# iControl Solo

Standalone PC-based control

## User Guide

Version 4.44

M786-1600-330

11 September 2013

Miranda

A BELDEN BRAND

## Copyright and Trademark Notice



## Warranty Policies

Warranty information is available in the Support section of the Miranda Web site (www.miranda.com).



| | |
|---|---|
| Title | iControl Solo Version 4.44 User Guide |
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# 1 Introduction

## Overview

This guide describes how to configure and use iControl Solo for controlling and monitoring devices required in the broadcast signal path for interfacing, routing and distribution. iControl Solo is designed and produced by Miranda.

iControl Solo is a stand-alone, PC-based control application which offers affordable control directly from a desktop or laptop that has Windows 7™ or Windows XP™ Professional. It provides easy list-based control and configuration of up to 100 Densité Series and/or Imaging Series modules. Operators are provided with quick access to devices and parameters for fast and easy control. More advanced control requirements demanding simultaneous, multi-device monitoring and error logging, and a customized, highly graphical user interface, can be met with the iControl Application Server. A USB-to-RS-422 adapter (IC-USB) used to connect Imaging Series housing frames is sold separately.

In brief, iControl Solo offers the following key features and benefits:

- an iControl Solo window with different sorting options, similar to iControl Navigator,
- drivers for most Miranda Densité and Imaging devices,
- the ability to interface up to 100 devices,
- easy problem resolution using status indicators,
- ideal for *set and forget* operations.
- **[OPTIONAL]** a loudness logging and analysis service (IC-LOUDNESS-LOG-1-SOLO loudness logging option for one device to be installed on iControl Solo)

## Differences Between iControl Solo and the Standard iControl System

iControl Solo *does not*:

- provide thumbnails,
- use a GSM (Global Status Manager) for central management of alarm conditions and error logging,
- support audio level meters (ALMs),
- support Virtual Service Managers for configuring and controlling Miranda proc amp devices,
- support Router Manager for configuring and controlling routing switchers.

# 2 Getting Started with iControl Solo

This section explains how to set up your iControl Solo system.

## Summary



## Key Concepts

### Communicators

Communicators are software components that implement a specific protocol for controlling a family of devices.

Communicators in iControl Solo are responsible for the discovery process whereby a PC or laptop detects Miranda devices connected to its serial ports or on the LAN, and initiates services to control these devices.

A communicator is an application that handles the communications between your PC or laptop and Densité or Imaging series frames on the network. The two types of communicators (Imaging and Densité) are configurable services in iControl Solo.

Imaging Communicators allow you to control signal processing and distribution performance modules housed in Miranda Imaging series (Symphonie, Quartet 2) frames. The Imaging series frames are connected to your PC or laptop via RS-422 serial ports.

Densité Communicators allow you to control interfacing and distribution modules housed in Miranda Densité frames. A Densité frame is connected to the network via its Densité Controller Ethernet port.

To be able to use a communicator, the service must be configured. If the service is not configured, you will not be able to control the devices even if they are connected. If the service is configured, but there are no cards connected, only the service will be displayed in iControl Solo.

### Densité Manager

The Densité Manager is a service that allows you to manage multiple Densité frames (using Densité Communicators).

For the Densité Manager to discover cards and begin controlling services, you need to specify the IP addresses of the Densité frames that it will manage. Each frame may contain up to 20 devices. If you do not add any addresses, or if you add an incorrect address, the Densité Manager will not discover any frames.

### License Management

*License management* is the method by which iControl Solo administrators can request, activate, and distribute licenses for options. The majority of tasks related to license management have as a starting point the Miranda License Manager page.

| Concept | Description |
|---|---|
| License | An agreement to use a specific software module or collection of modules under specific terms |
| Miranda License Manager | Web-based license management for end-users. |
| Software Feature | A licensable portion of software. |
| License request file | A file iControl Solo generates that you send to Miranda by e-mail in order to request licenses for one or more optional features. |
| Activation file | A file Miranda sends to you that unlocks and activates one or more optional features. |

**See also**

For more information about licensing, see see "Licensing Options", on page 13.

## Detailed Directions

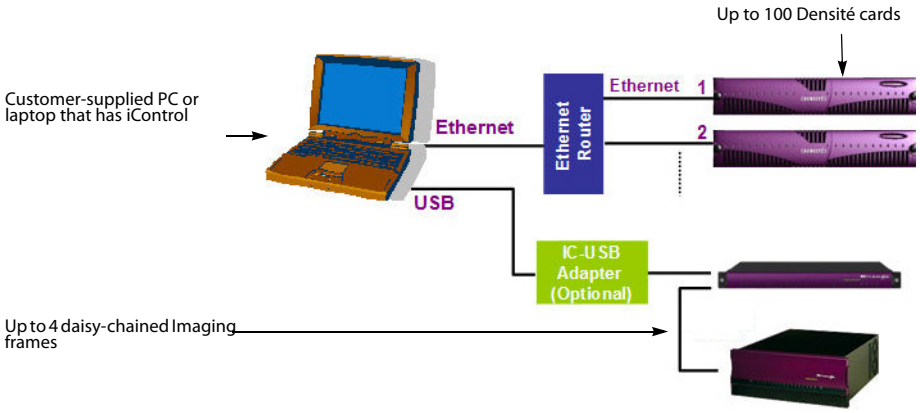
To set up your iControl Solo system you will need to:

- connect the Densité and Imaging frames that house the cards you wish to control
- connect the Kaleido-Solos you wish to control
- configure Densité and Imaging services in iControl Solo
- configure KSolo services in iControl Solo

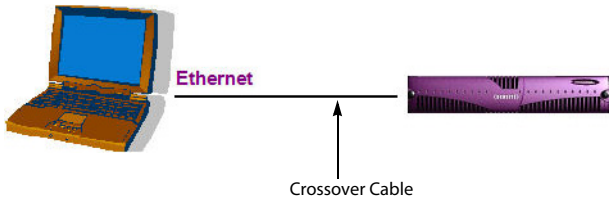
### Connecting Densité and Imaging Series Housing Frames

You can connect your iControl Solo PC to Densité frames and Kaleido-Solos over the network through an Ethernet router, or directly via a crossover cable. Imaging frames (Symphonie and

Quartet 2) are connected to your PC or laptop using either the IC-USB device, or an RS-232-to-RS-422 converter.




*Connecting multiple Densité Series frames through a router, and up to 4 Imaging Series frames via IC-USB*




*Connecting a single Densité Series frame without a router*

**See also**

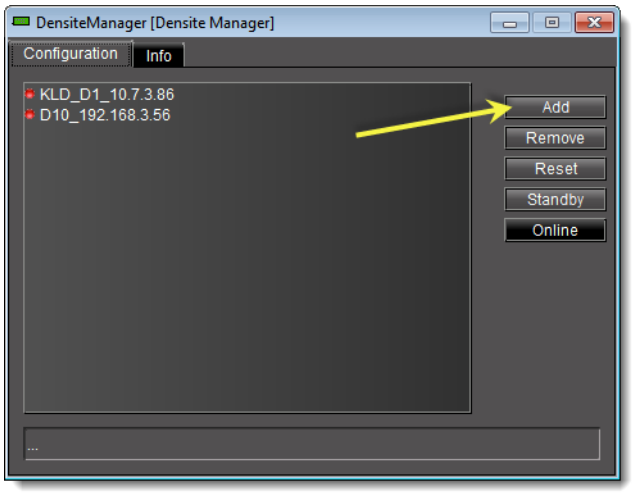
For more information about the IC-USB device, see see "Installing IC-USB", on page 55.

## Adding Densité Communicator Services

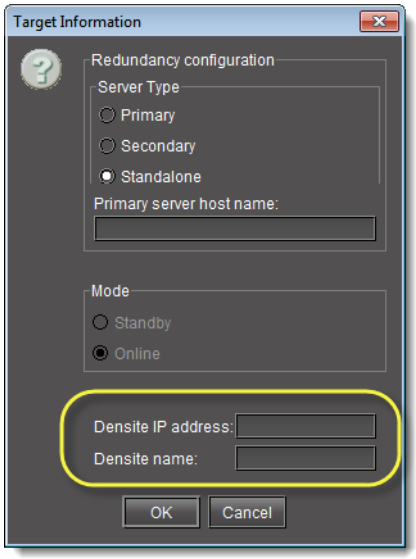
**To add a Densité Communicator service**

1. Open iControl, Solo and double-click **DensiteManager** in the logical view.


2. In **DensiteManager**, click **Add**.




3. In the **Target Information** window, type the frame's IP address and a descriptive name for the new Densité Communicator service, and then click **OK**.

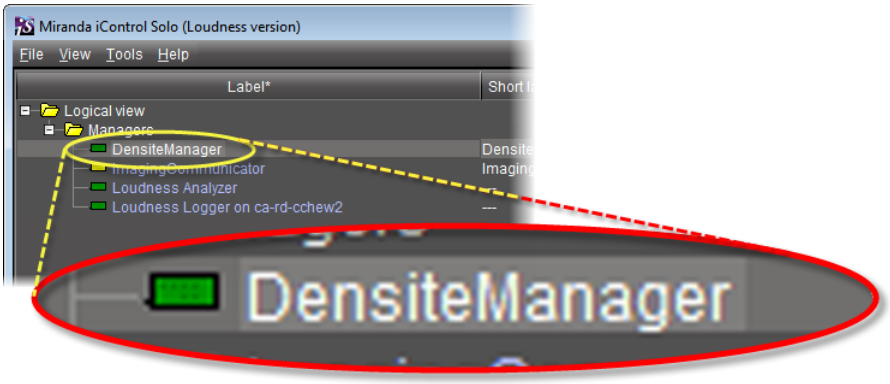



The new Densité Communicator will be started and added to the list. iControl Solo will query the corresponding Densité frame and any devices (e.g. cards) it discovers will be displayed in iControl Solo.

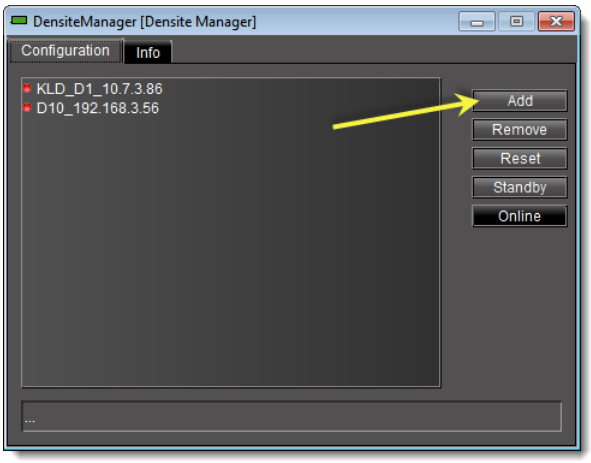
## Adding Kaleido-Solo Services

**To add a Kaleido-Solo service**

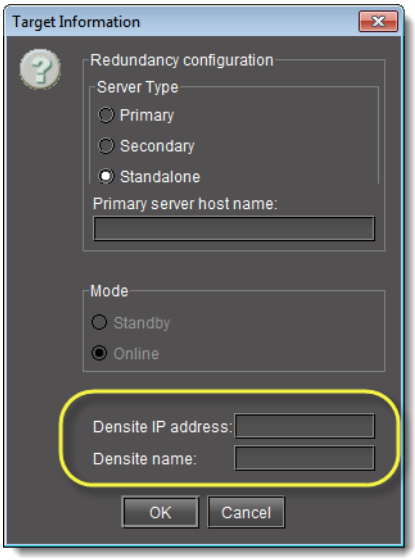
1. Open iControl, Solo and double-click **DensiteManager** in the logical view.



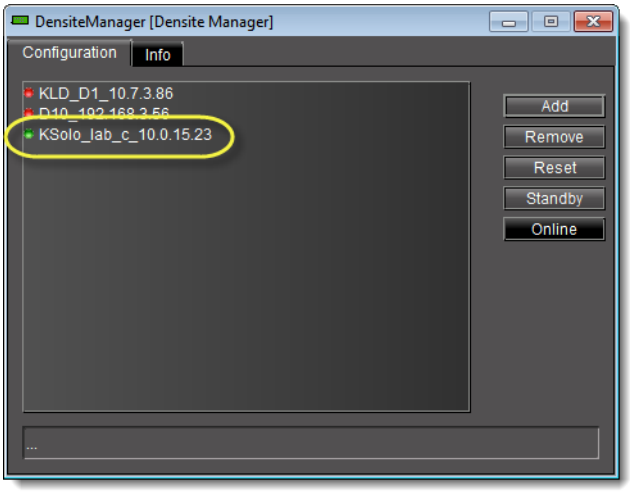

2. In **DensiteManager**, click **Add**.




3. In the **Target Information** window, type the Kaleido-Solo's IP address and a descriptive name for the new service, and then click **OK**.



The new Kaleido-Solo will be started and added to the list.



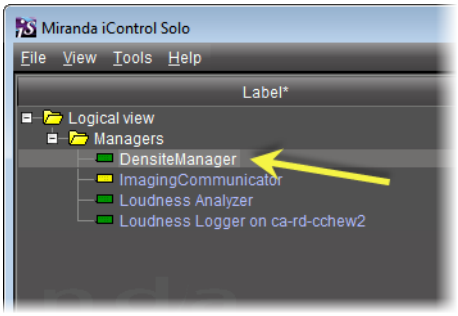

## Upgrading Firmware on a Densité Card

From time to time, improvements or fixes may become available that can be applied to an existing Densité card by upgrading its firmware. To determine if an update is available for a specific card, and to obtain the update package, please contact Miranda Technical Support (see "Contact Us", on page 57).

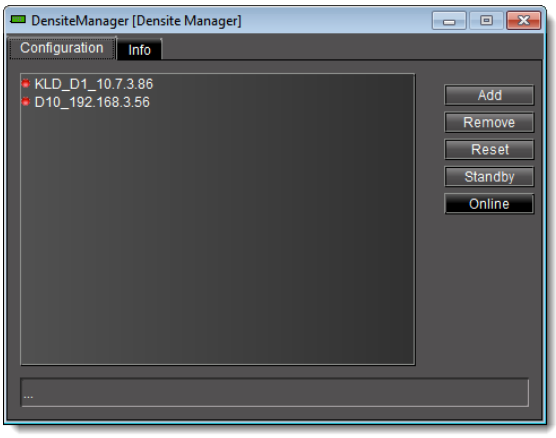
> **Note:** The firmware update package you receive from Miranda Technical Support will be in the form of a ZIP archive (e.g. `FirmwareUpdate.zip`) containing another ZIP archive (e.g. `XXXX-XXXX-XXX.zip`). If this is the case, you will need to extract `XXXX-XXXX-XXX.zip` from `FirmwareUpdate.zip`, but stop there. Do not extract the contents of `XXXX-XXXX-XXX.zip`.

**To upgrade the firmware on a Densité card**

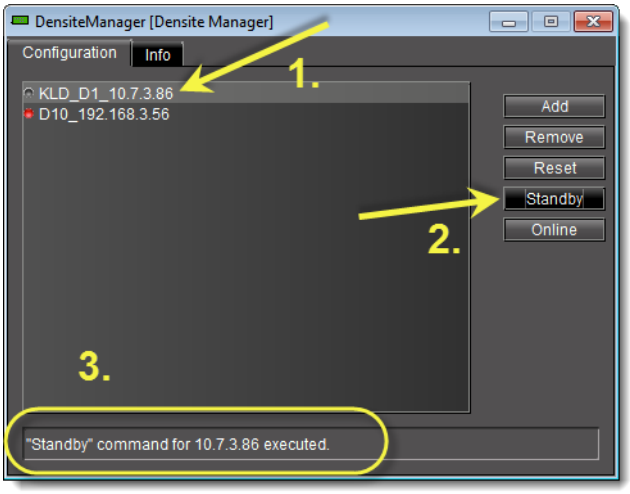
1. In iControl Solo, double-click the Densité Manager.



