A Miranda Quick-Start Guide

Loudness Monitoring & Analysis Using Kaleido-Solo KS-910

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A **BELDEN** BRAND

Miranda Technologies
3499 Douglas-B.-Floreani
St-Laurent, Québec, Canada H4S 2C6
Tel. 514-333-1772
Fax. 514-333-9828
www.miranda.com

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How to contact us:

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

Americas
Telephone:
+1-800-224-7882
e-mail:
support@miranda.com

Asia
Telephone:
+852-2539-6987
e-mail:
asiatech@miranda.com

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

Europe, Middle East, Africa, UK
Telephone:
+44 1189 523444
e-mail:
eurotech@miranda.com

France (only)
Telephone:
+33 (0) 1 55 86 87 88
e-mail:
eurotech@miranda.com

Visit our web site at www.miranda.com

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Loudness Monitoring and Analysis using the Kaleido Solo KS-910

Introduction

Kaleido-Solo is a compact, standalone 3Gbps/HD/SD video to HDMI converter, which allows low cost LCD displays to be used for video and loudness/dialnorm monitoring. It's ideal for many professional monitoring applications, including production, mobile truck, post-production and broadcast.

An important feature of the KS-910 model is the provision for operators to monitor loudness and dialnorm levels accurately over time, without the cost and complexity of a traditional loudness monitoring device.

Loudness data can be displayed and analyzed in two ways:

- Using the on-board graphing capability, displayed on a monitor fed from the K-Solo's HDMI output.
- Using Miranda's Audio Loudness Analyzer over an iControl interface.

The on-board loudness analysis is fully explained in the Kaleido Solo User's Manual and will not be repeated here, except as excerpted in step 3 of the following.

The purpose of this guide is to consolidate information about using the Audio Loudness Analyzer through iControl to analyze loudness information originating from the Kaleido-Solo. The following tasks will be described:

1. Connecting the Kaleido-Solo to a network
2. Making sure you have the correct firmware version installed on Kaleido-Solo, by verifying, and upgrading if necessary.
3. Setting up the loudness measurement parameters on Kaleido-Solo
4. Managing loudness logging and analysis using iControl.
5. Running the Audio Loudness Analyzer

This guide is deliberately brief, and focused on specific functions of the named products (Kaleido-Solo, iControl, iControl-Solo, Loudness Analyzer). When more information is required, the user should consult the product's User Manual.

- User manuals for Miranda products are available for download at www.miranda.com/support

Task 1 – Connecting Kaleido-Solo to a network

Prerequisites:

If you do not plan to use DHCP for your IP address, obtain the following information from your network administrator:

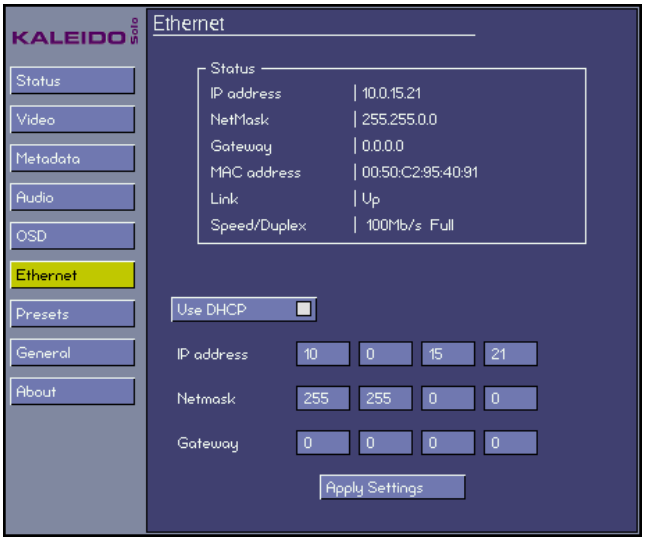
1. *Static IP Address.*
2. *Net Mask.*
3. *Gateway.*

Connect your Ethernet cable to the rear-panel Ethernet port.

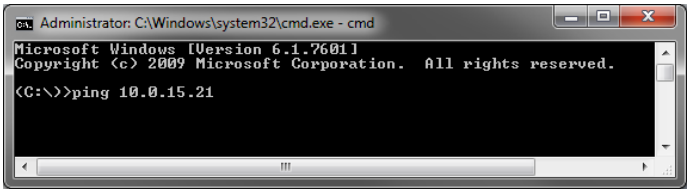
A button refresher: = UP; = DOWN; = ENTER = ESCAPE

View the output of the Kaleido-Solo on a monitor, and press **ENTER** on the Kaleido-Solo front panel to open the menu display.

1. Use **UP** and **DOWN** to navigate to the Ethernet panel.
2. **ENTER** to move into the Ethernet setup page
3. Using the buttons, navigate to the IP address, position the highlight on the address box you want to modify and press **ENTER**.
4. Using the **UP** & **DOWN** buttons set the desired value.
5. Press **ENTER** to confirm the value.
6. Repeat 3 to 5 until all values have been entered.
7. Move to “Apply Settings” and press **ENTER**



From Windows Start Menu, click run, type **cmd** and press <enter> on your keyboard or click **OK** in the Run window.



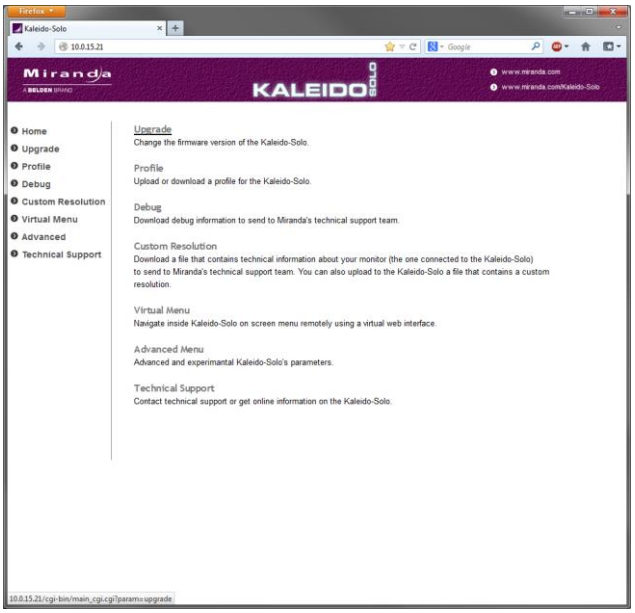
In the DOS Command window type: “ping <your IP Address>” and press <Enter>

- If you receive a response from the Kaleido Solo, it confirms that the IP address was correctly set, and the command window can be closed.

