated, the **Validate** button will be replaced by a **Save** button. Click it to store the valid key information in the system. The option is now activated.

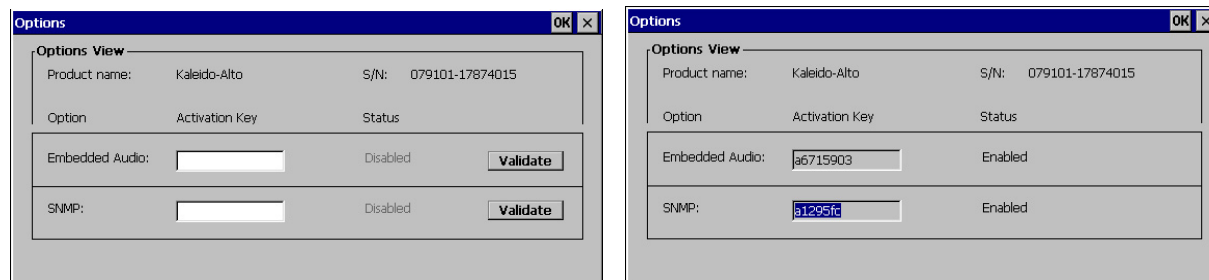


Figure 4.27 Options window

4.2.15 SNMP Settings

SNMP Settings opens a window with three tabs that allow the user to manage the SNMP (Simple Network Management Protocol) trap error reporting for the Kaleido-Alto/Quad/Quad-Dual system.

In the **SNMP Global Settings** tab, the **SNMP Manager Addresses** list shows the IP addresses of all managers that should receive the SNMP traps sent by this Kaleido system.

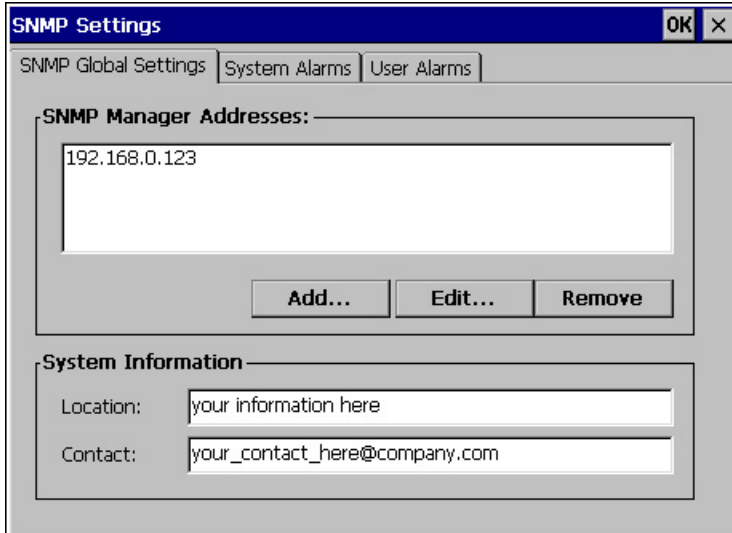


Figure 4.28 *SNMP Settings window, SNMP Global Settings tab*

Click **Add** to open the **SNMP Manager Address** window to add a new manager to the list.

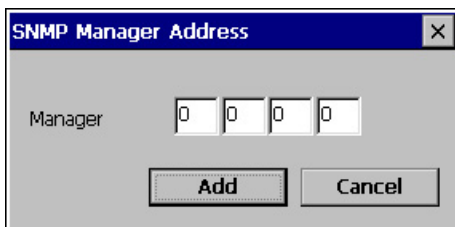


Figure 4.29 *SNMP Manager Address window*

Type the four elements of the IP address into the four boxes, and then click **Add**.

Click an existing entry to select it, and then click **Edit** to open the **SNMP Manager Address** window for that entry if you want to change the information.

Click an existing entry, and then click **Remove** to delete the entry from the list.

The **System Information** section allows the user to identify the Kaleido-Alto/Quad/Quad-Dual frame by location and with an e-mail address that can be used to contact the user.

System Alarms tab

The **System Alarms** tab displays a list of all the alarms that have been created for the Kaleido-Alto/Quad/Quad-Dual system. System alarms are not user-defined or configurable. An alarm generates a response when a certain input parameter fails a test. Alarms can be used to issue warnings to the user or to initiate predefined actions by the Kaleido-Alto/Quad/Quad-Dual system.

Select the check boxes for every alarm type (e.g. video, audio, etc.), or individual alarms within an enabled type (e.g. GPI2) that are to be sent as SNMP traps.

Note: System alarms always respond to a GET sent by the SNMP manager, whether the corresponding check box is selected or not.

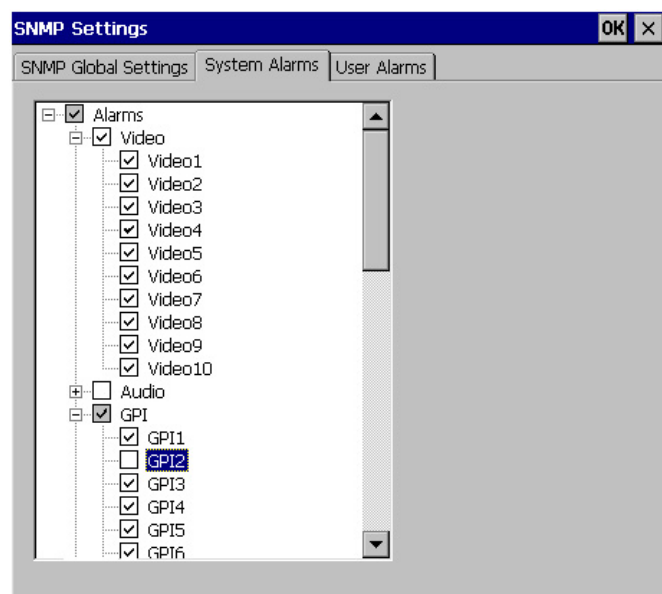


Figure 4.30 System Alarms tab

User Alarms tab

The **User Alarms** tab displays a list of all the alarm monitors defined for the Kaleido-Alto/Quad/Quad-Dual system.

An alarm monitor is an entity that combines multiple alarms of different types, generating a response when any of its component alarms is triggered.

Note: Alarm monitors are created using the KEdit software. Please refer to KEdit's online documentation (available from KEdit's **Help** menu) for details on how to create and configure alarm monitors.

The monitors named Alto 1 through Alto 10 are predefined monitors that flag Video Loss only. They could be overwritten if the user creates a more complex monitor with the same name.

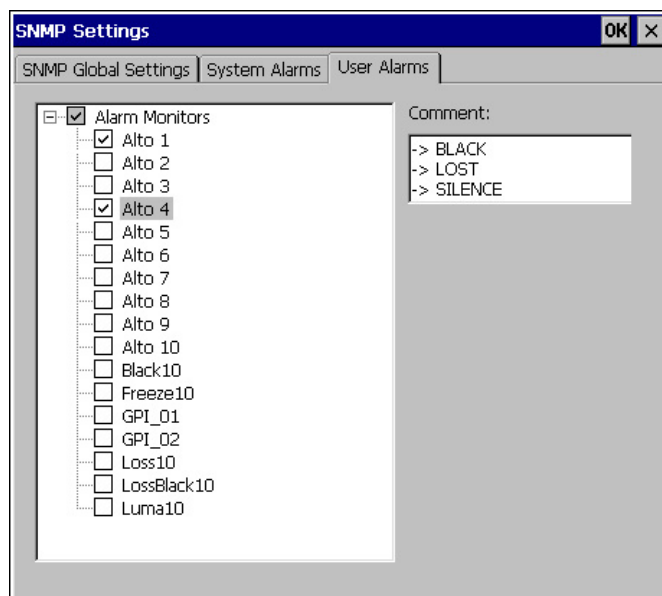


Figure 4.31 User Alarms tab

The remaining monitors in the list shown are examples of user-defined monitors created in KEdit.

Click the check boxes to select all the alarm monitors that are to send SNMP trap error messages when triggered, and that will respond to GET messages sent by the SNMP Manager.

Click one or more of the entries in the **Comment** box to select text that will be sent along with the trap, to assist the recipient in interpreting the message.

5 Controlling Kaleido-Alto/Quad/Quad-Dual Using the Kaleido-RCP or a Keyboard

The Kaleido-Alto/Quad/Quad-Dual may be controlled in operation using either the Kaleido-RCP remote control panel, or a standard computer keyboard plugged into its rear panel. The Kaleido-RCP may be located far away from the Kaleido-Alto/Quad/Quad-Dual itself, and has a keyboard designed to access Kaleido-Alto/Quad/Quad-Dual functions, so it will be the most useful choice in most operational situations. A computer keyboard may only be located near the frame, but has the full functionality of the Kaleido-RCP, and may be used for maintenance or when the frame is physically located near the operating location. For convenience, the operation will be described here in terms of the Kaleido-RCP. See section 5.2 “Using a Keyboard to Control a Kaleido-Alto/Quad/Quad-Dual ” to identify the keyboard keys that are equivalent to the various Kaleido-RCP keys.