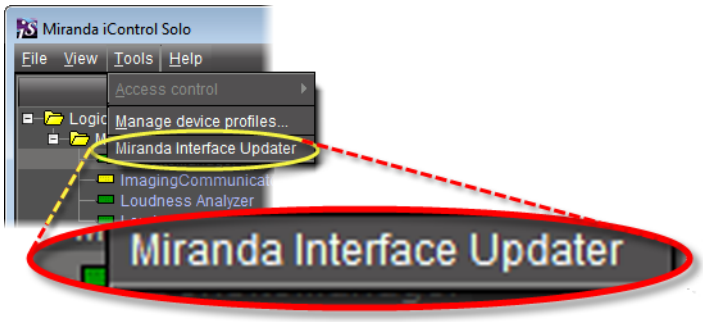

The **Densité Manager** control panel window appears.



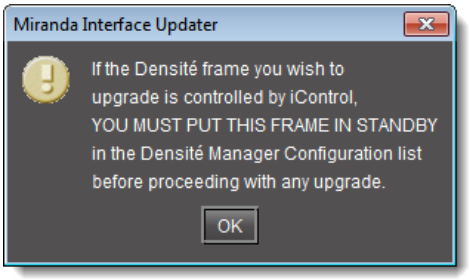

2. Select the Densité frame that contains the card to be updated, and then click **Standby**.
   A confirmation message appears at the bottom of the window.




3. In iControl Solo, on the **Tools** menu, click **Miranda Interface Updater**.

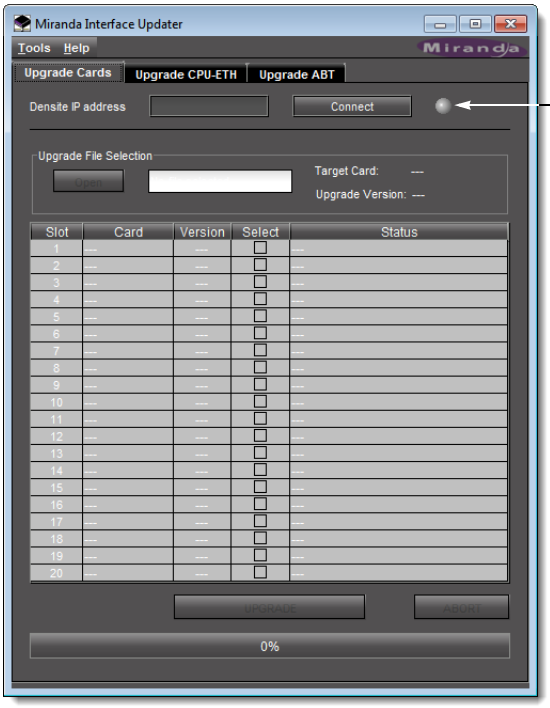



   A message window appears, warning you to make sure the Densité frame containing the card to be updated is in *Standby* mode (refer to step 2).




4. Click **OK** to continue.

   The **Miranda Interface Updater** (MIU) window appears.




This indicator turns green when a connection is made to a Densité frame

5. Type the Densité frame's IP address in the field provided, and then click **Connect**.

   A list of available cards for the selected frame appears. The indicator beside the **Connect** button should turn green.

6. Click **Open** under **Upgrade File Selection**.

7. Find and select the firmware upgrade file (of the form `XXXX-XXXX-XXX.zip`), and then click **OK**.

   Cards compatible with the update are highlighted in the list.

8. Select the check box associated with the cards you wish to upgrade. Ensure that the cards selected from the list are the same type.

9. Click **Upgrade**.

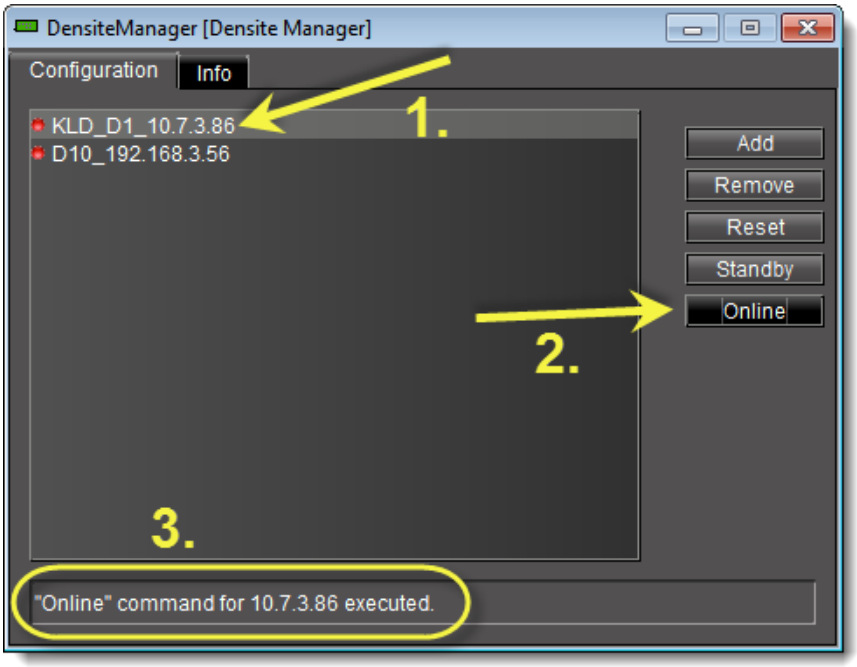
   The update process begins, taking about 30 minutes per card.

**IMPORTANT:** Do not remove cards from the Densité frame or otherwise interrupt the upgrade process.

As each card is updated, the message `Successful` appears in the **Status** column.

**Note:** Some card models may have more that one processor. If this the case, be aware that a firmware upgrade will be necessary for each different processor type. Contact Miranda Technical Support for details (see "Contact Us", on page 57).

10. Repeat step 6 to step 9 if necessary to upgrade other cards in the same Densité frame.
11. When all cards have been successfully updated, click **Disconnect**, and then close the **Miranda Interface Updater** window.
12. In iControl Solo, return to the Densité Manager control panel window, select the Densité frame that was put in *Standby* mode in step 2, and then click **Online**.

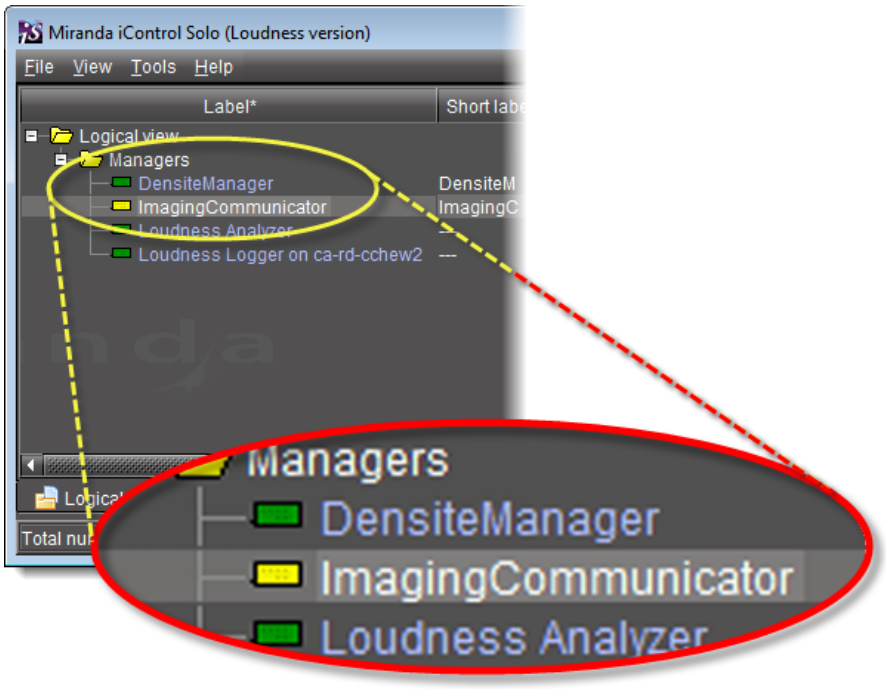



A confirmation message appears at the bottom of the window.

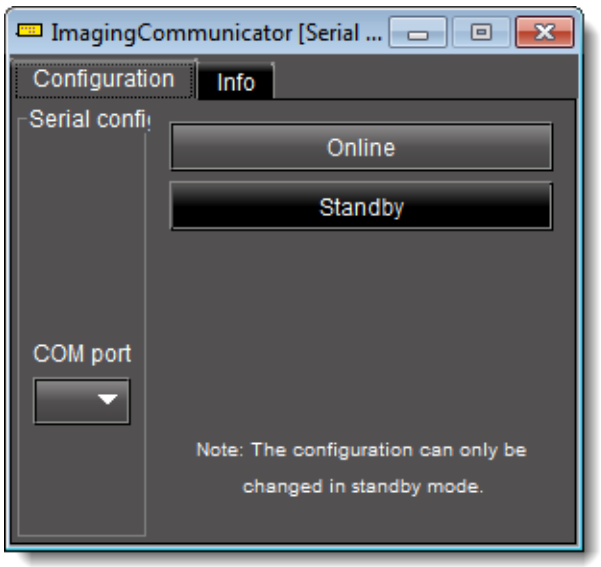
## Configuring Imaging Communicator Services

**To configure the Imaging Communicator service**

1. Open iControl Solo, and double-click **ImagingCommunicator** in the logical view.




2. In **ImagingCommunicator**, click **Standby**.




3. In the **COM Port** list select the COM port you chose when you installed the IC-USB device

> **Note:** **COM port** can only be selected in **Standby** mode.

4. Click **Online** to activate the selected port.

The Imaging Communicator service will be restarted and iControl Solo will query all Imaging Series frames interfaced to your computer. Any devices (e.g. cards) housed in the frames will be displayed in iControl Solo.

## Licensing Options

Perform the tasks listed in the following workflow in the prescribed sequence.

### Workflow: Requesting and Activating a License for iControl Solo

**Workflow: Requesting and activating a license for iControl Solo**

| | |
|---|---|
| 1. | In iControl Solo, open **Miranda License Manager** (see see page 13). |
| 2. | Request the desired license (see see page 14). |
| 3. | Wait for Miranda to return an activation file. |
| 4. | Upload the activation file to the PC on which you have iControl Solo installed (see see "Activating a License", on page 16). |
| 5. | Activate the license (see see page 16). |

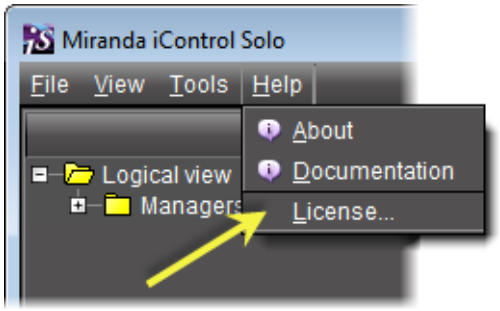
### Opening Miranda License Manager

**REQUIREMENT**

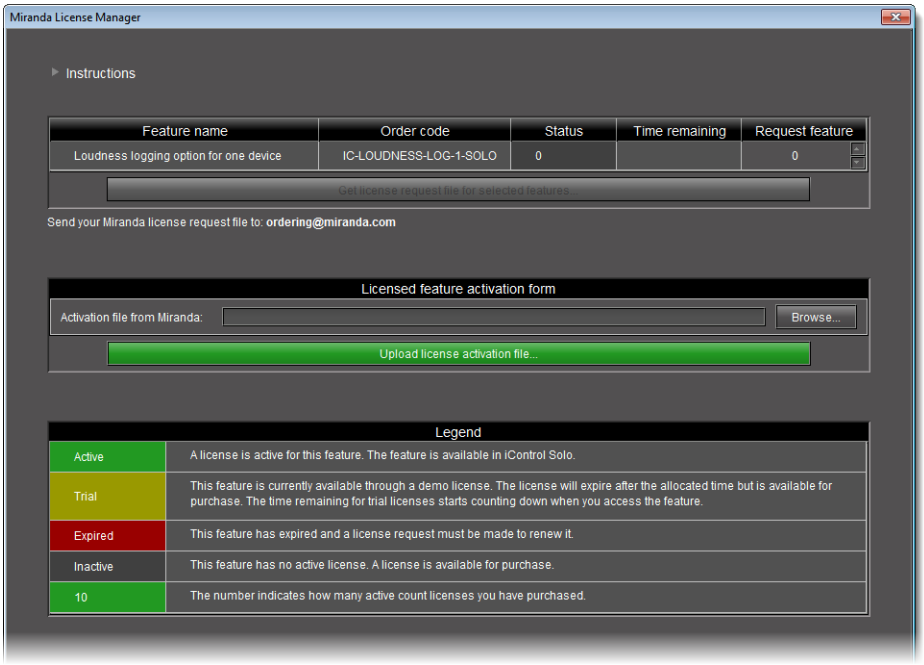
Before beginning this procedure, make sure you have opened iControl Solo (see see page 33).

**To open Miranda License Manager**

- In iControl Solo, on the **Help** menu, click **License**.




**Miranda License Manager** appears.




## Requesting a License

**IMPORTANT:** When licensing for the IC-LOUDNESS-LOG1-SOLO option, the number of licenses must match the number of devices you with to log from (for example, if you have **seven** Kaleido-Solo units, each of which are providing streaming loudness data to your iControl Solo, then you must have **seven** IC-LOUDNESS-LOG1-SOLO licenses).

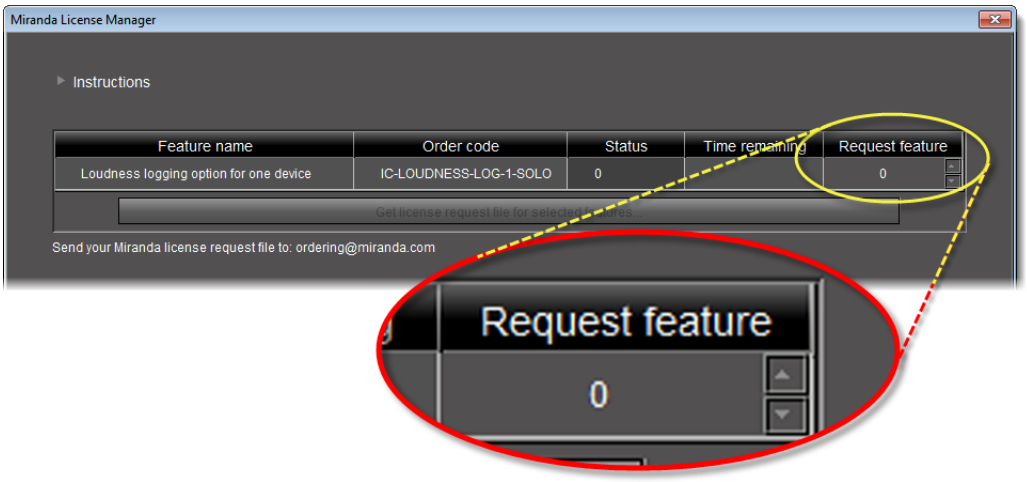
**REQUIREMENTS**

Make sure you meet the following conditions before beginning this procedure:

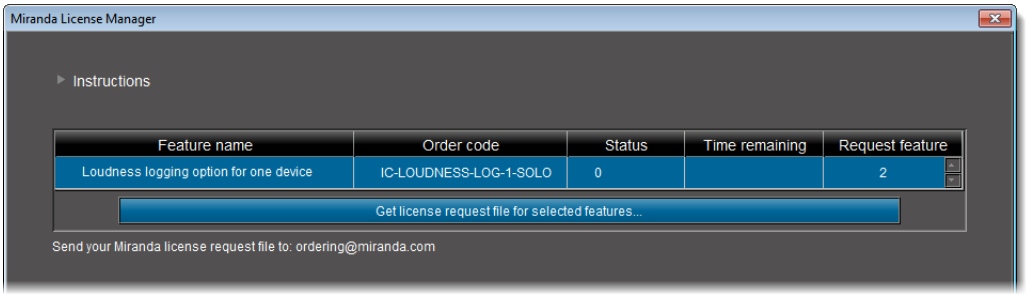
- You have opened **Miranda License Manager** (see see page 13).
- You are able to send and receive e-mail on your client PC.

### To request a license

1. In **Miranda License Manager**, in the **Request feature** column, use the *up* ( ) and *down* ( ) arrows to specify the number of licenses you would like to purchase.

