

2004 Type Wave System Manual

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1. Type Wave Concept

As RRD pioneers the wave riding aspect of kiteboarding, our research and development team have created a breakthrough line of products specifically designed to excel in the surf zone. The limits have been broken and kiteboarding in the waves has been changed forever. RRD's revolutionary Wave Bar System allows the rider to depower the kite on the face of the wave, tapping into its natural power like never before. The Type Wave line of kites offers the durability, speed, and stability needed for the harsh conditions in the surf. The perfect compliment to the Type Wave and Wave Bar System are the Wave Off line of boards. These boards offer you cutting-edge shapes and performance to provide smooth bottom turns, snappy cutbacks, and the speed that you need to make even the longest section. RRD's Wave Concept is clear. Our relentless innovation has once again redefined the sport of kiteboarding. We have created the tools, the rest is up to you!

2. Release of Liability, Claim Waiver and Assumption of Risk Agreement

By assembling and/or using this RRD Product, you agree that you have read and understood the entire RRD Type Wave User's Manual, including all instructions and warnings contained in that Manual, prior to using the RRD Product in anyway. You additionally agree that you will ensure any additional or subsequent user of your RRD Product will read and understand the entire RRD Kiteboarding User's Manual, including all instructions and warnings contained in that Manual, prior to allowing that person to use your RRD Kiteboarding Product. If you are unwilling to be bound by such terms, return this product (before use) for a full refund.

ASSUMPTION OF RISK: Use of the RRD Product and any of its components involve certain inherent risks, dangers, and hazards, which can result in serious personal injury and death to both the user and to nonuser third parties. In using the RRD Product, you freely agree to assume and accept any and all known and unknown risks of injury to you and to third parties while using this equipment. The risks inherent in this sport can be greatly reduced by abiding by the warning guidelines listed in this owner manual and by using common sense.

RELEASE AND WAIVER OF CLAIMS:

In consideration of the sale of the RRD product to you, you hereby agree to the fullest extent permitted by law, as follows:

TO WAIVE ANY AND ALL CLAIMS that you have or may in the future have against RRD and all related parties resulting from use of the RRD Product and any of its components.

TO RELEASE RRD and all related parties from any and all liability for any loss, damage, injury or expense that you or any users of your RRD Product may suffer, or that your next of kin may suffer, as a result of the use of the RRD Product, due to any cause whatsoever, including negligence or breach of contract on the part of RRD and all related parties in the design or manufacture of the RRD Product and any of its components. In the event of your death or incapacity, all provisions contained herein shall be effective and binding upon your heirs, next of kin, executors, administrators, assigns, and representatives. RRD-related parties have not made and expressly deny any oral or written representations other than what is set forth herein and the RRD Product User's Manual.

3. Wave Bar Features

The RRD Wave System consists of the following main components:

- RRD Wave Bar
- Quick Release Sheeting Loop with Pulley
- Removable Sheeting Loop Shackle
- Advanced Leash O-ring on Sheeting Loop
- Quick Grab 5th line Safety Ball
- 5th Line Beginner Safety Leash
- Adjustable Power Ball
- 25m Flying Line Set

4. Connecting the Bar to the Kite

The Type Wave Bar comes in 2 sizes, Small and Medium. The Small size is designed for use on the size 8 and 10, and the medium is designed for use on the 12 and 15. Your bar will

come with all of the lines already connected.

Fool Proof Connection System

RRD has integrated a Fool Proof Connection System into the Type Wave bars and kites to minimize the risk of mixing up the front and the back lines when connecting the bar to the kite. The system uses knots on the front line connection points of the kite and lark's head loops on the trailing edge connection points of the kite. Follow the color-coded loop to knot and knot to loop connections of this system and it is virtually impossible to connect your lines wrong. If you aren't using RRD lines or are using the Type Wave Bar on another kite you may need to turn around the trailing edge connection pigtails on the kite. By doing this, you will disable the Fool Proof Connection System and increase the possibility of error.

Kite Connection

To connect your bar to your kite, read the following important notes and then follow steps 1-7 carefully and refer to Diagram 4.1.

IMPORTANT: If you are unfamiliar with setting-up a 4 line kite, you should not be using the Wave Bar System. RRD recommends that you take a lesson from a certified instructor!

