POWER REQUIREMENTS

*Utilizes standard 9V alkaline battery (not included), which will provide a life span of approx. 70 hours. NOTE: *Input* jack activates battery. To conserve energy, unplug when not in use. Power Consumption: approx. 7mA.

*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, manufacturer will repair or replace it free of charge. After expiration, manufacturer 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 on normal business weekdays from 9:00 AM to 5:00 PM, EST.
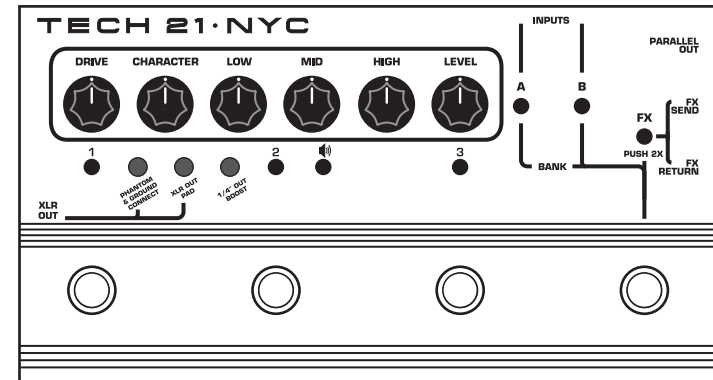
MADE IN THE U.S.A.

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CE

SansAmp Character Series - Deluxe

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 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.

In addition to 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.

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

PRODUCT OVERVIEW

The SansAmp Character Series Deluxe format combines the warmth of a **100% analog** signal path with the convenience of digital programmability in a super simple, player-friendly stomp box format. Our proprietary technology captures the rich, natural harmonics and sweet overdrive characteristics inherent to tube amplifiers, and does so even at low volume. SansAmp delivers the same dynamics, responsiveness, and sound quality of massive pro stage rigs in a portable, programmable pedal.

The ease of operation allows you to make changes on the fly, at the gig, even during your performance --without having to take this manual with you. There are no complex formulas or numerical calculations to learn, so there's nothing to get in the way of your creative flow.

You can explore and custom tailor your tones, and put your favorites right at your feet. Custom actuators provide a smooth transition between channels for instantaneous switching, so you can dance to the music instead of your gear.

APPLICATIONS

WITH AN AMP: Run the 1/4" output of the SansAmp directly into the input of the power amp input, a.k.a. "effects return" (if applicable), of an amp. This will bypass the tone coloring section of the pre-amp **and will defeat the amp's master volume.**

NOTE: BE SURE the INSTRUMENT VOLUME is OFF --BEFORE you turn on the amp. Then *slowly* increase the volume of the instrument. If it's too loud overall, check that the *1/4" Out Boost* switch is disengaged (up) and then edit your presets accordingly. If it doesn't get loud enough for you, engage (depress) the *1/4" Out Boost* switch to add 10dB.

Or, you can run the SansAmp into the front input of an amp. Be sure to keep the *Level* of SansAmp close to unity gain, so as not to overload the amp's input, which could result in undesirable distortion.

> **Tips for setting up your amp when using front input:**
> 1. Plug into low gain channel or input.
> 2. Turn off Bright switch.
> 3. Turn presence control (if applicable) to 12 o'clock or below.
> 4. Set tone controls as flat as possible.
> 5. Set SansAmp Character Series Speaker Sim switch to off.

TO DRIVE A POWER AMP: Run the output of the SansAmp into the input of a power amp with an input sensitivity of -10dB to 0dB. Then use the master volume control of the power amp to adjust your stage volume.

TO RECORD DIRECT: You can plug directly into the input of a mixer/recorder and use the on-board sounds of the SansAmp. Bear in mind, full-range systems yield a wide frequency response. Therefore, you may need to adjust the EQ settings of the SansAmp to compensate.

THE INS AND OUTS

Standard Audio Procedure: TURN (SansAmp) **ON FIRST. TURN OFF LAST.** 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!

WARNING:
DO NOT run the speaker output of *any* amp directly into the SansAmp. Severe damage to the amp and/or SansAmp may result.

SIGNAL LEVEL TO INPUT

SansAmp Character Series pedals are designed to accommodate instrument level signals to the *Input*, such as the output of a guitar, bass, the output of distortion pedals, etc. Signal level to *Input* should be close to that of a standard electric guitar (approx. -10dB / 250mV). **NOTE:** Hot pickups will increase the gain structure of the SansAmp.

