# UNI P2S©

**Universal high-precision phono pivot-to-spindle - P2S direct measuring instrument**

## owner's manual

## DISCLAIMER

**Please use all parts with care.**
**The use of the UNI-P2S is on your own risk.**
**The manufacturer and the designer do not take any responsibility for possible damage or injury due to operate or handle the UNI-P2S or any of it's parts.**

**Keep out of reach of children !!**

### General note:

Technical data, minor design and specifications are subject to change without prior notice.

version 16.02

# A brief introduction

The UNI-P2S is a high-precision and universal versatile positioning and measuring instrument for use with phono tonearms turntables. It allows precise measurement of mounting distance - P2S or pivot-to-spindle distance - of any given tonearm.

Furthermore the user can determine whether a given mounted tonearm does meet the mounting distance required or asked for in it's specifications - i.e. whether it is correct mounted.

This applies to all pivot tonearms – no matter what effective length, mounting distance or specific geometry a given tonearm may ask for.

The UNI-P2S further gives the options to:

- draw an arc of suitable mounting distance on a plinth/armboard to find the optimal position(s) of a to-be-mounted tonearm.

- mark a drilling hole with the sharp tip of the stainless steel pin.

- locate perfect center of tonearm - either with tip of pin or (if center isn't visible without question) center the outer dimensions of bearing house by using the cross-hairs on the reticule.

The UNI-P2S works DIRECT with the following alignment tractors:

- UNI-Protractor
- Mint LP
- Wally
- Dennesen Soundtraktor
- Schön template 1 and 2

This means you can use the UNI-P2S mounted WHILE any of the above mentioned protractors are in use and thus checking mounting distance "on-the-fly" - while aligning the tonearm/ cartridge.

It further offers precise help with some protractors so you can determine the proper orientation of help lines towards the pivot.

To ensure the high precision the UNI-P2S comes with a special designed vernier scale.Thus giving an accuracy in read-out of 5/100 mm.

Precise P2S distance is impossible without precise centering.

The UNI-P2S works with the 3 spindle adapters and the stainless steel locator pin with cross lines of the UNI-Protractor to ensure perfect center without play.

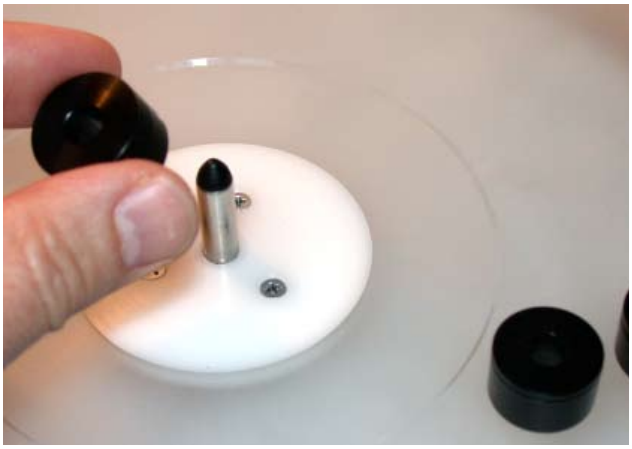
Each UNI-P2S was carefully checked and tested prior to shipment.

Please do get yourself familiar to the handling and use of the UNI-P2S.

While it is a mechanical positioning instrument, it needs a minimum of attention to detail by the user to obtain the maximum precise results it ensures if handled correctly.

To get access to all possible features of the UNI-P2S it is inevitable to read this manual. But most important please study the step-by-step pictured instruction to learn how to set-up the UNI-P2S correctly.

# Setup



## Step 1

Select the spindle adapter which fits on your turntable's spindle WITHOUT play. This ensures perfect center for the measuring.

