RS-A1 Instruction Manual

All references to arm parts are located on the graphic provided in the Japanese Manual.

CAUTION : This tonearm has very unique construction---arm (A) and stand (including base B and support C) are completely separate but connected by thin lead wires. Be careful not to cut the lead wires when taking out.

How to assemble and use RS-A1

Take the arm and the base out of the box, making sure that the tonearm wires do not get broken or wrap up in the arm. Place the arm and base on its side. Become familiar with the design and how the tonearm operates. If the 3 dots are not already placed, place the 3 dots on the bottom of the base. Then we will attach the Cartridge.

1) From the bottom place the two screws on each side of the cartridge. You want to make sure that the stylus is located as close to the rotating point as possible. So pick from the 3 sets of screws, the one that optimizes this position. Making sure that the cartridge is level with the top base of the rotating headshell assembly. Further make sure that the screws have not effect the rotating motion. When you set cartridge to shell, make it sure that vibration support cantilever goes just under the rotation axis of subshell (G).

2) Fix the wires from the tonearm to the cartridge as follows:
Right Ground- Blue
Right Signal - Red
Left Ground - Green
Left Signal - White

3) Place the tonearm at the pivot point into the resting area of the tonearm base. Making sure that the wires do not obscure the freedom of the support. Also make sure that the pairs of wires are set to each side of the pivot point. Now gently raise the system up and place the tonearm on a flat area. The tonearm support has a magnet so that the tonearm will not fall off the base assembly.

4) Next place the large counterweight on it's hanging arm. This is adjustable from the rear of the tonearm.

5) Refer to the cartridge specifications and place the same amount of weight on the supplied brass hook. The weights shipped with the units are 1.6gr, 0.8gr, 0.4gr and 0.2gr.

6) Place the tonearm on the plinth of the turntable, connect the tonearm cable to the preamp. This is done so that when the arm is positioned that the attachment of the cable does not move the arm.

7) Adjust the height of the tonearm to specifications described with the cartridge. If you have questions about VTA visit EnjoyTheMusic.com and go to the tweak page for details.

8) Take the tonearm off the resting position. Balance the tonearm by moving the counterweight by turning the knurled knob on the back end of the tonearm. You should balance this as close to the height of an album as possible for the best results. Once balanced in free space, place the tonearm on its resting magnet. Now remove the back weights and this will give you the weight specified in step 5.

9) Attach a set of well-shielded cables to the rca's at the base of the tonearm and the phono preamplifier.

10) To optimize the placement make sure that stylus has underhang of 19.6mm from the center of the record player spindle

You are now ready to play records!
Note: Do not make the mistake and rotate the cueing hook. The cueing hook must be in-line with the tonearm. Any deviation off center will again make the arm tilt and compromise the sound.

Details on the Design of the RS-A1

This tonearm is made based on the theory that the tonearm should be the mechanical earth to the vibration system. Much like an electrical system where the ground potential is the potential where all others references are considered. To pick up the tone signal accurately from the disc, the support part of vibration system (including cartridge body, shell, arm, arm base) should not be moved relatively to the vibration system.

The problem with existing tonearms
The existing arms with offset angle are exposed to the fluctuation of support part due to 3 kinds of unnecessary forces essentially caused by the construction of arms.
(1) Horizontal Fluctuation
Stylus--center of vibration system--arm axis are not on the straight line. This makes inside force occurs. This inside force is different from that of tracking error.
(2) Vertical Fluctuation
Down force is caused by the same reason.
(3) Resonance System of tonearm including cartridge

The low range resonance frequency is determined by the mass of tonearm (including cartridge).

RS-A1 Construction, Function Characteristics

The RS-A1 tonearm solves these basic problems by constructional characteristics. It is very unique tonearm in the world, which solved before mentioned three problems by applying rotary construction in the shell (Japanese Patent pending).

(1) There are 2 kinds of inside forces. The serious inside force is caused by offset angle to delete tracking error.

The stylus bar (cantilever) of the arm with offset angle is sometime bent by the inside force. This phenomena shows the strength of inside force. The tonearm should be straight to avoid inside force.

(2) To avoid down force, the tonearm should be straight vertically. To attain this goal, the center of vertical rotation should be put on the high position.

(3) By putting shell in rotary construction, cartridge is free from the force from the tonearm.

This can be proved by the data. The data shows that low range resonance frequency has nothing to do with the mass of tonearm.

RS-A1 has additional characteristics.

(1) The stylus pressure is very accurate due to unnecessary weight adjustment.

(2) It is not necessary to fix the tonearm base to the player base.

(3) The equivalent mass of tonearm is so small that this tonearm has good tracking ability to the distorted records or biased centered records.

Characteristics of Sound Quality of RS-A1

Due to before mentioned characteristics, RS-A1 has:

> Smaller intermodulation and better transition response
> More stable imaging
> Minimum noise level

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