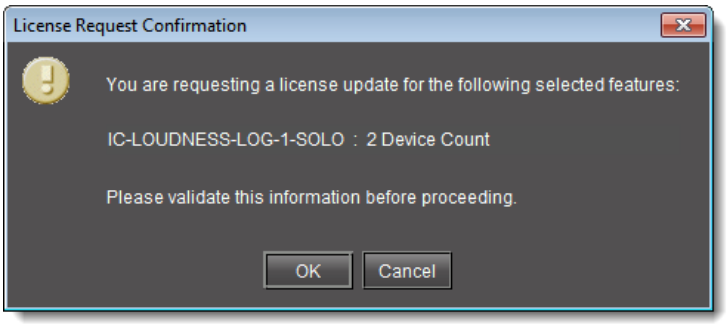



*Miranda License Manager **before** specifying the number of licenses desired*

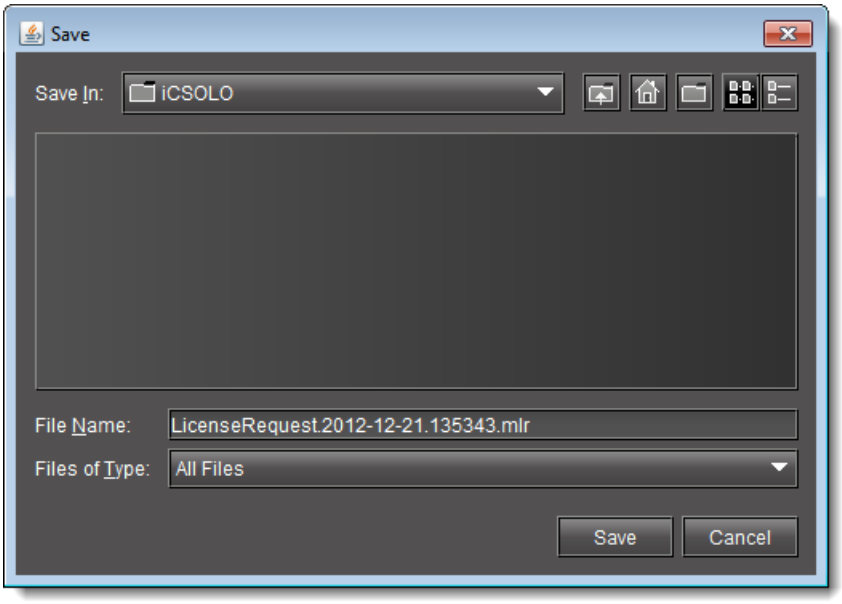



*Miranda License Manager **after** specifying the number of licenses desired*

2. Click **Download license request file for selected features**.
   A confirmation message appears.




3. Validate the information listed in the confirmation, and if satisfactory, click **OK**. If not satisfactory, click **Cancel**.
   If you clicked **OK**, you are prompted to save the downloaded license request file.




4. Save the MLR file to a convenient location on your hard drive.
5. In your e-mail client application, create a new e-mail with the following recipient:

   ordering@miranda.com
6. Attach to this e-mail the MLR file you saved to your local hard drive in step 4, and then send the e-mail.

   The request for an activation file is sent to Miranda. Wait until Miranda provides you with the activation file before proceeding to the next task in the workflow (see see "Workflow: Requesting and Activating a License for iControl Solo", on page 13).

**See also**

For more information about licensing, see see "License Management", on page 4.

## Activating a License

**IMPORTANT:** When licensing for the IC-LOUDNESS-LOG1-SOLO option, the number of licenses must match the number of devices you with to log from (for example, if you have **seven** Kaleido-Solo units, each of which are providing streaming loudness data to your iControl Solo, then you must have **seven** IC-LOUDNESS-LOG1-SOLO licenses).

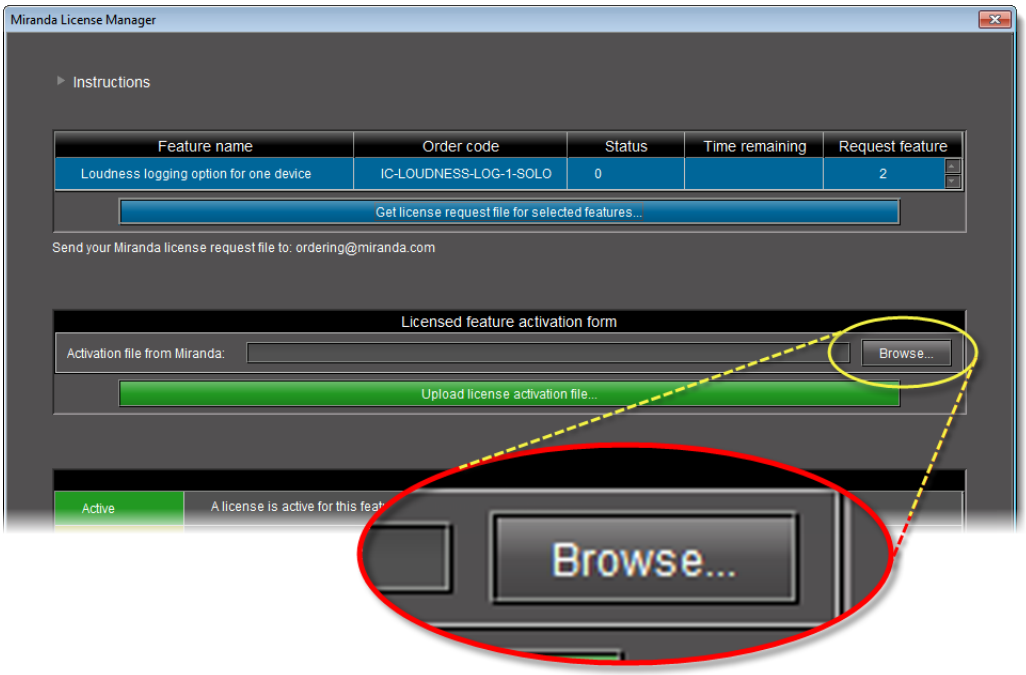
**REQUIREMENTS**

Make sure you meet the following conditions before beginning this procedure:

- You have opened **Miranda License Manager** (see see page 13).
- You have received an activation file from Miranda and it is stored on your client PC's hard drive (either a V2C file or a ZIP file).

### To activate a license

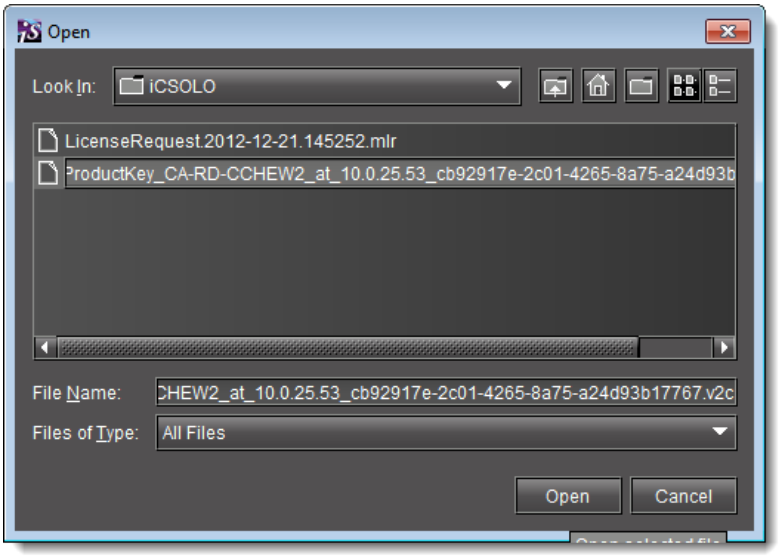
1. In **Miranda License Manager**, in the **Licensed feature activation form** area, click **Browse**.




A browse window appears.

2. Navigate to the directory containing the appropriate activation file.

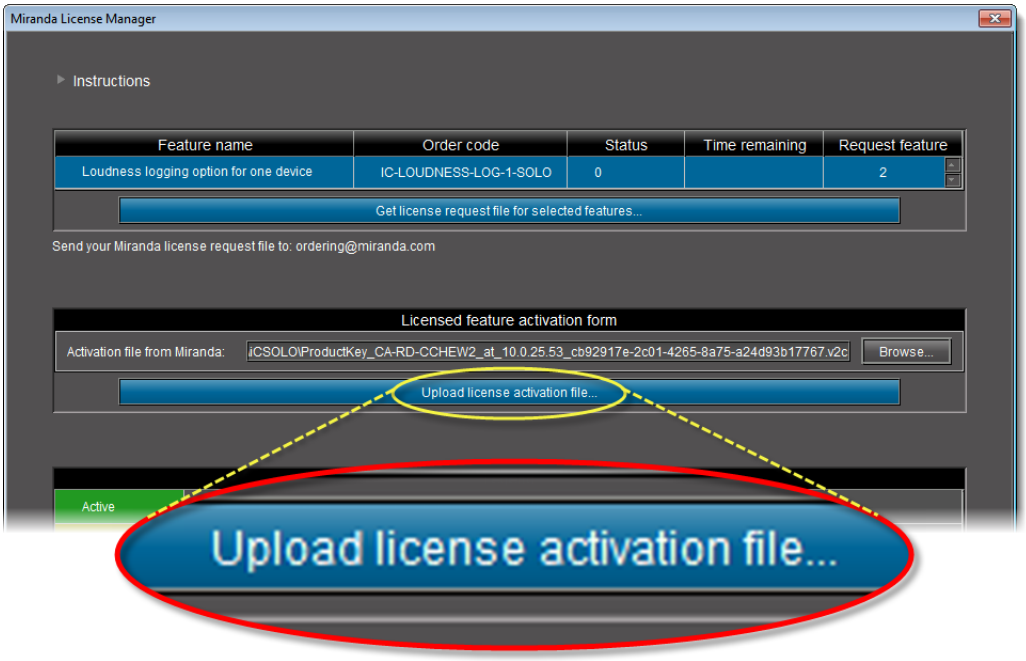
> **IMPORTANT: Activation files may be V2C or ZIP files**
>
> The file Miranda sends back to you may have a `v2c` suffix or a `zip` suffix. In either case, the steps to follow are the same.



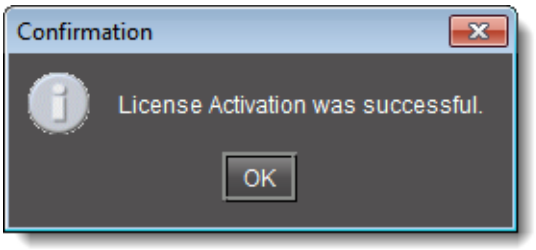
3. Select and then open the file.

   In **Miranda License Manager**, the path and file name of the desired activation file appear next to the **Browse** button.

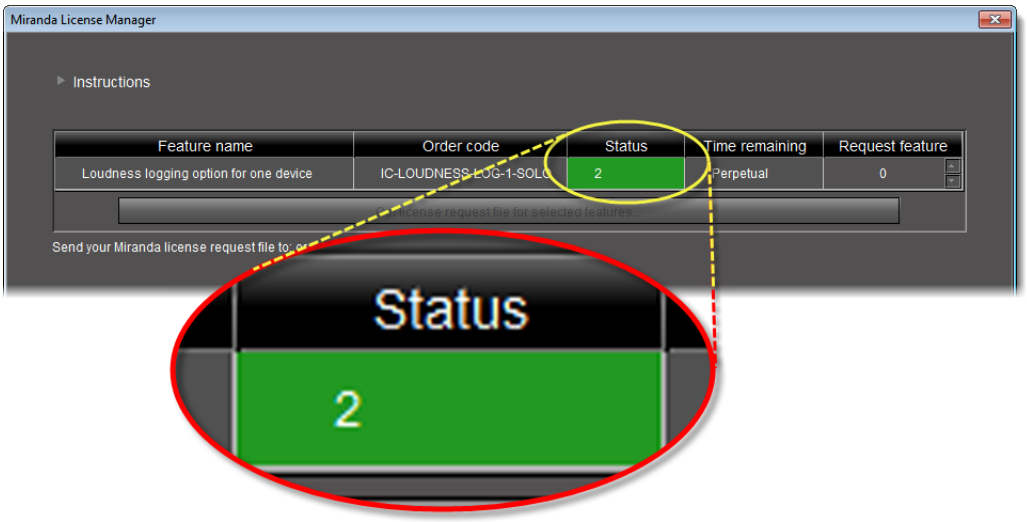
4. Click **Upload license activation file**.




A confirmation window appears.




In **Miranda License Manager**, in the row corresponding to the feature for which you bought licenses, the **Status** column displays the number of active licenses you have.




**See also**

For more information about licensing, see see "License Management", on page 4.

# 3 Using iControl Solo

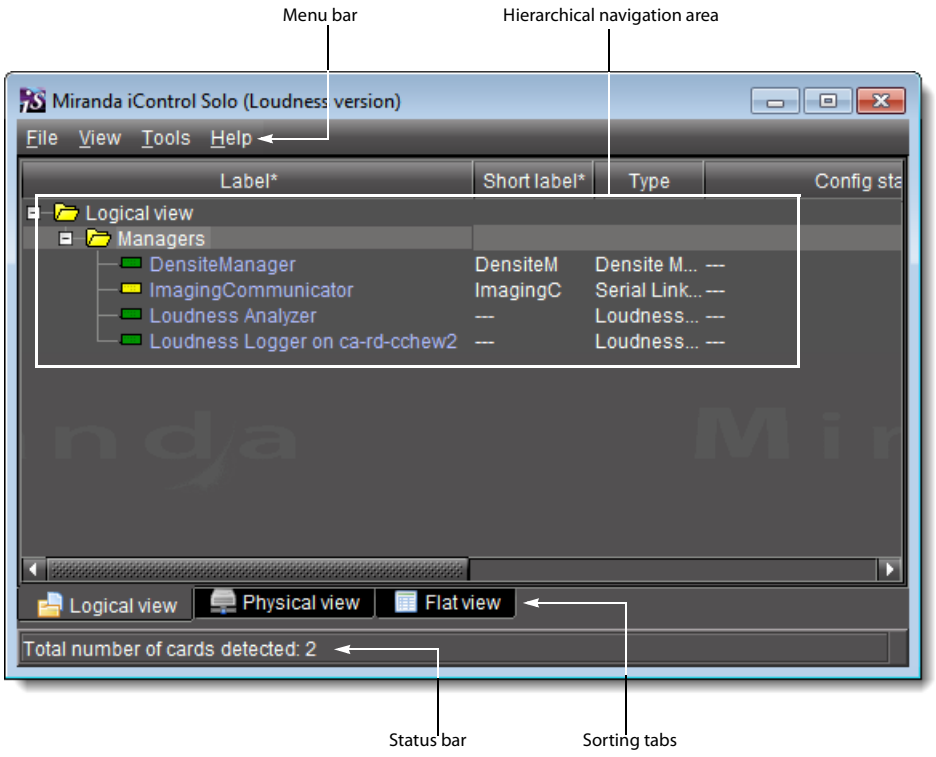
## Summary



## Key Concepts

### iControl Solo Window

When you open iControl, you see the menu bar, the hierarchical iControl Solo area, sorting tabs for three different iControl Solo views, and a status bar.




The *menu bar* provides access to iControl Solo's main features.

The *status bar* is where iControl Solo displays messages related to its current operations.

The *sorting tabs* are a way of filtering the information provided in the hierarchical iControl Solo area to include all devices or a subset.

The *hierarchical iControl Solo area* is a representation of all the devices interfaced with iControl Solo.

