

# DVC

## Dynamic Volume Controller

INSTRUCTION MANUAL



## **INTRODUCTION**

The Rocktron DVC is a single rack space professional dynamic volume controller, incorporating Rocktron's latest VCA technology in a user-friendly format. Featuring two channels of Ducking capability and/or manual signal level control via remote foot pedal, the DVC was designed with the professional musician in mind.

The process of Ducking enables the user to suppress the volume of a given signal or effect dynamically, dependant upon the presence of another signal desired to be prominent in the mix. A common example of this is when a D.J. or an announcer speaks over a music track, the volume of the music is lowered until the speech is stopped. Once the speaking has ended, the level of the music track will automatically rise to its original level. This can also be a very desirable feature to musicians, such as guitarists or keyboardists. The DVC allows you, for example, to lower the level of your echo or delay while playing a phrase, so the phrase being played sounds less cluttered and more intelligible. Then the DVC lets the effect ring out at full volume when you stop playing.

The DVC may be utilized live, in the recording studio, for radio or TV broadcasts or virtually anywhere a volume pedal or dynamic muting is useful.

## **POWER REQUIREMENTS**

The DVC accepts power from the 9VAC/1500mA adaptor supplied with the unit. This 9v RMS AC voltage is internally processed by a voltage doubler, thus generating a bi-polar  $\pm 15V$  to maintain the headroom and sound quality of that of a professional, studio quality product. Using an external power source such as this minimizes excessive noise and hum problems often associated with internal transformers, giving the user optimal performance.

## **PRECAUTIONS**

**NOTE: IT IS VERY IMPORTANT THAT YOU READ THIS SECTION TO PROVIDE YEARS OF TROUBLE FREE USE. THIS UNIT REQUIRES CAREFUL HANDLING.**

All warnings on this equipment and in the operating instructions should be adhered to and all operating instructions should be followed.

Do not use this equipment near water. Care should be taken so that objects do not fall and liquids are not spilled into the unit through any openings.

**DO NOT ATTEMPT TO SERVICE THIS EQUIPMENT. THIS EQUIPMENT SHOULD BE SERVICED BY QUALIFIED SERVICE PERSONNEL ONLY. DO NOT REMOVE THE COVER FROM THIS EQUIPMENT AT ANY TIME. DO NOT MAKE ANY INTERNAL ADJUSTMENTS OR ADDITIONS TO THIS EQUIPMENT AT ANY TIME. DO NOT TAMPER WITH INTERNAL ELECTRONIC COMPONENTS AT ANY TIME. FAILURE TO FOLLOW THESE INSTRUCTIONS MAY VOID THE WARRANTY OF THIS EQUIPMENT AS WELL AS CAUSING SHOCK HAZARD.**

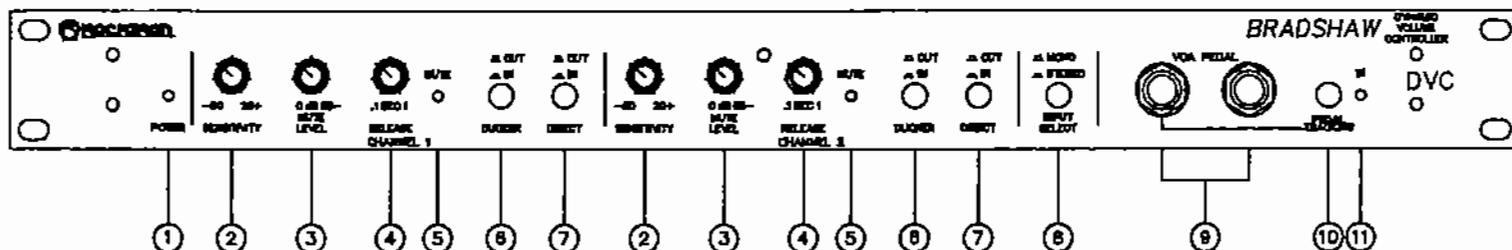
## **OPERATING TEMPERATURE**

Do not expose this unit to excessive heat. This unit is designed to operate between 32F and 104F (0 C and 40 C). This unit may not function properly under extreme temperatures.

## CLEANING INSTRUCTIONS

Do not use cleaners such as Benzine to clean the exterior. Use a soft dry cloth to remove dust, dirt or fingermarks. Internal cleaning should only be performed by authorized technicians.

