

MODEL KA-RC-1
ULTIMATE ULTRASONIC VINYL
RESTORATION SYSTEM
OWNER'S MANUAL
REFERENCE MATERIALS ON
VINYL RECORD TECHNOLOGY
VER. 4.4

www.KirmussAudio.com



USER NOTICE:
COMPLETELY READ THIS MANUAL
BEFORE FIRST USE!

THIS MANUAL CONTAINS IMPORTANT SAFETY AND OPERATIONAL INFORMATION. FAILURE TO DO SO MAY VOID WARRANTY, DAMAGE EQUIPMENT AND/OR DAMAGE RECORDS.

USE OF THIS SYSTEM ACKNOWLEDGES THAT THE USER HAS READ THE MANUAL COMPLETELY.

No matter how you store and use your records they inevitably will require maintenance. When playing records, dust particles and contaminants always build up on the stylus as the tone arm moves across the record. This accumulation on the needle "dulls" the sound. The emergence of the dreaded "audible pops" and "crackle sounds" heard are caused by dirt, grime and particles lodged in the record grooves themselves being touched by the needle, amplified by the cartridge. Both are annoying. Even new, latest pressings are subject to the same conditions. Surfaces of vinyl records are fragile. Playback of dirty or dusty records inevitably also affect record quality. When the surface is damaged from physical contact with anything, including a stylus, it will have scratches, gouges, indentations and such. Therefore, continual maintenance and care of your records by way of regular cleanings reduces but will not remove all of the unwanted pops, and crackles. **Cleaning WILL, NOT remove scratches. Cleaning of even a new record will ensure contaminants do not adhere to your record and will improve your listening pleasure.**

Ultrasonic cleaners have been around for decades, their attributes are respected. The KirmussAudio Model KA-RC-1 revolutionizes the way we clean records. A Patented Suspension System assures where records of any speed and size see their grooves cleaned. No damage to the record by mechanical intrusion of skewers and the like.

Now, after years 3 years of extensive research and trials Audiophile and Business Owner Charles Kirmuss and recognized turntable restoration expert Dr. Eric Watson both trust that our very affordable system will increase your listening pleasure by removing most of those annoying unwanted pops and crackling sounds from both new and old records. We are also sure that You will be very pleased with the results and benefit from many years of satisfaction with our revolutionary ultrasonic based cleaner.

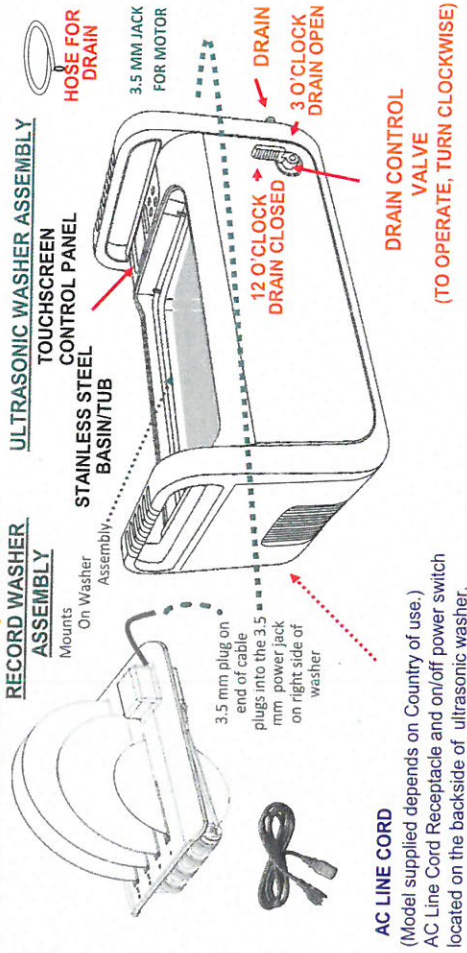


Above: Dr. Watson, Charles Kirmuss, and Tube Driver / Guitar Pedal designer for Eric Johnson, David Gilmour, Billy Gibbons, Joe Satriani, Kenny Wayne Shepherd, Robbie Krieger, and many other pros, Mr. BK Butler in front of the latest Butler Blue Tube Disruptive Technology Power Amplifier and KirmussAudio bespoke audio cable.



