WARNINGS

•Attempting to repair this unit is not recommended and may void its warranty.
•Missing or altered serial numbers automatically void the warranty. For your own protection, be sure the serial number labels on the unit and exterior box are intact.

ONE-YEAR LIMITED WARRANTY

Manufacturer warrants unit to be free from defects in materials and workmanship for a period of one (1) year from the date of purchase to the original purchaser and is not transferable. This warranty does not include damage resulting from accident, misuse, abuse, alteration, or incorrect current or voltage. If unit becomes defective within warranty period, Tech 21 will elect to repair or replace it free of charge. After warranty period expires, manufacturer will repair defective unit for a fee.

PROOF OF PURCHASE IS REQUIRED FOR ANY REPAIR

For residents of the U.S. and Canada, please call Tech 21 for shipping instructions and a Return Authorization Number. Tech 21 will not accept packages without prior authorization, pre-paid freight (UPS preferred), and proper insurance.

FOR PERSONAL ASSISTANCE & INQUIRIES

Contact Tech 21 weekdays from 9:00 AM to 5:00 PM, Eastern Standard Time.

DESIGNED AND MANUFACTURED IN THE U.S.A.

C E

Fill in the following information for future reference:

Serial Number_____

Dealer's Name _____

Dealer's Address _____

Date of Purchase _____

TECH 21

SansAmp™ RBI
TECH 21·NYC

Owner's Manual

Tech 21, the Company

Tech 21 was formed by a guitarist possessing the unusual combination of a trained ear and electronics expertise. In 1989, B. Andrew Barta incorporated Tech 21 and made his unique invention commercially available to players and studios around the world. His highly-acclaimed **SansAmp™** pioneered Tube Amplifier Emulation in professional applications for recording direct and performing live, and created an entirely new category of signal processing. While there have since been many entries into this niche, SansAmp continues to maintain its reputation as the industry standard.

With a full line of SansAmp models, Tech 21 also offers effect pedals and MIDI products, as well as "traditional" style amplifiers for guitar and bass. Each product is thoughtfully and respectfully designed by Andrew himself with the player in mind.

Our goal is to provide you with flexible, versatile tools to cultivate, control, refine and redefine your own individual sound. Tech 21 takes great pride in delivering consistent professional quality sound, studio to studio, club to club, arena to arena.

SansAmp RBI, an Overview

Simply put, SansAmp RBI is a rackmount version of our exceptionally popular pedal, SansAmp Bass Driver DI. This format, too, offers you an entire sound spectrum of the most coveted traditional and modern bass amp systems, including mega overdriven tones that usually require a complex mass of gear --most of which weren't designed for bass in the first place.

Tech 21's proprietary, **100% analog circuitry** delivers styles ranging from Fender® to SVT®, and from King Crimson to King's X. The interactive controls give you access to specific tone shaping characteristics to create your own custom sounds as well. For studio and live applications, our SansAmp Tube Amplifier Emulation technology gives you the sound and responsiveness of a miked-up stage rig --direct into the mixer of a recorder or P.A. system. You can also simultaneously plug straight into a power amp, powered monitor, or conventional bass amp.

Beyond the obvious difference in housing, SansAmp RBI's additional features include a MID control; an individual Level control for the XLR out to optimize your amp's output relative to the P.A. system; an Effects Loop with a Mix 50/50 switch to configure the loop in series or parallel; 1/4" rear input and XLR output with selectable levels; buffered uneffected XLR output to run a dry signal to a separate channel; Footswitch input to engage the unit; and Footswitch output to chain and toggle between another SansAmp RBI or our SansAmp RPM --a multi-instrument pre-amp tone shaper with sweepable, semi-parametric EQ and variable gain.

IMPORTANT SAFETY INSTRUCTIONS.
READ AND SAVE THESE INSTRUCTIONS.
HEED ALL WARNINGS.

This symbol, wherever it appears, alerts the user to the presence of uninsulated dangerous voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol, wherever it appears, alerts the user to important operating and maintenance instructions in the accompanying literature. Read the manual.

This unit is powered by potentially hazardous voltage. Therefore, observe the following safety precautions:

CAUTION
RISK OF ELECTRICAL SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRICAL SHOCK, DO NOT REMOVE COVER. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

ATTENTION
RISQUE D'ELECTROCUTION
NE PAS OUVRIR

ATTENTION: POUR REDUIRE LES RISQUES D'ELECTROCUTION NE PAS ENLEVER LE COUVERCLE. AUCUNE PIECE INTERNE N'EST REPARABLE PAR L'UTILISATEUR. POUR TOUTE REPARATION, S'ADRESSER A UN TECHNICIEN QUALIFIE.

