

# DISTRIBUTION AMPLIFIERS

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MANUAL PART NUMBER: 400-0024-004

## DA1222AT

### 1-IN, 2-OUT RGBHV DISTRIBUTION AMPLIFIER USER'S GUIDE

**ALTINEX**

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# DISTRIBUTION AMPLIFIERS

## INTRODUCTION

Altinex appreciates your purchase of the **DA1222AT** 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:

**DA1222AT** - 1-in 2-out RGBHV Distribution Amplifier.

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# DISTRIBUTION AMPLIFIERS

## PRECAUTIONS / SAFETY WARNINGS 1

Please read this manual carefully before using your **DA1222AT** Distribution Amplifier. Keep this manual handy for future reference. These safety instructions are to ensure the long life of your **DA1222AT** 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 DA1222AT

- Maximum operating ambient temperature is 35 (degrees C).
- Never restrict the air flow 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 **DA1222AT** 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 **DA1222AT** 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 **DA1222AT** Distribution Amplifier carefully. Dropping or jarring can damage internal components.
- Do not place heavy objects on top of the **DA1222AT**. If the **DA1222AT** is to be mounted,

to a table or wall, use only Altinex made mounting accessories (Rack Mount Shelf **DA1293FC**, Rack Mount Ears **DA1294FC**) and cables for optimum setup.

- To turn off the main power, be sure to remove the power cord from power outlet. The power outlet socket should be installed as close to the equipment as possible, and should be easily accessible.
- Do not pull power cord or any cable that is attached to the **DA1222AT** Distribution Amplifier.
- If the **DA1222AT** Distribution Amplifier is not used for an extended period, disconnect the power cord from the power outlet.

### 1.4 CLEANING

- Unplug the **DA1222AT** 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 his own expense.

# DISTRIBUTION AMPLIFIERS

- 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 DISTRIBUTION AMPLIFIER 2

The **DA1222AT** is a 1-in 2-out RGBHV high-resolution video distribution amplifier. It allows the connection of a single video source from a computer or interface to one or two monitors or projectors capable of handling the source resolution and scan frequency.

The **DA1222AT** offers a minimum bandwidth of 350 MHz and a typical bandwidth of 500 MHz, allowing it to remain virtually transparent to high-resolution signals.

Though primarily designed to pass an RGBHV signal format, the **DA1222AT** can also pass RGBS, RGsB, Component Video (Y, R-Y, B-Y), S-Video (Y/C), and Composite Video by using the appropriate channels.

The **DA1222AT** uses an internal 110/220 V switchable power supply. It can be rack-mounted using optional hardware.

The **DA1222AT** uses 5-BNC connectors for each input and output representing red, green, blue, horizontal sync, and vertical sync signals.

## TECHNICAL SPECIFICATIONS 3

FEATURES/DESCRIPTION	DA1222AT
<b>GENERAL</b>	
<b>No. of Inputs</b>	1
Input Connector	Set of 5-BNC Female
<b>No. of Outputs</b>	2
Output Connectors	Two sets of 5-BNC Female
<b>Compatibility</b>	High resolution RGBHV, RGBS, RGsB and RsGsBs, Component, S-Video and Composite Video (VGA, SVGA, XGA, UXGA signals)

Table 1. **DA1222AT** General

MECHANICAL	DA1222AT
Material	0.1" Al
Finish	Gray
Front/Back Panels	Lexan
Height (inches)	1.75in (44mm)
Width (inches)	8.50in (216mm)
Depth (inches)	4.50in (114mm)
Weight (pounds)	2.0lbs (0.91kg)
Ship Weight (pounds)	3.2lbs (1.45kg)
T° Operating	10°C-35°C
T° Maximum	50°C
Humidity	90% non-condensing
MTBF (calculations)	40,000 hrs

Table 2. **DA1222AT** Mechanical

ELECTRICAL	DA1222AT
<b>Input Video Signals</b>	
Analog Signal	1.5V p-p max
Impedance	75 Ohms
<b>Input Sync Signals</b>	
Horizontal, Vertical, & C-Sync	TTL(+/-)
Sync on Green	-0.3V
Impedance	10 k Ohms
<b>Output Video Signals</b>	
Analog Signal	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>	
Horizontal	15-200 kHz
Vertical	47-180 Hz
Typical Video Bandwidth	500 MHz @ -3dB
Minimum Video Bandwidth	350 MHz @ -3dB
<b>Cable Equalization</b>	3 dB @ 120 MHz
<b>Coupling</b>	DC
<b>Cross-talk</b>	-40dB @ 10 MHz
<b>Power</b>	
Internal Power Adapter	90-140/200-240 V
<b>Power Consumption</b>	10 watts max