Task 2 – Firmware Verification and Upgrading

Access the Kaleido-Solo's web page:

1. Launch your Internet browser
2. Enter the IP address of your Kaleido-Solo, as set in Task 1.



If the current firmware version is not 400 or above, you must perform a firmware upgrade. An upgrade to the latest version is always a good idea.

1. Go to the Miranda Support site at

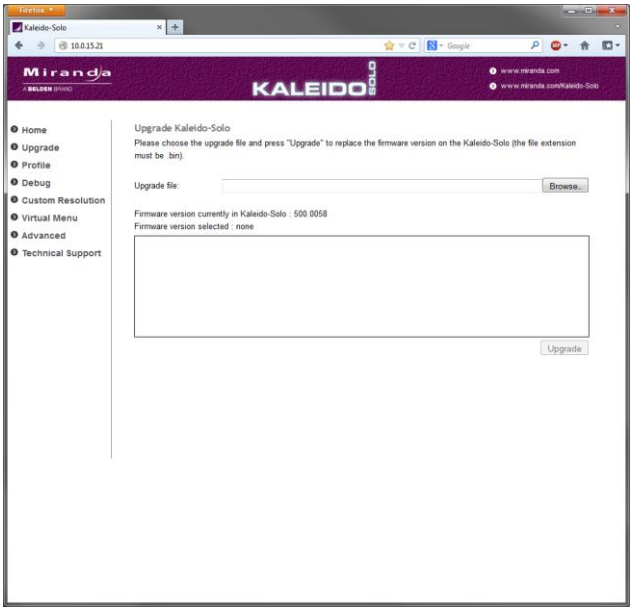
   http://www.miranda.com/support/Kaleido-Solo

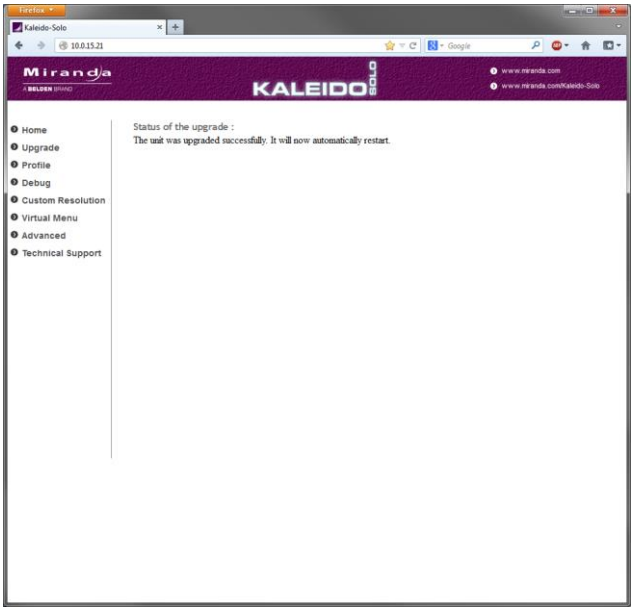
   and download the latest version of the firmware. Unzip the file and save it in a convenient location.
2. Click on the **Browse** button to open the *Choose File to Upload* dialog box. Browse to the upgrade file (.bin file) downloaded and unzipped in 1.
3. Select the file and click **Open**. The file name will appear in the Upgrade File data box, and the Upgrade button will be enabled.
4. Click the **Upgrade** button to begin the upgrade procedure.
5. A pop-up warning will appear, listing things you should NOT do while the Kaleido-Solo is upgrading: When you are ready to proceed, click **OK**.

   The main window will show that the upgrade is in progress, and remind you of the things NOT to do.

   When the upgrade is complete, the main window will notify you that it was successful, and advise you that the Kaleido-Solo will reboot automatically.

   The Kaleido-Solo will reboot.

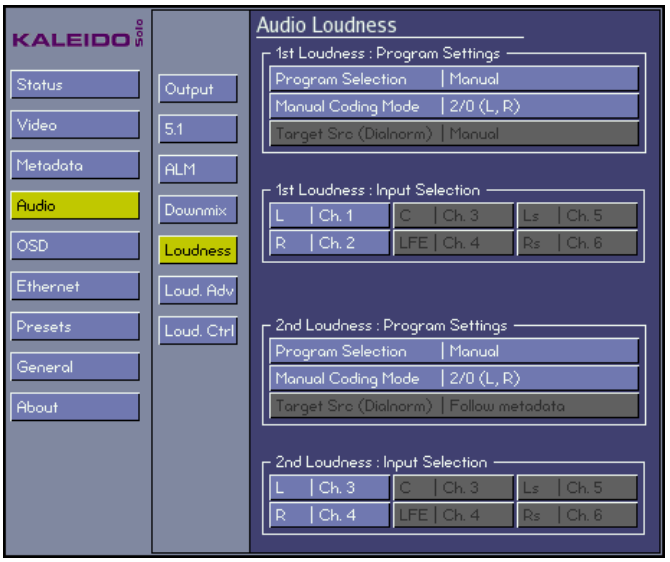




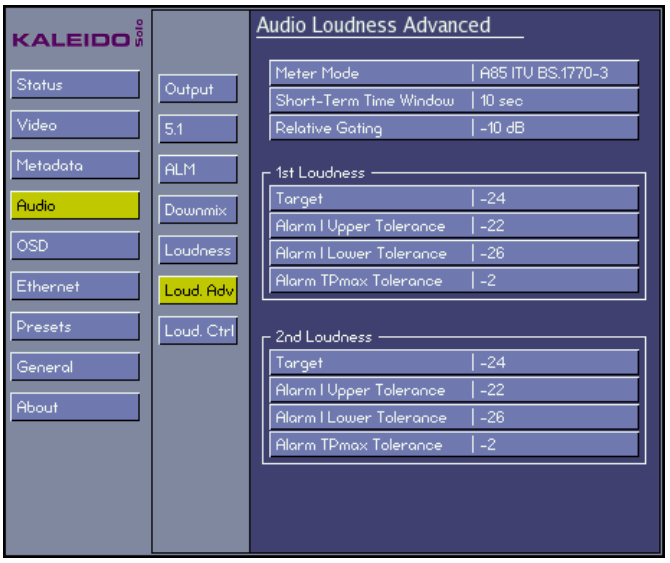
Task 3 – Loudness Measurement Setup on the Kaleido-Solo

The Kaleido-Solo can monitor the audio of two programs at once for loudness measurement.

