

### POWER REQUIREMENTS

- \*Operable with phantom power supply, minimum 24V DC regulated, however, 48V DC regulated is recommended in order to illuminate LED.
- \*Utilizes standard 9V alkaline battery (not included). To install, simply remove door cover. (NOTE: The *Input* activates battery. To conserve energy, unplug when not in use.) Power Consumption: approx. 6mA.
- \*USE **DC POWER SUPPLY ONLY!** Failure to do so may damage the unit and void warranty. DC Power Supply Specifications:
  - 9V DC regulated or unregulated, 100mA minimum;
  - 2.1mm female plug, center negative (-).

**Optional factory power supply is available: Tech 21 Model #DC2.**

### WARNINGS:

- \* Attempting to repair unit is not recommended and may void warranty.
- \* Missing or altered serial numbers automatically void warranty. For your own protection: be sure serial number labels on the unit's back plate and exterior box are intact, and return your warranty registration card.

**ONE YEAR LIMITED WARRANTY. PROOF OF PURCHASE REQUIRED.** Manufacturer warrants unit to be free from defects in materials and workmanship for one (1) year from 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 repair or replace it free of charge. After expiration, Tech 21 will repair defective unit for a fee.

**ALL REPAIRS** for residents of U.S. and Canada: Call Tech 21 for **Return Authorization Number**. Manufacturer will **not** accept packages without prior authorization, pre-paid freight (UPS preferred) and proper insurance.

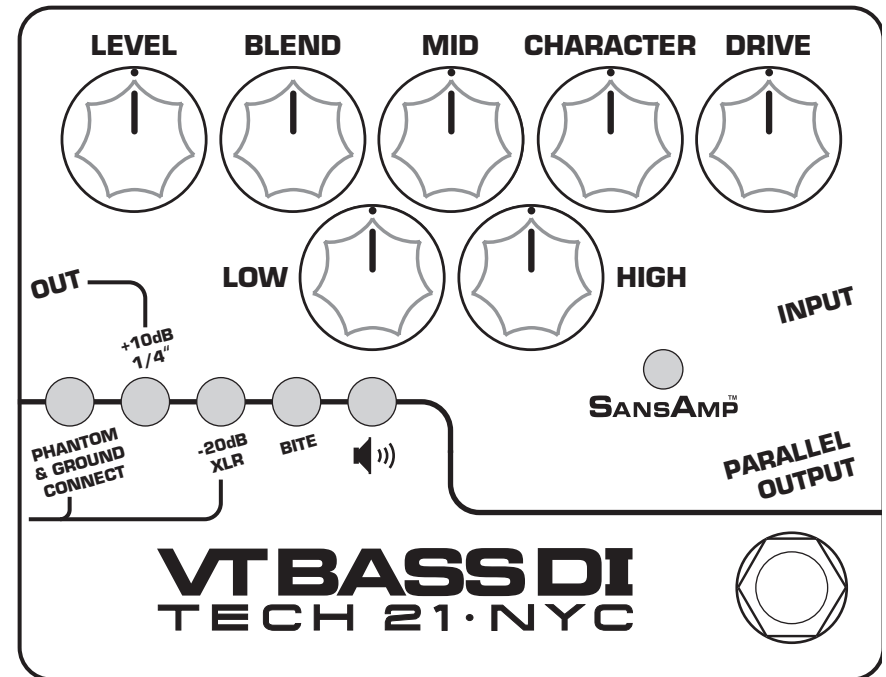
### FOR PERSONAL ASSISTANCE & SERVICE:

Contact Tech 21 weekdays from 9:00 AM to 5:00 PM, EST.

**MADE IN THE U.S.A.**

**TECH 21**

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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 made his 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. There have since been many entries into this niche, yet 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 B. Andrew Barta 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 quality sound, studio to studio, club to club, arena to arena.

## PRODUCT OVERVIEW

The SansAmp Character Series VT Bass DI offers a historical journey through the most coveted Ampeg®-style bass amp rigs. This multi-function pedal has an abundance of knob controls, is easy to use, and features our proprietary, **100% analog** SansAmp technology. The continuously-variable Character control sweeps through decades of distinctive sounds. You can explore and tailor various eras simply by turning a knob.

