

Kramer Electronics, Ltd.



USER MANUAL

Model:

VA-256

Audio Delay

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This addendum adds the following information to the user manual:

	Caution – No operator-serviceable parts inside unit.
	Warning – Use only the Kramer Electronics input power wall adapter that is provided with this unit ¹ .
	Warning – Disconnect power and unplug unit from wall before installing or removing device or servicing unit.

¹ For example: model number AD2512C, part number 2535-000251

1 Introduction

Dedication by Kramer Electronics since 1981, to the development and manufacture of high quality video/audio equipment, makes the Kramer line an integral part of the finest production and presentation facilities in the world. In recent years, Kramer has redesigned and upgraded most of the line, making the best even better! The Kramer line of professional video/audio electronics is one of the most versatile and complete available, and is a true leader in terms of quality, workmanship, price/performance ratio and innovation. In addition to our high quality accessories, like the Kramer TOOLS **VA-256 Audio Delay**, we also offer excellent switchers and matrices, distribution amplifiers, remote controllers, presentation processors and interfaces. Congratulations on purchasing your **VA-256**, which is ideal for audio/video broadcasting and production studios.

The package includes the following items:

- **VA-256 Audio Delay** unit
- Power adapter (12V DC Input)
- This user manual¹ and the Kramer concise product catalog/CD

2 Getting Started

We recommend that you:

- Unpack the equipment carefully and save the original box and packaging materials for possible future shipment
- Review the contents of this user manual
- Use Kramer high performance high resolution cables²

3 Overview

The high-performance **VA-256** is a balanced stereo audio delay, that:

- Lets you adjust for lip sync errors so that the audio delay will match the video delay³
- Provides a user-programmable delay ranging from 10.6 msec to 2.7 sec in increments of 10.6 msec
- Uses high quality anti-aliasing and output smoothing filters

1 Download up-to-date Kramer user manuals from the Internet at this URL: <http://www.kramerelectronics.com/manuals.html>

2 The complete list of Kramer cables is on our Web site at <http://www.kramerelectronics.com> (click "Cables and Connectors" in the Products section)

3 An example of a TV broadcasting lip sync error is when a speaker's lips move before the actual sound is heard

- Digitizes to 24-bit resolution at 48kHz to achieve outstanding audio quality
- Being fully transparent from 20Hz to 20kHz, is ideal for the most demanding audio applications
- Comes with inputs and outputs conveniently placed on 6 pin detachable terminal block connectors

Achieving the best performance means:

- Connecting only good quality connection cables, thus avoiding interference, deterioration in signal quality due to poor matching, and elevated noise levels (often associated with low quality cables)
- Avoiding interference that may adversely influence signal quality and positioning the **VA-256** away from moisture, excessive sunlight and dust

4 Your VA-256 Audio Delay

Figure 1 and Table 1 define the **VA-256 Audio Delay**:

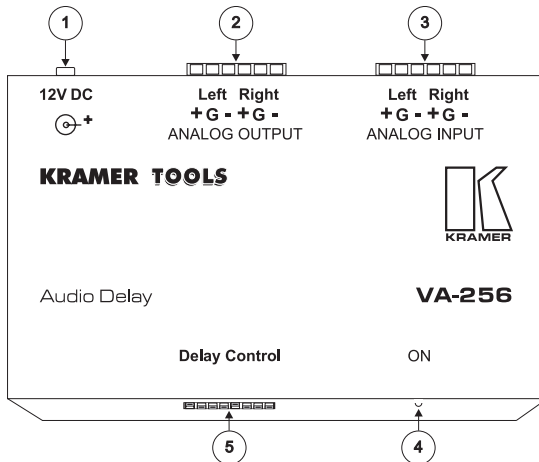


Figure 1: VA-256 Audio Delay

Table 1: Features and Functions of the VA-256 Audio Delay

#	Feature	Function
1	12V DC	+12V DC connector for powering the unit
2	ANALOG OUTPUT Terminal Block Connector	Connect to the audio acceptor
3	ANALOG INPUT Terminal Block Connector	Connect to the audio source
4	ON LED	Illuminates when receiving power
5	Delay Control Dipswitches	Dipswitches for setup of the delay time ¹

¹ Ranging from 10.6 msec to 2.7 sec in increments of 10.6 msec

5 Using the VA-256 Audio Delay

To adjust a lip sync error when using a **VP-724DS** *Seamless Switcher / Scaler*, use the **VA-256**, as the example in Figure 6 illustrates:

1. Connect the **VA-256**, as follows (see section 5.1):
 - Connect the audio output of the “s-Video Source 1” to the YC1 AUDIO IN terminal block connector on the **VP-724DS** and then connect the AUDIO OUT terminal block connector of the **VP-724DS** to the ANALOG INPUT terminal block connector on the **VA-256**
 - Connect the ANALOG OUTPUT terminal block connector on the **VA-256** to the audio input on the “Plasma Monitor”
2. Connect the 12V DC power adapter to the power socket and connect the adapter to the mains electricity.
3. Set the Delay Control dipswitches, as section 5.2 describes.

