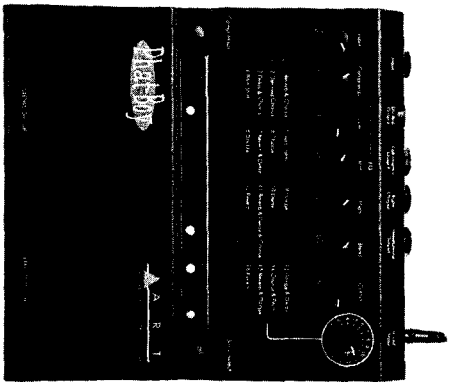


Phat-Boy



Personal Bass Preamp/ Processor

USER'S GUIDE

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Applied Research and Technology's Phat-Boy provides you with all you need to easily and effectively process your bass guitar. The Phat-Boy features a finely tuned preamplifier coupled with 32 custom designed digital effect presets. Stereo outputs, balanced XLR (DI) output, headphone output, three band EQ, compression or limiting and a unique Growl circuit round out what is surely the most sophisticated and important thing to happen to bass guitar since the SGX Nightbass. Don't let the list of features scare you, the Phat-Boy is incredibly easy to use. Applied Research and Technology designed a combination of powerful processing and ease of use into the Phat-Boy. However, since this is the manual, and you may be new to the "processing" side of bass guitar, we suggest that you read and refer to this manual while getting used to your cool new toy!

And another thing! Take the time to fill out the User Registration Card included with this manual. This is the only way we will know you're a foot-stompin', groove ridin' bass master! We do periodic mailings about new products and updates that you do not want to miss (and every once in a while there's some great give-aways and contests with prizes and gear worth tons-o'-money to registered users). It only takes a minute and only a few cents for the postage, and in return we'll be your friend for life and send you stuff!

Fill in the following information for your reference:

DATE OF PURCHASE _____

PURCHASED FROM _____

SERIAL NUMBER _____

130-5004-101

Introduction

Thank you for purchasing the Phat-Boy - and congratulations! You now own the coolest, hippest, and most versatile bass preamp/processors ever developed. Additionally, the Phat-Boy is one of the most sophisticated pieces of audio signal processing technology available. The Phat-Boy offers all of the features you need to bring out the best sound your bass guitar has to offer. Grab your paddle and get ready to rattle the rafters!

Features

- * The only bass DI box you'll ever need!
- * Bass guitar preamp
- * Over 40dB of gain
- * Three band EQ
- * Compression and Limiting
- * 16 digital effects
- * 32 presets
- * Reverb, Delay, Doubling, Flanger, Chorus, combination effects
- * Pitch shifting
- * Dual pitch shifting
- * Stereo outputs
- * Headphone Output
- * GROWL! The coolest overdrive to ever rattle your pants!
- * AC powered - no tongue-tingling testing of batteries required!
- * All steel construction - the way it ought to be!
- * Looks as cool as it sounds
- * Adds about \$300 to the sound of your bass guitar!
- * Greatly improves your relationship with sound-people!
- * Designed and manufactured in the United States of America

QUICK START INSTRUCTIONS

You've unpacked your Phat-Boy and you're in a hurry to get it up and running. You probably would rather play with it than read the manual (at least, right now). Fair enough. But check out the basics outlined here just to get your Phat-Boy on line. It should take only a couple of minutes for you to read through, and then you'll be ready to fire up your Phat-Boy. Refer to this section if you have any difficulty. And later, when you want to get into more of the details of your Phat-Boy, check out the rest of the manual.

Quick Setup

Turn the Output knob to its full counterclockwise position. Turn this knob up only after all other setup steps are completed.

Insert the supplied AC adapter's plug into the input labeled 9VAC Input on the Phat-Boy's back panel.

Straight into an Amp: If you're patching the Phat-Boy into a bass (or other instrument) amplifier, use one cord between the instrument and the Phat-Boy's Input. Run a second cord from the Left Output to the amp's input. If the amp has stereo input capabilities (or if you're using two amps), connect another cord between the Phat-Boy's Right Output and the amp's second-channel input (or the second amp's input).

