

### POWER REQUIREMENTS

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

**NOTE: See page 7 for instructions how to change the prong assembly.**

For replacements, contact your local dealer/distributor, or Tech 21. Also operable with previous Tech 21 power supply Model #DC4. 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:

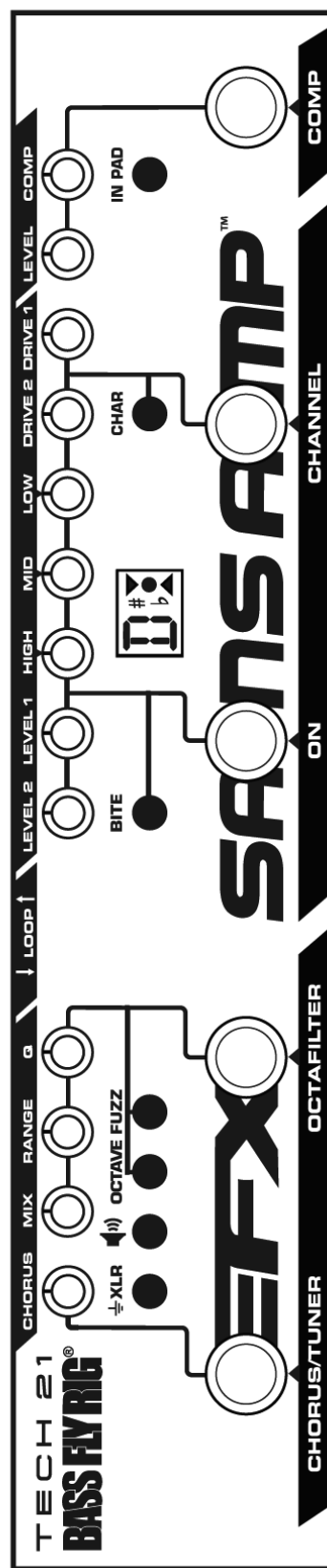
Contact Tech 21 weekdays 9:00 AM to 5:00 PM, EST: 973-777-6996.

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



T: 973-777-6996 • F: 973-777-9899  
E: [info@tech21nyc.com](mailto:info@tech21nyc.com) • [www.tech21nyc.com](http://www.tech21nyc.com)  
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**BASS FLY RIG®**  
**TECH 21.NYC**



**BASS FLY RIG v2 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 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. There have since been many entries into this niche, yet SansAmp continues to maintain its reputation as the industry standard.

Each Tech 21 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 original Fly Rig was introduced in 2014. It was a true game-changer for players in all categories, from touring pros to bedroom hobbyists, and later expanded into a series, including signature versions. Each Tech 21 Fly Rig is much more than a pedalboard. In a single pedal. And no board. Less than 13" long and weighing just over 20 oz., each sleek, compact unit embodies an entire rig. At the 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 the ability to add some fun stuff, too. What you don't have are crackling patch cables, dying batteries or ground loops. No stinkin' van, heavy flight cases, cable spaghetti, and no dead weight.

With a Tech 21 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 Fly Rig into your guitar case or backpack 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.)

## BASS FLY RIG v2

The Bass Fly Rig v2 retains the same SansAmp heart and effects. New features include a choice of SansAmp Character modes, channel switching and an effect loop to facilitate incorporating outboard effects.

## 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. Can be connected to High Z bass amps (or effects) as well as Low Z mixer and computer inputs. Output level is unity gain when pedal is in bypass mode. Also drives long cables without loss of signal integrity, even in bypass.

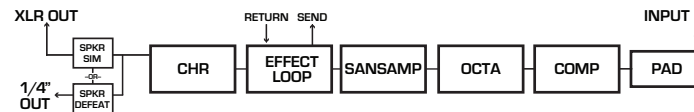
### BALANCED XLR OUTPUT & GROUND CONNECT SWITCH:

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.

NOTE: Both outputs can be used simultaneously. For example, 1/4" Out to your amp and XLR Out to PA mixer, which is one instance where the Ground might need to be disengaged.

