

DISTRIBUTION AMPLIFIERS



MANUAL PART NUMBER: 400-0045-004
PRODUCT REVISION: 3

DA1907SX

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

ALTINEX



DISTRIBUTION AMPLIFIERS

INTRODUCTION

Altinex appreciates your purchase of the **DA1907SX** Distribution Amplifier. 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:

DA1907SX - 1-in, 2-out VGA/SVGA/XGA
Distribution Amplifier

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DISTRIBUTION AMPLIFIERS

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 SAFETY GUIDELINES FOR THE RACK-MOUNTING OF THE DA1907SX

- Maximum operating ambient temperature is 45 (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 **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, such as the mini mount-bracket (**DA1295FC**) and cables for optimum setup.

- The power outlet socket should be installed as close to the equipment (**DA1907SX** and AC Adapter) 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 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 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.

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ABOUT YOUR DISTRIBUTION AMPLIFIER 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. Offering a minimum video bandwidth of 400 MHz, the **DA1907SX** 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 **MS8100** Series adapter cables. The **DA1907SX** is compatible with RGsB, RGBS, or RGBHV signal types. With the proper cable the **DA1907SX** can be used with MAC, SUN or SGI platform computer.

TECHNICAL SPECIFICATIONS 3

FEATURES/DESCRIPTION	DA1907SX
GENERAL	
Inputs	One
Input Connector	15-pin HD Female
Outputs	Two
Local Monitor Connector	15-pin HD Female
Main Output Connectors	15-pin HD Female
Compatibility	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	50°C
Humidity	90% non-condensing
MTBF (calculations)	40,000 hrs

Table 2. **DA1907SX** Mechanical

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

Table 3. **DA1907SX** Electrical

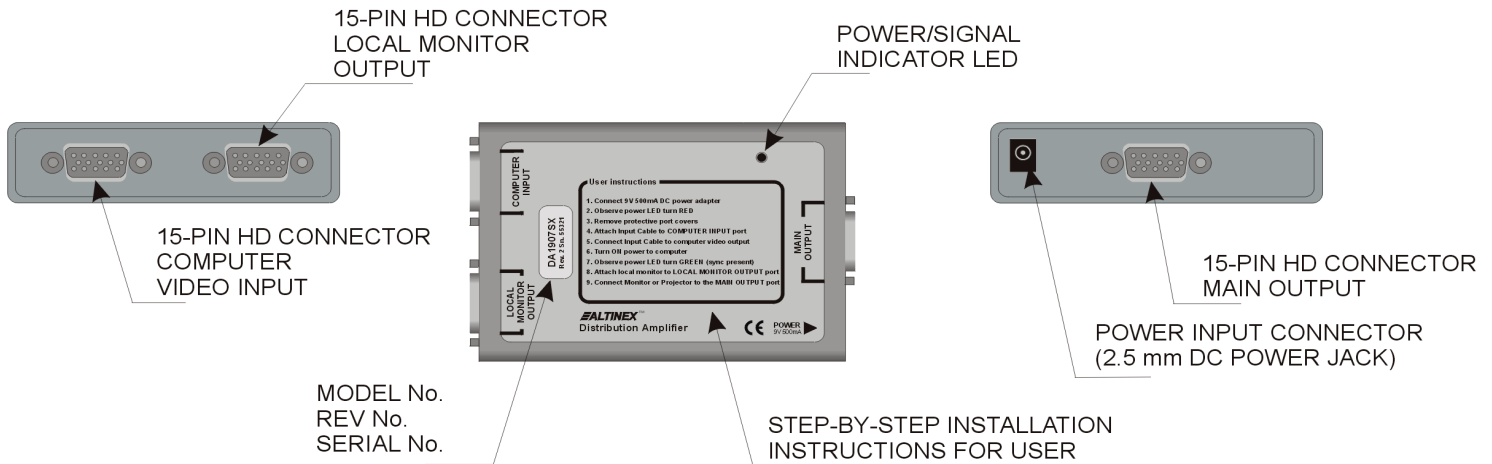
DISTRIBUTION AMPLIFIERS

DESCRIPTION OF DA1907SX 4

LEFT SIDE VIEW

TOP VIEW

RIGHT SIDE VIEW



4.1 INPUT

The Computer Input connector of **DA1907SX** is connected to the Video output of the laptop or desktop computer. The **DA1907SX** is provided with a 3 foot Male to Male VGA Input cable (ALTINEX part # **CB3703MR**). 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 5-BNC connector output with a proper cable.

