

# DISTRIBUTION AMPLIFIER



MANUAL PART NUMBER: 400-0045-005

## DA1907SX

### 1-IN, 2-OUT VGA/SVGA/XGA/UXGA DISTRIBUTION AMPLIFIER USER'S GUIDE

**ALTINEX**

SIGNAL  
MANAGEMENT  
SOLUTIONS

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# DISTRIBUTION AMPLIFIER

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## PRECAUTIONS / SAFETY WARNINGS 1

Please read this manual carefully before using your **DA1907SX** Distribution Amplifier. Keep this manual handy for future reference. These safety instructions are to ensure the long life of your **DA1907SX** 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 there are high-voltage components inside.
- Qualified Altinex service personnel, or their authorized representatives, must perform all service.

### 1.2 GUIDELINES FOR RACK-MOUNTING

- Maximum operating ambient temperature is 45°C.
- Distribute rack-mount units evenly; otherwise, hazardous conditions may be created by an uneven weight distribution.
- Reliable grounding of rack-mounted Equipment should be maintained.

### 1.3 INSTALLATION

- For best results, place the **DA1907SX** Distribution Amplifier 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 **DA1907SX** Distribution Amplifier 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 **DA1907SX** Distribution Amplifier carefully. Dropping or jarring can damage internal components.
- Do not place heavy objects on top of the **DA1907SX**. If the **DA1907SX** is to be mounted to a table or wall, use only Altinex made mounting accessories.
- The power outlet socket should be installed as close to the as possible, and should be easily accessible.

- Do not pull the power cord of AC Adapter or any cable that is attached to the **DA1907SX** Distribution Amplifier.
- If the **DA1907SX** Distribution Amplifier is not used for an extended period, disconnect the Power (AC) Adapter from the power outlet.

### 1.4 CLEANING

- Unplug the **DA1907SX** AC Adapter from the wall 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.

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## ABOUT YOUR DA1907SX 2

The **DA1907SX (Ditto-Amp)** is a high-resolution, 1-in 2-out distribution amplifier designed to allow the connection of a single VGA/SVGA/XGA/UXGA source to up to two scan-rate compatible displays. A minimum video bandwidth of 400 MHz allows very high-resolution video signals to pass without degradation to the image quality. The Local Monitor Output of the **DA1907SX** is pre-compensated for up to 12 feet of high-resolution coaxial-type VGA cable. The Main Output of the **DA1907SX** is pre-compensated for up to 250 feet with high-resolution coaxial-type VGA cable.

Being compact and easy to use, the **DA1907SX** is perfect for audio/visual installations, where a single computer needs to be connected to a projector (or presentation monitor) and a local monitor simultaneously. The **DA1907SX** has female 15-pin HD (VGA type) connectors on all input and output connectors so it can be used with readily available standard VGA type cables. If desired, the input and/or output of the **DA1907SX** can be easily adapted to 5 BNC connectors through Altinex adapter cables.

The **DA1907SX** is compatible with RGsB, RGBS, or RGBHV signal types and with the proper cable the **DA1907SX** can be used with MAC, SUN or SGI platform computers.

## TECHNICAL SPECIFICATIONS 3

FEATURES/DESCRIPTION	DA1907SX
<b>GENERAL</b>	
<b>Inputs</b>	One
Input Connector	15-pin HD Female
<b>Outputs</b>	Two
Local Monitor Connector	15-pin HD Female
Main Output Connectors	15-pin HD Female
<b>Compatibility</b>	VGA, SVGA, XGA, UXGA, MAC, SUN, SGI

Table 1. DA1907SX General

MECHANICAL	DA1907SX
Material	0.1" Al
Finish	Gray
Top Panel	Lexan
Height (inches)	3.00in (76mm)
Width (inches)	4.50in (114mm)
Depth (inches)	1.00in (25mm)
Weight (pounds)	0.40lb (0.18kg)
Ship Weight (pounds)	2.4lbs (1.09kg)
T° Operating	10°C-35°C
T° Maximum	45°C
Humidity	90% non-condensing
MTBF (calculations)	40,000 hrs

Table 2. DA1907SX Mechanical

ELECTRICAL	DA1907SX
<b>Input Video Signal</b>	
Analog Signal Level	1.5V p-p max
Impedance	75 Ohms
<b>Input Sync Signal</b>	
Horizontal, Vertical, & C-Sync	TTL(+/-)
Sync on Green	-0.3V
Impedance	10 k Ohms
<b>Output Video Signals</b>	
Analog Signal Level	Gain of 1.05 (+/-5%)
Fall/Rise Time (ns)	1.0
Impedance	75 Ohms
<b>Output Sync Signals</b>	
Composite Sync	TTL(+/-)
Sync on Green	-0.3V
Impedance	22 Ohms
<b>Frequency Compatibility</b>	
Typical Video Bandwidth	430 MHz @ -3 dB
Minimum Video Bandwidth	400 MHz @ -3 dB
Horizontal	15-200 kHz
Vertical	47-180 Hz
<b>Cable EQ at Main Output</b>	3 dB @ 120 MHz
<b>Coupling</b>	DC
<b>Cross-talk</b>	-40 dB @ 10 MHz
<b>Power, External</b>	9V DC, 500 Ma

Table 3. DA1907SX Electrical

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## DESCRIPTION OF DA1907SX

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### 4.1 INPUT

The Computer Input connector of the **DA1907SX** is connected to the Video output of a laptop or desktop computer. The **DA1907SX** is provided with a 3 foot Male to Male VGA Input cable. A longer input cable may be used but lengths over 15 feet are generally not recommended to preserve the signal quality. If desired, the HD-15 input can be easily adapted to a 5-BNC connector output with the proper cable.