Table 3. **DA1222AT** Electrical



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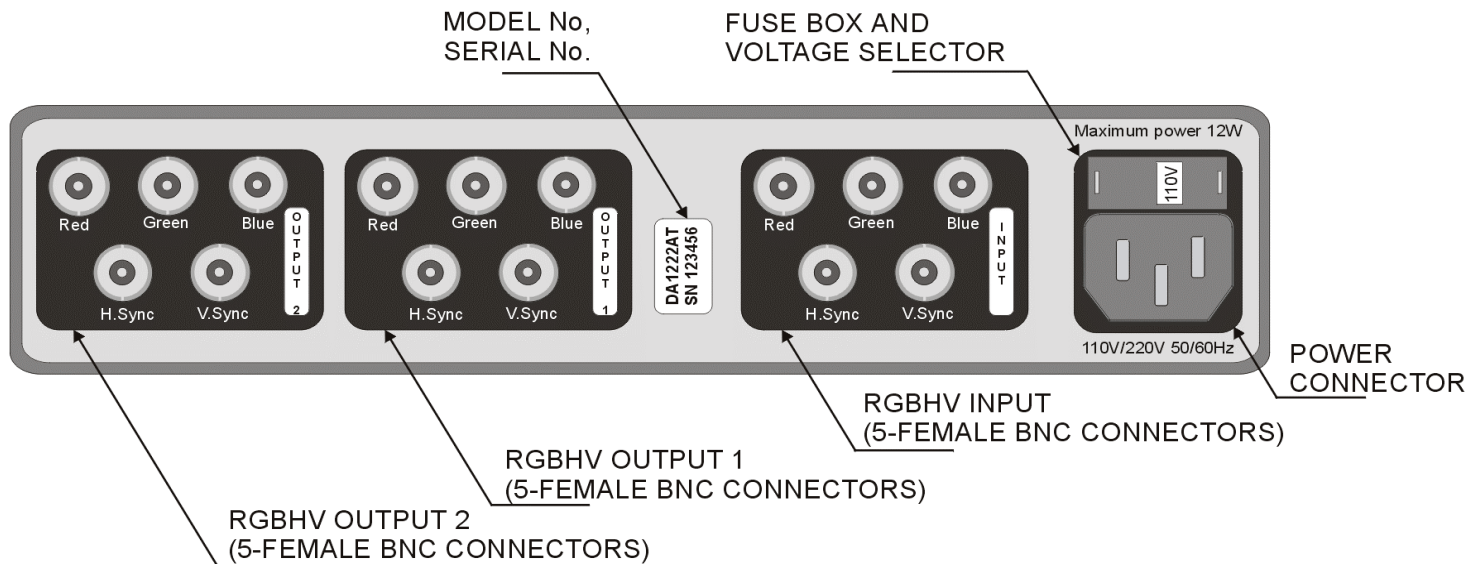
## DESCRIPTION OF DA1222AT 4

