



P-RETRO 01

Active/Passive Retro-Fit for P-Style Basses

The P-Retro is simple but flexible active/passive bass preamp equaliser which offers huge tonal variation to one of the most popular styles of bass of all time, without the need to permanently modify the instrument itself. P-Retro features two stacked knobs each with a pull switch, class A FET input stage and a high quality relay for pure passive bypass. Power is provided by an internal rechargeable battery.

The normal volume control becomes the Volume/Tone Stack and works in exactly the same way as the P style bass original controls, passing the passive signal directly to the jack. When the volume control is pulled up, the active circuit is switched in, post passive tone control, and adds 2.5dB of gain, with a flat response. Additionally, the upper knob allows either a mid boost, or a combined bass/treble boost. The lower knob sets the variable frequency points for either mode.

Summary of features for the P-Retro:

- Two Stacked knobs, both with Pull Switches.
- Original pure P style bass controls fully retained via passive path, using a high quality relay bypass.
- Class A FET input stage.
- Flat response active setting.
- Variable frequency mid boost mode.
- Variable frequency combined bass/treble boost mode.
- Deep boost switch with four frequencies, set via internal switches, and Bright option.
- Deep boost level set via internal preset trimmer.
- Rechargeable internal Li-Pol Battery, giving up to 40 hours use per charge.
- Battery charging is achieved using an AC/DC Adaptor, which plugs into the jack.
- Auto passive bypass if the system runs low on power.
- Easy to fit using screw terminals, with no solder connections to the P-Retro.
- Instrument can be returned to stock condition since there are no physical modifications to the bass.
- P-Retro Active circuit board approximate dimensions: L50.0 X W27.0 D15.0 mm (2.0" X 1.07" X 0.6")
- P-Retro Volume/Tone & Li-Pol battery approximate dimensions: L50.0 X H29.0 X D19.0 mm (1.6" X 1.15" X 0.75")





P-RETRO 01

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• OPERATIONAL DESCRIPTION

The P-Retro is based on a novel dual mode circuit which has a flat response setting, a conventional variable frequency mid range boost, as well as a combined bass/treble boost. A 'deep' setting is available too, as well as a bright option.

NOTE: With regard to knob rotation:

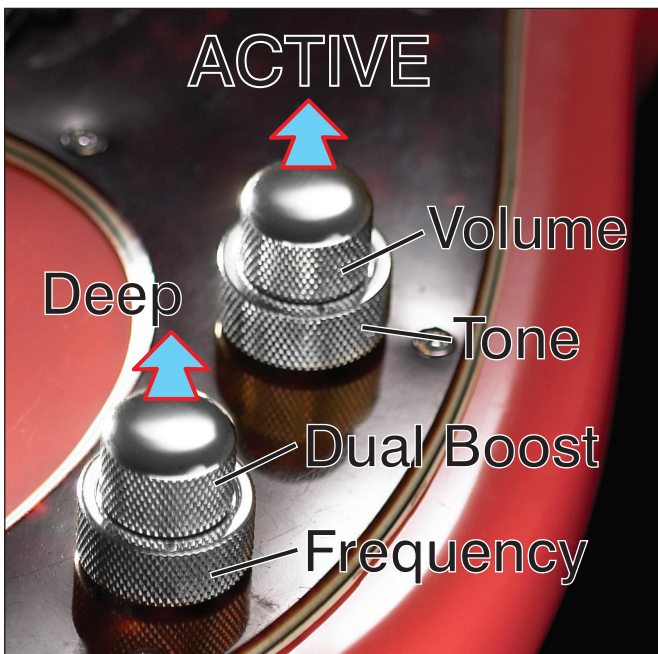
CW = Turning a knob up towards maximum or clockwise

ACW = Backing a knob off, turning it anti-clockwise or counter-clockwise



• P-RETRO - PASSIVE MODE

- Volume knob push/pull switch in its down position, sets the P-Retro into its Passive Mode.
- This is exactly like the stock instrument Volume and Tone controls, except that the knobs are stacked instead of separate.
- In Passive, the active circuit is bypassed, and the signal from the Volume is passed directly to the jack, via a high quality relay.