VORSICHT
ELEKTRISCHE SCHLAGGEFAHR
NICHT OFFNEN

VORSICHT: ZUR MINIMIERUNG ELEKTRISCHER SCHLAGGE-FAHR NICHT DEN DECKEL ABNEHMEN. INTERNE TEILE KONNEN NICHT VOM BENUTZER GEWARTET WERDEN. DIE WARTUNG IST QUALIFIZIERTEM WARTUNGSPERSONAL ZU UBERLASSEN.

1. Read and follow all instructions before using product.

2. Do not use product near water (such as near a bathtub, washbowl, kitchen sink, swimming pool, in a wet basement, etc.).

3. Unit should be located so that its location or position does not impede the flow of air through the ventilation openings.

4. Product should be located away from heat sources such as radiators, heat registers, or other products, including amplifiers, that produce heat.

5. Product should be connected to a power supply only of the type described in the operating instructions or as marked on the product.

6. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the unit.

7. Do not allow objects or liquids to penetrate the enclosure through openings.

8. During heavy use, chassis may get hot to the touch. Handle with care.

9. Protect unit from strong impact.

10. Unplug product before cleaning. Never spray liquid cleaners into the amp: wipe with a clean, lint-free cloth to remove dirt and film.

11. Only use attachments/accessories specified by the manufacturer.

12. This product should be used only with a cart or stand that is recommended by the manufacturer. When a cart is used, use caution when moving the cart/product combination to avoid injury from tipping over.

13. Amplifiers may be capable of producing high volume levels that could cause permanent hearing loss or damage, if the exposure to such levels is prolonged. Such damage is progressive and irreversible! If you experience any hearing loss or ringing in the ears, consult an audiologist.

14. Unplug unit during lightning storms or when unused for long periods of time.

15. This unit must be earth grounded. To reduce the risk of electric shock, NEVER remove or otherwise attempt to defeat the ground pin of the power cord. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

WARNING: To avoid the risk of fire, electric shock or injury, do not expose this unit to rain or moisture. Do not remove the chassis from its cabinet, or remove metal covering from chassis parts. Removing the chassis from its cabinet exposes extremely dangerous high voltages. There are no user-serviceable parts inside. Hazardous voltages are present inside the chassis. Refer all servicing to qualified personnel.

CAUTION: Never modify the power cord. If original power cord becomes damaged, frayed, or has exposed wires, replace immediately with same rating and gauge, or higher. Replacements are commercially available or you can contact Tech 21 directly.

WARNING: Attempting to repair this unit is not recommended and may void its warranty. NOTE: In the U.S. and Canada, servicing is performed at factory only. In other countries, please refer repairs to the local Tech 21 authorized distributor.

FUSE

Fuse holder is located inside A/C cord receptacle. **You must remove power cord to change fuse.** Replace with similar type & same value. Units with 100-120V: use 1A. Units with 220-240V: use 0.5A.

QUICK START INSTRUCTIONS

Get your SansAmp RBI up and running before reading the entire manual. But by not reading the manual, you'll miss out on getting the most out of your new investment!

1. Plug your instrument into the front panel Input jack (on the left side).

2. Connect either the 1/4" or XLR SansAmp Output with the input of your mixer, power amp, powered monitor or amp.

3. Attach the AC cord to the unit and plug into a wall socket. Set the Level and XLR controls to minimum, then turn the SansAmp RBI on and engage the Active Switch.

4. Turn on the mixer or amp and bring up the Level or XLR controls of the SansAmp RBI. If the signal is too "hot," resulting in unwanted distortion, or too weak, check the mixer's or amp's input control as well as the Level control of the SansAmp RBI.

5. Play your guitar and you should hear sound coming through your system. If not, check that your guitar's volume control is turned up, recheck your connections, and be sure your cable isn't faulty. If there is still no sound, refer to factory or qualified technician.

FRONT PANEL

SansAmp RBI is designed with **active** controls, which cut and boost, rather than traditional passive controls which only cut. This effectively doubles many of the control's capabilities, giving you a much larger range of adjustability and, ultimately, more variety. It should be noted that you need not necessarily set everything at max to achieve maximum results. As you experiment and become familiar with the interrelationship of the controls, you'll easily be able to customize your own sounds.

Input Jack

Faithful to the original designs of traditional tube amplifiers, this 1/4" Input is high impedance 1MOhm. It is factory set at -20dB instrument level. Note: A second input jack (Input 2) is located on the rear panel. Plugging into the front panel Input jack overrides and disconnects the rear panel jack. This allows you to set up your SansAmp RBI as a permanent part of a rack or patch-bay system, with its usual input source plugged into the rear panel jack. Then, if you want to plug straight into the SansAmp RBI, bypassing other gear in the system, you can use the SansAmp RBI's front Input.
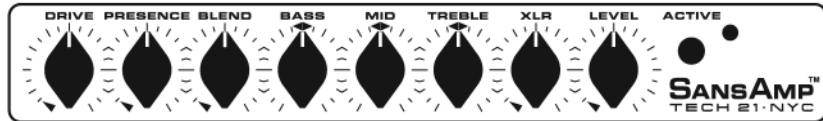
Drive

Adjusts the overall amount of gain and overdrive, similar to when the output section of a tube amp is being pushed.

