



MANUAL PART NUMBER: 400-0008-004
PRODUCT REVISION: 8

DA1910SX

COMPACT ANALOG INTERFACE

USER'S GUIDE

INTRODUCTION

Thank you for purchasing the **DA1910SX** Compact Analog Interface. We are sure you will find it a reliable and useful product.

Superior performance for the right price backed by solid technical and customer support is what we have to offer.

The product you are holding in your hands is designed using state-of-the-art technology and is superior to anything available on the market. You will find this and our other products reliable, long lasting, and simple to operate.

We are committed to providing our customers with solutions to the most demanding audio-visual installations at very competitive pricing.

We appreciate your selection of our products and are confident that you will join the ranks of our many satisfied customers throughout the world.

This manual covers:

- DA1910SX** VGA – Pack
- DA1910SX** MAC – Pack
- DA1910SX** SUN/SGI – Pack
- DA1910SX** RGB – Pack
- DA1910SX** Combo – Pack
- DA1910SX** Super – Pack

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PRECAUTIONS / SAFETY WARNINGS 1

Please read this manual carefully before using your **DA1910SX** Interface. Keep this manual handy for future reference. These safety instructions are to ensure the long life of your **DA1910SX** and to prevent fire and shock hazard. Please read them carefully and heed all warnings.

1.1. GENERAL

- Do not open the unit or power supply case, there are high-voltage components inside.
- There are no user serviceable parts inside. Only qualified ALTINEX service personnel must perform all service on the **DA1910SX**.

1.2. SAFETY GUIDELINES FOR THE RACK-MOUNTING OF THE DA1910SX

- Maximum operating ambient temperature is 35 (degrees C).
- Never restrict the airflow through the devices' fan or vents.
- When installing equipment into a rack, 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 Earthing (Grounding) of Rack-Mounted Equipment should be maintained.

1.3. INSTALLATION

- For best results, place the **DA1910SX** Interface on a flat, leveled surface in a dry area away from dust and moisture.
- To prevent fire or shock, do not expose this unit to rain or moisture.
- To turn off the main power, be sure to remove the adapter from the wall. The power outlet socket should be installed as close to the equipment as possible, and should be easily accessible.
- Do not place the **DA1910SX** Interface 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 **DA1910SX** Interface carefully. Dropping or jarring can damage internal components.
- Do not place heavy objects on top of the **DA1910SX**.
- Do not pull the adapter or any cable that is attached to the **DA1910SX** Interface.
- If the **DA1910SX** is to be mounted to a table or wall, use only Altinex made mounting accessories, such as brackets (**DA1295SX**) and cables for optimum setup.
- If the **DA1910SX** Interface is not used for an extended period, disconnect the adapter from the wall to avoid fire, shock, and loss of power.

1.4. CLEANING

- Unplug the **DA1910SX** adapter 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 his own 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 INTERFACE 2

There are a great variety of computers and computer video cards on the market today. There are also numerous data monitors and large screen data projectors. When displaying a computer image on a large screen data projector or on a large screen monitor, it often becomes clear that some computers are not always compatible with these display devices. The **DA1910SX** computer video interface that you have just purchased from ALTINEX is designed to resolve this incompatibility.

Interface Capabilities

The **DA1910SX** is a high resolution computer video interface designed to allow the connections of VGA, SVGA, XGA, UXGA, MAC, SUN, SGI, and other analog computer video sources to scan rate compatible monitors, projectors, and LCD displays.

The **DA1910SX** amplifies video signals and converts sync to various formats. It does not change the scan-rate or the resolution of the video signal. The computer and projector must be scan rate compatible with each other.

The **DA1910SX** input is VGA compatible. The **DA1910SX** provides two fully buffered outputs: a main output on 5 BNC connectors which provides RGBHV, RGBS, or RGsB, and a pass-through 15 pin HD monitor output. The monitor output is typically used to transmit signals to a local monitor. If the input signal format is RGBS or RGBHV, the main output may be RGBHV, RGBS, or RGsB. If the input signal is RGSB, the output must be RGsB. The **DA1910SX** is not designed to separate sync from green.