• P-RETRO - ACTIVE MODE

- Volume knob switch pulled up, sets the P-Retro into its Active Mode, bringing the active stack into operation.
- The Volume and Tone work as normal but their output feeds the active circuitry, which in turn feeds the jack.
- When the Boost knob is in its centre click, there is some additional gain with a flat response.
- Turning the Boost knob CW from its centre click, boosts the mid spectrum according to the Frequency knob setting.
- Turning the Boost knob ACW from its centre click, boosts the bass and treble spectrums combined, with overall balance set by the frequency knob.
- Pulling the Boost knob actuates an internally pre-set Deep boost.

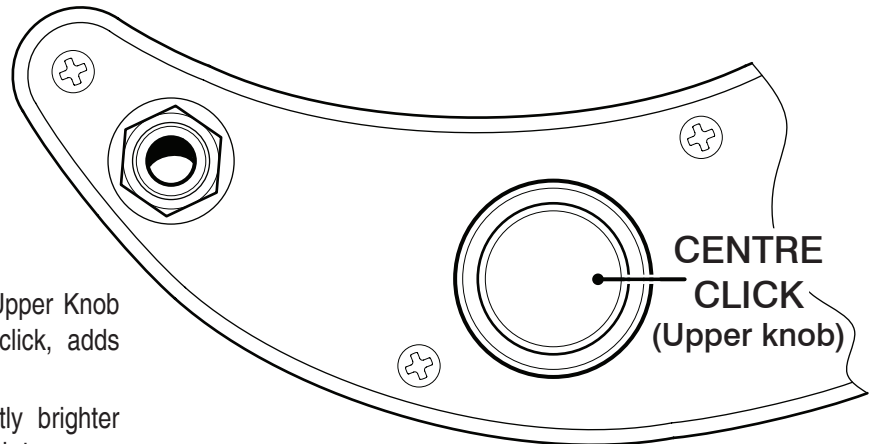


P-RETRO 01

Active/Passive Retro-Fit for P-Style Basses

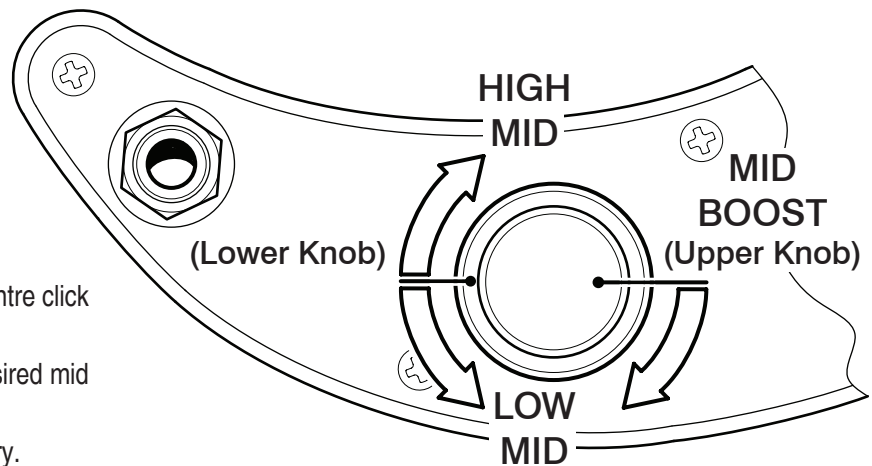
• ACTIVE WITH A FLAT RESPONSE

- Setting active mode when the Upper Knob (active stack) is set in its central click, adds a little boost with a flat response.
- There is an option for a slightly brighter sound by setting an internal switch to on.



