POWER REQUIREMENTS

Utilizes included 9V DC power supply, 200mA, center negative.

North America:	Model #DC4-A
International:	Model #DC4-D

Note: International power supplies are auto-switching with appropriate corresponding plugs for each host country.
For replacements, contact your local dealer/distributor, or Tech 21.
Maximum power consumption: approx 100mA.

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 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.

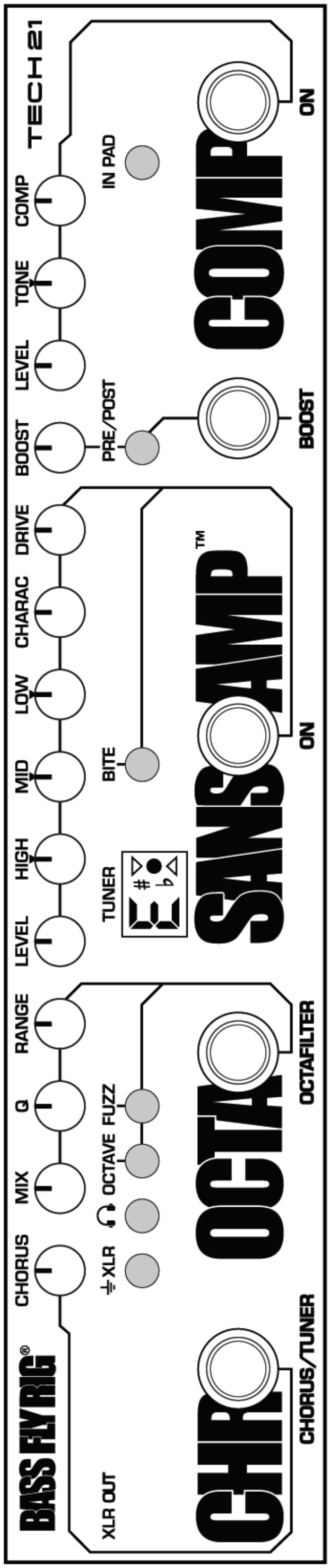
FOR PERSONAL ASSISTANCE & SERVICE:
Contact Tech 21 weekdays 10:00 AM to 5:00 PM, EST: 973-777-6996.

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

TECH 21

T: 973-777-6996 • F: 973-777-9899
E: info@tech21nyc.com • www.tech21nyc.com
(rev 3/17)

BASS FLY RIG®
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 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 Bass 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, an octaver, a fuzz, a filter and a chorus. No crackling patch cables, dying batteries or ground loops. No stinkin' van, heavy flight cases, cable spaghetti, and no dead weight.

With the Bass 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 overheating at the mere thought of your touring rig going down. Just pop your Bass 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

As a PRE-AMP or STOMPBOX with a bass amp. You can connect the Bass Fly Rig in-line just as you would a standard distortion 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 true representation of the Bass Fly Rig's sound.

For DIRECT RECORDING or DIRECT to PA. All of the tone shaping and cabinet emulation needed is already incorporated into the SansAmp section of the pedal. The Bass Fly Rig automatically converts your bass 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.

THE INS AND OUTS

1/4" INPUT & IN PAD SWITCH:

4.7megOhm instrument level to deliver the full sound of piezos. For normal operation, signal level to *Input* should be close to that of a standard bass guitar (approximately -10dBm / 250mV).
The In Pad switch for active basses pads the input by -10dBm.

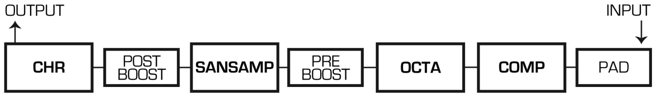
!! WARNING !!
DO NOT RUN THE SPEAKER OUTPUT
OF *ANY* AMP
directly into a Fly Rig/SansAmp input.
Severe damage to the amp and the Fly Rig/SansAmp will result.

1/4" UNIVERSAL OUTPUT: Unbalanced low Z output. This output can be connected to High Z bass 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

SIGNAL FLOW OF THE BASS FLY RIG



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

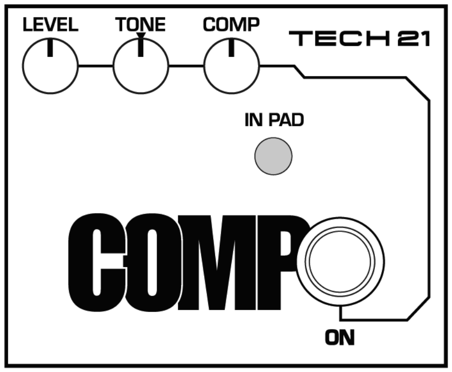
The Chorus control in the CHR section has a built-in clip warning. Like a VU meter, the Chorus control will flash red to warn you if the Bass Fly Rig is being overloaded.