Presence

Brings out the upper harmonic content and attack. For a smoother high end and for clean settings, decrease to taste.

Blend

Allows you to blend the direct instrument signal with SansAmp Tube Amplifier Emulation circuitry. In most cases, you will probably have this set at maximum (100% SansAmp). For certain applications, however, such as an ultra-transparent sound or for use with piezo pickup-equipped instruments, you may want to blend-in the direct signal to achieve your desired sound. While the SansAmp Tube Amplifier Emulation circuitry is bypassed when *Blend* is at minimum, the *Bass, Mid, Treble, Level* and *XLR* controls remain active.

Bass, Mid and Treble

These active tone controls cut or boost ±12dB from unity gain at 12 o'clock. Bass is 80 Hz. Mid is 1kHz. Treble is 3.2kHz.

XLR

Adjusts the volume level of the SansAmp XLR Output independently of the 1/4" Level control.

Level

Adjusts the SansAmp 1/4" Output level.

Active

Activates the circuitry. To engage, push the button to the in position. For bypass, push the button to the out position.

REAR PANEL

Input 2 Jack

Plugging into Input 2 lets you match the SansAmp RBI's input circuitry to the signal level being fed into it, thereby assuring the best signal-to-noise ratio and least distortion. This input is ideal for rack and patch-bay applications, especially if you use other signal processors or multi-track recorders before the SansAmp RBI. Note: Whenever you plug into the front panel's Input, the rear panel Input 2 is disconnected. Also, you can set the Input level selector switch to its 0dB position when you plug in extra-hot signals, such as the output from active bass guitars.
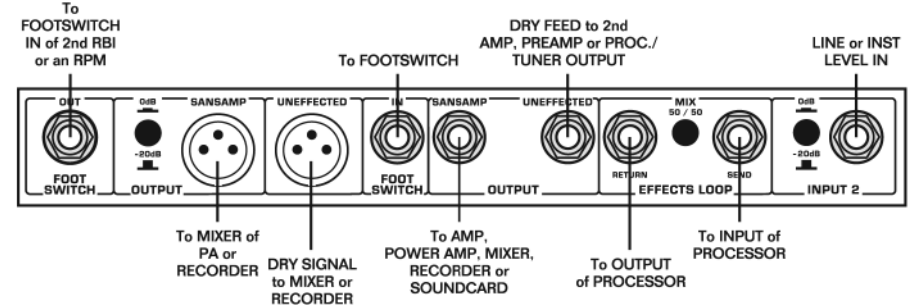
Level Selector Switch

This switch lets you connect the SansAmp RBI to a wide variety of equipment with a variety of signal levels. It has two positions:

0dB position. Optimizes the rear panel Input 2 to receive an instrument level signal. In this position, Input 2's sensitivity is exactly the same as the front panel's Input.

-20dB position. Set the switch in this position when sending a line-level signal into the SansAmp RBI. When the switch is in this position, the signal coming into the unit is padded down by 20dB.

EFFECTS LOOP

Send and Return

The Effects Loop allows you to connect external effects with the SansAmp RBI. Connect the input of your processor to Send; output of your processor to Return. Note: When nothing is plugged into the Effects Loop, the signal passes through from the SansAmp RBI to the Output jacks, with both the SansAmp 1/4" and XLR Outputs receiving the same signal.

Mix 50/50 Switch

The 1/4" Send routes 100% of the SansAmp RBI's signal through your effects processor when the 50/50 switch is disengaged. If you engage the 50/50 switch, then 50% of the SansAmp RBI signal goes through your effects processor, and the other 50% passes directly to the SansAmp 1/4" and XLR Outputs.

To preserve the signal integrity of the SansAmp RBI, use the Effects Loop with the Mix 50/50 switch engaged. When the SansAmp RBI is in this mode, the effects processor's mix control should be set at 100% wet. Your relative wet/dry mixture can then be controlled by increasing or decreasing the effects processor's output level.

UNIVERSAL OUTPUT SECTION

The output sections of the SansAmp RBI are designed to be compatible with any application. The outputs can be used for full range (multi-track recorders, studio monitors, P.A. systems) or limited range systems, as well as *simultaneously*. Note: You can compensate for different frequency responses of speaker enclosures by using the Treble control.