The Kaleido-RCP controls allow many aspects of the multi-image display to be controlled, but some parameters such as input calibration or markers display are not accessible.

5.1 Kaleido-RCP Remote Control Panel Description

The Kaleido-RCP is designed specifically to operate Kaleido-Alto/Quad/Quad-Dual. It may be used to control, singly or together, multiple Kaleido-Alto/Quad/Quad-Dual units. See the Installation Manual for installation instructions. The panel layout is shown in figure 5.1.

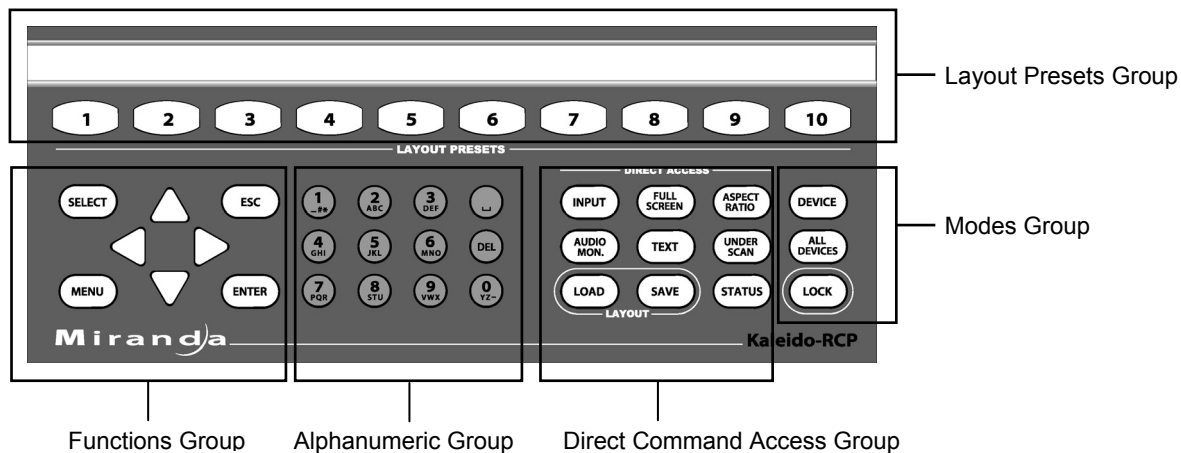


Figure 5.1 Kaleido-RCP Functions

The use of these controls for operational adjustment of the Kaleido is detailed in 5.3 Kaleido-RCP Operation in Details.

Layout Presets Group


In a production environment, display layouts need to be accessed quickly and easily. The Kaleido-RCP lets the user access stored layouts through Layout Presets buttons 1 through 10. Press any of these buttons and the Kaleido-Alto/Quad/Quad-Dual system instantly shows the selected layout. Above the buttons is a paper strip that can be used to identify the layout associated with each button.

Note: When the **Shift** button is clicked in the task bar using the mouse, the layout presets buttons 1 to 10 will recall the layouts 11 to 20 respectively; in this case, the buttons are not highlighted.

Functions Group

- The up, down, left and right arrow buttons are used for moving the selection pointer when adjusting the multi-image output. During normal operation, they can be used to control the volume of the currently monitored audio signal. In full screen mode, the left and right arrow buttons can be used to cycle through all active monitors.
- The SELECT button enables monitors to be accessed on-screen for adjustment.
- The ENTER button is used to add monitors to the selection group.
- The ESC button allows the user to cancel an action without changes.
- The MENU button is inactive for this version of the software.

Alphanumeric Group

The alphanumeric buttons are used to type text in the name bar of a monitor or to enter ID numbers when selecting a Kaleido-Alto/Quad/Quad-Dual unit to control. The DEL button and the space button () are included in this group.

Direct Command Access Group

This group is used to control certain on-screen features directly.

- INPUT invokes the input list to assign a channel to the current or most recently selected monitor.
- FULL SCREEN applies to the selected or most recently selected monitor and enlarges it until it fills up the display area. You can cycle through all monitors that have channel assignments using the right and left arrow buttons. Press FULL SCREEN or ESC again to return to the multi-screen mode.
- ASPECT RATIO toggles a window's aspect ratio between 4:3, 16:9, and a custom ratio.
- UNDERSCAN toggles a window's scan mode between Underscan/Normal and Overscan, allowing the user to control whether the vertical and horizontal blanking areas are visible in the video window.
- AUDIO MON. activates audio monitoring for the selected window. The audio volume may be controlled by the up and down arrow buttons; pressing the left arrow button will mute the audio output and pressing the right arrow button will attenuate the level by 20 dB. When multiple meters are active for the selected window, pressing AUDIO MON. again will cycle audio monitoring among the available pairs of audio inputs. When this feature is used, the on-screen volume bar will appear, and can be used as a visual indicator of the volume level.
- TEXT activates text edition for the current or most recently selected window's UMDs and text labels. When multiple UMDs and text labels are present in the selected window, press TEXT again to cycle text edition among the available UMDs and text labels.
- The LOAD and SAVE buttons are reserved for future use.
- The STATUS button opens the **System Status** window. Press ESC to close the window.

Modes Group

The Kaleido-RCP has 4 modes of operation: Standby, Device, All Devices and Lock.

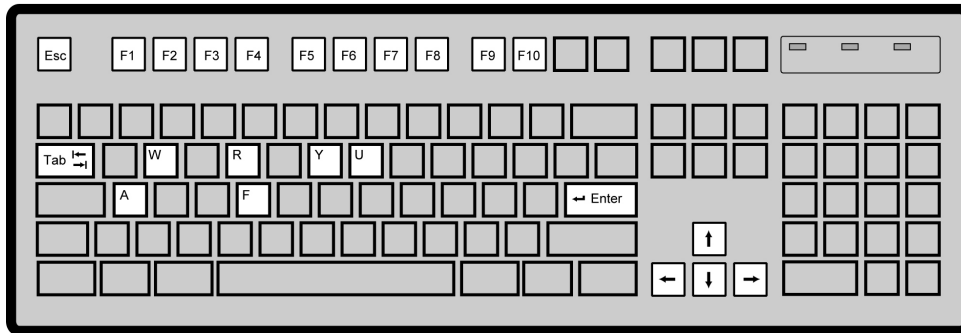
In Standby mode, the unit is waiting for an instruction to enter one of the three other modes. Standby is the default mode upon startup.

The Device or All Devices modes let the user control a selected Kaleido-Alto/Quad/Quad-Dual or all Kaleido-Alto/Quad/Quad-Dual units, respectively. In Device mode, the user is required to enter the ID number of the desired Kaleido-Alto/Quad/Quad-Dual. In All Devices mode, all Kaleido frames will be controlled at the same time (only the loading of layouts can be controlled in All Devices mode).

Lock mode effectively disables all but the Layout Presets buttons, preventing any change in the system configuration. Additionally, it can be used to restrain access to a selected Kaleido-Alto/Quad/Quad-Dual unit.

5.2 Using a Keyboard to Control a Kaleido-Alto/Quad/Quad-Dual

For setting up a complex system including several Kaleido-Alto/Quad/Quad-Dual units, or when the Kaleido-RCP and/or the mouse are missing or defective, it is possible to use a standard extended keyboard. The keyboard is connected to the USB connector on the Kaleido-Alto/Quad/Quad-Dual rear panel, as shown in the Installation Manual. Note that the functionality is identical to that of a Kaleido-RCP. Figure 5.2 below shows the keys used on a keyboard and their equivalent on the Kaleido-RCP.



Key	Kaleido-RCP equivalent	Key	Kaleido-RCP equivalent
Esc	ESC	Ctrl+A	INPUT
Tab	SELECT	Ctrl+F	FULL SCREEN
Enter	ENTER	Ctrl+R	ASPECT RATIO
Arrow keys	Arrow buttons	Ctrl+U	UNDERSCAN
Function keys	Layout Presets buttons	Ctrl+W	AUDIO MON.
		Ctrl+Y	STATUS

Figure 5.2 Keyboard key assignments for Kaleido operation

There is one exclusive keyboard command that is not available on the RCP: press Ctrl+Alt+R to go back to the default resolution (1280 x 1024 x 60).

5.3 Kaleido-RCP Operation in Details

Using the Kaleido-RCP to operate the Kaleido-Alto/Quad/Quad-Dual is similar to using the mouse; the same menus and windows appear for all the features. See section 3.3 “Using a Layout” for specific descriptions of all the features.

5.3.1 Accessing a Single Kaleido-Alto/Quad/Quad-Dual Using the Kaleido-RCP

To access a single Kaleido-Alto/Quad/Quad-Dual in a daisy-chain of several units, follow these steps:

- 1- Press the DEVICE button on the Kaleido-RCP. The DEVICE button lights up brightly (and the current layout button if applicable) and all alphanumeric buttons light up as the unit awaits an ID number entry. At the same time, on all display devices, the ID number of the associated Kaleido-Alto/Quad/Quad-Dual unit appears at the bottom of the screen.
- 2- Press the alphanumeric buttons corresponding to the ID number of the desired Kaleido-Alto/Quad/Quad-Dual unit. The frame is selected and the available control buttons at the Kaleido-RCP are illuminated.

