



MANUAL PART NUMBER: 400-0430-001

DA203-101

1-IN 1-OUT LINE DRIVER WITH EQUALIZATION + AUDIO USER'S GUIDE

ALFINEX

SIGNAL
MANAGEMENT
SOLUTIONS

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PRECAUTIONS / SAFETY WARNINGS 1

Please read this manual carefully before using your **DA203-101** Line Driver. Keep this manual handy for future reference. These safety instructions are to ensure the long life of your **DA203-101** and to prevent fire and shock hazard. Please read them carefully and heed all warnings.

1.1 GENERAL

- Unauthorized personnel shall not open the unit since high-voltage components are inside.
- Qualified ALTINEX service personnel, or its authorized representative must perform all service.

1.2 GUIDELINES FOR RACK-MOUNTING

- Maximum operating temperature is 35°C.
- Distribute the units evenly. Otherwise, hazardous conditions may be created by an uneven weight distribution.
- Connect the unit to a properly rated supply circuit.
- Reliable grounding of rack-mounted equipment should be maintained.

1.3 INSTALLATION

- For best results, place the **DA203-101** on a flat, level surface in a dry area away from dust and moisture.
- To prevent fire or shock, do not expose this unit to rain or moisture. Do not place the **DA203-101** in direct sunlight, near heaters or heat-radiating appliances, or near any liquid. Exposure to direct sunlight, smoke, or steam can harm internal components.
- Handle the **DA203-101** carefully as dropping or jarring can damage internal components.
- Do not place heavy objects on top of the **DA203-101**.
- To turn off the main power, be sure to remove the cord from the power outlet. The outlet should be installed as near to the equipment as possible, and should be easily accessible.

- Do not pull the power cord or any cable that is attached to the **DA203-101**.
- If the **DA203-101** is not used for an extended period, disconnect the power cord from the power outlet.

1.4 CLEANING

- Unplug the **DA203-101** power cord before cleaning. Clean surfaces with a dry cloth. Never use strong detergents or solvents, such as alcohol or thinner. Do not use a wet cloth or water to clean the unit.

1.5 FCC / CE NOTICE

- This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
- This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their expense.
- Any changes or modifications to the unit not expressly approved by ALTINEX, Inc. could void the user's authority to operate the equipment.

ABOUT YOUR DA203-101

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DA203-101

1-In 1-Out Line Driver with Equalization + Audio

The **DA203-101** is a multi-purpose RGBHV Line Driver, Ground Loop Isolator, and Sync Processor. As a Line Driver, the **DA203-101** offers a single output (5-BNC connectors for RGBHV). It will also accept RGSB, RGsB, Component Video (Y, R-Y, B-Y), S-Video, and Composite Video signals using the appropriate channels. The **DA203-101** does not convert one signal format to another. If a Component Video signal is the input, a Component Video signal is the output. In the case of RGBHV and RGSB input signals, the available outputs are RGBHV or RGSB.

Used to compensate for loss over long runs of coaxial cable, the **DA203-101** may be installed alone, with an interface, or with additional **DA203-101** units depending on system requirements. Typically, the **DA203-101** might be used at the end of a cable run with an interface at the head-end of the run.

The **DA203-101** is engineered for custom signal alignment, enabling it to be modified to handle cable runs of 300 feet or more. The **DA203-101** is compact and streamlined, making it easy to fit virtually anywhere in a system.

In an audiovisual system, when different pieces of equipment operating from different power sources are connected, a ground loop can potentially occur, usually causing a hum bar to roll from top to bottom over a display image. Severe ground loops can cause damage to equipment. The **DA203-101** is designed for installation between these pieces of equipment to eliminate a ground loop problem. The common mode range of the **DA203-101** is +/-2V with a video signal of 1V p-p. The **DA203-101** may also be used as a ground loop isolator for up to three different composite video signals, using red, green, and blue channels.

Ultimately, the **DA203-101** acts as a sync processor, allowing you to combine horizontal and vertical sync into composite sync or split a composite sync into separate horizontal and vertical syncs. Moreover, the **DA203-101** incorporates the ability to control the sync detection threshold allowing for even greater flexibility.