Into a Mixer: Connect a cord between your bass and the Phat-Boy's Input. Connect another cord between the Phat-Boy's XLR Output and a line input of your mixer. If you want to run in stereo, connect the Phat-Boy's Left and Right Outputs to two line inputs of your mixer.

*Note: The XLR and 1/4" outputs (and Headphones for that matter) can all be used at the same time! Use them all!

Now turn on your mixer and/or your bass amplifier.

Turn up the Input control on the Phat-Boy. Make sure that your bass

volume control is turned up and a signal is being sent to the Phat-Boy.

Now turn up the Phat-Boy's Output level. Adjust the input level on your amp or mixer. You should be hearing the Phat-Boy! If not, check your connections and your amp or monitor system (you did remember to turn it on, didn't you?).

Select Compress or Limit settings with the switch to the left of the illuminated inlay. Select the second bank of presets with the switch to the right of the inlay. Add GROWL to your sound - (to *really* groove or just to be a rebel!) with the left rubber activator pad and turn on and off the digital effects with the right rubber activator pad. For a complete list of the preset settings see pages 11 & 12.

Give your bass a real workout. Try all the presets, and don't hold back. Then, when you're ready, check out the rest of this manual for all the details on how to get the most out of your Phat-Boy.

INSTALLATION

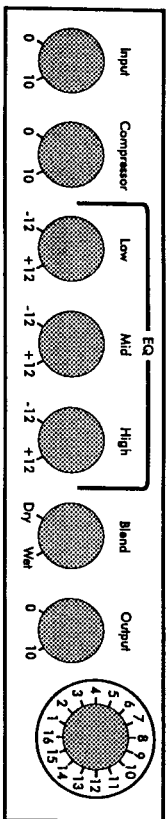
The Phat-Boy, while primarily designed to be used straight into a bass amp, may be used in a variety of setups, including straight into a power amplifier, P.A., or mixing console. Self-contained in an all-steel enclosure, the Phat-Boy is designed for continuous, professional use and can withstand the rigors of the road and stage.

Powering The Phat-Boy

The Phat-Boy is powered by an external AC adapter. Always make sure that its output jack is securely plugged into the rear of the Phat-Boy and that the adapter is held firmly in an electrical outlet. For best results, make sure you are using the AC adaptor that came with your Phat-Boy (output = 9VAC!). Never operate the Phat-Boy or AC adapter in the rain or in wet locations. If the AC adapter cord is ever cut or damaged, discontinue using it and replace the adapter with a new one. To prolong its life, unplug the adapter when the Phat-Boy is not in use. Refer to the label on the adapter for proper operating voltages.

KNOBS AND PRESETS

The upper half of the Phat-Boy's front panel includes: the controls for the preamp circuitry, blend control, and the preset encoder knob. The effect combinations for the digital presets are screened below these controls for easy identification.

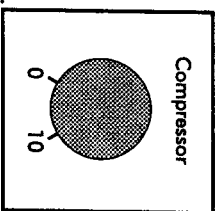


Input

The Input control adjusts the amount of gain into the preamp circuit. The range is from 0 (none) to 10 (Max). Adjust the Input control for a healthy level. If you experience a low output signal, this control may be set too low. Alternatively, if the Power/Clip LED lights red with the Output control set very low, this level is set too high. You'll get the hang of setting this properly very quickly.

Compressor

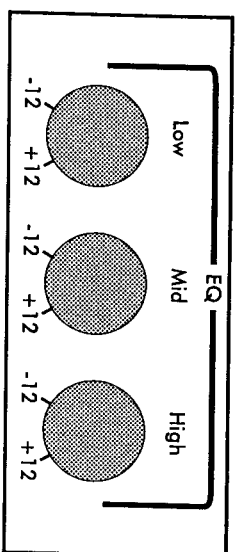
The Compressor control adjusts the amount of level into the compression circuit. This control works the same in the compress or limit setting (dependent upon the setting you've selected with the Compressor Select button on the left hand side of illuminated display). For more compression, turn this control up. For less, turn it down.