Once a Kaleido frame is selected, any actions taken at the Kaleido-RCP apply only to that Kaleido-Alto/Quad/Quad-Dual.

5.3.2 Accessing all Kaleido-Alto/Quad/Quad-Dual Units Using the Kaleido-RCP

To access all Kaleido-Alto/Quad/Quad-Duals in a daisy-chain of several units, press the ALL DEVICES button on the Kaleido-RCP. The ALL DEVICES button lights up brightly while all other buttons are dimly lit (note that if the same preset layout is currently being displayed on all Kaleido-Alto/Quad/Quad-Duals, the corresponding button will light up brightly as well on the RCP). At the same time, on all Kaleido-Alto/Quad/Quad-Dual outputs, the ID number of the associated Kaleido-Alto/Quad/Quad-Dual unit appears at the bottom of the screen.

Note: In this mode, the only active controls are the Preset Layout selection buttons 1 to 10. The same layout number can be selected for all units simultaneously.

5.3.3 Restricting Control of Kaleido-Alto/Quad/Quad-Dual Units

The LOCK button restricts control of Kaleido-Alto/Quad/Quad-Dual, allowing only the layouts to be changed. All other commands are disabled. When used with the DEVICE button, the Kaleido-RCP can only change layouts on the unit being accessed. When used with ALL DEVICES button, selecting a layout preset will apply that layout to all units.

To use the Lock feature for a single Kaleido-Alto/Quad/Quad-Dual unit:

1. If the Kaleido-Alto/Quad/Quad-Dual unit that you want to lock is currently being accessed by the Kaleido-RCP, go directly to step 3.
2. To select another Kaleido-Alto/Quad/Quad-Dual unit, press the DEVICE button, and then enter the ID number of that unit.
3. Press the LOCK button; it lights up brightly to indicate that it is now in Lock mode. Only Layout Presets may be selected.
4. To unlock, press the LOCK button for 2 seconds; the button's light turns off. All commands are accessible.

To lock all Kaleido-Alto/Quad/Quad-Dual units:

1. Press the ALL DEVICES button; it lights up to indicate that all Kaleido-Alto/Quad/Quad-Dual units are accessed.
2. Press the LOCK button; it lights up brightly to indicate that it is now in Lock mode. Only Layout Presets may be selected.
3. To unlock, press the LOCK button for 2 seconds; the button's light turns off. All commands are accessible.

5.3.4 Recalling a Layout

The Kaleido-Alto/Quad/Quad-Dual stores 20 different layouts in its on-board memory. To display one of them on the multi-image output, press one of the 10 LAYOUT PRESETS button; the button will flash to indicate the selected layout. To access layouts 11 to 20, click the **Shift** button on the task bar or press the Shift key on the keyboard.

Note: The Caps Lock key is not supported.

5.3.5 Selecting a Monitor Within a Layout

Each layout contains multiple Monitors, which may be customized separately or together. To select one to adjust, press SELECT. Each monitor in the layout will show a number, and its current channel assignment. A white box surrounds the ID of the currently selected monitor. To select this monitor for adjustment, press ENTER. A white frame surrounds the entire monitor. Move the pointer to other monitors using the arrow keys. Press ENTER to add any of these to the adjustment group. If you are pointing at a

monitor already selected for adjustment, you can remove it from the group by pressing ENTER. Once you have selected all the monitors you wish to adjust, perform the adjustment (underscan/overscan or aspect ratio changes only). When finished, press ESC to exit the select/adjust mode.

The group of monitors selected for adjustment is saved in memory. Pressing the SELECT key multiple times brings up the following displays:

First push	Displays ID numbers and channel assignments on all monitors and the pointer
Second push	Highlights the group of monitors last selected for adjustment with white frames
Third push	Highlights all adjustable monitors with white frames
Fourth push	Cycles over to first push

5.3.6 Assigning a Channel to a Monitor

Point to a Monitor by pressing SELECT and using the arrow keys, then press INPUT. A window listing all the defined Channels stored in the Kaleido-Alto/Quad/Quad-Dual appears. Scroll up or down, to find the desired Channel, and then press ENTER to assign the channel to that monitor.

5.3.7 Changing the Video Screen Aspect Ratio Within a Monitor

The video screen displayed in a monitor may have an aspect ratio of either 4:3, 16:9 or a custom ratio. It is possible to change this manually from the Kaleido-RCP; this would be done when changing the channel assignment to one with video in a different aspect ratio. Point to the Monitor by pressing SELECT and using the arrow keys. Press ASPECT RATIO to change the screen's aspect ratio.

5.3.8 Audio Monitoring

The audio output of the Kaleido-Alto/Quad/Quad-Dual is that from the last-selected monitor. Select a monitor by pressing SELECT and using the arrow keys to move the pointer to the desired monitor. Press AUDIO MON. and the channel's audio will be heard. If there are multiple audio groups in the same monitor, then the first audio will be heard. Press AUDIO MON. again to cycle through the available audio groups.

Note: If you call up the volume control slider (using the mouse), you can change the volume with the keyboard; the left and up arrows will decrease the volume and the right and down arrows will increase it. After a few seconds the slider disappears.

5.3.9 Full Screen Display

The user may expand the selected monitor so it occupies the full output display, by pressing the FULL SCREEN button. Press ESC or FULL SCREEN again, to return to the initial layout. The button is illuminated when the full screen mode is selected. Using the arrow keys while in full screen mode, the user can cycle the display through the various monitors in the layout.


In full screen mode, it is still possible to change the video's aspect ratio, switch between underscan and overscan, etc., and perform text editing as well, which is useful when working with small monitors on a layout.

Note: the full screen layout is configurable via KEdit (see KEdit's online documentation) and can be saved as default by pressing the FULL SCREEN key on the Kaleido-RCP for 8 seconds (see section 5.3 "Kaleido-RCP Operation in Details").

5.3.10 Moving a Timer Within a Layout

The user may move timers within a layout, and temporarily expand them to make them easier to read.

Using the Kaleido-RCP:

- 1- Press the space button () to select a timer.
- 2- Browse from one timer to the next by pressing the space button again.
- 3- Once the timer you want is selected, move it using the arrows.
- 4- To double the size of the timer for a few seconds, press FULL SCREEN.
- 5- To unselect the timer, press the space button until none of the timers are selected.

Using an external keyboard:

- 1- Press the spacebar to select a timer.
- 2- Browse from one timer to the next by pressing the spacebar again.
- 3- Once the timer you want is selected, move it using the arrow keys.
- 4- To double the size of the timer for a few seconds, press Ctrl+F.
- 5- To unselect the timer, press the spacebar until none of the timers are selected.

5.3.11 Resetting the Kaleido-RCP

In case of a frozen Kaleido-RCP, simultaneously press LAYOUT PRESETS buttons 1 and 10. The Kaleido-RCP will be operational again.

6 Channels, Layouts and Alarms Management

The channels, layouts and alarm conditions are defined using the KEdit software. A channel is an ensemble of signals that drives a monitor. It includes some or all of the following: video, audio, tallies, UMDs, text labels and status. Layouts are designed to use and display this information conveniently. The channels, layouts and alarms created with KEdit may be uploaded to the Kaleido-Alto/Quad/Quad-Dual internal hard disk as sets to suit different purposes; this library of channels may then be used by the Kaleido-Alto/Quad/Quad-Dual and displayed on the multi-image output.

The available layouts may be activated, by using the **Open Layout** window. Channels and alarms are loaded through layouts. Click the **Open** button in the task bar to access the **Open Layout** window. Select a layout from the list, and then click **OK** to load it and display it on screen.

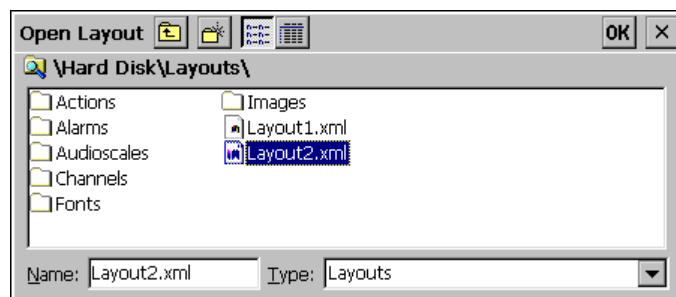


Figure 6.1 Open Layout window

When changes are made to monitors, such as renaming or changing the input assignment, these changes can be saved as a new layout, by clicking the **Save** button on the task bar. The **Save Copy As** window appears. Type a name for the new layout, and then click **OK**. Note that you can create new folders to store layouts that have been modified.