Thank you for your purchase! Now, Sit Back and Listen to the Music and Enjoy!

IN YOUR KIT: 2 Main Components.



AC LINE CORD

(Model supplied depends on Country of use.)
AC Line Cord Receptacle and on/off power switch located on the backside of ultrasonic washer.

NOT INCLUDED: Distilled or De-ionized (DI) Water.
(Available at local grocery store or pharmacy) One washing for a total of approx. 12-14 records depending on condition requires 2 US gallons of distilled water)

SUPPLIED ACCESSORIES:



KA-B: Combination "2-in-One" M Carbon Fiber and Para static Felt Brush
(The carbon fiber brush side removes static charges, the velvet felt side removes dust)



KA-AS (*) Combo Anti-bacterial/anti-static surfactant solution. 60 mL/2 oz.. To also use as an anti-static finishing lubricant) Comes with a 6 sq. inch (15 sq.cm) microfiber cloth



KA-N-1 STYLUS (**) CLEANER 20 mL/0.67 oz (With brush applicator)



KA-MF-1 Micro-fiber cloth to dry records, Area, dry hands.



KA-MT-1 7" (30 mm) felt record mat to place records on mat while handling, on records.



KA-B-1 Camel Hair Brush To apply surfactant records.



CONTACT KIRMUSSAUDIO OR YOUR AUDIO DEALER TO RE-ORDER

(*) Non Toxic solution: 98 -99% distilled water, 1 -2% propane-1/2-diol mix
(**) Non Toxic 98-99% distilled water, 1 -2% propane-1/2-diol mix

BEFORE USE: Please read this manual carefully before using our KirmussAudio Vinyl Restoration System as it contains important details and product safety notices. **WARRANTY IS VOIDED IF ANY OTHER SOLUTIONS OR CLEANERS ARE USED OTHER THAN THOSE SUPPLIED IN THIS KIT OR RECOMMENDED BY KIRMUSSAUDIO. NEVER USE MORE THAN 40mL (1.4 OZ) OF 70% ALCOHOL added to the basin as higher amounts will see the loss of the plasticizer or stabilizer on the record.**

BASIC SAFETY GUIDELINES AND OPERATING CONSIDERATIONS: READ BEFORE FIRST USE!

WARNING: BE SURE THAT THE ULTRASONIC UNIT IS DISCONNECTED FROM A SOURCE OF POWER WHEN FILLING OR EMPTYING THE BASIN.

- Mount the unit on a flat, stable, level surface.
- USE ONLY distilled or de-ionized water ADDING THE 1.4 OZ/ 40 ML OF 70% IPA. Add no other chemicals other than directed. Use only the Kirmuss Audio approved surfactant. (Consult this manual for complete operating instructions.
- WHEN USING Distilled or de-ionized water: **NEVER USE MORE ALCOHOL OTHER THAN THE 1/4 OZ!**
- Fill the tub with distilled water to the MAX LINE. DO NOT OVERFILL. ADD THE 1.4 OZ OF 70% IPA.
- DO NOT OPERATE IF THE WATER LEVEL IS BELOW THE MIN LINE.
- Do not use any solution containing abrasive substances or strong corrosive chemical solutions. Only use with KirmussAudio approved surfactants. NEVER USE ANY OTHER SOAPS, CLEANERS ETC..
- Even though the unit incorporates multiple protection circuits, if the unit is turned on for over 15 seconds without any water in the tank this may damage the unit or reduce the life-span of the unit.
- Do not run the unit for extended time or continuously. Even though the washer is designed with overheat protection it is recommended to stop the unit for about 20 minutes to prolong the life of the unit after 35 minutes of continuous operation.