Often, laptop computers will require a toggle command, which will instruct the laptop to output to the internal display as well as to the external video port simultaneously. You may need to check the user's manual for your laptop computer to determine this command.

PIN No.	Input signals on 15-pin HD female connector
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

PIN	Input signals on 15-pin HD female
12	ID Bit 2
13	Horizontal Sync
14	Vertical Sync
15	No connection

4.2 OUTPUTS

The **DA1907SX** has two buffered outputs with 15-pin HD Female connectors. The Local Monitor output is 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 a proper cable.

PIN No.	Main Output signals on 15-pin HD female connector
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

DISTRIBUTION AMPLIFIERS

PIN No.	Main Output signals on 15-pin HD female connector
13	Horizontal Sync
14	Vertical Sync
15	Ground

PIN No.	Local Monitor Output signals on 15-pin HD female connector
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

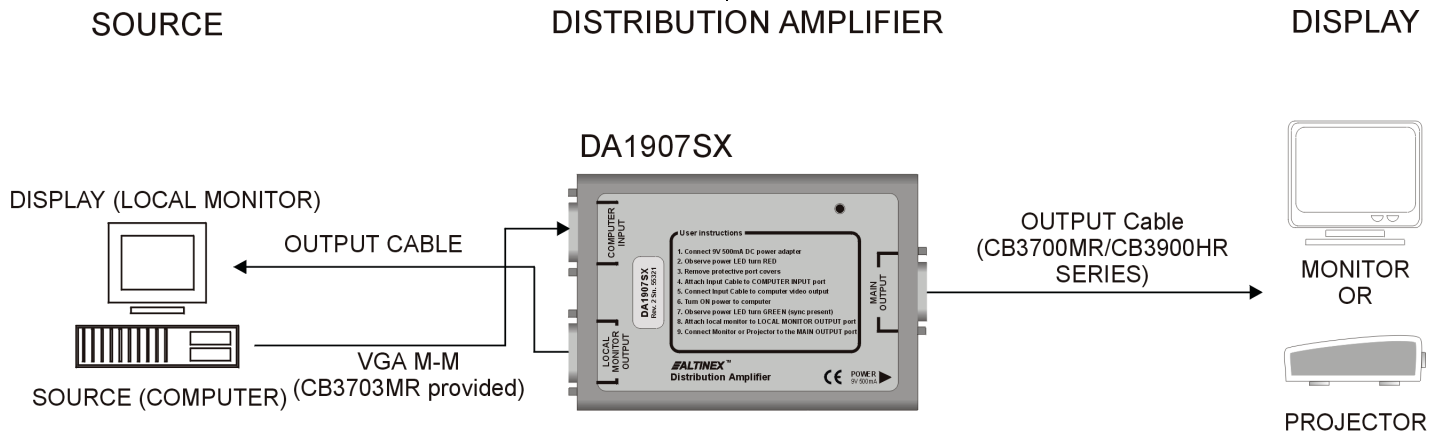
4.3 LED INDICATOR

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. When an active computer source is connected to the **DA1907SX**, the LED will turn Green, indicating that it is receiving a signal by sensing the presence of the sync portion of the signal.

4.4 MOUNTING THE DA1907SX

To mount the **DA1907SX**, Altinex offers optional "L" shape mini-brackets, the **DA1295SX**, which provide wings on either side of the unit. The **DA1907SX** can be installed on a rack plate, furniture, or a wall.

APPLICATION DIAGRAM 5



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INSTALLING YOUR DISTRIBUTION AMPLIFIER

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- Step 1.** Connect the 9V 500mA AC adapter's output plug to the **DA1907SX**'s power input connector - 2.5 mm DC Jack. Verify that a red LED is displayed in the top right corner of the unit on the front panel.
- 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 **CB3703MR**-3 feet 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 that the red LED on the face of the unit has now turned green, indicating an active source. If the LED is not green, the computer may not be sending video signals (check your Computer's User's Manual). If you are using a laptop computer, you will have to toggle (a command that instructs the laptop to output to the internal display and the external video port simultaneously) the display or connect simultaneous displays.
- Step 4.** Connect your display device (monitor or projector) to the Main output connector using the proper cable with 15-pin HD Male connector. Connect a monitor to Local Monitor output port, if needed through a 15-pin HD Male to Female cable.
- Step 5.** Verify that 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 back.

CONGRATULATIONS! YOU ARE DONE.

If you experience any problems, please call
1-800-258-4623 or 1-714-990-2300 for
international calls.

OPERATION

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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.

