

# **BASIX**

## **INSTRUCTION MANUAL**

U.S. Patents #4538297, 4745309.  
Other patents pending.  
Foreign patents pending.





## **INTRODUCTION:**

The Rocktron BASIX is a single rackspace multi-effect pre-amp for the bass guitar. The BASIX is specifically designed to provide diverse sound combinations for the bass and provides an internal crossover set at 250 Hz. The BASIX is also equipped for optional external footswitching.

This operating manual will introduce you to the BASIX and its various functions. After reading this manual carefully, keep it for future reference.

## **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 the 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.

The power cord should be unplugged from the outlet when left unused for a long period of time.

DO NOT ATTEMPT TO SERVICE THE 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 WARRANTY SERVICE TO THIS EQUIPMENT, AS WELL AS CAUSING SHOCK HAZARD.

## **VOLTAGE RATINGS:**

Make sure your AC outlet satisfies the voltage rating to avoid damage to this unit. The back of this unit will be rated one of the following:

JAPAN:	100 V 50/60 Hz
US/CANADIAN:	115 V 50/60 Hz
GERMANY/France/FINLAND:	220-240V 50/60 Hz

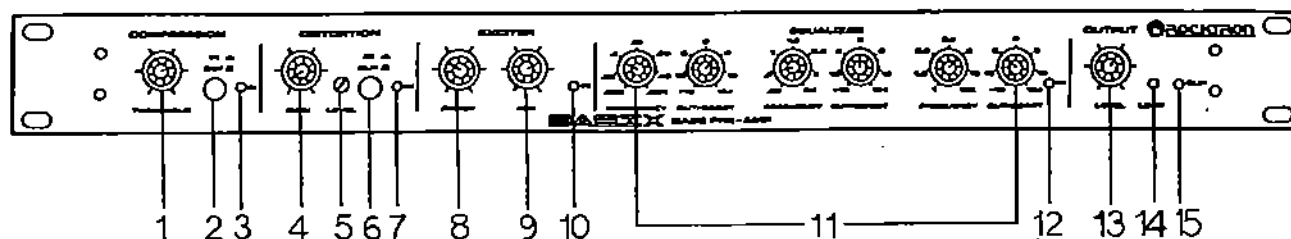
## **OPERATING TEMPERATURE:**

Do not expose the unit to excessive heat. This unit is designed to operate between 32 F and 104 F (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 fingerprints. Internal cleaning should only be performed by authorized technicians.

# FRONT PANEL DESCRIPTION



**(1). . . .COMPRESSION CONTROL:** Variable

The Compression Control simultaneously controls the threshold of compression and the input level to maintain a constant output level independent of the amount of gain reduction used.

**(2). . . .COMPRESSION IN/OUT:** Switch

The switch provides In/Out switching of the compressor. The switch is bypassed with the use of an optional external footswitch accessible via the rear panel.

**(3). . . .COMPRESSOR IN/OUT LED:**

The led indicates In/Out switching of the front panel In/Out Compression switch or of an optional external footswitch.

**(4). . . .DISTORTION GAIN CONTROL:** Variable

The Gain Control allows control of the distortion gain ratio or overdrive. The Gain Control allows adjustment from subtle distortion to an extreme high gain distortion sound.

**(5). . . .DISTORTION LEVEL CONTROL:** Variable

The Level Control adjusts the output level of the distortion sound relative to the clean sound.

**(6). . . .DISTORTION IN/OUT:** Switch

The switch allows In/Out switching of the Distortion section. The switch is bypassed with the use of an optional external footswitch accessible via the rear panel.

**(7). . . .DISTORTION IN/OUT LED:**

The Led indicates In/Out switching of the front panel In/Out distortion switch or of an optional external footswitch.

**(8). . . .EXCITER PHASE CONTROL:** Variable

The Exciter Phase Control selects the frequency at which the enhancement of the audio spectrum takes place.

**(9). . . .EXCITER MIX CONTROL:** Variable

The Mix Control mixes in the desired amount of excited signal with the original signal and alters the depth of the phase notch. Full c.c.w. of the Mix Control will mix no excited signal in with the original signal.

