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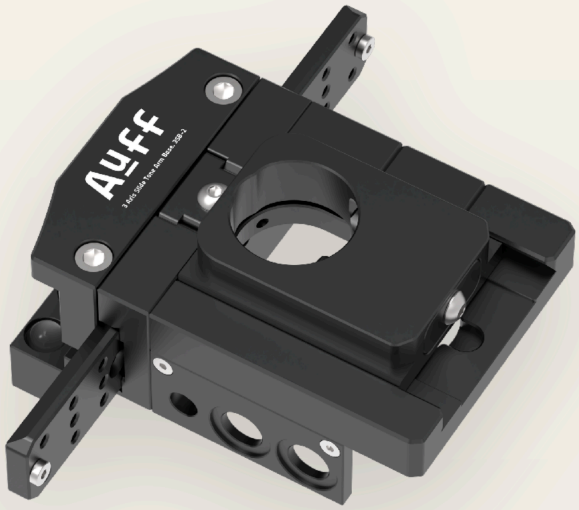
PRECISION ANALOG INSTRUMENT

USER MANUAL · ENGLISH
VER 1.2.0



3-Axis Slide Tonearm Base

MODEL
3SB-2

The Reference Tonearm Foundation ZERO-DAMAGE CLAMP · AEROSPACE-GRADE CNC

DIMENSIONS	WEIGHT	ARM Ø	PATENT (KR)
170 × 124 × 57.5 mm	701 g	Φ8 – 32	10-2700244

Innovation for the discerning analog connoisseur

DESIGNED & MANUFACTURED
BY P.K. SOLUTION

USER MANUAL
ENGLISH EDITION

WELCOME TO AUFF

Innovation for the Discerning Connoisseur

THE PINNACLE OF HIGH-END ANALOG SOUND

We extend our sincere respect and gratitude to you — an audiophile who pursues the very summit of high-end analog sound. The AUFF flagship instrument, the **3-Axis Slide Tonearm Base (3SB-2)**, transcends the physical and spatial constraints of conventional turntable architecture, offering a wholly new paradigm of kinematic solution. This instrument is a proprietary technological asset of AUFF, formally registered with the Korean Intellectual Property Office **(Patent No. 10-2700244)**.

The Ear of a Live Sound Director, Refined by Precision Engineering

The 3SB-2 was conceived and engineered by Kayson Park, founder of P.K. Solution — a classically trained musician and a seasoned professional-audio (Live PA) director who has overseen countless large-scale live recordings and broadcast productions. Into this single base he has distilled the mechanism of an ultra-precise three-axis variable gimbal system acclaimed by global specialists at the NAB Show, the five-axis CNC machining expertise applied to aerospace components, and hybrid active vibration control.

Uncompromising Preservation of Originality — Zero Plinth Damage

The era of drilling into a costly turntable plinth and force-fitting hardware each time a new tonearm is matched — eroding the instrument's intrinsic value — is over. The 3SB-2 permits **not a single millimetre of physical damage** to your treasured plinth chassis, preserving the originality of a fine turntable through a high-rigidity, impact-free clamping structure.

> READ ME This manual follows the actual order of setup — mounting first, then alignment — across eight clear steps. Follow them in sequence and you will complete a flawless installation, even with no prior tonearm-setup experience.

INDEX

Setup Guide Contents

BEFORE YOU BEGIN

SETUP — 8 STEPS

REFERENCE

The Setup at a Glance

01 Bolt → 02 Mount → 03 Clearance → 04 Tonearm → 05 X · L-R → 06 Y · F-B → 07 VTA → 08 Terminals → ✓ Done

SECTION A

Specifications

TECHNICAL SPECIFICATIONS

ITEM	SPECIFICATION
Model	AUFF 3SB-2 (3-Axis Slide Tonearm Base)
Manufacturer	P.K. Solution
Core Technology	Registered patent, Korean Intellectual Property Office (No. 10-2700244)
Body Material	Aerospace-grade aluminium / high-rigidity alloy · 5-axis CNC machined
Colour	Black / Silver `Custom colour on request`
Dimensions (W×D×H)	170 × 124 × 57.5 mm
Weight	701 g
Terminal Spec.	RCA Ø 11.1 mm / Ground Ø 8.2 mm (depth 5 mm)
Supported Plinth Thickness	11 mm – 150 mm (standard variable-bolt set)
Minimum Lower Margin	Reverse clamp mounting supported at ≤ 9 mm
Standard Arm Diameter	Ø 19 – Ø 32 (full standard compatibility)
Optional Add-ons	Schick arm adapter (Ø 8 – Ø 19) / SME slide adapter (zero-play)
Fastening Bolts	Base 45 mm · add-on 70 / 100 / 130 / 150 mm · **M6 flanged bolt**

