

MANUAL PART NUMBER: 400-0016-003
PRODUCT REVISION: 2

DA1506RT
1-IN, 6-OUT VGA
DISTRIBUTION AMPLIFIER
USER'S GUIDE

DISTRIBUTION AMPLIFIERS

INTRODUCTION

Thank you for purchasing the **DA1506RT** 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:

DA1506RT - 1-in, 6-out VGA/SVGA/XGA
Distribution Amplifier

TABLE OF CONTENTS

	Page
PRECAUTIONS / SAFETY WARNINGS	2
GENERAL	2
RACK MOUNT SAFETY GUIDELINES	2
INSTALLATION	2
CLEANING	2
FCC / CE NOTICE	2
ABOUT YOUR DISTRIBUTION AMPLIFIER	3
TECHNICAL SPECIFICATION	3
DESCRIPTION OF DA1506RT	4
INPUT AND OUTPUTS	4
BOOT UP SWITCHES	5
APPLICATION DIAGRAM	5
INSTALLING YOUR DISTRIBUTION AMPLIFIER.....	6
OPERATION	6
ACCESSORIES.....	7
FREQUENTLY ASKED QUESTIONS.....	7
TROUBLESHOOTING GUIDE	8
ALTINEX POLICY	8
LIMITED WARRANTY.....	8
RETURN POLICY	8
CONTACT INFORMATION.....	8

DISTRIBUTION AMPLIFIERS

PRECAUTIONS / SAFETY WARNINGS 1

Please read this manual carefully before using your **DA1506RT** Distribution Amplifier. Keep this manual handy for future reference. These safety instructions are to ensure the long life of your **DA1506RT** 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 DA1506RT

- 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 **DA1506RT** 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 **DA1506RT** 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 **DA1506RT** Distribution Amplifier carefully. Dropping or jarring can damage internal components.

- Do not place heavy objects on top of the **DA1506RT**. If the **DA1506RT** is to be mounted to a table or wall, use only Altinex made mounting accessories, such as brackets (**DA1293FC** and **DA1294FC**) and cables for optimum setup.
- To turn off the main power, be sure to remove the cord from the power outlet. The power outlet socket should be installed as near to the equipment as possible, and should be easily accessible.
- Do not pull the power cord or any cable that is attached to the **DA1506RT** Distribution Amplifier.
- If the **DA1506RT** Distribution Amplifier is not used for an extended period, disconnect the power cord from the power outlet.

1.4 CLEANING

- Unplug the **DA1506RT** 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

DISTRIBUTION AMPLIFIERS

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 DISTRIBUTION AMPLIFIER 2

The **DA1506RT** is a 1-in 6-out VGA/SVGA/XGA distribution amplifier designed to connect a single computer video source to as many as six scan rate compatible displays. The **DA1506RT** will pass an analog video signal up to 1.5 V p-p. Using AGC sync circuitry, the **DA1506RT** converts incoming TTL sync levels to a standard 4 V p-p level.

All input and output connectors are 15-pin HD female. This provides superior durability, as the pins on the male connectors can be easily bent (disabling the entire unit). A male to male VGA cable will typically be required for connection between the computer and the input to the **DA1506RT**.

Four ID bit switches allows a user to boot up a computer at a variety of monitor settings. Though primarily designed for use with displays using 15-pin HD (VGA-type) connectors, the **DA1506RT** can pass RGBHV, RGBS, and RGsB format signals. Adapter cables may be necessary to accomplish the appropriate connector change.

The **DA1506RT** is great for desktop use, but can also be rack-mounted using optional hardware.

