POWER REQUIREMENTS

Utilizes included 9V DC, 100-240V universal auto-switching power supply, 200mA, center negative. **Tech 21 Model #DC9.**
NOTE: See page 3 for instructions how to change the prong assembly.
For replacements, contact your local dealer/distributor, or Tech 21.
Maximum power consumption: approx 70mA.

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.

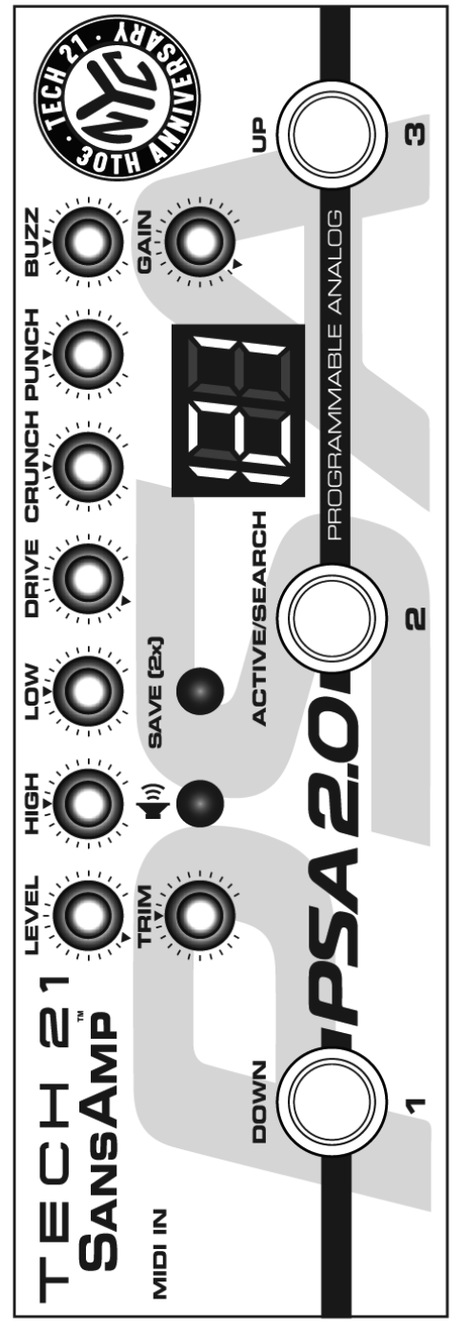
FOR PERSONAL ASSISTANCE & SERVICE:
Contact Tech 21 weekdays 10:00 AM to 5:00 PM, EST: 973-777-6996.

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

T: 973-777-6996 • F: 973-777-9899
E: info@tech21nyc.com • W: tech21nyc.com

SansAmp™ PSA 2.0

TECH 21·NYC



OWNER'S MANUAL

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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

Originally introduced in 1993, the SansAmp PSA-1 rackmount, and later PSA-1.1, quickly became studio staples. The SansAmp PSA has been used on thousands of major releases, worldwide tours and film soundtracks for multiple applications and instruments --including horns, vocals, and drums.

Sadly, necessity forced retirement from production, as certain key parts were no longer available. We realized this was an opportunity not only to redesign it, but to streamline its architecture into a pedal.

The SansAmp PSA 2.0 offers the same 100% analog circuitry for punchy, responsive, organic sounds that bring out the best in any instrument. Only the programming and memory sections are digital. It also offers the same essential functionality and versatility.

In the studio, you can record direct, enhance existing tracks in mixdowns, as well as add interesting touches to any instrument. Live, the SansAmp PSA 2.0 can be used as a pre-amp direct into a power amp with guitar or bass speaker cabinets, as a "monster direct box" to a P.A. system (or both simultaneously), and as an outboard processor. Additionally, the PSA 2.0 features a Performance Mode, which turns it into a 3-channel stompbox.

The SansAmp PSA includes MIDI capability for calling up programs and storing program data. There are 49 factory presets and 77 memory locations to store your own custom sounds, plus two bypass programs. When you switch between programs, there is no lag time, or "cutting out."

The controls work very much like those found on a sophisticated amp. You don't need any special training or a degree in physics to operate your unit. Storing and recalling programs is simple: set your tones and push the Save button. When you turn a knob, you hear the difference immediately --in real time. The rotation of each control increases and decreases in a smooth, gradual, linear fashion.

The SansAmp PSA 2.0 is designed to provide you with the flexibility to find almost any conceivable tonal personality within the tube amplifier sound spectrum.

QUICK START INSTRUCTIONS

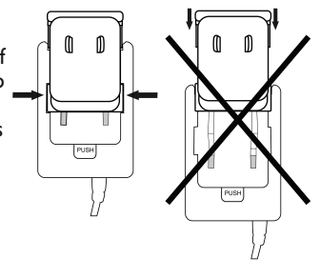
Here's how you can get your SansAmp PSA up and running before you read the entire manual.