The VT Bass DI functions as a pre-amp, a stomp box, and as a direct box. In bypass, VT Bass DI converts the instrument signal to a low impedance balanced output. This prevents signal loss and sound quality deterioration caused by long cable lengths. When you engage the SansAmp Tube Amplifier Emulation circuitry via the on-board footswitch, it not only converts the signal, it gives you the sound and responsiveness of a miked-up pro stage rig --direct into a recording console or P.A. system. You can also *simultaneously* plug straight into a power amp or conventional bass amp.

As with each SansAmp model, the controls are designed to give you the flexibility to customize your own sound. After all, the greatest inspiration comes from having the sound that's right for you.

## APPLICATIONS

### WITH A BASS AMP RIG:

**-As a Pre-Amp:** Run the 1/4" *Output* of VT Bass DI directly into the power amp input, a.k.a. “effects return” (if applicable), of an amp. This will bypass the tone-coloring pre-amp section of the amp rig.

**-As a Stomp Box:** Run the 1/4" *Output* into the front input of an amp. For best results, keep VT Bass DI's *Level* close to unity gain so as not to overload the amp's input, which could yield undesirable distortion.

**TO DRIVE A POWER AMP:** Run the 1/4" *Output*, or the *XLR Output* to the corresponding input of a power amp, and adjust your stage volume with the *Level* control of VT Bass DI.

**NOTE:** When running into the power amp input of an amp or a power amp alone, make sure to set the *Output Level Switches* as follows:

If using 1/4-inch: +10dB engaged (in position).

If using XLR: -20dB disengaged (up position).

Then adjust *Level* as needed. If you are so inclined, this is the time to crank it!

**TO RECORD DIRECT:** Plug the *XLR* or 1/4" *Output* directly into the input of a mixer/recorder. Work with the input trim control on the mixer/ recorder and be sure not to overload its input. If the *Level* on the VT Bass DI is below 12 o'clock and is overloading the board, use the respective output level switch to reduce the output:

If using 1/4-inch: +10dB disengaged (up position).

If using XLR: -20dB engaged (in position).

Bear in mind full-range systems yield a wide frequency response. Therefore, we suggest you start with the EQ levels at 12 o'clock and then increase/ decrease to taste.

## GUIDE TO CONTROLS

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

**CHARACTER** sweeps through an entire range of tonal possibilities associated with Ampeg®-style amplifiers. In addition to modifying the frequency response, the Character control also influences the attack and drive characteristics. Therefore, you may need to adjust your gain and tone settings after tweaking the Character control.

**Settings below 12 o'clock** will give you the '70s powerhouse, the SVT.

**Around 12 o'clock** will introduce you to the studio staple, the flip top.

**Above 12 o'clock** increases the gain and crunch for less polite, modern rock, indie bass sounds.

**Full up** gives you distorted bass tones from Yes to Crimson to King's X styles.

**MID, LOW, HIGH.** Unlike passive controls that only cut, these **active** tone controls cut or boost  $\pm 12\text{dB}$  from unity gain (12 o'clock). Mid is 500 Hz. Low is 125 Hz. High is 3.2kHz.

**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. **Note:** When Blend is at minimum, the SansAmp Tube Amplifier Emulation circuitry is bypassed. However, the Mid, Low, High and Level controls remain active.

**LEVEL** adjusts the output level of both the 1/4" and XLR outputs.

## BITE

Engaged (in position), Bite activates a presence boost and subsonic filter. This tightens up the sound when you are in distorted settings and adds definition to your notes when playing in clean settings.

## SPEAKER SIMULATION

Speaker simulation is an integral part of the SansAmp circuitry. The VT Bass DI is tuned to match 10-inch American-style bass speakers. It is designed for a smooth, even response as would be achieved by a multiply-miked cabinet, without the peaks, valleys, and notches associated with single miking. The shape of the speaker curve will not adversely effect or interfere with the frequency response of your own cabinet. The speaker simulation works in tandem with the EQ controls to custom tailor the overall sound.



If desired, however, you can defeat the speaker simulation by disengaging the speaker switch (up position).