TECHNICAL SPECIFICATIONS 3

FEATURES/DESCRIPTION	DA1506RT
GENERAL	
No. of Inputs	1
Input Connector	15-pin HD Female
No. of Outputs	6
Output Connectors	Six 15-pin HD Female
Compatibility	VGA, thru UXGA, high resolution RGBHV, RGBS, RGsB and RsGsBs

Table 1. **DA1506RT** General

MECHANICAL	DA1506RT
Material	0.1" Al
Finish	Gray
Top Panel	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. **DA1506RT** Mechanical

ELECTRICAL	DA1506RT
Input Video Signal	
Analog Signal	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	Gain of 1.05 (+/-5%)
Fall/Rise Time (ns)	1.4
Impedance	75 Ohms
Output Sync Signal	
Composite Sync	TTL(+/-)
Sync on Green	-0.3V
Impedance	22 Ohms
Frequency Compatibility	
Horizontal	15 - 200 kHz
Vertical	47 -180 Hz
Minimum Video Bandwidth	350 MHz
Typical Video Bandwidth	380 MHz
Coupling	
	DC
Cross-talk	
	-40dB @10 MHz
Power	
External Power	90-140/200-24V
Power Consumption	
	10 watts max.
Included	
Distribution Amplifier	DA1506RT
Manual	X
Power Cable	X

Table 3. **DA1506RT** Electrical

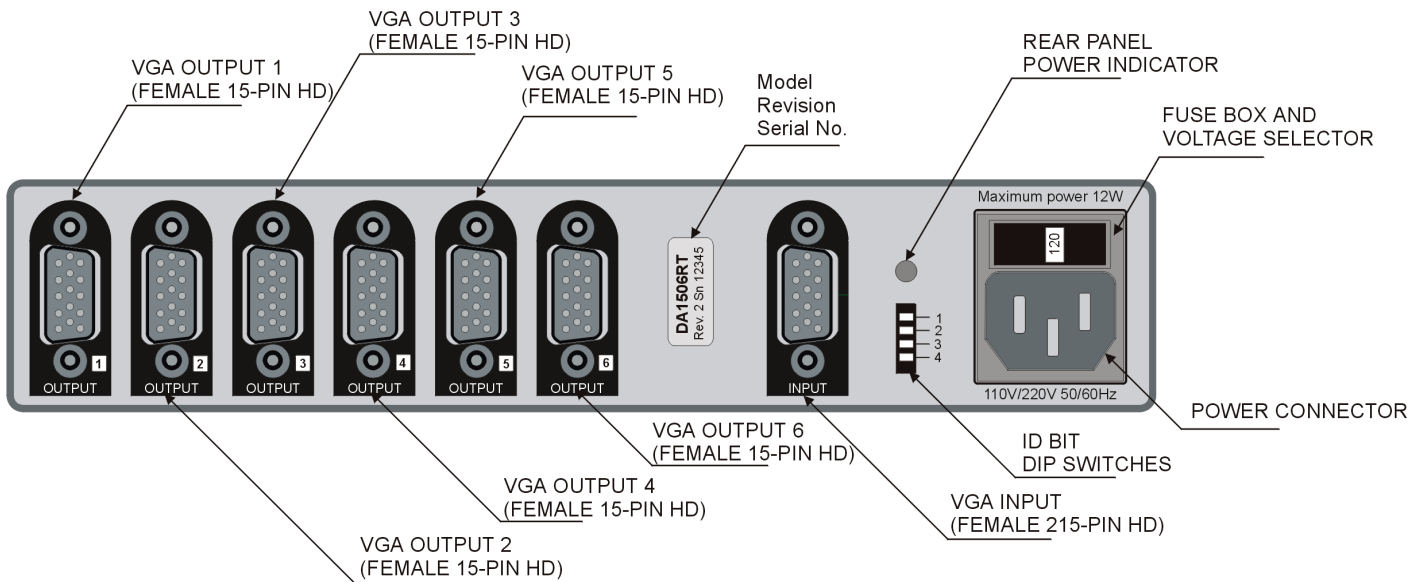
DISTRIBUTION AMPLIFIERS

DESCRIPTION OF DA1506RT 4

FRONT PANEL OF DA1506RT



BACK PANEL OF DA1506RT



4.1 INPUT AND OUTPUTS

Using female 15-pin HD (VGA-type) connectors on all input and output connectors, the **DA1506RT** can be used with readily available VGA-type cables. If desired, the input and/or outputs of the **DA1506RT** can be adapted easily to 5 BNC connectors to allow it to be used with RGsB, RGBS, or RGBHV signal types as well. This requires the use of Altimex **MS8100** series adapter cable (15-pin to 5 BNC).