1. Plug your instrument into the Input jack.
2. Plug one end of a cord into the Output jack, and plug the other end into the input of a mixer or an amp or power amp.
3. Attach the power supply and plug into a wall socket. It will show 00, bypass. (If it doesn't, just go to 00.)
4. Turn on your amp or mixer. (If the mixer is patched into a monitor or recorder setup, make sure the power amp and speakers are turned on, too.)
5. Turn up the input level on your amp or mixer. If the signal is too "hot," resulting in unwanted distortion, or too weak, check the amp's or mixer's input control. Also check the Trim control on the SansAmp PSA.
6. Play your favorite riff or chord changes, and you should hear a sound coming through your system. If not, recheck your connections, and make sure your guitar's volume control is turned up.
7. Select a program by pushing either the Up or Down buttons. The unit is shipped with the first 49 programs (01-49) as factory presets (refer to the list on page 22). Programs 51-99 are duplicates of presets 01-49. From 100-127, all knobs are preset neutral at 12 o'clock. Programs 00 and 50 are permanent bypass settings. For more details, refer to "Programming" on pages 7-8.

UNIVERSAL POWER SUPPLY

The SansAmp PSA is shipped with a power supply that is set up with a U.S. prong assembly. To change the prong assembly to one of the included European, UK or Australia/New Zealand styles, be sure the power supply is unplugged 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 or in.

APPLICATIONS

WITH A GUITAR OR BASS AMP RIG:

-As a Pre-Amp: Run the 1/4" Output of the PSA 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 the PSA Level close to unity gain 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.

TO DRIVE A POWER AMP: Run the 1/4" Output to the input of a power amp, and adjust your stage volume with the Level and/or Trim control(s) of the PSA.

TO RECORD DIRECT: Plug the 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. Bear in mind full-range systems yield a wide frequency response.

FOR MIXDOWNS: You can liven up existing tracks in mixdowns not only for guitar and bass, but for any stringed instruments, as well as drums, wind instruments, even vocals. We encourage experimentation! Be aware the PSA 2.0 runs at instrument level. You may need to adjust the level at the board or the setting on the PSA so as not to overload the input.

THE INS AND OUTS

1/4" INPUT: 1megOhm instrument level. Features an impedance buffer so that the tone from a guitar's or bass' pickups, or the signal from other instruments, reaches the SansAmp PSA without degradation. 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.

NOTE: The 1/4" Output is a TRS jack. The complete SansAmp signal is passed through the tip, while the ring connection carries the SansAmp signal without speaker simulation. Refer to the Speaker Simulation section on page 9.

GUIDE TO CONTROLS

The SansAmp PSA gives you access to specific tone-shaping characteristics within the tube amplifier sound spectrum. The controls offer tremendous flexibility in adjusting tonality, gain structure, and harmonic content. Controls of this nature are traditionally inaccessible on stock amps and adjustments like these are ordinarily achieved only by professional permanent modification.

Tonality, for instance, can be adjusted in a variety of ways. Buzz, Punch, Crunch, and Drive offer different results than the post EQ section (Low and High).

Gain structure can be adjusted via the Gain control, which results in a different kind of overdrive than the Drive control. Additionally, Buzz, Punch, and Crunch each affect the gain structure within specific frequency bands.

As you experiment and become familiar with the interrelationship of the controls, you'll be able to customize your own sounds and store them in the SansAmp PSA's memory.

GAIN
This is the input sensitivity control. It adjusts the signal level going into the input section of the SansAmp PSA.

BUZZ
Controls the low-end break-up and overdrive. You can boost the effect by turning clockwise from the center point indicated by the arrow, and cut by turning counterclockwise. When you turn towards maximum, the sound becomes (you guessed it) buzzy. For a clean setting, increase the setting in small increments. For increased definition when using distortion, position the knob at its midpoint or towards minimum.

PUNCH
Sets the amount of midrange break-up and overdrive. Boost or cut from the center point indicated by the arrow. Decreasing from the center point produces a softer, Fender®-style break-up. Increasing its setting creates a harder, heavier distortion. At maximum, it produces a sound similar to a wah pedal at mid-boost position placed in front of a Marshall® amp.

CRUNCH
Controls the top-end break-up and crunch. Boost or cut from the center point indicated by the arrow. Increasing from the center point brings out upper harmonic content and pick attack. Decreasing from the center point warms up brittle single coil pickups.

DRIVE
Like the volume control on a non-master-volume tube amp, Drive increases the amount of power amp distortion. In live applications, we recommend using less Drive than when direct recording. This compensates for the natural sustain achieved at high volumes.

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

LEVEL
Adjusts the output level.

TRIM
For live performances, this control globally adjusts the level of *all* presets so you don't have to individually adjust each setting on stage. Be aware that if you have any settings with the Level programmed close to/at minimum or maximum, the Trim pot will not be as effective.

DISPLAY AND SWITCHES

3-DIGIT LED DISPLAY


Because the SansAmp PSA is fully programmable, everything you do is monitored by its internal processor. And everything you need to know is in these three digits. This display is readable from any angle, in daylight or darkness. It tells you which program is active, whether any knob's setting has been changed, when a program is stored, and when MIDI functions have been activated. (Refer to the sections on programming your SansAmp PSA and using MIDI for specific information regarding the display's functions.)

SAVE SWITCH
The Save switch stores your custom settings in the memory of the SansAmp PSA. It also gives you access to the Special Page function menu (see page 10).

UP AND DOWN FOOTSWITCHES
Pushing either of these switches once counts up or down through the programs one at a time. Holding the switch down moves quickly through the program numbers.

ACTIVE / SEARCH FOOTSWITCH
Allows you to alternate between two modes:

Active Mode:
Depressing the Up or Down footswitch allows you to step-scroll by increasing or decreasing the program number one at a time.