## FRONT PANEL DESCRIPTION



### (1). . . **POWER LED:**

When lit, indicates unit is on and ready for operation.

### (2). . . **SENSITIVITY CONTROL:**

With this control the user selects the threshold point, above which the DVC will begin muting the signal. Until the input signal reaches this point, the signal to be muted will remain unaffected. It is adjustable from -50dB to +20dB.

### (3). . . **MUTE LEVEL CONTROL:**

The amount that the signal is attenuated depends upon what point the mute level control is set. Adjustable from 0dB to -65dB, it can be set anywhere between a very slight level change and total attenuation.

### (4). . . **RELEASE CONTROL:**

Adjustable from .1 second to 1 full second, the release control adjusts the amount of time it takes for the muted signal to rise back to its original level after the input signal (or "prominent signal") drops below its set threshold point.

### (5). . . **MUTE LED:**

When lit, indicates that the input signal is above threshold level and attenuation of the signal to be muted is taking place. When not lit, the signal to be muted is not affected.

### (6). . . **DUCKER IN/OUT SWITCH:**

Switches Ducker section of DVC in or out of the circuit path. It should be noted that to avoid any unnecessary noise, the Ducker in/out switches should be in the "out" position when the Ducker section of the unit is not in use.

### (7). . . **DIRECT IN/OUT SWITCH:**

Switches direct (or input) signal in or out of the circuit path. This feature is especially beneficial in mixing situations when only the effect itself is desired to be returned to the mixer.

**(8) . . . INPUT SELECT SWITCH:**

Selects for either stereo or mono applications. When only one input is used, but needed to drive both channels' VCA's, switching into mono mode will tie both inputs of the DVC together, providing the same input for both channels. A good example of this type of situation would be when running a mono guitar signal into the input of the unit, then running the "send" jack to an external effects device - such as delay or echo - that has two outputs coming back to both of the "VCA in/return" jacks of the DVC. When in "mono" mode, the DVC will have effect on both output signals of the external effect. When switched in stereo mode, a signal in the "input" jack of channel 1 will not affect channel 2, as they become totally independent in this mode.

**(9) . . . VCA PEDAL INPUTS:**

Two standard 1/4" RTS jacks are provided for the addition of one or two volume pedals to control the overall level of the signal coming into the "VCA in/return" jack. This feature is favorable for those musicians whose volume pedal(s) may be placed far from their rack (25 or 50 feet) during a performance. Without the DVC, the actual audio signal itself would have to run the entire distance to the pedal and back, picking up unwanted noise and interference along the way. By using the DVC, the audio stays in the rack and only a control voltage is sent to the foot pedal, leaving the audio unaffected. Ring = output of pedal, Tip = input to pedal and Sleeve = ground.

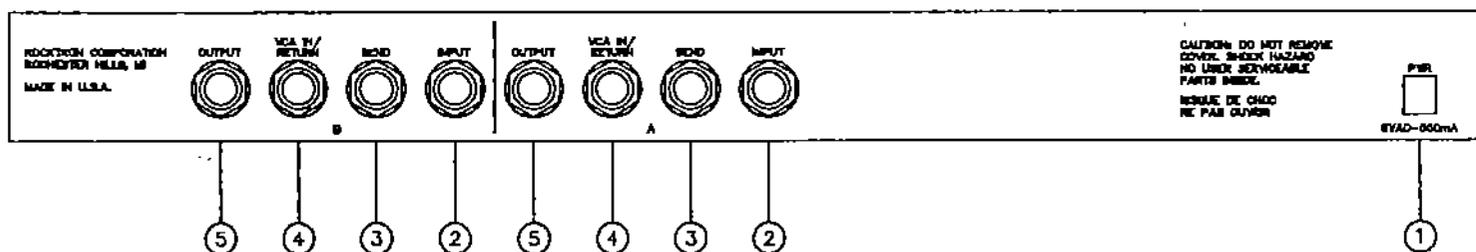
**(10) . . . PEDAL TRACKING IN/OUT SWITCH:**

When switched in, pedal tracking allows pedal one to equally control both channels' VCA's. When switched out, each VCA can be controlled individually using separate pedals for each channel.

**(11) . . . PEDAL TRACKING LED:**

When lit, indicates pedal tracking is switched in and pedal one is controlling both VCA's. Pedal two becomes inoperable in this condition.