### FRONT PANEL OF DA1222AT



FRONT PANEL POWER INDICATOR LED

### BACK PANEL OF DA1222AT



# DISTRIBUTION AMPLIFIERS

## 4.1 POWER REQUIREMENTS

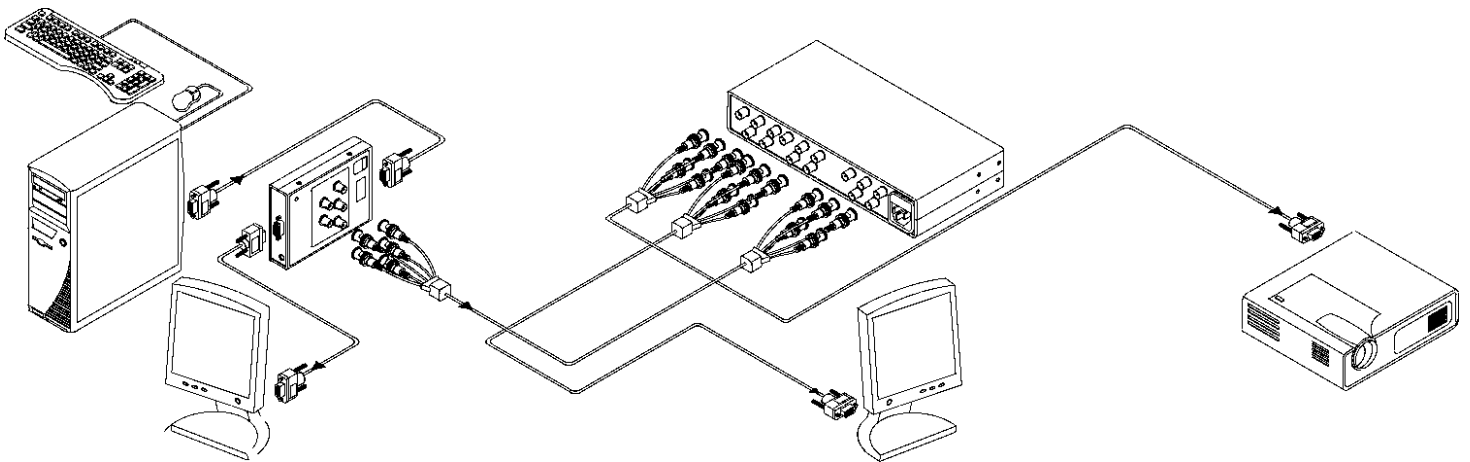
The **DA1222AT** may be used with either 90-140V AC or 200-240V AC for the input for ease of use throughout the world. Always make sure that the fuse box window located above the power input connector displays the proper voltage of the country where it is being used. To change the setting first, unplug the **DA1222AT**, and then squeeze the clips on either side of the fuse box. Pull out the fuse holder and turn it 180 degrees. Reset the fuse holder into fuse box so that proper voltage is being displayed through the window. Re-insert the fuse box making sure that the side clips of the fuse box lock securely into place.

## 4.2 MOUNTING CAPABILITY

The **DA1222AT** can be easily mounted into an equipment rack. Four mounting holes are provided on each side of the unit. To mount a single unit, use Altinex 19"-1U Rack Mount Ears (part # **DA1294FC**). To mount two units in tandem, use an Altinex 19"-1U Rack Mount Shelf (part # **DA1293FC**). For mounting under the table, optional brackets, such as the **TM1271**, **TM1272**, **TM1273**, or **TM1274** can be used.

## APPLICATION DIAGRAM

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## INSTALLATION 6

- Step 1.** Before you plug in the power cord into the unit, please verify that the voltage rating of 110V/220V on the FUSE CLIP located on the rear of the unit is the same as the power outlet.
- Step 2.** Connect the female end of the power cord to the **DA1222AT** and plug the male end into the power outlet. The power indicator LED on the front panel will turn ON. This indicates that the unit is operational.
- Step 3.** Connect the video output of the source (computer, or interface, or any other high-resolution source) to the input of the **DA1222AT** using a high quality coaxial-type cable. If the source offers a VGA-type 15-pin HD connector, then use a special cable - Altinex part # **MS8102CA** (15-pin HD Male to 5 BNC Male 6 feet cable) may be used.  
NOTE: You may have to use an interface (**DA1910SX** or **VA6855WM**) with your source computer to provide the appropriate signal format type and to allow the use of a local monitor. Do not use a Y-cable or monitor breakout cable to connect the computer to the **DA1222AT** because this will affect the quality of the high-resolution input signal.
- Step 4.** Connect the output channels of the **DA1222AT** to the display devices (i.e. monitors and/or projectors) using a cable less than 10 feet with the appropriate number of channels.
- Step 5.** Verify that the picture quality and bandwidth on all displays is good.

**CONGRATULATIONS! YOU ARE DONE.**

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

## OPERATION 7

The **DA1222AT** will operate successfully as long as cables are attached properly and other technical specifications are followed. There are no other adjustments necessary to operate the unit.