Pin	Inputs
1	Red
2	Green
3	Blue
4	ID Bit 4 (Grounded, when ID Bit 4 switch is ON)
5	Ground
6	Ground
7	Ground
8	Ground
9	No connection
10	ID Bit 3
11	ID Bit 1
12	ID Bit 2
13	Horizontal Sync
14	Vertical Sync
15	No connection

Table 4. Computer Input

### 4.2 OUTPUTS

The **DA1907SX** has two buffered outputs with 15-pin HD Female connectors. The Local Monitor output is an amplified output. The Main output is for the distant presentation display (large screen monitor or LCD projector) up to 250 feet away. The Main output is pre-compensated for optimal performance with 75 ft of Altinex super high-resolution VGA cable. If desired the outputs can be adapted easily to 5-BNC connectors with the proper cable.

Pin	Main Outputs
1	Red
2	Green
3	Blue
4	No connection
5	Ground
6	Ground
7	Ground
8	Ground
9	Composite Sync
10	No connection
11	No connection
12	No connection
13	Horizontal Sync
14	Vertical Sync
15	Ground

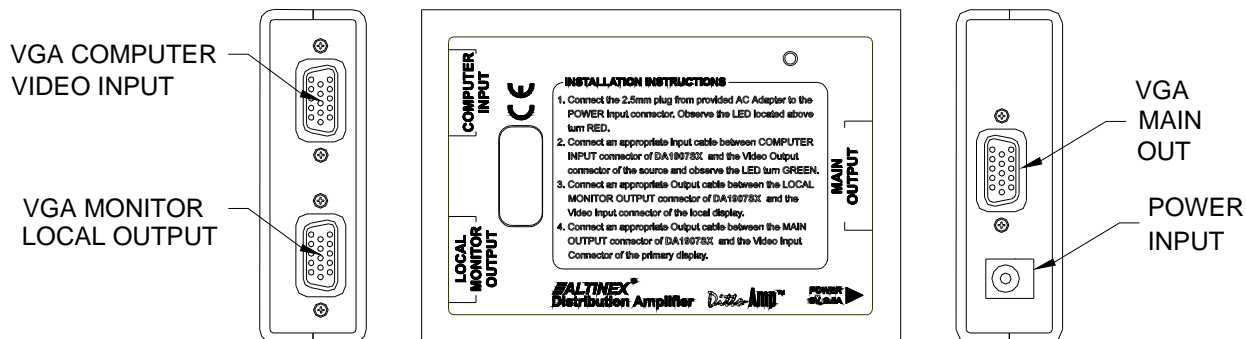
Table 5. Main Outputs

Pin	Local Output
1	Red
2	Green
3	Blue
4	ID Bit 4
5	Ground
6	Ground
7	Ground
8	Ground
9	Composite Sync
10	ID Bit 3
11	ID Bit 1
12	ID Bit 2
13	Horizontal Sync
14	Vertical Sync
15	No connection

Table 6. Local Monitor Outputs

# DISTRIBUTION AMPLIFIER

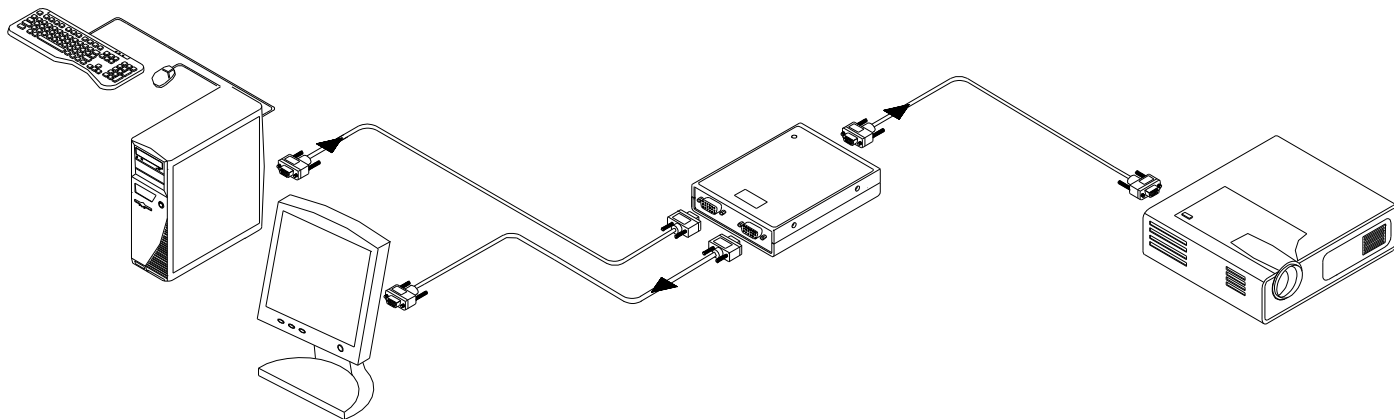
## PRODUCT DESCRIPTION



## APPLICATION DIAGRAM

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### DIAGRAM 1: TYPICAL SETUP



