

POWER REQUIREMENTS

Utilizes included 9V DC, 100-240V universal auto-switching power supply, 200mA, center negative. **Tech 21 Model #DC9.**

NOTE: See page 2 for instructions how to change the prong assembly.

For replacements, contact your local dealer/distributor, or Tech 21. Maximum power consumption: approx 100mA.

WARNINGS:

- * There are no user-serviceable parts inside. 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 or register online.



Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

WARRANTY:

ONE YEAR LIMITED. 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.

REPAIRS:

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 10:00 AM to 5:00 PM, EST: 973-777-6996.

Hand-built in the U.S.A. using high-quality components sourced domestically and around the globe.

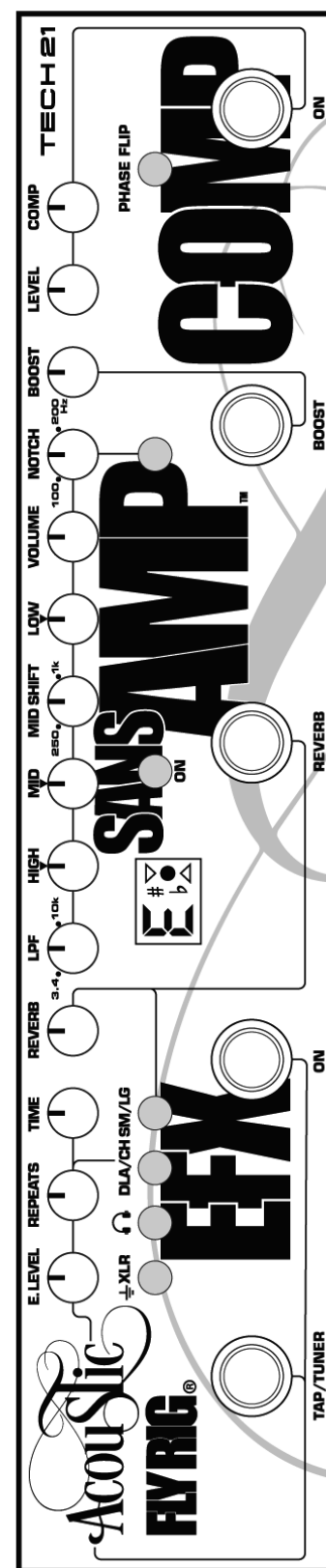


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AcouStic FLYRIG®

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 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 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 Acoustic Fly Rig is more than a pedalboard. In a single pedal. And no board. Less than 13 inches long and weighing just over 20 oz., this sleek, compact unit embodies an entire rig. At its heart is the all-analog SansAmp, which makes it possible to go direct to a PA or mixer. For effects, you have the essentials and fun stuff, too: a compressor, a powerful boost, a tap tempo delay/chorus and reverb. No crackling patch cables, dying batteries or ground loops. No stinkin’ van, heavy flight cases, cable spaghetti, and no dead weight.

With the Acoustic Fly Rig, you can relax. For fly gigs across the globe, jamming at the local hang, and last minute sessions, you’ll be the first one ready to go. You can stop stressing over what to pack and agonizing over what to leave behind. You can stop dreading cheesy backline loaners and being at the mercy of a revolving cast of soundpeople. Just pop your Acoustic Fly Rig into your guitar case and head for the door. (Be sure to wipe that smile off your face when the rest of the band shows up sweating and out of breath.)

APPLICATIONS

For LIVE PERFORMANCES DIRECT to the P.A. and DIRECT RECORDING. All of the tone shaping you need is already incorporated into the SansAmp section of the pedal. The Acoustic Fly Rig automatically converts your instrument signal to Low Z allowing you to plug into a variety of inputs that would normally load down your guitar’s signal. It can be plugged into mixers (live and studio), workstation/recorders, and even directly into the sound card on a computer.

As a PRE-AMP for Guitar or Bass. You can connect the Acoustic Fly Rig in-line to your amp just as you would a standard pedal. If the pre-amp of your amplifier is imparting too much of its own character on the pedal, plug into the low level input and set the pre-amp as clean and neutral as possible.

Also, be aware that most tube amps have a tone stack. When everything is on max, they tend to cut the mid-range. So don’t be surprised to find that the flattest sound is achieved with bass and treble at minimum, and mid at max. Since most tube amp passive tone stacks work in a similar fashion, we recommend this as a good starting point and adjusting to taste.

You can also plug into the effects loop return (if the amp has one). This will disable the entire pre-amp of the amp for a more accurate representation of the Acoustic Fly Rig’s sound.

