



3. Now, aim your remote control at the DDL display window and press the button on the remote you want assigned to that DDL button function. Press the button normally and release it, there is no need to hold it down.

4. DDL will again display "ir?" indicating it has learned that button and is ready for the next one. Go ahead and repeat the learning function for the next button, or if you do nothing, after 10 seconds DDL will automatically return to normal operation mode, saving any changes you have made.

5. You may repeat the learning function for each remote button you want the DDL to learn, as many times as you wish. DDL will replace the old button assignment with the new one.

A note: your DDL will continue to operate with the Alchemy² remote.

Specifications

Signal format	S/Pdif	Power supply size (LxWxH)	3.25" x 1.75" x 1.25"
Signal type	PCM, Dolby® Digital, DTS®	Power supply weight	0.25 lb
Frequency response	<i>no effect on incoming signal</i>	Connectors	(1) RCA input, (1) Optical input, (1) RCA output, (1) Optical output, (1) 2.5mm DC power jack, (1) 3.5mm mini-jack RS232 port
Signal-to-noise ratio	<i>no effect on incoming signal</i>		
THD	<i>no effect on incoming signal</i>		
DDL size (LxWxH)	5.25" x 4.25" x 2.125"	Power consumption	5 Watts
DDL weight	1 lb	Warranty	1 year P&L
Delay range	up to 1.0 Second @ any sample rate	Designed and Assembled in the United States by Alchemy²	

Warranty/Service

There are two things you must do to ensure trouble-free service in the event you need warranty repairs.

1. Keep your original sales receipt in a safe place. A copy of the receipt will be required to obtain warranty service.
2. Be sure your retail dealer has written the date, the model number, and the serial number (if applicable) of the Product on the receipt. To give yourself an extra measure of protection, make a separate record of the information about your purchase and keep it in a safe place. In the event you misplace the sales receipt, your dealer may be able to give you a copy. Take a moment now to read the terms of your warranty. Check to be sure your sales receipt is dated and has the Product model number and serial number (if applicable) on it. Then put it away in a safe place. When shipping a product in for service:
 - Email or call Alchemy² for the proper ship to address for servicing and an RMA (return merchandise copy of your original sales receipt that has the date, the Product model number and serial number (if applicable) written on it. You must place your RMA number on the shipping label of any unit returned to Alchemy² for service.
 - Always ship Products in the complete original packing material.
 - Avoid shipping Products via the Postal service. If you must use the Postal service, be sure to register and insure the package.

Alchemy² Limited Warranty

Alchemy² warrants to the original consumer purchaser of the Alchemy² Products described in this manual, that the Product will be free from defects in materials and workmanship for a period of one (1) year after the date of purchase. Alchemy²'s sole obligation under this warranty shall be to provide, without charge, parts and labor necessary to remedy the defects, if any, that appear during the warranty period. This warranty is the sole and exclusive express warranty given with respect to the Product. All other express warranties are hereby excluded. Neither Alchemy² nor the authorized dealer who sells the Product is responsible for indirect, incidental, or consequential damages. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights and you may also have other rights, which vary from state to state.

IMPORTANT – Keep your original sales receipt. Be sure the retail dealer has written on it the date, model number, and serial number (if applicable) of the Product. This information is required for warranty service.

This warranty is limited to:

- Products purchased from authorized Alchemy² retail dealers in North America. Alchemy² will supply a list of authorized dealers on request.

For FAQ, reviews, and more alchemist insight, call (805) 647-7849

or visit www.alchemy2.com



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"DTS" is registered trademark of Digital Theater Systems, Inc.
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DDL (aka D²L) Digital Delay Line



Connection & Operation Instructions

DDL (aka D²L) Digital Delay Line

Connection & Operation Instructions

Alchemy² is a new company formed by several of the original members of the Audio Alchemy team. Our vision is to provide you, the AV enthusiast, with unique and affordable “essential accessories” to enhance your listening and viewing pleasure.

We are very proud to have you as an owner of a DDL Digital Delay Line unit, also known as the D²L. With it, you will no longer need to suffer from the “lip sync” problem in your home theater system.

Installation and use of the DDL is very simple. Please take a few minutes to look over this instruction sheet, after which you can probably just file it away.

Connection

First attach the four (4) non-slip feet which you'll find in the shipping carton.

Then insert the DDL between your digital audio sources and the surround-sound processor. Thus, the optical or coaxial digital cable from your set top box, DVD player or other source device should be plugged into the corresponding optical or coaxial digital input of the DDL. Please remember that DDL can only accept PCM, Dolby® Digital, DTS® encoded material or anything else that can be transmitted in the S/Pdif format. **IMPORTANT:** Don't try to feed it an analog audio signal or a video signal of any type. It won't work and just might damage something expensive. (Plus, we'll know you did it, and you will have to pay to get it fixed.)