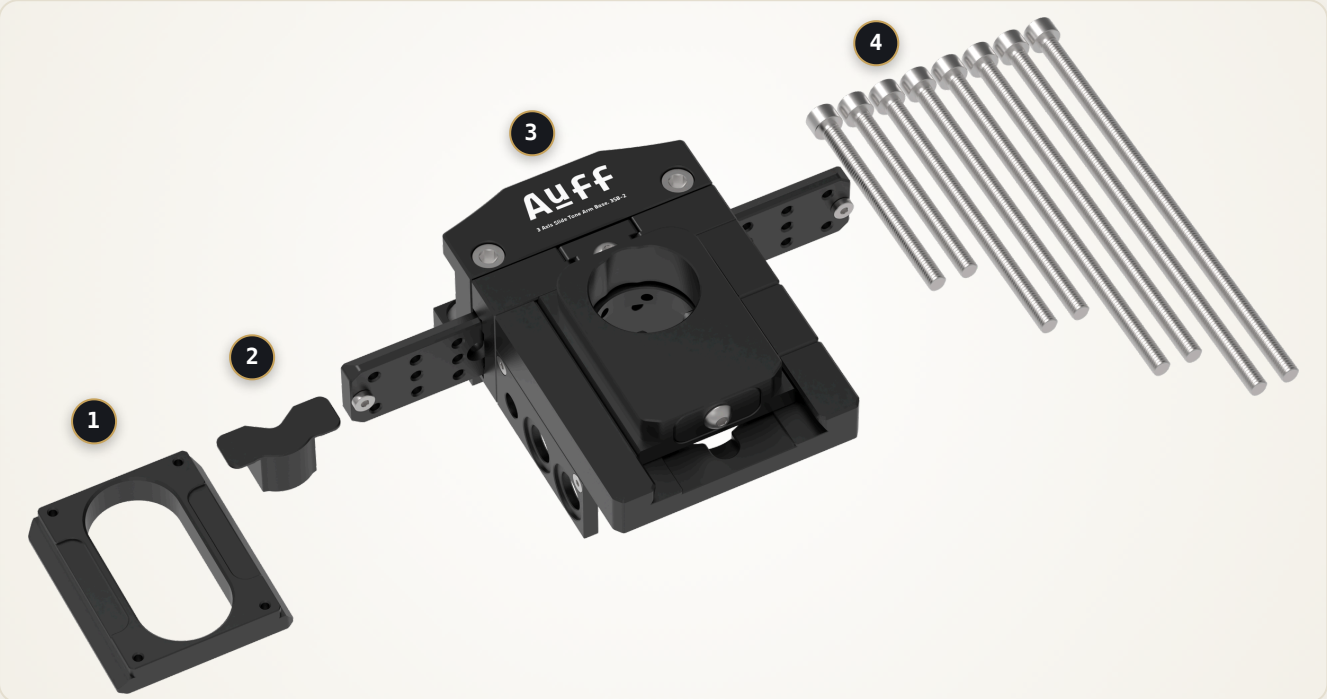
NOTE The bolt-selection guide by plinth thickness is tabulated in **Step 01** (p.06). All bolts are M6 flanged and are fastened with a 5 mm hex key.

SECTION B

Package Components

PACKAGE COMPONENTS · INCL. OPTIONAL ADD-ONS

The package comprises the tonearm base body — machined from aerospace-grade aluminium and high-rigidity alloy — a high-tensile fastening-bolt set for zero-damage clamping across plinth thicknesses, and optional adapters for broad tonearm compatibility.