1. Navigate to Audio | Loudness
2. For each of the two programs (called 1st Loudness and 2nd Loudness), select from among the available options for:
   - Program Selection
   - Coding Mode
   - Target Src
3. Adjust the Input Selection to suit your signal monitoring requirements.



4. Navigate to Audio | Loud Adv
5. Select the Meter Mode for each of the two Loudness measurements, from among these options:
   - EBU Mode R128
   - A85 ITU BS.1770-1
   - A85 ITU BS.1770-2
   - A85 ITU BS.1770-3
   - ARIB TR-B32



6. Navigate to Audio | Loud Ctrl, and make sure the Meter is “Running”.
   - You may need to cycle the Meter through “Paused” and “Running” if the Kaleido-Solo doesn’t begin logging when started in the “Loudness Logger” application (see Step 5).

7. Navigate to OSD | Loudness.
8. Select the on-screen display mode from among these choices:

Off	Disable any loudness chart.
Meter 1	Shows 1 loudness chart with first program settings.
Meter 2	Shows 1 loudness chart with second program settings.
Meter 1-2	Shows 2 compact loudness charts with both first and second program settings.
Full Screen Meter	Shows a special loudness-oriented layout.

See section 5.4.5 in the Kaleido-Solo User Manual for more details about these options.

Task 4 – Managing Loudness Logging and Analysis using iControl

If you are using iControl Navigator, go to page 15.

If you are using iControl Solo, proceed as follows:

Prerequisites:

Before you can log loudness data and analyze loudness logs from your Kaleido-Solo, you must first make sure certain features and services in iControl Solo are activated.

Instructions can be found on the indicated pages in:

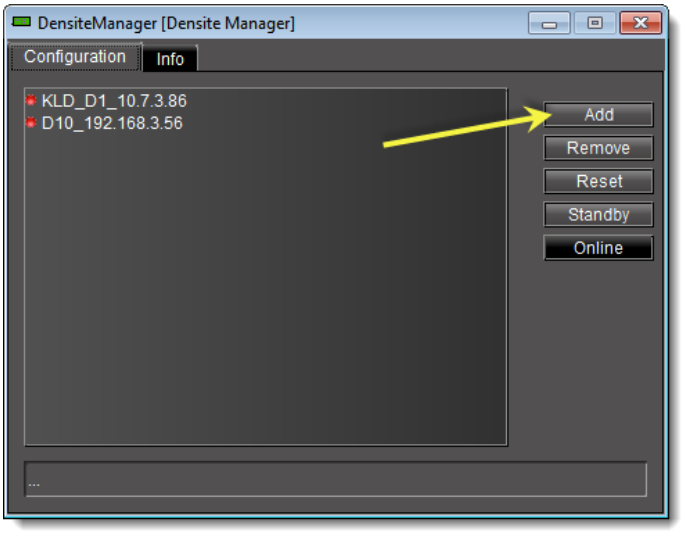
iControl Solo v4.40 User Guide (Miranda document M786-1600-326)

- Obtain and activate license(s) for Loudness logging in iControl Solo (pages 13 to 19). When the license is activated, the window heading for iControl Solo will read “Miranda iControl Solo (Loudness version)”
- Because log files can become very large, Miranda recommends that you mount a remote shared hard drive to the designated loudness folder in your Application Server (pages 28 and 29).

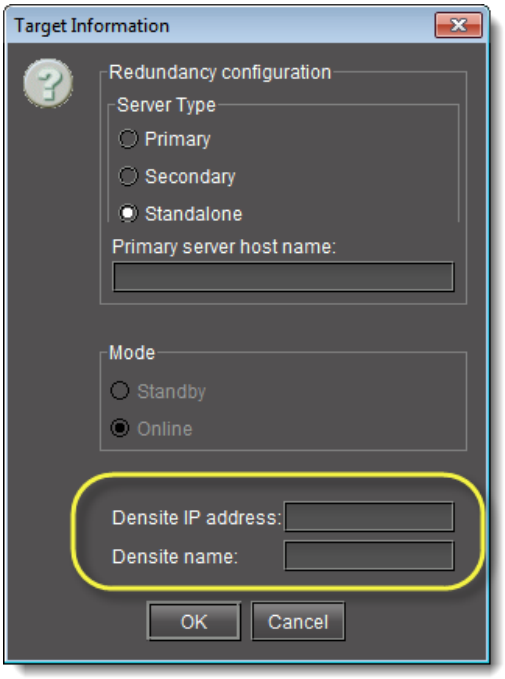
The iControl Solo User Guide is available at Miranda Support Portal at //www.miranda.com/support/

1. Open iControl Solo on your desktop and double-click **DensiteManager** in the logical view.

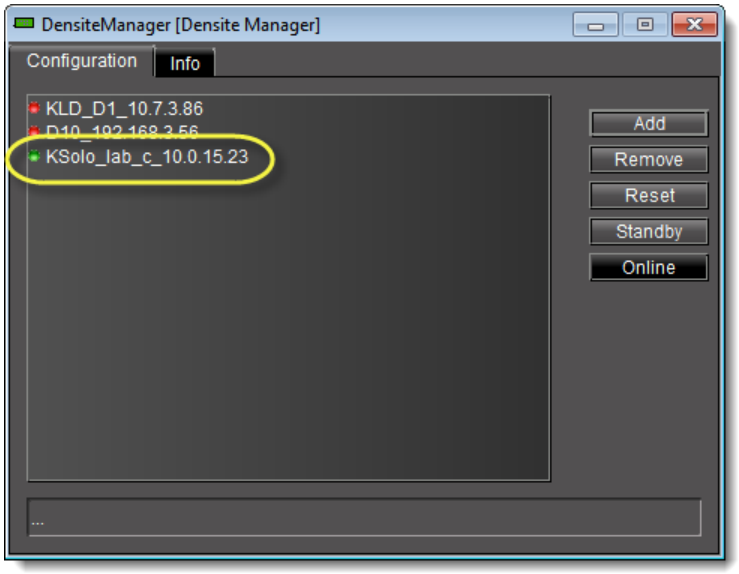
2. In DensiteManager, click **Add**.