To check the cause, shut off all the effects. Play your bass. If the clip warning stays lit, engage the In Pad, as your bass is sending too hot of 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.

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

COMP Section



Comp 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.

COMP: A single, continuously variable control 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.

TONE: As compressors typically darken your guitar signal, the Tone control provides a pre-compression tonal boost in the frequency range of 2-3 kHz to preserve high-end string attack and clarity. Experiment with lower settings for warmer, rounder, more jazzy tones.

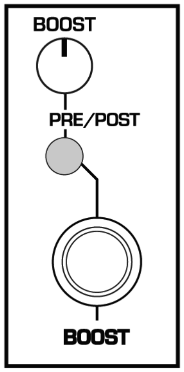
LEVEL: Adjusts the output level of the Comp section.

BOOST Section

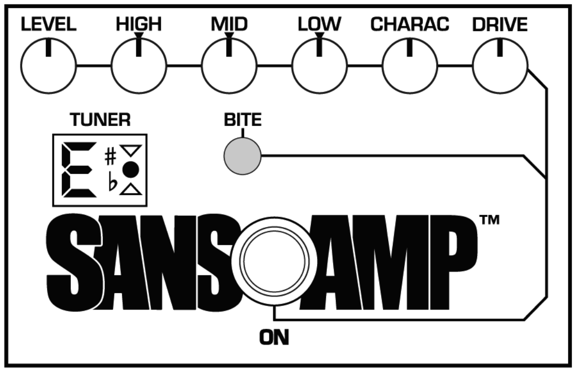
PRE/POST BOOST: Foot-switchable boost modes, up to 10dB.

Pre-Boost (out position) interacts with the SansAmp section to beef up drive and distortion.

Post-Boost (in position) mode increases the overall volume to punch up fills and solos.



SANSAMP Section



The all-analog SansAmp technology enables the Bass Fly Rig to run directly into mixers of recording desks and PA systems, as well as augment your existing amplifier set-up. It can also be used to enhance previously recorded tracks. The SansAmp section focuses on clean tones within the tube amplifier sound spectrum. To dirty things up, you have the flexibility of using the Drive control, the Character control, or you can add distortion with the Fuzz in the Octa section, or via the Boost section. Or all four! Each method achieves different tones.

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.

DRIVE: Adjusts the overall amount of gain and overdrive, similar to when the output section of a tube amp is being pushed. The first half of the rotation will increase the volume as well as the overdrive.

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

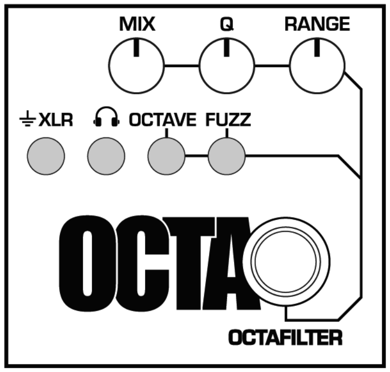
Below 12 o'clock serves up vintage '70s powerhouse attitudes.
Around 12 o'clock will introduce you to classic studio tones.
Above 12 o'clock increases the gain and crunch for less polite, modern rock, indie bass sounds.
Full up gives you full-tilt distorted bass tones.

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. At 12 o'clock, they are flat.
LOW is tuned to ±12dB @ 80 Hz
MID is tuned to ±12dB @ 1 kHz
HIGH is tuned to ±12dB @ 3.3 kHz

LEVEL: 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.

BITE Switch: Engaged (in position), Bite activates a presence boost to the SansAmp tube amplifier emulation circuitry to provide extra clarity to the top end. It enhances your attack in distorted settings and adds definition to your notes when playing in clean settings.

OCTA Section



OCTAFILTER: This reinvented palette of expression provides a crazy amount of possibilities, from Minimoog®-style synth to funky town. The controls interact so that you can get dynamically-filtered clean, fuzz, and octave, as well as octave and fuzz together. When Q is at minimum, Range becomes a high-cut tone filter for different versions of clean, fuzz, octave, and octave and fuzz together. You can then blend any of these combinations with your direct signal via the Mix control. And by bringing in some COMP, you can get infinite sustain like a keyboard bass.