1 **SME Slide Adapter** OPTIONAL · *sold separately*
Zero-play slide fastening for SME-standard arms

2 **Schick Arm Adapter** OPTIONAL · *sold separately*
Damped mount for slender arm tubes (Ø 8 – Ø 19)

3 **3SB-2 Main Body** MAIN BODY
3-axis slide tonearm base body (precise X · Y · Z)

4 **High-Tensile Bolt Set** FASTENERS
45 · 70 · 100 · 130 · 150 mm · M6 flanged bolt

Contents Checklist

- [ ] 3SB-2 main body × 1
- [ ] Add-on bolts, 70 / 100 mm
- [ ] (Optional) SME slide adapter
- [ ] Base fastening bolts, 45 mm set
- [ ] Add-on bolts, 130 / 150 mm
- [ ] (Optional) Schick arm adapter

SECTION C

Before You Begin

TOOLS · ENVIRONMENT · SAFETY

Tools to Prepare

- Hex keys — **3 mm** (slide clamp) / **5 mm** (plinth clamp)
- Spirit level — a bubble level, or the AUFF precision level
- Calliper or rule for measuring plinth thickness

Working Environment

- Work on a flat, solid, vibration-free surface.
- To protect the cartridge, we recommend fitting the **stylus guard or temporarily removing the headshell** during setup.
- Handle the precision-machined surfaces with dry hands to avoid fingerprints and contamination.

Safety

IMPORTANT Do **not over-tighten** the bolts, as this may damage the aluminium threads or deform the instrument. In particular, tightening beyond the proper torque may **strip the hex socket of the bolt head, causing the tool to spin freely** — take special care. Never drive any single bolt fully home at once; tighten **gradually and alternately in a diagonal sequence** for even pressure.

TIP The guiding principle is "set the coarse position first, then fine-tune." Rather than aiming for perfection at once, move between the axes and close in gradually — it is far easier.

01

SETUP STEP 01 / 08

Plinth Measurement & Bolt Selection

PLINTH MEASUREMENT · BOLT SIZING

Correct bolt selection is the beginning of damage-free clamping. First, measure the **plinth thickness at the point the clamp will grip** precisely with a calliper. The instrument ships with a 45 mm bolt (M6 flanged); add-on sets of 70, 100, 130 and 150 mm are supplied to suit a wide range of setups.

IMPORTANT **The sequence is everything — measure, select, replace, then mount.**
The base 45 mm bolt will not fasten to a plinth thicker than 45 mm. So: ① **measure the plinth thickness** → ② **identify its band in the table below** → ③ **replace with the matching bolt in advance** → ④ **mount**. This lets you pick the correct bolt from the package and fasten in one pass, with no trial-and-error against the plinth. **The upper thickness of each band is the reference** — exactly 70 mm uses the 70 mm bolt; 71–100 mm uses 100 mm; 101–130 mm uses 130 mm; 131–150 mm uses 150 mm.

Bolt Guide by Plinth Thickness

PLINTH THICKNESS	BOLT	NOTE
11 – 45 mm (base)	45 mm	Supplied · reverse mount possible
46 – 70 mm	70 mm	Replace
71 – 100 mm	100 mm	Replace
101 – 130 mm	130 mm	Replace
131 – 150 mm	150 mm	Replace

IMPORTANT The **reverse mount** for tight clearances (Step 02) is possible **only** when the **45 mm base bolt** is used. Other bolt lengths cause mechanical interference — please take care during setup.

02

SETUP STEP 02 / 08

Base Mounting & Level Alignment

CLAMP MOUNTING · LEVEL ALIGNMENT

Confirm that the upper clamp is perfectly level with the turntable plinth, then fasten the bolts firmly. **An accurate, level union is the single most important prerequisite for precise cartridge tracking.** The plinth-clamp bolts are fastened with a **5 mm hex key**.

The 3SB-2 employs a **special clamp built with ZSC™ technology**. The essence of a secure fit is to bring the **inner face of the upper clamp into complete, parallel contact with the top surface of the plinth** — this upper-face contact is the reference for level and alignment. The underside carries a **3M™ Bumpon™ hemispherical bumper (high-density polyurethane)**, which meets the plinth's lower face in a near-point contact of curve to surface, resisting slippage while maintaining steady tension.

Mounting Procedure

01 Rest the upper clamp on the plinth edge and set the **approximate position**.

02 Confirm the clamp jaws sit **fully flush and parallel** against the plinth face.

03 **Before final tightening**, check the level between the upper clamp and plinth with a spirit level.