**(10). . . .EXCITER IN/OUT LED:**

The Led indicates In/Out switching of the Exciter. The Exciter may be switched In/Out with an optional external footswitch accessible via the rear panel.

**(11). . EQUALIZER CONTROLS SECTION: Variable**

The semi-parametric Equalizer section consists of three bands each with a Frequency Control and a Boost/Cut Control for that band. The Frequency Control selects the center frequency and the Boost/Cut Control provides 15 dB of Cut/Boost at that frequency. The first band covers Low Bass frequencies variable from 40 Hz to 650 Hz, while the second band covers Mid Bass frequencies (350 Hz - 6 KHz) and the third band covers High Bass frequencies (1 KHz - 12 KHz).

**(12). . EQUALIZER IN/OUT LED:**

The Led indicates In/Out switching of the Equalizer. The Equalizer may be switched In/Out with an optional external footswitch accessible via the rear panel.

**(13). . OUTPUT CONTROL: Variable**

An Output Control is provided to adjust the master output level of the Basix for the required signal level of the equipment it is being interfaced with.

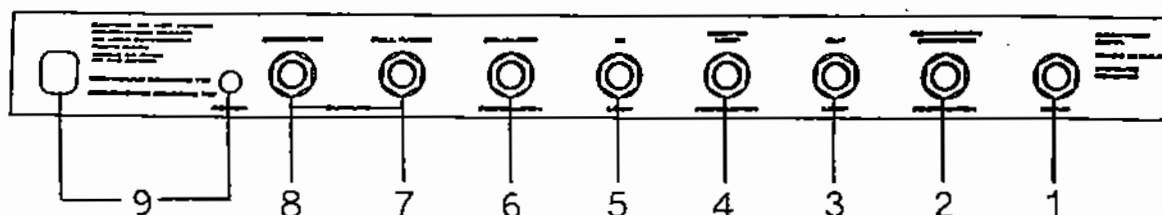
**(14). . LOOP IN/OUT LED:**

The Led indicates In/Out switching of the External Loop, which is controllable by an optional external footswitch. In absence of any external device, the loop footswitch can be used for a muting switch.

**(15). . CLIP LED:**

The Clip Led indicates +3 dB of Headroom or an output signal level of +17 dB.

## REAR PANEL DESCRIPTION

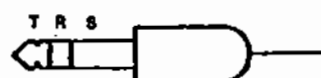


### (1). . . INPUT JACK:

This standard unbalanced mono 1/4" jack is used to provide input to the unit. The input impedance of the unit is 470 kohm. Read the INPUT SPECIFICATIONS to determine the maximum input level. Failure to do so will overdrive the unit and may damage the internal electronic circuitry.

### (2). . . COMPRESSION/DISTORTION FOOTSWITCH JACK:

This standard stereo 1/4" jack accepts a dual function external footswitch for Compression In/Out and Distortion In/Out. The use of the external footswitch renders the front panel Compression In/Out switch and the Distortion In/Out switch non-functional.



Tip	Distortion
Ring	Compression
Sleeve	Ground

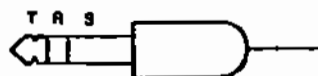
NOTE: THE FOOTSWITCHES ARE OPTIONAL AND MAY BE PURCHASED SEPARATELY AT ANY ROCKTRON DEALER.

### (3). . . LOOP OUT JACK:

This standard 1/4" mono jack provides mono output, which may be used as an input for any external effect or signal processor or multiple daisy chained combinations. Read applications for more information.

### (4). . . LOOP/EXCITER FOOTSWITCH JACK:

This standard 1/4" stereo jack accepts a dual function optional external footswitch for Loop In/Out and Exciter In/Out functions. In the absence of any external device in the Loop, the loop footswitch can be used for muting. The Loop and Exciter cannot be switched In/Out without the use of an external footswitch.



