DA1920SX

1-IN, 2-OUT COMPUTER VIDEO

TRANSMITTER

USER'S GUIDE

ALTINEX

SIGNAL MANAGEMENT SOLUTIONS

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PRECAUTIONS / SAFETY WARNINGS   1

Please read this manual carefully before using your **DA1920SX**. Keep this manual handy for future reference. These safety instructions are to ensure the long life of your **DA1920SX** 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 due to high-voltage components inside.
- Qualified ALTINEX service personnel, or authorized representatives must perform all service.

1.2 GUIDELINES FOR RACK-MOUNTING

- Maximum operating ambient temperature is 35 (degrees C).
- 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 Earth Grounding of equipment should be maintained.

1.3 INSTALLATION

- For best results, place the **DA1920SX** 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 **DA1920SX** 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 **DA1920SX** carefully. Dropping or jarring can damage internal components.
- Do not place heavy objects on top of the **DA1920SX**. If the **DA1920SX** is to be mounted to a table or wall, use only ALTINEX-made mounting accessories.

- To turn off the main power, be sure to remove the adapter from the power outlet. The power outlet should be installed as near to the equipment as possible and be easily accessible.
- Do not pull the adapter or any cable that is attached to the **DA1920SX**.
- If the **DA1920SX** is not used for an extended period, disconnect it from the power outlet.

1.4 CLEANING

- Unplug the **DA1920SX** 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 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 DA1920SX   2

DA1920SX
1-In 2-Out VGA to CAT-5 Transmitter

The **DA1920SX** is a high-resolution 1-in, 2-out computer video amplifier-transmitter. It is designed to connect a single source (VGA, SVGA, XGA or UXGA) to both a local monitor and a remote receiver like the Altinex DA1921SX.   The transmitter and receiver may be placed up to 500 feet apart, depending on the image resolution and cable quality. The connection is made via CAT-5 cable. Equalization controls on both the transmitter and receiver all fine tuning of the remote image.

The **DA1920SX** converts single ended video signals into differential signals for the best image transmission.   The DA1921SX converts the differential signals back to single ended signals and then distributes them to two displays. The CAT-5 output of the **DA1920SX** allows very high-resolution video signals to pass without degradation to the image quality. The Local Monitor Output of the **DA1920SX** is pre-compensated for up to 15 feet of high-resolution coaxial-type VGA cable.

Its compact and user friendly design make the **DA1920SX** perfect for audio/visual installations, where a single computer sends signals using inexpensive, thin and light category 5 cable.

TECHNICAL SPECIFICATIONS   3

FEATURES/DESCRIPTION	DA1920SX
GENERAL	
Inputs	One
Input from Transmitter	RJ-45 Female
Outputs	Two
Local Monitor Connector	15-pin HD Female
Main Output Connectors	15-pin HD Female
Cable Distance Limitations and Signal Resolution Distance	640 x 480: 500ft/152m 800 x 600: 450ft/137m 1024 x 768: 400ft/122m 1280 x 1024: 350ft/107m 1600 x 1200: 250ft/76m
Compatibility	VGA thru UXGA