04 Using the bolt chosen in Step 01, tighten **gradually and alternately in a diagonal sequence**.

05 Re-check the level **once more** after fastening (it can shift slightly during tightening).

KEY **ZSC Technology — Zero-Scratch Self-Compensating Clamp**

Tightening a bolt introduces a slight flex, which tends to lift the clamp's outer edge after fastening — an "edge lift." The special clamp lets the underside hemispherical bumper **compensate for this flex automatically**: the upper face keeps perfect surface contact with the plinth, while the underside disperses force through curved contact. The flex is absorbed, so the base holds firmly **without a single scratch on any plinth** — AUFF's own damage-free clamping technology.

TIP Driving one bolt fully home before moving to the next tends to tilt the base to one side. Tighten every bolt in three passes — "light → firmer → final," alternating between them — for a stable, level result.

02 · cont'd

TIGHT-CLEARANCE SOLUTION

Tight Clearance — Reverse Mount

REVERSE CLAMP MOUNTING · ≤ 9 MM

Where the lower clearance beneath the plinth is 9 mm or less, inverting the clamp unit for a reverse mount secures a firm, stable hold in even the most confined environments.

FIG.01 Standard downward mount — ample lower clearance

FIG.02 Extended-post mount

FIG.03 Inverted low-profile mount — **for thin plinths**

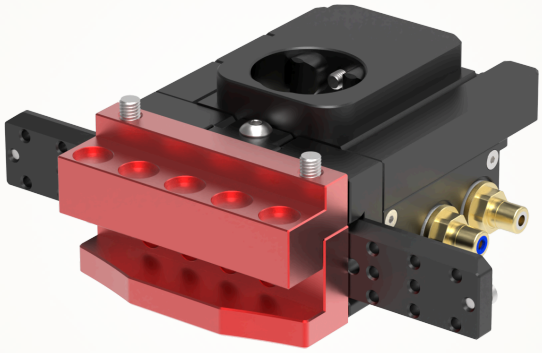


FIG.04 Reverse-mount detail — the clamp unit inverted with the bolt fastened upward, securing a high-rigidity hold even in tight clearances.

IMPORTANT The reverse mount fastens the bolt **from below, upward**. Pre-tighten the bolt partway, insert it into the plinth, then shift the plinth to the table edge (or slightly beyond) to **secure room for the tool to approach from below** before fastening. This method is possible **only with the 45 mm base bolt**.

03

SETUP STEP 03 / 08

Short-Arm Clearance

SHORT-ARM INTERFERENCE CLEARANCE

The **round cutaways** on both flanks of the base are not mere styling — they are a design that quietly serves the setup. A tonearm base must sit as close as possible to a large platter for short-arm setups, yet pushing the body straight in would collide with the platter's outer edge. Each side is therefore relieved along the platter's curvature so that the body can be pushed **deeper toward the platter centre while the clamping area (and thus holding force) is fully preserved**.

As a result, the distance between the spindle (centre of rotation) and the tonearm pivot can be minimised, letting even short-effective-length arms settle in with ease. The rounded faces also reduce the vortices (air turbulence) generated as the platter spins, satisfying two conditions that usually conflict — firm holding force and close-proximity setup — at once.

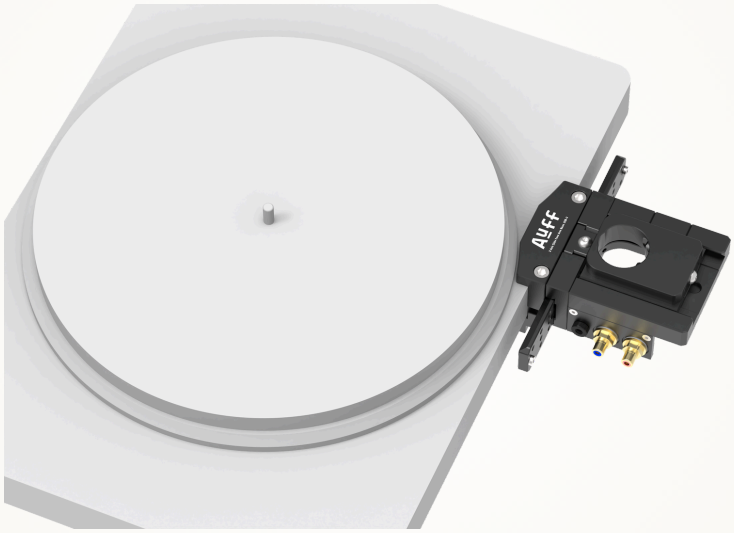


FIG.05 Mounting adjacent to a large platter — the round cutaways clear the platter's outer edge.