## 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 EFX 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, SansAmp).

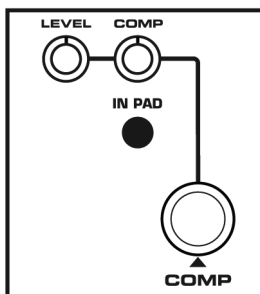
Bear in mind that occasional blinks (peaks) are okay and can be expected when you dig into your strings, but it should not be continuously lit.

## 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.

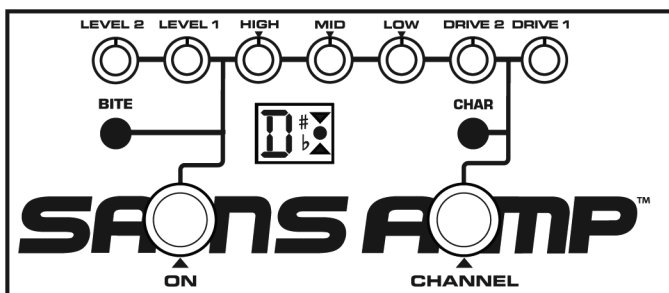


**COMP:** A single, continuously variable control to dial in just the right amount of compression you need. A little goes a long way, from soft and barely noticeable to super squashy, infinite sustain.

**LEVEL:** Adjusts the output level of the Comp section.

### CHANNEL with Character Switch

Channel switches between each set of Drive and Level controls: Drive 1 and Level 1 / Drive 2 and Level 2



**Character Switch** gives you a choice of sonic modes:

#### IN position = SansAmp Bass Driver DI

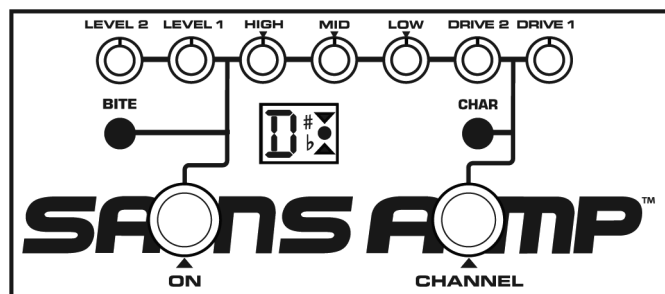
Offers a variety of classic bass tube amp tones (including Bassman-style, SVT-style, etc.).

#### OUT position = VT Bass DI

Offers a more specific focus on Ampeg-style tones and is more mid-range rich.

### 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 controls, the Character switch, or you can add distortion with the Fuzz in the EFX section. Or all three! Each method achieves different tones.



**DRIVE 1 and DRIVE 2:** When the SansAmp section is engaged, adjusts the overall amount of gain and overdrive, similar to when the output section of a tube amp is being pushed. Activated by the Channel footswitch, you can set one clean and one dirty, or one dirty and one dirtier. The first half of the rotation will increase the volume as well as the overdrive.

**NOTE:** When the SansAmp section is off, the corresponding Drive and Level knobs (1 or 2) will remain lit, but the controls will be inactive. This lets you know which Channel was previously on.

**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  $\pm 12\text{dB}$  @ 80 Hz

MID is tuned to  $-12\text{dB}$  @ 1 kHz /  $+12\text{dB}$  @ 2 kHz

HIGH is tuned to  $\pm 12\text{dB}$  @ 3.3 kHz

**LEVEL 1 and LEVEL 2:** Adjusts the output level of the unit when the SansAmp section is engaged. Activated by the Channel footswitch, you can set one soft and one loud, or one loud and one louder. This control has an exceptionally wide range for maximum compatibility with a variety of equipment. **Level Tip:** When running the Bass Fly Rig Output directly to the PA, set the SansAmp Levels fairly high to achieve the best signal-to-noise ratio.

**NOTE:** When the SansAmp section is off, the corresponding Drive and Level knobs (1 or 2) will remain lit, but the controls will be inactive. This lets you know which Channel was previously on.

**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.

### SPEAKER SIMULATION

Speaker simulation is an integral part of the SansAmp 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.