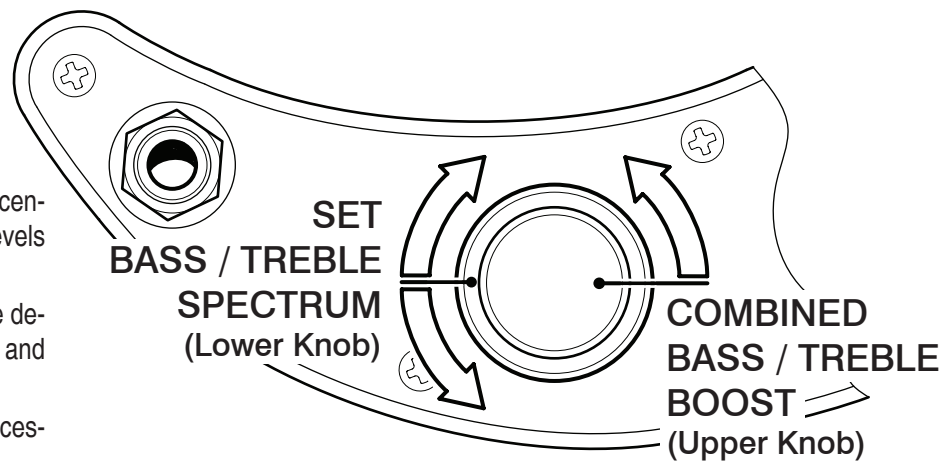
• BOOSTING THE MIDS

- Turn the Upper Knob CW from centre click to set the boost level required.
- Adjust the Lower Knob for the desired mid frequency.
- Fine-tune both again, as necessary.



• BOOSTING THE BASS & TREBLE SPECTRUMS

- Turn Upper Knob ACW from centre click to set the boost levels required.
- Adjust the Lower Knob for the desired spectrums of the bass and treble components.
- Fine-tune both again, as necessary.





P-RETRO 01

Active/Passive Retro-Fit for P-Style Basses

- **VOLUME TONE STACK**

Works purely passively at all times and is designed to function exactly as the standard Volume and Passive Tone in a P Style Bass. This is in order that the wonderful stock sounds are always available, with no compromise.

- **VOLUME IN PASSIVE (Upper Knob Pushed Down)**

When the upper knob is in its down position, the system is bypassed via a high quality relay with gold plated contacts. In this case, the jack is fed directly from the output of the Volume, exactly as a standard P Style Bass.

- **VOLUME IN ACTIVE (Upper Knob Pulled Up)**

When the upper knob is in its up position, the active circuit is in activated and the output of the volume feeds the input to a class A FET input stage. The audio is passed through the active stage and its output feeds the jack with a low impedance signal.

- **PASSIVE TONE (Lower Knob in both Active & Passive Modes)**

Acts directly on the pickup at all times, exactly as in a standard P Style Bass, playing a totally familiar role.

The Passive Tone is also extremely useful in the active mode, further allowing the treble content of any active boost to be suitably backed off or subtly tailored. The Tone Capacitor plugs in, easily allowing different values.

- **ACTIVE STACK**

- **DUAL BOOST KNOB (Upper Knob Pushed Down)**

In its centre click, there is additional gain of 2.5dBs with an essentially flat frequency response. (Additionally there is an option for a slightly brighter sound by setting an internal switch to on, described in the installation set-up.)

Turning it CW gives a mid boost ranging from 0 – 15dBs at frequencies according to the setting of Frequency knob.

Turning it ACW gives a combined boost to the bass and treble spectrum. The lowest level point is set by the Frequency Knob, but the amount of bass and treble boost varies according to the setting of the Frequency knob. (Not easily described in specification terms)

- **DUAL BOOST KNOB - DEEP (Upper Knob Pulled Up)**

Pulling up the Boost Knob activates a Deep setting. There are four frequency settings for the Deep Boost, set via switches on the circuit board - 40Hz, 60Hz, 80Hz & 100Hz. The Deep Boost level is also adjustable via a preset trimmer.

NOTE Important:

The Deep switches and level preset are placed on the circuit board such that, if six of the pickguard screws are removed, the pickguard can be eased up in order to gain access for adjustment while the bass is fully playable.

- **LOWER FREQUENCY KNOB (250Hz - 2kHz)**

The lower outer knob has 41 click positions to set the frequency of operation for the upper knob. Turn ACW for the lower frequencies and CW for the highest frequencies.

- **CHARGING YOUR P-RETRO**

- **PLUGGING IN THE CHARGER**

The P-Retro's internal battery is charged via its jack socket, and it is important to follow this procedure when plugging it in. The Battery Pack will normally have some charge when new, but a full charge is recommended after installation.