Search Mode:
The LED numerical display flashes. Depressing and holding the Up or Down footswitch allows you to speed-scroll to a desired location -- without sending any program change information. Depressing the Active/Search footswitch a second time re-engages the Active mode and instantly changes to the program desired.

PROGRAMMING

A note of CAUTION: You can overwrite *any* location (except 00 and 50) *including factory presets*. However, you can choose to lock program locations by changing the protection scheme. See Special Page Function #4 on page 12.

Programs 01-49 are factory presets (refer to list on page 17).
Programs 51-99 are duplicates of factory presets 01-49.
Programs 100-127 are preset with all knobs set neutral at 12 o'clock.
Programs 00 and 50 are permanent bypass locations for the instrument signal to pass straight through the SansAmp PSA.

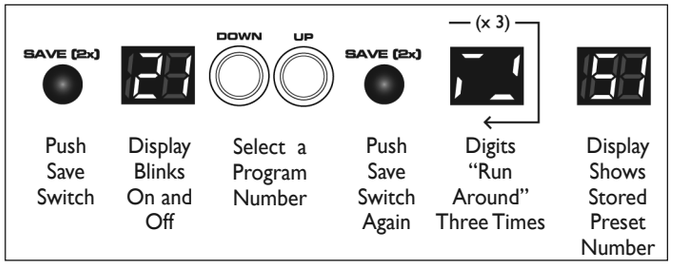
NOTE: Being all-analog circuitry, there are no special algorithms within the different amplifier styles. Individual control functions do not change from preset to preset (custom or factory).

Saving a Custom Program

If you want to create a custom setting from scratch:
1. Choose a program location.
2. Edit controls to taste.
3. Push the Save button twice. The display will "run around" three times and then show the selected program number (it will stop blinking). That's it. You've stored a new program.

Moving/Copying a Program to a New Location

1. Choose the preset number you want to move or copy.
2. Push the Save switch once. The digits of the display blink on and off.
3. Use the Up or Down buttons to a new location where you want to save it.
4. Push the Save switch a second time. The display will "run around" three times and then show the selected program number (it will stop blinking). That's it. You've moved/copied a program. Note: The original preset setting doesn't change until it is overwritten.



Tweaking an Existing Setting (factory or custom)

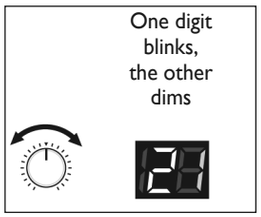
If you want to edit a factory or custom setting, first decide if you want to keep the existing setting intact. If so, copy the setting to a new location, as per the above instructions.
1. Choose the setting you want to edit.
2. Adjust controls to taste.
3. Push the Save switch twice. The display will "run around" three times and then display the program number (it will stop blinking). That's it. You've stored the edited program.

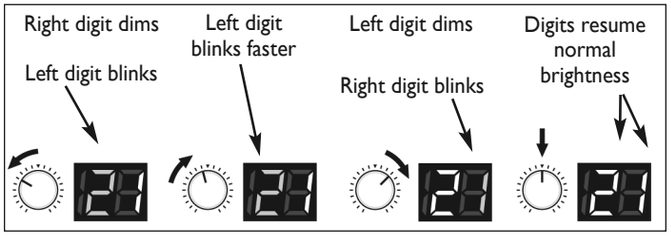
Be careful not to overwrite a custom program you don't want to lose. Accidents can happen, so we recommend keeping track of your programs. Blank diagrams are provided on pages 19-22 and can be photocopied. Write in the knob settings and give each program a name (song title, description of the tone, etc.) for easy reference later.

Locating Individual Control Values Within a Preset

When recalling presets, the positions of the front panel controls do not reflect the actual stored values of each of their parameters. When you turn any of the knobs (except for the Trim), the SansAmp PSA will go into edit mode and "unlock" whichever control you turn. The circuitry will then revert to the actual value of that control's position (vs. the stored value), allowing you to edit the sound to your liking.

When you turn/unlock a control from the setting that's stored in the memory, one of the digits in the LED numerical display will blink, the other will dim. Note: When you're in program 100 or higher, the two left digits blink or dim together as one number. This tuner-like feature is useful when you want to know the stored position of each knob's setting in a particular preset.





Let's say the preset point for a particular knob is 12 o'clock. If the left digit blinks and the right dims after unlocking it, you will need to turn the knob clockwise to reach the preset value. As you get closer, the left digit will blink faster, then stop when you've reached the stored value. The right digit then resumes its full brightness. Conversely, if the right digit blinks and the left dims, you will need to turn the knob counter-clockwise, etc.
Note: If desired, you can alter the display mode to be dashes or numerical values instead of digits. See Special Page Function #7 on page 14.

PERFORMANCE MODE

Rather than using the Active/Search function, Performance mode allows you to put your three most often used programs in a row for instant access to each.

Loading Presets for Performance Mode

Use the move/copy utility to place your favorite presets into 01, 02, 03 program locations. These will then be accessed by Footswitches 1,2,3 in Performance mode:
Footswitch 1 = 01 program location
Footswitch 2 = 02 program location
Footswitch 3 = 03 program location

To enter Performance mode, simply press footswitches 1+3 simultaneously. The display will indicate Performance mode by showing "1" in the center digit position. The three presets can then accessed by each of the three footswitches, which will display the corresponding digit accordingly.