To prevent life-threatening electrical shock, observe the following:

- Danger of electrical shock! Never immerse the device or the power cord in water or other liquid.
- Danger of electrical shock! Never touch the power plug with wet hands, especially when inserting or removing the plug or accessing the Main Power Switch located on the rear of the unit, adjacent to the power cord.
- Danger of electrical shock! If the unit has fallen into water during operation, do not touch the unit. Remove the power plug from the main electrical power outlet first.
- Danger of electrical shock! Do not spray water or liquid over the device.
- Never operate the device unattended.
- Follow the INSTRUCTIONS in this manual to operate the device.
- With dry hands, when removing the power cord from the socket, grab the power plug not the cord.
- If there is damage to the power plug, cord, housing, or other parts of the device, do not use the device.
- Do not disassemble the device, except by professionals. NO USER SERVICEABLE PARTS INSIDE.
- If the unit is damaged, is non-operational, or has fallen into water, take it to a qualified service provider.
- ALWAYS DISCONNECT FROM A SOURCE OF POWER and Remove the power plug from the rear socket:

- if malfunction occurs
- before cleaning the device
- before emptying the basin
- before replenishing the water
- if the device is not going to be used for prolonged period
- after each use (recommended)

The installation of an earth ground fault leakage circuit breaker (outlet) with a rated tripping current of no more than 30 mA provides further protection against electrical shock. The installation should only be carried out by a trained, licensed electrician.

To prevent fire hazards, observe the following:

- Never block the vents on the device. Keep the vents free from lint, hair and other materials.
- Do not place the device on a soft surface, such as a bed or a couch, where the vents could become blocked.
- Observe all other warnings described in the previous section.
- If the supply cord is damaged, it must be replaced.

Other Notes:

- To disconnect: turn all controls to the off (0) position, then remove plug from outlet. Do not unplug by pulling on the AC power cord. To unplug, grasp the plug, not the cord. Unplug from outlet when not in use and before filling the tank, draining the tank, servicing or cleaning.
- To reduce the risk of electrical shock, do not put the appliance in water or other liquid. Do not place or store appliance where it can fall or be pulled into a tub or sink.
- All servicing of this product, including transducer replacement, is to be conducted by qualified service personnel.

Overview of Vinyl: Before the arrival of downloadable detailed music, MP3's, CD's, audio tapes or 8-tracks: Music, speeches, live radio broadcasts and even books were recorded on vinyl records. (KDKA live (Standard Play) radio recording (shown below). Even if today music becomes more and more digital and transportable, vinyl records endure and see a come back.



Inventor Charles Kirmuss (left) at HMV Records in Hong Kong has witnessed globally where new pressings abound! While vinyl's durability may at the onset appear to be part nostalgia, vinyl records really do sound different—and even better, many agree. **Their presence, soundstage and artist's emotion cannot be reproduced or felt in modern day formats.** This is where the recordings (Vinyl Pressings) are analog, taking the full spectrum of sound created by the instrument or voice and retained. Even the best digital formats in fact sample the analog source and depending on the sampling bit rate sees compromises made due to the media's bandwidth and throws out some of the nuances that vinyl offers.

As to Records: A Primer on Records: Vinyl Recordings are available in different formats:

LPs, short for "Long Play": are the most common and popular type of vinyl record found in the market. These full play, long play albums are made out of vinyl and are 12 inches in diameter and spin at 33 1/3 RPM (Rotations per minute), with a playing time of up to 30 minutes per side. LPs offer the most play time per side of any vinyl record format. They are both vintage and see new pressings made monthly.



"Standard Play" Records (Shellacked records) were the first records that appeared and mass produced. Called 78's due to their play speed they in fact were made not of vinyl but of shellac. NEVER USE ANY CHEMICAL OR ALCOHOL TO CLEAN A SHELLAC 78 RPM RECORD! At 10 inches in diameter they played about 5 minutes of music per side. They are no longer manufactured as they were replaced by the LP in the late 1940's. They are very rare as they broke easily when dropped. Even if they were noted for poor sound quality they are sought after. Most record players and turntables no longer support 78's, only 33 1/3 and 45's. Their larger grooves required also a special stylus to be used because of their larger, wider grooves. Some were spun at 33 1/3; and were used to record broadcast radio programs.