## THE INS AND OUTS

Follow *Standard Audio Procedure* to avoid unwanted and potentially speaker-damaging “pops” when connecting or disconnecting any equipment:

**Always mute mixing board and/or turn down amp volume before plugging or unplugging!**

### IMPORTANT: TURN ON FIRST. TURN OFF LAST.

**INPUT:** 1/4”, 1 megOhm, instrument level. Switches battery power on/off. To avoid battery drain, **unplug when unit is not in use. AND... DON'T FORGET TO MUTE!**

**PARALLEL OUTPUT:** 1/4” unbalanced direct output is “hard-wired” parallel with input jack. Instrument signal passes through, UNEFFECTED, to the input of your stage amplification system.

**BALANCED XLR OUTPUT:** Balanced low Z output. Sends effected or uneffected signal to mixing console/recorder, depending on the orientation of the *Footswitch*.

**XLR Output Level Switch:** -20dB pad to match the output to equipment with different input level requirements. Disengaged (up position), the output is 0dB. Engaged (in position), the output is -20dB.

**1/4” OUTPUT:** Unbalanced low Z output. Sends effected or uneffected signal to amp rig or power amp, as per the orientation of the *Footswitch*.

**1/4” Output Level Switch:** +10dB boost to match the output to equipment with different input level requirements. Disengaged (up position), the output is -10dB. Engaged (in position), the output is 0dB.

**FOOTSWITCH, with corresponding LED indicator:** Engages/disengages SansAmp Tube Amplifier Emulation circuitry. *Active*, LED will be on. Tonality and gain structure are affected as determined by the setting of the controls. Delivers effected signal through the *XLR Output* and *1/4” Output*. *Inactive*, LED will be off. VT Bass DI functions an active *transparent* direct box and does not sonically alter the instrument signal.

## PHANTOM POWER

Allows you to “tap into” the power of a suitably equipped mixer, which, today, most are. As the 3-conductor XLR sends the audio signal to the input of a mixer, the mixer sends voltage back to the unit via the same 3 wires, eliminating the need for an external power supply. Consult your mixer's owner's manual for set-up instructions. For live and studio use, let the engineer know your VT Bass DI is phantom power operable.

**PHANTOM & GROUND CONNECT SWITCH:** When engaged, the ground connects and unit will accept phantom power through the *XLR Output*. Disengaged, the ground of your stage system and other interconnected gear is lifted (isolated) from the ground of the mixing console.

**With a mixer only:** If you are plugging your bass into the VT Bass DI and taking the *XLR Output* to a mixer --and do not have any other grounded equipment connected in the setup-- you will have to push the switch in to connect the ground and engage the phantom power.

**With a mixer and bass amp:** If you are going to the mixer via the *XLR* and using the *1/4” Output* or *Parallel Output* to feed a bass amp (with its own AC ground), you should have the switch disengaged (in the up position) to be in “Ground Lift” mode. If you experience hum and/or buzz with the switch in either position, there is probably a problem with the AC outlets you are plugging into.

**NOTE:** If using vintage equipment without proper grounds, take extra care connecting it to modern grounded equipment. Any inadequacies of the ground in vintage gear could result in damaging anything it is connected to.

**NOTE:** While operating under phantom power, we recommend keeping a 9V alkaline battery installed at all times to avoid the previously mentioned “pops” when lifting the ground.

## NOTEWORTHY NOTES & CONSIDERATIONS

**1) VT Bass DI is an interactive tool.** It will react differently to various signal levels, as well as your individual touch. For instance, a hotter signal and a heavy hand will increase the gain structure and result in more overdrive. A cooler signal and a light touch decreases the gain structure for a cleaner sound. By using Drive, Character and the EQ controls, you can achieve the proper mix of tonality and gain structure that best suits your style.

**2) The noise level of VT Bass DI is exceptionally low.** However, it may amplify noise emanating from the input source. Bear in mind that VT Bass DI's controls are unusually sensitive and do not require maximum levels of input to achieve high levels of output. To minimize noise going into VT Bass DI, we recommend the following:

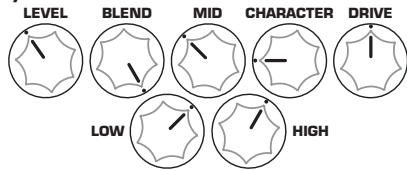
- a) **Active electronic instruments** should have tone controls positioned flat. If you need to boost, do so slowly and sparingly.
- b) **Passive electronic instruments** should have volume and tone controls set at maximum.