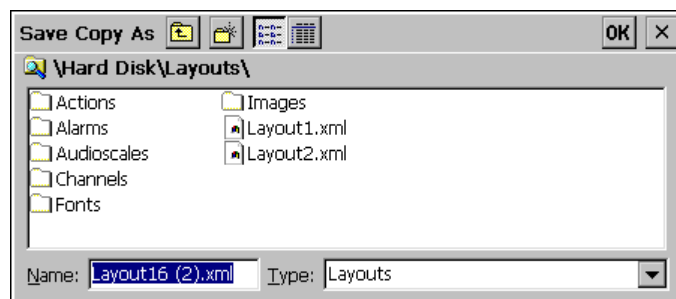


Figure 6.2 Save Copy As window

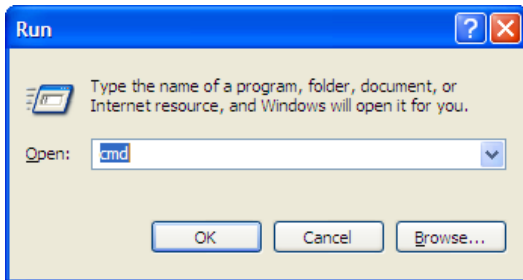
7 Andromeda Port Settings

The Andromeda port settings are set by default to:

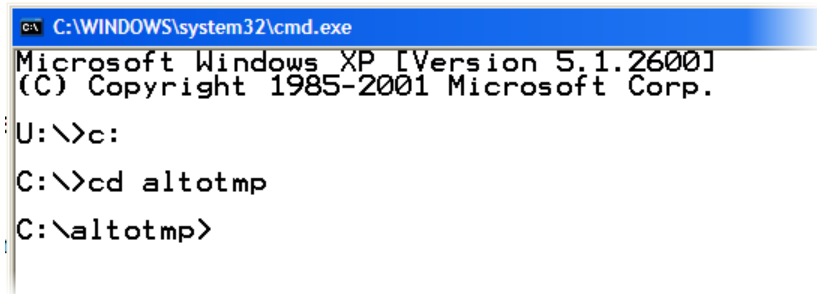
- Baud rate 9600
- Parity no
- Handshake False

The Andromeda controller may be set to a different baud rate. In this case, it is possible to change the default port settings of the Alto/Quad/Quad-Dual from an XML configuration file located within the Kaleido-Alto/Quad/Quad-Dual file system. This configuration file is not accessible through the menu and must be accessed through an FTP session.

1. From your computer, open a Command Prompt window.



2. At the prompt, change to a temporary directory, by typing `cd altotmp`, for instance.



3. Open an FTP session to the Kaleido-Alto/Quad/Quad-Dual by typing `ftp <IP Address>` where `<IP Address>` stands for the frame's IP address. Log on as the "super user" by typing `su` (no password) at the prompt. Change the remote directory to `Formats` (`cd Formats`) and retrieve the `system.xml` file (`get system.xml`).

```

C:\WINDOWS\system32\cmd.exe - ftp 10.0.6.177
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

U:\>c:
C:\>cd altotmp
C:\altotmp> ftp 10.0.6.177
Connected to 10.0.6.177.
220 Service ready for new user.
User (10.0.6.177:(none)): su
230 User logged in, proceed.
ftp> cd formats
250 Requested file action okay, completed.
ftp> get system.xml
200 Command okay.
150 File status okay; about to open data connection.
226 Closing data connection.
ftp: 568 bytes received in 0.14Seconds 4.03Kbytes/sec.
ftp>

```

Note: Keep your FTP session open, to transfer the modified file back to the frame's file system.

- At this point the `system.xml` file is in the temporary folder on your computer. You need to modify it to meet your needs. Open the file and modify it; you may use Notepad (or a similar text editor) for this.

```

system.xml - Notepad
File Edit Format View Help
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE kaleidosystem>
<kaleidosystem>
  <constant name="SYSTEM">
    <prop name="AUTOSAVE_DELAY" val="6000"></prop>
    <prop name="MAX_ALARMS" val="512"></prop>
    <prop name="MAX_CHANNELS" val="256"></prop>
    <prop name="MAX_ACTIONS" val="256"></prop>
    <prop name="ANDROMEDA_BAUDRATE" val="9600"></prop>
    <!-- ANDROMEDA_PARITY properties -->
    <!-- 0-4 = no, odd, even, mark, space -->
    <prop name="ANDROMEDA_PARITY" val="0"></prop>
    <prop name="ANDROMEDA_HANDSHAKE" val="0"></prop>
  </constant>
</kaleidosystem>

```

You can change the settings for the following:

Baud rate

To modify the baud rate, just replace 9600 with, for example, 38400:

Replace this line:

```
<prop name="ANDROMEDA_BAUDRATE" val="9600"></prop>
```

with the following:

```
<prop name="ANDROMEDA_BAUDRATE" val="38400"></prop>
```

Parity

The parity values are:

- 0 no
- 1 odd
- 2 even
- 3 mark
- 4 space

To modify the parity from **no** to **even** for example,

Replace this line:

```
<prop name="ANDROMEDA_PARITY" val="0"></prop>
```

with the following:

```
<prop name="ANDROMEDA_PARITY" val="2"></prop>
```

Handshake

The handshake values are:

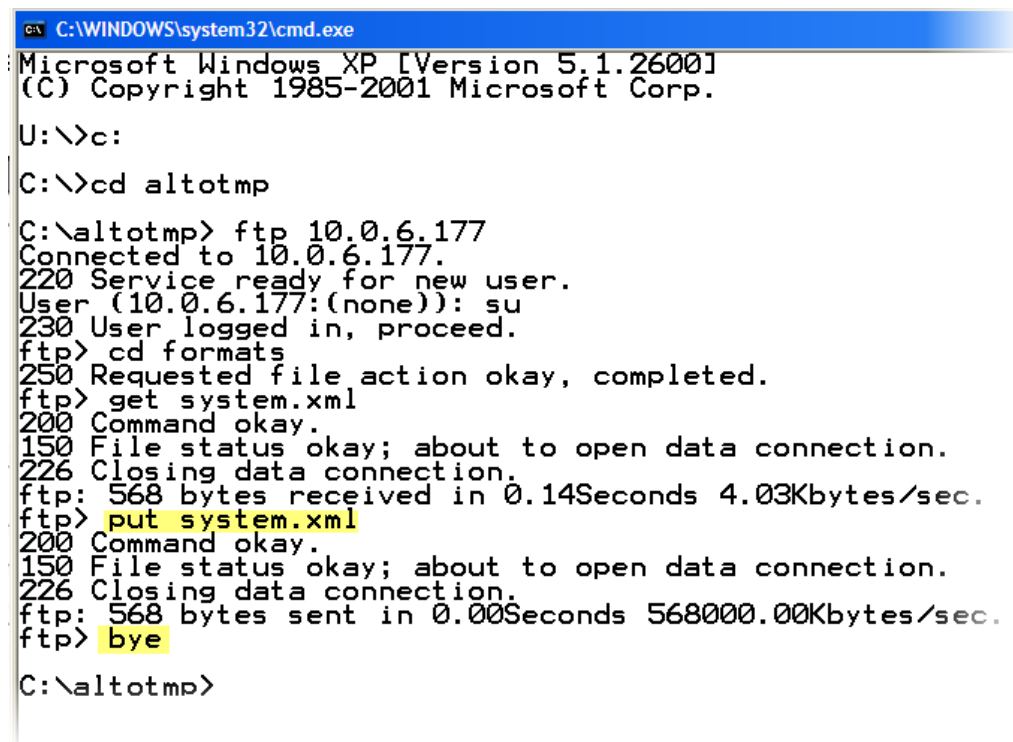
- 0 False
- 1 True

To modify the handshake from **False** to **True**, for example,

Replace this line: `<prop name="ANDROMEDA_HANDSHAKE" val="0"></prop>`

with the following: `<prop name="ANDROMEDA_HANDSHAKE" val="1"></prop>`

5. Now save `system.xml`, transfer it back to the Alto/Quad/Quad-Dual file system (put `system.xml`), and then type `bye` to close your FTP session.



```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

U:\>c:
C:\>cd altotmp
C:\altotmp>ftp 10.0.6.177
Connected to 10.0.6.177.
220 Service ready for new user.
User (10.0.6.177:(none)): su
230 User logged in, proceed.
ftp> cd formats
250 Requested file action okay, completed.
ftp> get system.xml
200 Command okay.
150 File status okay; about to open data connection.
226 Closing data connection.
ftp: 568 bytes received in 0.14Seconds 4.03Kbytes/sec.
ftp> put system.xml
200 Command okay.
150 File status okay; about to open data connection.
226 Closing data connection.
ftp: 568 bytes sent in 0.00Seconds 568000.00Kbytes/sec.
ftp> bye
C:\altotmp>
```

6. Reboot the Alto/Quad/Quad-Dual frame to apply the changes.

8 Using XML Commands with the Kaleido-Alto/Quad/Quad-Dual

The Kaleido-Alto/Quad/Quad-Dual can execute XML commands received via TCP/IP (Transmission Control Protocol/Internet Protocol). To send commands, you can use a Terminal Emulation (telnet) program or create your own application using the language of your choice (C++, Visual Basic, Java, ...). In this section, the use of HyperTerminal software will be described. HyperTerminal is a Windows application that is typically installed on every Windows computer. (On the **Start** menu, point to **All Programs > Accessories > Communications**, and then click **HyperTerminal**.) This program will communicate with the Kaleido-Alto/Quad/Quad-Dual frame using communications port 13000.