The built-in speaker simulation can also be used independently from the SansAmp section. This enables you to run the Comp section, or an external pedal (OD, fuzz, distortion, etc.), through the speaker simulation. This is useful for running into a full range speaker system or recording interface.

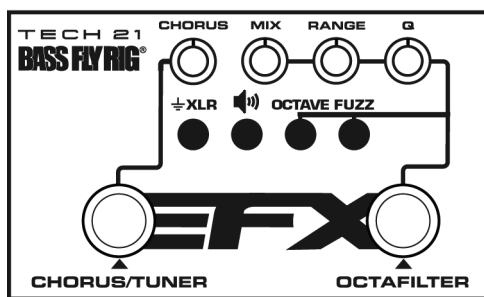


If desired, you can defeat the speaker simulation by disengaging the speaker switch (up position).



**NOTE:** The speaker simulation defeat function will only affect the 1/4" output. It will not defeat the signal going through the XLR Output.

## EFX Section



**OCTAFILTER:** This reinvented palette of expression provides a crazy amount of possibilities, from Minimoog®-style synth to funky town. The controls interact so 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 octave divider. With Q and Range turned down, you'll get a classic '80s effect; turned up will result in a square wave synth-style tone. See Noteworthy Notes for additional info.

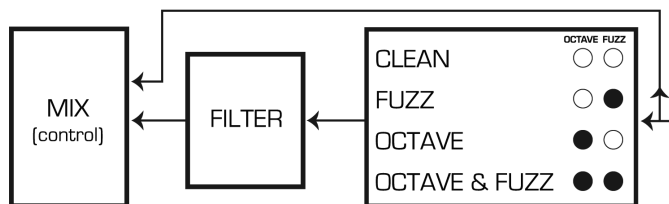
**FUZZ Switch** engages a gated-style fuzz effect and, be warned, is not at all subtle. See Noteworthy Notes for additional info.

**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.

**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.

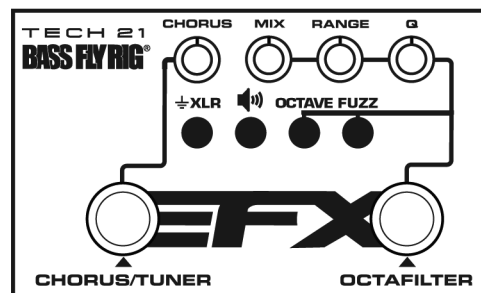
**MIX:** Blends in the amount of your direct instrument signal.  
**Minimum** (7 o'clock): direct signal of your instrument only.  
**Midway** (12 o'clock): 50/50 mix of your direct instrument signal and the affected signal (filtered/unfiltered fuzz and/or octave).  
**Maximum** (5 o'clock): affected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

### SIGNAL FLOW OF THE EFX 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.

**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:

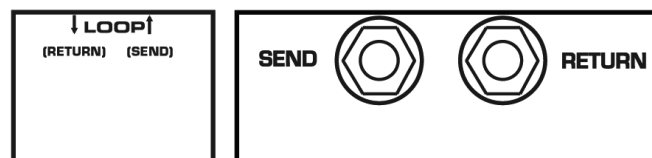


Arrow points up = Flat. Raise the pitch.  
 Arrow points down = Sharp. Lower the pitch.

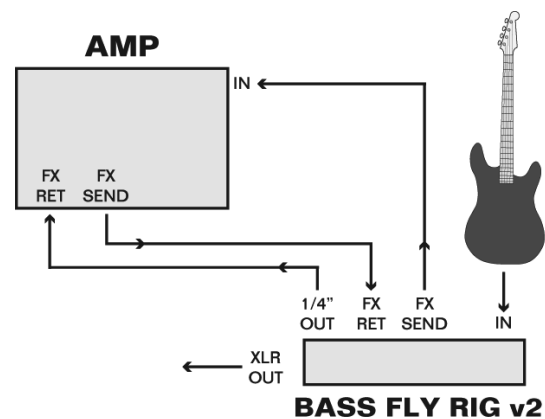
As you get closer to being in tune, the arrow will blink faster and turn off when you are in tune. The green light then comes on and you're good to go.

