The **Oyster**™ Series Phono Cartridges by

SUMIKO

2431 Fifth St. Berkeley . CA 94710 . Tel:510.843.4500 . Fax:510.843.7120 . www.sumikoaudio.net

Thank you for your purchase of a Sumiko Oyster Series phono cartridge. Sumiko Oyster™ cartridges are products resulting from over four decades of cartridge design. We believe that delivered high performance can be achieved at reasonable prices. The Oyster™ line is the embodiment of this philosophy. Oyster™ is your ticket of entry for the “high-end” – a world of high technology, where companies go to great lengths to recreate music in your home. The Oyster™ Series offers superior construction and sound quality with an emphasis on real world performance. Whether you have purchased a moving magnet or moving coil Sumiko Oyster™, you can be assured of performance and quality second to none. Enjoy your new cartridge.

Instructions

Mounting: The stylus/cantilever assembly is the most fragile part of any phono cartridge. Please use extreme caution while handling the cartridge and keep the stylus guard mounted whenever possible to prevent damage during the mounting process.

Do not solder the leads to the cartridge terminals as excessive heat may permanently damage the cartridge.

Once the cartridge is mounted, balance the tonearm for the proper vertical tracking force indicated for each model cartridge (see specifications at the end of this manual). To set the tracking force, first balance the tonearm. Locate the counterweight. On virtually all pivoted tonearms, it will be located at the rear of the tonearm (meaning at the opposite end from the cartridge). Generally, it looks like a fairly large, shallow cylinder, usually black in color and often has numbers (indicating grams of force) ranging from 0 to 3 or more printed on it. As you move the counterweight backwards, the cartridge end of the arm will lighten (reducing stylus tracking weight), while moving the counterweight forward will increase the stylus tracking weight. The first objective is to "statically balance" the arm, which is to achieve the proper weight balance such that the arm "floats" level. Practice a bit and you'll find it's fairly easy to achieve. Remember to exercise caution so that the stylus and cantilever are kept clear of any obstructions and are prevented from striking anything that could cause damage. After achieving static balance, adjust the counterweight to the desired tracking force by bringing the weight in toward the cartridge. Do not apply anti-skate until the cartridge is aligned. This will be addressed later in the setup process.

We recommend the use of a high-quality alignment protractor to determine correct cartridge positioning for the minimum tracking error. If none are available, follow the tonearm manufacturer’s guidelines for overhang and offset angle. Then, tighten the mounting bolts.

Note: Do not over tighten the mounting bolts as this may cause damage to the cartridge and is not necessary for optimum performance.

Tracking Force: After achieving the correct alignment of the cartridge in the headshell, final adjustment of tracking force can be made. The suspension systems and stylus types used in Oyster™ cartridges are designed to perform optimally when a tracking force of between 1.7 – 2.3 grams is applied, depending on which model. If under 1.7 grams tracking force is applied, the stylus will not securely seat in the record groove, resulting in increased record and stylus wear. At greater than 2.3 grams tracking force, the suspension is no longer functioning properly and dynamics will be lost. Record damage will occur more readily with too little tracking force, rather than too much. A recommended optimum tracking force setting is given for each model in the specification section of this manual.

Anti-Skate/Bias: Due to the rotational inertia of pivoted tonearms, the friction of the stylus on the record groove produces a force pulling the stylus toward the center of the record. Anti-Skate (or mechanical bias) is added to compensate for this force in order to equalize the stylus tracking on the sides of the groove walls. Because this is a dynamic force, do not attempt adjustment using a blank or grooveless record, as this will result in over compensation.

When using a Sumiko Oyster™ moving magnet cartridges a value equal to the tracking force should be applied as anti-skate. Two grams tracking force = Two grams of anti-skate.

Vertical Tracking Angle/Stylus Rake Angle: The dimensions of the cutting stylus used in mastering each vinyl record create a rake (forward-backward tilt) of the record groove. The rake angle may change for different records depending on the method of mastering used. The corresponding rake of the playback stylus will be one of the determining factors in the delivered performance of your Oyster™ cartridge; however, all Oyster™ cartridges are designed to give excellent performance over a very wide window of rake angles. If your tonearm does not have rake or adjustable height adjustment, you may rest assured that your cartridge will deliver a very high degree of performance. The following is intended for those who own a tonearm that allows for the adjustment of rake or arm pillar height. To optimize, start with the tonearm oriented with the back of the arm lower than the front by ≈ 1/2 inch. Listen to a recording of acoustical music, recorded in real space, to determine the tonal balance and soundstage presentation. Adjust the tonearm pivot height upwards ≈ 1/6 inch at a time and listen to the changes. When the correct orientation has been achieved, the soundstage will be better defined and the music will have a richer harmonic structure. Additionally, surface noise will be reduced dramatically. If the soundstage comes into focus and becomes very lifelike, but the sound has a slight hardness to the upper frequencies, the azimuth is probably misaligned (see azimuth section for adjustment details).