Table 1. **DA1920SX** General

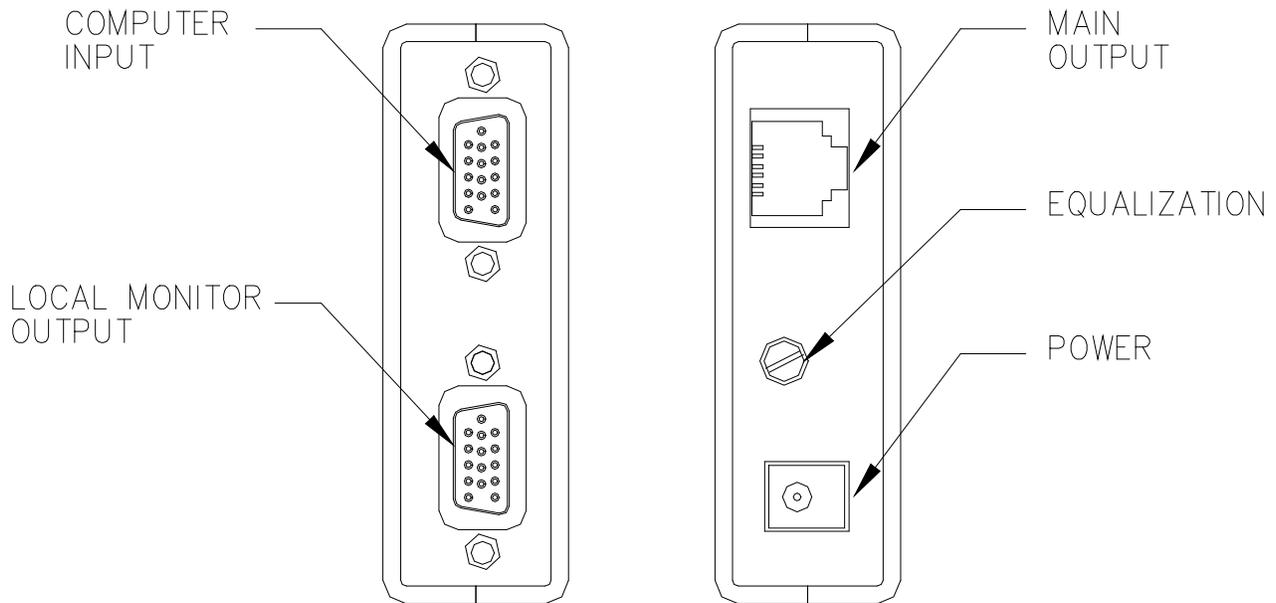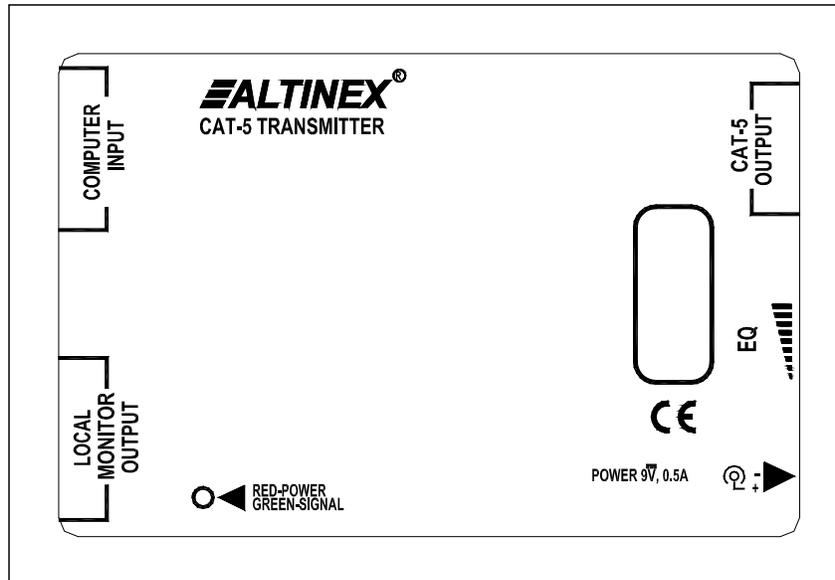| MECHANICAL	DA1920SX
Material	0.1" Al
Finish	ALTINEX Grey
Top Panel	Lexan Overlay
Height (inches)	3.00in (76mm)
Width (inches)	4.50in (114mm)
Depth (inches)	1.00in (25mm)
Weight (pounds)	0.40lb (0.18kg)
Ship Weight (pounds)	2.4lbs (1.09kg)
T° Operating	10°C-35°C
T° Maximum	50°C
Humidity	90% non-condensing
MTBF (calculations)	40,000 hrs