TECHNICAL SPECIFICATIONS 3

FEATURES/DESCRIPTION	DA1910SX
GENERAL	
Inputs	1
Input Connector	15-pin HD(female)
Outputs	2
Main Amplified Isolated	One (5 BNC

Output	Connectors)
Buffered Local Monitor Output	One (15-pin HD female connector)
Compatibility	VGA/XGA/SVGA/UXGA Compatible Signals; Apple/MACII/Quadra Signals w/proper cable & Sun/SGI Workstations w/proper cable

Table 1. **DA1910SX** General

MECHANICAL	DA1910SX
Material	0.1" Al
Finish	Gray
Top/Bottom Panels	Lexan
Height (inches)	3.50in (89mm)
Width (inches)	4.56in (116mm)
Depth (inches)	1.00in (26mm)
Weight (pounds)	0.6lbs (0.27kg)
Ship Weight (pounds)	2.8lbs (1.27kg)
T° Operating	10°C-35°C
T° Maximum	50°C
Humidity	90% non-condensing
MTBF (calculations)	40,000 hrs

Table 2. **DA1910SX** Mechanical

ELECTRICAL	DA1910SX
Input Video Signal	
Analog	0.3 to 1.2Vp-p
Fall/Rise Time	0.9 ns
Impedance	75 Ohms
Input Sync Signal	
Composite, Horizontal & Vertical	TTL (+/-)
Sync on Green	-0.3V
Impedance	10 k
Output Video Signal	
Analog	0.77V p-p
Fall/Rise Time	1.2 ns
Impedance	75 Ohms
Output Sync Signal	
Composite, Horizontal & Vertical	TTL (+/-)
Sync on Green	-0.3V
Impedance	22 Ohms
Frequency Compatibility	
Horizontal	15-130 kHz

Vertical	25-180 Hz
Minimum Video Bandwidth	350 MHz
Typical Video Bandwidth	425 MHz
Horizontal Position Range	20%
Cross-talk	39dB @100 MHz
Power	
External Power Adapter (AC)	X
Power Adapter	9V 500 mA (included)
Power Consumption	1.0 watts max.

Table 3. DA1910SX Electrical

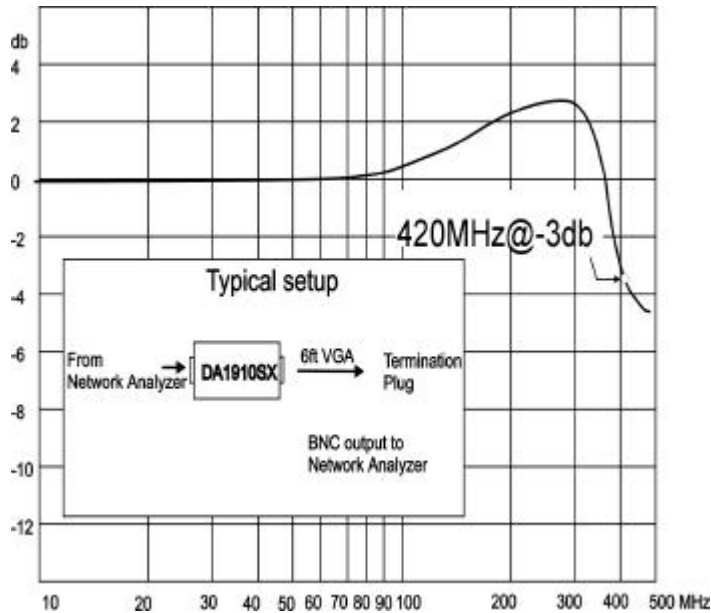


Figure 1. Frequency response

DA1910SX DESCRIPTION 4

4.1. INPUT

The DA1910SX uses a 15-pin HD connector for input, which is compatible with standard VGA pin-outs. This allows the connection of a computer using coaxial cables to a 15-pin HD connector cable. This allows greater flexibility and versatility of the DA1910SX. The input and output cables for various computers are available.