**3)** When you push VT Bass DI to saturation, you get enhanced harmonics, just as you would with an overdriven tube amplifier. Depending on the setting, the unique circuitry limits transient peaks for an even meter reading, so that **outboard compressors or limiters may not be necessary.**

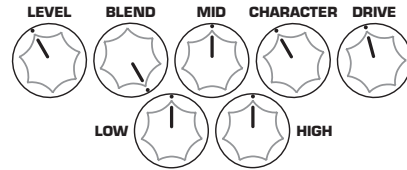
**4) Using effects.** One of the key attributes of SansAmp is the responsiveness to the dynamics and nuances of your playing technique. Therefore, your bass should be plugged directly into the SansAmp and effects should be placed *after* the SansAmp. If, however, you prefer to place an effect before SansAmp, be sure to set the output level of the effect at unity gain with the output level of the instrument.

# SAMPLE SETTINGS

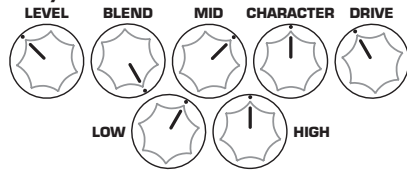
## SVT®-Style



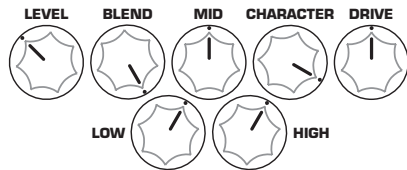
## FAT TUBE



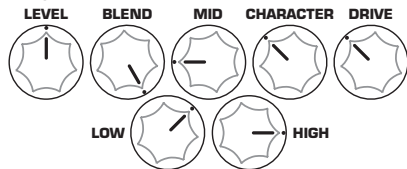
## FLIP TOP-Style



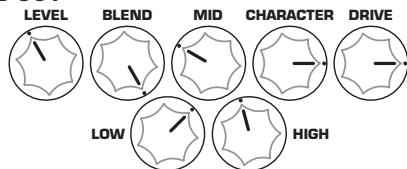
## RAGE



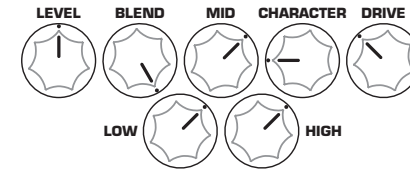
## THUMPY FUNK



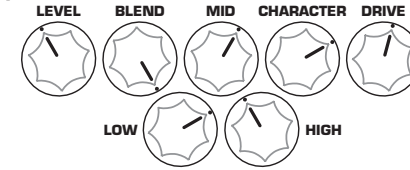
## FUZZED OUT



## WARM COMPRESSION



## YES-style



**Note: In all settings, BITE switch is ON.**

®Registered trademark.

Names of sample settings are intended for descriptive purposes only.

# CUSTOM SETTINGS

Name/Description \_\_\_\_\_

LEVEL	BLEND	MID	CHARACTER	DRIVE
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	LOW	<input type="text"/>	<input type="text"/>	HIGH

Name/Description \_\_\_\_\_

LEVEL	BLEND	MID	CHARACTER	DRIVE
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	LOW	<input type="text"/>	<input type="text"/>	HIGH

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	LOW	<input type="text"/>	<input type="text"/>	HIGH

Name/Description \_\_\_\_\_

LEVEL	BLEND	MID	CHARACTER	DRIVE
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	LOW	<input type="text"/>	<input type="text"/>	HIGH

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Name/Description \_\_\_\_\_

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	LOW	<input type="text"/>	<input type="text"/>	HIGH

Name/Description \_\_\_\_\_

LEVEL	BLEND	MID	CHARACTER	DRIVE
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	LOW	<input type="text"/>	<input type="text"/>	HIGH

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	LOW	<input type="text"/>	<input type="text"/>	HIGH

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	LOW	<input type="text"/>	<input type="text"/>	HIGH

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	LOW	<input type="text"/>	<input type="text"/>	HIGH

Name/Description \_\_\_\_\_

LEVEL	BLEND	MID	CHARACTER	DRIVE
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	LOW	<input type="text"/>	<input type="text"/>	HIGH