3. In the Target Information window, type the Kaleido-Solo's IP address, and a descriptive name for this Kaleido-Solo (NB the boxes are labelled Densite…).

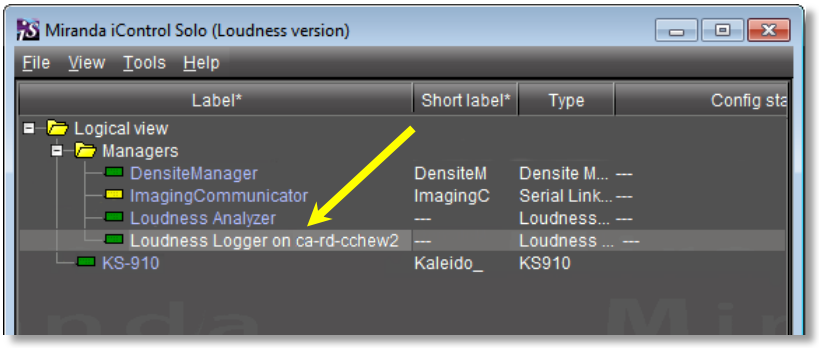


4. Click **OK**. Your Kaleido-Solo will now appear in the DensiteManager window. Its status icon should be green, showing it is online. If not, select it and click the **Online** button on the right.



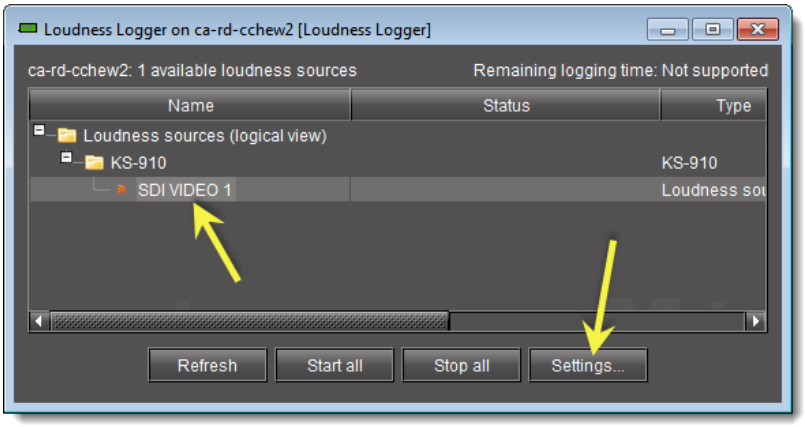
The Kaleido-Solo (named as you specified in #3 above) will be added to the list of controlled devices in the iControl Solo window.

5. Double-click **Loudness Logger**

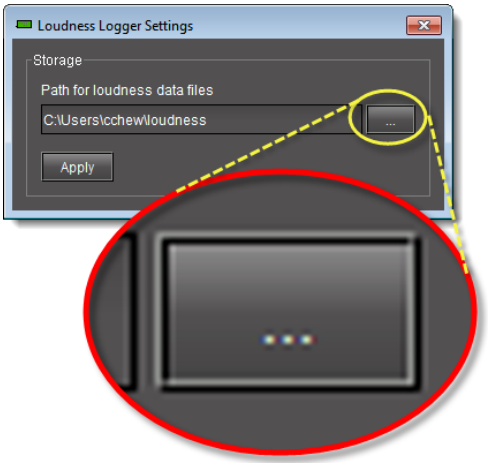


The Loudness Logger window opens, showing a list of loudness monitoring resources, including your KS-910.

6. To specify the location for saving the loudness data, select the KS-910, and then click **Settings**



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



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

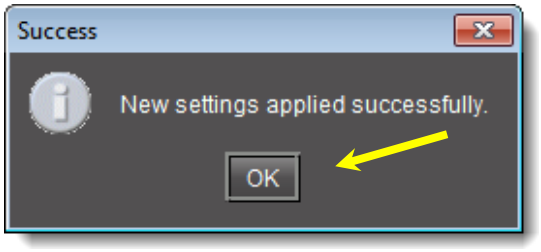
When specifying a location for storing loudness data, make sure you have enough storage space available.

- A Kaleido-Solo logging two audio programs may generate up to 18 MBytes/day of data

If the logger runs out of space when logging loudness data, it will stop logging.

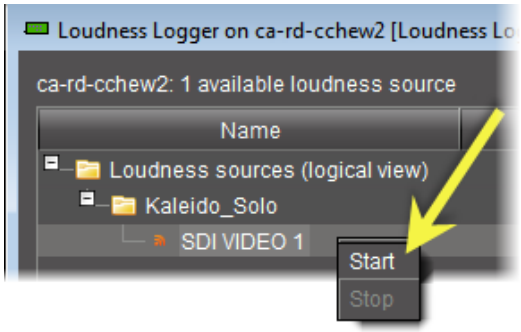
Miranda recommends using a controlled remote storage device to ensure adequate storage space.

8. Click **Apply**. If you choose a valid path, the **Success** message appears.

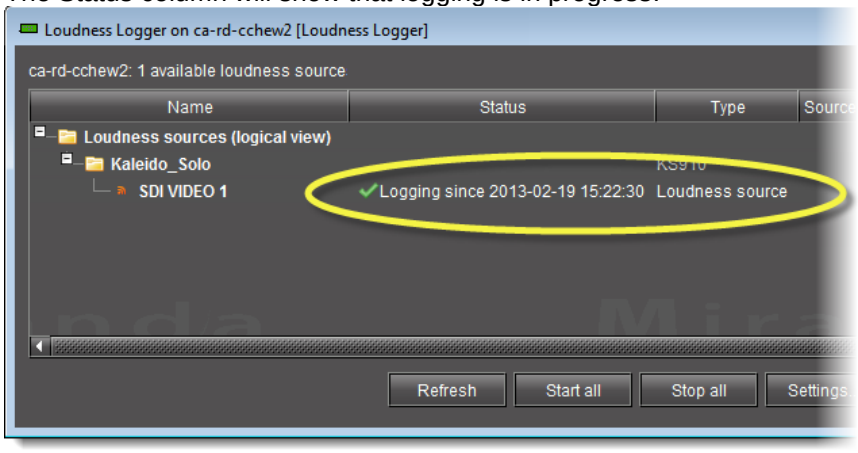


9. Click **OK** to return to the Loudness Logger window.

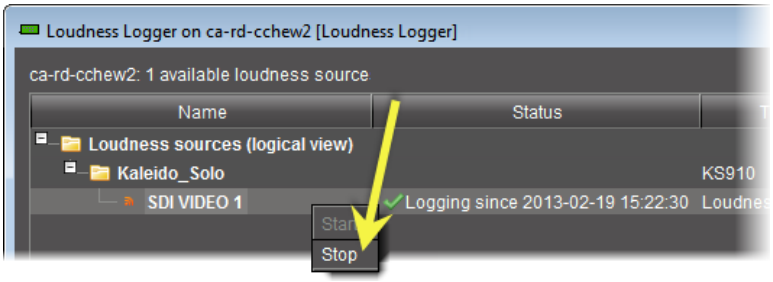
10. To start logging on an individual Kaleido-Solo, right-click on its icon and click **Start**.