1/4" SansAmp Output

Carries the signal from the SansAmp RBI, including any effects that are placed in the Effects Loop.

1/4" Uneffected Output

Buffered output without processing. Sends a direct bass signal to another channel on your amp, pre-amp, or effects chain, or it can be utilized as a tuner output.

SansAmp XLR Direct Output

Carries the signal from the SansAmp RBI, including any effects placed in the Effects Loop. For recording, the SansAmp XLR Output is like having a built-in direct box. Designed without a transformer, it provides a balanced, low-impedance output of extremely high quality for recording or interfacing with professional-quality signal processors. Go direct to the board and get the same sound you hear coming out of the speakers right onto tape or disc. The SansAmp circuitry not only captures the warm, rich, natural harmonics and sweet overdrive characteristics inherent to tube amplifiers, its speaker emulation encompasses all aspects of multiply-miked tube amp rigs.

For live gigs, you can use this output direct into the P.A. system and you won't need a microphone in front of your amp. And you won't have to subject the audience to a sterile, muddy, or boomy bass tone.

NOTE: If you experience hum from the output when there's no instrument plugged in, you most likely have a ground loop. Therefore, Pin 1 (signal ground of the SansAmp XLR) needs to be lifted or disconnected. You can easily make a small ground disconnect adapter by disassembling one end of the cable and cutting Pin 1 (see diagram above.)
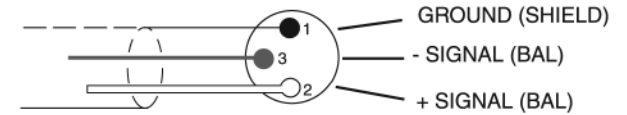
XLR Output Level Switch

Sets the range of the signal level of the SansAmp XLR Output jack. In the 0dB position (engaged), the Output is in the line level range. When in the -20dB position (disengaged), the Output is in the instrument level range. Note: The standard output level range of the SansAmp RBI is 0dB due to the popularity of digital recorders, which are unforgiving to excessive input levels. This prevents overloading the input of a digital recorder.
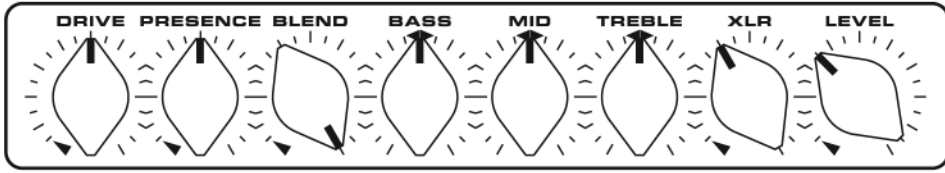
Uneffected XLR Output

Provides a buffered balanced output of the direct instrument signal without processing.
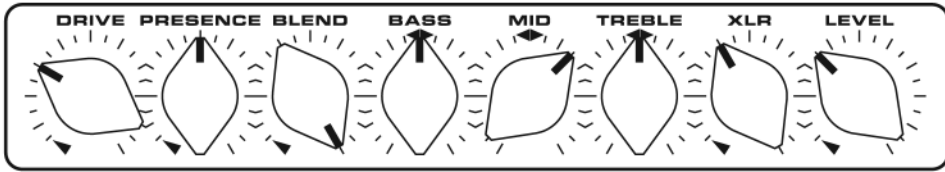
Footswitch

Any alternating (on/off) footswitch will activate the unit. Connect the footswitch output to Footswitch In. To toggle between this unit and another SansAmp RBI (or SansAmp RPM), do the same as above and connect the SansAmp RBI Footswitch Out to the Footswitch In of the second SansAmp RBI (or SansAmp RPM). Now you can switch between 2 sounds. For the audio signal path, connect your bass into the Input of the first SansAmp RBI. Connect the 1/4" SansAmp Out to the Input of the second unit. The 1/4" Output of the second SansAmp RBI is then your main audio out. (Refer to the Hook-up Diagrams on Page 13.)
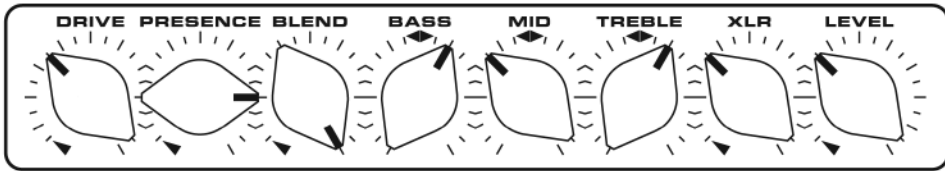
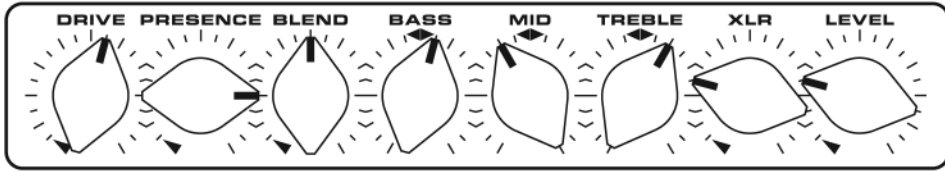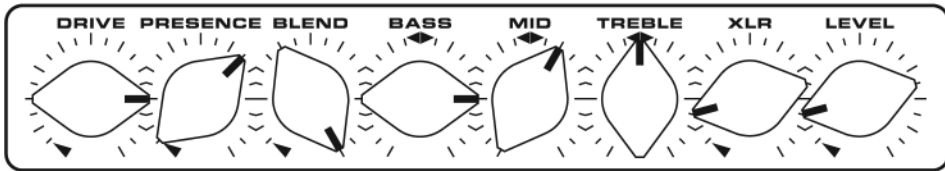# SansAmp RBI Sample Settings