8.1 Commands

Many commands can be sent to the Kaleido-Alto/Quad/Quad-Dual frame via TCP/IP. Following is a list of these commands and below a complete description of their usage. Please note that the syntax must be exactly replicated when sending a command.

Command	Description	Page
openID	Opens a session with the specified Kaleido-Alto/Quad/Quad-Dual frame	44
closeID	Closes a previously opened session	44
getKCurrentLayout	Gets the name of the current layout	44
setKCurrentLayout	Loads a specific layout	45
getKLayoutList	Gets the list of available layouts	45
setKStatusMessage	Sets a Gateway alarm to the specified state	45
setKChannel	Associates a channel to the specified monitor	46
setKDynamicText	Configures the text to display for a dynamic text	46
setKTimer	Configures the specified countdown timer	46
setKTimerTrigger	Starts, stops or resets a countdown timer	46
setKFireAction	Fires the specified action	47
setKSaveLayout	Saves the current layout	47
getKAudioOut	Identifies the current audio output	47
setKAudioOut	Selects the audio to be monitored	48
getKAudioOutVolume	Get the current audio monitoring output volume	49
setKAudioOutVolume	Set the volume of the audio monitoring output	49
getKAudioOutMode	Get the current audio monitoring output mode	49

Command	Description	Page
setKAudioOutMode	Set the audio monitoring output mode	49
setKVerticalOffset	Offset the graphic from display	50
setKlcontrolMode	Enable/Disable mouse color keying over video	50
setKMouseColorA	Sets the mouse color to be keyed over video	50
setKMouseColorB	Sets the mouse color to be keyed over video	50
setKMouseColorC	Sets the mouse color to be keyed over video	51

openID

This command opens a session with the specified Kaleido-Alto/Quad/Quad-Dual frame.

Note: *It is not necessary to open a session every time you want to send a command to the Gateway. Since opening a session takes a few seconds, it is recommended that you keep a session open as long as commands need to be sent.*

- `<openID>IP_ADDRESS_0_4_0_0</openID>`

Where:

IP_ADDRESS is the IP address of your destination Kaleido-Alto/Quad/Quad-Dual frame.

Gateway response:

- `<ack/>`: the command was recognized by the Gateway.
- `<nack/>`: the Gateway was not able to recognize the command.

closeID

This command closes a session with the specified Kaleido-Alto/Quad/Quad-Dual frame.

- `<closeID>IP_ADDRESS_0_4_0_0</closeID>`

Where:

IP_ADDRESS is the IP address of the Kaleido-Alto/Quad/Quad-Dual.

Gateway response:

- `<ack/>`: the command was recognized by the Gateway.
- `<nack/>`: the Gateway was not able to recognize the command.

Note: *This command closes the current connection to the client via port 13000. This connection must be re-established before another session can be opened. If you are using HyperTerminal, it will automatically re-establish the previous connection if you begin typing new commands, but other clients may require you to manually reconnect.*

getKCurrentLayout

This command retrieves the name of the current layout.

- `<getKCurrentLayout>`

Gateway response:

- `<kCurrentLayout>CurrentLayout.xml </kCurrentLayout>`
Where *CurrentLayout.xml* is the name of the Layout currently in use by the Kaleido.
- `<nack/>`: the Gateway was not able to recognize the command.

setKCurrentLayout

This command loads the specified layout.

- `<setKCurrentLayout>set LayoutToLoad.xml</setKCurrentLayout>`
Where:

LayoutToLoad is the name of the layout to load. This layout must have been exported to the Kaleido-Alto/Quad/Quad-Dual prior to executing the command. Note that you can use the `getKLayoutList` command to retrieve the available layouts before sending this command.

Gateway response:

- `<ack/>`: the command was recognized by the Gateway.
- `<nack/>`: the Gateway was not able to recognize the command.

getKLayoutList

This command returns the list of Layouts that can be used on the Kaleido-Alto/Quad/Quad-Dual.

- `<getKLayoutList/>`

Gateway response:

- `<kLayoutList> Layout1.xml Layout2.xml ... AnAvailableLayout.xml</kLayoutList>`

Where *Layout1*, *Layout2* and *AnAvailableLayout* are the names of the layouts that are available on the Kaleido-Alto/Quad/Quad-Dual.

- `<nack/>`: the Gateway was not able to recognize the command.

setKStatusMessage

This command associates an alarm state with an ID. The Kaleido-Alto/Quad/Quad-Dual can be configured to listen to this ID using an Alarm Monitor, and thus report the state. This is a convenient way of reporting Alarms to the Kaleido-Alto/Quad/Quad-Dual.

- `<setKStatusMessage>set id="AnId" status="status" message="TheMessage"</setKStatusMessage>`

Where:

- *AnId* is the identifier that will receive the new state.
Note: The Kaleido-Alto/Quad/Quad-Dual only accepts numeric values in the range 0 to 1024 for this argument.
- *Status* is any of the available statuses (OK, DISABLE, WARNING or ERROR).
- *TheMessage* is reserved for future use, and will be ignored.

Gateway response:

- `<ack/>`: the command was recognized by the Gateway.
- `<nack/>`: the Gateway was not able to recognize the command.

setKChannel

This command is used to assign a Channel to the specified Monitor in the current layout.

- `<setKChannel>set channelname="ChannelName" monitor="MonitorNumber" </setKChannel>`

Where:

- *ChannelName* is the name of the channel to assign to the specified monitor.
- *MonitorNumber* is the identifier of the monitor to which the channel must be assigned.

Note: to get the identifier of monitors of your current layout press the Tab key on the external keyboard or the SELECT key on the RCP.

Gateway response:

- `<ack/>`: the command was recognized by the Gateway.
- `<nack/>`: the Gateway was not able to recognize the command.

setKDynamicText

This command is used to set the text of a UMD or text label component that is configured to use dynamic text.

Note: The Service ID for this component must be set to "Gateway" when the layout is created in KEdit in order for this command to work.

- `<setKDynamicText>set address="Address" text="NewText" </setKDynamicText>`

Where:

- *Address* is the configured text address of the UMD or text label component (numerical value only, in the range 0-1024).

NewText is the text to display.

Gateway response:

- `<ack/>`: the command was recognized by the Gateway.
- `<nack/>`: the Gateway was not able to recognize the command.

setKTimer

This command is used to configure the specified countdown timer component.

- `<setKTimer>set id="TimerID" preset="HH:MM:SS" direction="Direction" loop="Loop" </setKTimer>`

Where:

- *TimerID* is the ID of the countdown timer component to modify.
- *HH:MM:SS* is the preset value for the countdown timer component.
- *Direction* is the direction to count, either **UP** or **DOWN**.
- *Loop* indicates if the counter must count continuously. This value can be either **ON** or **OFF**.

Gateway response:

- `<ack/>`: the command was recognized by the Gateway.
- `<nack/>`: the Gateway was not able to recognize the command.

setKTimerTrigger

This command is used to control the specified countdown timer component. The countdown timer can be started, stopped or reset.

- `<setKTimerTrigger>set id="TimerID" trigger="Trigger"</setKTimerTrigger>`

Where:

- *TimerID* is the id of the countdown timer component to control.
- *Trigger* is the action that the countdown timer must do. This value can either be **START**, **STOP** or **RESET**.

Gateway response:

- `<ack/>`: the command was recognized by the Gateway.
- `<nack/>`: the Gateway was not able to recognize the command.

setKFireAction

This command is used to fire the specified Action (for example, by an external third-party system that is unable to use the GPI in as a trigger).

- `<setKFireAction>set name="NameOfTheActionToFire"</setKFireAction>`

Where:

- *NameOfTheActionToFire* is the friendly name of the Action to be executed. The Action must have been exported to the Kaleido-Alto/Quad/Quad-Dual in order to be executed.

Background actions assigned to alarms of type Gateway will be executed when the action is fired by the XML Gateway command.

Gateway response:

- `<ack/>`: the command was recognized by the Gateway.
- `<nack/>`: the Gateway was not able to recognize the command, or the command could not be executed.

setKSaveLayout

This command allows the user to save the currently displayed layout to a file.

- `<setKSaveLayout>set name="FileName"</setKSaveLayout>`

Where: *FileName* is the name of the file that will contain the layout.

Note: Do not specify an extension to the file name, as the file extension ".xml" will be automatically added by the system.

Gateway response:

- `<ack/>`: the command was correctly interpreted and executed.
- `<nack/>`: the command was not executed.

getKAudioOut

This command allows the user to get the selected audio monitoring output.

- `<getKAudioOut/>`

Returned value can be any of:

- `<kAudioOut>DETAILS</kAudioOut>`: the command was executed.
DETAILS will vary depending on the type of audio output detected, as follows.
 - When no audio output is currently being monitored:

<kAudioOut>Type="NONE"</kAudioOut>

- For an audio card source, the returned value indicates which audio card input is being monitored:

<kAudioOut> Type="AUDIOCARD" Input="999"</kAudioOut>

Where 999 indicates the input from the card.