**REAR PANEL DESCRIPTION**



**(1) . . . POWER JACK:**

The DVC accepts power from the 9VAC/1500mA adaptor supplied with the unit. This 9v RMS AC voltage is internally processed by a voltage doubler, thus generating a bi-polar  $\pm 15V$  to maintain the headroom and sound quality of that of a professional, studio quality product. Using an external power source such as this minimizes excessive noise and hum problems often associated with internal transformers, giving the user optimal performance.

**(2) . . . INPUT JACK:**

This standard unbalanced 1/4" mono jack provides input for the unit. The signal entering the unit at this jack will not be attenuated, but instead will be the signal whose presence will cause attenuation of another. The input is high impedance. Read the Specification section of this manual to determine the

maximum input level. Failure to do so may overdrive the unit, possibly damaging internal circuitry.

(3) . . . **SEND JACK:**

This 1/4" mono jack provides a send to the input of an effect, stereo, or other sound source whose volume level will be controlled dynamically or by a remote VCA foot pedal.

(4) . . . **VCA IN/RETURN JACK:**

This 1/4" mono jack provides a return from the output of an effect or other sound source whose volume level is to be controlled by the Ducker. This may also be considered a direct input to the VCA for access use with a volume pedal when the Ducker section is not needed.

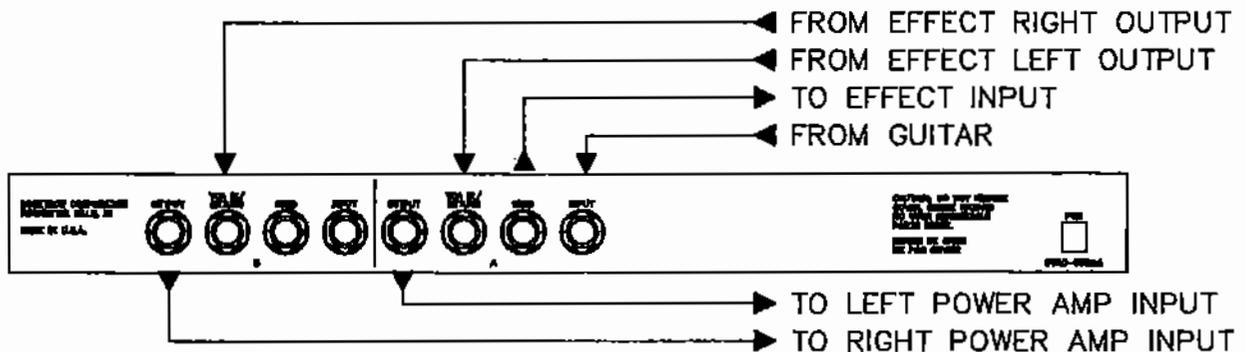
(5) . . . **OUTPUT JACK:**

This 1/4" mono jack provides mono output for the unit.

### APPLICATIONS AND CONNECTIONS

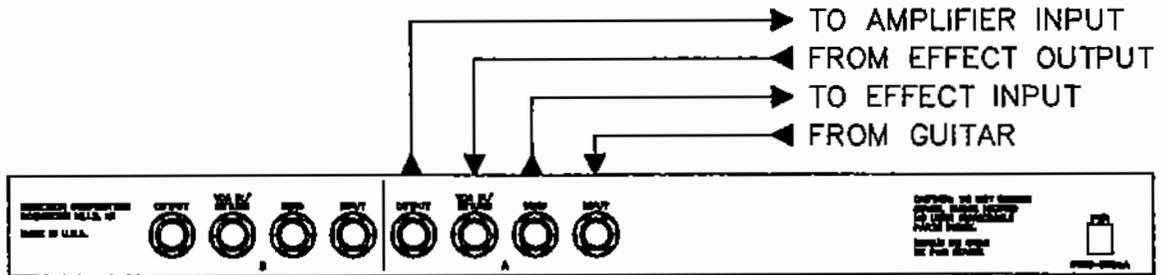
There are a number of different applications for the DVC, here are a few examples and their connections:

#### 1. MONO INPUT DUCKING EFFECT WITH LEFT AND RIGHT OUTPUTS:

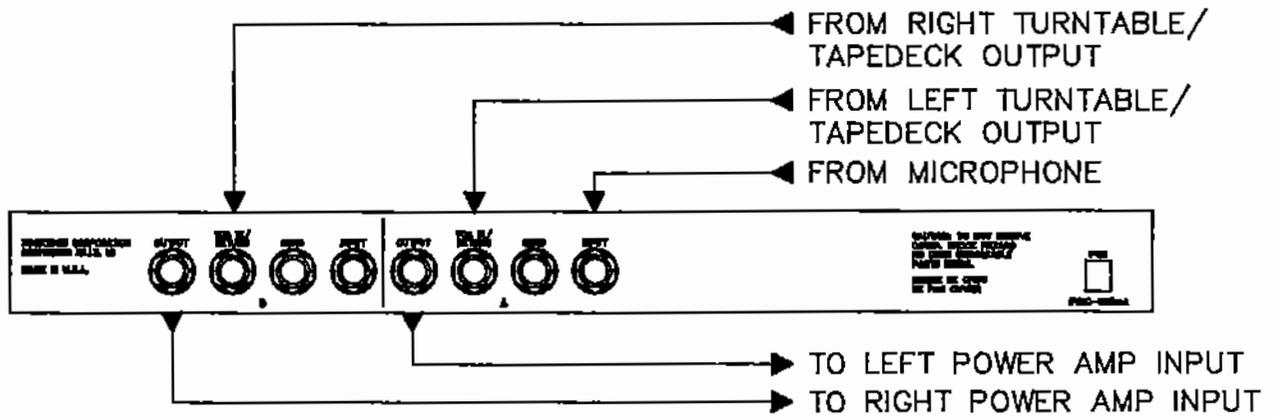


\*"INPUT SELECT" SWITCH MUST BE IN MONO, AS ONLY ONE INPUT IS USED.

## 2. MONO INPUT DUCKING EFFECT WITH MONO OUTPUT:

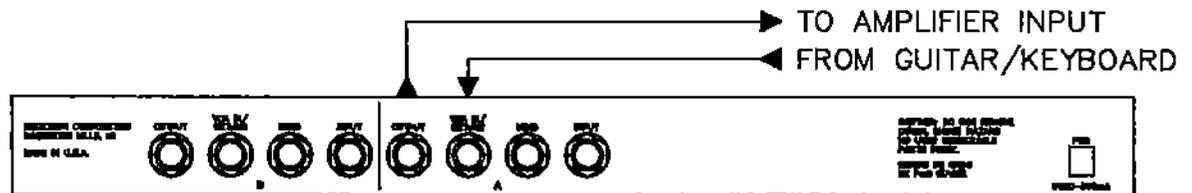


### 3. EXAMPLE DUCKER APPLICATION FOR DISC JOCKEY.



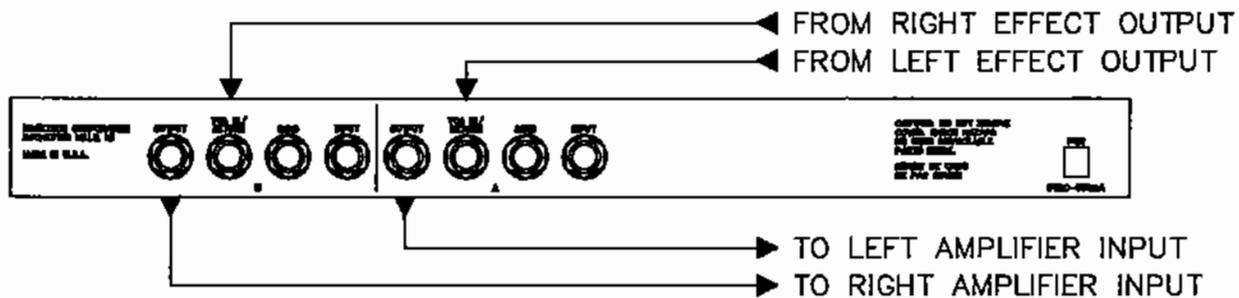
\* "INPUT SELECT" SWITCH MUST BE IN "MONO".