THE INS AND OUTS

1/4” INPUT: 1megOhm instrument level. For normal operation, signal level to *Input* should be close to that of a standard guitar (approximately -10dBm / 250mV).

1/4” UNIVERSAL OUTPUT: Unbalanced low Z output. This output can be connected to High Z amplifiers (or effects) as well as Low Z mixer and computer inputs. Output level is unity gain when pedal is in bypass mode. It also drives long cables without loss of signal integrity, even in bypass.

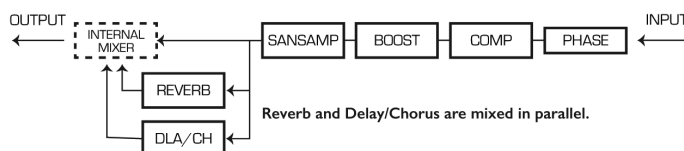
BALANCED XLR OUTPUT & GROUND CONNECT SWITCH:

Balanced low Z output. When the Ground Connect switch is engaged, the ground connects. Disengaged, the ground of your stage system and other interconnected gear is lifted (isolated) from the ground of the mixing console.



GOOD TO KNOW BEFORE YOU START

ALL-ANALOG IN-LINE SIGNAL PATH



SET LEVEL CONTROLS FOR UNITY GAIN

Set the level controls so you have the same volume coming from your speaker/monitor whether the pedal is active or in bypass. This ensures the next device in the signal chain won’t get slammed by a much hotter signal than what would normally come from the instrument. Similarly, you wouldn’t want a drop in volume, either, which would force the next device to struggle for enough signal.

CLIP WARNING

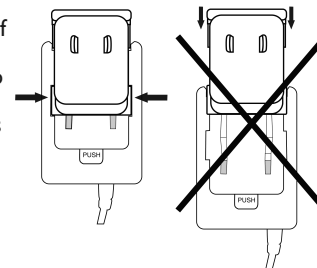
The EFX section provides a built-in clip warning in the E. Level control. Like a VU meter, the E. Level LED will flash red to warn you if the Acoustic Fly Rig is being overloaded. To check the cause, shut off all the effects. Play your instrument. If the clip warning stays lit, lower the level of your instrument, as it may be sending too hot a signal. Otherwise, when those sections are engaged, trim the corresponding Level control accordingly (Comp, Boost, SansAmp).

Bear in mind that occasional blinks (peaks) are okay and can be expected when you dig into your strings, but it should not be continuously lit.

UNIVERSAL POWER SUPPLY

The Acoustic Fly Rig is shipped with a US prong assembly. To change the prong assembly, be sure the power supply is **UNPLUGGED**.

Press the PUSH switch to release the prong assembly. Slide the assembly up (about halfway) to align the side tabs of the prong assembly with the slots of the power supply housing. Then pull up to remove the assembly. Choose the new prong assembly, align the side tabs with the slot of the housing and slide down until it clicks into position.



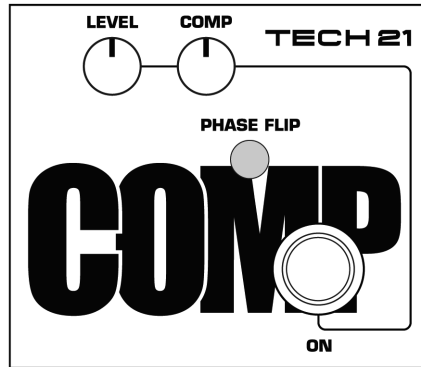
NOTE: You cannot slide the prong assembly all the way out or in.

GUIDE TO FUNCTIONS and CONTROLS (in order of signal flow)

PHASE FLIP

Reverses the input of the guitar signal to help combat feedback. When *out*, the output is in phase with the input. When *in*, the output is reversed. If your instrument feeds back, try positioning the switch *in* to reverse the phase. If the feedback remains, return the Phase Flip switch to the *out* position before proceeding with diagnosing the cause. (Refer to Noteworthy Notes on pages 7-8.)

COMP Section



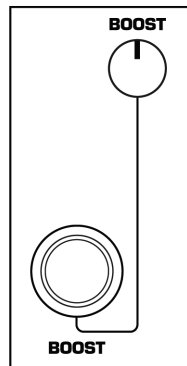
Utilizes old school, all-analog, FET-based technology from the '50s and '60s, which is inherently warmer, more transparent and more musical than other methods of compression.

A single, continuously variable control allows you to dial in just the right amount of compression you need. A little goes a long way, from soft and barely noticeable to super squashy, infinite sustain.