- For an embedded source, the returned value will contain the video input, the group and the AES used. The syntax will be:

<kAudioOut>Type="EMBEDDED" Input="AAA" Group="BB" AES="X"</kAudioOut>

Where:

- AAA indicates the video input.
- BB indicates the group. Valid values range from 1 to 4.
- X indicates the AES. Valid value can be either 1 or 2.
- <nack/>: the command was not executed.

setKAudioOut

The user can select the audio to be monitored by using this Gateway command. The syntax of the command will differ if the user intends to monitor audio coming from an audio card, from an embedded source or no audio at all. In general, you can select any audio source to be monitored, even if this source is not represented in an audio meter on the current layout.

Notes:

- *The Kaleido-Alto/Quad/Quad-Dual systems do not support streaming sources.*
- *You may select any audio for monitoring, independent of whether it is being metered in the current Layout.*
 - If the source is included in the layout, the meter assigned to it will be highlighted.
 - If the source is not included in the layout, the sound will be routed to the audio monitors, but there will be no indication of the source, on the layout.
- <setKAudioOut>DETAILS</setKAudioOut>

DETAILS will differ depending on the type of audio source being selected for monitoring, as shown below:

- **To select an audio card source, format the command as follows:**

<setKAudioOut>set Type="AUDIOCARD" Input="999"</setKAudioOut>

Where 999 indicates the input from the card.

- **To select an embedded source, format the command as follows:**

<setKAudioOut>set Type="EMBEDDED" Input="AAA" Group="BB" AES="X"</setKAudioOut>

Where:

- AAA indicates the video input.
- BB indicates the group. Valid values are from 1 to 4.
- X indicates the AES. Valid value can be either 1 or 2.
- **To stop audio monitoring and mute the audio output:**
<setKAudioOut>set Type="NONE"</setKAudioOut>

Gateway response:

- <ack/>: the command was correctly interpreted.
- <nack/>: the command was not executed (spelling error or invalid audio source).

getKAudioOutVolume

This command retrieves the audio monitoring volume currently used.

- `<getKAudioOutVolume/>`

The returned value will have the form:

- `<kAudioOutVolume>volume="XX" </kAudioOutVolume>`

Where XX is the value, expressed in dB, at which the audio monitoring volume is set. This value ranges between -90 dB and 0 dB.

- `<nack/>`: the command was not recognized.

setKAudioOutVolume

This command sets the audio monitoring volume.

- `<setKAudioOutVolume>set volume="XX"</setKAudioOutVolume>`

Where XX is the value expressed in dB at which the volume will be set. Valid values range from -90 dB to 0 dB.

Note: *If the audio signal is muted, executing this command will unmute the signal.*

Returned value will be one of:

- `<ack/>`: the command was correctly interpreted. The volume was set to the new value.
- `<nack/>`: the command was not executed, due to a spelling error or invalid parameter. The volume remains unchanged.

getKAudioOutMode

This command retrieves the audio monitoring mode currently use.

- `<getKAudioOutMode/>`

Returned value will have the form:

- `<kAudioOutMode>mode="XXXXXX"</kAudioOutMode>`

Where XXXXX is the mode, which can be any of NORMAL, MUTE or -20 dB.

- `<nack/>`: The command not executed. In this case the audio monitoring mode remains unchanged.

setKAudioOutMode

To set the Audio Monitoring Mode the following command is used:

- `<setKAudioOutMode>set mode="XXXXXX"</setKAudioOutMode>`

Where XXXXX is the value at which the mode must be set. Valid values are NORMAL, MUTE and -20 dB.

Returned value will be any of:

- `<ack/>`: The command was correctly interpreted. The audio monitoring mode was set to the specified value.
- `<nack/>`: The command was not executed, due to bad spelling or invalid parameter. The audio monitoring mode remains unchanged.

setKVerticalOffset

This command is used to position the CPU's graphic output vertically within the final DVI output on the display. The Kaleido-Alto/Quad's CPU includes up to 1024 lines, whereas the final output includes up to 1200 lines.

- `<setKVerticalOffset>set offset="NN"</setKVerticalOffset>`
Where *NN* is the number of lines (between 0 and 175) by which to offset the CPU's graphic output, from the top of the final DVI output.

Gateway response:

- `<ack/>`: the command was recognized by the Gateway.
- `<nack/>`: the Gateway was not able to recognize the command.

setKlcontrolMode

This command is used to enable the Kaleido-Alto/Quad to key the detected mouse pointer colors on video.

- `<setKlcontrolMode>set mode="N"</setKlcontrolMode>`
Where *N* is either 0 (color not keyed), or 1 (color key enabled).

Gateway response:

- `<ack/>`: the command was recognized by the Gateway.
- `<nack/>`: the Gateway was not able to recognize the command.

setKMouseColorA

This command is used to set a color to key.

- `<setKMouseColorA>set mouseColorA="FFBBGGRR"</setKMouseColorA>`
Where FFBBGGRR is the hexadecimal triplet for mouseColorA prefixed with the hexadecimal value "FF".
 - BB represents the blue component.
 - GG represents the green component.
 - RR represents the red component.For example "FFFF00FF" would set magenta as the key color.

Gateway response:

- `<ack/>`: the command was recognized by the Gateway.
- `<nack/>`: the Gateway was not able to recognize the command.

setKMouseColorB

This command is used to set a color to key.

- `<setKMouseColorB>set mouseColorB="FFBBGGRR"</setKMouseColorB>`
Where FFBBGGRR is the hexadecimal triplet for mouseColorB prefixed with the hexadecimal value "FF".
 - BB represents the blue component.
 - GG represents the green component.

- RR represents the red component.

For example "FFFF00FF" would set magenta as the key color.

Gateway response:

- <ack/>: the command was recognized by the Gateway.
- <nack/>: the Gateway was not able to recognize the command.

setKMouseColorC

This command is used to set a color to key.

- <setKMouseColorC>set mouseColorC="FFBBGGRR"</setKMouseColorC>

Where FFBBGGRR is the hexadecimal triplet for mouseColorC prefixed with the hexadecimal value "FF".

- BB represents the blue component.
- GG represents the green component.
- RR represents the red component.

For example "FFFF00FF" would set magenta as the key color.

Gateway response:

- <ack/>: the command was recognized by the Gateway.
- <nack/>: the Gateway was not able to recognize the command.

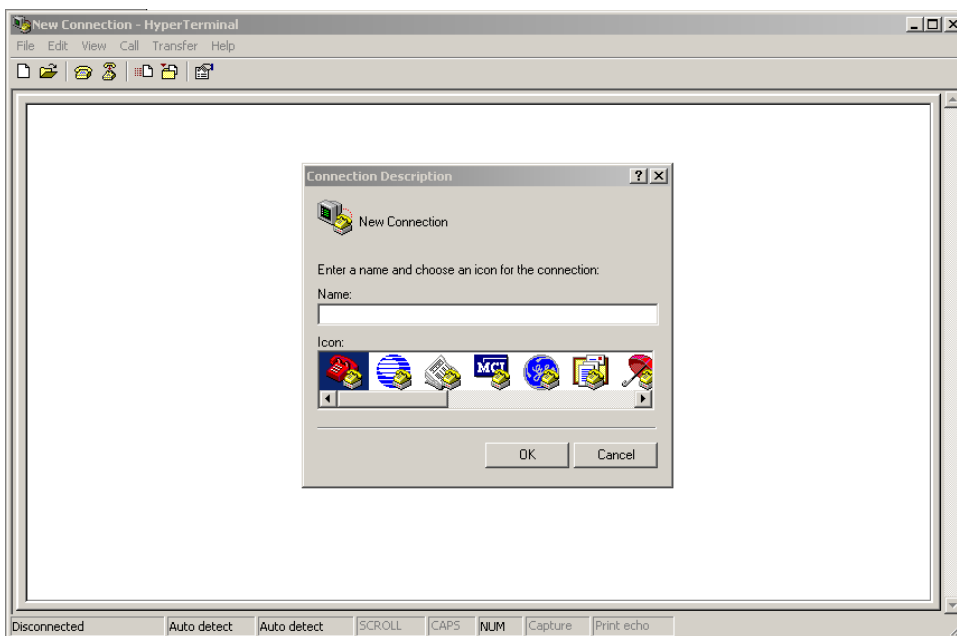
8.2 A Typical Session

Here is a description of how to open and close a typical session during which you will use these commands to operate a Kaleido-Alto/Quad/Quad-Dual. You can open concurrent sessions with multiple Kaleido-Alto/Quad/Quad-Duals frames simultaneously; each session will have its own window on your desktop.