Pressing the corresponding footswitch again will place the PSA into bypass and the display will show a dash (-) in the center digit.

To exit Performance mode, press footswitches 1+3 simultaneously.

Note: If you make adjustments to your settings while in Performance mode, the display will revert back to 01 or 02 or 03 (depending on which channel you are editing) and return to showing 1,2 or 3 once you save the changes. Just be aware, saving will overwrite the stored preset.

MIDI

MIDI IN

Accepts program change commands, as well as MIDI Map and Program dumps. NOTE: Pins 1 and 3 of the MIDI jack are set up to output 10V DC phantom power to our MIDI Mouse™ and MIDI Mongoose™ footcontrollers (see Noteworthy Options on page 16.

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.

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

NOTE: The speaker simulation parameter (engaged or disengaged) can be stored accordingly into the memory of each individual program. When engaged, the Trim knob turns purple to indicate status.

REMINDER: The 1/4" Output is a TRS jack so the complete SansAmp signal passes through the tip, while the ring connection carries the SansAmp signal without speaker simulation. This special output is intended for use with a stereo jack when recording into a digital workstation. You can run the all-analog speaker simulated signal to the monitors --with zero latency-- for optimal listening and record a non-speaker simulated track. This will allow you to choose any IR/digital speaker sim later in the mixdown process that best suits your taste.

SPECIAL PAGE FUNCTIONS & MIDI IMPLEMENTATION

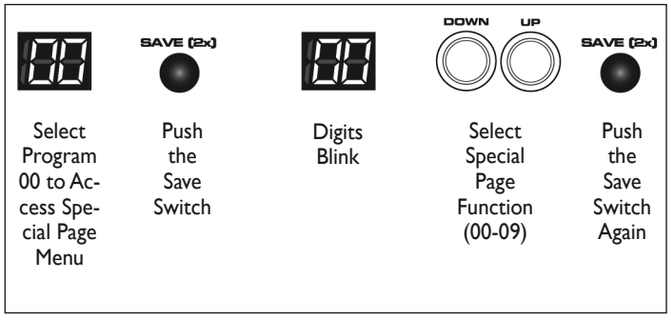
Special Page Functions

Some very important features lurk inside your SansAmp PSA and aren't accessible through the knobs and Up and Down switches alone. They're very important and useful, so take the time to check them out, especially if you are using a MIDI footcontroller or other MIDI gear to interface with your SansAmp PSA.

To operate the Special Page functions, select Program 00 and press the Save button once. The digits in the numerical display should now be flashing together. Use the Up and Down buttons to select any of these functions:

00	Exit Special Page
01	Reserved for Future Use
02	Define MIDI Mapping
03	0-127 / 1-128 Patch Offset
04	Preset Protection Writer
05	MIDI Channel Select
06	Software Revision Number
07	Edit Pot Display Mode
08	Disengage All Pots
09	Reserved for Future Use

When you select a function, press the Save button a second time and the digits will stop flashing. (NOTE: If you select function 00, you will exit the Special Page function menu and return to Bypass Program 00.)

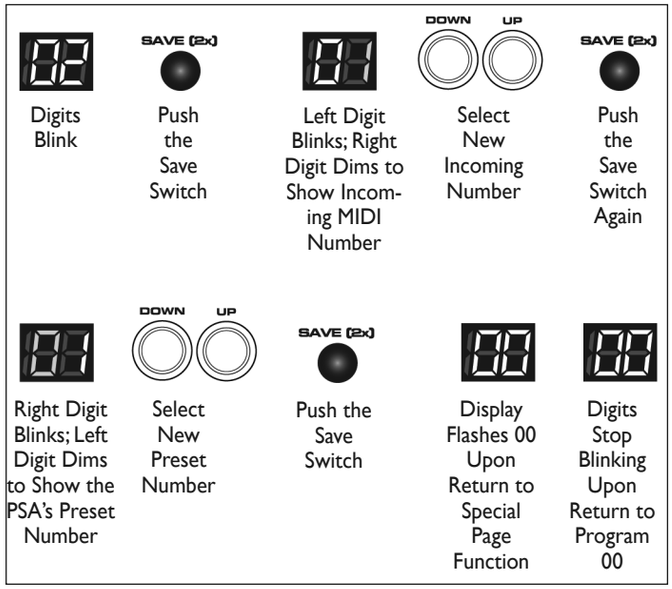


Special Page Function 1: Reserved for Future Use

Special Page Function 2: Define MIDI Mapping

This function defines internal MIDI mapping. That is, it tells your SansAmp PSA which program to call up when a MIDI Program Change command comes in. For example, if your MIDI footcontroller sends out a Program Change command that says Program 26, and you want your SansAmp PSA to respond to that Program 26 message by calling up preset number 15, you can set the SansAmp PSA to map that message to the appropriate location. NOTE: The SansAmp PSA comes from the factory with its MIDI map set by default to map incoming programs to the same numbered displayed programs. That is, MIDI 01 calls up Program 01, etc.

To remap a MIDI Program Change command, here's what you do:
Select function 02 and push Save. The left digit will blink with the right digit dim, telling you that the display is showing the number of the incoming program. To change that number, use the Up and Down switches to select a new number.