NOTE - Important:

If the charger is the Universal type, make sure the correct adaptor is inserted in order that it matches your AC Mains outlet socket. But don't plug it in to the mains until completion of the following few steps:



P-RETRO 01

Active/Passive Retro-Fit for P-Style Basses

- First plug the Special Jack Charger Adaptor into the guitar jack socket.
- Then plug the connector on the end of the charger output lead into the Special Jack Charger Adaptor.
- Lastly, plug the charger into an AC Mains socket and switch on.
- When charging is complete, switch off the charger at the AC Mains before unplugging the Special Jack Charger Adaptor from the instrument.

• **CHARGE STATUS INDICATOR**

The Charge Status Indicator LED is wired directly to the internal battery. The LED is designed to be fitted either in its panel mount holder, or left within the control cavity, when it is important to retain the original condition of the instrument, without modification.

- The LED lit Red indicates the charging phase is in progress.
- The LED lit Green indicates that the charging phase is complete.

NOTE:

- It is not necessary to run the battery down completely before recharging, it can be topped up at any time.
- It charges more quickly during the initial charging phase, so even a short charge can be a useful top-up.
- From fully discharged to a full charge takes approximately 4 hours.

• **P-RETRO INSTALLATION**

• **GENERAL**

Fitting the P-Retro does not require any soldering skills, and the installation is reversible, in that it is often important to be able to return an instrument to its exact stock configuration. This is especially important if a vintage instrument is involved.

When setting out to install your P-Retro, make sure you have plenty of flat clear space on a table top or bench. Always ensure that you have some soft material on that surface in order to protect the instrument, large fluffy towels are very good for this.

Soft suede leather, such as a brand new chamois leather, is ideal as protection between the pickguard and the instrument body. It is very soft, also very strong, and not easily pierced.

• **REMOVAL OF THE ORIGINAL VOLUME & TONE CONTROLS**

- Loosen and remove strings from their machine heads in order to gain free access to the pickguard.
- Remove all the screws from the pickguard and put them in a suitable container or other safe place.
- Lift off the pickguard and place upside down, making sure there is some soft but strong protection material between the pickguard and the bass.
- Make a note or diagram as to where the wires in your bass are connected, so you have a guide in case you want to return your bass to stock condition.
- Locate the wires from the pickup, usually a white and a black wire. The white or 'hot' pickup wire will normally be connected to one of the tags on the volume control. The black or 'cold' pickup wire will normally be soldered to the back of the volume pot. Cut these two wires close to the pot, leaving a few mm of insulation, which will help if ever you want to restore the bass to stock.
- Cut any ground wires that are connected to the internal parts, again close to where they are connected. There is