Azimuth: For optimum tracking of the record grooves, the stylus must be in correct azimuth (side-to-side tilt) alignment. Gross side-to-side tilt will result in an actual channel imbalance, but this is not a likely scenario. More likely, any sort of an azimuth error that you will experience will result in tonal aberrations in the upper frequencies and not a channel imbalance.

Loading: All Sumiko Oyster™ moving magnet cartridges are designed to work into a standard moving magnet phone stage at 47kΩ loading. It is normal to experience a slightly lower output from your phono stage relative to a line stage device such as a CD player.

Note: If your receiver or pre-amp has capacitance loading capabilities, Sumiko cartridges should be loaded with a value no higher than 200pf.

Maintenance Cleaning: Optimum performance can only be achieved by maintaining a clean stylus and record surface. If your records are kept very clean, the brush supplied with your cartridge will suffice to remove accumulated dust if it is used after each play. Be sure to either turn the volume down or select a different input prior to doing this. Only use a back to front motion when contacting the stylus during cleaning. To remove compacted debris, we recommend LAST cleaning products as the best and safest stylus cleaner available.

Important: Extreme caution should be exercised in cleaning the stylus. A single front to back motion can permanently damage the cantilever.

Stylus Replacement: Should stylus replacement become necessary, contact your dealer for details on how to accomplish this for your particular Oyster™ cartridge. Moving magnet models can accept a replacement stylus/cantilever assembly. See your dealer for more details. The Rainier, Olympia and Moonstone replacement styluses are interchangeable, so Rainier owners can upgrade up to the Moonstone without replacing the cartridge body. The Black Pearl and Pearl replacement stylus are interchangeable as well.

Fine Print (Warranty)

This product is warranted to be free of all defects in material and workmanship for one year from the date of original purchase by the original owner. A purchase receipt or other proof of original purchase will be required before warranty service is rendered. This warranty is not transferable and does not apply to any defects caused by negligence, accidents, misuse, modification, disassembly, or repair by other than the manufacturer, or by other than normal use for which this product was intended. Within the period of this warranty, Sumiko will repair or replace at our service center located at 2431 Fifth St., Berkeley, CA 94710 any part proving defective in material or workmanship. All expenses, except collateral expenses, related to replacing or repairing a defective part under this warranty will be assumed by Sumiko, except for the cost of transporting and insuring the product to our above-named service center. The buyer must notify Sumiko of any defect, malfunction, or nonconformity promptly upon discovery. Within 30 business days after receiving the defective product from the buyer, Sumiko will repair or replace the defective part. We neither assume nor authorize any representative or other person to assume for us any other liability in connection with the sales or shipment of our products. We reserve the right to make changes or improvements in our products without incurring any obligation to similarly alter products previously purchased. The buyer has the right to bring any action at law or equity to resolve disputes concerning or to enforce the provision of this warranty.

	Rainier	Olympia	Moonstone
Cartridge Type	MM	MM	MM
Stylus Chip	Elliptical	0.3 x 0.7mil /Elliptical	0.3 x 0.7mil /Ellipti
Cantilever material	Aluminium	Aluminium	ϕ0.5 Aluminium
Internal Impeadance	1,130Ω	1,130Ω	1,130Ω
Load Impeadance	47k Ohms	47k Ohms	47k Ohms
Frequency Response	15Hz-25KHz	12Hz-30KHz	12Hz-33KHz
Output Voltage	5mV/1KHz	4mV/1KHz	3mV/1KHz
Channel Separation	25dB/1KHz	30dB/1KHz	30dB/1KHz
Channel Balance	1.5dB/1KHz	1.5dB/1KHz	0.5dB/1KHz
Compliance	10x10-6cm/dyne	12x10-6cm/dyne	12x10-6cm/dyne
Tracking Force	1.8-2.2gr	1.8-2.2gr	1.8-2.2gr
Recommended Force	2.0 grams	2.0 grams	2.0 grams
Cartridge Weight	6.5 grams	6.5 grams	6.5 grams

	Oyster	Black Pearl	Pearl
Cartridge Type	MM	MM	MM
Stylus Chip	Spherical	Spherical	Elliptical
Cantilever material	Aluminum	Aluminum	Aluminum
Internal Impeadance	1,130Ω	1130Ω	1130Ω
Load Impeadance	47k Ohms	47k Ohms	47k Ohms
Frequency Response	30Hz - 20kHz	18Hz - 27KHz	12Hz - 30kHz
Output Voltage	4.0mV	4.0mV	4.0mV
Channel Separation	25dB at 1kHz	28dB at 1kHz	30dB at 1kHz
Channel Balance	1.0 at 1kHz	0.5 at 1kHz	0.5 at 1kHz
Compliance	12 x 10-6cm/dyne	12 x 10-6cm/dyne	12 x 10-6cm/dyne
Tracking Force	1.5 - 2.5 grams	1.5 - 2.0 grams	1.5 - 2.0 grams
Recommended Force	2.3 grams	2.0 grams	2.0 grams
Cartridge Weight	5.3 grams	6 grams	6 grams