OCTAVE Switch engages a monophonic, classic '80s sub-octave effect when pushed in.

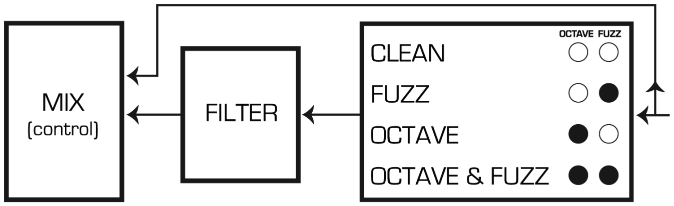
FUZZ Switch engages the fuzz effect when pushed in.

RANGE: Controls the frequency range of the dynamic filter and is dependent on the volume of your instrument and how hard or soft your attack is. At minimum, the input signal has no effect over the sweep of the filter. At maximum, the input signal determines the overall sweep of the filter, which becomes greater as the signal gets higher.

Q: Adjusts the bandwidth and sharpness of the dynamic filter. At minimum, it's smooth and allows the Range control to act like a tone control that slightly rolls off the higher frequencies. At maximum, it will provide the most dramatic transformation.

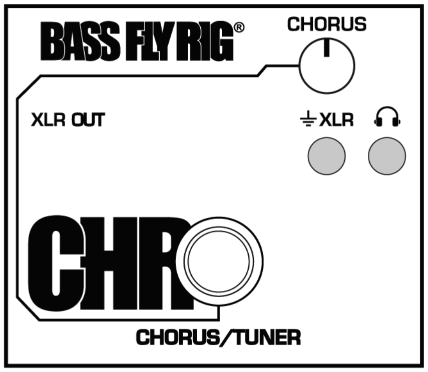
MIX: Blends in the amount of your direct instrument signal.
Minimum (7 o'clock): direct signal of your instrument only.
Midway (12 o'clock): 50/50 mix of your direct instrument signal and the affected signal (filtered/unfiltered fuzz and/or octave).
Maximum (5 o'clock): affected signal only (filtered/unfiltered fuzz, octave, fuzz and octave).

SIGNAL FLOW OF THE OCTA SECTION:



See Page 8 for Reference settings, which illustrate the relationship of the controls and switches, and various combinations you can achieve within this section.

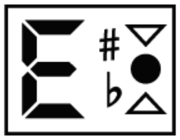
CHR Section



CHORUS: This single chorus control injects a detuned voice into the main analog signal path to create the effect of 2 or more instruments in unison. This eliminates the need for a speed control, as increasing or decreasing changes the amount and therefore, the depth of the effect.

OTHER GOODIES

CHROMATIC TUNER: The CHORUS/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) Using the XLR Output. For optimal sound when direct recording and running direct to the mixing board of a PA system, the SansAmp section should be engaged.

2) Using the Bass 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.

3) 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.

4) 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.

5) 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 pickups are more likely to generate noise.

6) Placement notes: The Bass Fly Rig can be treated as an amplifier or preamp when it comes to setting up your signal chain:

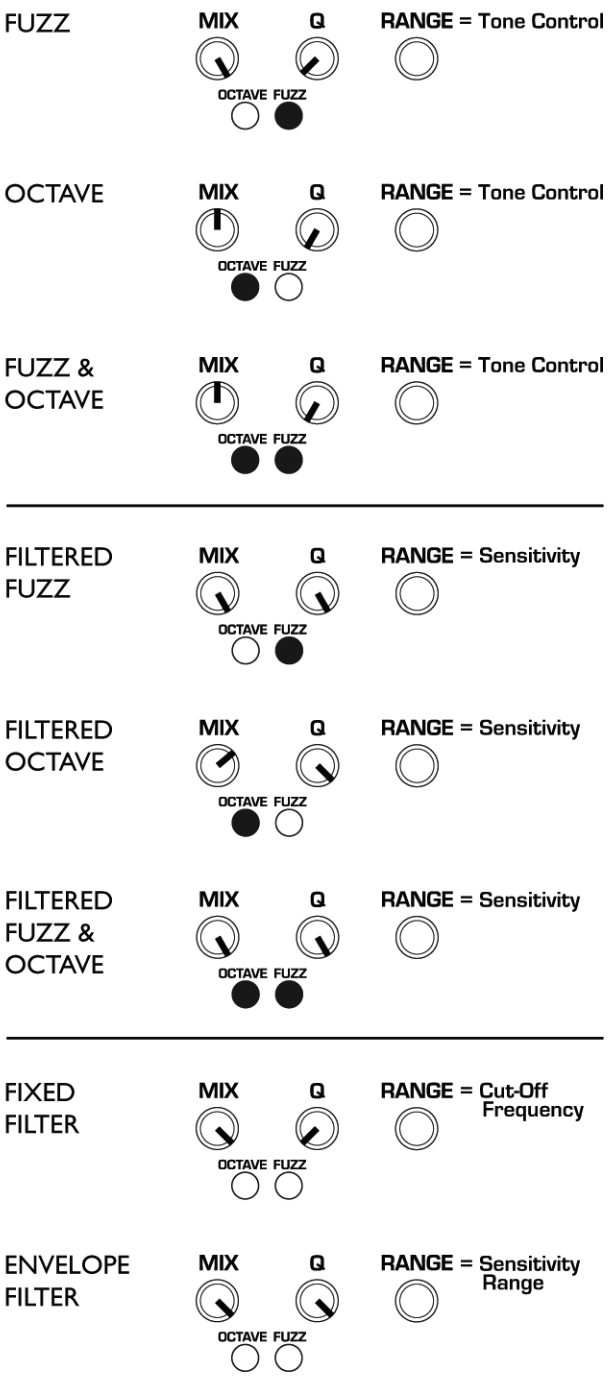
> **Place the following effects BEFORE the Bass Fly Rig:**
> Phaser/Vibe, Overdrive, Wah.
>
> **Place the following effects AFTER the Bass Fly Rig:**
> Delay, EQ, Flanger, Phaser (yes, after is good, too), Pitch Shifter, Reverb.

7) 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.

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

OCTA REFERENCE

ON (IN) ● OFF (OUT) ○



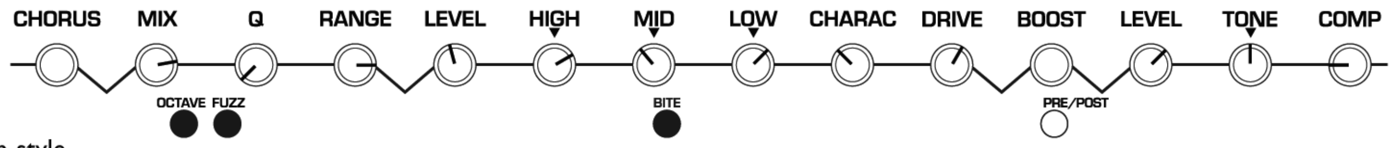
SAMPLE SETTINGS

CHR — OCTA — SANSAMP™ — COMP

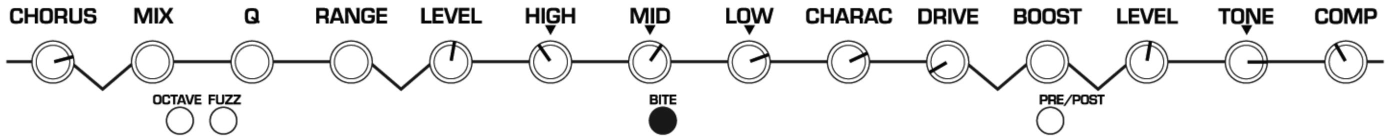
NOTE: When there are no knob indicators present, that function or section is not engaged.

ON (IN) ● OFF (OUT) ○

MUSE/Uprising-style



CURE/Heaven-style

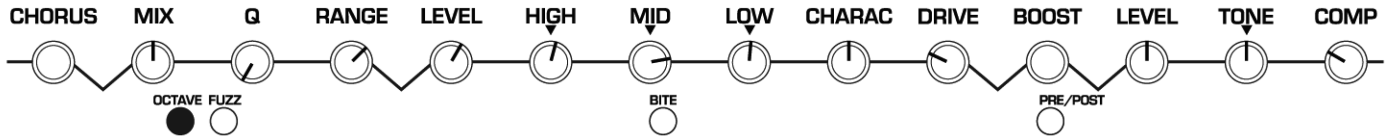


Names of sample settings are intended for descriptive purposes only and should not be construed as an endorsement or affiliation with the companies, products, or artists named.