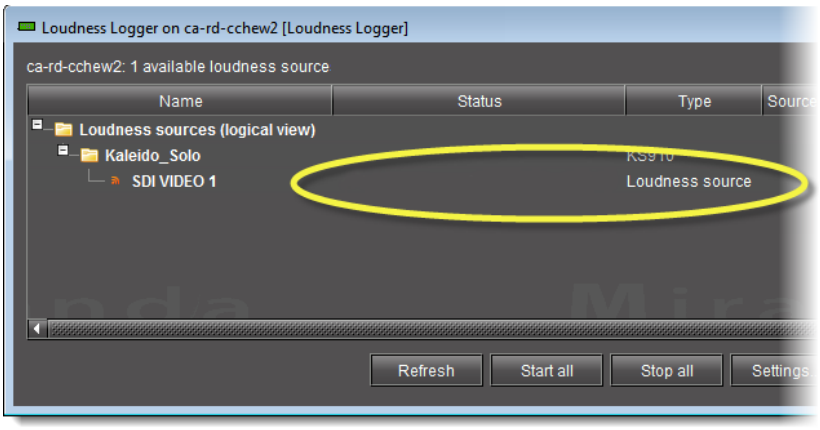
The Status column will show that logging is in progress.



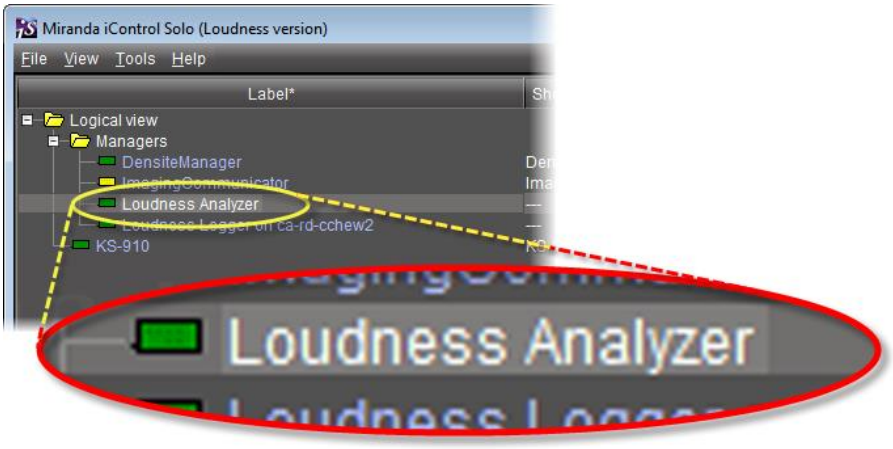
11. To stop logging, right-click on the individual Kaleido-Solo and click **Stop**.



The status column will show that logging is no longer in progress.



12. Close the Loudness Logger window by clicking the red **X** in the upper right corner.
13. In the iControl Solo main window, double–click **Loudness Analyzer**.



Jump ahead to [Task 5 – Using the Audio Loudness Analyzer](#) on page 19.

If you are using iControl Navigator, proceed as follows:

Prerequisites:

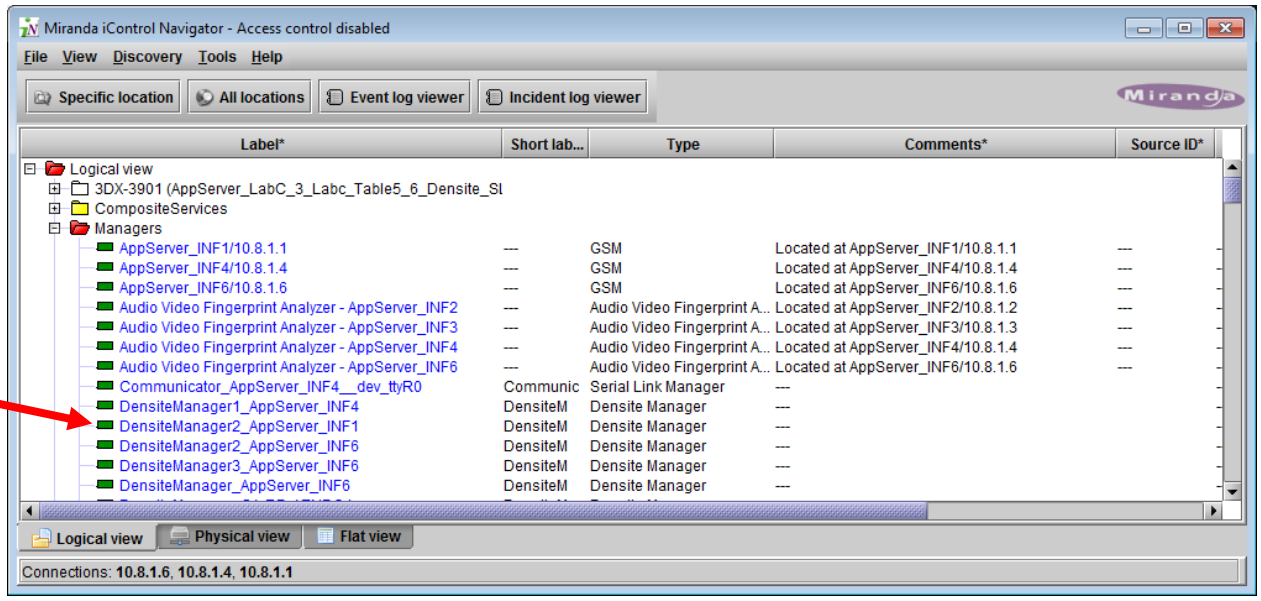
Before you can log loudness data and analyse loudness logs from your Kaleido-Solo, you must first make sure certain features and services in iControl are activated. Instructions can be found on the indicated pages in:

iControl v4.40 User Guide (Miranda document M226-9900-279)