TIP When mounting, position the base so the **tonearm and platter never interfere**. Thanks to the round cutaways, there is ample room to settle in even beside a large platter.

04

SETUP STEP 04 / 08

Tonearm / Adapter Mounting

DIRECT · SCHICK ARM ADAPTER

Direct Mount (Ø 19 – Ø 32)

A standard arm tube is fixed directly by tightening the **rear lock bolt** of the dedicated arm clamp on the upper body. Locate the bolt first; as you tighten, the grip diameter narrows, accommodating arms from the base Ø 32 down to a slender **Ø 19**.

Slender Arm Tubes (Ø 8 – Ø 19) — Schick Adapter

For thinner, more sensitive arm tubes of Ø 8 – Ø 19, the optional **Schick arm adapter** mounts them flawlessly with no loss of damping.

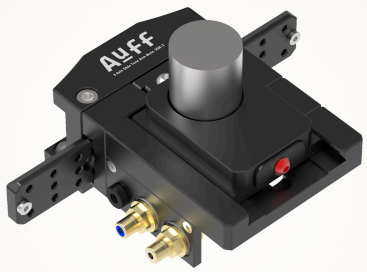


FIG.06 ① Rear lock-bolt location — tighten here to secure

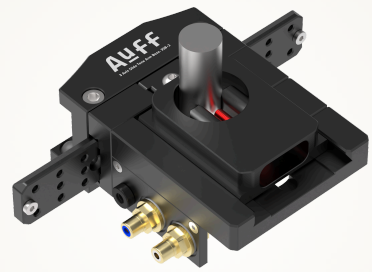


FIG.07 ② Tightening narrows from Ø 32 to Ø 19

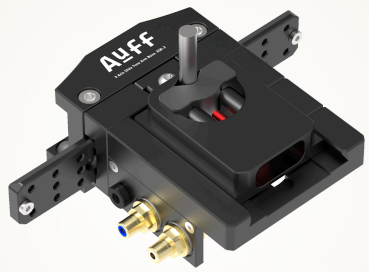


FIG.08 Schick arm adapter mount (Ø 8 – Ø 19)

TIP Before tightening the rear lock bolt, confirm the arm tube is **seated fully** inside the clamp. Tightening while it sits slightly raised leaves fine play that can affect tracking.

04 · cont'd

ZERO-PLAY SLIDE

SME Slide Adapter — Change & Fit

SME SLIDE ADAPTER · ZERO-PLAY

For an SME-standard arm, remove the factory-fitted **arm-fixing slide vice** and replace it with the optional **SME slide adapter**. It fastens along a precision-machined rail, holding firmly with no fine vibration or play.

Replacement Procedure

01 Loosen the **lock bolt on the underside** of the arm-fixing slide vice and detach it fully from the chassis. (see FIG.09)

02 Insert the SME slide adapter **along the slide rail**.

03 Find the **position that suits your own tuning** and lock the bolt there — just as in the position adjustments that follow.

FIG.09 Detachment point — **underside lock bolt** of the arm-fixing slide vice

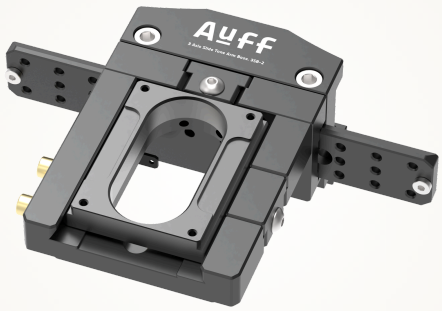


FIG.10 SME slide adapter — zero-play fit along the precision rail

NOTE The SME slide adapter is a **position-adjustable part**. Do not push it to the end of the rail; fix it at the position that suits your effective-length and overhang tuning.

05 X-Axis — Left–Right Position

SETUP STEP 05 / 08

LEFT–RIGHT POSITION

X · L-R

STEP 05 / 08

Select the clamp unit's optimal position first, then **release the upper lock bolt** and transport the base finely to the **left or right**. The slide-clamp bolt is adjusted with a **3 mm hex key**. This left–right position **affects both overhang and effective length together**, so work it as a pair with Step 06 (front–back).