5.1 Connecting the Balanced/Unbalanced Stereo Audio Input/Output

Figure 2 illustrates how to wire a balanced input/output connection:

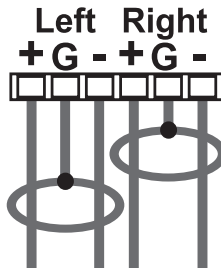


Figure 2: Connecting the Balanced Stereo Audio Input/Output

Figure 3 illustrates how to wire an unbalanced input connection:

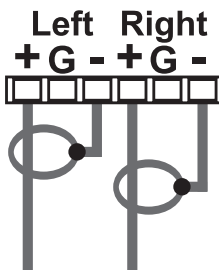


Figure 3: Connecting the Unbalanced Stereo Audio Input

Figure 4 illustrates how to wire an unbalanced output:

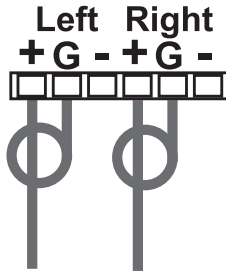


Figure 4: Connecting the Unbalanced Stereo Audio Output

Figure 5 illustrates how to connect an unbalanced source to the balanced input on the VA-256:

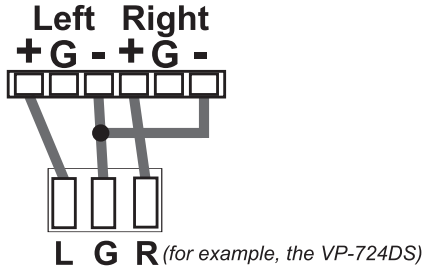


Figure 5: Connecting an Unbalanced Source to the Balanced VA-256 Input

Using the VA-256 Audio Delay

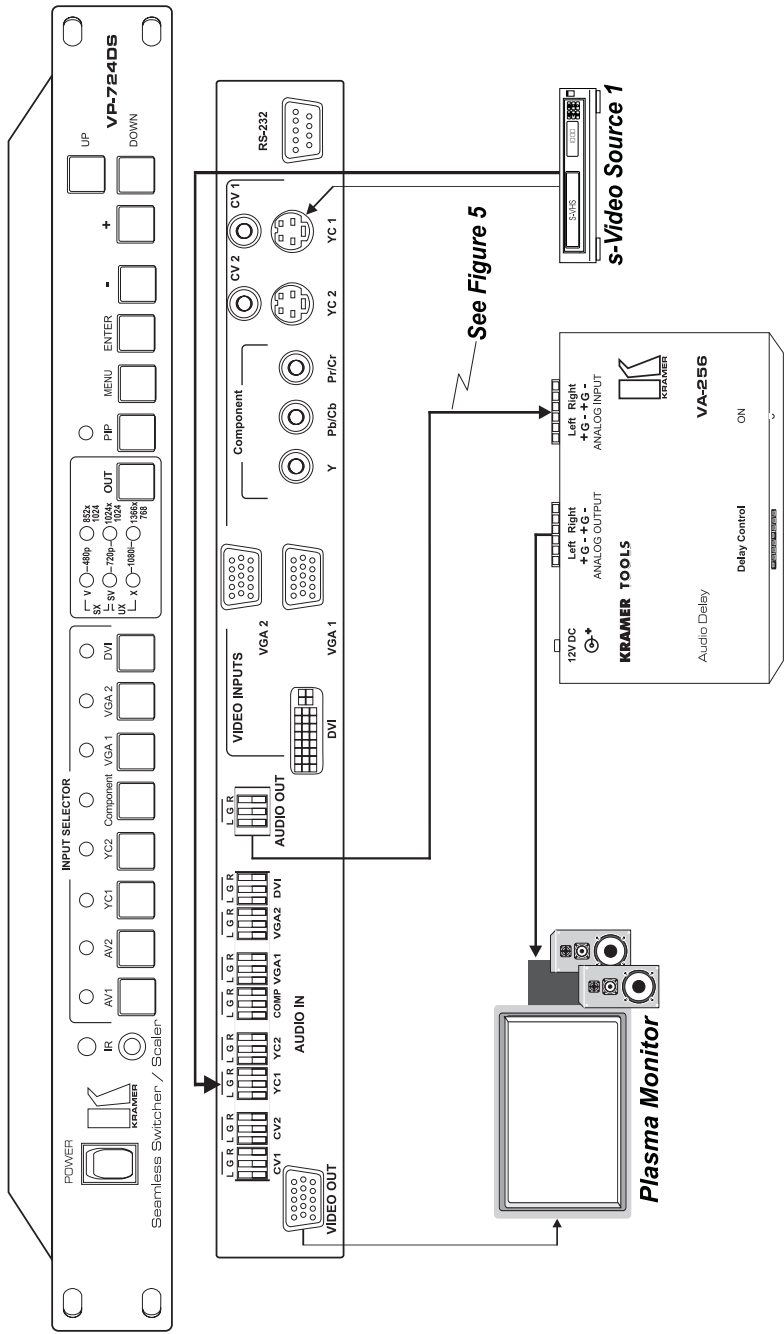


Figure 6: Connecting the VA-256 Audio Delay

5.2 Setting the Delay Control Dipswitches

Set the delay time¹ using the Delay Control dipswitches, as Table 2 defines.

Table 2: Setting the Delay Control Time using the Delay Control Dipswitches

msec	Binary Value	Increment	DIP 1	DIP 2	DIP 3	DIP 4	DIP 5	DIP 6	DIP 7	DIP 8
10.6	1	1	ON	ON	ON	ON	ON	ON	ON	OFF
21.2	10	2	ON	ON	ON	ON	ON	ON	OFF	ON
31.8	11	3	ON	ON	ON	ON	ON	ON	OFF	OFF