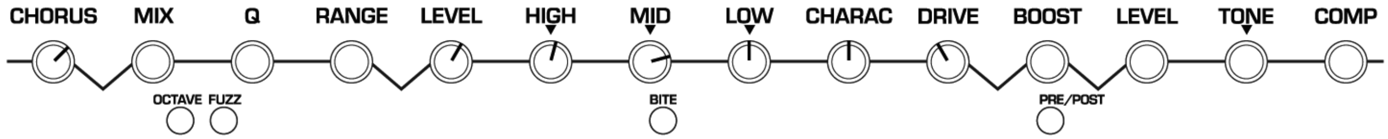
SAMPLE SETTINGS

CHR — OCTA — SANSAMP™ — COMP

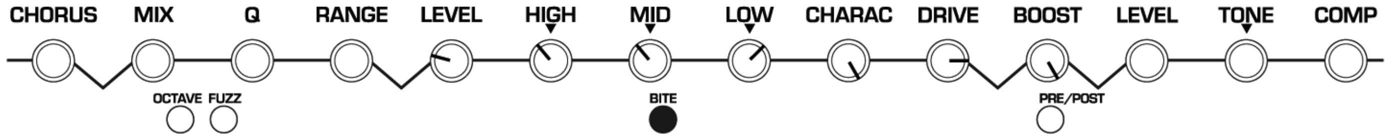
PINO/Octave Funk-style



JACO-style

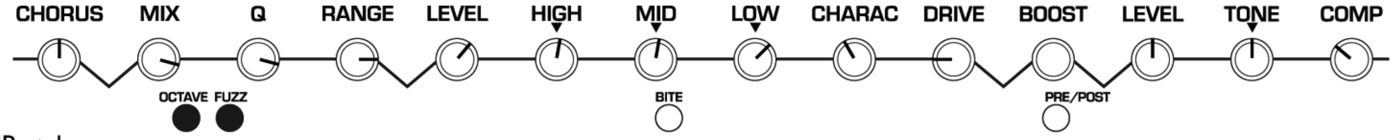


GRIND-style

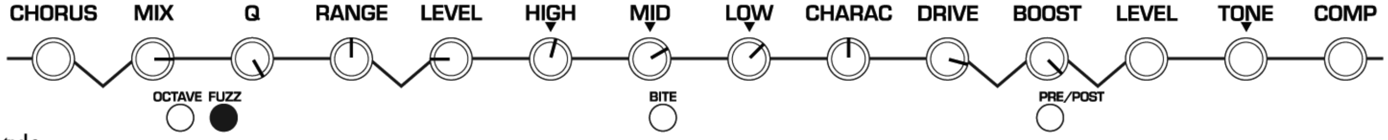


SAMPLE SETTINGS

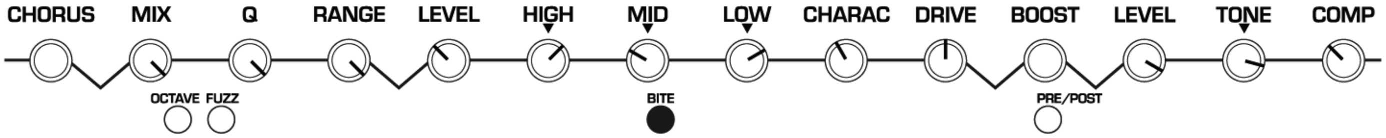
MOOG/Taurus-style



SABBATH/NIB-style

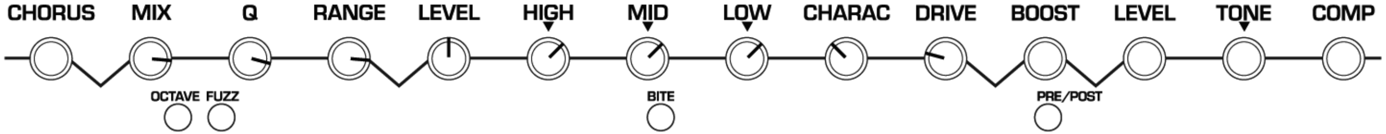


FUNK SLAP-style

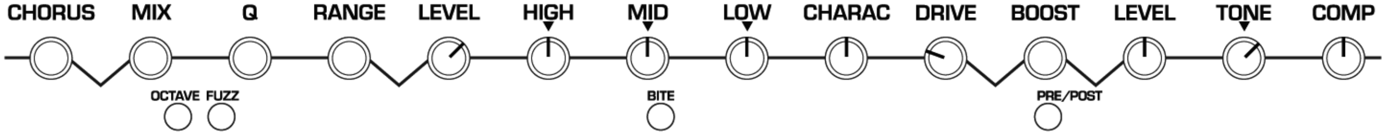


SAMPLE SETTINGS

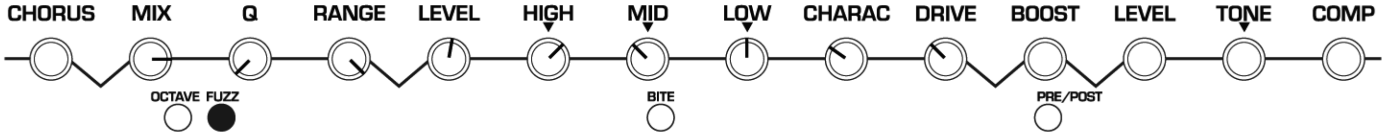
FILTER FUNK MUTRON-style