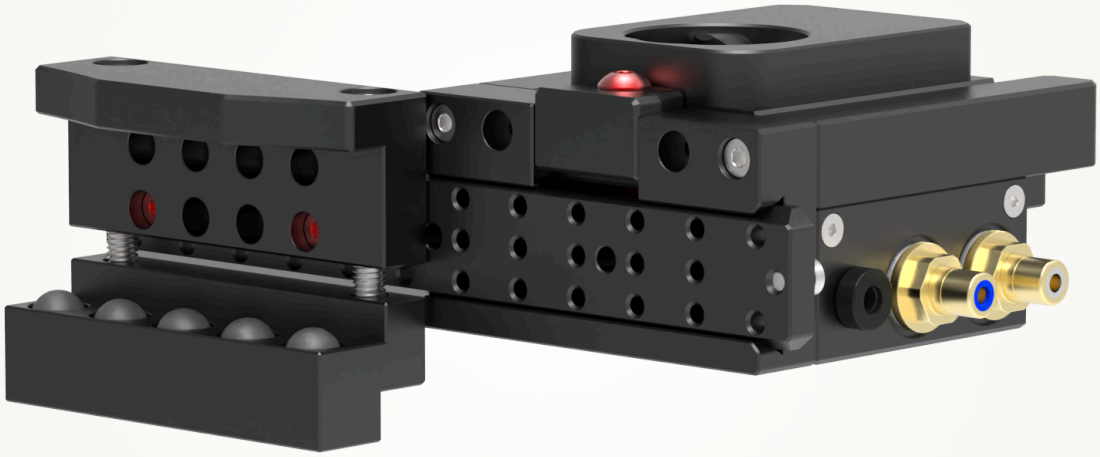


FIG.11 X-axis (left–right) slide — fine transport left or right after releasing the upper lock bolt.

IMPORTANT If a setting beyond the slide's travel limit is required, **do not force it**. Detach the clamp fully from the plinth, relocate the whole module in the desired direction and re-fasten, then resume fine positioning.

06

SETUP STEP 06 / 08

Y-Axis — Front–Back Position

FRONT–BACK POSITION

Y · F-B

Adjust the side lock bolt to transport the base finely **front and back**. This front–back position, too, influences both overhang and effective length; the essence of setup is to combine left–right (X) and front–back (Y) to place the tonearm pivot exactly where you want it.

KEY Overhang and effective length **do not each belong to a single axis.** Both are determined **together** by the planar position of the tonearm pivot, so the correct approach is to adjust X (left–right) and Y (front–back) in concert, aligning both at once.

FIG.12 Y-axis (front–back) slide — fine transport fore and aft via the side lock bolt.

TIP Because the two values interact, it is far easier to **loosen both the X and Y lock bolts slightly and fine-tune them simultaneously** — aligning overhang and effective length together — before locking the position.

07

SETUP STEP 07 / 08

VTA / SRA — Beyond Mechanical Limits

VERTICAL TRACKING ANGLE · STYLUS RAKE

Z · VTA

Should the Vertical Tracking Angle (VTA) reach its physical limit after the adapter is fitted, do not be discouraged. By **relocating the clamp unit up or down** within the X-slide dovetail, you can move beyond the mechanical limit and draw out the ideal Stylus Rake Angle (SRA). If the tonearm must sit **lower** but is out of travel, move the whole assembly down; if it must sit **higher** but exceeds the clamp range, raise the entire adjustment body and re-fasten.

FIG.13 VTA adjustment knob

FIG.14 To sit the arm **lower** — drop the whole assembly

FIG.15 To sit the arm **higher** — raise the body and re-fasten

TIP The starting point for VTA is with the **arm tube parallel to the record surface**. From this reference, fine-tune the Stylus Rake Angle (SRA — the angle at which the stylus rakes into the groove).

08

SETUP STEP 08 / 08

Terminal Block (RCA / GND) Positioning

MULTI-AXIS MOUNTING TAP

STEP 08 / 08

To prevent subtle hum from entering the phono signal and to optimise cable routing for your listening environment, a multi-axis mounting tap (threaded seats for relocation in several directions) lets the RCA phono terminal-block chassis be re-fastened freely to the **left, right, or rear — three directions**. This gracefully relieves the mechanical tension of thick, heavy high-end cables and aligns the terminal orientation to the placement of a phono stage or other connected equipment.