4. EXAMPLE VCA APPLICATION FOR MONO VOLUME PEDAL.



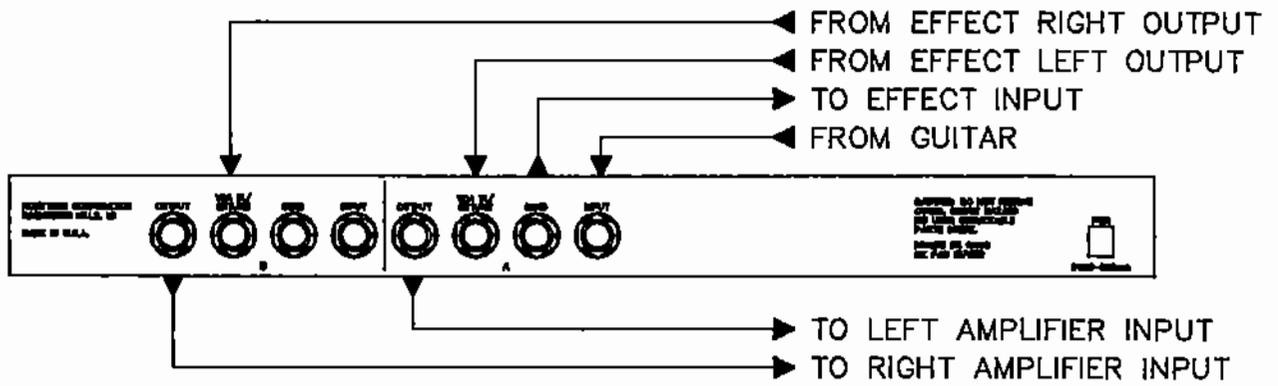
\* CONNECT VCA PEDAL TO "PEDAL 1" JACK ON DVC FRONT PANEL, USING A 1/4" RTS CORD.

5. EXAMPLE APPLICATION FOR SINGLE VCA PEDAL CONTROLLING STEREO SIGNAL.



\* USING A 1/4" RTS CORD, CONNECT VCA PEDAL TO "PEDAL 1" JACK ON THE FRONT PANEL OF THE UNIT. ALSO, PEDAL TRACKING SWITCH MUST BE "IN".

6. EXAMPLE DUCKING APPLICATION FOR MONO INPUT/EFFECT WITH STEREO OUTPUT, WITH CONTROL OF OVERALL VOLUME OF EFFECT SIGNAL VIA VOLUME PEDAL.



\* INPUT SELECT SWITCH MUST BE IN "MONO".  
 USING A 1/4" RTS CORD, CONNECT VCA PEDAL TO "PEDAL 1" JACK ON THE FRONT PANEL OF THE UNIT. "PEDAL TRACKING" SWITCH MUST BE "IN".

## **SPECIFICATIONS**

### **INPUT**

Input Impedance	470K
Max. Input Level	+20dBu
Input Jack	1/4" Mono unbalanced

### **OUTPUT**

Impedance	<100 Ohms
Max. Output Signal	+20dBu
Output Jack	1/4" Mono unbalanced

### **RELEASE TIME**

For 20dB	.1 to 1 sec adjustable
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### **MAXIMUM ATTENUATION**

65dB

### **SENSITIVITY**

-50 to 20dBu adjustable

### **DYNAMIC RANGE**

110dBu

### **THD**

.032% (direct "in") @ 1KHz  
.064% (direct "out") @ 1KHz

### **FREQUENCY RESPONSE**

+ 1/4, 0dBu 20Hz -20KHz

### **RESIDUAL NOISE**

90dBu (A weighted)

### **POWER REQUIREMENTS**

9VAC 1500mA

### **DIMENSIONS**

19" x 6" x 1 3/4"

## **MAINTENANCE**

This unit is designed to provide years of trouble-free service but requires careful handling. To maintain this unit in proper working condition read the Safety Instructions. If any problem is encountered do not return the unit to your Dealer. Rocktron will accept full responsibility for all warranty repairs.

## **WARRANTY**

All parts and workmanship of this Rocktron product are fully guaranteed to be free of defects under normal use and service for a period of THREE years from date of purchase.

The warranty will remain in effect until the original expiration date, regardless of whether or not the product is re-sold in the interim.

It is not required that you fill out a form for warranty registration. We would, however, recommend that the dated proof of purchase be retained throughout the warranty period.

Any damage resulting from mis-use or failure to follow instructions and precautions as stated in the product manual will void this warranty.

Should this Rocktron product require repair, Rocktron will assume responsibility for repair service. Do not return the product to the dealer. Simply repack the unit, sending along a description of the problem to: Rocktron Corporation, 2870 Technology Drive, Rochester Hills, MI 48309. All shipping charges must be fully prepaid.

This warranty is void if the original Serial Number has been altered or removed, or if this unit has been altered in any way.

Rocktron Corporation reserves the right to make changes in design and/or improvements upon their products without any obligation to include those changes in any products previously manufactured.

There is no other express warranty on goods covered by this agreement.