TECHNICAL SPECIFICATIONS

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FEATURES/DESCRIPTION	DA203-101
GENERAL	
Inputs	
Video Connectors	BNC Female (5)
Audio Connector	3.5mm Stereo Jack (1)
Power Connector	DC Power Jack (1)
Outputs	
Video Connectors	BNC Female (5)
Audio Connectors	5-Pin Terminal Block (1)
Compatibility	
Signal types	RGBHV, RGSB, RGsB, YPbPr, S-Video & C-Video
Resolutions - PC	VGA through UXGA
Resolutions - HDTV	480p,576p,720p,1080i
Television Standards	NTSC, PAL, SECAM

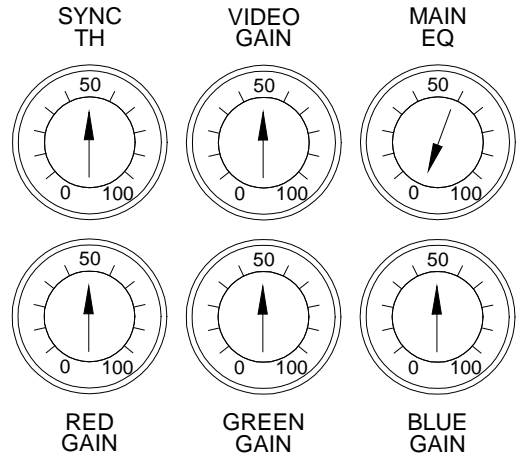
Table 1. **DA203-101** General

MECHANICAL	DA203-101
Material	0.091" Al
Finish	ALTINEX Black
Height	1.0in (25mm)
Width	5.2in (132mm)
Depth	4.3in (109mm)
Weight	1.0 lb (0.45 kg)
Panel Material	0.047" Al
Panel Finish	Black Anodized
T° Operating	10°C-50°C
T° Maximum	75°C
Humidity	90% non-condensing
MTBF (calc.)	38,000 hrs

Table 2. **DA203-101** Mechanical

SPECIAL APPLICATION

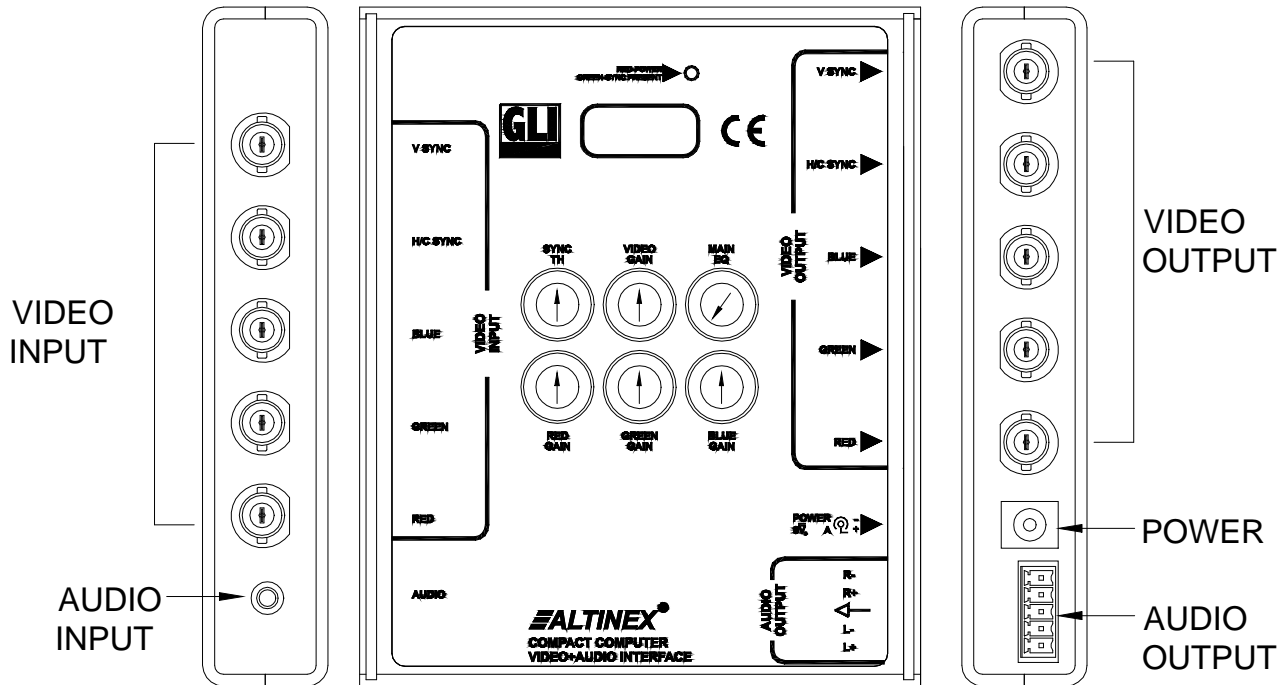
ELECTRICAL	DA203-101
Input Video	
Analog Level	1.5Vp-p max.
Analog Impedance	75 Ohms
Sync Level	TTL
Sync Impedance	4.7k Ohms
Input Audio	
Unbalanced Level In	0dBu
Impedance	10k Ohms
Output Video	
Analog Level	0dB Gain
Analog Impedance	75 Ohms
Sync Level	TTL
Sync Impedance	75 Ohms
Output Audio	
Unbalanced Level	0dB Gain
Impedance	50 Ohms
Power	
External 9V, 1.1A	800mA max.
Power	7.2W