PINS	COMPUTER	LOCAL MONITOR
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	INPUT	OUTPUT
1	Red Video	Red Video
2	Green Video	Green Video
3	Blue Video	Blue Video
4	ID Bit (Grounded if ON)	ID Bit
5	Ground	Ground
6	Ground	Ground
7	Ground	Ground
8	Ground	Ground
9	Not used	Composite Signal
10	Not used	Not used
11	ID Bit	ID Bit
12	ID Bit	ID Bit
13	Horizontal Sync/Composite Sync	Horizontal Sync/Composite Sync
14	Vertical Sync	Vertical Sync
15	Ground	Ground

Table 4. DA1910SX (15-pin HD) pin outs

4.2. MAIN RGBHV OUTPUT

BNC connectors are considered standard connectors for audio-visual systems. They offer a better quality connection for high-resolution video signals. They also allow easy cable maintenance in the field. This output offers RGBHV, RGBS, and RGsB output signals (RGsB type input is pass-through only). With these connectors, the DA1910SX can be connected to compatible projectors using 4 coax or 5 coax cables.

CONNECTOR	OUTPUT (5-BNC FEMALE)
RED	Red Video
GREEN	Green Video
BLUE	Blue Video
H/C SYNC	Horizontal or Composite Sync
V SYNC	Vertical Sync

Table 5. DA1910SX (5-BNC) output pin outs

4.3. LOCAL MONITOR OUTPUT

A buffered output is very helpful in connecting your local monitor to the interface. This output is fully buffered; therefore, any reflections are totally

eliminated. The output is provided through a 15-pin HD connector.

4.4. HORIZONTAL POSITION ADJUSTMENT KNOB

Although most monitors and projectors are fully capable of adjusting the horizontal position of the image, in some instances it is helpful to adjust the horizontal position at the interface. This control is also helpful when using multiple computers.

In some cases, adjusting the horizontal position at the interface may simplify the projector set up.

4.5. EXTERNAL POWER ADAPTER

The **DA1910SX** is powered using a 9V 500mA unregulated linear AC power supply adapter. The power regulation is provided inside the unit. The adapter uses a 2.5mm connector with a center conductor (+) and a shell (-). A selection of several power adapters is available for different countries from 110 VAC to 240 VAC. A **DA1291SX** Power Adapter security kit that connects to the side of the unit is available to insure the permanent attachment of the power adapter connector.

4.6. MOUNTING CAPABILITY

The **DA1910SX** is designed for easy mounting to a table, wall, or inside a rack using the **DA1295SX** mounting brackets. Two mounting holes are provided on each side of the unit for the mounting brackets.