Tip	Distortion
Ring	Compression
Sleeve	Ground

(5). . . **LOOP IN JACK:**

This standard 1/4" mono jack accepts output of any external effect device to insert it in the loop.

(6). . . **EQUALIZER FOOTSWITCH JACK:**

This standard 1/4" mono jack accepts a single function optional external footswitch for the Equalizer In/Out function. The Equalizer cannot be switched In/Out without the use of an external footswitch.



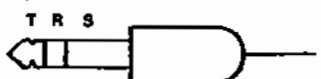
T Equalizer  
S Ground

(7). . . **FULL RANGE OUTPUT JACK:**

This standard 1/4" mono jack provides full range output of the Basix.

(8). . . **CROSSOVER OUTPUT JACK:**

The Crossover output jack provides high pass and low pass outputs with crossover frequency fixed at 250 Hz. Read application notes for Bi-Amp setup.



T Low Pass  
R High Pass  
S Ground

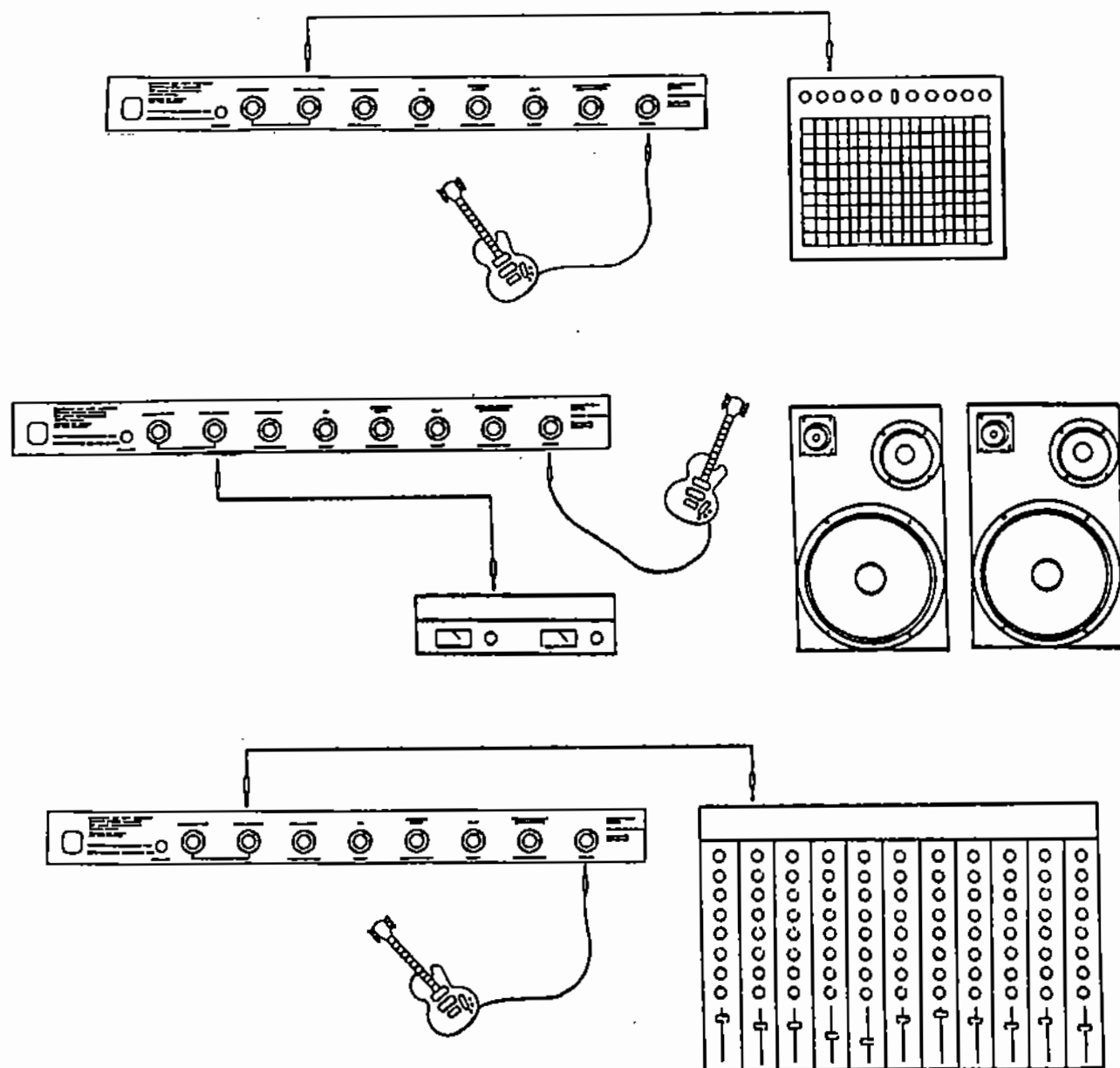
(9). . . **POWER SECTION:**

The power section consists of a Power On/Off switch and an AC wall outlet power cord. READ THE VOLTAGE RATINGS BEFORE TURNING THE POWER ON.

## CONNECTIONS AND APPLICATIONS

The Basix is designed to be used either in a full range set-up, or in a bi-amp set-up. Make the appropriate connections as shown below. (Make a habit of turning ON the power of the Basix before turning on the power of the output amplifier or mixing board, etc.)

Full range output—Use the full range output jack directly into an output amplifier or an amplifier with full range speakers or direct into a mixing board.