PIN No.	Input signals on 15-pin HD female connector
1	Red
2	Green
3	Blue
4	ID Bit 1 (Grounded when ID Bit switch is ON)
5	Ground
6	Ground
7	Ground
8	Ground
9	No connection
10	No connection

DISTRIBUTION AMPLIFIERS

PIN No.	Input signals on 15-pin HD female connector
11	ID Bit 2 (Grounded when ID Bit switch is ON)
12	ID Bit 3 (Grounded when ID Bit switch is ON)
13	Horizontal Sync
14	Vertical Sync
15	ID Bit 4 (Grounded when ID Bit switch is ON)

Table 4. The DA1506RT Input pin-out

PIN No.	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	No connection
10	Ground
11	No connection
12	No connection
13	Horizontal Sync
14	Vertical Sync
15	No connection

Table 5. The DA1506RT Outputs pin-out

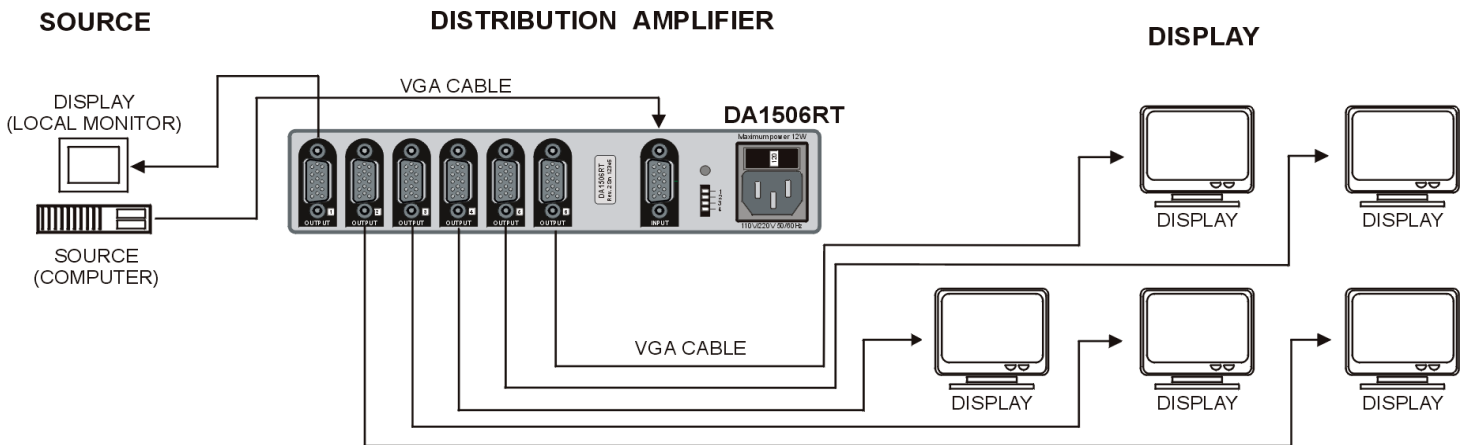
4.2 BOOT UP SWITCHES

Some video cards require proper sense ID pins to determine boot up mode. Sense pins are usually present on VGA video cards. When distribution amplifiers are used, the local monitor (monitor connecting directly to the computer) is no longer available. To insure proper boot up of the computer, the DA1506RT has a dip-switch located on the back panel of the unit.