4.7. DIP – SWITCHES SETTING

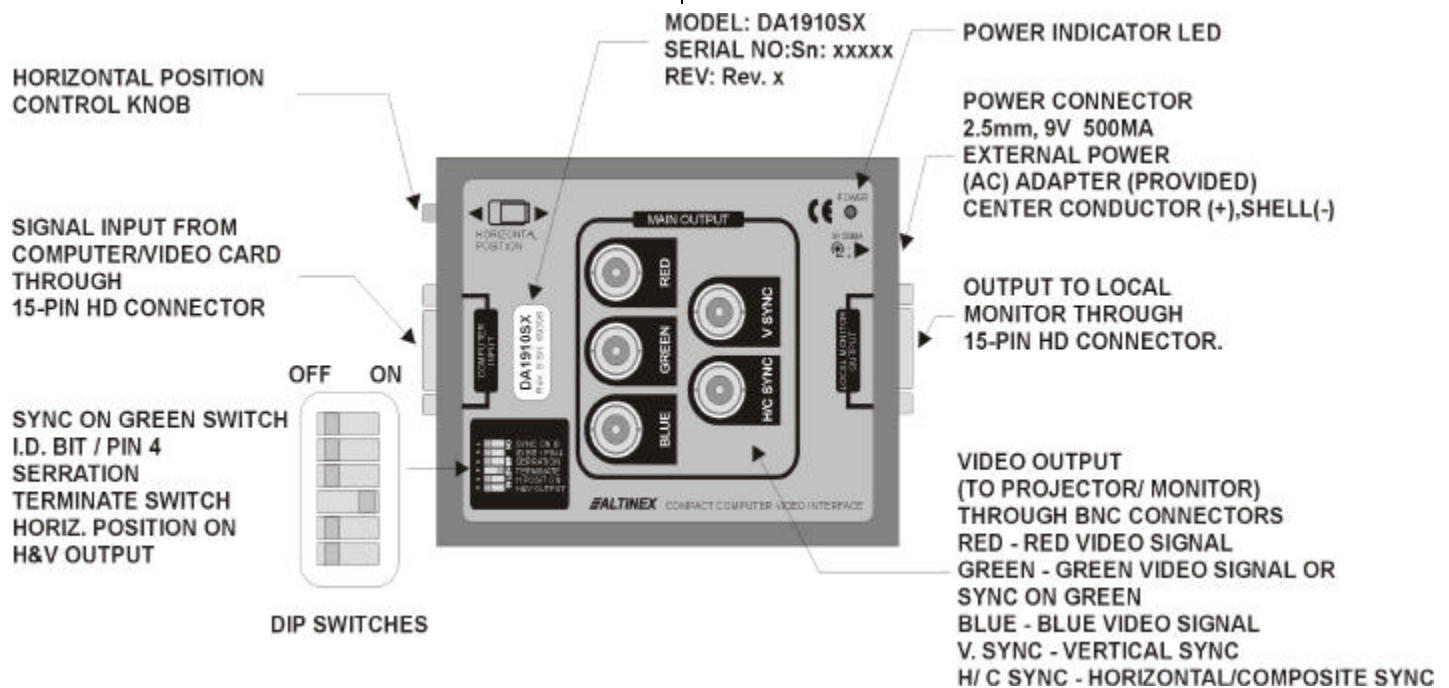
DIP SWITCH	OFF	ON
Sync on G	X	
ID Bit	X	
Serration	X	
Terminate		X
H Posit ON	X	
H&V Out	X	

Table 6. Dip-switches default setting

4.8. SYNC ON GREEN OUTPUT SWITCH

Often systems that use large matrix switchers are designed to switch signals in the RGsB format. This is done to reduce the cost of the switcher. In systems of this type, the ability of the **DA1910SX** to output sync on green can be a very helpful feature.

DA1910SX DESCRIPTION (CON'T)



Note: the **DA1910SX** will not separate the Sync signal from the Green signal if the input is RGSB. It will simply amplify video and pass it through. It will however, combine Sync with Green Video when the switch is in the ON position, regardless of whether the input sync is Composite or H&V.

4.9. I.D. BIT SWITCH

When set to the ON position the I.D. bit switch will allow boot up of the computer as if a color monitor is present. In the OFF position, the computer will boot up as if a B&W monitor is present. The ID Bit dip-switch shorts pin 4 of the input signal to ground.

4.10. SERRATION PULSE SWITCH

Certain monitors and projectors will exhibit better stability when the serration pulse switch is ON. This switch is seldom used and in most circumstances should be OFF.

4.11. TERMINATION SWITCH

When set to the ON position, the built-in termination switch will terminate the input of the interface. As a

rule, this switch should be ON. The switch should be OFF only if a monitor breakout cable is used with a local monitor.

4.12. HORIZONTAL POSITION ON SWITCH

This switch will disable the Horizontal position adjustment of the image when in the OFF position and enables the Horizontal position adjustment of the image when in the ON position.