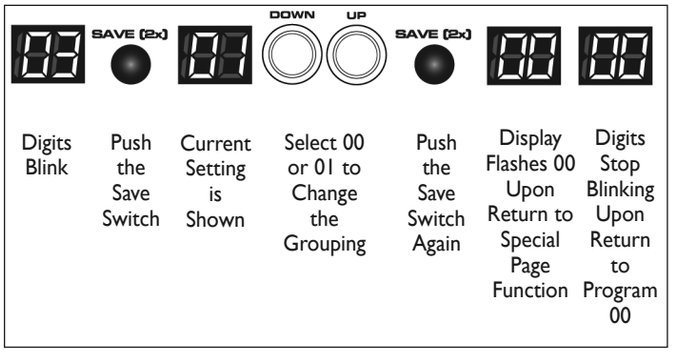


Now push the Save button and the right digit blinks; the left digit dims, indicating the SansAmp PSA program that will be affected by the incoming MIDI Program Change number that you selected. To change the program, use the Up and Down buttons. Then push the Save button twice to store your change. The display will then flash 00 to indicate you're back in the Special Page menu. You may now choose either a new Special Page function, or press Save again to exit. If you don't make a choice in about 15 seconds, the display stops blinking, indicating the SansAmp PSA is in Bypass Program 00.

Special Page Function 3: 0-127 / 1-128 Patch Offset

Some MIDI program changers use the numerical grouping of 0-127, others use 1-128. With Special Page Function 3, you can choose the corresponding grouping of the SansAmp PSA to match. If you have selected Special Page Function 3, the display will show either 00 or 01.

00: 00 - 127 (as shipped)
01: 01 - 128

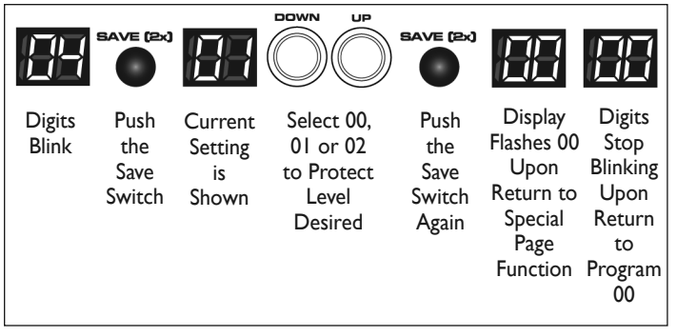


To change the setting, use the Up and Down buttons to select 00 or 01. Then push Save to store your selection. The display will then flash 00 to indicate you're back in the Special Page menu. You may now choose either a new Special Page function, or press Save again to exit. If no choice is made in about 15 seconds, the display stops blinking, indicating the SansAmp PSA is in Bypass Program 00.

Special Page Function 4: Preset Protection Writer

This allows you to change the level of protection for factory and custom presets. When you select Function 4, the display will show either 00, 01 or 02.

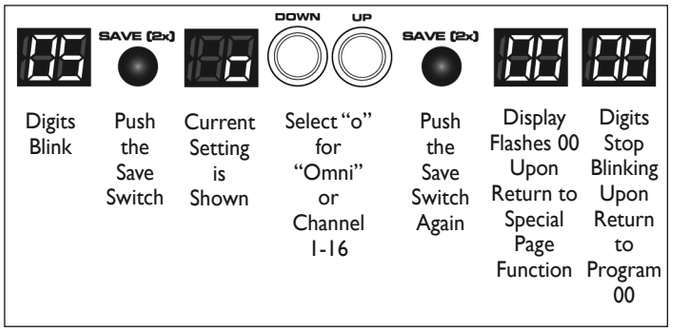
00: All Protect. All programs are locked and cannot be overwritten.
01: Normal. Protects Programs 00-50.
02: No Protect (as shipped). All programs can be overwritten.
Note: Bypass locations 00 and 50 are permanently locked and cannot be overwritten.



To change the setting, use the Up and Down buttons to select 00, 01, or 02. Then push Save to store your selection. The display will then flash 00 to indicate you're back in the Special Page menu. You may now choose either a new Special Page function, or press Save again to exit. If you don't make a choice in about 15 seconds, the display stops blinking, indicating the SansAmp PSA is in Bypass Program 00.

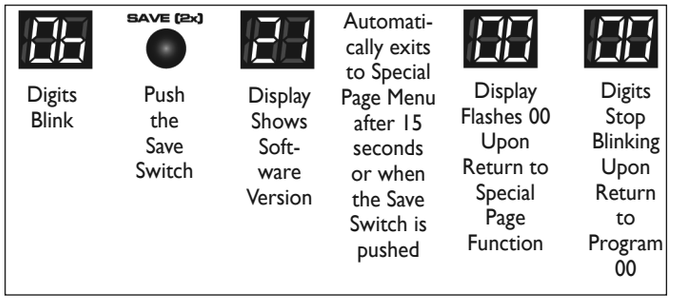
Special Page Function 5: MIDI Channel Select

This function sets the MIDI channel on which the SansAmp PSA receives MIDI data. It can be set to Omni (receive on any or all channels), or specific channels 1 through 16. Push the Save button, and the display shows the current setting. Press the Up or Down buttons to select either Omni (the default value, indicated by a small "o" in the right digit), or any number between 1 and 16. Push Save to store your selection. The display will then flash 00 to indicate you're still in the Special Page menu. You may now choose either a new Special Page function, or press Save again to exit. If you don't make a choice in about 15 seconds, the display stops blinking, indicating the SansAmp PSA is in Bypass Program 00.



