

This document does not contain information about the LD101

Using this Reference

This Quick Set-Up Reference is supplementary to the SmartWORKS User's Guide. It details essential information about installing a SmartWORKS LD board and establishing connectivity between a board, and customer premises equipment. For information on how to configure the board, refer to the SmartWORKS User's Guide that is included on the product CD-ROM.

To identify and locate board hardware such as LEDs, and jumpers, refer to the information below.

For hardware installation, software installation, and connectivity between a board, the network, and customer premises equipment, refer to the next page.

NOTE: This unit is for use only with compatible UL listed PCs or servers.

Agency Approvals

Agency approvals and homologations are available on the SmartWORKS CD ROM.

LED Descriptions

The SmartWORKS LD409:

- CR17:** DSP LED. The light is on when the processor is running.
- CR18:** PCI LED. This LED blinks while the board is initializing and then will turn off. If the board is reset, the light is on.
- CR19:** This LED is on when the Coldfire processor is running.

SmartWORKS LD809 and LD409H:

- CR33 and CR34:** DSP LEDs. The lights are on when the processors are running. CR33 corresponds to DSP 0, and CR34 corresponds to DSP 1.
- CR37:** TDM LED. This LED is turned ON by the local TDM switch. This light will be ON if H.100 clocks are terminated.
- CR17:** PCI LED. This LED blinks while the board is initializing and then will turn off. If the board is reset, the light is on.
- CR36:** Coldfire processor. This LED is on when the processor is running.

SmartWORKS LD809X, LD1609 and LD2409:

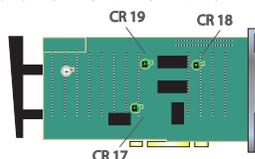
- CR1-6 (CR1-3 on 1609):** DSP LEDs. The lights are on when the processors are running. CR33 corresponds to DSP 0, and CR34 corresponds to DSP 1.
- CR9:** TDM LED. This LED is turned ON by the local TDM switch. This light will be ON if H.100 clocks are terminated.
- CR17:** PCI LED. This LED blinks while the board is initializing and then will turn off. If the board is reset, the light is on.
- CR8:** Coldfire processor. This LED is on when the processor is running.

System Requirements

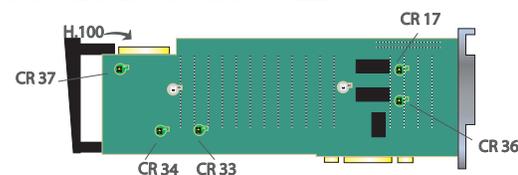
The computer must meet the following requirements prior to installing the SmartWORKS LD:

Hardware System Requirements:	Operating Systems:
<ul style="list-style-type: none"> · Pentium IV or equivalent 400 MHz or better · ATX PCI motherboard or passive backplane with 3.3V ATX power supply · PCI 2.2 bus 	<ul style="list-style-type: none"> · Windows 2000 SP 3 · Windows XP SP 1 · Windows 2003 Server 32-Bit · Linux (Call for availability)

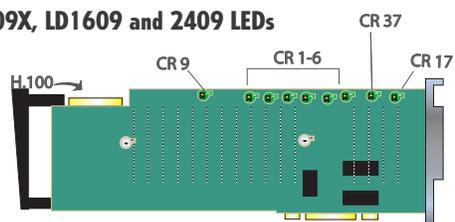
SmartWORKS LD409 LEDs



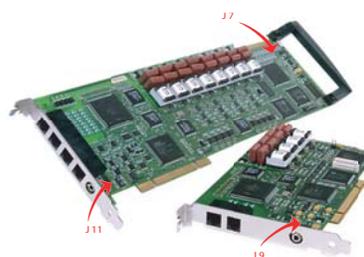
SmartWORKS LD409H and 809 LEDs



SmartWORKS LD809X, LD1609 and 2409 LEDs



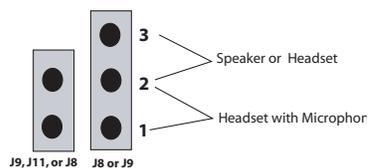
Jumper Locations



TDM Clock Termination (J7) is located by the H.100 bus.

Microphone jumper: Provides power to microphone:

- J 9 - LD409
- J11 - LD409H and LD809
- J8 - LD809X, LD1609 and LD2409



J8: Audio jack connector, a three pin jumper. Close pins 2 & 3 to use with a headset. Close pins 1 & 2, when a headset has a microphone. (This is jumper J9 on the LD809X, LD1608 and LD2409 boards).

Hardware and Software Installation

Switch off the power and remove power cords before opening the computer case. Do not re-attach power cords or switch on power to the computer while the computer case is removed.



Exercise ESD Precautions: Wear an ESD wrist strap.