## EFFECT LOOP

Post-SansAmp, pre-effects to patch in external effect pedals. Connect the input of your effect to Send; output of your effect to Return.



Hookup diagram utilizing the 4-cable method:

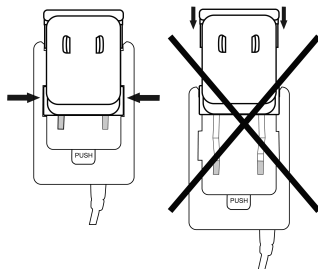


## UNIVERSAL POWER SUPPLY

Included power supply is installed with a U.S. prong assembly. To change it to one of the included European, UK or Australia/New Zealand styles, unplug the power supply and follow these instructions:

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.



## NOTEWORTHY NOTES

**1) OCTAFILTER.** Inspired by classic octave divider pedals, it is designed to provide a range of octave effects. Vintage pedals take the incoming signal, divide by two and output a square wave (digital) signal. The square wave is then filtered to sound more natural. To emulate this effect, set Q and Range at minimum and adjust Mix to 12 o'clock. The resulting mathematical effect is inherently glitchy. Engaging the COMP will help adapt the effect to your playing style.

**2) Fuzz effect.** Being a gated-style fuzz, when the signal from your bass falls below the threshold of the gate, the signal will abruptly stop. If you need more sustain, you can use the compressor. To tame the fuzz, turn the Q down, set Mix at 3 o'clock and Range at 4 o'clock.

**3) Using the XLR Output.** For optimal sound when running direct (recording or PA mixer), the SansAmp section should be engaged.

**4) 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.

**5) 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.

**6) 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.

**7) 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 in the Effect Loop of the Bass Fly Rig:**  
Delay, EQ, Flanger, Phaser (yes, after is good, too), Pitch Shifter, Reverb.

**8) 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.

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

## OCTA REFERENCE

ON (IN) ● OFF (OUT) ○

FUZZ MIX Q RANGE = Tone Control



OCTAVE MIX Q RANGE = Tone Control



FUZZ & OCTAVE MIX Q RANGE = Tone Control



FILTERED FUZZ MIX Q RANGE = Sensitivity



FILTERED OCTAVE MIX Q RANGE = Sensitivity



FILTERED FUZZ & OCTAVE MIX Q RANGE = Sensitivity



FIXED FILTER MIX Q RANGE = Cut-Off Frequency



ENVELOPE FILTER MIX Q RANGE = Sensitivity Range



## SAMPLE SETTINGS

ON (IN) OFF (OUT) NOTE: When there are no knob indicators present, that function or section is not engaged.