IN A (MAIN): 1/4-inch 1 megOhm, instrument level. Use as your main input when using a single instrument. Also switches battery power on/off. To avoid battery drain, unplug when unit is not in use.

IN B: 1/4-inch 1 megOhm, instrument level. For second instrument.

PARALLEL OUTPUT: 1/4-inch buffered, unbalanced direct output. Instrument signal passes through, *Uneffected*, to the input of your stage amplification system or tuner.

BALANCED XLR OUTPUT: Balanced 600-Ohm low Z output. Sends effected or bypassed signal to mixing console/recorder.

> **XLR Out Pad Switch:** -20dB pad to match the output to equipment with different input level requirements. In the line level (up) position, the output is 0dB. In the instrument level (down) position, the output is -20dB.

1/4" OUTPUT: Unbalanced 1KOhm low Z output. Sends effected or bypassed signal to amp rig or power amp.

> **1/4" Out Boost Switch:** +10dB boost to match the output to equipment with different input level requirements. In the instrument level (up) position, the nominal output is -10dB. In the line level (down) position, the output is 0dB.

PHANTOM POWER

Allows you to "tap into" the power of a suitably equipped mixer. 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 SansAmp is phantom power operable.

NOTE: Minimum 24V DC regulated phantom power supply, however, **48V DC** regulated is recommended to optimize headroom and illuminate LEDs.

PHANTOM & GROUND CONNECT SWITCH: When engaged (depressed), the ground connects and unit will accept phantom power through the *XLR Output*. Disengaged (up), 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 instrument into the SansAmp and taking the *XLR Output* to a mixer **--and do not have any other grounded equipment connected in the setup--** you will have to engage (depress) the switch to connect the ground and activate the phantom power.

With a mixer and an amp: If you are going to the mixer via the *XLR* and using the *1/4" Output* to feed an amp (with its own AC ground), you should set the switch in the up position for "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. The 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 (see Standard Audio Procedure on page 2).

GUIDE TO CONTROLS

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

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

LOW, MID, HIGH*. On-board post-EQ section gives you full control, like having a studio mixing board at your fingertips. Unlike passive tone controls that only cut, these active controls cut and boost.*

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

PROGRAMMING THE CHANNELS

HOW TO SAVE A PROGRAM
Select a channel where you want the setting located. Set the knob controls to taste. Double click on that channel's footswitch and it's saved. It's that easy.

HOW TO FIND KNOB POSITIONING WITHIN A PRESET
When you turn a knob from its stored position, it "unlocks" and the channel indicator LED will blink. The slower the blink, the farther away you are from the preset point. The faster the blink, the closer you are. At the preset point, the LED stops blinking and remains on.

LAZY POT™
Another Tech 21 first, this is a unique safety feature engineered for the *Drive* and *Level* controls. When you "unlock" the EQ settings, for instance, they will "jump" to the new setting of the knob position. For the *Drive* and *Level* controls, however, this could result in you jumping out of your skin if they're at a high setting. With the Lazy Pot, there's a gradual increase to the new setting position, giving you time to turn it down. This will only happen when you initially unlock a preset. Once unlocked, the pot will react according to how you reposition it.

BYPASS
The SansAmp Character Series Deluxe can go into bypass mode from any of the three channels. Whichever channel you're already in, hit that channel's footswitch once and you'll be in bypass mode.

BANK A and B
You can program 3 presets per bank, for a total of 6 presets. You can utilize 3 per instrument or all 6 for one. Just follow the same save procedure for each channel in each bank. When you alternate between banks via the footswitch, the corresponding LED lights up to let you know which bank you're in.

EFFECT LOOP

Allows you to connect and control external effects. Run the input of your effect to FX SEND; output of your effect to FX RETURN. We recommend time-based effects (i.e., chorus or delay) be inserted in the Effect Loop and external distortion/wah pedals be placed between the guitar and the SansAmp.

To engage/disengage the effect loop, double-click the Bank/FX footswitch.

NOTE: The effect loop automatically stores the position of the last state it is in. For example, if the effect loop is on when you save a program, it will engage when you recall that preset. If you should spontaneously disengage the effect loop during a performance, the next time you recall that preset, the effect loop will be off.