The Compress setting is useful to increase sustain or to gently smooth the level differences in your playing - making all the notes an equal volume. The Limit setting is useful when you want a real "squashed" sound or if you're popping and slapping. You'll probably find one setting which works well with your style of playing and leave it there. However, feel free to play with different settings and get real crazy.

Heavy compression settings may bring up your system noise. If you find you have excessive hiss when not playing, try turning down the

Compressor control.

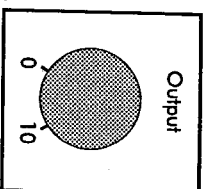


Three Band EQ

The Phat-Boy is equipped with a fully adjustable three band EQ. The Low, Mid and High controls are powerful tools for shaping your sound. The controls offer a boost or cut of 12dB to the following frequencies: Low is centered at 75Hz. Mid is centered at 400Hz. High is centered at 5kHz. Set these controls wherever you like to achieve your desired sound. You may find the Clip LED lighting if you add considerable boost to one or more bands. If this happens, simply turn down the Input control. If you have excessive noise at the Phat-Boy's output, it may be because the High EQ is boosted. Try turning down the High EQ control if there is excessive hiss.

Output

The Output control is used to set the output level of the Phat-Boy. The Output control is located *before* the digital effects section (it drives the digital circuitry). Set the Input control so that the Power/Clip LED flickers red occasionally. If you see the Power/Clip (red) LED on constantly, turn down the Input control (you're over-driving the digital section). Turn up the Output control until you reach a good level to your amplification device.



Growl

The Growl control in the Phat-Boy is a specially designed overdrive circuit. The input signal is split and run through a cross-over network. Only the high frequencies are run through the overdrive cir-

cuity and then blended back in with the original signal. The end result is a down-right “nasty” tone reminiscent of the old “SVT”. The top end has a bit of grit, while the low end is low and solid. Everyone (neighbors and parents included) will love you when they hear your bass with the proper growl applied! GROWL-ON!

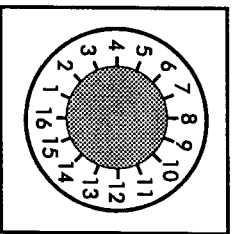
O.K... Now that you’re groovin’ and growlin’ with your brand new toy (we musician’s *need* our toys), don’t forget the Phat-Boy offers a whole other section full of digital wizz-bang goodies that we haven’t even covered yet. Feel free to put down the manual and really get into the fact that you *do* sound great. Later - after your hands cramp up or your roommate/parents/significant-other tells you (politely) to mellow out - pick the manual back up and read on.

DIGITAL EFFECTS CONTROLS

The Phat-Boy’s high quality digital effects were developed to be impressively musical, useful, and specifically tailored to compliment the bass guitar. Note that you can use the Phat-Boy with or without digital effects.

Preset Encoder

The Preset encoder is a continuously variable, 16 position knob that is used to select presets. The related effects combinations are screen printed below the row of controls for easy reference. Select the effects combination you wish to use and set the blend control for the proper amount of effected signal. See pages 11 & 12 for a complete listing of presets and their values.

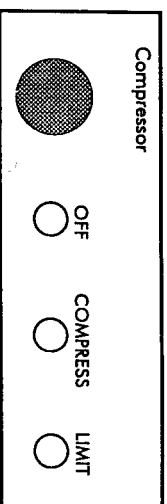


Blend Control

The Blend control adjusts how much of the digital effects are added to your guitar sound. The Blend control ranges from Dry (all bass) to Wet (all effects).

Changing Banks

32 presets are available in the Phat-Boy. Variations of the 16 listed effects combinations are available in Bank 2. To change Preset Banks, simply press the switch located to the right of the illuminated inlay. When Bank B is active, the Bank B LED in the illuminated inlay will light.



Changing Compressor Types

The Phat-Boy provides you with two compressor types: Compress and Limit. Compression is typically used to smooth out the variance in levels. These level differences may be a result of your playing style or the natural volume fluctuations of playing notes in different positions of the neck. Limiting is typically used to put a “ceiling” on your output level. Limiting applies “as much compression as it takes” to keep a level from exceeding a certain level. So no matter how hard you bang those strings, the level won’t get crazy.