SMOOTH TUBE-style

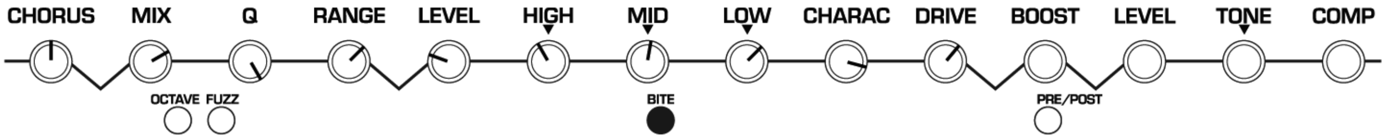


BEASTIE BOYS/Sabotage-style

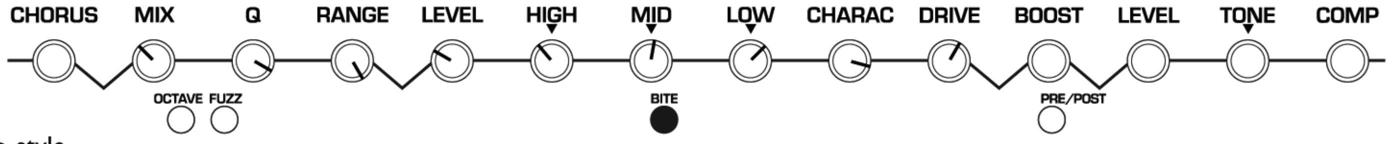


SAMPLE SETTINGS

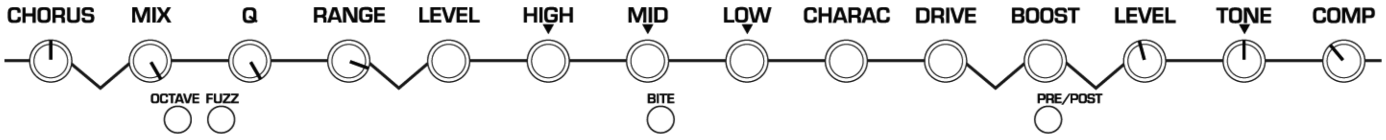
YES/Silent Wings-style



YES/Close to the Edge-style



‘80s LA Studio-style



CUSTOM SETTINGS

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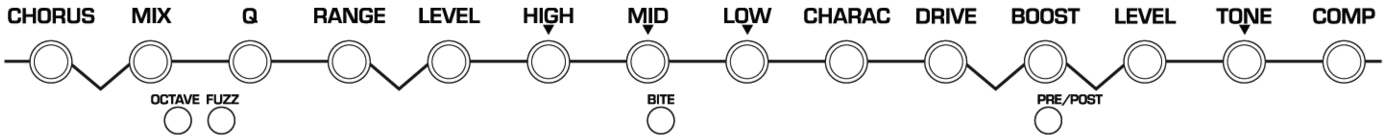

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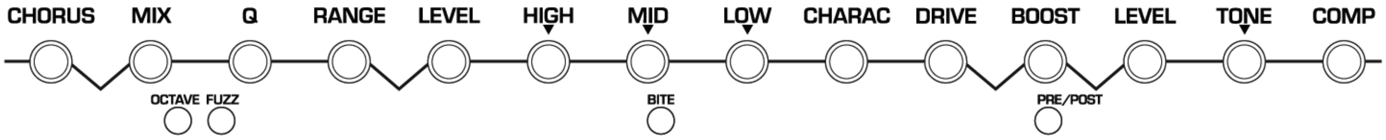

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