Table 2. **DA1920SX** Mechanical

ELECTRICAL	DA1920SX
Input Video Signal	
Analog Signal Level	1.7V max
Impedance	75 Ohms
Input Sync Signal	
Horizontal, Vertical, & C-Sync	TTL (+/-)
Impedance	10K Ohms
Output Video Signals	
Analog Signal Level	Gain of 1.05 (+/-5%)
Fall/Rise Time (ns)	1.0
Impedance	75 Ohms
Output Sync Signals	
Horizontal, Vertical Sync	TTL (+/-)
Impedance	22 Ohms
Power	
External Power Adapter (included)	9V DC, 500 mA
Power Consumption	4 watts max

Table 3. **DA1920SX** Electrical

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SOLUTIONS

PRODUCTION DESCRIPTION   4

ALTINEX®
CAT-5 TRANSMITTER

COMPUTER INPUT

LOCAL MONITOR OUTPUT

CAT-5 OUTPUT

EQ

CE

RED-POWER
GREEN-SIGNAL

POWER 9V, 0.5A

COMPUTER INPUT

LOCAL MONITOR OUTPUT

MAIN OUTPUT

EQUALIZATION

POWER

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4.1 INPUT

The Computer Input connector of the **DA1920SX** is connected to the Video output of the laptop or desktop computer. Use a 3 foot Male to Male VGA Input cable (ALTINEX part number **CB3703MR**) with the **DA1920SX**. 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.	Computer Input 15-Pin HD Female
1	Red
2	Green
3	Blue
4	ID Bit 4 (Grounded, if ID Bit 4 switch is ON)
5	Ground
6	Ground
7	Ground
8	Ground
9	VESA 5V
10	ID Bit 3
11	ID Bit 1
12	SDA
13	Horizontal Sync
14	Vertical Sync
15	SCL

Table 4. DA1920SX Input Signals

4.2 OUTPUTS

The **DA1920SX** has two buffered outputs. The first is a 15-pin HD female connector. The second is the main RJ-45 connector.
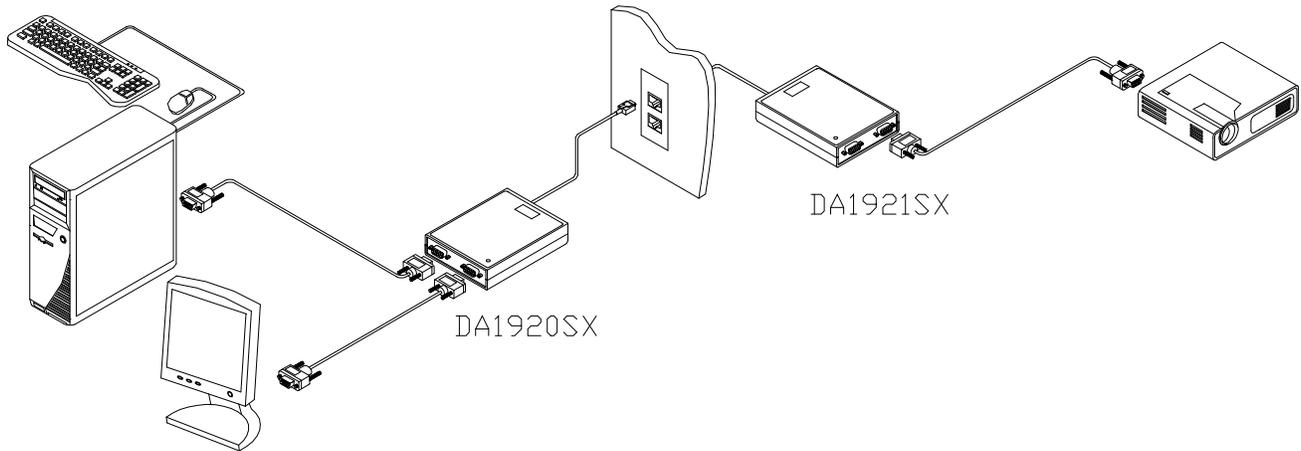
The Local Monitor output is an amplified output. The Main output is for the distant presentation display (large screen monitor or LCD projector) up to 500 feet away. The Main output can be equalized for up to 500 feet of CAT-5 cable depending on the cable quality and signal resolution.