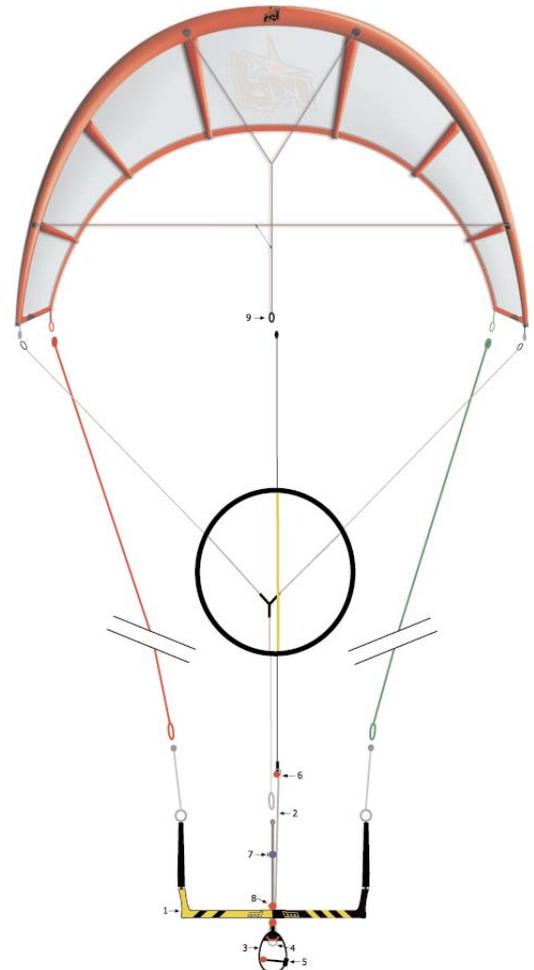


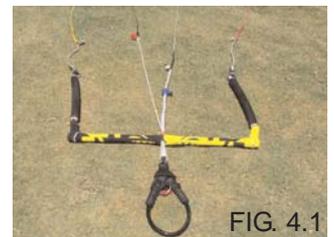
Diagram 4.1

The easiest way to connect your kite to your bar is with the bar positioned **DOWNWIND** of the kite. This minimizes the chance for error when connecting the 5th line to the bridle. When behind the kite, the **RIGHT** wing tip of the kite is on the **LEFT**, and the **LEFT** wingtip is on the **RIGHT**. To minimize confusion for the purpose of these guidelines of connecting the bar to the kite, the two sides of the kite will be referred to as the **RED** and **GREEN** side of the kite that correspond with the color coding of the lines and the wingtip attachment pigtails.

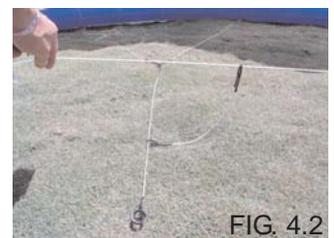
NOTE: THE **GREEN** (RIGHT) wingtip side of the kite has **GREY** Spectra connection points.

IMPORTANT: If you lay your lines out with the bar **BEHIND** the kite, you will need to flip the control bar 180 degrees only for line connection purposes, never when launching the kite!

Step 1. Unroll your flying kite lines from the bar. Walk down the lines and remove any twists. Lay your bar down with the **RED** side on the **RIGHT**. Make sure that your sheeting loop has the pulley facing you for the purpose of connecting the lines to the bar (FIG 4.1).



Step 2. Position the kite upwind at the end of the flying lines furthest from your control bar. Make sure that the Anti-foul Bridle is clear and untangled (FIG 4.2).



Step 3. Secure the kite by weighting it down with sand or something soft and heavy. Make sure the leading edge is down and facing into the wind

Step 4. Walk the outside lines toward your kite and attach the RED knot on the RED outside line to the Fool Proof Connection RED lark's head loop on the trailing edge of the kite (FIG 4.3). Do the same to the other side and attach the GREEN knot on the outside line to the Fool Proof Connection GREEN lark's head loop on the trailing edge of the kite.



FIG. 4.3

Step 5. Walk the GREY spectra sheeting line to where it connects to the WHITE front lines. Remove any twists and attach the BLACK lark's head loop to the leading edge Fool Proof Connection knot on the leading edge wingtip of the kite. Repeat with the other line on the other wingtip of the kite.