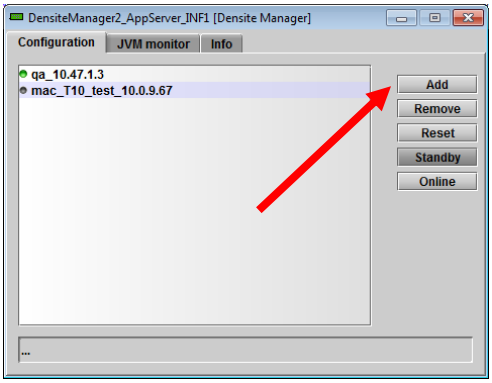
- Start Loudness Logger and Loudness Analyzer services in iControl (pages 196 to 200).
- Start the Densité Manager service in iControl (pages 666 to 669).
- Because log files can become very large, Miranda recommends that you mount a remote shared hard drive to the designated loudness folder in your Application Server (pages 200 to 204).

The iControl User Guide is available at [Miranda Support Portal at //www.miranda.com/support/](//www.miranda.com/support/)

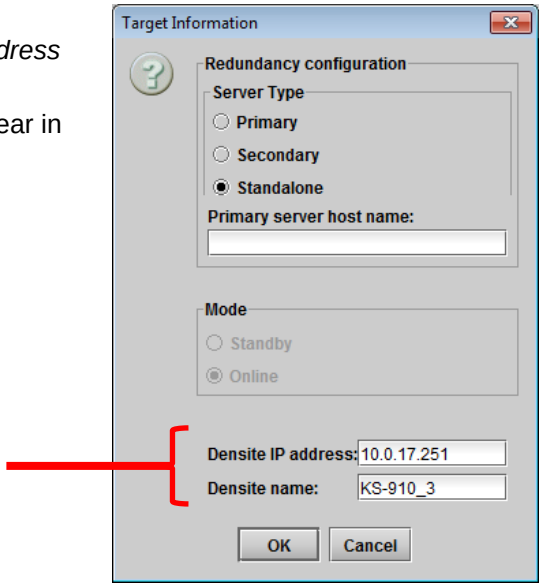
1. Open iControl Navigator on your desktop.
2. Double-click on the **DensiteManager** associated with the Application Server on which you will be logging.



3. Click **Add** in the DensiteManager window

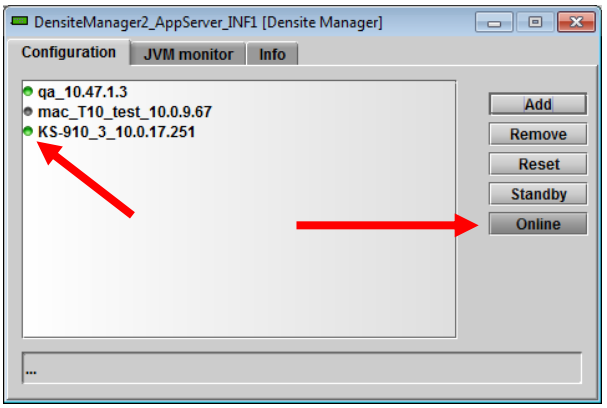


4. In the Target Information window:
   - Enter the IP address of your Kaleido-Solo in the *Densite IP address* data box
   - Enter the name under which you would like the KS-910 to appear in iControl in the *Densite name* databox.
   - Click **OK**



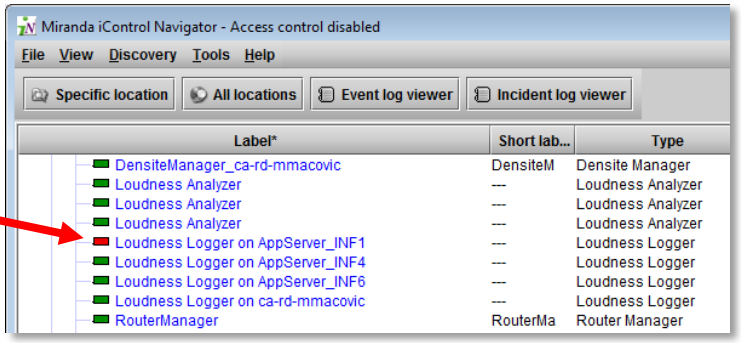
Back in the Densite Manager window, you will see that the Kaleido Solo has been added.

5. Its status icon should be green, showing it is online. If not, select it and click the **Online** button on the right.

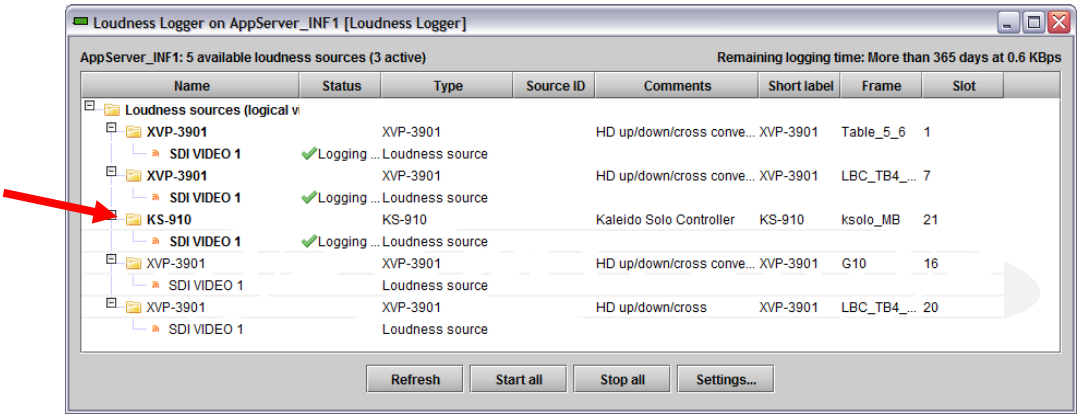


6. Exit the Densite Manager by closing the window (click the red **X** icon in the upper right corner)

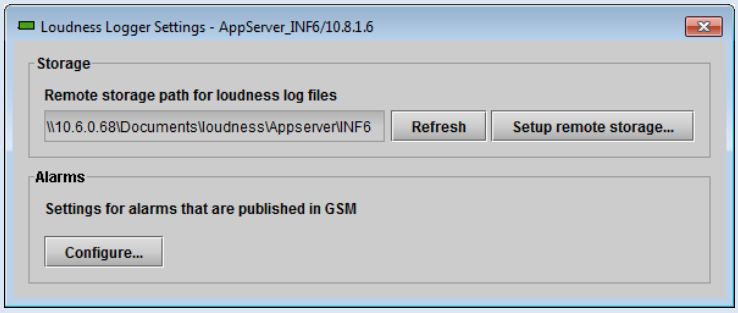
7. Back in the iControl Navigator window, double-click on the **Loudness Logger** associated with the AppServer on which you will be logging.