You can use the plus ⊞ and minus ⊟ buttons in the hierarchy to navigate the hierarchical list views by expanding and collapsing folders and groups (see see "Managing Device Groups", on page 34 for details).

iControl Solo shows the current status of every device and service within your iControl Solo system. By default, iControl Solo displays the following information for each device:

| | |
|---|---|
| **Status icon** | Green (OK), yellow (warning), red (error), or grey (not connected).<br>See see "Alarm Status", on page 26. |
| **Label** | The device type (by default) or a user-specified name. The text color reflects the device configuration status.<br>See:<br>• see "Changing Device Information", on page 33<br>• see "Reference Configuration", on page 27<br>• see "Adding Cards to the Reference Configuration", on page 35<br>• see "Removing Cards from the Reference Configuration", on page 35 |
| **Short label** | Abbreviated 8-character label. |
| **Source ID** | Name of the signal source. |
| **Device type** | The device type. |
| **Comments** | Optional; may be entered by the user. |
| **Config status** | Whether the device is or is not part of the Reference Configuration, also if there is a mismatch between the actual and defined device.<br>See see "Reference Configuration", on page 27. |
| **Frame** | Name of the frame housing the device (when applicable). |
| **Slot** | Number of the slot where the device is located inside the frame (when applicable). |

## Control Panels and Device Parameters

Most Miranda devices can be controlled using *control panels*. A control panel is a software interface that lets you monitor and control various device parameters.

> **Note:** Miranda cards are shipped with Installation & Operation Guides that provide detailed descriptions of their respective control panels, along with instructions on their use.

To access the control panel for a device, double-click the device in iControl Solo. Alternatively, right-click the device name, and then click **Show control panel** on the shortcut menu.

The device name is displayed at the top of its control panel, along with a *dashboard* containing one or more icons representing the status of key device parameters. Error conditions are indicated by color and by a text message that appears below the dashboard. If more than one error condition is present, hold the pointer over an icon to continuously display its associated error message; otherwise the display cycles through all reported errors.

**Note:** If the *Control* icon on the dashboard is yellow, this indicates that local card control is active—the card is being controlled from a local hardware control panel. In such a case, any changes made using the iControl Solo interface will have no effect on the card.


When control panels are open their names are added to the **View** menu. To bring a specific panel to the foreground, click its name on the **View** menu. To close all open panels at once, click **Close all control panels**.

## Control Panel Tabs

**Note:** For more information on a control panel, please refer to the Installation & Operation Guide for the corresponding device.

The table below lists common control panel tabs and their typical purposes:

| Tab | Description |
|---|---|
| Input | Allows input selection, second input operation mode selection, and control of the deglitcher and freeze functions. |
| Video Processing | Contains color-correction parameters that apply to the input signal. |
| Video Output | Allows control over several aspects of the high definition and standard definition video output: aspect ratio conversion, timing control, image quality processing, metadata insertion. |
| Audio Processing | Provides audio processing and delay parameters for the embedded or discrete audio input channels. These parameters affect both the output audio channels (embedded and AES) and the audio channels sent to other companion cards. |
| Audio Output | Provides extended audio processing for the 16 audio channels embedded in the HD/SD outputs, including audio channels mixing and audio embedding mode. |
| Timing | Provides access to timing adjustments which affect the signal outputs. |
| Factory/Presets | Allows user and device profile management, and restoring of a device's factory default configuration. |
| Options | Describes available options for the device, and provides information on how to enable or disable them. |
| Alarm Config. | Opens a separate window where alarm status can be monitored and configured. |
| Info | Allows viewing and modifying information about a device (e.g. labels, source ID, comments) to help identifying a specific device in a complex setup. |

## Info Control Panels

The Info control panel is available for all device types. The Info panel includes device identification information such as a label, a short label, the device type, comments, source ID, config status, frame, and slot. You can display the Info panel from the device control panel, or you can right-click a device in iControl Solo and then click **Show info control panel** from the shortcut menu.

From the Info panel, you can change the name of the selected device and type comments. By default, the device name takes the type identification; however, you will find it helpful to rename devices using meaningful names. Once you change the device name in the control panel, the new name will be displayed in iControl Solo, making the device easier to locate.

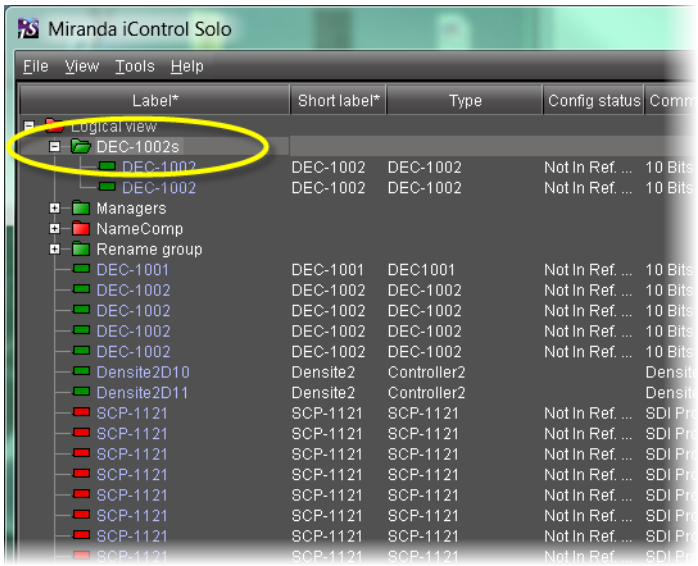

*Example of an Info control panel for a specific device*

## Devices Groups

iControl Solo allows you to organize devices into logical groups, making them easier to locate and to manage. A *device group* is a folder into which you drag selected devices. You can create as many device groups and subgroups as you want.

When you create a device group, you automatically create a virtual alarm that displays the overall status of the member devices. The color of the device group's folder icon will change when one or more of its members displays an error or warning status. For example, if one

member device changes status as a result of a critical error, then the group's folder icon will turn red. If no devices are assigned to a group, its folder icon will be white.



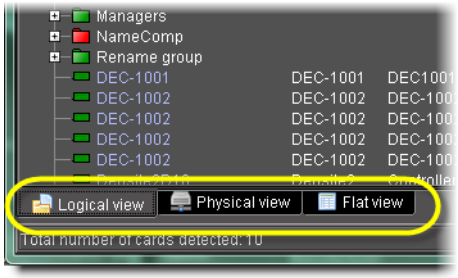

*New device group folder (circled)*

**Note:** Device groups can only be created in (and are only visible in) iControl Solo's Logical sort mode.

## Views

Sorting allows you to determine the way in which devices will be arranged for display in iControl Solo.

Three views are available by clicking tabs at the bottom of iControl Solo.




*iControl Solo tabs (circled)*

- **Logical view** displays all active services and devices interfaced with iControl Solo. The devices and services may be organized into groups. Groups and their contents are arranged in alphabetical order. Ungrouped items are displayed at the end of the list. Empty slots are not shown, unless they are in the *Reference Configuration* (see see "Reference Configuration", on page 27).

- **Physical view** arranges the devices relative to their physical connections and network location. All frame slots are shown. Empty slots show up as **Empty**, unless the card is designated as **In Ref. Configuration**, in which case it will show up as before, but with the description **missing from slot**. Devices are sorted by the name you typed when you added a Densité Communicator service, and by the number of the serial port where an Imaging frame is connected.
- **Flat view** shows all devices in alphabetical order without any grouping.

## Alarm Status

The current status of an alarm determines the color of any on-screen object associated with that alarm: the LED-like icon to the left of a device or service label, an enclosing folder, etc. Each possible alarm status is represented by a color. Alarm statuses are dynamically updated.

iControl Solo implements an industry standard[1] color code definition for all alarms. The following table describes the color scheme used by iControl Solo to display alarm statuses, and how they map to the ITU-TX.733 Recommendation:

| Color | Status | ITU-T X.733 | Description |
|---|---|---|---|
| White | *Pending* | — | Alarm exists but has not yet been reported. iControl Solo is waiting for the hardware or driver to update the alarm. White is the default status for a new alarm, before its current status is known. This status should be replaced very quickly, though it might persist as the result of a slow network connection. If a service is stopped, then all alarms originating from this service will revert to pending status. |
| Green | *Normal* | *Cleared* | The device, service, or signal is operating within allowable parameters. |
| Yellow | *Minor* | *Minor/Warning* | Warning that an error of low importance has occurred. |
| Orange | *Major* | *Major* | Warning that an error of intermediate importance has occurred. |
| Red | *Critical* | *Critical* | Warning that an error of critical importance has occurred. |
| Gray | *Unknown* | *Indeterminate* | Failure to get the status of an alarm provider, even though the source device has been detected. This could happen, for example, as the result of (1) a lost network connection, or (2) a loss of signal that would trigger a critical alarm for signal presence but leave all other related alarms in an unknown status (e.g. the freeze or black status is unknown if a signal is not present). |
| Blue | *Non-existent* | — | A pseudo-status representing an alarm that has been removed (or was never added). If an alarm provider is removed—for example, if a card is removed from a frame—the virtual alarm will be unable to detect an alarm status, and will therefore report the "non-existent" status as blue. |
| Black | *Disabled* | *Not supported* | Alarm exists but has been disabled at the source. Some devices can have certain alarms disabled on the hardware itself, resulting in these alarms appearing black. |

1. Default alarm severities in iControl Solo are compliant with the *intent* of ITU-T Recommendation X.733, *Information Technology – Open Systems Interconnection – Systems Management – Part 4: Alarm Reporting Function*

## Reference Configuration

The *reference configuration* is a feature of iControl Solo that allows you to keep track of important cards, or groups of cards. If a card is removed from a slot, the default behavior in iControl Solo is for the card to disappear from the list in the Logical and Global views. In the Network view, the device name is replaced by the slot number followed by the indication `Empty`.

When you to designate a card as part of the reference configuration, then the name of the card and the slot number it occupies are retained. If the card is removed, its label will be visible as before, but with the description `Missing from slot` appended.

## Loudness Logging and Analyzing

Certain devices like the Kaleido-Solo are capable of monitoring the loudness of audio streams. The data generated from monitoring may be sent to your client PC where iControl Solo's *Loudness Logger* can record and archive this stream of loudness data to a dedicated local folder.

After (or even during) the logging of loudness data, iControl Solo's *Loudness Analyzer* can plot a log file's loudness, making visible the data in units of LUFS (EBU) or LKFS (A85) over the time period covered by the file. **Loudness Analyzer** allows you to zoom into the data plot as well, effectively taking a subset of the time frame analyzed while increasing data granularity in the chart.

Additionally, with **Loudness Analyzer**, you may edit analysis parameters as well as showing or hiding certain data plots (e.g. choosing to show or hide the *DIALNORM* and *Short-term Momentary 1* data plots on the chart).

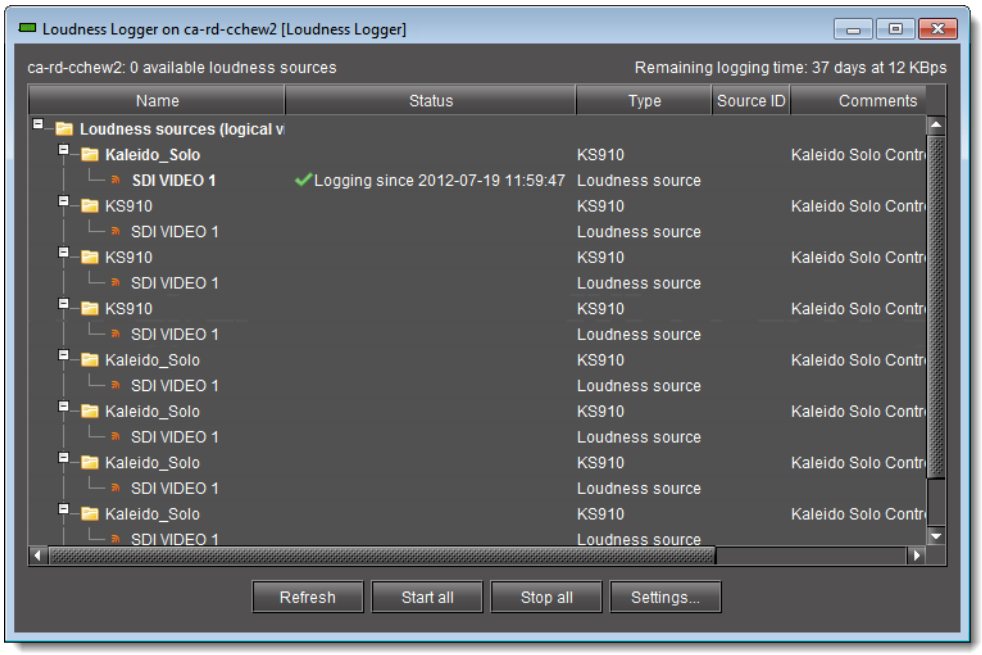
**See also**

For more information about:

- **Loudness Logger**, see see page 28.
- **Loudness Analyzer**, see see page 29.
- loudness logging and analyzing, see see "Working with Loudness Logger and Loudness Analyzer", on page 35.
- **Loudness Logger** and **Loudness Analyzer**, see the *Loudness Log Analyzer User Manual* (**M948-9000-100**).

## Loudness Logger

**Loudness Logger** allows you to start and stop the logging of loudness data streams coming from external audio sources, such as Kaleido-Solo. When you initiate logging of a loudness data stream, you are streaming the data to a log file on your client PC.




**Loudness Logger**

| UI Element | Description |
|---|---|
| Main window | Displays available loudness data streams |
| **Refresh** | Refreshes the main window |
| **Start all** | Starts logging all available loudness data streams |
| **Stop all** | Stops logging all available loudness data streams |
| **Settings** | Allows you to specify the location on your local file system where you would like to save loudness data |

**IMPORTANT: Make sure you have sufficient storage space for loudness data**

When specifying a location for storing loudness data, make sure you have enough storage space available. If, when logging loudness data, the logger runs out of space, it will stop logging.

Miranda recommends using a controlled remote storage device to ensure adequate storage space.

See see Table 3-1, on page 29 for guidelines on estimating storage space requirements.

**Table 3-1: Differential bit rate of loudness raw data from various devices**

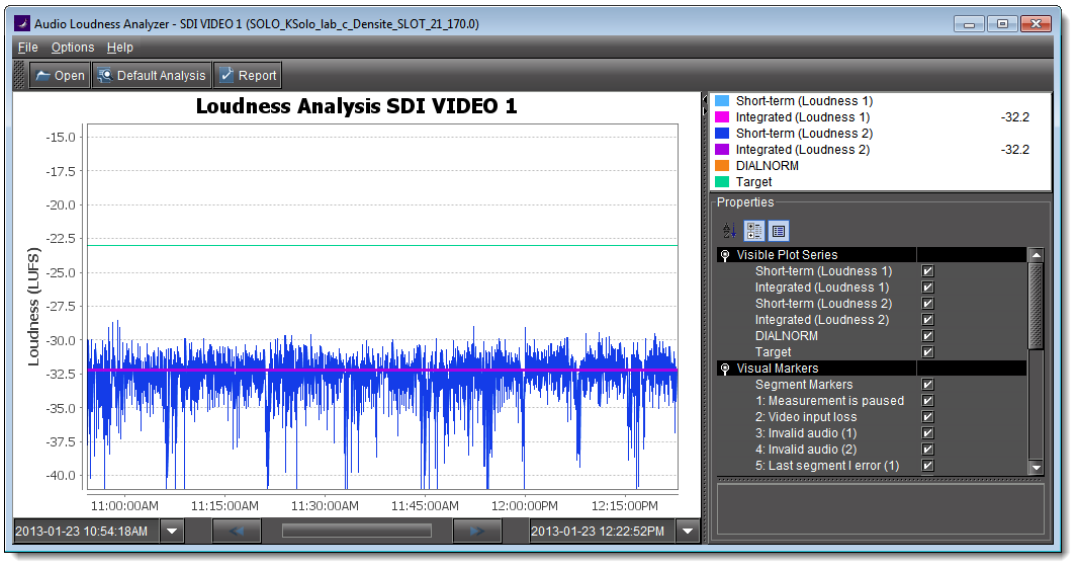
| Device | Number of audio programs | Bitrate (Bytes/second) | Bitrate (MBytes/day) |
|---|---|---|---|
| **KS-910** | 1-2 | 170-210 | 14.7-18.2 |
| **XVP-3901** | 1-8 | 170-450 | 14.7-39 |
| **EAP-3901** | 1-8 | 170-450 | 14.7-39 |
| **AMX-3981** | 1-8 | 170-450 | 14.7-39 |
| **ADX-3981** | 1-8 | 170-450 | 14.7-39 |

**See also**

For more information about:

- Working with **Loudness Logger** and **Loudness Analyzer**, see see page 35.
- **Loudness Analyzer**, see see page 29.