ACCESSORIES

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Model No.	Description
	TERMINATION PLUGS/GENDER CHANGERS
MS8000TP	15-pin HD VGA termination plug
MS8144MG	15-pin HD (M) to 15-pin HD (M) gender changer
MS8145MG	15-pin HD (F) to 15-pin HD (F) gender changer
	RACK MOUNTING BRACKETS
DA1295SX	Rack/Wall mount mini-brackets for DA1900 series distribution amplifiers (2 - "L" shaped brackets)
INPUT CABLES	STANDARD HD-15 PIN VGA MALE TO MALE
CB3703MR	3 ft [provided with DA1907SX]
CB3706MR	6 ft
CB3715MR	15 ft
CB3725MR	25 ft
CB3750MR	50 ft (Super High Resolution Coaxes)
CB3775MR	75 ft (Super High Resolution Coaxes)
CB37100MR	100 ft (Super High Resolution Coaxes)
CB37150MR	150 ft (Super High Resolution Coaxes)
OUTPUT CABLES	STANDARD HD-15 PIN VGA MALE TO FEMALE
CB3903HR	3 ft
CB3906HR	6 ft
CB3915HR	15 ft
CB3925HR	25 ft
CB3950HR	50 ft (Super High Resolution Coaxes)
CB3975HR	75 ft (Super High Resolution Coaxes)
CB39100HR	100 ft (Super High Resolution Coaxes)
CB39150HR	150 ft (Super High Resolution Coaxes)

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VGA TO RGB ADAPTER CABLES	
MS8102CA	15 pin HD Male to 5 BNC Male, 6ft
MS8104CA	15 pin HD Male to 5 BNC Male, 15ft
MS8105CA	15-pin HD Male to 5 BNC Male, 50 ft
MS8106CA	15 pin HD Male to 5 BNC Female, 6 ft
MS8112CA	15 pin HD Female to 5 BNC Male, 6ft
MS8114CA	15 pin HD Female to 5 BNC Male, 15ft
POWER SUPPLIES	
PS5502US	9V 500mA Power Supply for US
PS5512UK	9V 500mA Power Supply for UK
PS5522AU	9V 500mA Power Supply for Australia
PS5532GR	9V 500mA Power Supply for Germany
PS5542JP	9V 500mA Power Supply for Japan

FREQUENTLY ASKED QUESTIONS 9

No:	Question	Answer
1	How many feet of cable can I use with the DA1907SX ?	The Local Monitor Output is aligned for optimal performance up to approximately 12 feet, while the Main Output is aligned for optimal performance at 75 feet, with capability of driving as far as 250 feet depending on the input and cable quality.
2	Is the type of input cable important when I use the DA1907SX ?	Yes, Altinex recommends straight input VGA cable, not Y cable.
3	May I use CAT5 cable instead of coaxial cable?	No, you can not use CAT5 cable instead of coaxial cable because the quality of input signal will be lost. Due to a lack of shielding on each wire, the signals will interfere with each other.
4	May I use the DA1907SX power supply to power more than one unit at a time?	It is not recommended since one power supply is supplied with each unit. Please consider the PS5581SM , a rack mount power supply.
5	Does the DA1907SX	Yes, the DA1907SX does pass DDC signals and ID

	pass DDC signals/ID bits between the display and computer?	bits to a local monitor output connector as long as the pin-outs of the computer are standard.
6	What are the resolutions of input computer signals that can pass through the DA1907SX ?	1280x1024 – UXGA 1024x768 – XGA 800x600 – SVGA 640x480 – VGA.
7	What is the difference between Main output and Local Monitor output?	The Main output is capable of driving video signals up to 250 feet away, while the Local Monitor output is used for displays located less than 15 feet away.

TROUBLESHOOTING GUIDE 10

- Please make sure that the amplitude of input video analog signal is less than 1.5V and is at TTL level for SYNC signal.
- Please use Altinex supplied external AC adapter (supplying 9V DC at 500mA).
- Please make sure that the proper cable quality with coax conductors for video channels is used. We recommend Altinex made cables for best results.
- Please make sure that the outputs are terminated properly and the cable run does not exceed 15 feet for the local monitor output & 100 feet for the main output port.
- If a problem arises after continuous usage at higher voltage, higher temperature, higher humidity, or at other extreme environmental conditions, please correct the problem.

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 pre-paid shall within 2 years (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 in connection with 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 an Altinex product needs to be returned please follow the policies below:

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

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

If the 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 an RMA (Return Material Authorization). Products returned without an RMA number may experience a delay in service.

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

11.3 CONTACT INFORMATION

Sales Department

Phone: 714-990-2300

Fax: 714-990-3303

Accounting Department

Phone: 714-990-6088

Fax: 714-990-5778