7" Singles and Extended Play Records are of the same in construction as LP's but play at 45 RPM. Called 45's, they were introduced also in the late 1940's they were originally called "singles" as they could only fit a single song per side, playing for about 4 minutes. In the early 50's the EP or Extended Play 7" vinyl record appeared and was able to hold just over 7 minutes of music per side by narrowing the width of the grooves on the 7" album. These records and 33's can be played using the same stylus.



12" 45 RPM disks. In the 1970's and with popularity of DJs and dance music these larger records appeared with only one or two songs recorded per side. Record collectors and audiophiles will often refer to all 7" formats - singles and extended play records as 45's.



THE KIRMUSSAUDIO RECORD RESTORATION SYSTEM CLEANS TWO 33 1/3'S, ONE 45 AND ONE 78 RECORD SIMULTANEOUSLY.

Understanding the various ultrasonic systems and cleaning methods: some observations:

(1) NEVER INTRODUCE CHEMICALS OR MORE THAN 40mL (1.4 OZ) OF 70% ALCOHOL TO ANY BATH AND ESPECIALLY TO THE SURFACE OF ANY RECORD. THIS WILL DAMAGE THE RECORD. IN A BATH RISK OF EXPLOSION EXISTS.

(2) NEVER AIR DRY A RECORD AFTER A WASH: This leaves a residue in the grooves, causing required needle maintenance: the needle will pick up and accumulate the residue of which as a result will deaden the sound over time as dust accumulates on the needle. **BEWARE OF VACUUMING: THIS INTRODUCES WITH MANY SYSTEMS DUST ONTO PREVIOUSLY VACUUMED GROOVES.**

(3) About Cleaning Agents and Cleaners: Notably and after 3 years of testing we noticed where most ultrasonic bath additives or post wash cleaners used for many ultrasonic cleaners or as standalone cleaning agents saw the records being cared for not take well to these washing additives or soaps and other solutions. One must understand the mechanics of ultrasonic cavitation and the use an appropriate surfactant. Surfactants do aid in the removal of contaminants by the sonic bath. In our testing, washed records with many cleaners saw us measure a higher surface background noise level and where only after a repeated wash with distilled water in our unit did we see a reduction in floor level noise. Many cleaners leave residue. Our anti-bacterial surfactant is a 99% water and a 1% propane-1/2-diol mix that promotes the ultrasonic cleaning process as well inhibiting the ability of microorganisms to grow on the surface and grooves of the record. **CLEANING DOES NOT GUARANTEE TOTAL REMOVAL OF POPS, CLICKS.**

So, why all the noise, static, and fuss over cleaning records? To appreciate cleaning techniques, one must understand how a record is made.



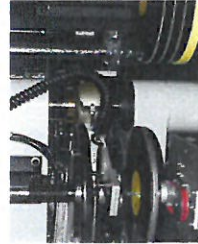
Edison called his sound-recording machine the phonograph, which means literally "sound-writer." It had a wooden cylinder with a thin sheet of foil wrapped round it with a sturdy needle with a horn attached to it pressed against the foil. Edison spoke into the horn and the sound energy from his voice was funneled and concentrated by the horn and made the needle vibrate up and down. Cranking a handle the cylinder rotated and the needle cut a groove into the foil. The depth of the groove varied according to how loud or soft his voice was, where the sound of his voice translated into a mechanical form.

To play back the recorded sound, Edison simply ran the process in reverse. He put the needle back at the start of the groove and cranked the handle. The needle ran along the groove, jolting up and down to follow the pattern it had cut previously. As it moved about, it vibrated and the noise of its vibrations was amplified by the horn, recreating the sound of Edison's voice.

Today: True to Edison's original design: a Master Recording is made in a studio where a "Lacquer" is placed on a record-cutting machine and as it rotates electric signals vibrate a cutting head which holds a needle. The needle etches a groove in the Lacquer. The lacquer with an imprint is then sent to a production lab where the lacquer is first coated in a metal such as silver or nickel. A metal master is produced.

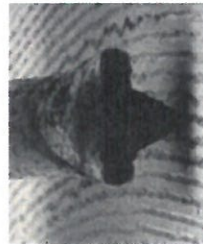


The resulting disc has ridges instead of grooves. This Metal Master is then used to create a metal record called the "Mother", which is then used to form what is called a "Stamper". Stampers are just negative versions of the original recording that will be used to make the actual vinyl records.