## Loudness Analyzer




**Loudness Analyzer** is a powerful tool for graphically depicting an audio source's loudness data over a period of time. The power of this tool lies primarily in its configurability of analysis parameters, including the applicable loudness standard, relative gating, and short-term window. As well, **Loudness Analyzer** allows you to *zoom into* a data plot. Each zooming action triggers a new analysis of loudness data from source, for the requested time period (configurable start and stop times) and given the configured analysis parameters.

Additionally, one can choose to incrementally display or hide plot series. For example, you may decide to display only *Short-term Momentary 1*, *Integrated Momentary 1*, and *DIALNORM* data while hiding the remaining series in order to unencumber the visual chart.

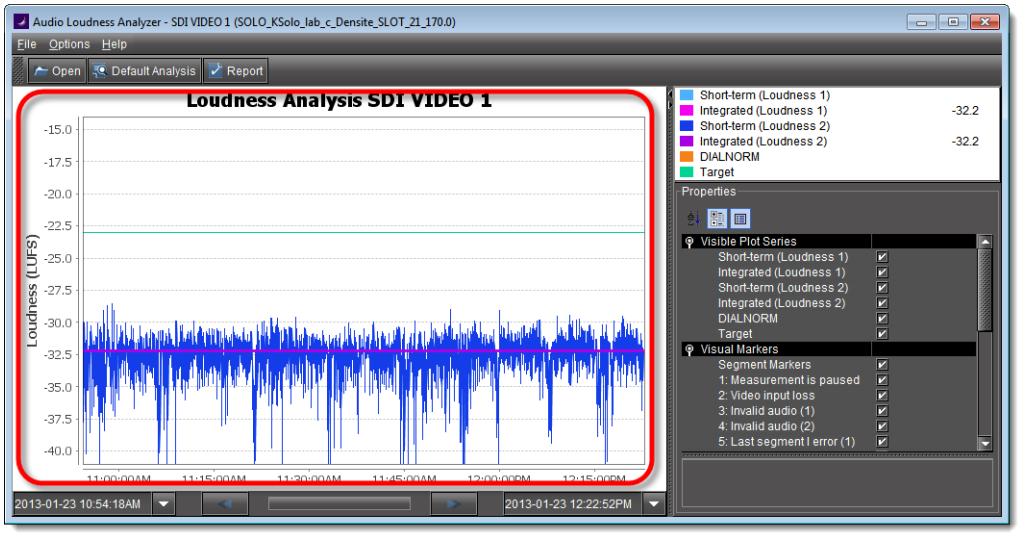
See the following figures for detailed views of **Loudness Analyzer**:

- see "Data plot chart (circled in red)", on page 30
- see "Visible plot series: Color-coded legend and values", on page 30
- see "Visible plot series: Display options", on page 31
- see "Properties: Analysis parameters", on page 31
- see "Properties: Analysis parameters (available standards)", on page 32
- see "Properties: Analysis parameters (relative gating)", on page 32
- see "Properties: Analysis parameters (short-term window)", on page 32
- see "Meta-data (not editable)", on page 32

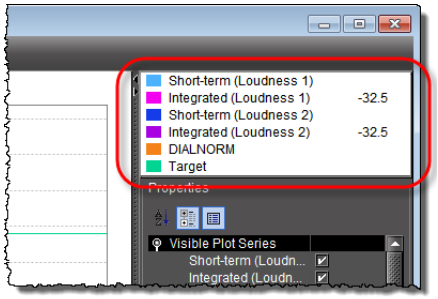
**See also**

For more information about:

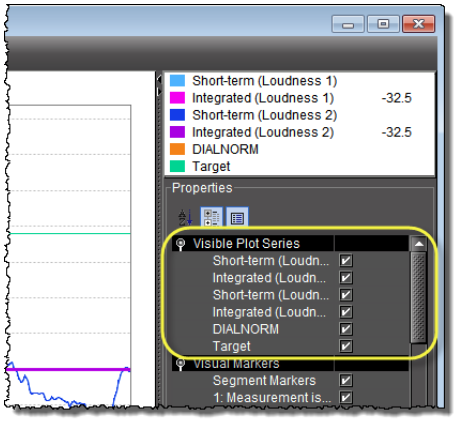
- **Loudness Analyzer**, see the *Loudness Log Analyzer User Manual* (**M948-9000-100**)..
- **Loudness Logger**, see see page 28.
- Working with **Loudness Analyzer** and **Loudness Logger**, see see page 35.



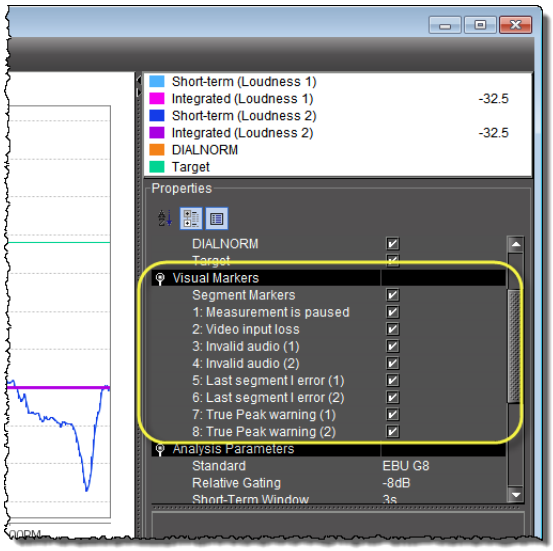

*Data plot chart (circled in red)*



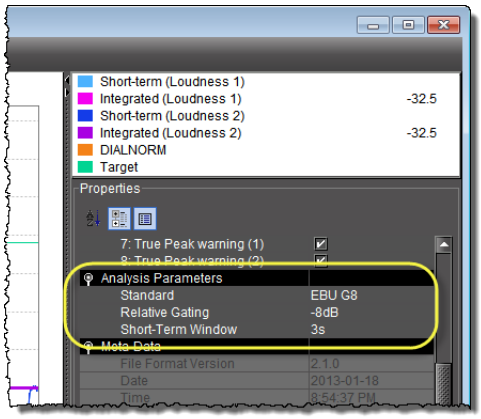

*Visible plot series: Color-coded legend and values*



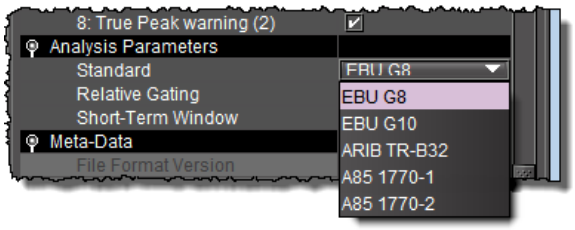

*Visible plot series: Display options*



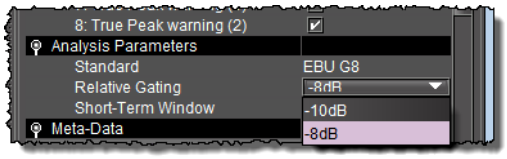

*Visual Markers: Display options*



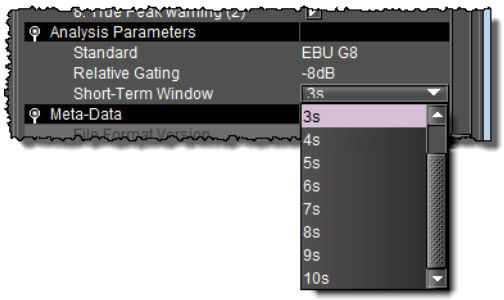

*Properties: Analysis parameters*



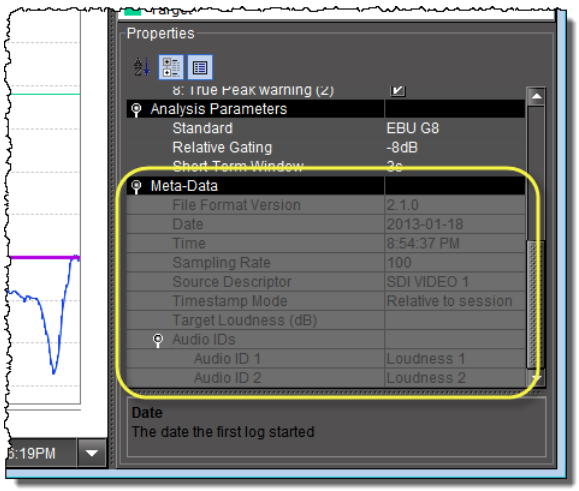

*Properties: Analysis parameters (available standards)*




*Properties: Analysis parameters (relative gating)*




*Properties: Analysis parameters (short-term window)*




*Meta-data (not editable)*

# Detailed Directions

## Opening iControl Solo

**To open iControl Solo**

- Use the iControl Solo shortcut on your desktop.

  iControl Solo appears.

## Closing iControl Solo

**To close iControl Solo**

- Do **one** of the following:
  - Close all iControl Solo windows,

    **OR**,
  - On iControl Solo's **File** menu, click **Quit**.

  All changes are automatically saved.

## Opening Control Panels

**To open the control panel for a device**

- In iControl Solo, right-click the device, and then click **Show control panel** on the shortcut menu. Alternatively, double-click the device.

  The device's control panel appears.

## Opening Info Control Panels

**To access the Info control panel for a device**

1. In iControl Solo, double-click the device.

   The device control panel appears.
2. Do **one** of the following:
   - Select the **Info** tab,

     **OR**,
   - In iControl Solo, right-click the device, and then click **Show info control panel** on the shortcut menu.

## Changing Device Information

Some device information can be customized from the device's Info control panel. Changes made in the control panel are immediately applied to the device.

- The device name appears in the **Label** box.
- You can modify the source ID and add comments in the corresponding boxes.

### Renaming Devices

**To rename a device**

1. Open the **Info** window for the device you wish to rename (see see "Opening Info Control Panels", on page 33).
2. Type the new name in the **Label** box.

   The changes are immediately applied.

## Managing Device Groups

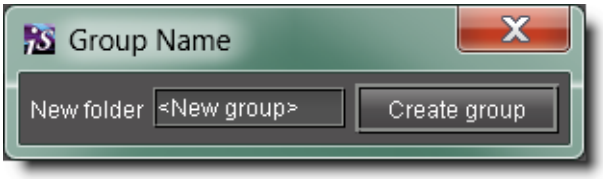
With iControl Solo, you can create as many device groups as necessary for your system, and then place the various devices into the appropriate groups. A device can only be a member of one group.

### Creating Groups

**To create a group**

1. In iControl Solo, click **Logical view**.
2. Right-click the location for the new group (the root folder, or another folder within the hierarchical structure) and then click **Add Group** on the shortcut menu.

   The **Group name** window appears.




3. Type a name for the group (e.g. “satellite” or “remote”), and then click **Create Group**.

   The group appears as a new folder in the chosen location.

### Moving Groups

**To move a group**

1. In iControl Solo, right-click the group you wish to move, and then click **Cut** on the shortcut menu.
2. Right-click the destination folder, and then click **Paste** on the shortcut menu.

   The group appears as a new folder in the chosen location.

### Renaming Groups

**To rename a group**

1. In iControl Solo, select the group folder you wish to rename.
2. Right-click the group folder and then click **Rename group**.

   The **Folder Name** window appears.


*Folder Name window*

3. Type a new name for the group, and then click **Rename group**.

   The new group name appears for the chosen folder.

### Removing Groups

**To remove a group**

1. In iControl Solo, expand the group folder you wish to remove.
2. Remove all devices from the group folder by dragging them to another folder or to the root of the folder structure (only empty groups can be removed).
3. Right-click the empty group folder, and then click **Remove group** on the shortcut menu.
4. When prompted to confirm the removal, click **Yes**.

   The group no longer appears in iControl Solo.

## Adding Cards to the Reference Configuration

The reference configuration (see see page 27) is a way to keep track of cards or groups of cards important to your setup.

**To add a card to the reference configuration**

- In iControl Solo, right-click the card you wish to add, and then click **Add to reference configuration** on the shortcut menu.

  The phrase **In Ref. Configuration** appears in the **Config status** column.

> **Note:** If this card is physically removed from its slot, the card name remains in the **Label** column, along with the phrase **Missing from slot**.

## Removing Cards from the Reference Configuration

**To remove a card from a reference configuration**

- In iControl Solo, right-click the card you wish to remove, and then click **Remove from reference configuration**.

  The phrase **Not In Ref. Configuration** appears in the **Config Status** column.

## Working with Loudness Logger and Loudness Analyzer

There are several tasks you can perform related to both logging and analyzing loudness data in iControl Solo. Certainly, before you do anything else, you must make sure your system is properly configured. You must also make sure you log before you analyze. While the sequence of these tasks may seem obvious, the sequence of other required tasks may not be. The

following is an approved workflow for configuring, logging, and analyzing loudness data in iControl Solo.

**Sample workflow: Logging and analyzing loudness**

| | |
|---|---|
| 1. | Open **Loudness Logger** (see see page 36). |
| 2. | Specify a location in your local file system where you would like loudness data to be saved (see see page 39). |
| 3. | Log loudness data for the desired audio stream (see see "Logging an Audio Stream's Loudness Data", on page 40). |
| 4. | Stop the loudness log recording (see see page 41). |
| 5. | Open **Loudness Analyzer** (see see page 38). |
| 6. | Configure general **Loudness Analyzer** settings (see see page 42). |
| 7. | Open a loudness log file (see see page 45). |
| 8. | **[OPTIONAL]** Zoom into **Loudness Analyzer**'s data plot (see see page 49). |
| 9. | **[OPTIONAL]** Configure loudness analysis parameters for this data plot (see see page 47). |
| 10. | **[OPTIONAL]** Generate a loudness analysis report (see see page 51). |

**See also**

For more information about:

- Logging and analyzing loudness data, see see page 27.
- **Loudness Logger**, see see page 28.
- **Loudness Analyzer**, see see page 29.
- **Loudness Logger** and **Loudness Analyzer**, see the *Loudness Log Analyzer User Manual* (**M948-9000-100**).