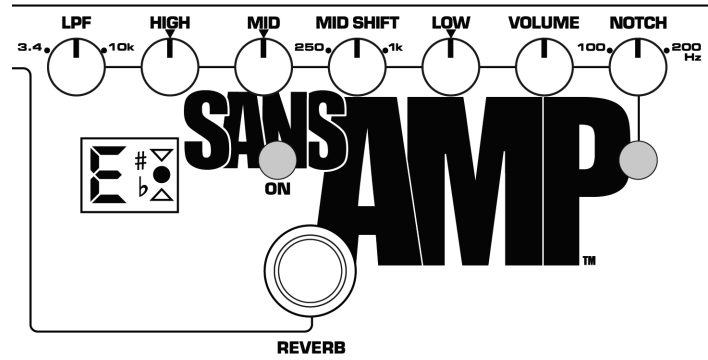
LEVEL: Adjusts the output level of the Comp section.

BOOST

Independent Boost for solos, up to approx. 12dB. Includes a wide mid-range boost for improved clarity.



SANSAMP Section



SANSAMP ON: Engages the all-analog SansAmp technology which enables the Acoustic Fly Rig to run directly into mixers of recording desks and PA systems. Sweepable, semi-parametric, active EQ controls provide professional grade tweakability for any situation.

NOTCH: Sweepable from 70Hz to 350Hz. To engage, push the corresponding switch in. It is designed to diminish the sensitivity for feedback, caused by the resonating, low acoustical frequency of your guitar. Effective, yet gentler than most notch filters, it should not adversely alter the tone. For an average size and weight acoustic guitar, a setting of 150Hz should be adequate. Different models and sizes, however, may require further adjustment.

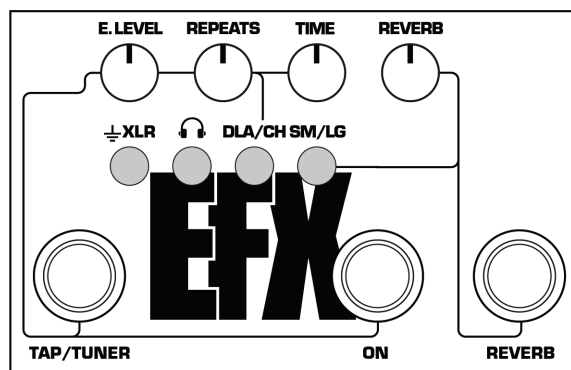
VOLUME: Adjusts the output level of the unit when the SansAmp section is engaged. This control has an exceptionally wide range for maximum compatibility with a variety of equipment.

LOW and 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 shelving EQs cut or boost ± 18 dB from unity gain at 12 o'clock, with pivot point at 1kHz.

MID and MID SHIFT: Sweepable, semi-parametric EQ controls range from 150Hz to 3.2kHz, ± 15 dB, respectively. With the Mid Shift control, you can select the center frequency of the mid-range (Mid) control. Note: If you set Mid Shift at 12 o'clock, Mid operates as a traditional mid-range control.

LOW PASS FILTER: Sweepable from 1.5kHz to 20kHz, rolls off undesirable frequencies and artifacts.

EFX Section



REVERB

Dedicated Reverb function emulates the rich ambiance of open spaces. This single, continuously-variable control provides a smooth, full sweep to easily dial in the amount of reverb desired. Choose from small room or large hall via the SM/LG function switch: Out position = SM. In position = LG.

DLA/CH FUNCTION SWITCH: Choose between delay and chorus. The delay is voiced for the sounds of a vintage tape echo. The chorus is tailored for acoustic guitar using a pitch shift effect, which eliminates the need for speed and depth controls. Out position = DLA. In position = CH.

TIME: In DLA mode, Time controls the amount of delay. This provides a smooth, full sweep, ranging from 1 millisecond up to 750 milliseconds. At 12 o'clock, Time is approximately 200 milliseconds. You can easily dial in the exact amount of delay desired with one turn of the knob. Turning the Time control while playing will transpose the pitch of your guitar note, just like a vintage analog delay. NOTE: In CH mode, Time is inactive.

REPEATS: In DLA mode, this feeds back the delayed signal to the input of the delay circuit to generate the number of repeats. At minimum (7 o'clock), you will hear one repeat. As you increase the setting, the repeats will follow accordingly until they are almost infinite. NOTE: In CH mode, Repeats is inactive.

CHORUS: In CH mode, a detuned voice creates the effect of 2 or more instruments in unison.