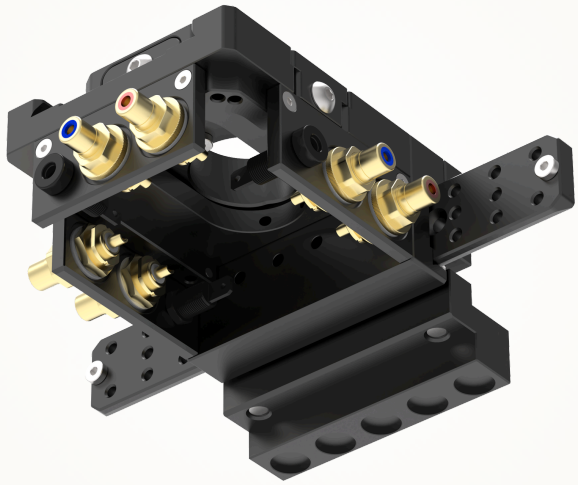


FIG.16 RCA / GND terminal block — three-way relocation (left · right · rear) and plate reversal to switch terminal position.

TIP Thanks to a **dual counter-sink structure (recesses for the bolt head, machined symmetrically on both faces)**, simply flipping the plate over is enough to switch the GND and RCA terminal positions intuitively.

REFERENCE

Final Checklist

FINAL VERIFICATION

- [ ] Bolt matched to plinth thickness (Step 01)
- [ ] 45 mm bolt used for reverse mount (Step 02)
- [ ] Tonearm rear lock bolt fastened (Step 04)
- [ ] Left–right (X) position set (Step 05)
- [ ] Overhang & effective length aligned together (Step 05·06)
- [ ] RCA / GND orientation & wiring checked (Step 08)
- [ ] Upper clamp confirmed level (Step 02)
- [ ] No platter interference on mounting (Step 03)
- [ ] SME adapter fixed at tuning position (Step 04)
- [ ] Front–back (Y) position set (Step 06)
- [ ] VTA / SRA adjustment complete (Step 07)

Troubleshooting

SYMPTOM	CHECK / ACTION
Slight wobble after setup	Re-check bolt tightness · re-check clamp-jaw contact (Step 02)
VTA at its limit, must go lower	Relocate whole assembly downward (Step 07 · FIG.14)
VTA at its limit, must go higher	Relocate whole body upward (Step 07 · FIG.15)
Overhang / effective length off	Loosen X·Y bolts slightly, fine-tune both together (Step 05·06)
Hum during playback	Re-check GND wiring & terminal orientation (Step 08)
Play felt in SME arm	Re-check rail engagement & lock bolt (Step 04)

SUPPORT If the above does not resolve the issue, please do not force further adjustment — contact P.K. Solution by email or telephone (see back cover).

REFERENCE

Glossary of Terms

GLOSSARY OF TERMS

Plinth	The body (chassis) of the turntable — the structure on which the tonearm and platter are mounted.
Effective Length	The distance from the tonearm pivot centre to the stylus tip; set to the value specified by the tonearm maker.
Overhang	The distance by which the stylus overshoots the platter spindle; determined together with effective length by the pivot position.
VTA VERTICAL TRACKING ANGLE	The vertical angle of the tonearm relative to the record surface, set by tonearm height.
SRA STYLUS RAKE ANGLE	The actual angle at which the stylus rakes into the groove; optimised through VTA adjustment.
Zero-Play	A state with no looseness in the joint, suppressing fine vibration to aid precise tracking.
Edge Lift	The slight rise of the clamp's outer edge caused by bolt flex during tightening; compensated by the ZSC structure.
Dovetail	A trapezoidal interlocking slide rail supporting precise vertical and fore-aft transport.

KEY Overhang and effective length are **determined together by the planar position of the tonearm pivot.** No single axis *is* overhang or effective length; moving X (left–right) and Y (front–back) together to place the pivot precisely is the fastest, most accurate path.

IN CLOSING

A Promise of Complete Reliability

THANK YOU FOR CHOOSING AUFF

With this, the most precise and delicate mechanical setup is complete. We offer our heartfelt respect for the dedication and care with which you have seen this demanding process of refinement through to the end. The new paradigm the 3SB-2 embodies will repay you — atop the turntable base you have so carefully perfected — with complete reliability that permits neither resonance nor tremor.

Now set aside every concern of setup, and immerse yourself entirely in the warm, richly analog tone. In your noble musical journey — as one who recognises the true worth of a fine instrument and savours the beauty of sound first-hand — AUFF will always stand with you, in enduring trust and pride.

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