**MUSE/Uprising-style**

**CHORUS** **OCTAFILTER** **LOOP** **SANSAMP** **COMP**

CHORUS MIX RANGE Q

LEVEL 2 LEVEL 1 HIGH MID LOW DRIVE 2 DRIVE 1 LEVEL COMP

BITE CHARAC

**CURE/Heaven-style**

CHORUS MIX RANGE Q

LEVEL 2 LEVEL 1 HIGH MID LOW DRIVE 2 DRIVE 1 LEVEL COMP

BITE CHARAC

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

**MOOG/Taurus-style**

**CHORUS** **OCTAFILTER** **LOOP** **SANSAMP** **COMP**

CHORUS MIX RANGE Q

LEVEL 2 LEVEL 1 HIGH MID LOW DRIVE 2 DRIVE 1 LEVEL COMP

BITE CHARAC

**PINO/Octave Funk-style**

CHORUS MIX RANGE Q

LEVEL 2 LEVEL 1 HIGH MID LOW DRIVE 2 DRIVE 1 LEVEL COMP

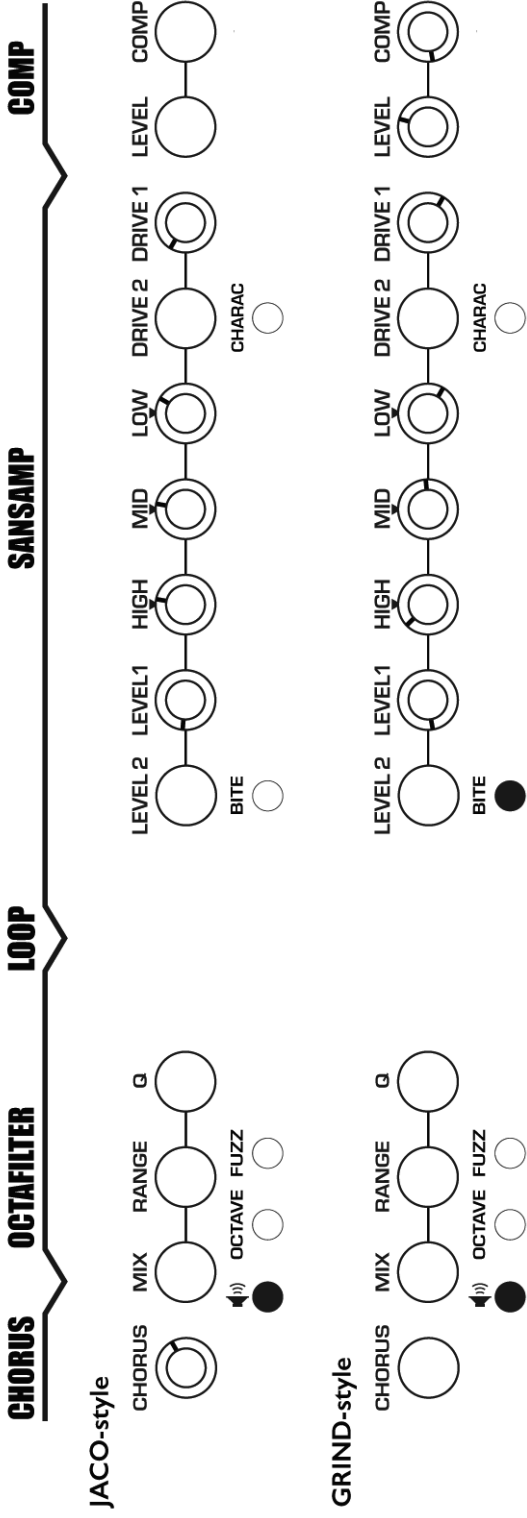
BITE CHARAC

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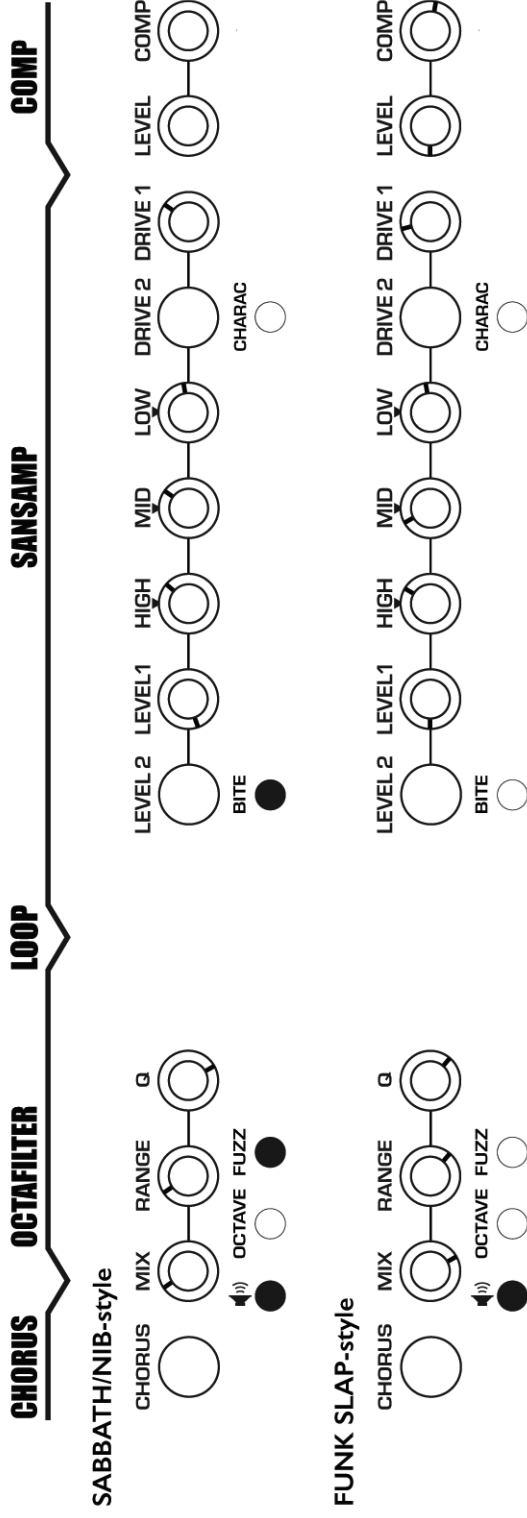
ON (IN)  OFF (OUT)