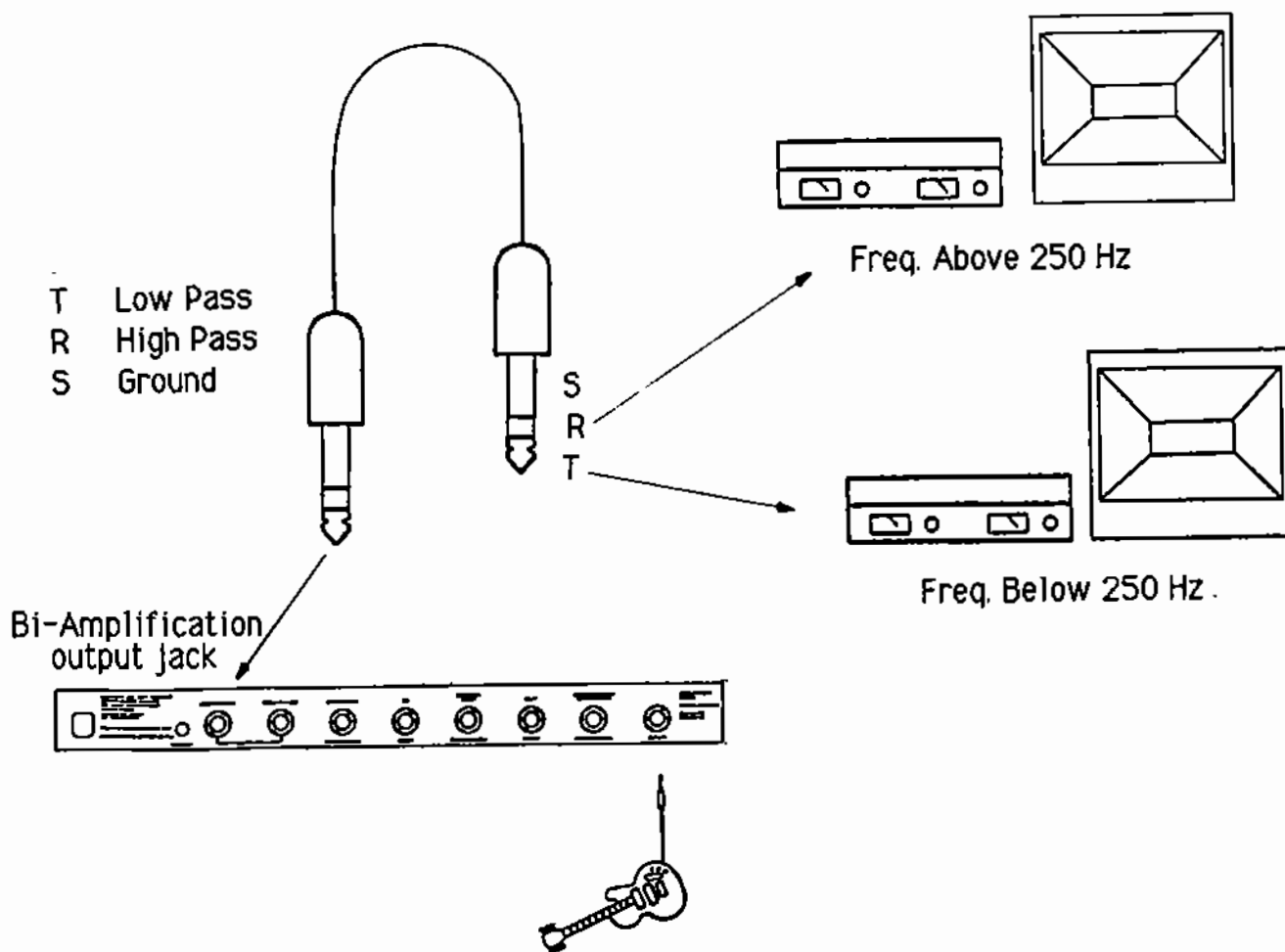




## **BI-AMPLIFICATION OUTPUT:**

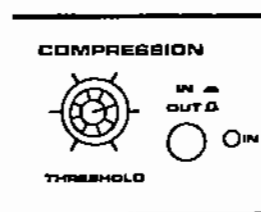
The BASIX is equipped with an internal crossover which provides both high pass and low pass outputs. To make full use of the internal crossover, a bi-amplification system is required. (i.e. two power amplifiers and two cabinets; one amplifier and one cabinet is required for reproducing low frequencies below 250 Hz, the other amplifier and cabinet is required for reproducing the mid and high frequencies of the bass.)

Use the Bi-Amplification output jack, with the Tip connecting to an amplifier and speaker set up for frequencies below 250 Hz and the Ring connecting to an amplifier and speaker set up for frequencies above 250 Hz.



# OPERATION

The basic operation for the Basix has been divided into different categories. In order to obtain the best performance from your unit, read and understand each of them.



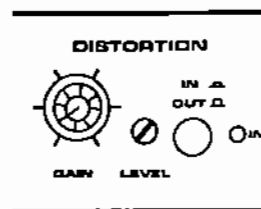
## **COMPRESSOR:**

The Compressor provides program dependent logarithmic compression. With a program dependent attack and release time, it offers an extremely smooth transition into compression.

The amount of compression desired is based primarily on personal preference, and will vary according to various playing styles. The Compression Control gives only high signal level compression in the first half of the control setting, giving a level controlling effect. The second half gives low and high signal level compression, giving a highly compressed sound. All the way clockwise the control provides maximum compression.

Adjust the Compression Control for the desired amount of compression and switch the Compressor In and Out to hear the effects of the compression.

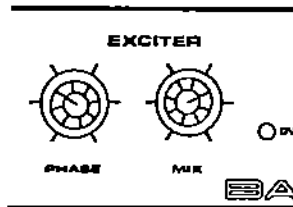
**NOTE: MAKE SURE THE DISTORTION FUNCTION IS SWITCHED OUT BEFORE ADJUSTING THE COMPRESSOR.**



## **DISTORTION:**

The Distortion section allows control over gain ratio or overdrive and output level.

Start by switching the Distortion In. Adjust the Gain Control for desired distortion sound. The Gain can be adjusted from subtle to an extreme high gain distortion sound. The output level control allows the user to adjust the output level of the distortion sound relative to the clean sound.