FAT TUBE

DRIVE	PRESENCE	BLEND	BASS	MID	TREBLE	XLR	LEVEL

BASSMAN®

DRIVE	PRESENCE	BLEND	BASS	MID	TREBLE	XLR	LEVEL

SVT®

DRIVE	PRESENCE	BLEND	BASS	MID	TREBLE	XLR	LEVEL

KING'S X

DRIVE	PRESENCE	BLEND	BASS	MID	TREBLE	XLR	LEVEL

CRIMSON

DRIVE	PRESENCE	BLEND	BASS	MID	TREBLE	XLR	LEVEL

SOLO

DRIVE	PRESENCE	BLEND	BASS	MID	TREBLE	XLR	LEVEL

SLAP

DRIVE	PRESENCE	BLEND	BASS	MID	TREBLE	XLR	LEVEL

REGGAE

DRIVE	PRESENCE	BLEND	BASS	MID	TREBLE	XLR	LEVEL
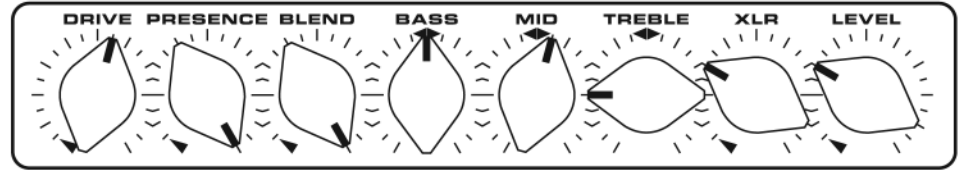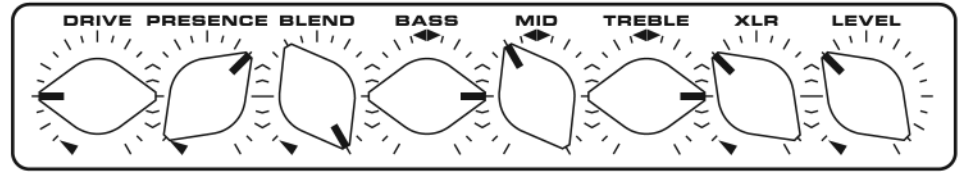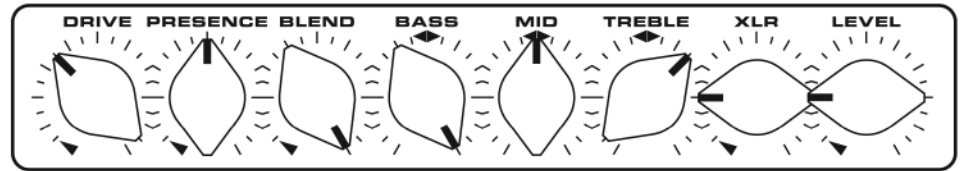
Sample "Biamp" Settings

LOW BIAMP
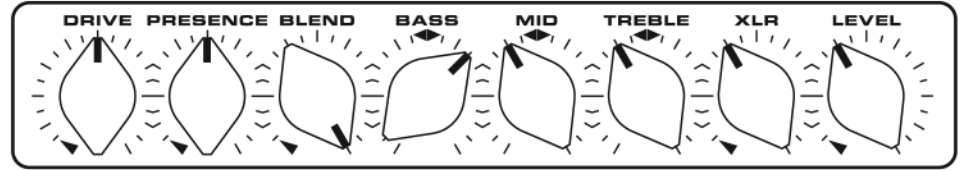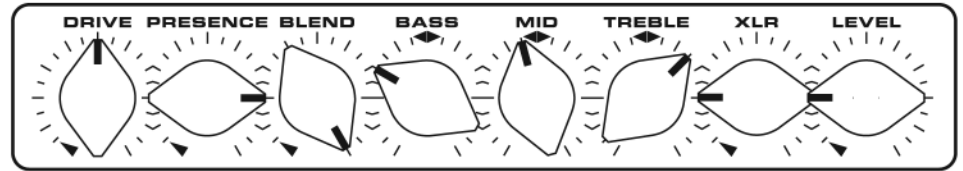
DRIVE	PRESENCE	BLEND	BASS	MID	TREBLE	XLR	LEVEL