ADJUSTMENTS
(Default positions are shown.)

Table 3. DA203-101 Electrical

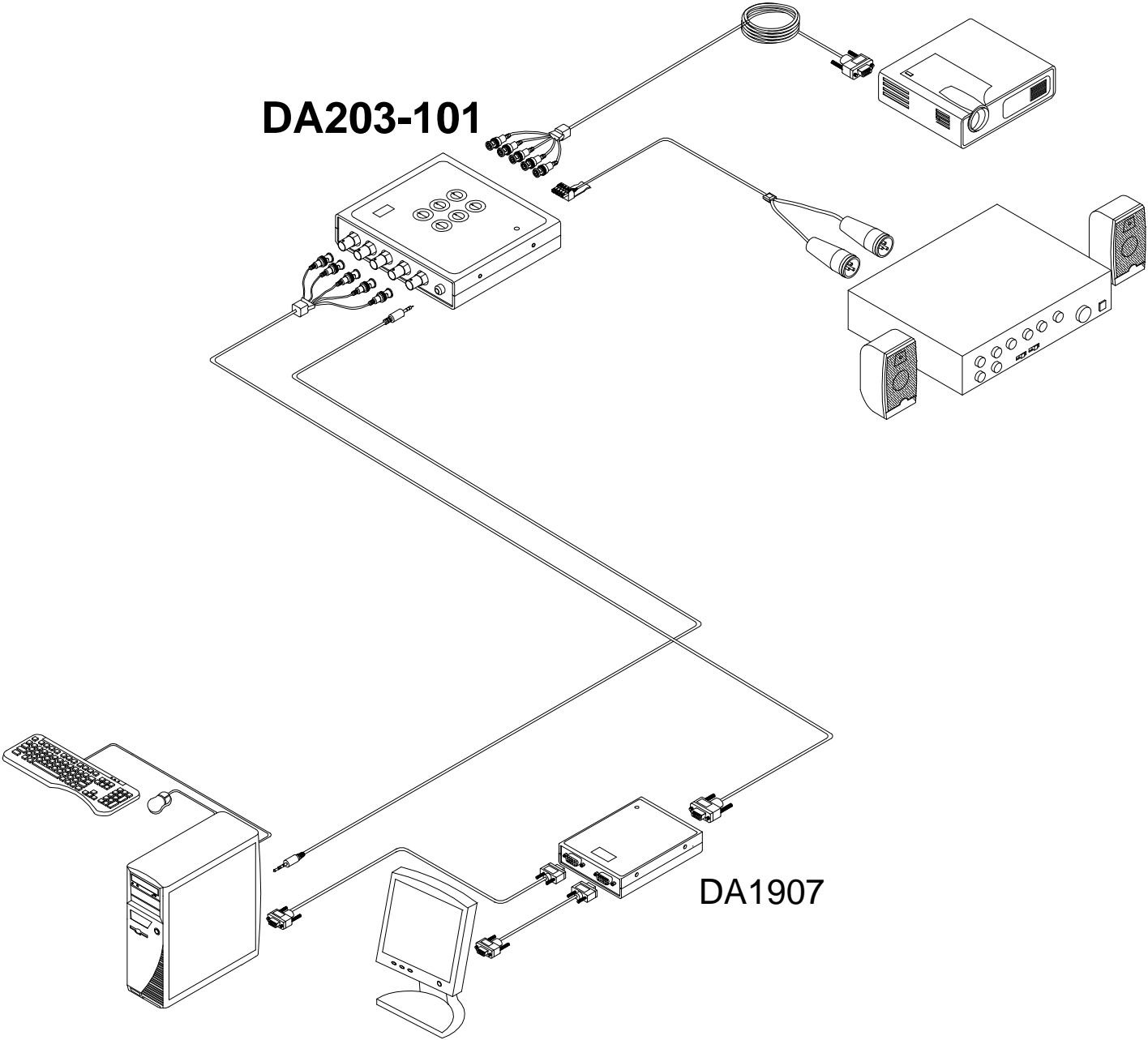
DESCRIPTION OF DA203-101 4



APPLICATION DIAGRAMS

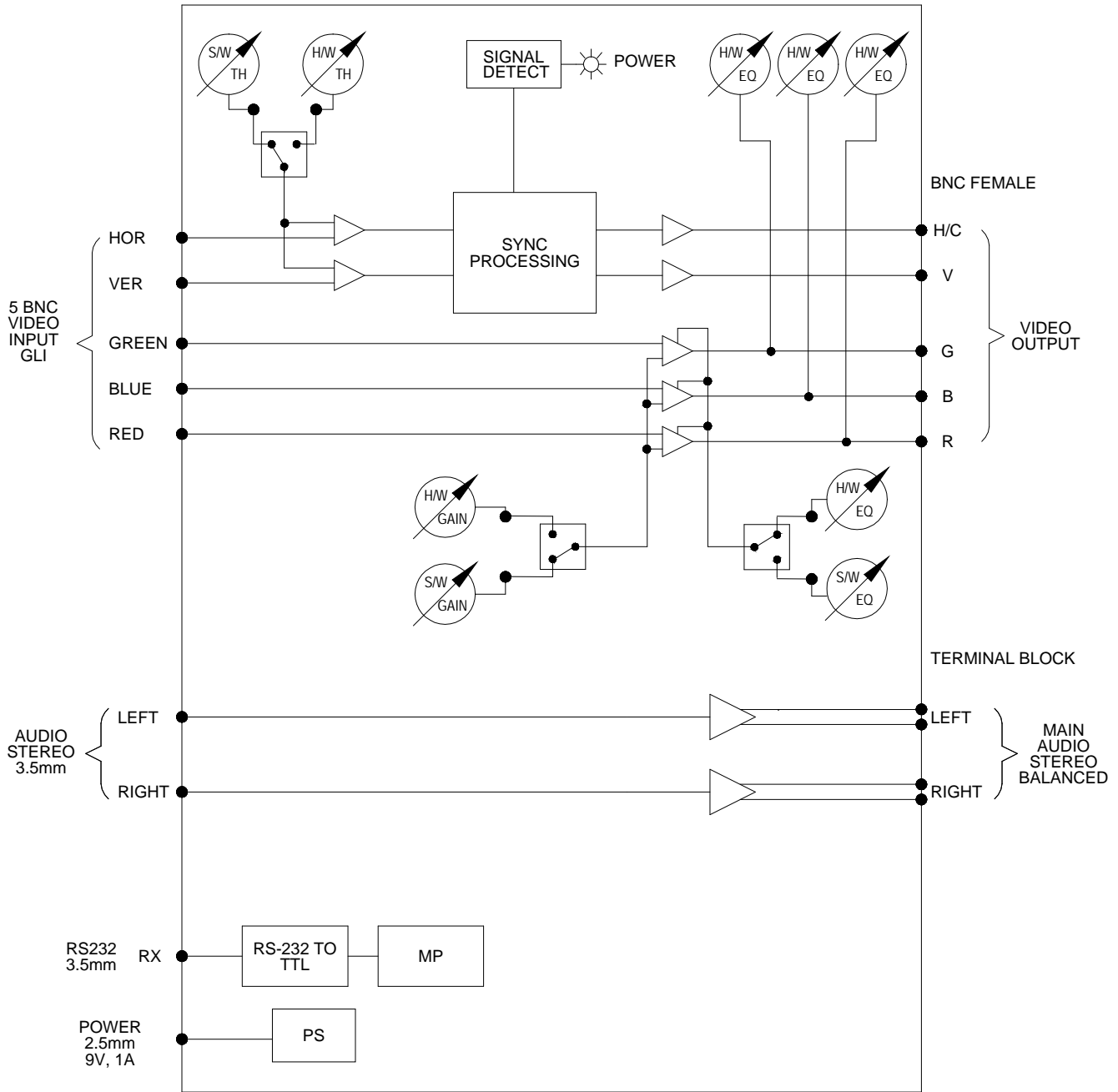
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DIAGRAM 1: TYPICAL SETUP



SPECIAL APPLICATION

DIAGRAM 2: INTERNAL VIEW



INSTALLING YOUR DA203-101 6

- Step 1.** Make sure that the correct power adapter is connected to the unit. The **DA203-101** uses a 9V 1.1A power supply.
- Step 2.** Connect the cables from the video source (computer) to the appropriate input channels.
- Step 3.** Connect the audio source to the audio input on the **DA203-101** using a standard 3.5mm plug.
- Step 4.** Connect the output channels to the display device (monitor, projector, etc...).
- Step 5.** Connect the balanced audio output to the input of the speakers, amplifier or other audio device.
- Step 6.** Check the image quality on the display.