E. LEVEL: Adjusts the output level of the EFX section only. Also provides a clip warning (see page 2).

TAP TEMPO: Dedicated footswitch makes it simple to just tap in the delay tempo you want during your performance. Tap Tempo will override the Time setting (and conversely, turning the Time knob will override the Tap Tempo). The Tap Tempo works in Bypass so you can set it ahead of time. A special feature of the Tech 21 Tap Tempo is that it will not change the pitch of your guitar tone when you change the pace from faster to slower or slower to faster. This provides a seamless transition for on-the-fly adjustments if your drummer drifts.

OTHER GOODIES

CHROMATIC TUNER: The TAP/TUNER footswitch engages the chromatic tuner. Simply hold the footswitch down to engage the tuner, which will simultaneously mute the signal path. The LED in the tuner window will then light up. If the green light is on, you're in tune. If you're not, the red arrows serve as indicators:



Arrow points up = Flat. Raise the pitch.
Arrow points down = Sharp. Lower the pitch.

As you get closer to being in tune, the arrow will blink faster and turn off when you are in tune. The green light then comes on and you're good to go.

HEADPHONE: Switches the 1/4-inch output into headphone mode to drive both sides and provide higher powered output.



NOTE: Be sure to disengage when going direct to a mixing board or amplifier, as it will easily clip the signal.

NOTEWORTHY NOTES

1) Guitars with on-board pre-amps. Set the tone controls on your guitar flat and start with the guitar's volume level halfway. Turn up the guitar volume until you see the clip light flashing in the E. Level control. Lower the guitar volume accordingly until the clip light stops flashing. If you get to max volume on your guitar without the clip light flashing, you're good to go. Then balance the guitar's level with the Volume control of the SansAmp section.

Be aware that if the output of your guitar is too high, it can cause distortion. If your guitar is at full volume and the Acoustic Fly Rig's Volume is set low and you encounter distortion, back off the volume of the guitar and bring up the Volume of the SansAmp section as needed. If you still have distortion and want to avoid smacking yourself in the head when you contact us, check the battery in the pre-amp of the guitar.

2) Compression. If the output of your guitar is very high, even low compression settings will sound very compressed. Also, be aware that higher settings can contribute to feedback.

3) EQ and Distortion. Be mindful that when Mid is in a high boost position, it can contribute to distortion. For a cleaner sound, try cutting back on the Mid control.

4) Reverb. Too much reverb can contribute to feedback. We recommend using just enough to give you a full sound, but not so much that you lose definition.

5) Feedback Checkpoints.

- a) After setting the tone controls to your liking, turn up the Volume of the SansAmp section incrementally. If feedback starts to creep in before you reach the desired level, push the Phase Flip switch in to reverse the phase. If that doesn't correct the problem, return the Phase Flip switch to the out position.
- b) Engage the Notch switch and turn the Notch control from low to high to find the spot where the offending frequency ceases. Then increase your volume as desired.
- c) Check the COMP setting. Since higher settings can contribute to feedback, disengage the COMP section to see if it stops. To eliminate the problem before it starts, you can artificially generate compression feedback and use the Notch filter to locate the frequency; then decrease COMP as desired.
- d) Check the Reverb setting. Again, higher settings can contribute to feedback.

6) Using the Acoustic Fly Rig with headphones. Settings may sound brighter through the headphones, so simply adjust the controls accordingly. Remember to disengage the switch when going direct to a mixing board or amplifier, as it will easily clip the signal.

7) Tech 21 controls are unusually sensitive and tend to perform well beyond what would be considered "normal." So you need not set everything at max to get maximum results. For instance, to brighten your sound, rather than automatically boosting High all the way up, try cutting back on Low first.

8) To find the best settings for interacting with your other gear, you may need to use radically different settings for each individual way you use it. 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 to complement each individual piece of gear. We recommend you start with the tone controls at 12 o'clock and cut or boost as necessary.

9) Tech 21 pedals have exceptionally low noise levels.

However, they may amplify noise emanating from the input source. To minimize noise, we recommend active electronic instruments have the volume set so that the clip light barely comes on when in Bypass, and have the 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 magnetic pickups are more likely to generate noise.

10) Placement notes: The Acoustic Fly Rig can be treated as an amplifier or pre-amp when it comes to setting up your signal chain:

Place the following effects BEFORE the Acoustic Fly Rig: Phaser/Vibe, Overdrive, Wah.