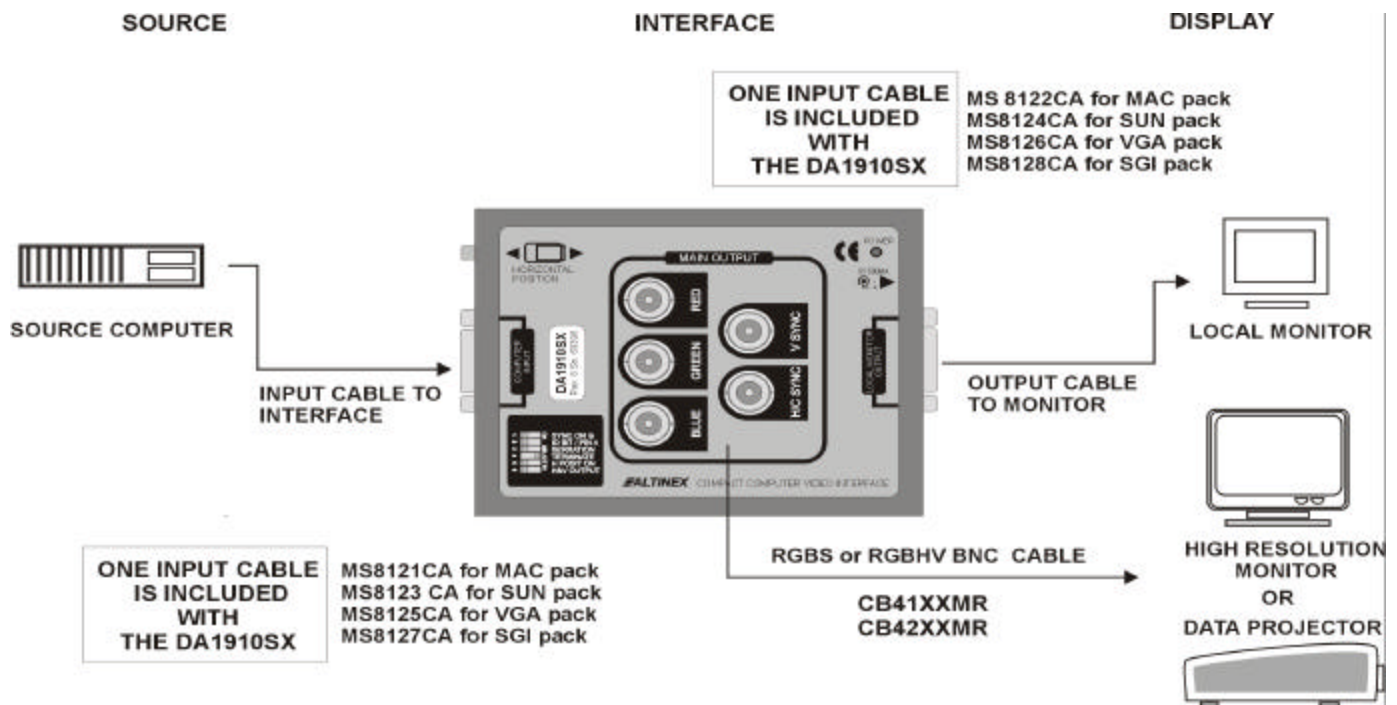
First, adjust the Horizontal position of image using the monitor or projector control, with the **DA1910SX** Interface's Horizontal position control disabled. If further adjustments are needed, use the knob located on the **DA1910SX** Interface with the Horizontal position dip-switch in the ON position.

4.13. H&V OUT SWITCH

This switch insures clean H&V output rather than the default composite sync and vertical sync output. This switch is very useful with LCD projectors.

APPLICATION DIAGRAM

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4.14. BANDWIDTH

The typical bandwidth of the **DA1910SX** is 420 MHz. The minimum bandwidth is 350 MHz. This exceptionally high bandwidth allows the passing of the third harmonics of the video signal, thus maintaining the highest quality of the input signal.

4.15. CUSTOM MODIFICATIONS

The **DA1910SX** is designed for simple customization. If desired, both buffered outputs can offer the same signal types or have different signals on each of the outputs. ALTINEX can customize the unit for you. Please contact our sales team about customizing the unit.