Note: Make sure that the leading edge lines are connected INSIDE of the outside lines. (Refer to DIAGAM 4.1)

Step 6. From the bar, walk the 5th line coming through the center of the bar and make sure that you pass it UNDERNEATH the V split of the center lines (FIG 4.4). Make sure that the sheeting line and the 5th lines are not twisted before connecting! This is so the 5th line is in front when the kite is flipped over for launch position.

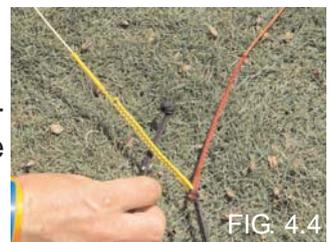


FIG. 4.4

Step 7. Connect the WHITE 5th line knot end to the BLACK loop on the bridle. Make sure that all connections are secure by pulling firmly on each of them to double check.

IMPORTANT: Before you launch your kite, have someone hold the kite as you put tension on the lines to make sure that everything is correct and corresponds with Diagram 4.1

NOTE: Always use the Wave Bar system with the RED sheeting loop release handle facing you and the pulley facing away from you!

Your kite is now ready to fly!

Bar Connection and Components Diagram

This Diagram 4.1 is intended to provide you with a visual reference of the bar and kite set-up. The components of the system are numbered accordingly and appear as the pilot would be seeing the kite while flying..

DIAGRAM 4.1

1. 1 RRD Wave Bar
2. 5th Line
3. Quick Release Sheeting Loop with Pulley
4. Advanced Leash O-ring on Sheeting Loop
5. Removable Sheeting Loop Shackle (To be attached to harness spreader bar)
6. Quick Grab Depower Ball and Beginner Safety Leash Attachment Point
7. Adjustable Power Ball

8. 5th Line Anti-twist Anchor Ball
9. Anti-Foul Bridle Attachment Point

NOTE: At the line connection points, ovals represent slipknot loops and solid circles represent knots.

5. Wave Bar System

When riding waves on a kite, wind conditions such as offshore, side-off shore make it difficult to top-turn and stay on the critical part of the wave where most of its energy is. This system was developed specifically for wave riding allowing the rider to release the wind in the kite once the power of the wave is sufficient. Although created for use in the waves, the wave bar offers the rider the ability to change the configuration of the bar with the turn of a screw to adjust the kite to the conditions and the desired level of depowerability.

Wave Bar Advantages

- 1 Instant 5TH Line Adjustments
- 2 Safer Launching and Landing
- 3 Greater Range of your Kite
- 4 Easier Water Relaunch
- 5 Increased Kite Performance

System Operation

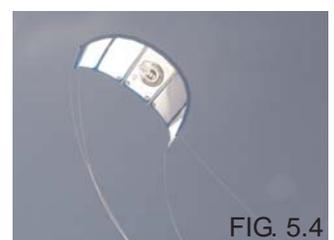
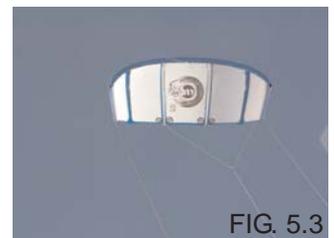
Through the use of a simple pulley system mounted on the Sheeting loop, the same sheeting action as that of a 4-line bar activates the 5th line connected to the leading edge of the kite to release all of the power in the kite.

- To use the system, you must be hooked into the sheeting loop. When you pull the bar down, you will have full power (FIG 5.1).
- When you push the bar away, the pulley system acts to engage the system. A 2:1 ratio progressively tensions the 5th line to completely depower the kite off the leading edge (FIG 5.2).
- The kite with the bar sheeted in for full power looks full and the rear lines have tension (FIG 5.3).
- When the kite is depowered and the 5th line is engaged, the kite hangs off the 5th line (FIG 5.4).

NOTE: When the 5th line is engaged, there will be no tension on the steering lines of the kite and the kite will not respond to bar input. To turn the kite, you must sheet in.

Tuning with the Adjustable Power Ball

The system comes with an Adjustable Power Ball that allows you to fine-tune your desired level of depowerability. The Ball will come set at 30



cm from the bar and will be clearly marked on the sheeting line. The ball set at this position should give sufficient enough depower under normal flying conditions and for riding waves in various wind directions.

Changing the Position of the Adjustable Power Ball is simple. Simply unscrew the Power Ball thumbscrew and slide the ball up or down depending on the desired level of depowerability. Tighten the thumbscrew and check to make sure that the ball is firmly anchored to the sheeting line.