Special Page Function 6: Software Revision Number

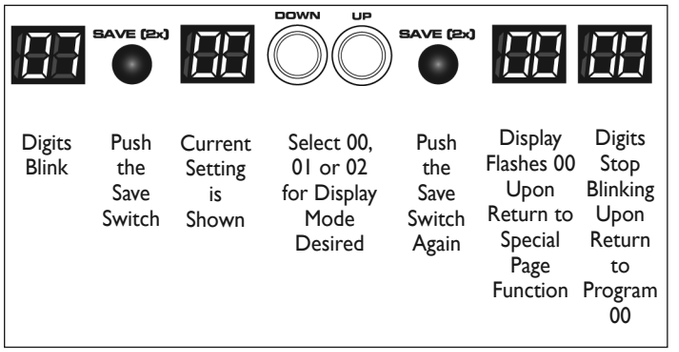
This function tells you which version of software is in your SansAmp PSA. You cannot alter this, but the information may come in handy in the future if software upgrades become available. When you select Special Page Function 6, the display will show a two-digit number. After showing you the software version, the display will flash 00 to indicate you're back in the Special Page menu. You may now choose either a new Special Page function, or press Save again to exit. If you don't make a choice in about 15 seconds, the display stops blinking, indicating the SansAmp PSA is in Program 00, bypass.



Special Page Function 7: Edit Pot Display Mode

For finding presets, you can change how the information is displayed for a stored pot's position. You can choose to use digits, dashes or the numerical value of the pot. When you select Function 7, the display will show either 00, 01 or 02.

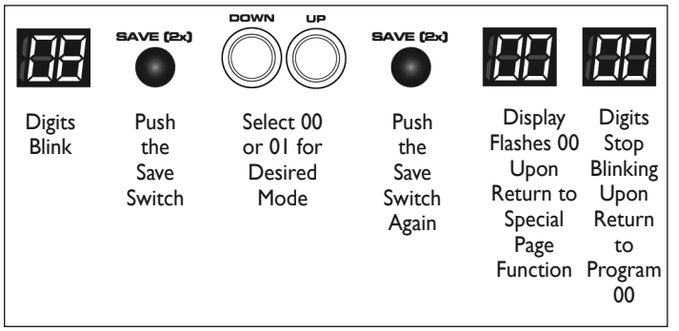
00: Digits (as shipped)
01: Dashes
02: Numerical Value (0-127)



To change the setting, use the Up and Down buttons to select 00, 01, or 02. Then push Save to store your selection. The display will then show a flashing 00 to indicate you're back in the Special Page menu. You may now choose either a new Special Page function, or press Save again to exit. If you don't make a choice in about 15 seconds, the display stops blinking, indicating that the SansAmp PSA is in Program 00, bypass.

Special Page Function 8: Disengage All Pots

This function renders all eight front panel potentiometers inactive. This advanced feature prevents accidental setting changes during performances. All presets remain in the memory and are accessible via MIDI, however, you cannot edit the programs while in this mode. Select function 08 and press Save.



Use the Up and Down buttons to select between two options:

00: All pots engaged (normal operation, as shipped)
01: All pots disengaged

Then push Save to store your selection. The display will then flash 00 to indicate you're back in the Special Page menu. You may now choose either a new Special Page function, or press Save again to exit. If you don't make a choice in about 15 seconds, the display stops blinking, indicating that the SansAmp PSA is in Program 00, bypass.

Special Page Function 9: Reserved for Future Use

NOTEWORTHY NOTES

1) Special Page Restore.
You can reset the Special Page Functions and MIDI mapping to their original factory values, as shipped, without disturbing your stored settings:

- •Disconnect the power supply from the PSA.
- •Turn all pots counter-clockwise to minimum.
- •Press and hold the Save switch while reconnecting the power supply. The display will show "Sr" to represent Special-page reset.
- •Continue to hold the Save switch for 3 seconds.
- •When restored, the display will show "01" indicating you're in Program 01.

2) Factory Preset Reset.
To reset the factory presets only (01-49), follow this procedure:

- •Disconnect the power supply from the PSA.
- •Turn all pots counter-clockwise to minimum.
- •Press and hold the Up and Down buttons simultaneously while reconnecting the power supply. The display will show "Fr" to represent Factory reset.
- •Continue to hold the Up and Down buttons for 3 seconds.
- •When reset, the display will show "01" indicating you're in Program 01.

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 at about 75%. Since active basses do not lose tone when the volume isn't all the way up, this allows some room to go up and down and keeps your output from being super hot. 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.

6) Zipper noise. You may notice a minor zipper noise when you turn the knobs. This is normal when you have digital control of an analog circuit.

7) Daisy chains. Be aware daisy chaining may introduce ground loops, noise, hum, odd artifacts, etc. We recommend using the provided power supply or using a power supply with isolated outputs.

8) Placement notes: The PSA can be treated like an amplifier or pre-amp when it comes to setting up your signal chain:

Place the following effects BEFORE the PSA:
Phaser/Vibe, Overdrive, Wah.

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

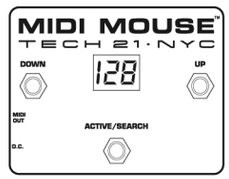
9) Buffered bypass eliminates the shortcomings associated with "true bypass" (pops and clicks, and high-end loss when multiple pedals are connected together), as well as signal loss associated with other types of switching circuits.