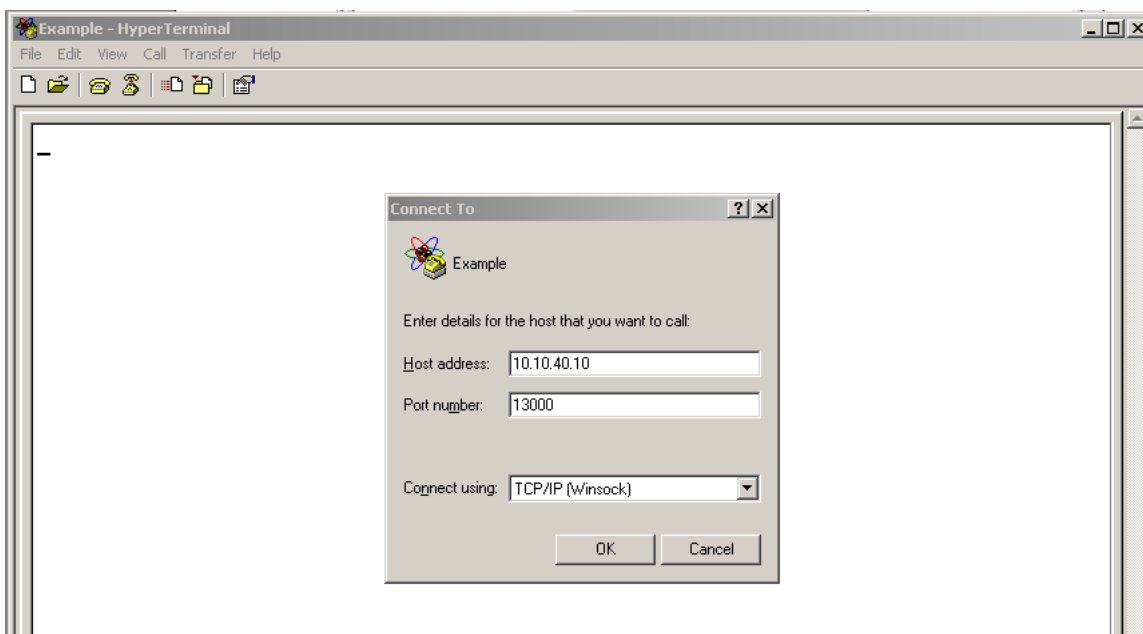
Note: If your environment includes a Miranda iControl Application Server, see the Application Server's manual for a discussion of appropriate network configurations.

Open the HyperTerminal software on another computer:

1. On the **Start** menu, point to **All Programs > Accessories > Communications**, and then click **HyperTerminal**.
2. In **Connection Description**, type a name for the connection, and select an icon from the list.



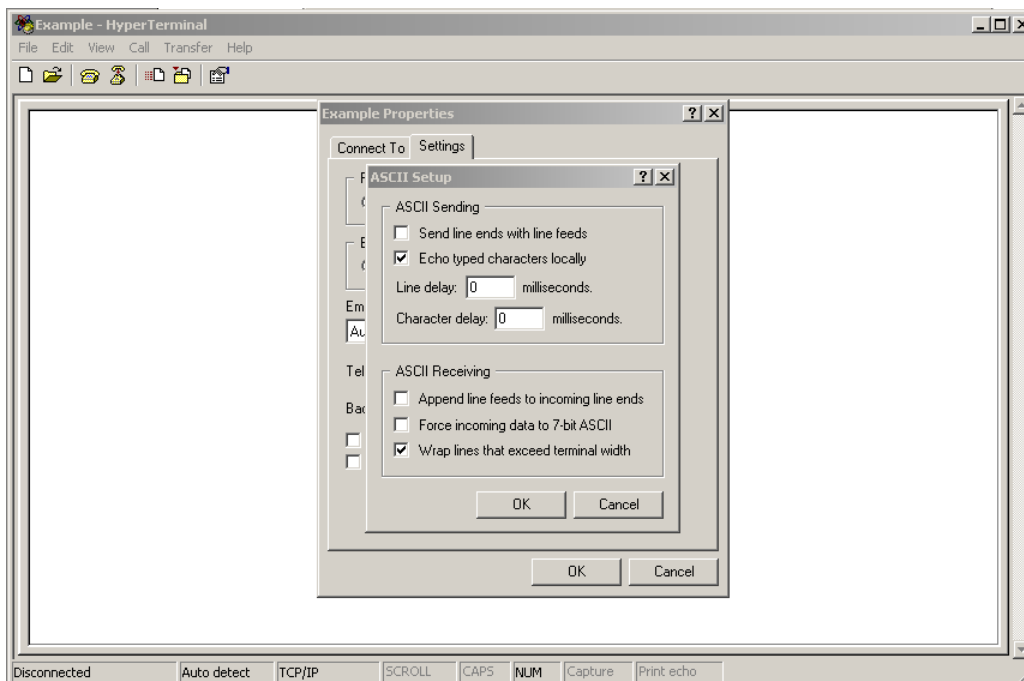
3. In **Connect To**, select **TCP/IP (Winsock)** from the **Connect using** list.
Two new boxes appear in the window.
4. In **Host address**, type the IP address of the Kaleido frame.
5. In **Port number**, type “13000”. This indicates that the connection to the Kaleido will be established via port 13000.
6. Click **OK**



To be able to see the characters you type in the HyperTerminal console:

1. On the **File** menu, click **Properties**.
The [connection name] Properties window appears.

2. On the **Settings** tab, click the **ASCII Setup** button.
3. Select the Echo typed characters locally check box.

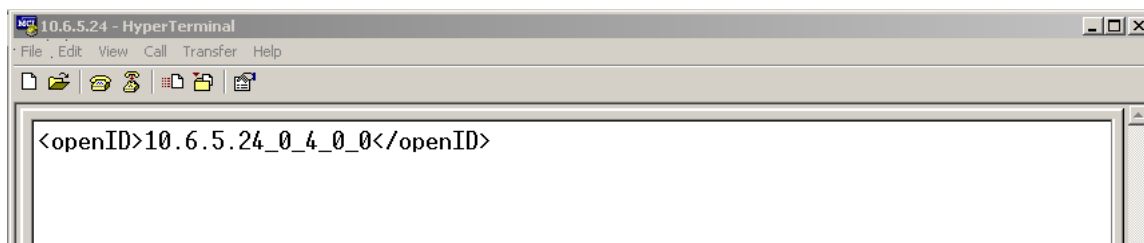


4. Click **OK** to close **ASCII Setup** window, and then click **OK** again to close the **Properties** window.
The characters you type will appear in the console.

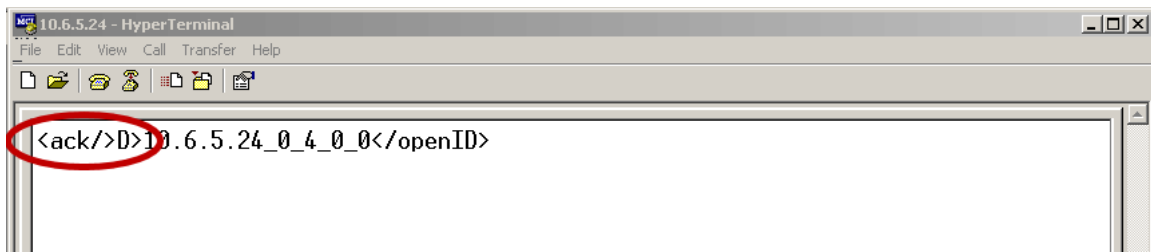
Commands can be sent to the Kaleido-Alto/Quad/Quad-Dual while a session is open. There is no limit to the number of commands that can be sent in a session, and it is recommended to keep a session open as long as there are commands to send, since opening a session takes a few seconds. Here is a simplified example of a session:

```
Open a session
send command
send command
...
send command
Close the session.
```

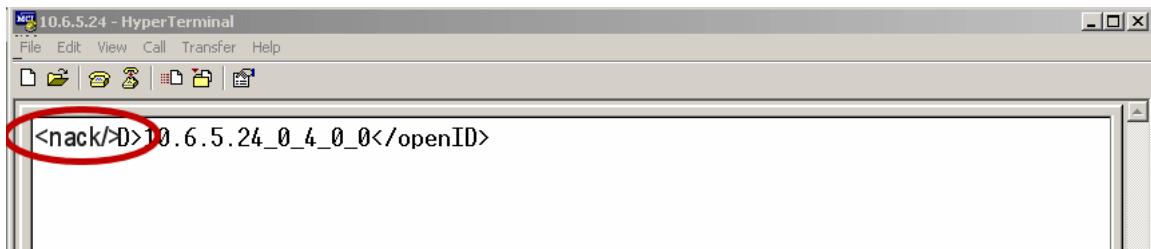
To open a session, enter the openID command using the IP address of the Kaleido-Alto/Quad/Quad-Dual to which the connection has to be established.