HIGH BIAMP

DRIVE	PRESENCE	BLEND	BASS	MID	TREBLE	XLR	LEVEL

Sample settings are an approximate guide to get you started. Levels should be adjusted to individual taste and environment.
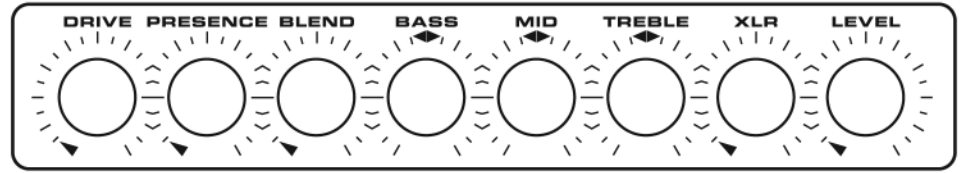
SansAmp RBI Custom Settings
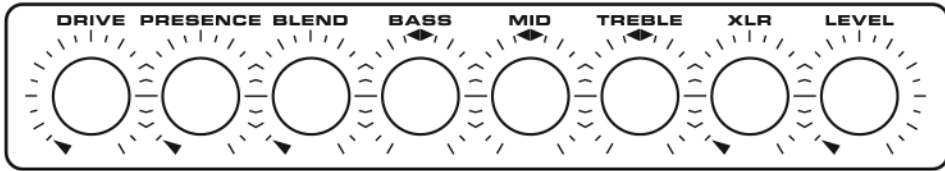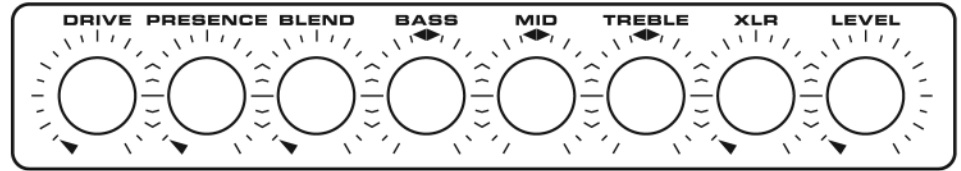## (keep a record of your personal favorites)

Name/Description _____
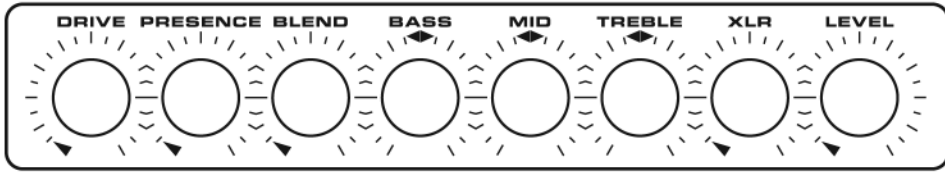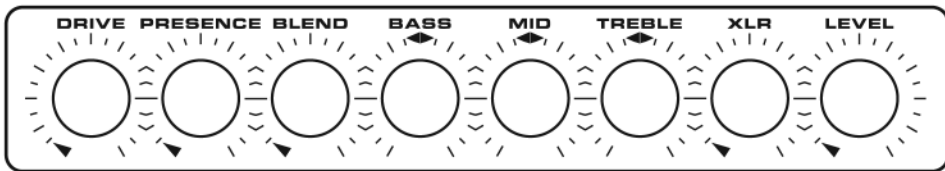
DRIVE	PRESENCE	BLEND	BASS	MID	TREBLE	XLR	LEVEL