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

NOTEWORTHY OPTIONS

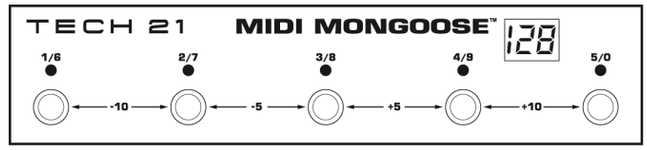
To complement your SansAmp PSA 2.0, we recommend the following:

MIDI MOUSE™

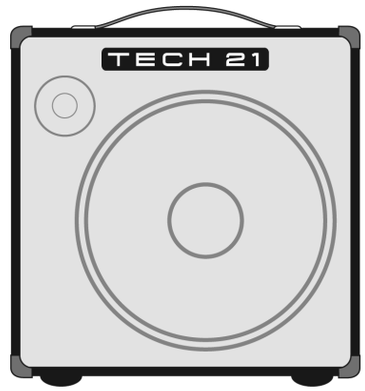


For remote switching, the MIDI Mouse is an exceptionally player-friendly foot controller. It is battery operable, as well as phantom power operable via the PSA. Heavy duty and compact, it fits right into a gig bag. There are no banks to change --just scroll up or down to 128 program locations on any of the 16 MIDI channels.
Measures 4.5"L x 3.5"W x 1.5"H.

MIDI MONGOOSE™
Similar in features, capabilities and functionality to the MIDI Mouse, the expanded footprint has 5 footswitches to can change groupings of preset programs by five or ten at a clip. You can also access Special Page functions to set MIDI channel numbers and to set continuous controller channel numbers and calibration. It is also battery and phantom power operable. Measures 11.5"L x 2.5"W x 1.25"H.



POWER ENGINE DEUCE DELUXE



The Power Engine Deuce Deluxe, for guitar and bass, is a powerful, lightweight solution for amplifying any direct recording device or pre-amp –analog or digital, tube or solid state– from any manufacturer. You can take your SansAmp/Fly Rig® or preamp gizmo du jour, with all those great direct sounds you've spent so much time creating out to a gig and simply plug into the Power Engine Deuce Deluxe. You'll get all your personal settings with volume and without any coloration of the tone. So there's no need to labor over readjusting all your parameters that would otherwise be necessary with a conventional amp. Up to 200 Watts; on-board EQ; defeatable tweeter. 1x12 cabinet measures 17.75"L x 14"W x 18.25"H.
Note: the SansAmp PSA 2.0 is also compatible with the previous version, the Power Engine 60.

FACTORY PRESETS

Note: Factory presets are based upon using the appropriate types of instruments and/or accessories associated with each particular sound.

Sound Group	Preset	Sound
	00	Bypass
Marshall® styles	01	Plexi
	02	Vintage
	03	Schenker
	04	JMP-1®
	05	High Gain
	06	Bluesbreaker
	07	Hendrix
	08	Van Halen I
	09	Classic Clean
Fender® styles	10	Stock
	11	B.B. King
	12	Stevie Ray
	13	Funk
	14	Champ®
	15	Twin®
	16	Super Bright
	17	Classic Rock
	18	Super Clean
	19	Jazz
Mesa/Boogie® styles	20	Mark I®
	21	Metallica
	22	Santana
	23	Clean
	24	Rectifier®
	25	Triaxis®
	26	Lead
	27	Rhythm
	28	Too Much Gain
	29	Mutant
Bass styles	30	SVT®
	31	Bassman®
	32	Jazz
	33	Metal
	34	Slap
	35	King's X
	36	Yes
	37	Lead
	38	Doug Wimbish
	39	Crimson
Miscellaneous styles	40	Fuzz Face®
	41	Triangle Muff
	42	Tubescreamer
	43	MXR+®
	44	Tele® Simulator
	45	American Woman
	46	Pantera
	47	Hiwatt®
	48	AC30® Queen
	49	Speaker Simulator
	50	Bypass

®Registered trademarks of their respective companies. Names of factory presets are intended for descriptive purposes only and should not be construed as an endorsement or affiliation with the companies, products, song titles, or artists named.

CUSTOM SETTINGS CHECKLIST

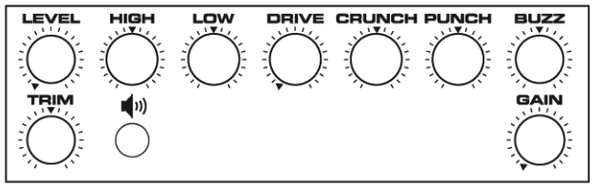
Program #	Sound/Name

CUSTOM SETTINGS DIAGRAMS

(Photocopy these pages and keep a record of your customized programs.)