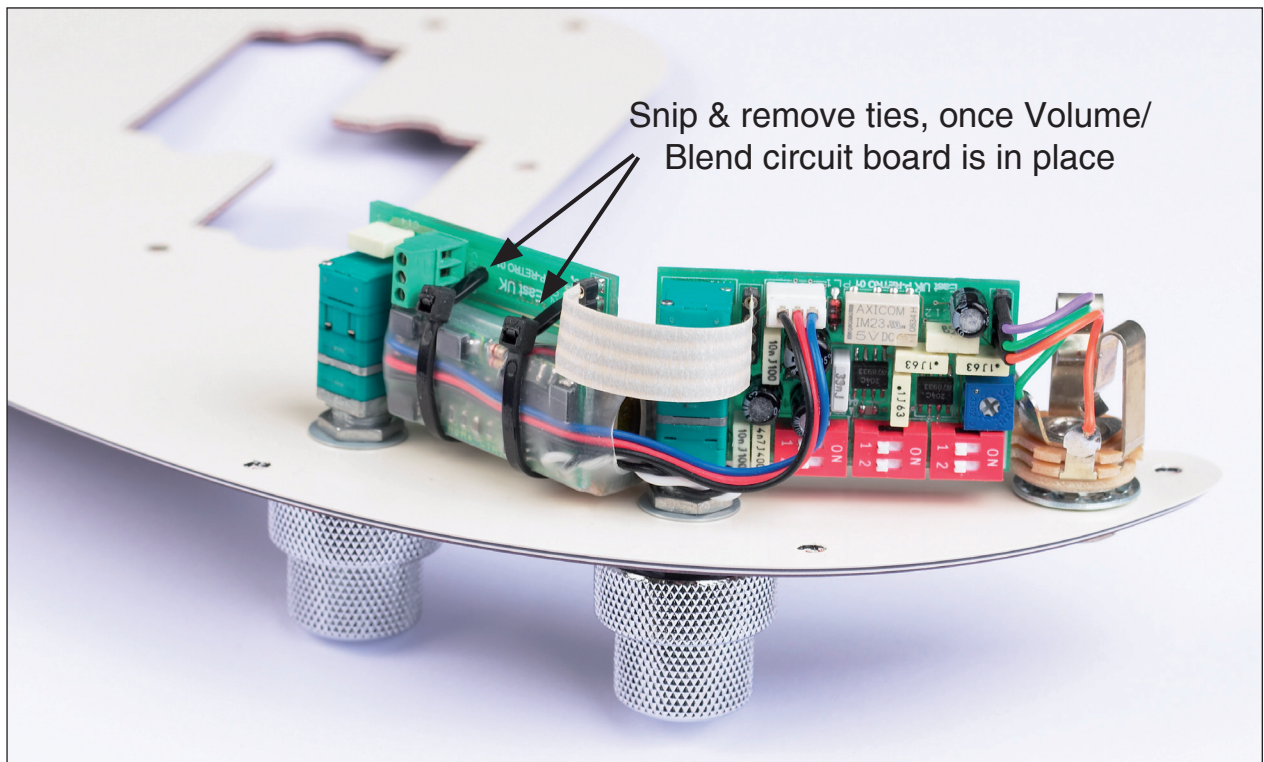
P-RETRO 01

Active/Passive Retro-Fit for P-Style Basses

• FITTING THE P-RETRO CIRCUIT TO THE PICKGUARD

Note: Do not have the rechargeable battery pack plugged into the P-Retro during the installation.

- Remove the top nut and washer from the P-Retro Active circuit board (the one with the jack attached), leaving the back nut and washer on the pot thread. Remove the nut and dress washer from the jack too, leaving the shake-proof washer on the jack.
- Insert the Active circuit board into the middle hole in the pickguard and fit the top washer and nut.
- Insert the jack into its hole in the pickguard and fit the top washer and nut, finger tight.
- Returning to the Active circuit, turn the top nut of the down until its top is just level with the end of the thread. Then tighten the rear nut until finger tight.
- Orientate the circuit board so that it is effectively pointing towards the jack. Then, using a spanner, tighten the lower nut in order to keep the Active circuit board firmly in place.
- Orientate the jack so that the middle tag is pointing towards the Active circuit board, and then, taking great care not to scratch the pickguard, tighten the jack nut using a suitable spanner.



• FITTING THE P-RETRO VOLUME/TONE TO THE PICKGUARD

- Remove the top nut and washer from the P-Retro Volume/Tone circuit board (the one with the battery pack attached to it), leaving the back nut and washer on the pot thread.
- Insert the pot into the remaining hole in the pickguard and fit the top washer and nut. Turn the top nut down until its top is just level with the end of the thread. Then tighten the rear nut until finger tight.
- Orientate the circuit board in order that the battery is sitting centrally between the two pots. Then, using a spanner, tighten the lower nut in order to keep the Volume/Tone circuit board firmly in place.
- Once in place, snip and remove the ties holding the battery to the circuit board.