If the Kaleido-Alto/Quad/Quad-Dual receives the command and recognizes it, it will respond with the following:

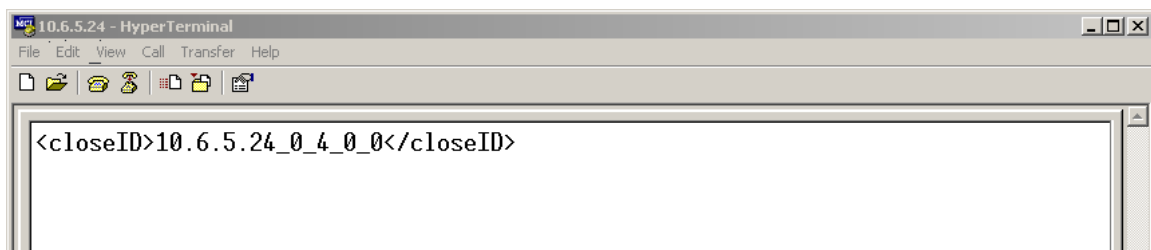


If the command cannot be recognized the following message will appear:

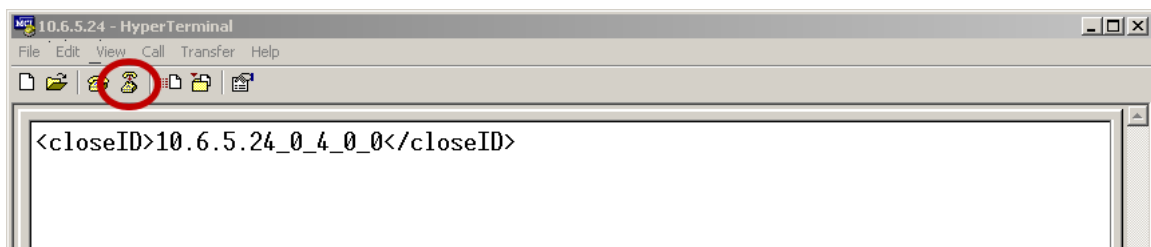


The Kaleido-Alto/Quad/Quad-Dual is now ready to receive commands.

When no more commands need to be sent to the Kaleido-Alto/Quad/Quad-Dual, close the connection using the closeID command.



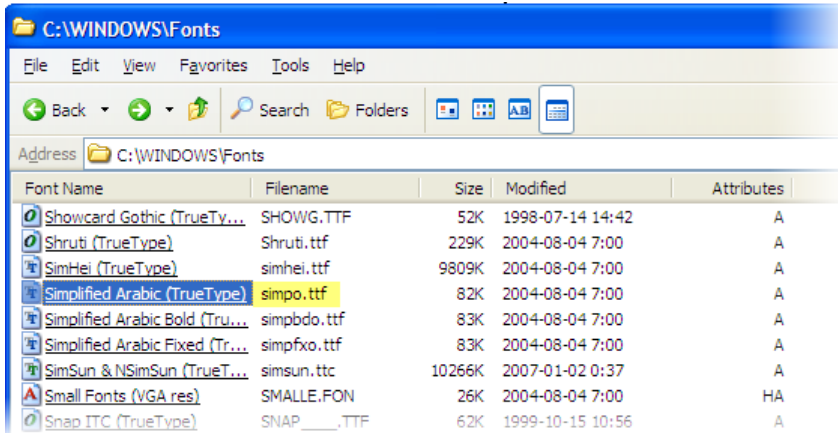
To end the communication session, click the **Disconnect** button on the toolbar.



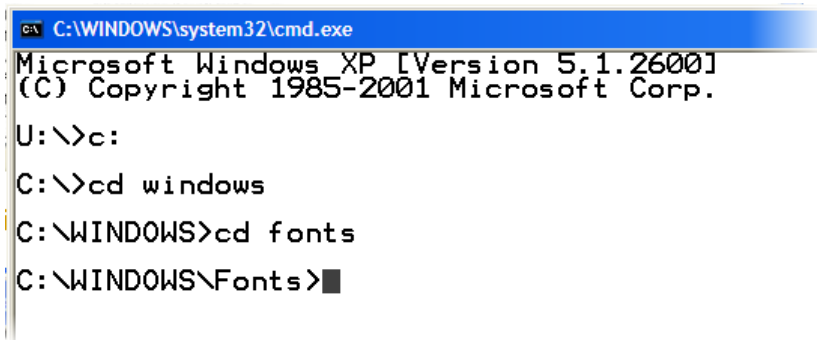
9 Installing Fonts on the Kaleido-Alto/Quad/Quad-Dual

Several components in a layout use text to display information (e.g. UMD, clocks, text labels, etc.). It is possible to select the font that will be used in the display, but the selected font must be installed on the Kaleido-Alto/Quad/Quad-Dual in order to be used. Proceed as follows:

1. Locate the desired font in your computer's `Fonts` directory, and remember the corresponding file name.



2. Open a Command Prompt window, and switch to the `Fonts` directory.



3. Open an FTP session on your Kaleido-Alto/Quad/Quad-Dual frame, logging in as "layouts".

```

C:\WINDOWS\system32\cmd.exe - ftp 10.0.6.177
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

U:\>c:
C:\>cd windows
C:\WINDOWS>cd fonts
C:\WINDOWS\Fonts>ftp 10.0.6.177
Connected to 10.0.6.177.
220 Service ready for new user.
User (10.0.6.177:(none)): layouts
230 User logged in, proceed.
ftp>

```

4. Type the command `dir` to see if the `Fonts` directory exists in the Alto/Quad/Quad-Dual file system.

```

C:\WINDOWS\Fonts>ftp 10.0.6.177
Connected to 10.0.6.177.
220 Service ready for new user.
User (10.0.6.177:(none)): layouts
230 User logged in, proceed.
ftp> dir
200 Command okay.
150 File status okay; about to open data connection.
07-14-2008 12:09 <DIR> Images
07-14-2008 12:09 <DIR> Fonts
07-14-2008 12:09 <DIR> Channels
07-14-2008 12:09 <DIR> Audioscales
07-14-2008 12:09 <DIR> Alarms
07-14-2008 12:09 <DIR> Actions
226 Closing data connection.
ftp: 459 bytes received in 0.33Seconds 1.40Kbytes/sec.
ftp>

```

5. If the `Fonts` directory does not exist, create it by using the command `mkdir (mkdir Fonts)`.
6. Change to the `Fonts` directory using `cd` again (`cd Fonts`).
7. Copy the font file from your computer onto the Alto/Quad/Quad-Dual file system, using the `put` command.

Note: Use the font file name, and not the name of the font.

```

C:\WINDOWS\Fonts>ftp 10.0.6.177
Connected to 10.0.6.177.
220 Service ready for new user.
User (10.0.6.177:(none)): layouts
230 User logged in, proceed.
ftp> dir
200 Command okay.
150 File status okay; about to open data connection.
07-14-2008 12:09 <DIR> Images
07-14-2008 12:09 <DIR> Fonts
07-14-2008 12:09 <DIR> Channels
07-14-2008 12:09 <DIR> Audioscales
07-14-2008 12:09 <DIR> Alarms
07-14-2008 12:09 <DIR> Actions
07-18-2008 12:14 7963 Untitled1.xml
07-22-2008 11:02 16305 araba2.xml
226 Closing data connection.
ftp: 459 bytes received in 0.38Seconds 1.22Kbytes/sec.
ftp> cd Fonts
250 Requested file action okay, completed.
ftp> put simpo.ttf
200 Command okay.
150 File status okay; about to open data connection.
226 Closing data connection.
ftp: 83892 bytes sent in 0.09Seconds 892.47Kbytes/sec.
ftp> bye
221 Service closing control connection.
C:\WINDOWS\Fonts>

```

The font is now on the Kaleido-Alto/Quad/Quad-Dual file system.

To make the new font available on the system, you will need to reboot the frame.

- To reboot the system, open a telnet session on the Kaleido-Alto/Quad/Quad-Dual unit, switch to Hard Disk\bin and type the command `reboot -normal`,
OR
reboot the unit manually.

```

C:\ Telnet 10.0.6.177
Welcome to the Windows CE Telnet Service on WindowsCE
Pocket CMD v 4.10
\> cd hard disk\bin
\hard disk\bin> reboot -normal

```

Contact Us!

Miranda Technical Support

For technical assistance, please contact the Miranda Technical Support centre nearest you:

Americas

Office hours: 9:00 a.m. – 9:00 p.m. (EST)
Telephone: +1-800-224-7882
Fax: +1-514-335-1614
E-mail: techsupp@miranda.com

Asia

Office hours: 9:00 a.m. – 5:00 p.m. (GMT+8)
Telephone: +852-2539-6987
Fax: +852-2539-0804
E-mail: asiatech@miranda.com

Europe, Middle East, Africa, UK

Office hours: 9:00 a.m. – 6:00 p.m. (GMT)
Telephone: +44 (0) 1491 820222
Fax: +44 (0) 1491 820002
E-mail: eurotech@miranda.com

China

Telephone: +86-10-5873-1814
E-mail: asiatech@miranda.com

France

Office hours: 9:00 a.m. – 5:00 p.m. (GMT+1)
Telephone: +33 1 55 86 87 88
Fax: +33 1 55 86 00 29
E-mail: eurotech@miranda.com

Corporate Head Office

Miranda Technologies Inc.

3499 Douglas-B.-Floreani, St-Laurent, Quebec, Canada H4S 1Y6
Telephone: 514-333-1772
Fax: 514-333-9828
Web: www.miranda.com