ON (IN) ● OFF (OUT) ○

Program Number ______________



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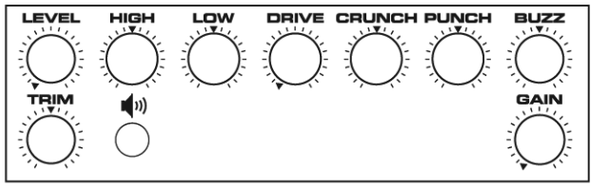
Program Number ______________



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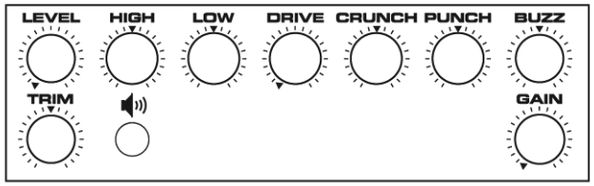

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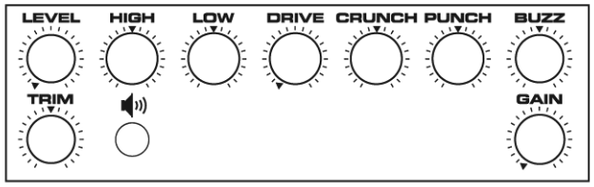

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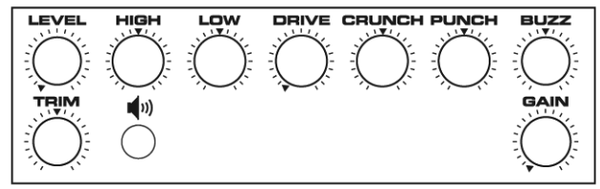

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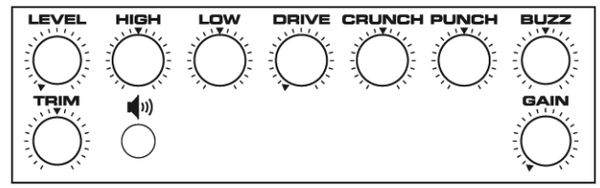

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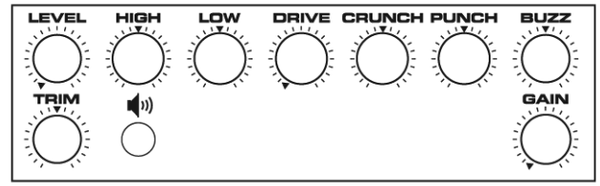

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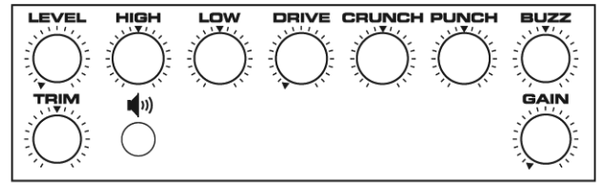

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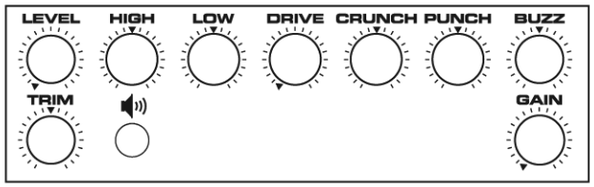

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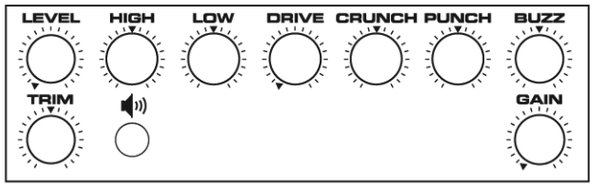

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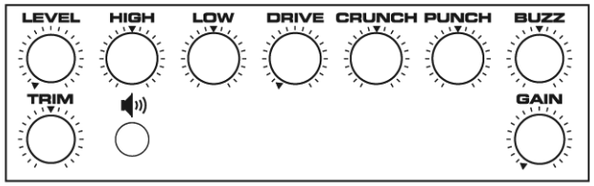

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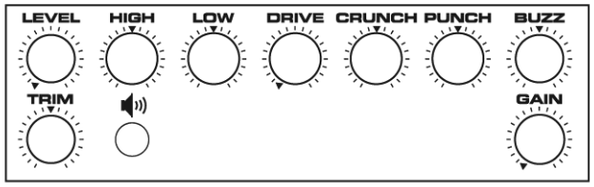

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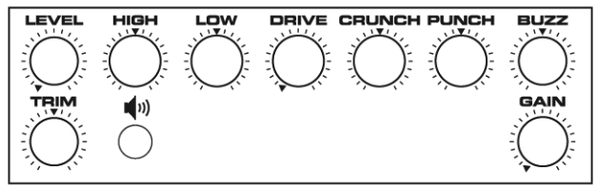

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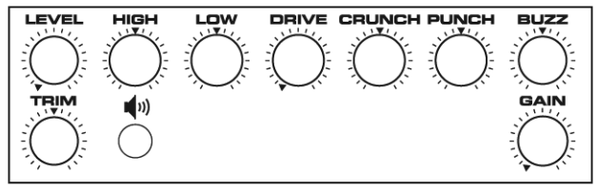

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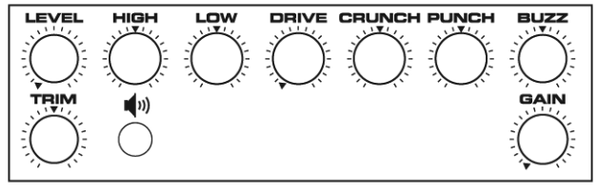

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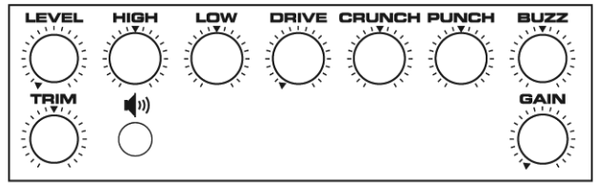

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