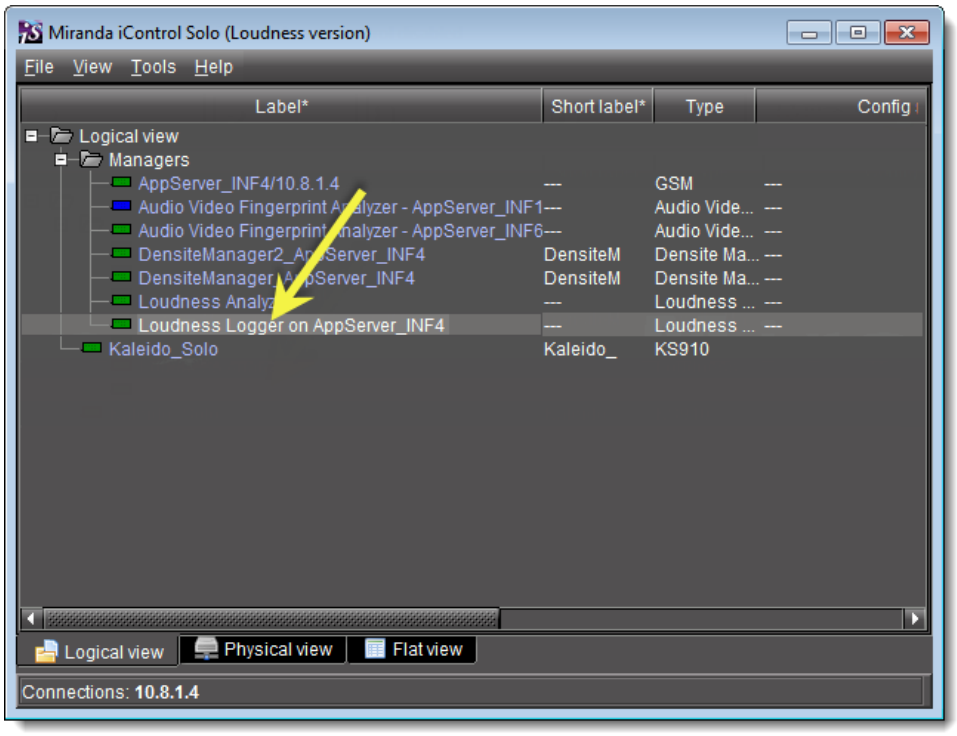
## Opening Loudness Logger

**REQUIREMENT**

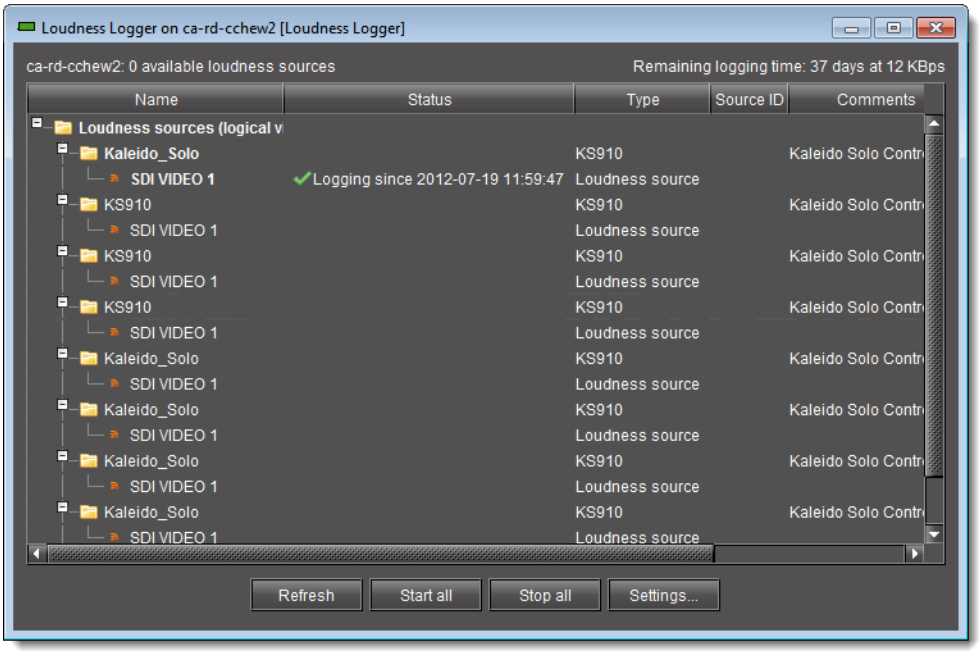
Before beginning this procedure, make sure you have opened iControl Solo (see see page 33).

**To open Loudness Logger**

- In iControl Solo, double-click the desired **Loudness Logger**.




**Loudness Logger** appears.



## Opening Loudness Analyzer

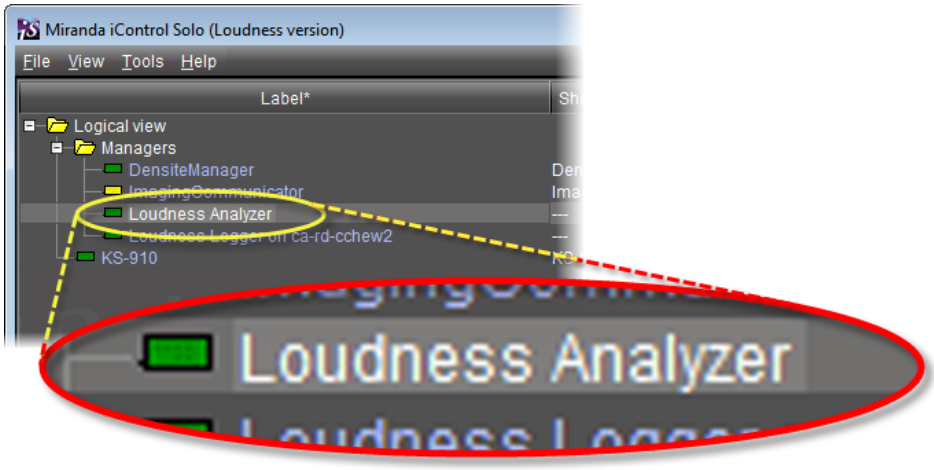
**REQUIREMENTS**

Make sure you meet the following conditions before beginning this procedure:

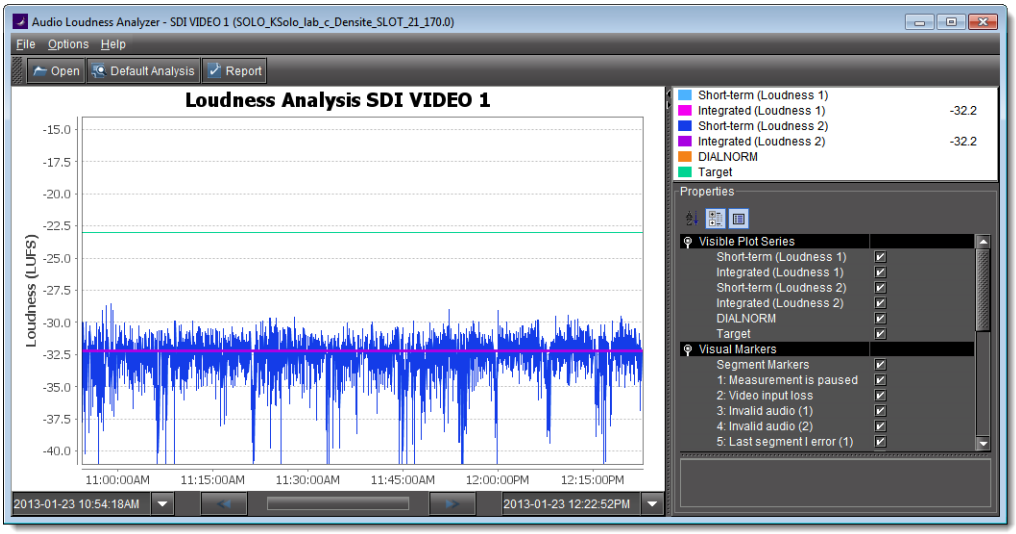
- The PC running iControl Solo is connected to a device which is streaming loudness values, such as a Kaleido-Solo.
- You have already logged loudness data (see see "Logging an Audio Stream's Loudness Data", on page 40).
- You have opened iControl Solo (see see page 33).

### To open Loudness Analyzer

- In iControl Solo, double-click **Loudness Analyzer**.




**Loudness Analyzer** appears.



**Note:** **Loudness Analyzer** is timezone-agnostic, meaning it displays a data plot's time code as UTC (coordinated universal time). When you configure your general **Loudness Analyzer** settings, make sure you set the timezone to that of the signal being analyzed.

## Specifying a Location for Saving Loudness Data

**IMPORTANT: Make sure you have sufficient storage space for loudness data**

Ensure you have enough storage space available for loudness data at the specified location. If, when logging loudness data, the logger runs out of space, it will stop logging.

Miranda recommends using a controlled remote storage device to ensure adequate storage space.

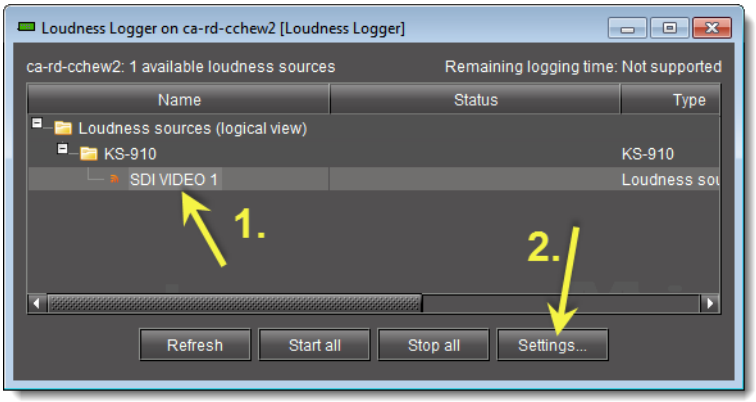
**REQUIREMENTS**

Make sure you meet the following conditions before beginning this procedure:

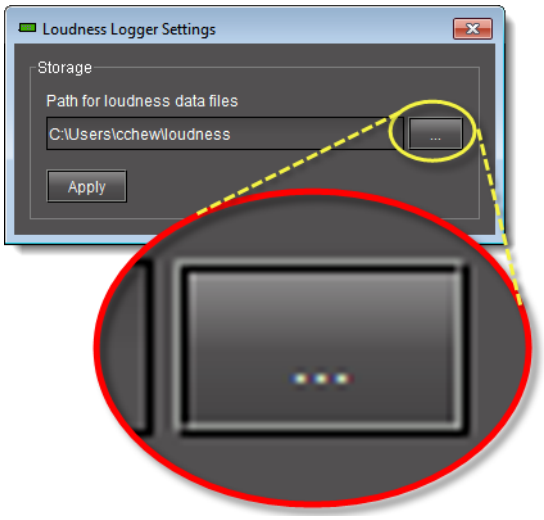
- The PC running iControl Solo is connected to a device which is streaming loudness values, such as a Kaleido-Solo.
- You have opened iControl Solo (see see page 33).

**To specify a location for saving loudness data**

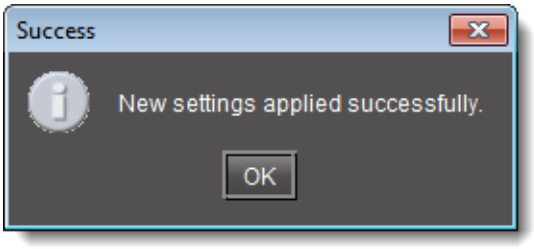
1. In **Loudness Logger**, select the loudness source.
2. Click **Settings**.




3. In the **Loudness Logger Settings** window, click the *elipsis* button to browse for the location in your local file system where you would like to save loudness data.




4. Click **Apply**.
   If you chose a valid path, the **Success** message appears.




## Logging an Audio Stream's Loudness Data

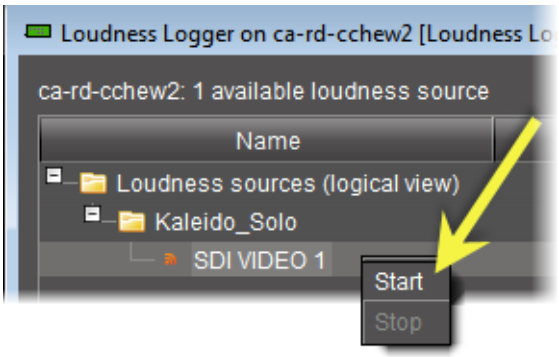
**REQUIREMENTS**

Make sure you meet the following conditions before beginning this procedure:

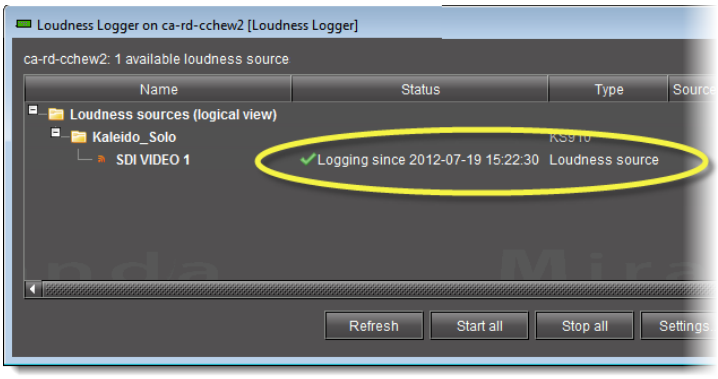
- There is a device streaming loudness values, such as a Kaleido-Solo, visible to iControl Solo.
- You have opened **Loudness Logger** (see see page 36).

**To log an audio stream's loudness data**

1. In **Loudness Logger**, find the loudness source for which you would like to create a log.
2. Right-click the source and click **Start**.




**Loudness Logger** begins logging loudness data from the indicated source.



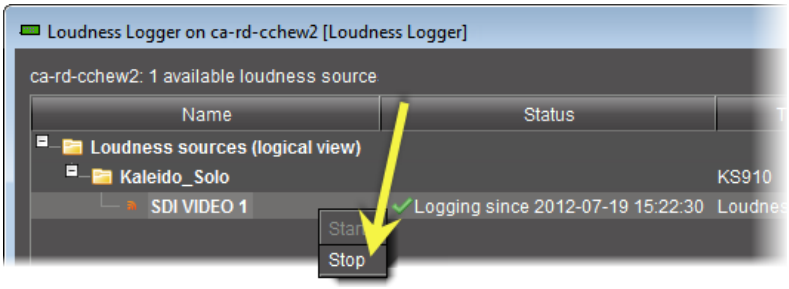

## Stopping a Loudness Log Recording

**REQUIREMENT**

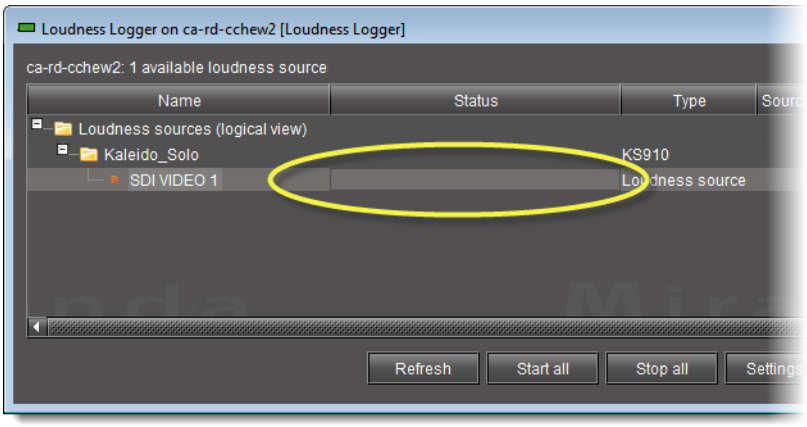
Before beginning this procedure, make sure you have opened **Loudness Logger** (see see page 36).

**To stop a loudness log recording**

1. In **Loudness Logger**, find the audio source whose loudness data you would like to stop recording.
2. Right-click this audio source and click **Stop**.



The **Status** column should be blank indicating that logging has stopped for this audio source.

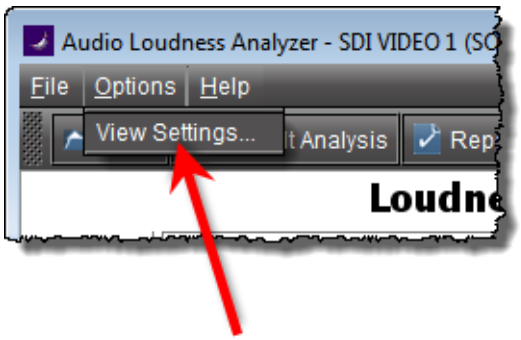



## Configuring General Loudness Analyzer Settings

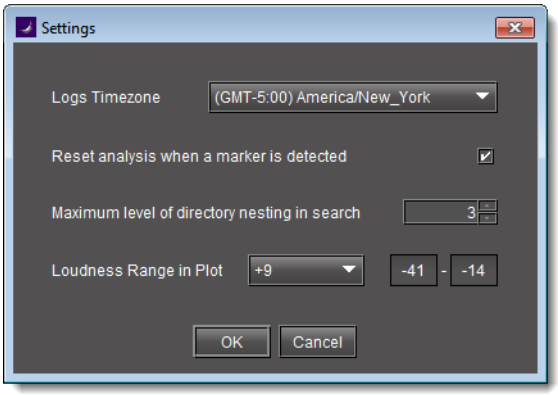
Perform this procedure to define time zone as well as search parameters when searching for loudness log files.

**To configure Loudness Analyzer general settings**

1. In **Loudness Analyzer**, on the **Options** menu, click **View Settings**.

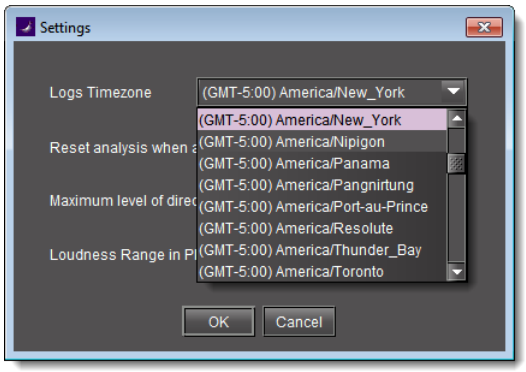



The **Settings** window appears.