A list of loudness monitoring resources will appear, including your KS-910.



Important note: If you followed the set-up process above, you will have established the path to the loudness log storage and both the Loudness Logger and the Loudness Analyzer will use it. If you experience difficulties, click the **Settings…** button to open the Loudness Logger Settings screen, which shows the path, and provides a link back to the setup process. This screen also allows you to configure alarm settings for the Loudness Logger.



8. To start logging on an individual Kaleido-Solo, right-click on its icon and click **Start**

   Alternatively, to start logging on all the loudness sources in the display, click the **Start all** button.

   Look under “Status” and verify that logging is in progress.

9. To stop logging on an individual Kaleido-Solo, right-click on its icon and click **Stop**

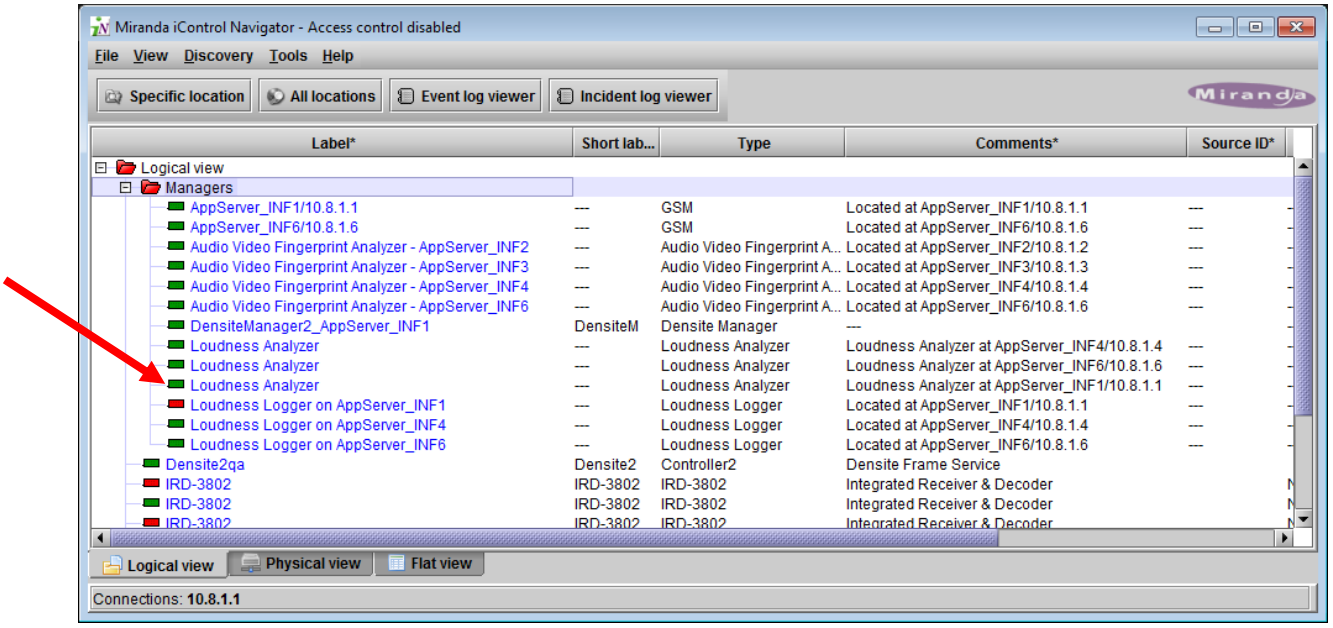
   Alternatively, to stop logging on all the loudness sources in the display, click the **Stop all** button

   Look under “Status” and verify that logging is no longer in progress.

10. Close the Loudness Logger window by clicking the red **X** icon in the upper right corner.

11. In the iControl Navigator main window, double–click **Loudness Analyzer**.

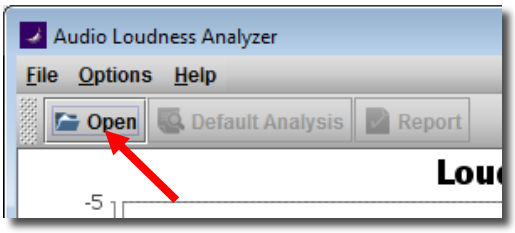
    There may be several Loudness Analyzers available; choose the one associated with the AppServer on which you installed the KS-910 and on which the logging was initiated. This will ensure that you have easy access to the log files.



Task 5 – Using the Audio Loudness Analyzer

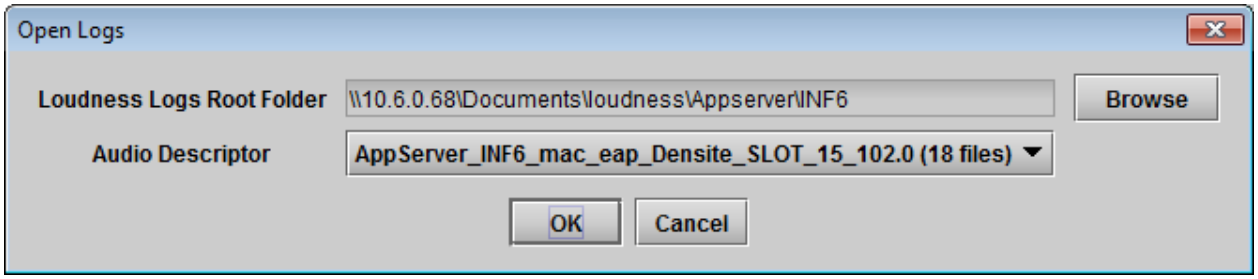
The Audio Loudness Analyzer processes the log files saved from the Kaleido-Solo, as described above.