INSTALLING YOUR INTERFACE 6

- Step 1.** Connect the 2.5mm plug from the provided AC Adapter to the to the POWER input connector. Observe the LED near the computer turning RED.
- Step 2.** Connect an appropriate input cable between the COMPUTER INPUT connector of the **DA1910SX** and the Video output connector of the source.
- Step 3.** Connect an appropriate output cable between the LOCAL MONITOR OUTPUT connector of the **DA1910SX** and the Video input connector of the local display.
- Step 4.** Connect an appropriate cable (3, 4 or 5 wire coaxial) between the MAIN OUTPUT connector of the **DA1910SX** and the Video input connector of the primary display.
- Step 5.** Set dip-switches on the front to define the input (IDBIT / PIN4 & TERMINATION) and output (SYNC ON G, H&V OUTPUT & SERRATION) as described in the manual.
- Step 6.** Set the H. POSIT. ON dip-switch to the OFF position and center the picture on the primary display using its control.
- Step 7.** For primary displays other than LCD projectors, set the H. POSIT. ON dip-switch to the ON position and adjust the position of the picture as needed using

the HORIZONTAL POSITION knob of the **DA1910SX**.

OPERATION 7

The settings of the **DA1910SX** Interface can be adjusted using the Dip-switches as described in section 4. There are no other adjustments necessary to operate the unit. The **DA1910SX** will operate successfully as long as cables are attached properly and other technical specifications are followed.

ACCESSORIES 8

Model No.	Description
PS5502US	9 V 500 mA Power Supply (requires Adapter Cable)
PS5512UK	9 V 500 mA Power Supply for UK
PS5522AU	9 V 500 mA Power Supply for Australia
PS5532GR	9 V 500 mA Power Supply for Germany
PS5542JP	9 V 500 mA Power Supply for Japan

Table 7. Power Supply selection.

Model No.	Description
VGA-Pack	
MS8125CA	VGA Output cable for DA1910SX
MS8126CA	VGA Input cable for DA1910SX
MAC-Pack	
MS8121CA	MAC Output cable for DA1910SX
MS8122CA	MAC Input cable for DA1910SX
SUN/SGI-Pack	
MS8123CA	SUN Output cable for DA1910SX
MS8124CA	SUN Input cable for DA1910SX
RGB-Pack	
MS8129CA	5 coax. (BNC) cable for DA1910SX

Table 8. Selection of Interface cables.

Model No.	Description
	RACK MOUNT ACCESSORIES
DA1291SX	Power adapter security kit.
DA1295SX	Rack/Wall mount brackets for DA1900 series.
COMBO-PACK	VGA+MAC INPUT & OUTPUT cables
SUPER-PACK	VGA+MAC+SUN/SGI INPUT & OUTPUT cables

Table 9. Optional accessories

The standard available cables are 3 feet in length, please call 1-714-990-2300 for a wider selection of cables (6 ft, 12 ft).

FAQ (FREQUENTLY ASKED QUESTIONS) 9

No:	Question	Answer
1	Why does the termination switch have to be ON?	The Termination switch should be ON if local monitor is not connected through a straight cable. It will be OFF only if a monitor breakout cable is used at local monitor output connector.
2	When and why do I need to use the Horizontal Position Dip-switch?	The Horizontal Position Dip-switch enables or disables the control of the horizontal position of the image using the control knob on the DA1910SX . First, adjust the horizontal position using the monitor or projector's control, and then use the Horizontal position control of the DA1910SX , if needed.
3	What dip-switch do I set to get the composite SYNC output?	If the desired output signal is composite sync, then turn OFF the H & V OUTPUT Dip-switch and connect only 4 wires (RGBS) to RED, GREEN, BLUE, and H/C SYNC Connectors.
4	When and why would I use the Sync on Green dip-	The DA1910SX does not separate Sync signal from Green, but if the desired output is in RGsB format regardless of input signal,

	switch, although the unit does not separate Sync from Green?	turn the Sync on Green dip-switch to the ON position.
5	When do I use the "H & V out" Dip-switch?	If the desired output is in RGBHV format, turn ON the H & V Out Dip-switch. If the H & V Out dip switch is OFF, then the output signal may have Composite Sync present on the Horizontal Sync Connector.
6	What is a Computer Video Card Pin-outs?	See the following table for Common Computer Video Card Pin-outs