Install the Card: Secure the card in a PCI slot with a chassis screw.

After the PC is powered back on cancel out of the Windows "Found New Hardware" screen. Place the SmartWORKS CD into the CD ROM and allow the board installation to finish. If multiple boards are connected with a MVIP or H.100 cable, they must be configured as Master or Slave. Refer to the *SmartWORKS Developer's Guide* for more information.

Adding an additional SmartWORKS board to an existing system MAY impact the board and channel numbering of all boards. Refer to the *SmartWORKS Developer's Guide* for more information.

Install the Software:

Choose Products > SmartWORKS Series > Install Software > Install Software.

When prompted, select **Automatically Upgrade Firmware** and **Configure Boards**. For configuration details, refer to the SmartWORKS User's Guide.

The computer must be re-booted each time a new AudioCodes board or SmartWORKS software is installed.

Set Impedance:

Open the SmartControl Panel Applet (located on your PC's Control Panel).

Select the Parameters tab, then set the *OffHookImpedance* to match your network: FCC, ETSI, Australia, or China.

NOTE: When changes are made in the Control Panel board drivers must be restarted for the changes to take effect. Use the Windows Device Manager to restart board drivers or reboot the PC.

Verify Setup

1. Run the SmartWORKS Control Panel.
2. Click on the **Board** tab. Select the board number that represents the LD board. Verify that the board information is displayed correctly.
3. Click on the **System** tab. Verify that the settings are correct.

Set Line Voltage Parameters

1. Run the SmartView (Start menu select, **Programs>Ai-Logix>SmartWORKS>SmartView.exe**).
2. From the toolbar, select **Settings** then select **MT(Get/Set)LV(Params/Detect)...**
3. View current voltage, if positive, go to step 8, if negative continue with step 4.
4. Close the Loop Voltage screen.
5. Choose **Settings** then select **MT(Get/Set)ReverseLoopPolarity...**
6. Change to *Reverse* and select the OK button. Close the Loop Polarity screen.
7. Choose **Settings** then select **MT(Get/Set)LV(Params/Detect)...**
8. Set *Threshold low* to 4 and *Threshold high* to 16. (This is a recommended setup for 24V systems, ensure your offhook state is above threshold high and your offhook is between 4-16.)

NOTE: AudioCodes recommends that the maximum cable length from the tap point to the LD card does not exceed 500 feet.

Verify Events

Run SmartView: From the Start Menu select **Programs > Ai-Logix > SmartWORKS > SmartView.exe**.

Open Channels: From the Tool Bar, select **System > MTSysStartup**. This will open the board and all channels. Verify that an analog phone line (terminate configuration) or analog phone (passive configuration) is connected to the first channel.

At this point, the system is set up to operate and capture events. Do the following:

1. Highlight the first channel using the SmartView Interface.
2. From the Tool Bar select **Settings > MT(Get/Set)EventFilters...** Using the check boxes, enable all the events.
3. Terminate: Using an external phone, place a call into the phone line connected to the first channel.
Passive: Place a call on the analog phone connected to the monitored channel.
4. Verify events are present in the SmartView Event Viewer window.

If no events are generated - verify the following:

1. Check your connections and verify that the wiring matches the Tip & Ring schematic provided.
2. Use another channel to verify that it is not a bad channel.

Check Recording:

1. Using SmartView, highlight the first channel.
2. Place a call (passive) or call into the first channel (terminate) and keep the line open.
3. From the Tool Bar select, **Media > MTRecFile...**

Set the following:

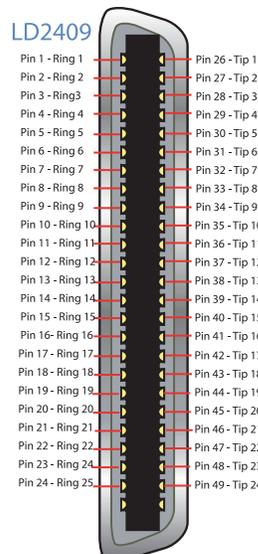
- File Name: [Filename].wav - the .wav extension must be appended to the file name
- Data Format: This must be set as MSGSM.
- Click the Advanced button: Under the MS Wave Option, select **RIFF Format**.

4. Stop recording: from the toolbar select **Channel Functions > MTStopChannel**.

5. You can play this back using any standard Media Player.

If the recording contains static or noise:

1. View the tap connection and verify that there are no loose lines.
2. Check whether the actual phone line contains static, it may just be a bad line.
3. Send the recording to AudioCodes for evaluation.



On the LD1609 board, pins 1 to 16 and pins 26 to 41 are used.

On the LD809X board, pins 1 to 8 and pins 26 to 33 are used.

To prevent cross-talk, channels that are not physically connected to a line should remain closed within your application.