Name/Description _____

DRIVE	PRESENCE	BLEND	BASS	MID	TREBLE	XLR	LEVEL

Name/Description _____

DRIVE	PRESENCE	BLEND	BASS	MID	TREBLE	XLR	LEVEL

Name/Description _____

DRIVE	PRESENCE	BLEND	BASS	MID	TREBLE	XLR	LEVEL

Name/Description _____

DRIVE	PRESENCE	BLEND	BASS	MID	TREBLE	XLR	LEVEL

Name/Description _____

DRIVE	PRESENCE	BLEND	BASS	MID	TREBLE	XLR	LEVEL

Name/Description _____

DRIVE	PRESENCE	BLEND	BASS	MID	TREBLE	XLR	LEVEL

Name/Description _____

DRIVE	PRESENCE	BLEND	BASS	MID	TREBLE	XLR	LEVEL

Name/Description _____

DRIVE	PRESENCE	BLEND	BASS	MID	TREBLE	XLR	LEVEL

Name/Description _____

DRIVE	PRESENCE	BLEND	BASS	MID	TREBLE	XLR	LEVEL
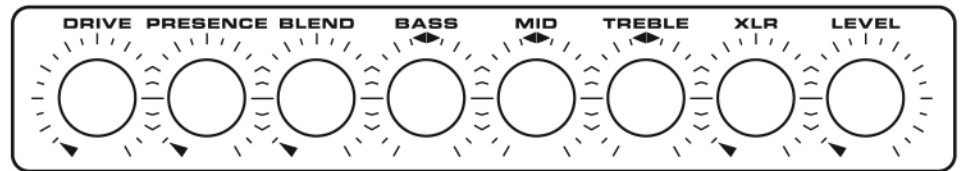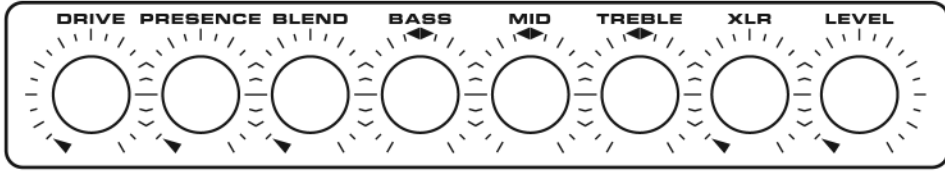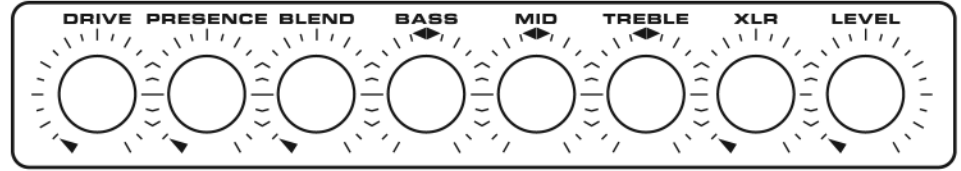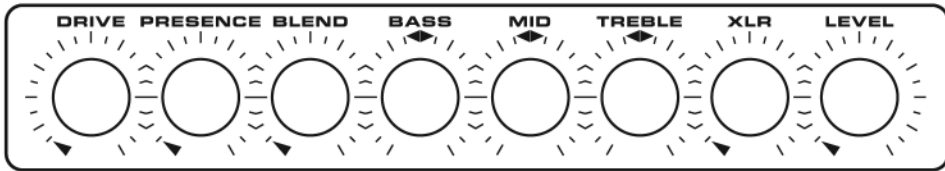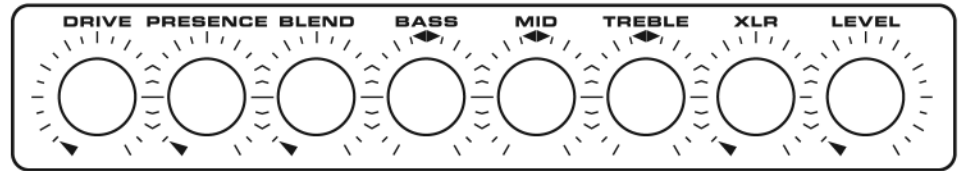
HOOK-UP DIAGRAMS

WITH A BASS AMP

* or use Front Panel Input
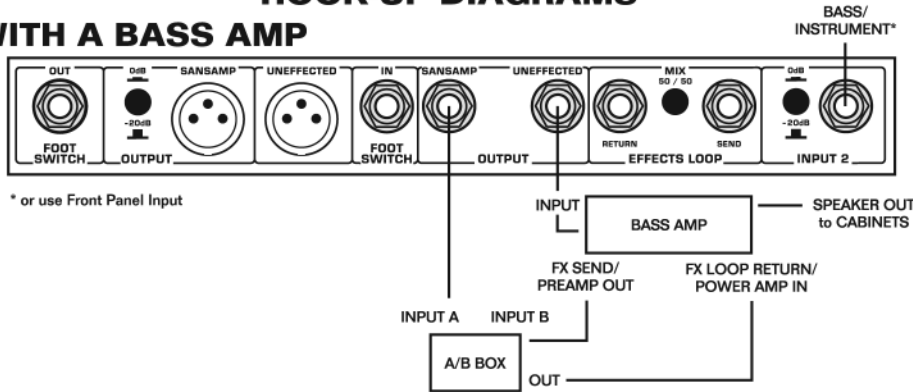
CHAINING 2 SansAmp RBIs or to an RPM