## Step 2

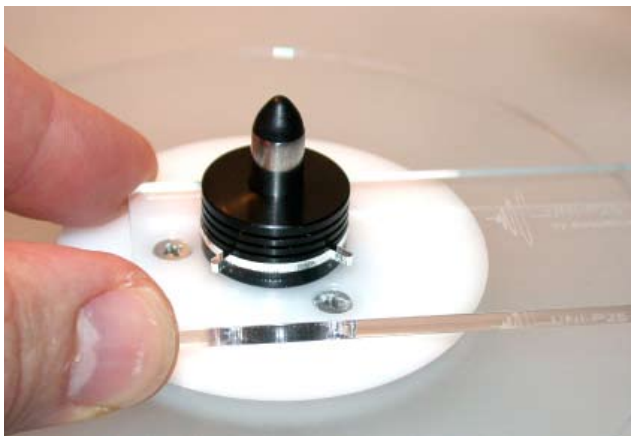
Place the selected tt-spindle adapter over the turntable's spindle. It should fit without any play.


## Step 3

Place the "clamp-opening" on the UNI-P2S acrylic arm over the tt-spindle adapter.

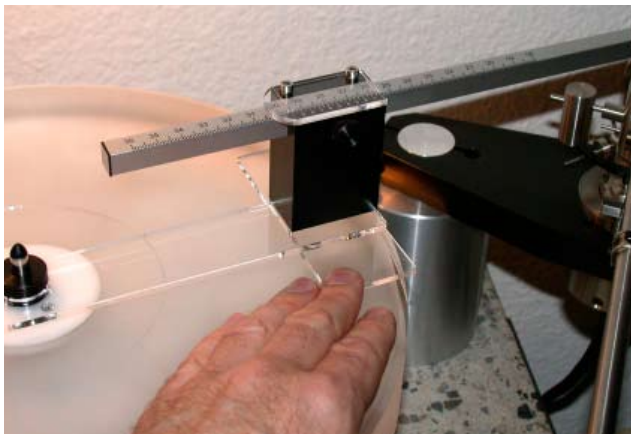

## Step 4

It will give a frim, tight "grip" - yet it will allow "free" circular movement around the spindle.



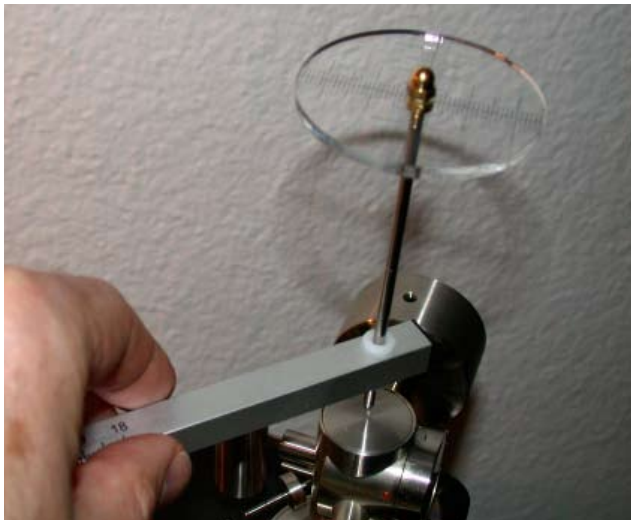
## Step 5

Adjust the clearance underneath the acrylic arm, so that the acrylic arm is horizontal.



## Step 6

Slide the UNI-P2S into place in the direction of the tonearm's bearing house/pivot.