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

## SAMPLE SETTINGS



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12

# SAMPLE SETTINGS

ON (IN)  OFF (OUT)  NOTE: When there are no knob indicators present, that function or section is not engaged.

**CHORUS**
**OCTAFILTER**
**LOOP**
**SANSAMP**
**COMP**

**YES-style**

CHORUS  MIX  RANGE  Q

OCTAVE FUZZ

LEVEL 2  LEVEL 1  HIGH  MID  LOW  DRIVE 2  DRIVE 1  LEVEL  COMP

BITE  CHARAC

**TUBE/SVT-style**

CHORUS  MIX  RANGE  Q

OCTAVE FUZZ

LEVEL 2  LEVEL 1  HIGH  MID  LOW  DRIVE 2  DRIVE 1  LEVEL  COMP

BITE  CHARAC

**CHORUS**
**OCTAFILTER**
**LOOP**
**SANSAMP**
**COMP**

**CLEAN SCOOP-style**

CHORUS  MIX  RANGE  Q

OCTAVE FUZZ

LEVEL 2  LEVEL 1  HIGH  MID  LOW  DRIVE 2  DRIVE 1  LEVEL  COMP

BITE  CHARAC

**MUTRON-style**

CHORUS  MIX  RANGE  Q

OCTAVE FUZZ

LEVEL 2  LEVEL 1  HIGH  MID  LOW  DRIVE 2  DRIVE 1  LEVEL  COMP

BITE  CHARAC

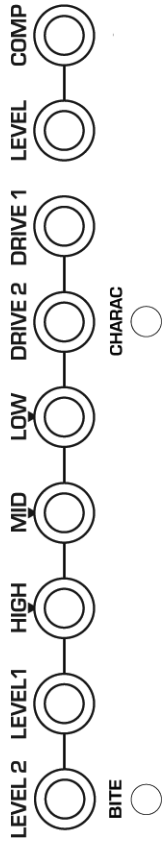
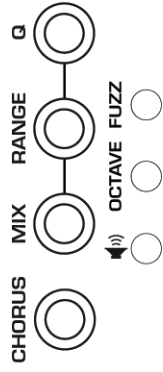


ON (IN)  OFF (OUT)

## CUSTOM SETTINGS

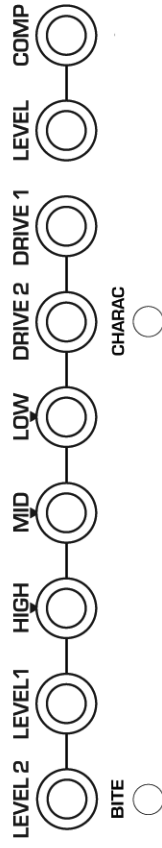
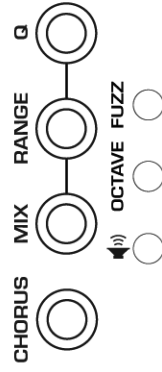
### CHORUS OCTAFILTER LOOP SANSAMP COMP