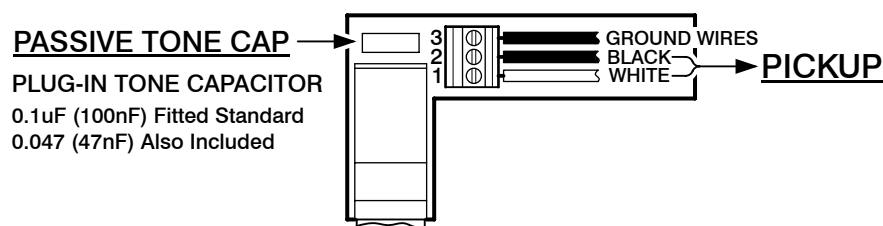
P-RETRO 01

Active/Passive Retro-Fit for P-Style Basses

• WIRING THE PICKUP & OTHER CONNECTIONS

- Take the flat 4 way Flexi-Wire and push the pins on one end into the 4 way socket on the P-Retro Active circuit board. Make sure it is pushed in straight, fully home, taking care not to bend or fracture any of the pins.
- Form the Flexi-Wire in order that the other end can be plugged into the Volume/Blend circuit board, again making sure that the pins are straight, pushed fully home. The Flexi-Wire must be formed such that there are no sharp bends, and that it will not foul the cavity sides, when the pickguard is re-fitted to the bass.
- Take the small white plug, with the black, red and blue wires attached, and plug it into the socket on the P-Retro Active circuit board. There is a key on the plug, to make sure it can only be plugged in with the correct orientation.
- Move the pickguard close to the bass, making sure the bass is suitably protected against damage from the pickguard and components mounted on it, in readiness to connect the wires.
- If the LED Bezel has been fitted to the pickguard, gently but firmly push the white LED housing into the Bezel, making sure the round top of the LED is fully protruding through the Bezel.

P-RETRO WIRE CONNECTIONS & TONE CAPACITOR



- First, twist the black and white pickup wires together, but not tightly. Then, taking care to observe the connection details in the diagram, insert the white pickup wire into screw terminal '1' and the black wire into screw terminal '2'. After making sure they are comfortably inserted, tighten the screw terminals, using a suitably small screw driver.
- Take the black wire from the bridge along with any other ground wires, insert them into terminal '3', then tighten the screw terminal.

• CHECKING THAT THE P-RETRO IS OPERATIONAL

Once all the wiring is complete, before re-fitting the pickguard, the following helps to confirm that the installation has been successful:

- Lay the pickguard back in place on the bass, making sure all sits comfortably, but do not refit the screws yet.
- Make sure the the P-Retro Active centre shaft is in its down position, and in the centre click. Turn down the Volume shaft fully ACW and the Passive Tone full CW.
- Insert a jack lead into the bass, and then plug the other end into an amplifier. Note: Always plug in using this sequence.
- Turn the amplifier up a little and then turn the bass volume up a little. Then using a small screw driver or similar blunt object made of steel, touch one of the magnetic pole pieces of a pickup. You should hear a click as you gently touch a pole piece, but be very careful not to cause any scratches.
- Pull up the P-Retro Active centre shaft and touch the pickup pole piece again. Clicks should be apparent again. Rotating the P-Retro Active centre shaft CW and ACW should cause the clicks to change in tone, but don't be concerned about the exact sound at this point. This is just a very basic test to confirm that the pickup signal is being passed through the P-Retro Active circuit.
- Unplug the jack lead from the amplifier and then remove it from the bass.



P-RETRO 01

Active/Passive Retro-Fit for P-Style Basses

• ACCESS FOR INTERNAL SETTINGS

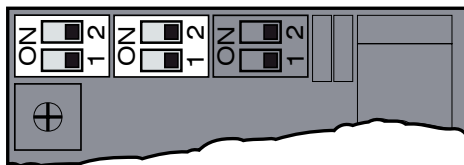
The internal switches and trimmer, which set up the Deep parameters, are positioned in order that they are accessible when the strings are in place.

- Refit the pickguard screws except the 6 on the 'control tail' surrounding the jack and controls. Tighten the other screws but not so they are fully down. Make sure they still allow the pickguard some movement, leaving the other 6 out for now. Gently lift up the 'control tail' to confirm access to the switches and trimmer.
- Refit the strings, plug the bass in and tune up.

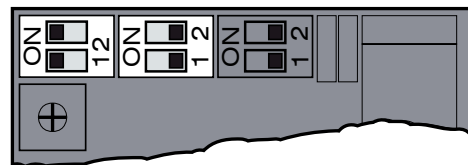
Test the full functionality of the P-Retro before fine-tuning the internal settings.

- On the Volume/Tone stack, push the upper knob down for the passive mode.
- Turn the upper knob Volume up and down to confirm its fully functional, and then check the lower knob, Passive Tone, leaving it fully CW.
- Make sure the P-Retro Active upper knob is in its down setting and in its centre click.
- Pull up the Volume knob and there should be a slight increase in level. The frequency response is flat and the pickup is buffered by the Class A FET input stage, so there is a low impedance drive to the jack lead, which can help to give increased clarity and depth to your sound.
- Pull the the upper knob of the Active stack to check the Deep Boost setting. The factory default setting is +6dB @ 60Hz. Adjustments will be described later in this section. Once checked, push the knob down again.
- Rotate the upper Active knob CW for mid boost, and check that the lower Frequency knob varies the mid frequency.
- Rotate upper knob ACW for combined bass/treble boost, again setting the spectrum with the lower Frequency knob.
- Once tested, return the upper knob to its centre click.