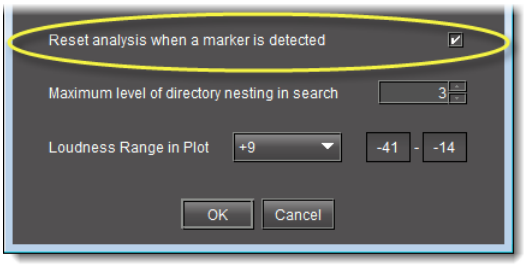
2. Select the timezone that matches your logs.

> **Note:** **Loudness Analyzer** is timezone-agnostic, meaning it displays a data plot's time code as UTC (coordinated universal time). When you configure your general **Loudness Analyzer** settings, make sure you set the timezone to that of the signal being analyzed.

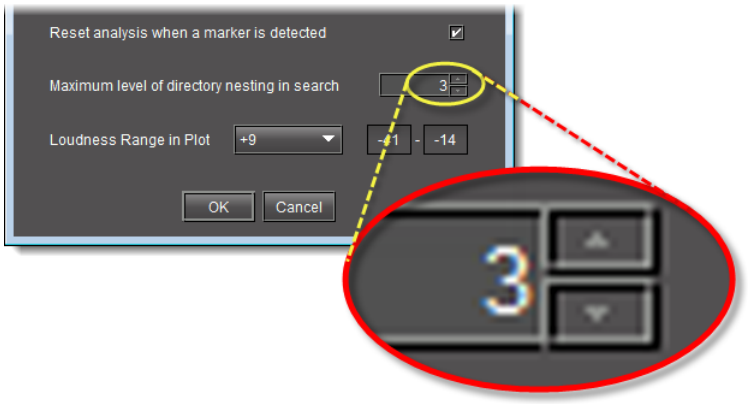



3. Select **Reset analysis when a marker is detected** if you would like for the integrated value to reflect only those data belonging to the segment.

   By contrast, if you would like for your integrated value to reflect the data belonging to the entire analysis range, then clear this check box.



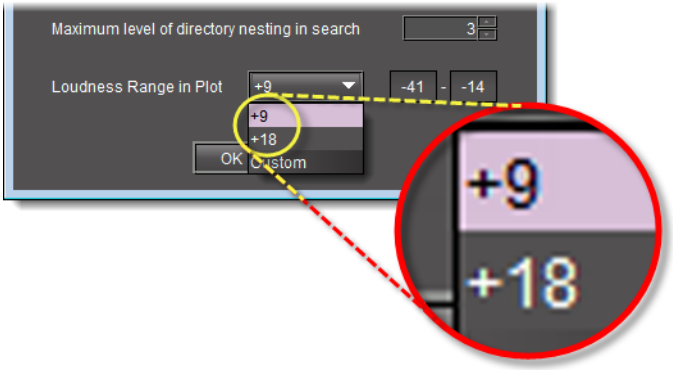

4. Next to **Maximum level of directory nesting in search**, use the *Up* and *Down* arrow buttons to select the number of nested levels in which you would like **Loudness Analyzer** to search for log files.




**Notes**

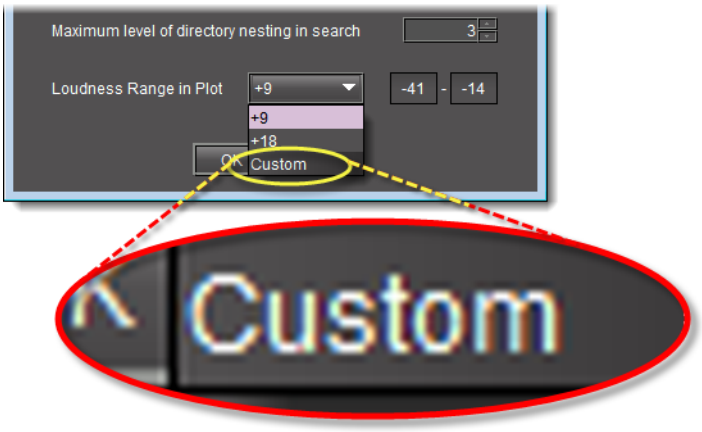
- Selecting **3**, for example, instructs **Loudness Analyzer** to search in the directory named in the path you will define later when you open a loudness log file and then within the next *three* nested levels down.
- If you select **0**, **Loudness Analyzer** only searches for log files within the immediate level of the directory named in the path.
- The deeper you search into nested directories, the slower the search operation will be.

5. Next to **Loudness Range in Plot**, do **ONE** of the following:
   - Select a preset loudness range to be visible in your data plot (taking note of the range values).

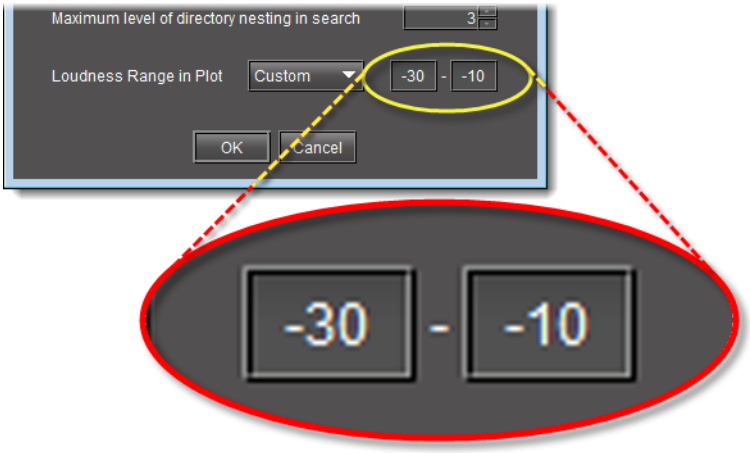



***OR***,

1. Select **Custom**.




2. Manually enter a custom range.




6. Click **OK**.

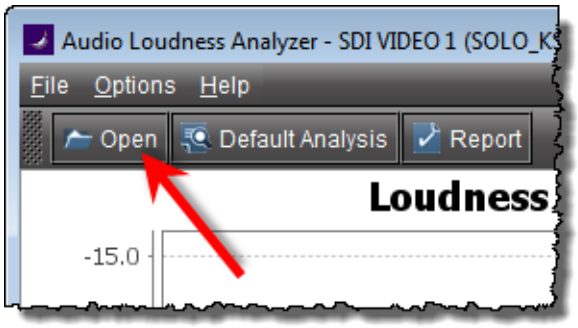
## Opening a Loudness Log File in Loudness Analyzer

**REQUIREMENT**

Before beginning this procedure, make sure you have opened **Loudness Analyzer** (see see page 38).

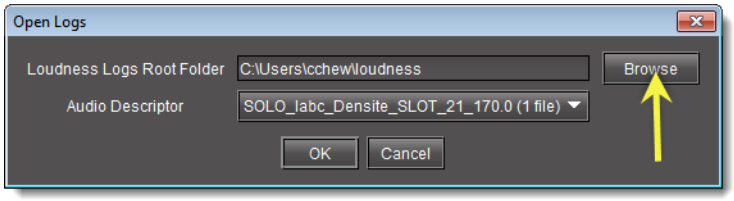
**To open a loudness log file**

1. In **Loudness Analyzer**, click **Open**.

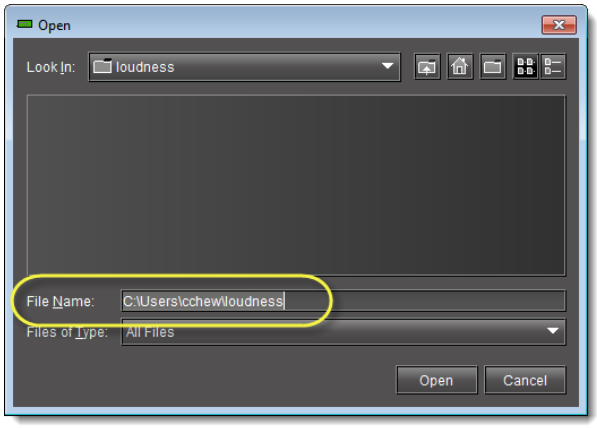



The **Open Logs** window appears.

2. Next to **Loudness Logs Root Folder**, click **Browse**.

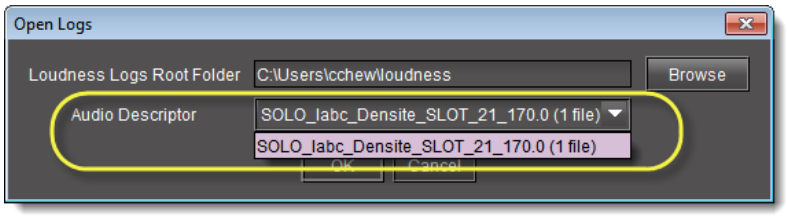



3. In the **Open** window, in the **File Name** box, type the path to the directory containing the loudness data.



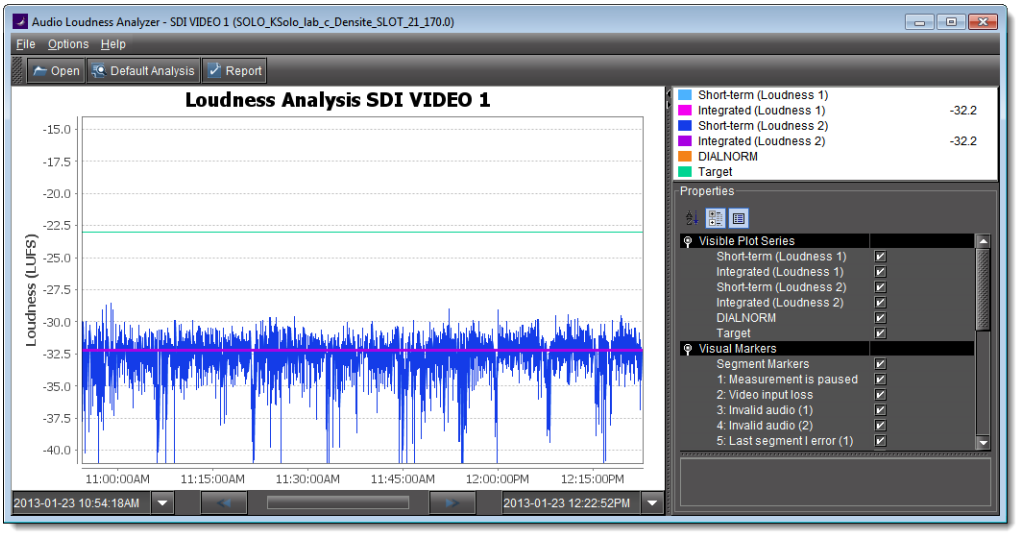

4. In the **Open Logs** window, in the **Audio Descriptor** list, select the desired loudness dataset to analyze.

> **Note:** The dataset may contain one file or several files. The number of files in each dataset is indicated in parentheses.




5. Click **Open**.
6. In the **Open Logs** window, click **OK**.

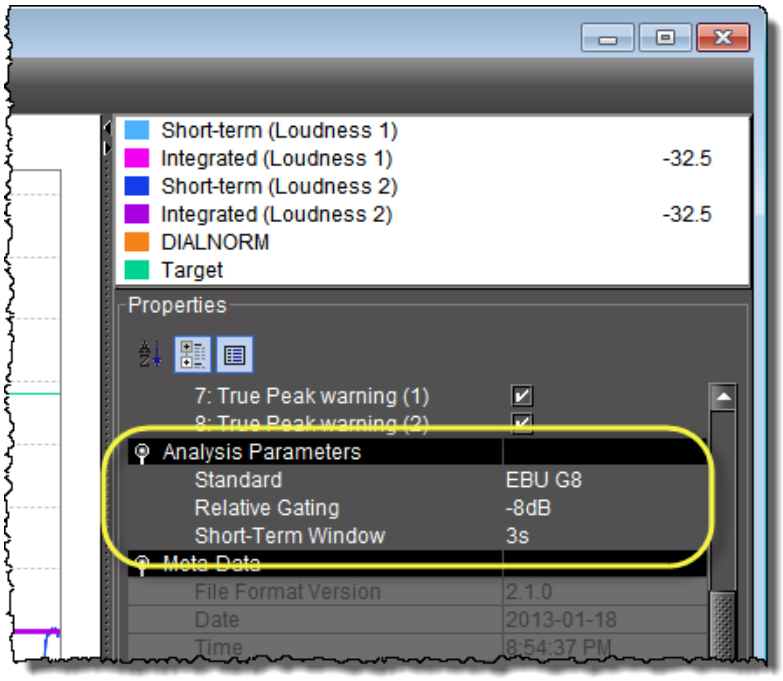
   The Loudness Analysis data plot is populated with the loudness data from the log file.




## Configuring Loudness Analysis Parameters

There are three loudness analysis parameters you may configure:

- Loudness standard
- Relative gating
- Short-term window




### Configurable loudness analysis parameters

| Parameter name | Description | Data set |
|---|---|---|
| Standard | The program compliance loudness standard against which the loudness data will be measured.<br>• **EBU G8** refers to the now-obsolete version of EBU-R128 recommending a gate value of -8LU. The currently recommended value is -10LU.<br>• **A85 1770-1** leaves the threshold level up to broadcasters and recommends an anchor when available and a gate if necessary (used in USA, Canada).<br>• **A85 1770-2** recommends a gate is **ALWAYS** enabled, having a threshold set to -10LU (used in the European Union).<br>• **ARIB TR-B32** is based on A85 1770-2 with a recommended threshold of -24LKFS (absolute gate at -70LKFS, -10LU relative gate, 400ms sample blocks). | • EBU G8<br>• EBU G10<br>• ARIB TR-B32<br>• A85 1770-1<br>• A85 1770-2 |
| Relative Gating | The concept of filtering out low volume sound by a configurable dB (LU) level below the absolute loudness calculation in order to prevent skewing a loudness calculation with very quiet sounds or silence. | • -10dB<br>• -8dB |
| Short-Term Window[a] | The *intermediate* length sliding time window. | • 1s<br>• 2s<br>• 3s<br>• 4s<br>• 5s<br>• 6s<br>• 7s<br>• 8s<br>• 9s<br>• 10s |

a. Once loudness data is plotted in Analyzer, you should expect for the Short-Term Window plot series not to begin until one cycle of its configured duration to have elapsed. This is due to there not being enough data before this point with which to produce a moving average.

> **Note:** Changes you make to any analysis parameters are immediately applied to a new analysis.

## Zooming into Loudness Analyzer's Data Plot

After loading a loudness data file into **Loudness Analyzer**, the plot of the loudness data may not show, by default, the granularity of detail you might like to see at first. Additionally, the time period covered by the data may cover too large a time span.

You can effectively zoom into the data by specifying a subset time period within the initial graph, thereby increasing granularity and removing extraneous data.

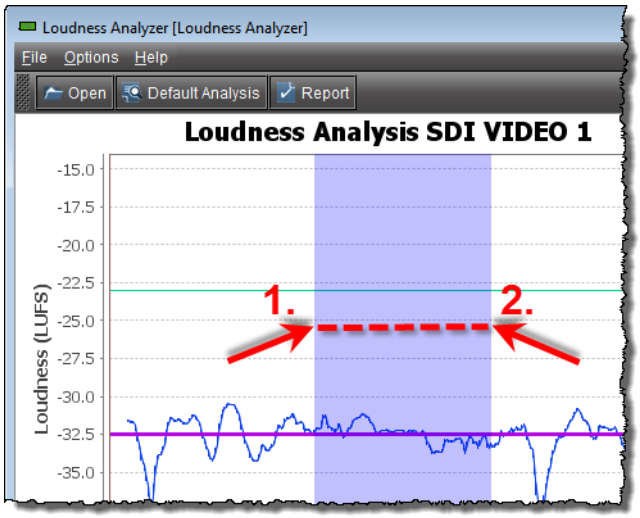
> **Note:** You may choose to either configure analysis parameters before you zoom or after you zoom with the same end-effect. You will lose analysis parameter data **ONLY** when you click **Default Analysis**.

**REQUIREMENT**

Before beginning this procedure, make sure you have opened a loudness data file in **Loudness Analyzer** (see see page 45).