42.4	100	4	ON	ON	ON	ON	ON	OFF	ON	ON
53	101	5	ON	ON	ON	ON	ON	OFF	ON	OFF
63.6	110	6	ON	ON	ON	ON	ON	OFF	OFF	ON
74.2	111	7	ON	ON	ON	ON	ON	OFF	OFF	OFF
84.8	1000	8	ON	ON	ON	ON	OFF	ON	ON	ON
95.4	1001	9	ON	ON	ON	ON	OFF	ON	ON	OFF
106	1010	10	ON	ON	ON	ON	OFF	ON	OFF	ON
116.6	1011	11	ON	ON	ON	ON	OFF	ON	OFF	OFF
127.2	1100	12	ON	ON	ON	ON	OFF	OFF	ON	ON
137.8	1101	13	ON	ON	ON	ON	OFF	OFF	ON	OFF
148.4	1110	14	ON	ON	ON	ON	OFF	OFF	OFF	ON
159	1111	15	ON	ON	ON	ON	OFF	OFF	OFF	OFF
212	10100	20	ON	ON	ON	OFF	ON	OFF	ON	ON
265	11001	25	ON	ON	ON	OFF	OFF	ON	ON	OFF
371	100011	35	ON	ON	OFF	ON	ON	ON	OFF	OFF
477	101101	45	ON	ON	OFF	ON	OFF	OFF	ON	OFF
583	110111	55	ON	ON	OFF	OFF	ON	OFF	OFF	OFF
795	1001011	75	ON	OFF	ON	ON	OFF	ON	OFF	OFF
1060	1100100	100	ON	OFF	OFF	ON	ON	OFF	ON	ON
1325	1111101	125	ON	OFF	OFF	OFF	OFF	OFF	ON	OFF
1590	10010110	150	OFF	ON	ON	OFF	ON	OFF	OFF	ON
1855	10101111	175	OFF	ON	OFF	ON	OFF	OFF	OFF	OFF
2120	11001000	200	OFF	OFF	ON	ON	OFF	ON	ON	ON
2385	11100001	225	OFF	OFF	OFF	ON	ON	ON	ON	OFF
2650	11111010	250	OFF	OFF	OFF	OFF	OFF	ON	OFF	ON
2700	11111111	255	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF

¹ Ranging from 10.6 msec to 2.7 sec in increments of 10.6 msec

6 Technical Specifications

Table 3 includes the technical specifications:

Table 3: Technical Specifications¹ of the VA-256 Audio Delay

INPUTS:	4dBu / 30kΩ on a detachable terminal block connector
OUTPUTS:	4dBu / 50Ω on a detachable terminal block connector
MAX. INPUT/OUTPUT LEVEL:	+12dBu balanced
BANDWIDTH:	20Hz – 20kHz; 0.1dB
THD + NOISE:	< 0.01%, +4dBu 1kHz
S/N RATIO:	>90dB unweighted, +10dBu
A/D CONVERSION:	48kHz, 24 bit
MINIMUM DELAY:	10.6 msec
MAXIMUM DELAY:	2.7 sec
POWER SOURCE:	12V DC, 500 mA
DIMENSIONS:	12 cm x 7.5 cm x 2.5 cm (4.7" x 2.95" 0.98", W, D, H)
WEIGHT:	0.3 kg (0.67 lbs.) approx
ACCESSORIES:	Power Adapter

¹ Specifications are subject to change without notice

LIMITED WARRANTY

Kramer Electronics (hereafter Kramer) warrants this product free from defects in material and workmanship under the following terms.

HOW LONG IS THE WARRANTY

Labor and parts are warranted for three years from the date of the first customer purchase.

WHO IS PROTECTED?

Only the first purchase customer may enforce this warranty.

WHAT IS COVERED AND WHAT IS NOT COVERED

Except as below, this warranty covers all defects in material or workmanship in this product. The following are not covered by the warranty:

1. Any product which is not distributed by Kramer, or which is not purchased from an authorized Kramer dealer. If you are uncertain as to whether a dealer is authorized, please contact Kramer at one of the agents listed in the web site www.kramerelectronics.com.
2. Any product, on which the serial number has been defaced, modified or removed.
3. Damage, deterioration or malfunction resulting from:
 - i) Accident, misuse, abuse, neglect, fire, water, lightning or other acts of nature
 - ii) Product modification, or failure to follow instructions supplied with the product
 - iii) Repair or attempted repair by anyone not authorized by Kramer
 - iv) Any shipment of the product (claims must be presented to the carrier)
 - v) Removal or installation of the product
 - vi) Any other cause, which does not relate to a product defect
 - vii) Cartons, equipment enclosures, cables or accessories used in conjunction with the product

WHAT WE WILL PAY FOR AND WHAT WE WILL NOT PAY FOR

We will pay labor and material expenses for covered items. We will not pay for the following:

1. Removal or installations charges.
2. Costs of initial technical adjustments (set-up), including adjustment of user controls or programming. These costs are the responsibility of the Kramer dealer from whom the product was purchased.
3. Shipping charges.

HOW YOU CAN GET WARRANTY SERVICE

1. To obtain service on you product, you must take or ship it prepaid to any authorized Kramer service center.
2. Whenever warranty service is required, the original dated invoice (or a copy) must be presented as proof of warranty coverage, and should be included in any shipment of the product. Please also include in any mailing a contact name, company, address, and a description of the problem(s).
3. For the name of the nearest Kramer authorized service center, consult your authorized dealer.

LIMITATION OF IMPLIED WARRANTIES

All implied warranties, including warranties of merchantability and fitness for a particular purpose, are limited in duration to the length of this warranty.

EXCLUSION OF DAMAGES

The liability of Kramer for any effective products is limited to the repair or replacement of the product at our option. Kramer shall not be liable for:

1. Damage to other property caused by defects in this product, damages based upon inconvenience, loss of use of the product, loss of time, commercial loss; or:
2. Any other damages, whether incidental, consequential or otherwise. Some countries may not allow limitations on how long an implied warranty lasts and/or do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations and exclusions may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights, which vary from place to place.

NOTE: All products returned to Kramer for service must have prior approval. This may be obtained from your dealer.

This equipment has been tested to determine compliance with the requirements of:

- EN-50081: "Electromagnetic compatibility (EMC);
generic emission standard.
Part 1: Residential, commercial and light industry"
- EN-50082: "Electromagnetic compatibility (EMC) generic immunity standard.
Part 1: Residential, commercial and light industry environment".
- CFR-47: FCC Rules and Regulations:
Part 15: "Radio frequency devices
Subpart B – Unintentional radiators"

CAUTION!

- ☒ Servicing the machines can only be done by an authorized Kramer technician. Any user who makes changes or modifications to the unit without the expressed approval of the manufacturer will void user authority to operate the equipment.
- ☒ Use the supplied DC power supply to feed power to the machine.
- ☒ Please use recommended interconnection cables to connect the machine to other components.



For the latest information on our products and a list of Kramer distributors, visit our Web site: www.kramerelectronics.com.

**Updates to this user manual may be found at
<http://www.kramerelectronics.com/manuals.html>.**

We welcome your questions, comments and feedback.

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