SWITCH	FUNCTION	ON	OFF
1	Pin 4	GND	OPEN
2	Pin 11	GND	OPEN
3	Pin 12	GND	OPEN
4	Pin 15	GND	OPEN

Table 6. Description dip-switches of the DA1506RT

APPLICATION DIAGRAM 5



INSTALLING YOUR DISTRIBUTION AMPLIFIER

6

- Step 1.** Make sure that the power input is set to the proper AC voltage in your country. Incorrect settings can result in equipment damage not covered by warranty. If the power input voltage needs to be modified, remove the fuse portion of the power entry module and change the location of the fuse. Note that the correct voltage is visible through the voltage designation window.
- Step 2.** Connect the power cord to the unit and plug it into the power outlet. The power indicator LED on the front and back panel will light. This indicates that the unit is operational.
- Step 3.** Connect a cable from the computer to the input channel of the amplifier. Then connect output channels of the amplifier to the display devices (i.e. monitors or projectors).
- Step 4.** If the image is less than perfect, check all of the connections. The unit is very reliable and seldom will this be the cause of malfunction. Poor quality cables may often degrade the performance of the product. Make sure that the cables used are coaxial cables and that all pins are in good condition.

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 settings of the **DA1506RT** Distribution Amplifier can be adjusted using Boot switches as described in Section no. 4. There are no other adjustments necessary to operate the unit. The **DA1506RT** will operate successfully as long as cables are attached properly and other technical specifications are followed.

DISTRIBUTION AMPLIFIERS

ACCESSORIES 8

Model No.	Description
	TABLE MOUNT BRACKET
TM1271	1 U High, ½ rack units
TM1272	1 U High, ½ rack units w/Computer Input
TM1273	1 U High, ½ rack units w / Computer + A / V Inputs
TM1274	1 U High, ½ rack units w / Computer + A / V + Power Inputs
	RACK MOUNTING ACCESSORIES
DA1293RM	19"-1U Rack Mount Shelf (2- Units)
DA1294RM	19"-1U Rack Mount Ears for single unit.
	VGA MALE TO MALE CABLES (15-PIN HD TO 15-PIN HD)
CB3703R	3 ft
CB3706R	6 ft
CB3715R	15 ft
CB3725R	25 ft
CB3750R	50 ft (Super High Resolution Coaxes)
CB3775R	75 ft (Super High Resolution Coaxes)
CB37100R	100 ft (Super High Resolution Coaxes)
CB37150R	150 ft (Super High Resolution Coaxes)
	VGA MALE TO FEMALE CABLES (15-PIN HD TO 15-PIN HD)
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)
	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 CABLES
PC5301US	Power cable for US
PS5302UK	Power cable for England
PS5303AU	Power cable for Australia
PS5304GR	Power cable for Germany

FREQUENTLY ASKED QUESTIONS 9

No:	Question	Answer
1	What is a Distribution Amplifier?	A Distribution Amplifier is a device that allows you to connect a single video source to multiple display devices, such as monitors or projectors used in presentation applications.
2	May I have on the outputs of the DA1506RT in high resolution RGBHV and RGBS format signals if it is already on the input VGA format signal?	No, because a Distribution Amplifier does not change a signal resolution format – it only passes it through. It is critical to insure that the display equipment used in a system is compatible with the source equipment in terms of signal resolution.
3	May I use all 6 outputs of the DA1506RT ?	It is not necessary to use all six outputs and it is not necessary to terminate unused outputs, because you have six individually buffered outputs.
4	What is meant by buffered output?	Buffered output means that the output signal is isolated from the input signal. The loaded output does not affect the input, or other output on the device. A buffered output may vary in terms of the gain or peaking adjustments made to the video signal.
5	Which type of signal format may I pass through the DA1506RT ?	The DA1506RT can pass VGA through UXGA. It may also be used to pass high resolution RGBHV, RGBS, RGsB, and RsGsBs signal formats.

TROUBLESHOOTING GUIDE 10

We have carefully tested the supplied **DA1506RT** unit and have found no problems; however, we would like to offer the following suggestions:

- Make sure that the power input is set to the proper AC voltage. Make sure that the correct voltage is visible through the voltage designation window.
- Please make sure that the input amplitude of analog signal is less than 1.5V.
- Please use Altinex supplied external adapter (9V, 500mA).
- Please make sure that proper quality of cables is used. 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.

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 pre-paid 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 needs. In the unlikely event that an Altinex product needs to be returned, please follow the policies below:

Altinex will accept product return 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