SPEAKER SIMULATION*

Speaker simulation is an integral part of the circuitry. 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 or left position, depending on exact model). This will provide a slight 6dB per octave high-rolloff. As many amplifiers have a pre-amp section with highs emphasized, this compensation will provide a more natural pre-amp sound when going into the front of such an amp. Conversely, when going directly into a power amp or an amp without highs emphasized, you may need to increase the High control on the pedal to compensate for the lack thereof.

*For more details and sample settings, see separate insert specific to your model.

PLACEMENT ORDER OF OTHER EFFECTS

One of the key attributes of any SansAmp is its responsiveness to the dynamics and nuances of your playing technique. In most cases, your bass should be plugged directly into the SansAmp. We suggest experimenting to find the order that's best for you. As a general guide, we recommend:

Place the following effects BEFORE the SansAmp:
Wah-Wah, Pre-Amp, Compressor, Fuzz Box, Envelope Follower.

Place the following in the FX loop or AFTER the SansAmp: Chorus, Delay, EQ, Pitch Shifter, Reverb.

NOTEWORTHY NOTES

1) SansAmp is very responsive. Our controls are unusually sensitive and powerful. You need not set everything at max to get maximum results. For instance, to brighten your sound, rather than automatically boosting *Treble* all the way up, try cutting back on the *Bass* first.

The tone controls also help compensate for the EQ curves found in instrument amplifierss. To find the best settings for interacting with your amp, start with the tone controls at 12 o'clock and cut or boost as necessary. Be aware that amplifiers vary greatly and some may require you to use radical EQ settings on the SansAmp to achieve your desired sound. You need not be discouraged or suspect something is wrong with the unit. If you've got your sound, you've simply found the right balance for your particular amp.

2) The noise level of SansAmp is exceptionally low. However, it may amplify noise emanating from the input source. To minimize noise going into the SansAmp Character Series Deluxe, we recommend active electronic instru-ments have the volume set at unity gain/maximum and tone controls positioned flat. If you need to boost, do so slowly and sparingly.

Also check for pickup interference by moving your guitar or turning the volume off. Be aware single coil pickups are more likely to generate noise.

3) Buffered bypass eliminates the shortcomings associated with "true bypass" (pops and clicks, and high-end loss when multiple pedals are connected together), as well as signal loss associated with other types of switching circuits.

4) Custom actuators. All Tech 21 pedals feature smooth, silent-switching actuators that are licensed by other major manufacturers.

5) REMEMBER THIS WARNING: DO NOT run the speaker output of *any* amp directly into the SansAmp. Severe damage to the amp and/or SansAmp may result.

GLOBAL RESET

To reset your unit back to factory specifications, you can perform the following procedure: Hold down the footswitches for Channels 1 and 3 *while simultaneously* applying power (either plugging in an adapter or, if a battery is installed, plugging in your guitar cable). Then release the switches.

CUSTOM SETTINGS

Name/Description _____

DRIVE	CHARACTER	LOW	MID	HIGH	LEVEL
○	○	○	○	○	○

Name/Description _____

DRIVE	CHARACTER	LOW	MID	HIGH	LEVEL
○	○	○	○	○	○

Name/Description _____

DRIVE	CHARACTER	LOW	MID	HIGH	LEVEL
○	○	○	○	○	○

Name/Description _____

DRIVE	CHARACTER	LOW	MID	HIGH	LEVEL
○	○	○	○	○	○

CUSTOM SETTINGS

Name/Description _____

DRIVE	CHARACTER	LOW	MID	HIGH	LEVEL
◯	◯	◯	◯	◯	◯

Name/Description _____

DRIVE	CHARACTER	LOW	MID	HIGH	LEVEL
◯	◯	◯	◯	◯	◯

Name/Description _____

DRIVE	CHARACTER	LOW	MID	HIGH	LEVEL
◯	◯	◯	◯	◯	◯

Name/Description _____

DRIVE	CHARACTER	LOW	MID	HIGH	LEVEL
◯	◯	◯	◯	◯	◯

CUSTOM SETTINGS

Name/Description _____

DRIVE	CHARACTER	LOW	MID	HIGH	LEVEL
◯	◯	◯	◯	◯	◯

Name/Description _____

DRIVE	CHARACTER	LOW	MID	HIGH	LEVEL
◯	◯	◯	◯	◯	◯

Name/Description _____

DRIVE	CHARACTER	LOW	MID	HIGH	LEVEL
◯	◯	◯	◯	◯	◯

Name/Description _____

DRIVE	CHARACTER	LOW	MID	HIGH	LEVEL
◯	◯	◯	◯	◯	◯