If the **DA203-101** is working to eliminate a specific ground loop problem, make sure that all visible interference has been eliminated. If the problem persists, the ground loop may involve more than just the two pieces of equipment, which are interconnected.

If the **DA203-101** is used for general preventative measures, your image should remain stable and interference free. Due to potential changes in any power/ground system, the **DA203-101** works to eliminate potential ground loop interference problems.

- Step 7.** Adjust the available settings for the best image quality. The default settings are:

SYNC TH	= 50	RED GAIN	= 50
VIDEO GAIN	= 50	GREEN GAIN	= 50
MAIN EQ	= 0	BLUE GAIN	= 50

NOTE: Some monitors are very sensitive to the sync settings. Start this adjustment from the 50 position and adjust the potentiometer slowly allowing the monitor to respond to the changes in sync pulses.

OPERATION 7

The **DA203-101** will operate successfully as long as cables are attached properly and other technical specifications are followed.

The adjustments on the **DA203-101** Line Driver are available to fine-tune the output image and to help compensate for errors in picture quality, cable quality, cable length and variations in equipment.

7.1 ADJUSTMENTS

SYNC TH

The SYNC THRESHOLD adjustment allows changes to be made in the timing of the sync pulses. Use caution when adjusting this potentiometer since some monitors may lose sync after only minor adjustments. Always start this adjustment with the potentiometer set to the 50 position and make adjustment in small increments.

MAIN EQ

The MAIN EQUALIZATION adjustment allows compensation for very long cable runs or cables that have higher than expected loss over the length of the cable. Set this potentiometer to zero for short cable runs and as a starting point for adjusting for long cable runs.

VIDEO GAIN

The VIDEO GAIN adjustment allows the output levels on the red, green and blue outputs to be adjusted above and below their input level. This adjustment affects all three outputs equally. Unity gain is achieved by setting all four of the gain potentiometers to the 50 position.

RED, GREEN and BLUE GAIN

The RED, GREEN and BLUE GAIN adjustments allow the output level on any of the red, green or blue outputs to be adjusted above and below its input level. Each adjustment affects only one output level. Unity gain on an individual output is achieved by setting its potentiometer, as well as the VIDEO GAIN potentiometer, to the 50 position.

TROUBLESHOOTING GUIDE 8

We have carefully tested and have found no problems in the supplied **DA203-101**. However, we would like to offer suggestions for the following:

8.1 NO DISPLAY

Cause 1: The source has a problem.

Solution: Check the source and make sure that there is a signal present and all source connections are correct. If the source is working and there is still no display, see Cause 2.

Cause 2: The path has a problem.

Solution: Connect the source directly to the display device, bypassing the **DA203-101**. If the image is good, see Cause 3.

Cause 3: Cable connections are incorrect.

Solution: Make sure that cables are properly connected. Also, make sure that the continuity and wiring are good. If there is still no display present, see Cause 4.

Cause 4: An adjustment is out of tolerance.

Solution: Make sure the SYNC TH is set to 50 and that the MAIN EQ is set to zero. Slowly adjust the SYNC TH up and down from 50 to see if the image appears. If there is still no display, see Cause 5.

Cause 5: The display has a problem.

Solution: Make sure the display has power and is turned on. If there is still no display, please call Altinex at (714) 990-2300.

8.2 NO SOUND

Cause 1: The source has a problem.

Solution: Check the source and make sure that it is working at an appropriate volume level and all source connections are correct. If the source is working and there is still no sound, see Cause 2.

Cause 2: Cable connections are incorrect.

Solution: Make sure that cables are connected properly. Also, make sure that the continuity and wiring are good. If there is still no sound present, see Cause 3.

Cause 3: Destination amplifier has a problem.

Solution 1: Make sure that the destination amplifier is powered. If there is still no sound, see Solution 2

Solution 2: Set the volume of the destination amplifier to a reasonable level. If there is still no sound, call ALTINEX at (714) 990-2300.

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9.1 LIMITED WARRANTY/RETURN POLICY

Please also see the Altinex website at www.altinex.com for details the on warranty and return policies.

9.2 CONTACT INFORMATION

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