In any case, experiment with the different settings (including Off) to find what is right for you. Many players will apply heavy compression *at all times* as part of their sound. Then again, some prefer to use no compression or limiting. Do what sounds cool to you!

ACTIVATOR PADS

Two rubber Activator pads are provided. The one labeled “GROWL” turns on and off the Growl overdrive. The activator pad labeled “Effect” turns on and off the digital effects section. Status lights in the illuminated inlay keep you informed as to the presence of either the Growl or digital effects “on” settings.

LEAD FOOT WARNING!

Even though the Phat-Boy is built like a tank and the rubber Activator pads were designed to be pressed with your feet... The Compressor select and Effects Bank select switches were designed to be pressed with a finger. Because of its location, you'll be tempted to do some fancy footwork and toggle these switches with your feet. We strongly recommend being light-footed (stompers - you know who you are!) A tap is all it takes! Practice this maneuver with caution (which can be difficult with platform, smoke-blowing stage slippers).

DIGITAL EFFECTS PRESET LIST

The following list describes all of the 32 presets in the Phat-Boy's digital effects section. They are arranged in banks (A and B). Here's a quick explanation of some of the abbreviations:

- doubling** Short delay that gives the illusion of two instruments playing in unison.
- ms** Short for "milliseconds", or thousandths of a second.
- pitch** Short for pitch transposer, which creates a harmony. In the dual Pitch programs, two harmonies are created.
- regen** Short for "regeneration". This means sending part of the output signal back through an effect.
- sec** Regenerating a delayed signal produces echoes. In flanging and chorusing, regeneration of certain frequencies (highs, for instance) can create a thicker, more dramatic effect.
- Short for "second" (equal to 1,000 milliseconds).

Bank 1

Preset	Description	
1	Reverb & Chorus	Room reverb & slow chorus
2	Detuned Chorus	Med. chorus & detuned pitch shift
3	Delay & Chorus	345ms delay & slow chorus
4	Pitch Shift	Octave up pitch shift
5	Slap Delay	70ms delay
6	Chorus	Slow chorus
7	Reverb & Delay	1.5s room reverb & 124ms delay
8	Double	40ms doubling delay
9	Flange	Med. flange - 40% regen
10	Delay	350ms delay - 15% regen
11	Reverb & Delay & Chorus	.8s room & 140ms delay & slow chorus
12	Reverb	1.4s room reverb
13	Flange & Delay	Med. flange - & 300ms delay
14	Chorus & Pitch	Detuned & octave up pitch
15	Reverb & Flange	1.2s room reverb & med. flange
16	Reverb	1.8s room reverb

Bank 2

Preset	Description	
1	Reverb & Chorus	2.2s hall reverb & med. chorus
2	Detuned Chorus	Slow chorus & detuned pitch shift
3	Delay & Chorus	250ms delay & med-slow chorus
4	Pitch Shift	+5th pitch up
5	Slap Delay	110ms delay
6	Chorus	medium chorus
7	Reverb & Delay	2.4s hall reverb & 220ms delay
8	Double	60ms doubling delay
9	Flange	Slow flange - 75% regen
10	Delay	450ms delay - 15% regen
11	Reverb & Delay & Chorus	2.0sec hall & 220ms delay & chorus
12	Reverb	2.5s hall reverb
13	Flange & Delay	Slow flange & 420ms delay
14	Chorus & Pitch	5th down and detune
15	Reverb & Flange	1.8s hall reverb & slow flange
16	Reverb	3.0s hall reverb

SETUP INSTRUCTIONS

Plugging Directly Into an Amp

Plug your bass into the Input jack of the Phat-Boy. Plug the Left output jack into your amplifiers' instrument input (use the Right output as well if your amp has stereo inputs or if you are using two amps). When plugging a bass into the Phat-Boy, make sure that there is sufficient signal level coming from the instrument (you've turned up the Volume Pot). Turn up the Phat-Boy's Input and Output controls *before* turning up the amplifier's Volume control.