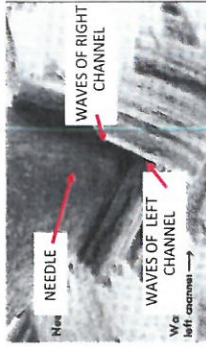


To make a record: the Stamper is placed in a hydraulic press where vinyl is injected in between. Steam in the process softens the plastic as the Stampers push an impression of the master recording onto it. Finally, the disc is stiffened using cool water.

Playback of the LP: Today's record players and turntables are still based on the "needle in groove concept." While a mechanism is now used to spin the record with the aid of a belt or a direct drive motor system and a platter replaced the Edison Disk or Can, it is now a needle that is set at one end of a tone arm that is mounted on a cartridge which is suspended on an elastic material which then sees the needle vibrate as it travels along the record's grooves. The stylus reads the grooves and picks up vibrations and variations as it moves along the record.

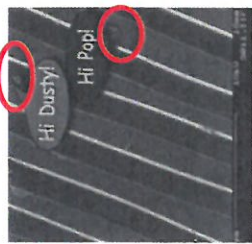


These vibrations now move a coil within a magnetic field inside the cartridge and which then in turn changes the vibrations into electrical signals which are carried along wires to the amplifier. These boosted signals are finally turned back into sound through the speakers, producing the sounds and music recorded on vinyl records.



CONTAMINANTS ARE THE ENEMY TO YOUR LISTENING PLEASURE!

Even a pristine record that is still sealed in its jacket is covered with a thin layer of mold release which is used during the fabrication process to ease the removal of the record from its mold after stamping. This lubricant, a polytetrafluoroethylene (PTFE or Teflon) either in liquid or dry form leaves a residue. If a record is played without prior cleaning the residue will first accumulate on the stylus (needle). The record will also see this film accumulate dust and dirt in and on the record's grooves! Used records see many other contaminants on the record's surface or embedded in the grooves; skin-cell debris and fine particles of dirt and sand, oils from finger prints (skin oil), cigarette smoke and other materials. When hit by the stylus, these create the annoying cackles and pops that one hears as well as what seems as dull audio.



READY, SET, GO! The "In The Groove" Ultimate Vinyl Record Restoration system is comprised of two elements:

The first is an ultrasonic bath assembly with a system controller that generates high frequency ultrasonic waves oscillating at 35 kHz. With 200 Watts of power driven by three strategically located generators on the bottom of the tub, these waves pass through the distilled water in the basin creating cavitation which leads additionally to the generation of microscopically small bubbles. Aided by the application of a surfactant to the record's surface which increases adherence and cleaning, this cavitation effect then sees these micro-bubbles burst when they are in contact with the surface being cleaned. This collapsing action dislodges, then pushes the contaminants away from the surface of the material being cleaned. In this case, records. To aid in cleaning, distilled water is kept at a temperature not to exceed 95 deg F by an internal heater. The bath is heated both by the molecular movement created by the ultrasonic cavitation as well as by way of the incorporated heater.

The second element consist of a Patented Record Suspension system where records of multiple sizes are dropped in and pre-set 5 minute cycles (which may be increased or decreased by the user by pressing the up/down timer buttons), sees records of varying sizes safely washed with minimal intrusion to the record.

THERE ARE TWO STEPS TO FOLLOW: PREPARATION AND CLEANING: STEP 1: PREPARATION

A. Unpack the contents. Inside the tub you will find included the accessories as listed and itemized on Page 2. A warranty card must be filled out and returned within 15 days of purchase to validate warranty.

B. Set the cleaner on a stable surface. Keep away from hazards: water, sinks, power outlets, etc..

C. Fill the Ultrasonic unit's basin with either Distilled or De-ionized (DI) water to the MAX line. Add 40 mL (1.4 oz) of 70% alcohol. (Never operate the unit with water below the MIN line).