Table 10. Frequently Asked Questions

PINS	MAC	VGA	SUN
A1	n/a	n/a	Red
A2	n/a	n/a	Green
A3	n/a	n/a	Blue
1	Red Gnd	Red	N/C
2	Red	Green	N/C
3	C.Sync	Blue	Sense
4	ID Bit 01	ID Bit	Sense Rtn
5	Green	N/C	C. Sync Sens
6	Green Gnd.	Red Rtn.	N/C
7	ID Bit 02	Green Rtn.	N/C
8	N/C	Blue Rtn.	N/C
9	Blue	N/C	N/C
10	ID Bit 03	Gnd	N/C
11	C/V Gnd.	ID Bit	
12	V. Sync	ID Bit	
13	Blue Gnd.	H. Sync.	
14	H. Gnd	V. Sync	
15	H. Sync	N/C	

Table 11. Common Computer Video Card pin-outs

TROUBLESHOOTING GUIDE 10

1. Please make sure that the amplitude level of the input signal is as follows:
 - a) RED, GREEN, and BLUE are less than 1.2 Volts
 - b) HSYNC & VSYNC are less than 5.0 Volts
2. Please use only Altinex supplied Power Supply (AC Adapter) for proper operation.
3. If problems show up on the display after continuous usage at higher voltage, higher temperature, higher humidity, or at other extreme environmental conditions, please correct those extreme conditions.
4. If the screen is large in the vertical direction and if you are using Composite Sync on the main output, please disconnect VSYNC connector. Also, make sure that the dip-switch of the H&V Output is in the OFF position.
5. First, adjust the horizontal position control of the display and then use the horizontal position control knob located on the **DA1910SX**, if needed.
6. If you are using RGSB format (Sync on Green), make sure that Dip-switch # 1 on the front panel is in the ON position.

ALTINEX POLICY 11

11.1. LIMITED WARRANTY

ALTINEX warrants that its products and cables are free from defects in materials under normal use and service. This warranty is limited to repairing at company's factory any part or parts of the product, which upon company's examination shall disclose to be, thus defective. Products considered defective should be returned to company with transportation charges prepaid within 2 years or (90 days for cables) from date of shipment to the purchaser. The warranty is expressly instead of all other warranties expressed or implied. ALTINEX neither assumes nor authorizes any other person to assume for it any other liability concerning the sale of the products. This warranty shall not apply to any product that shall have been repaired or altered

outside of company's factory in any way so as, in its judgment, to affect its stability or reliability, or that has been subject to misuse, negligence, or accident.

11.2. RETURN POLICY

It is very important to Altinex that you receive the products that you have ordered and that this product fulfills your need. In the unlikely event, that Altinex product needs to be returned please follow policies below:

Altinex will accept product returns for period of 30 days from authorized Altinex dealers. Products must be returned in an unopened package.

If product has been opened, the restocking fees will apply. For restocking fee amount, please contact an Altinex Sales Representative.

If product is in your possession for more than 30 days, the restocking fees will apply.

Altinex will not accept any returns on cables or custom products.

If your product is in warranty and needs service, contact the Altinex Sales Department for RMA (Return Material Authorization). Products returned without RMA number may experience a delay in service.

If your product is out of warranty and needs service, contact the Altinex Sales Department for RMA (Return Material Authorization). Products returned without RMA number may experience a delay in service. The service charges will be quoted to you before actual repairs are done.

11.3. CONTACT INFORMATION

Sales Department

Phone: 714-990-2300

Fax: 714-990-3303