## ACCESSORIES 8

Model No.	Description
	<b>TABLE MOUNT BRACKETS</b>
<b>TM1271</b>	1 U High, ½ Rack-Wide
<b>TM1272</b>	1 U High, ½ Rack-Wide with 15-pin HD connector plate
<b>TM1273</b>	1 U High, ½ Rack-Wide with SNAP-IN connectors
<b>TM1274</b>	1 U High, ½ Rack-Wide with SNAP-IN and power connectors
	<b>RACK/TABLE MOUNT HARDWARE</b>
<b>DA1293FC</b>	19"-1U Rack Mount Shelf fits two ½ rack wide units
<b>DA1294FC</b>	19"-1U Rack Mount Ears. Holds one 1/2 rack wide unit
	<b>HIGH RESOLUTION 5-CHANNEL COAX CABLE</b>
<b>CB4203MR</b>	3 feet, 5-BNC to 5-BNC
<b>CB4206MR</b>	6feet, 5-BNC to 5-BNC
<b>CB4212MR</b>	12 feet, 5-BNC to 5-BNC
<b>CB4225MR</b>	25 feet, 5-BNC to 5-BNC
<b>CB4250MR</b>	50 feet, 5-BNC to 5-BNC
<b>CHB4275MR</b>	75 feet, 5-BNC to 5-BNC
<b>CB42100MR</b>	100 feet, 5-BNC to 5-BNC
<b>CB42150MR</b>	150 feet, 5-BNC to 5-BNC
	<b>SUPER HIGH RESOLUTION 5-CHANNEL COAX CABLE</b>
<b>CB4406MR</b>	6feet, 5-BNC to 5-BNC
<b>CB4412MR</b>	12 feet, 5-BNC to 5-BNC
<b>CB4425MR</b>	25 feet, 5-BNC to 5-BNC
<b>CB4450MR</b>	50 feet, 5-BNC to 5-BNC
<b>CB4475MR</b>	75 feet, 5-BNC to 5-BNC
<b>CB44100MR</b>	100 feet, 5-BNC to 5-BNC
<b>CB44150MR</b>	150 feet, 5-BNC to 5-BNC
	<b>VGA TO RGB ADAPTER CABLES</b>
<b>MS8102CA</b>	15-pin HD Male to 5 BNC Male, 6ft
<b>MS8104CA</b>	15-pin HD Male to 5 BNC Male, 15ft
<b>MS8105CA</b>	15-pin HD Male to 5 BNC Male, 50 ft
<b>MS8112CA</b>	15-pin HD Female to 5 BNC Male, 6ft
<b>MS8114CA</b>	15-pin HD Female to 5 BNC Male, 15ft

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POWER CABLES	
<b>PS5301US</b>	Power Cable for US
<b>PS5302UK</b>	Power Cable for UK
<b>PS5303AU</b>	Power Cable for Australia
<b>PS5304GR</b>	Power Cable for Germany

## FREQUENTLY ASKED QUESTIONS 9

No:	Question	Answer
1	What length of cable may I use with the <b>DA1222AT</b> ?	The outputs of the <b>DA1222AT</b> allow signals to be driven through 10 feet or more of cable depending on the cable quality and the source signal resolution.
2	What kinds of outputs are offered by the <b>DA1222AT</b> ?	The <b>DA1222AT</b> offers two individually buffered outputs.
3	What does buffered output mean?	Buffered output means that the output signal is isolated from the input signal. The loaded output does not affect the input, or any other output on the device. A buffered output may vary in terms of the gain or peaking adjustments made to the video signal.
4	What type of signals can the <b>DA1222AT</b> pass?	The <b>DA1222AT</b> can pass RGBHV, RGBS, RGSB, RsGsBs, Component Video, S-Video, and Composite Video by using appropriate channels. Video sources may be passed through red, green, and blue channels as well as the horizontal and vertical sync channels.
5	May I use CAT-5 cables instead of coaxial cables?	No, you can not use CAT-5 cables instead of coaxial cables because you will lose the quality of the video signal. Since there is no isolation of each wire, the

		signals will interfere with each other.
6	What is the maximum resolution that I can pass through the <b>DA1222AT</b> ?	Resolution format describes the number of pixels and lines in a given video image, as well as the rate at which each frame is re-drawn or refreshed. Offering a minimum video bandwidth of 350 MHz and a typical bandwidth close of 500 MHz, the <b>DA1222AT</b> allows a very high-resolution video signal to pass through without degrading the quality of the image.



## TROUBLESHOOTING GUIDE 10

- Please make sure that the amplitude of the analog video signal (RGB) is less than 1.5V.
- Please make sure that the amplitude of the SYNC signal is at TTL level.
- Please make sure that the proper quality of cables is used to set a perfect picture quality as your source. Before isolating any problem to the **DA1222AT**, make sure that all connectors are properly connected to all cables. We recommend Altinex made cables for best results.
- If a problem arises after continuous usage at higher voltage, higher temperature, higher humidity, or at other extreme environmental conditions, please correct the problem.  
NOTE: The sync pulse voltage must be at least 1.4V for proper operation of the distribution amplifier. If lower voltage is used, please contact Altinex for additional information.
- If you do not see a picture on both outputs, make sure that the attached display is compatible with the resolution of the computer.

## ALTINEX POLICY 11

### 11.1 LIMITED WARRANTY

See Altinex Inc. web site for complete details.

### 11.2 RETURN POLICY

See Altinex web site for complete details.

### 11.3 CONTACT INFORMATION

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