D. AC Power: ENSURE THAT THE MODEL YOU HAVE MATCHES MIN LEVEL THE ELECTRICAL VOLTAGE OF YOUR COUNTY! (Consult the label on the underside of the unit.)

E. Locate the AC Power Line Cord and plug into the rear of the unit.

F. With the basin filled with water, Turn the Master Power Switch to On (The Master Power switch is located at the rear of the unit.) The Control Panel will illuminate, the TIMER Display will show 5:00 minutes.

G. DE-GAS FIRST THE WATER. This removes air bubbles from the water. Press the PULSE (DE-GAS) Pushbutton on the control panel. The timer will show 1:36. Press the button once more, a high pitched pulsing sound will be heard (which is normal, this is the sound of the ultrasonic generator), and the timer will count down.

The DE-GAS/PULSE indicator will illuminate, follow the pulsing sound. The TEMPERATURE STATUS BAR will see the GREEN BAR illuminate, indicating the temperature is between 0-30% of maximum preset 95 deg F. At the end of the cycle, the sonic generator will turn off and silence and the timer will now show 5:00 minutes after 0:00 appearing momentarily for a couple of seconds.

H. Press the DE-GAS BUTTON twice to repeat the process. The Timer will show 1:36 and begin to count down. At the end, the timer first will go to 0:00, then to 5:00.

I. With the timer reaching 0:00, the water in the tub has now been prepped for use after 2-De-Gas cycles, removing all air bubbles. OK TO USE WITH GREEN BAR.

J. Locate and then mount the Record Washer Assembly on top of the ultrasonic washer. Then, locate the 3.5 mm plug with cable on the Motor Assembly, then plug it into the mating 3.5 mm power socket found on the right side panel of the washer which is located to the right of the control panel.

You are now FOR STEP 2 and are ready to wash and restore your records.

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STEP 2: RECORD CLEANING AND RESTORATION

After Completing STEP 1: PRESS THE ON/OFF BUTTON ONCE. The Control Panel should now show 5:00 on the timer. To Clean Records:

Temp Bar: Green 0-30%, Orange 30-60%, Red 60-90%; Red Flash 90+%; ALL LIGHTS ON 100% 95 DEG. F

PLACE Rabbit cloth on work area. PLACE the 7" Felt Mat onto the Rabbit cloth. This is your WORKSTATION.

1. TO START CLEANING: Press the "ON/OFF" Button on the control panel twice. You will hear the ultrasonic cleaner "Buzz" and the motor will start. The timing clock will count down: 4:59, 4:58 and so on.
2. Insert the records into the appropriate slots, [FIG. 1], one at a time. As they are inserted, the records will turn clockwise. IF A RECORD IS NOT MOVING, REMOVE AND RE-INSERT. Let one 5 minute cycle complete. See (i) below. The unit will stop at 0:00, then the timer will reset itself to 5:00.

IF THIS IS A NEW RECORD, CLEANING IS COMPLETED. GO TO STEP 6.

3. WITH OLDER, USED RECORDS: Continue as follows: Take the records out one at a time, place record onto the supplied 7" mat at your workstation. Then apply the surfactant agent spray which is also an anti-bacterial spray on both sides of the record, at 3 locations as shown, [FIG.2]. Do one side at a time.
4. Using the supplied GOAT HAIR BRUSH, work the surfactant into the record grooves in a circular motion. Use light to moderate pressure working the Spray as shown in [FIG.3]. Do both sides.
5. With the records prepped for a second cycle washing, Press the "ON/OFF Button" on the control panel twice. You will hear the motor of the cleaning assembly run as well as hear the high pitched sound of the sonic cleaner. The clock will count down: 4:59, 4:58 and so on. INSERT THE RECORDS INTO THE CORRESPONDING SLOTS AS BEFORE. IF A RECORD IS NOT MOVING, REMOVE, RE-INSERT.