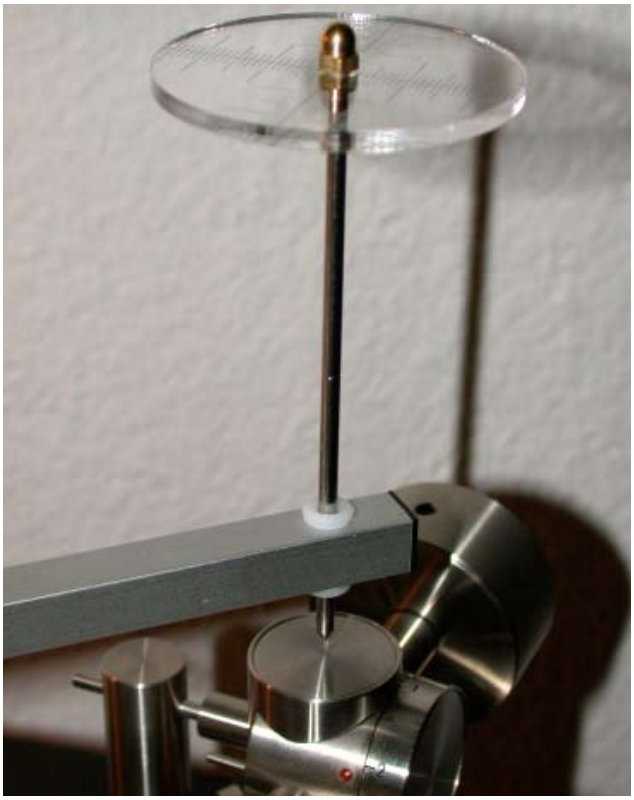
## Step 7

Do mount the long stainless steel positioning pin with the reticule either on top or pointing downward into the nylon tunnel. It will fit quite tight - handle with care, as the tip is sharp and may cause injuries. Do untight the black screw on the POM-block carrying the metric scale. Slide the metric arm with the pin toward the center of the arm bearing house.

If you can spot the center, use the pin-point.

Try to locate pin exact over the pivot center.

If unsure of pivot center, do use the reticule and determine pivot center by finding symmetrical outer lines on the bearing house.



## Step 8

When pivot center is directly underneath the pin, do fasten the screw holding the metric scale in place.

Now look on the scale on the POM block.

# Reading the vernier scale

The UNI-P2S does feature a vernier scale to allow precise read-out of mounting distance with an accuracy of 5/100 mm.

This vernier scale is running right to left - as does the metric scale with increasing distance of P2S.

If you are unfamiliar with a vernier scale, please get accustomed to it's operation.

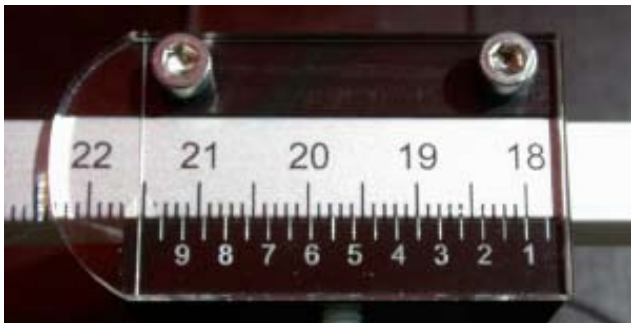
The white numbers 1- 9 over the black background are 1/10 of a mm each. The white lines between numbers are 0.5/10 mm each - or 5/100 mm each.

Whenever any of the white lines is absolutely in-line with a black line on the aluminum scale, then it denominates the 5/100 value which has to be added to the full mm value given between the 2 white "leaves" centered by the full vertical white line on the left of the scale just before the half-circle end.

To illustrate the read-out procedure, here are a few examples of mounting distances for common tonearms.

One will accustom quite fast to this way of reading the scale.

The vernier scale is an international standard in industrial precision analog measuring.

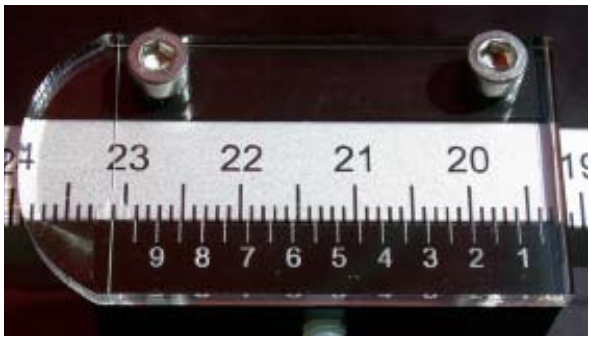



This is 215,25 mm P2S - for the DaVinci 9" tonearm. Note that the white line between "2" and "3" in in-line with the black line above on the aluminum scale. This means 215 mm PLUS 25/100 mm. Resulting in 215,25 mm P2S. The vernier scale "adds" the 5/100 mm value to the full mm read-out on the large metric scale.


This is 295,00 mm P2S - suitable for a FR-66s.


231.5 mm P2S - the white "5" being in line. Perfect mounting distance for the FR-64s.


This is 247,35 mm - the P2S for the Talea tonearm.