*NOTE: Set both units at same level, according to the instrument's output.
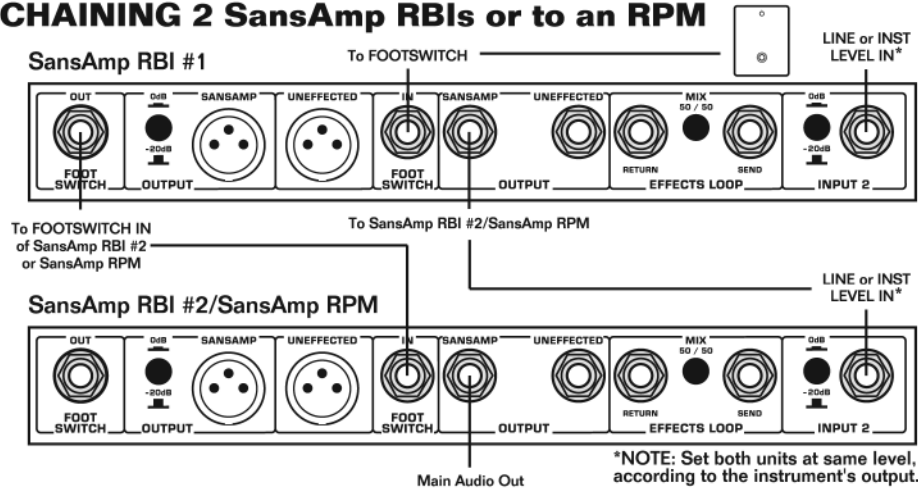
"BIAMP" with SansAmp RBI and SansAmp RPM

*NOTE: Engage 0dB pad when biamping.
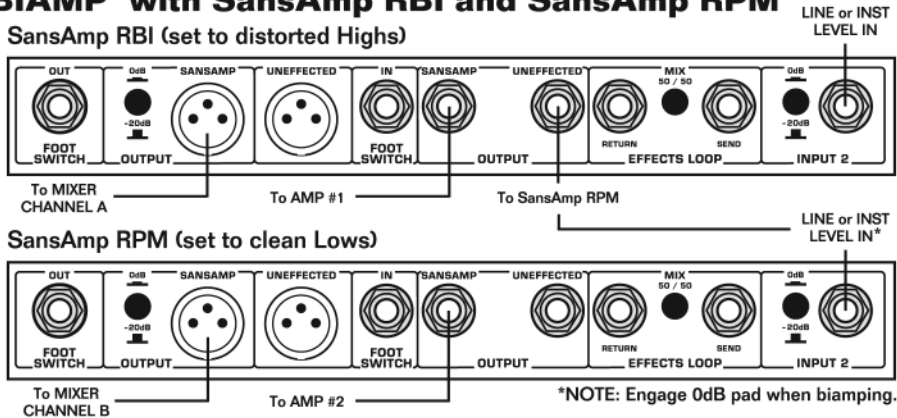
"Biamp" with channel switching can be accomplished with four units.
For hook-up details, contact Tech 21.

SansAmp RBI Specifications

Note: With on-going product development and improvements, specifications and/or the cosmetic appearance of this unit may change without prior notice. **Replacement parts** are available, i.e., knobs, rack handles, faceplate, etc. For more information, please contact your authorized dealer or Tech 21.

Model Number:	RBI
Input Impedance-Input 1:	1MΩ
Input Impedance-Input 2:	1MΩ
Output Impedance-1/4":	1K Ohm min
Output Impedance-XLR:	600 Ohm min
Input Level-Input 1:	1V RMS max
Input Level-Input 2:	1V RMS or 10V max, with -20dB pad engaged
Output Level-XLR:	Switchable to -20dB or 0dB range
Maximum Output Level:	+10dB or better
Effects Loop Send:	1K Ohm min, -20dB
Effects Loop Return:	100K Ohm min, -20dB
Low Frequency Response:	10Hz or better*
High Frequency Response:	Harmonic content, 20kHz or better*
Maximum Power Consumption:	5 Watts
AC Input Power (factory set):	100V, 117V, 230V, 240V
Cycles:	50/60 Hz
	NOTE: Each unit is constructed for specific voltages. AC power cannot be switched.
Enclosure:	Aluminum and steel, fully shielded
Dimensions:	19.0"w x 1.75"h x 5.25"d / Overall depth: 6.25"
Weight:	5 lbs.

NOTES: _____
_____
_____
_____
_____
_____
_____
_____
_____

*Due to the variety of amplifier emulations available, frequency response characteristics will vary.