Notes:

- (i) Pressing the up or down keys increases or decreases cleaning time. Set timer to 2:00 for shellacked records every time you wash a shellacked record.
- (ii) ONE SHOULD SEE ONE OR TWO COMPLETE CLEANING CYCLES. Depends on record's condition. SEVERE ABUSED RECORDS COULD SEE 4 CYCLES REPEATED.
- (iii) Pressing the ON/OFF button twice restarts the machine and resets the Wash timer to 5:00. Use the UP/DOWN buttons to adjust time as needed
- (iv) FOR BEST RESULTS: WE SUGGEST Running through two cycles repeating Steps 3, 4, 5.

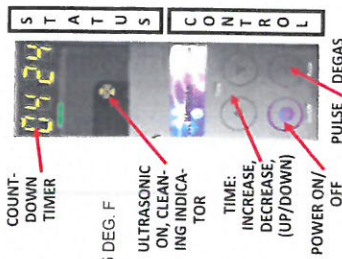
After the final wash cycle, RINSE THE RECORD WITH DISTILLED WATER. Use a Spray bottle. (Not supplied). Place the record on the supplied felt pad: Dry both sides of the record using the supplied 8"X10" (grey) Microfiber. [FIG 5]. DO NOT SPRAY LABEL OR WIPE LABEL WITH MICROFIBER CLOTH.

7. Use the FELT SIDE of the combination felt/carbon fiber brush and follow the grooves of the record. [FIG.4]. Do both sides. This will remove any lint.

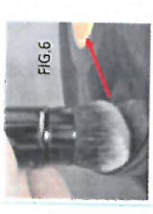
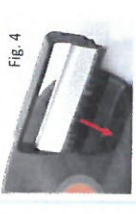
8. Then place the record onto the turntable. Apply a light spray of the anti-static spray/anti-fungal to head of the GOAT HAIR BRUSH. Move the brush across the record while it spins. Do both sides. [FIG 6]. Then use the CARBON FIBER BRUSH in like fashion across the grooves on both sides of the record. [FIG.4].

9. MAINTAINING RECORDS BETWEEN WASHES: Before auditioning and with the record spinning, lightly pass the FELT BRUSH to remove static and surface particles, then use the CARBON FIBER BRUSH over the grooves. This will remove dust in the grooves. On occasion, use the supplied spray, apply as before, spraying the head of the GOAT HAIR BRUSH with a fine mist. Then move the brush across the record while spinning on the turntable. Finish with the CARBON FIBER BRUSH. STORE RECORDS IN ANTI-STATIC SLEEVES. HANDLE RECORDS BY THE EDGES. Use one cycle of the ultrasonic cleaner once a year to maintain.

WHEN USING THE BRUSH (STEP 4) SEES A WHITE CREAM APPEAR, THIS INDICATES OUR REMOVING SOAPS USED IN THE PAST: YOU NEED TO REPEAT THIS PROCESS TWICE.



Camel Hair Brush: Work spray into grooves



IMPORTANT NOTES AND CAUTIONS: A) Ultrasonic cleaning generates heat as well as introduces bubbles into the bath. Excess bubbles reduce the cavitation effect and cleaning power. Pressing the PULSE (DE-GAS) button once every 5 or so record cleaning cycles will remove air bubbles in the water. B) Check periodically the basin and change out water whenever the basin's water becomes too murky. It is a good practice to perform one change-out every 20-25 records. If records have excessive fungus, change water out every 15 records. Use the supplied hose and direct water to a sink or container. Turn the Drain Handle Clockwise to the 3 o'clock position to drain the basin. Return to the 12 o'clock position to close valve. C) **STOP USING THE MACHINE FOR 10 MINUTES AFTER 35 MINUTES OF USE. THIS TO COOL DOWN THE ULTRASONIC GENERATOR. FAILURE TO DO SO MAY CAUSE DAMAGE TO THE WASHING SYSTEM AND VOID WARRANTY.** D) **AFTER USE: (i) DRAIN THE TANK. (ii) USING THE SUPPLIED RABBIT MICROFIBER CLOTH, WIPE TANK DOWN WITH THE CLOTH MOISTENED WITH 70% ALCOHOL. (iii) REMOVE THE RECORD POSITIONING FELTS BY PULLING ON THE TABS. RINSE WITH DISTILLED WATER. PAD DRY USING THE RABBIT CLOTH. LET AIR DRY BEFORE RE-INSERTING INTO THE SLOTS. (NOTE WHERE THE 45 RPM FELT INSERT IS SHORTER THAN THE OTHERS (33/78) 3. (iv) USING TAP WATER, RINSE THE UNDERSIDE OF THE RECORD WASHER ASSEMBLY UNDER THE TAP. (v) Use the RABBIT Microfiber cloth to DRY THE UNDERSIDE OF THE RECORD WASHER ASSEMBLY. (vi) IF IN PLAYING A RECORD A WHITE FLUFF APPEARS ON THE NEEDLE, THIS MEANS OUR SYSTEM HAS SOFTENED PRIOR CLEANING AGENTS USED IN THE RECORD'S LIFE. REPEAT STEP 4, PAGE 7, TWICE.**