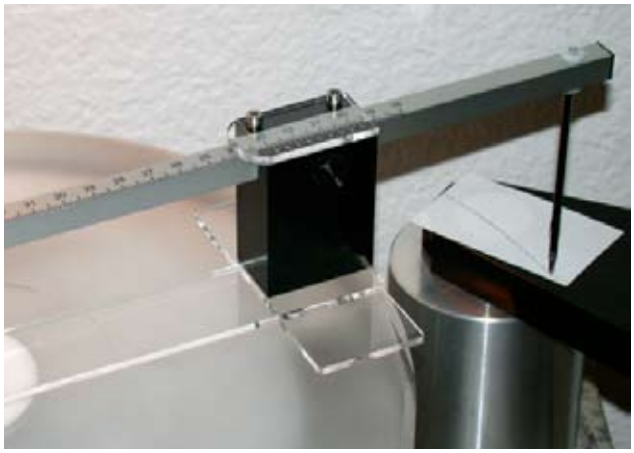



This is exactly 231 mm - the black line in center.

# Pin, Pen or Reticule

## Insert a pen

You may use a 3 mm diameter pen which will fit into the 3 mm through hole when insert from the downside and with the open end of the pen first.

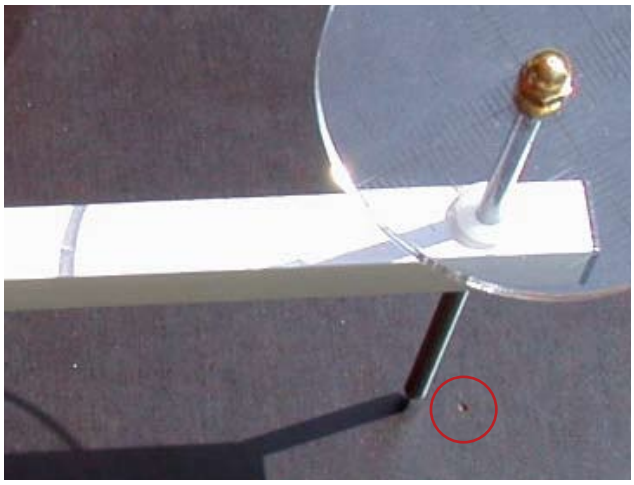


## Draw an arc

You now may adjust height and draw and arc on your armboard/plinth.
That arc gives all prospective positions for mounting the respective tonearm with the desired mounting distance.

## Drilling hole

You may use a small hammer and a low force hit on the gun metal cap holding the reticule to mark a drilling hole in the armboard .



# Some P2S value

Some manufacturer's specifications/values for popular pivot tonearms:

| | | |
|---|---|---|
| Breuer series 7 & 8: | | 231,4 mm |
| DaVinci | 9": | 215,4 mm |
| DaVinci | 10": | 237,8 mm |
| DaVinci | 12": | 295,6 mm |
| Dynavector - all - | : | 226,0 mm |
| Fidelity Research | | |
| | FR-64s: | 230,0 or 231,5 mm |
| | FR-66s: | 295,0 mm |
| Graham | 9": | 217,4 mm |
| Ikeda | IT-245/345: | 230,0 mm |
| Ikeda | IT-407: | 295,0 mm |
| Micro Seiki | | |
| | MAX-237: | 222,0 mm |
| | MA-505: | 222,0 mm |
| | MAX-282: | 270,0 mm |
| Ortofon | 212: | 212,0 mm (sic) |
| | 309: | 309,0 mm |
| | AS-212: | 214,0 mm |
| | AS-309: | 311,0 mm |
| Pioneer/Exclusive: | | 269,5 mm |
| SAEC | 407: | 221,0 mm |
| | 308: | 235,0 mm |
| | 308L: | 265,0 mm |
| Reed 3Q | 9,5": | 223,0 mm |
| | 10,5": | 251,6 mm |
| | 12": | 295,6 mm |
| SAEC | 506: | 286,0 mm |
| | WE-8000: | 293,0 mm |
| SME | Series V: | 215,35 mm |
| | 3012: | 294,0 mm |
| Talea | | 247,37 mm |
| Technics | all EPA-series: | 235,0 mm |
| Tri-Planar | | 233,5 mm |

**Please note**

these are all values given by the manufacturer !!

The alternative 231.5 mm for the FR-64s however is a personal recommendation.

We see that some manufacturer's (SME V , Talea ...) do ask for very specific and very precise mounting distance.

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