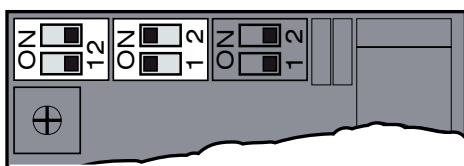
DEEP BOOST Frequency Settings



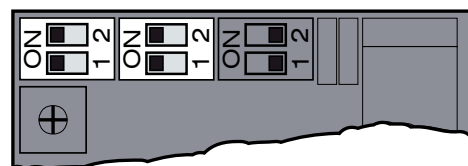
40Hz



60Hz

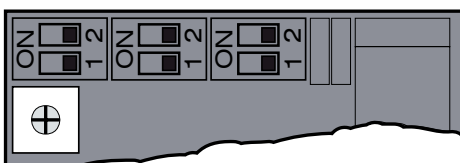


80Hz



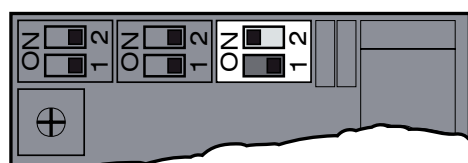
100Hz

DEEP BOOST Level



Trim between +2 & +12dB

BRIGHT ON



Set Switch 2 ON



P-RETRO 01

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- **SETTING THE DEEP BOOST FREQUENCY & LEVEL**

The Deep Boost is a gentle peaking curve with the maximum boost at the frequencies specified. But being a gentle curve, it will have a significant effect on frequencies above and below the chosen frequency. Take care when choosing the setting, as differences are much magnified when going from a quiet set-up at home, to a rig in a boomy venue. Often the lower frequencies will sound great at home, whereas the higher frequencies are likely to give more definition live.

- When making adjustments to the Deep Boost, make sure the Volume is pulled up to activate the P-Retro. Also make sure that the P-Retro Active stack upper knob is in its centre click.
- The factory setting is 6dBs boost at 60Hz. But try each frequency setting in order to decide which is the most suitable for your music and playing style. It may help if you turn the level preset up to maximum, in order to make each frequency more pronounced. Once you have decided, then re-adjust the level trim to a suitable level. If you are setting it in quiet conditions, better to set lower than higher, initially.

- **BRIGHT SETTING**

If turned on internally, the Bright setting will be activated along with the rest of the P-Retro Active functions, when the Volume knob is pulled up.

- To check whether you want to use the Bright setting, first turn it on internally. Make sure the Volume is in its down position, and that P-Retro Active stack upper knob is down in its centre click.
- Then pull up the Volume and the Bright function should be apparent. Switch it on and off a few times in order to be sure of its effect and whether you will find it useful.

- **FINAL STAGE**

- Once you are happy with the internal settings, fit the final 6 pickguard screws into the bass and tighten them down, but not fully tight. Check the alignment is correct, and fully tighten all the pickguard screws.
- You are ready to go, enjoy your P Bass & Retro!



P-RETRO 01

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CARE & SAFETY

- This unit does not contain any user-servicable parts. Any repairs or maintenance should be carried out by qualified-personnel only.
- Do not allow this unit to get wet or expose it to damp conditions.

GUARANTEE

- Your East product is guaranteed to be free from defects in materials and workmanship for a period of one year from the date of original purchase.
- If during the guarantee period your product becomes faulty due to defective materials or workmanship, then the unit will be repaired or replaced without charge for parts or labour at the discretion of EastUK, according to the conditions below.

CONDITIONS

- The original sales invoice or receipt indicating the date of purchase and sales outlet is presented together with the faulty unit.
- The unit was installed competently consistent with the instructions supplied.

WHAT IS NOT COVERED

- Damage due to accident or improper handling, installation or operation.
- Defects caused by the instrument or system to which the unit has been installed.
- Damage resulting from repair of the unit carried out by non-authorized service personnel.
- The costs of transport or shipping costs relating directly or indirectly to the guarantee of this product.