USING THE SYSTEM AS AN ULTRASONIC CLEANER FOR OTHER ITEMS

The ultrasonic washer may clean other items: such as jewelry, glasses, silverware. **DO NOT PLACE ITEMS DIRECTLY INTO THE TUB. They will scratch the basin as well as see decreased cleaning action. Order a parts basket, Model KA-BK1. The basket will suspend your items being cleaned.**

MODEL KA-RC-1 SYSTEM SPECIFICATIONS

Tank Capacity	7.5 L / 2.0 gallon (US)	Max. 6.0 L / 1.6 gallon (US) Min. 4.3 L / 1.1 gallon (US)
Tank Size	33.1 x 23.8 x 10.5 cm / 13.0" x 9.4" x 4.1"	
Longest Sized Item that fits inside Tank	37.0 cm / 14.4"	
Power Supply	380W (AC 100 120 V 60Hz) 410W (AC 220 240 V 50Hz) 310W (AC 100V 50/60Hz)	
Digital Timer Settings	>1 MIN TO 10 MINS, 15 MINS, --+--+ --+ +	
Drainage	Drainage valve	
Ultrasonic Frequency	35,000 Hz, 240 Watts, 3 ceramic generators	
Tank Material	Stainless Steel SUS304	
Housing Material	ABS	
Net Weight	9.8 kg / 21.8 lb.	
Gross Weight	11.1 kg / 24.7 lb.	
Unit Size	54.1 x 33.7 x 27.7 cm / 21.3" x 13.3" x 10.9"	
Inner Carton Size	60.0 x 38.0 x 33.5 cm / 23.6" x 15.0" x 13.2"	
Qty per Master Carton	1 pc/ ctn	
Master Carton Size	62.5 x 41.0 x 37.0 cm / 24.6" x 16.1" x 14.6" 25.5 lbs	

UTILITY CLEANING OPERATION

- 1) Remove the Record Washer assembly. (Not needed for this operation). Set aside.
- 2) Ensure the tank is filled to the MAX LINE with distilled water. Add 50 mL, (3 tablespoons) of liquid detergent to the distilled water. Place the items to be washed in the basket. Add liquid solution from main tank to cover items.
- 3) Use the UP button: set the timer to 5:00.
- 4) Press the ON/OFF Button Twice. The system will start, a buzzing sound will be heard. Timer will count down. Insert the basket into the basin. Smoke will rise up from the basket. This indicates cleansing action has started.
- 5) When the smoke stops, your item has been washed. Run for another 2 minutes.
- 6) Press the Power Button to turn off. Remove Basket. Rinse tank several times with distilled water. Dry with microfiber moistened with 70% alcohol.

NOTES: WATER WILL BECOME MURKY OVER TIME AND REPEATED CLEANINGS. TO CHANGE WATER WITH DRY HANDS:

- 1) TURN OFF THE MAIN POWER SWITCH.
- 2) UNPLUG FROM THE WALL OUTLET.
- 3) ATTACH THE DRAINAGE HOSE TO DRAIN AND TERMINATE THE LOOSE END TO A SINK OR AN EMPTY CONTAINER.
- 4) TURN DRAINAGE LEVER TO THE 3 O'CLOCK POSITION TO DRAIN. (12 o'clock to close.)