## INSTALLING YOUR DA1907SX 6

- Step 1.** Connect the 9V 500mA AC adapter's output plug to the **DA1907SX's** power input connector - 2.5 mm DC Jack. Verify the LED in the top right corner of the unit on the front panel turn on and RED.
- Step 2.** Remove the protective port covers. Connect the video output from the computer to the computer input connector on the **DA1907SX** using the provided input VGA cable. If a longer cable is required, please make sure that the cable has video signals through coaxial cables and this cable is not excessively long.
- Step 3.** Verify the LED on the face of the unit has changes from RED to GREEN, indicating an active source is applied. If the LED is not green, the computer may not be sending video signals. Check your Computer's manual if you are using a laptop computer. You may have to send a command that instructs the laptop to output to the internal display and the external video port simultaneously.
- Step 4.** Connect your display device (monitor or projector) to the Main output. If needed, connect a monitor to the Local Monitor output port.
- Step 5.** Verify the picture quality on all displays is good. If you are not receiving a signal, make sure that the display is compatible with the resolution of the computer graphics card. Note: High levels of static discharge under some conditions may shutdown the unit. To reset the unit simply, disconnect the input cable and reconnect it.

## OPERATION 7

There are no adjustments necessary to operate the **DA1907SX**, the unit will operate successfully as long as cables are attached properly and other technical specifications are followed.

The **DA1907SX** offers a special LED on the front panel that provides feedback to the user. When power is connected to the **DA1907SX**, the LED will turn RED. The LED will turn GREEN when an active computer source is connected. This indicates that it is receiving a proper signal by sensing the presence of the sync portion of that signal.

## TROUBLESHOOTING 8

We have carefully tested and have found no problems in the supplied **DA1907SX**; however, we would like to offer suggestions for the following:

### 8.1 LED IS NOT RED

The LED should be ON and RED when power is applied and there is no video signal present. If the LED is ON and GREEN, the unit is receiving power and a SYNC signal.

**Cause 1: No AC power.**

*Solution:* Verify the Altinex supplied adapter is plugged into a working AC outlet and that the outlet has power.

**Cause 2: Adapter is not plugged.**

*Solution:* Verify the DC power plug coming from the AC adapter is plugged all the way into the **DA1907SX**.

**Cause 3: The DA1907SX has a problem.**

*Solution:* If there is AC power to the adapter and the LED still does not turn on, the **DA1907SX** or the power adapter may require service. Call ALTINEX at (714) 990-2300.

## 8.2 LED IS NOT GREEN

**Cause 1: There is no power.**

*Solution:* Disconnect the video input from the **DA1907SX** and verify the LED is ON and RED indicating power is present. Reconnect the computer's video output. If the LED is still not GREEN see Cause 2.

**Cause 2: There is no Sync signal.**

*Solution:* Verify the computer output is operating correctly by connecting it directly to a local monitor. If the display is good, call ALTINEX at (714) 990-2300.

## 8.3 NO REMOTE IMAGE

**Cause 1: The source has a problem.**

*Solution:* Check the image on a local monitor and verify the quality is good. If the local image is good, 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 image present, see Cause 3. If the display is good, call ALTINEX at (714) 990-2300.

**Cause 3: Signals are bad.**

*Solution:* Make sure that the amplitude of the input video analog signal is less than 1.5V and the SYNC input is at a TTL level.

## 8.4 REMOTE IMAGE QUALITY IS POOR

**Cause 1: The source has a problem.**

*Solution:* Check the image on the local monitor and verify the quality is good. If the local image is good, see Cause 2.

**Cause 2 Poor signal transmission.**

*Solution:* Check the cables for continuity and make sure that connections are wired properly. If the image is still not correct, see Cause 3.

**Cause 3: Cable runs too long.**

*Solution:* Make sure that the outputs are terminated properly and the cable run does not exceed 15 feet for the local monitor output and 100 feet for the main output port.

NOTE: The **DA1907SX** is capable of driving a computer video signal up to 250 feet depending on the resolution and cable quality.

## 8.4 CONSTANT USAGE ERRORS

**Cause 1: There is an environment problem.**

*Solution:* If a problem arises after continuous usage at higher voltage, higher temperature, higher humidity, or at other extreme environmental conditions, please correct the problem, or call Altinex at (714) 990-2300.

## ALTINEX POLICY

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### 9.1 LIMITED WARRANTY/RETURN POLICY

Please see the Altinex website at [www.altinex.com](http://www.altinex.com) for details on warranty and return policy.

### 9.2 CONTACT INFORMATION

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