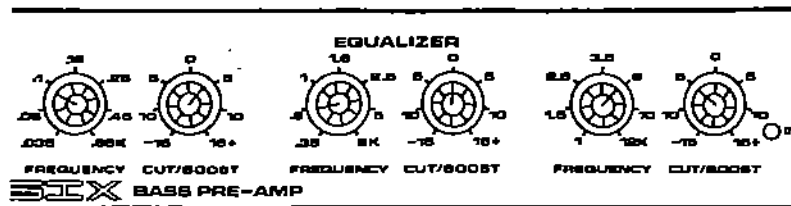


### **EXCITER:**

The Exciter section provides enhancement of the audio spectrum. The Phase Control selects the frequency at which enhancement takes place and the Mix Control mixes in the desired amount of the excited signal with the original and alters the depth of the phase notch.

With the Mix Control set full counter-clockwise, the Phase Control is non-functional. All the way counter-clockwise, the Phase Control provides enhancement of the low frequency content of the audio spectrum, while all the way clockwise it provides enhancement of the high frequency content of the audio spectrum.

Adjust the Mix Control for the desired amount of mixing of the excited signal with the original signal. Adjust the Phase Control until the desired enhancement of the audio spectrum is obtained.



### **EQUALIZER:**

The equalizer section of the BASIX consists of a three band Semi-Parametric Equalizer, which provides unmatched tone shaping for the Bass frequencies. As opposed to the most commonly used graphic equalizers, the parametric is not limited to a fixed number of frequencies. The frequencies in each band overlap to provide the ultimate frequency response. The Cut/Boost Control in each band allows 15 dB of cut or boost at the frequency selected by the Frequency Control in that band. The first band covers Low Bass frequencies, while the second and third cover Mid and High Bass frequencies respectively.



### **OUTPUT:**

The Output Control is provided as a master output for the Basix. Adjust the output level for the overall system gain.

### **INTERNAL CROSSOVER:**

An Internal Crossover provides a split band output for Low Pass and High Pass, accessible at the rear panel. This allows the unit to be used in a Bi-Amp setup. The Crossover frequency is fixed at 250 Hz. Read application notes.

## **LOOP FUNCTION:**

An External Loop is provided in the Basix that allows the addition of external devices. Virtually any effect or external signal processor or multiple daisy-chained combinations may be inserted in the loop. The addition of an optional external footswitch provides In/Out switching or in the absence of any external device, the loop can be used as a mute switch.

## **CLIP:**

The Clip led provides visual indication that the circuit is being overdriven at either the input of one of the three parametric stages, or at the final output. If the clip light flashes continuously, or remains lit while playing, gain must be reduced. (First reduce the output gain. If the clip led remains on, the problem could be that the input is too hot or that too much gain is being provided by one parametric band or two parametric bands that are being boosted at the same frequency.)