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Name: \_\_\_\_\_

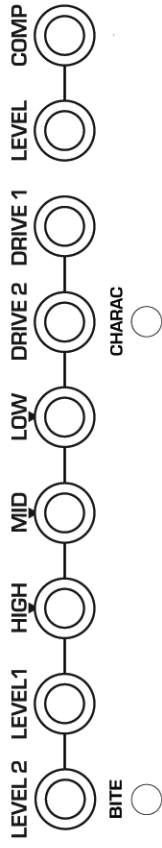
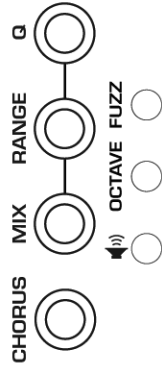


ON (IN)  OFF (OUT)

## CUSTOM SETTINGS

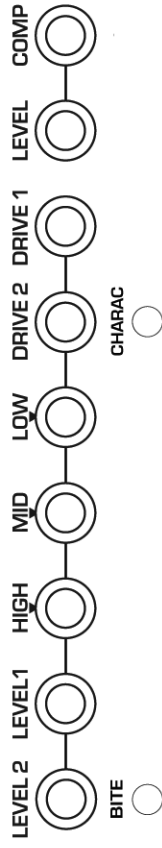
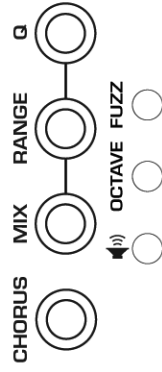
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Name: \_\_\_\_\_

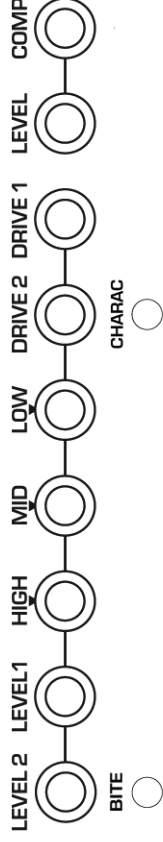
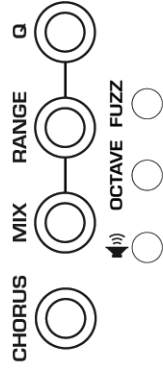


ON (IN)  OFF (OUT)

## CUSTOM SETTINGS

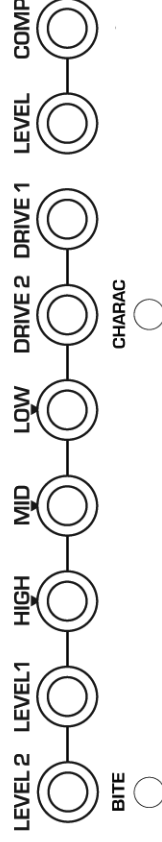
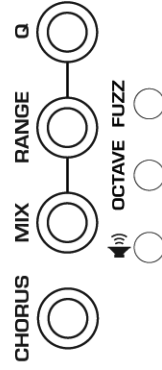
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Name: \_\_\_\_\_

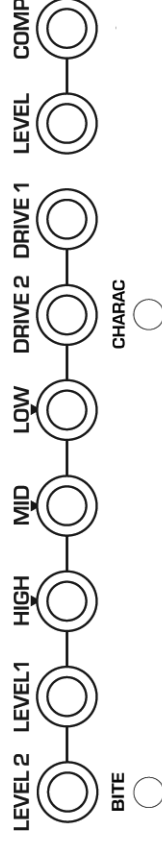
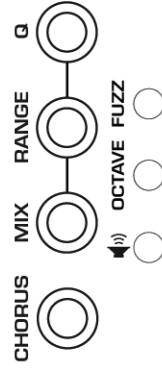


ON (IN)  OFF (OUT)

## CUSTOM SETTINGS

### CHORUS OCTAFILTER LOOP SANSAMP COMP

Name: \_\_\_\_\_



18

Name: \_\_\_\_\_