The output of the DDL from either an optical or coaxial connector is then run to the optical or coaxial digital input of your surround sound processor. Digital audio is provided to both the optical and coaxial outputs simultaneously. A three-pin 3.5mm mini jack RS232 interface is provided for use in automation systems, or for future software upgrades. If you need more information on the use of this jack, please email our customer service department.

Next, attach the DDL's power supply to the jack on the back of DDL and plug the line cord into an AC receptacle. During periods of inactivity DDL will reduce its power consumption to a very low level, so it can remain powered if you wish. Or, using a switched outlet is fine, since DDL remembers all of its settings when powered off.

That's it.

The Controls

On the front of DDL there is a three-digit LED display to show delay selection. Settings range from 000 to 999 in milliseconds. Also, there are four control buttons that function as follows:

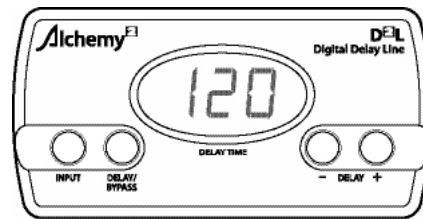
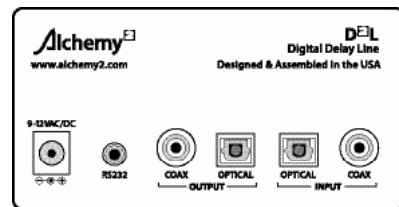
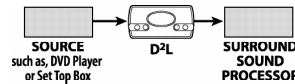
INPUT select toggles between the inputs.

DELAY/BYPASS toggles between delay ON at the selected delay time and delay of 0 (bypass).

DELAY+ Allows you to INCREASE the delay time from 0 up to 999mS

DELAY- Allows you to DECREASE the delay time from 999 down to 0mS

To use the DDL you first select the input you wish to use. The display will toggle from one to the next with each press of the **INPUT** select button and indicate either “in1” or “in2”.



If you have selected a valid input with an active digital audio signal, the display will soon indicate the sample rate of the incoming signal. The possibilities are **32, 44.1, 48, 88.2, 96** or **192** (kHz). The characters “- - -” will show if the selected input has no valid signal on it, or if it is out range of the expected sample rates. If you get “- - -”, try changing inputs to see if you made an error in which jack you used. You could also have a loose connector, a bad cable, the wrong output from your source component, or the source output disabled. Check for a switch on the back of the component, or maybe a menu item, to enable/disable digital output. On occasion we see that source devices are off-frequency slightly and yet play just fine; thus no cause for concern. Shortly after showing sample rate, the display changes to indicate the selected delay amount. If this is the first time you have used the DDL this number will be a “0”. Pressing **DELAY+** will increase the number, while pressing **DELAY-** will decrease it. (You cannot go below 0, however.) With the supplied remote control you can also select inputs, and change the delay settings. The DDL can be used with any other remote control you may want to use, by teaching the DDL that remote's button codes. See “Remote Learning” on back cover.

After a few moments of bright illumination, the display will automatically decrease in brightness and eventually go off. You can “wake it up” by pressing any button.

Operation

Use of DDL is simple: select the input on DDL you wish to listen to, be sure your surround sound processor is switched to the input DDL is connected to, and you're on.

To find the best delay setting for a particular input we suggest using source material with simple dialog. Focus on the movement of the performer's lips rather than the voice. Very quickly you will notice even the smallest changes in settings. By increasing and decreasing the delay time you will be able to go beyond “right” to the point where now the voice lags the picture. Make note of the setting you first notice that happening. Then decrease the setting until you first notice the picture lags the voice. Note that number. The target setting will be one about halfway between the two settings.

As you gain more experience you will find the settings more quickly, and you will be more sensitive to finding the most perfect setting. You will also probably notice that not only will different sources need different settings, but the program material itself often is different enough to require optimizing the settings.

Play around with the settings until you zero in on the one that makes you happy. Enjoy!

Remote Learning

The DDL can learn to respond to the buttons of a different remote control from that which we supply, allowing you to use your current surround processor remote to simultaneously switch the inputs of both it, and the DDL (just make sure the DDL front panel is lined up with your other component so they both receive the IR signal).

Use the following procedure to teach your DDL:

1. With the DDL **UNPLUGGED** from power, press in and hold the Delay/Bypass button. While the button is held in, apply power. Continue holding the button through the DDL's power-up cycle until “ir?” is displayed which indicates your DDL is in learn-mode. DDL remains in learn-mode for approximately 10 seconds.
2. While in the learn mode, press the button on the DDL you wish your remote to perform. DDL will display some text confirming what button has been pressed: “in” for Input, “d-b” for Delay/Bypass, “dn” for Delay -, and “inc” for the Delay + button.

Continues on the back cover

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