PIN No.	Main Output RJ-45 Female
1	Brown
2	Brown/White
3	Green
4	Blue/White
5	Blue
6	Green/White
7	Orange
8	Orange/White

Table 5. **DA1920SX** Output Signals

PIN No.	Local Monitor Output 15-pin HD Female
1	Red
2	Green
3	Blue
4	ID Bit 4
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 6. **DA1920SX** Local Monitor Output Signals

DA1921SX

DA1920SX

INSTALLING YOUR DA1920SX 6

Step 1. Connect the 9V adapter's output plug to the **DA1920SX**'s power input jack.

Step 2. Verify a red LED is displayed in the top right corner of the unit on the front panel.

Step 3. Remove the protective port covers. Connect the video output from the computer to the computer input connector on the **DA1920SX**.

Step 4. Verify that the red LED on the face of the unit is now green, indicating an active source. If the LED is not green, the computer may not be sending video signals (check your user's guide). If 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.

Step 5. Connect the **DA1921SX** to the Main output connector using the CAT-5 cable with 8-pin telephone jack connector.

Step 6. If needed, connect a monitor to the Local Monitor output port through a 15-pin HD male to female cable and verify that the image quality is good.

Step 7. Verify that the picture quality connected to Output 1 and Output 2 of the **DA1921SX** 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 may shutdown the unit. To reset the unit, disconnect the power cable and then reattach.

NOTE: MOUNTING THE DA1920SX
To mount the **DA1920SX**, ALTINEX offers optional mini-brackets (**MB1001)** which provide wings on either side of the unit. The **DA1920SX** can be installed on a rack plate, furniture, or a wall.

OPERATION 7

There is only one adjustment necessary to operate the **DA1920SX**. The adjustment is for equalization on long cable runs. It is adjustable according to the cable length. The unit will operate successfully as long as cables are attached properly and other technical specifications are followed.

7.1 LED INDICATOR

The **DA1920SX** offers a special LED on the front panel that provides feedback to the user. When power is connected to the **DA1920SX**, the LED will turn Red. When an active computer source is connected to the **DA1920SX**, the LED will turn Green, indicating that it is receiving a signal by sensing the presence of the sync portion of the signal.

7.2 EQUALIZATION

The **DA1920SX** provides an equalization adjustment for long cable runs. Cable runs less than 50 feet in length will require little to no equalization. After that, the longer the cable, the more equalization is required.

In some cases, it will be necessary to adjust the equalization on both the transmitter and receiver.

TROUBLESHOOTING GUIDE 8

We have carefully tested and have found no problems in the supplied **DA1920SX.** 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 adapter is plugged into a working AC outlet and that the outlet has power.

Cause 2: Adapter is not plugged into DA1920SX.

Solution: Verify the DC power plug coming from the AC adapter is plugged all the way into the **DA1920SX**.

Cause 3: The DA1920SX has a problem.

Solution: If there is AC power to the adapter and the LED still does not turn on, the **DA1920SX** 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 **DA1920SX** 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 the 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 the local monitor and verify the quality is good. If the local image is good, see Cause 2.

Cause 2: Video equalization required.

Solution: Adjust the VIDEO EQUALIZATION on the **DA1920SX**. Long cable runs may require adjustment on both the **DA1920SX** and the **DA1921SX**.

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In general, cable runs less then 50 feet require little or no video equalization and should be set to minimum. Longer cable runs will require equalization on both the transmitter and receiver.

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: **Video equalization required.**

Solution: Adjust the VIDEO EQUALIZATION on the **DA1920SX**. Long cable runs may require adjustment on both the **DA1920SX** and the **DA1921SX**. If the image is still not correct, call ALTINEX at (714) 990-2300.

ALTINEX POLICY   9

9.1 LIMITED WARRANTY/RETURN POLICY

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

9.2 CONTACT INFORMATION

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