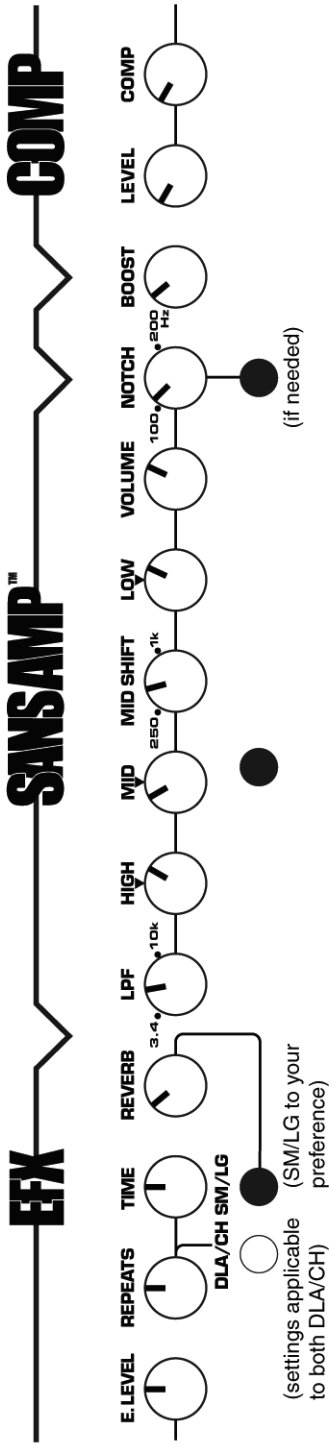
Place the following effects AFTER the Acoustic Fly Rig: Delay, EQ, Flanger, Phaser (yes, after is good, too), Pitch Shifter, Reverb.

11) 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.

12) Custom actuators. All Tech 21 pedals feature smooth, custom, silent-switching actuators.

ON (IN) OFF (OUT)

START-UP SETTING

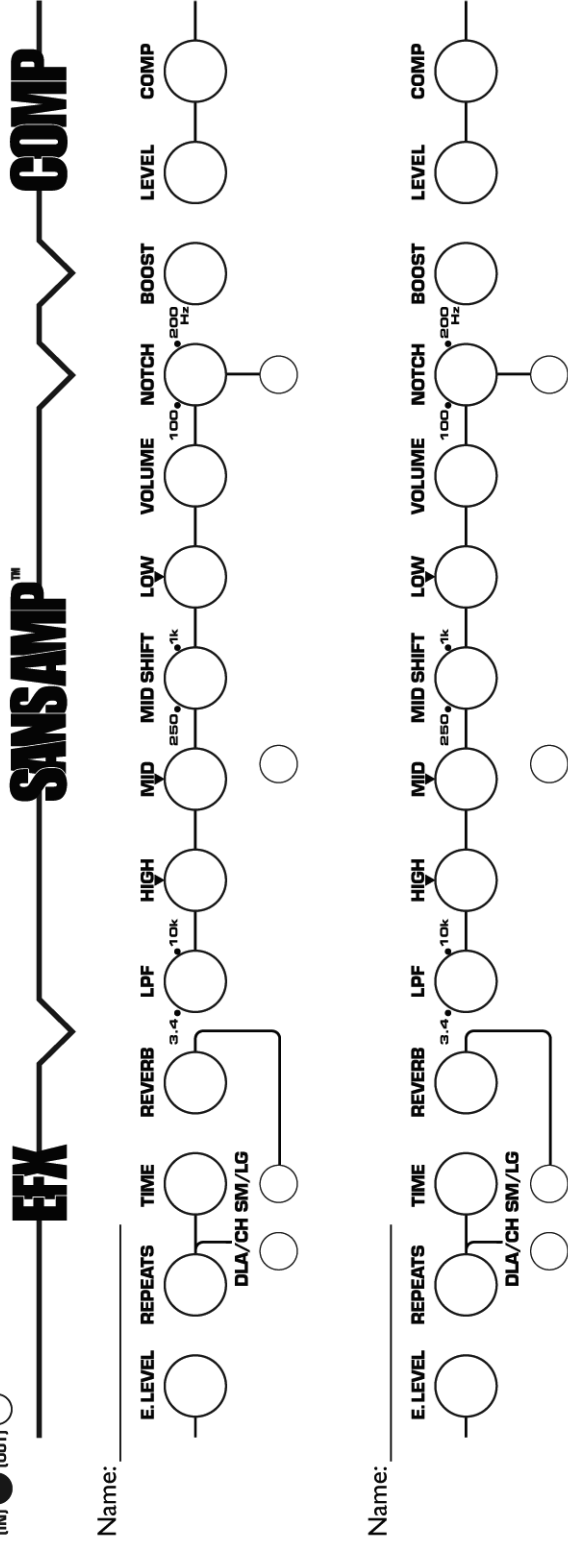


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The Sample Setting was created using an Epiphone acoustic guitar with an on-board pre-amp (and no EQ).

ON (IN) OFF (OUT)

CUSTOM SETTINGS



10