Using the Phat-Boy Directly Into a Mixer

Connect the XLR DI/Bal. output of the Phat-Boy to a line input channel of your mixer. Adjust the Input and Output levels of the Phat-Boy and then the input level of the mixer. Once you see signal present at the mixer's input, turn up your mixer's output levels (or monitor amp). The Phat-Boy's Left and Right 1/4" outputs may be used to go directly to a mixer as well.

Using the Phat-Boy With a Power Amp & Cabinets

Plug your bass into the Input jack of the Phat-Boy. Connect the Left and Right output jacks into the Left and Right input jacks on the power amp. Connect the speaker outputs of the amp to two cabinets (or a stereo cabinet). Be sure to power on the Phat-Boy *before* turning on the power amp.

WARRANTY & SERVICE INFORMATION

Warranty and Service for this unit will be provided by Applied Research and Technology, Inc. in accordance with the following warranty statement.

Applied Research and Technology, Inc. (ART) warrants to the original purchaser that this product and the components thereof will be free from defects in workmanship and materials for a period of *three* years from the date of purchase. Applied Research and Technology, Inc. will, without charge, repair or replace, at its option, defective product or component parts upon prepaid delivery to the factory service department or authorized service center, accompanied by proof of purchase date in the form of a valid sales receipt. **EXCLUSIONS:** This warranty does not apply in the event of misuse or abuse of the product or as a result of unauthorized alterations or repairs. This warranty is void if the serial number is altered, defaced, or removed.

ART reserves the right to make changes in design or make additions to or improvements upon this product without any obligation to install the same on products previously manufactured.

ART shall not be liable for any consequential damages, including without limitation damages resulting from loss of use. Some states do not allow limitations of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific rights and you may also have other rights which vary from state to state.

For units purchased outside the United States, service will be provided by an authorized distributor of Applied Research and Technology, Inc.

Having Your Unit Serviced

The following information is provided in the unlikely event that your unit requires service.

1) Be sure that the unit is the cause of the problem. Check to make sure the unit has power supplied, all cables are connected correctly, and the cables themselves are in working condition.

2) If you find the unit to be at fault, write down a complete description of the problem, including how and when the problem occurs. Please write down a description of your complete setup before calling Customer Service.

3) Call our Customer Service department for a Return Authorization (RA) number or questions regarding technical assistance. Customer Service hours are 9:00am to 6:00pm Eastern Time, Monday through Friday.

4) Pack the unit in its original carton or a reasonable substitute. The packing box is not recommended for a shipping carton. Put the packaged unit in another box for shipping. Print the RA number clearly on the outside of the shipping box. Print your return shipping address on the outside of the box.

5) Include with your unit: a return shipping address (we cannot ship to a P.O. Box), a copy of your purchase receipt, a daytime phone number, and a description of the problem. Keep your manual!

6) Ship only your unit and its power supply (keep your manual!) to:

APPLIED RESEARCH AND TECHNOLOGY, INC.
215 TREMONT STREET
ROCHESTER, NEW YORK 14608
ATTN: REPAIR DEPARTMENT
RA# _____

PHAT-BOY SPECIFICATIONS

Dimensions	9.0" D x 8.25" W x 2.0" H
Weight	3.0 lbs
Connections	1/4" unbal. input. Stereo 1/4" unbal. outputs & bal. XLR output (pin 2 hot).
Digital presets	32
Input impedance	1 meg ohm
Output impedance	750ohm (1/4") 600 ohm (XLR)
Maximum input level	47 ohm (Headphone)
Maximum output level	+2dBv
Residual output noise	+1dBv (1/4"), +15dBv (XLR)
Dynamic range	>-81dB @ +5dBu
Power requirements	85dB ('c' weighted) 9VAC @ 400mA

A R T retains a policy of constant product improvement. A R T reserves the right to make changes in design or make additions to or improvements upon this product without obligation to install the same on products previously manufactured. Therefore, specifications are subject to change without notice.

Designed and manufactured in the United States of America.

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