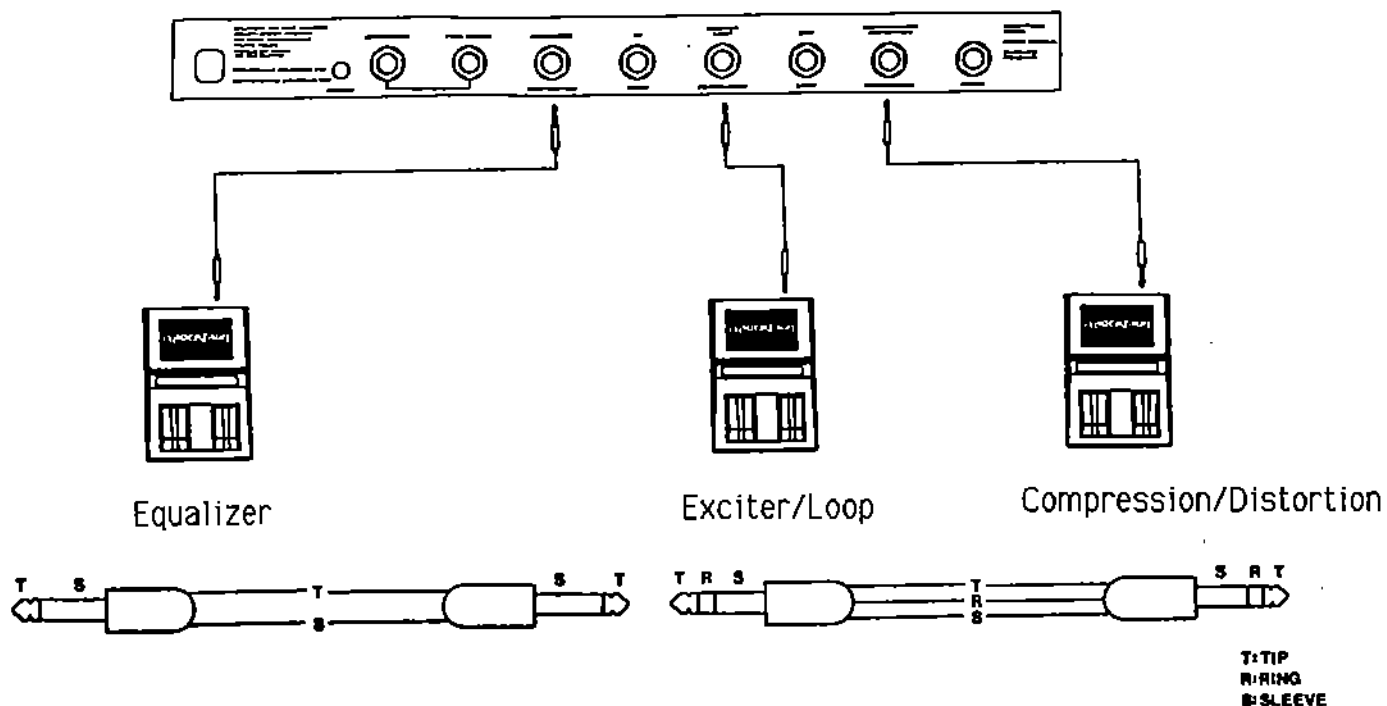
## **FOOTSWITCHES:**

The Basix provides footswitching capabilities for Compression, Distortion, Exciter, Equalizer and Loop functions. The Compression/Distortion and Exciter/Loop footswitch jacks are 1/4" stereo jacks and the Parametric jack is a 1/4" mono jack.

The Basix requires two dual and one single function footswitches for complete footswitching capabilities. These footswitches are optional and can be purchased at your nearest Rocktron Dealer.

The front bypass switches are non-functional when the unit is under external footswitch control.

**NOTE: DO NOT USE MONO FOOTSWITCHES IN A STEREO (DUAL FUNCTION) FOOTSWITCH JACK. USE OF SUCH A FOOTSWITCH MAY RENDER PART OF THE INTERNAL CIRCUITRY NON-FUNCTIONAL.**



## SPECIFICATIONS

INPUT IMPEDANCE	470 Kohm
MAX. INPUT LEVEL	+20 dBu

### COMPRESSION

LEVEL DETECTION	RMS
COMPRESSOR THRESHOLD	VARIABLE; -10 dBu to -40 dBu
COMPRESSOR RATIO	PROGRAM DEPENDENT; 1:1 to infinity: 1
COMPRESSOR ATTACK TIME	Less Than 1 msec
COMPRESSOR RELEASE TIME	PROGRAM DEPENDENT; 0.5 sec/20 dB

### PARAMETRIC

#### PARAMETRIC FREQUENCY RESPONSE

LOW BAND	VARIABLE 35Hz - 650Hz @ +15dB
MID BAND	VARIABLE 350Hz - 6KHz @ +15 dB
HIGH BAND	VARIABLE 1 KHz - 12KHz @ +15 dB

CROSSOVER POINT	250 Hz @ 18 dB/Octave
-----------------	-----------------------

DYNAMIC RANGE	85 dB
---------------	-------

MAXIMUM GAIN REDUCTION	40 dB
------------------------	-------

OUTPUT IMPEDANCE	Less Than 100 ohm
MAX. OUTPUT LEVEL	+21 dBu

### DIMENSIONS

19" x 6" x 1 3/4"

### POWER REQUIREMENTS

110/120 VAC @ 50/60 Hz

NOTE: 0dBu = 0.775V RMS

## **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 of 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.

# BASIX BLOCK DIAGRAM