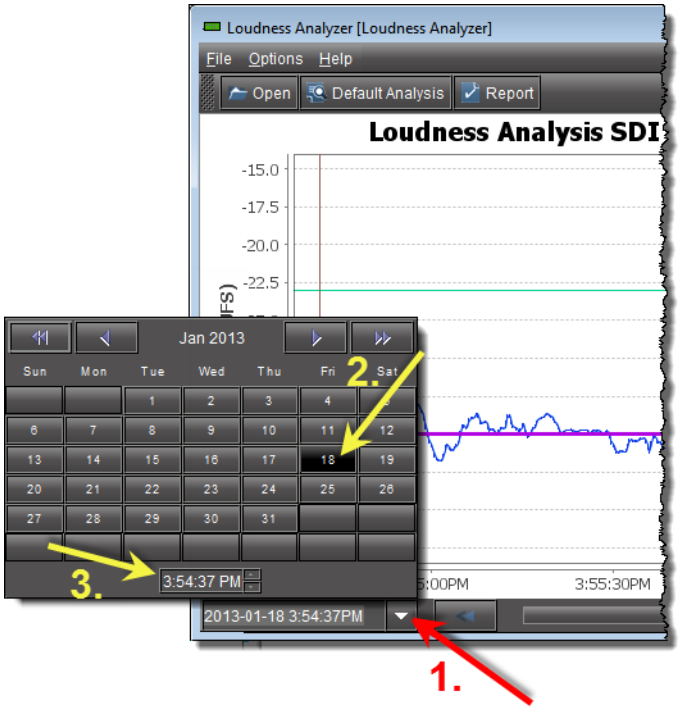
**To zoom into Loudness Analyzer's data plot**

1. In **Loudness Analyzer**, do **ONE** of the following two sub-procedures:
   a) On the data plot, use your mouse to click and hold on any point along the vertical line marking the desired beginning time of your zoom.
   b) Drag the mouse to any point along the vertical line marking the desired end time of your zoom.
   c) Release the mouse button.



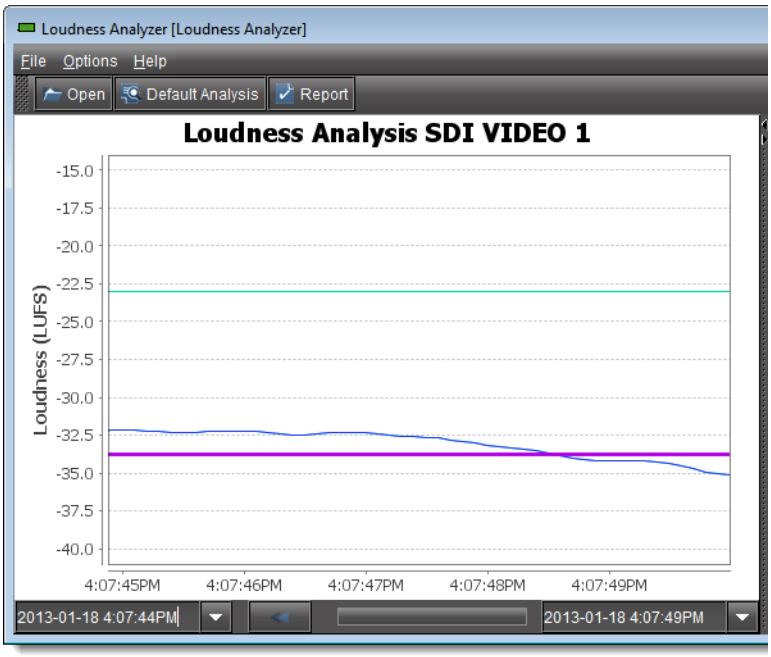

**OR**,

a) On the bottom-left side of **Loudness Analyzer**, use the *Start-time* calendar to indicate the exact beginning date and time of your zoom.




b) On the bottom-right side of **Loudness Analyzer**, use the *End-time* calendar to indicate the exact end date and time of your zoom.

**Loudness Analyzer** reloads the data stream using the new time range demarked by the new start- and end-times.




2. Repeat step 1 if you must zoom into the data plot further.

## Generating a Loudness Analysis Report

**Loudness Analyzer** permits you to generate a report in PDF format. The report provides the data currently displayed in **Loudness Analyzer**, including the chart at its current scaling (zoom), as well as the parameters configured.

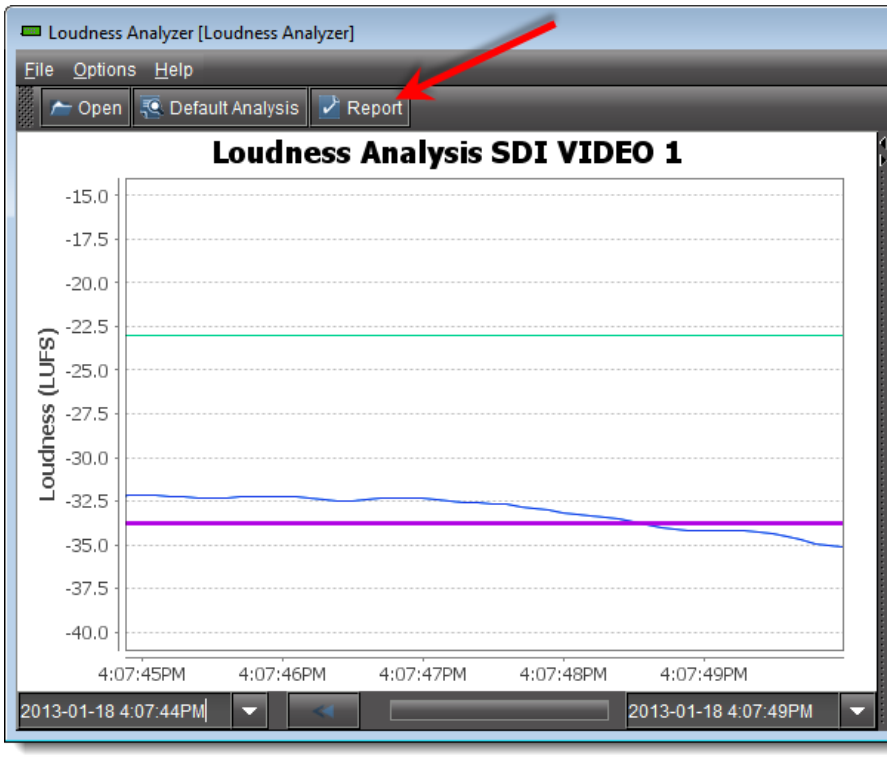
**REQUIREMENTS**

Make sure you meet the following conditions before beginning this procedure:

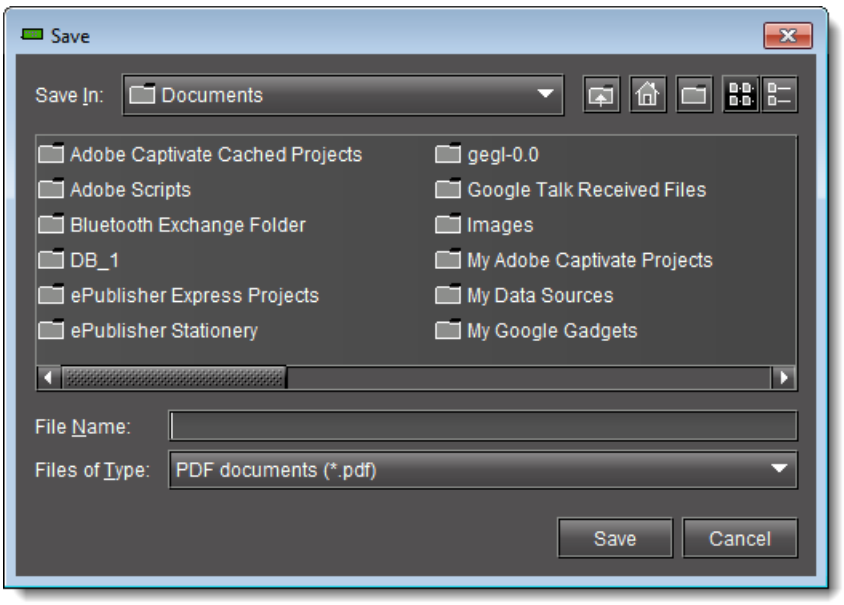
- You have opened a loudness data file in **Loudness Analyzer** (see see page 45).
- You have adjusted the scaling of **Loudness Analyzer**'s data plot to the desired level (see see "Zooming into Loudness Analyzer's Data Plot", on page 49).
- You have selected the plot series you would like to include in your report and selected the desired analysis parameters (see see "Configuring Loudness Analysis Parameters", on page 47).

**To generate a loudness analysis report**

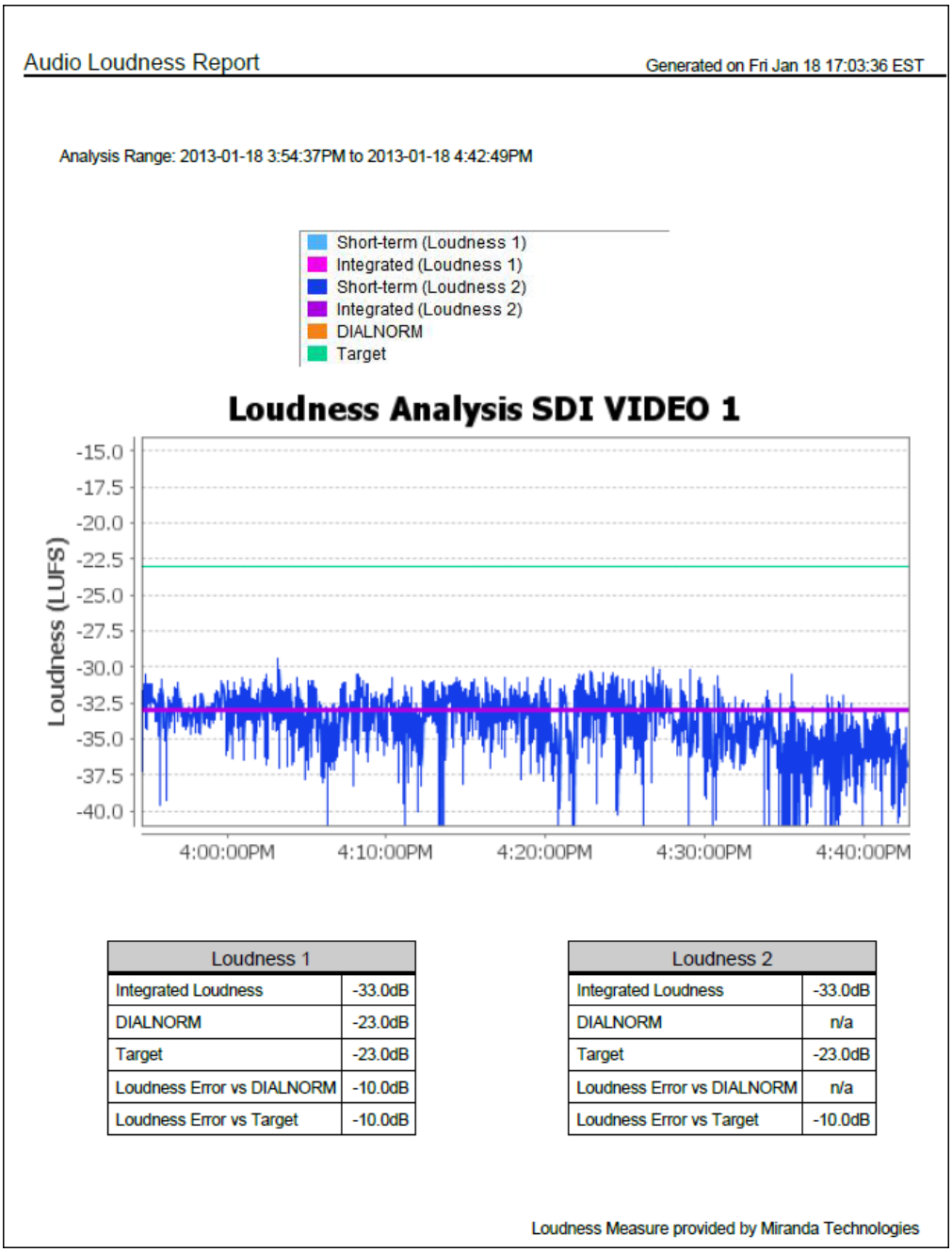
1. In **Loudness Analyzer**, click **Report**.




The **Save** window appears.




2. Save the PDF file to a local directory.
   The PDF file contains all of the information currently in view in **Loudness Analyzer**.




*Loudness analysis report (taken from the PDF output)*

# A Installing IC-USB

This appendix provides instructions on installing the IC-USB device.

## Key Concepts

### IC-USB

The IC-USB device is a USB-to-RS-422 converter. It is used to establish communication between your PC or laptop, and serial devices such as the Quartet 2 and Symphonie Miranda Imaging Series housing frames.

### IC-USB Driver

The IC-USB driver is installed automatically with the Miranda iControl Solo software. When you connect the IC-USB device to your PC or laptop, Windows will automatically detect the new hardware and associate it with the IC-USB driver.

## Detailed Directions

### Connecting the IC-USB Device to a PC or Laptop

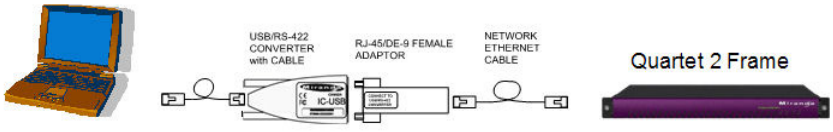
**To connect the converter to your PC or laptop**

1. Plug the Type A (flat) connector end of the USB cable into the USB port located in the back of your PC.
2. Plug the Type B (square) end of the USB cable into the IC-USB device.

### Connecting the IC-USB Device to a Miranda Quartet 2 Frame

**To connect the converter to a Miranda Quartet 2 frame**

1. Connect the IC-USB device's DE-9 connector to the supplied RJ-45-to-DE-9 female adapter.
2. Connect one end of the supplied Ethernet cable to the RJ-45-to-DE-9 female adapter, and the other end to one of the RJ-45 ports in the back of the Quartet 2 frame:

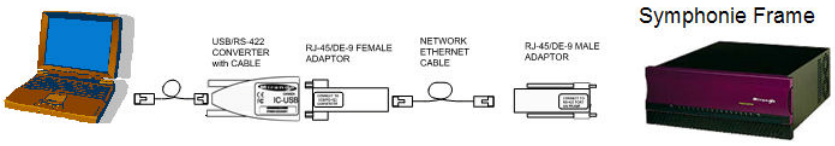



*IC-USB connected to a Miranda Quartet 2 frame*

## Connecting the IC-USB Device to a Miranda Symphonie Frame

**To connect the IC-USB to a Miranda Symphonie Frame**

1. Connect IC-USB, RJ-45-to-DE-9 female adapter and Ethernet cable as described under "Connecting the IC-USB Device to a Miranda Quartet 2 Frame", above.
2. Connect the RJ-45-to-DE-9 male adaptor to the Ethernet cable.
3. Connect the male adaptor to one of the RS-422 female DE-9 ports in the back of the Symphonie frame:




*IC-USB connected to a Miranda Symphonie frame*

## Determining the IC-USB COM Port Number

The IC-USB COM port number is required to configure the Miranda iControl Solo Imaging Communicator service.

**To determine the COM port number associated with IC-USB**

1. On the **Start** menu, point to **Programs**, then to **Inside Out Networks**, and click **Edgeport Configuration Utility**.
2. Expand the Edgeport 1i line item from the **General** Tab.

   The COM port number is specified in brackets.

## Installing a Single Imaging Frame

Ensure that the frame is properly terminated (refer to the Installation Guide for your Quartet 2 or Symphonie frame).

## Installing Multiple Imaging Frames

A maximum of four Imaging frames (Quartet 2 and Symphonie) can be daisy-chained together. Each individual frame in the daisy chain requires a different serial identification assignment. The last frame in the chain must be terminated (refer to the Installation Guide for your Quartet 2 or Symphonie frame).

# Contact Us

## Miranda Technical Support

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

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