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



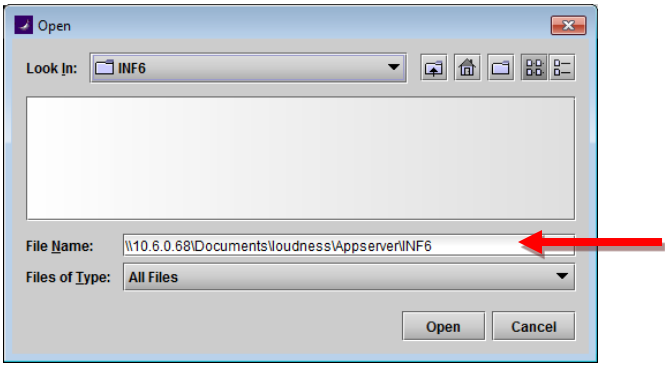
The Open Logs window appears.

If you have followed the steps above, the path shown in the *Loudness Logs Root Folder* databox should be the same as the path you see in the Settings window for the loudness Logger in Task 4 above.

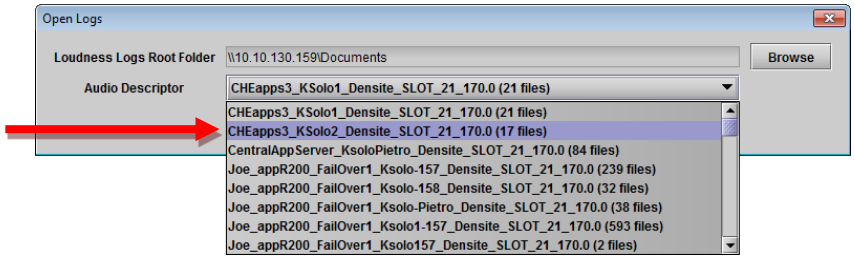


If the path is not the same, you may click **Browse** and navigate to the correct folder.

- In the *Folder Name* box In the *Open* window, type the path to the directory on the NAS drive containing the loudness data.



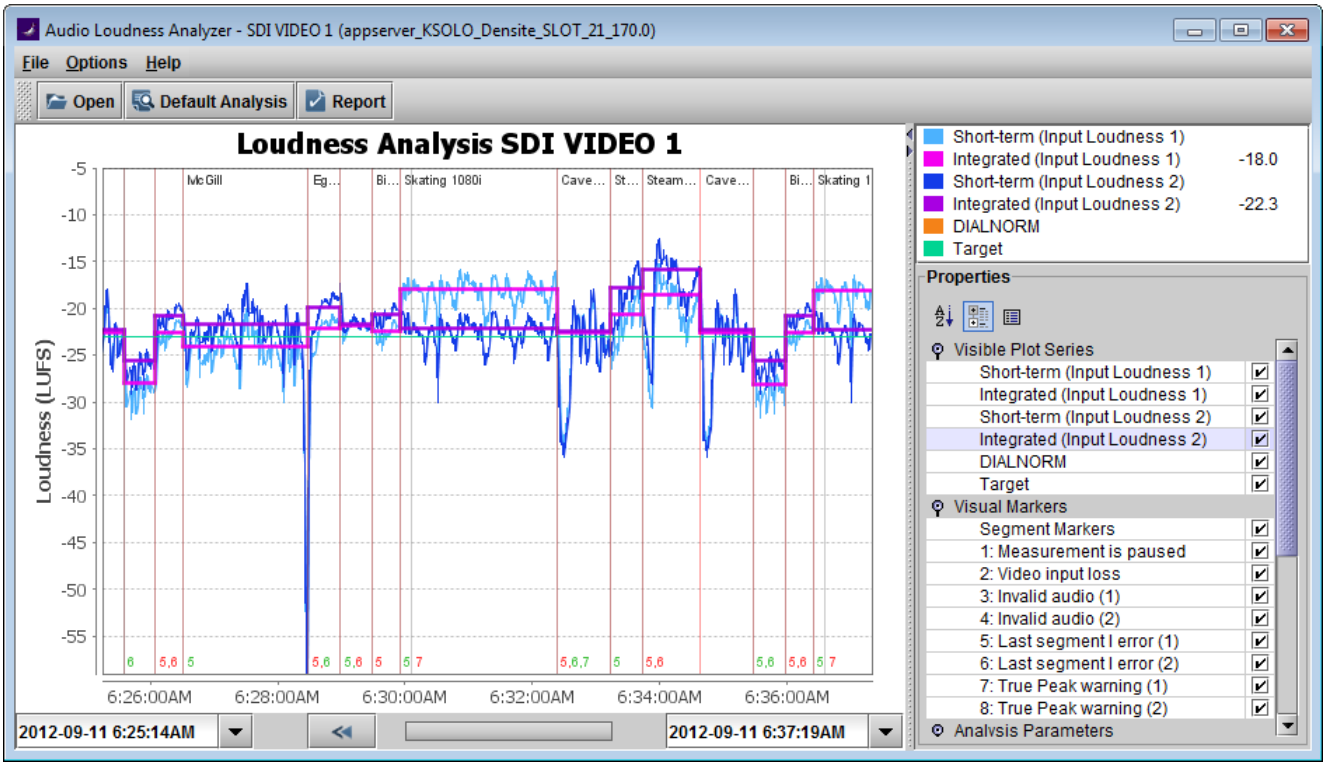
2. In the Open Logs window, in the Audio Descriptor pulldown, click the loudness data set you wish to analyze.



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

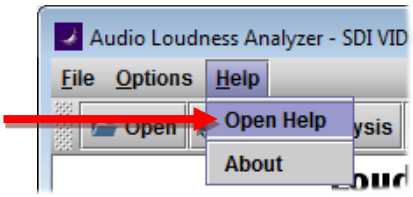
3. In the Open Logs window, click **OK**.

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



The complete user manual for the Audio Loudness Analyzer is available from the Help menu.

1. Pull down Help and click **Open Help** to see the manual
2. Consult the manual as necessary to perform the loudness analysis.



If the manual is not available from the Help menu, it may be downloaded from the Miranda support website.

Miranda Support Portal at //www.miranda.com/support/