IMPORTANT: Never try to adjust the Adjustable Power Ball while flying the kite. Always land the kite before making any adjustments. After launching you should always check the level of depowerability by pushing the bar all the way to the Adjustable Power Ball.

NOTE: Riding with the Adjustable Power Ball less than 30cm from the bar does not allow the 5th line safety system to function via the sheeting loop. Although you may prefer to ride with the Adjustable Power Ball set shorter than 30cm, proper safety protocol would require using a leash to the grab ball on the 5th line!

CAUTION: Many factors including, but not limited to, wind conditions, rider weight, line stretch, Adjustable Power Ball position and kite size affect the performance and the amount of depower in the kite. Therefore RRD's recommendations can only be used as guidelines.

Removable Sheeting Loop Shackle

The Removable Sheeting Loop Shackle is designed to be easily attached or removed from the harness hook depending on the preference of the rider. If you prefer to use it, simply attach it securely to the middle of the spreader bar hook so that the red ball and RRD logo are facing up (FIG 5.5). To attach to the sheeting loop, hook into the sheeting loop and position the end of the plastic tube underneath the sheeting loop, but on top of the spreader bar hook (FIG 5.6).



6. Safety Functions and Operation

Although specifically designed for use in the waves by experts only, the Wave bar System allows you to perform all the freestyle moves, even handle passes with the full security of a safety system. As soon as the 5th line is activated, the kite will completely depower and be ready to be launched again.

The 5th Line

The 5th line of the Type Wave Bar itself is a Safety System. When hooked in to the sheeting loop, the rider is able to simply push the bar towards the properly tuned Adjustable Power Ball activating the 5th line to completely depower the kite. This should only be done on the water with a properly tuned bar!

Beginner Safety Leash

The Type Wave System is designed for use in the waves by experts only and should not be used with a leash when riding in the surf. RRD recognizes that some beginner and intermediate riders may want to use the bar in flat water and have included a simple safety leash that

connects to the 5th line with a slipknot over the Quick Grab Depower Ball (FIG 6.1). The leash comes with an O-ring webbing loop that can be easily attached to your harness (FIG 6.2). When the safety leash is connected to the Quick Grab Depower Ball, simply unhook from the sheeting loop and let go of the bar to depower the kite. If you need to disconnect from the leash, grab the RED Velcro pull tab where it is connected to your harness and pull firmly to release the leash (FIG 6.3).



FIG. 6.1

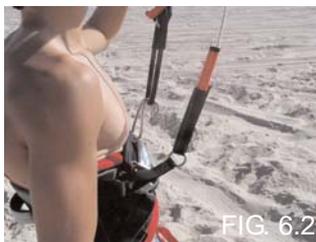


FIG. 6.2



FIG. 6.3

NOTES: Before letting go of the bar, always check that the leash is not caught on anything and will function as designed.

-If attempting to recover the bar after activating the safety system, it is important to hold onto the Quick Grab Depower Ball until you have sorted out the lines and checked to make sure that they are coming off the bar cleanly.

-When using the safety leash you should not be connected to the sheeting loop with the Removable Sheeting Loop Shackle!

Quick Grab Depower Ball

The Quick Grab 5th line Safety Ball activates the 5th Line and depowers the kite. This feature is perfect for use in situations where the pilot needs to self-land the kite, as an option for quickly de-powering the kite when not connected by a leash to the bar, as well as a leash connection point for a beginner safety system only for use in flat water.

NOTE: To self-land the kite, simply pull on to the Quick Grab 5th Line Depower Ball as you release the bar until the kite depowers. Make sure that you have a firm grasp on the ball!

Quick Release Sheeting Loop

An additional safety feature of the bar is the Releasable Sheeting Loop. If for whatever reason you are unable to activate the 5th line safety systems, and are unable to unhook from the sheeting loop, simply pull the red grab loop located on the top part of the sheeting loop (FIG 6.4) to release the loop from the bar (FIG 6.5).



FIG. 6.4



FIG. 6.5



FIG. 6.6



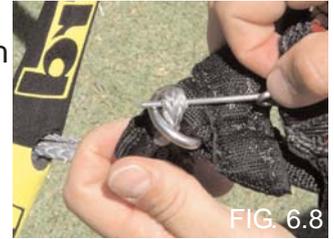
FIG. 6.7

Sheeting Loop Reassembly

Step 1. Position the sheeting line coming through the so that the pin sleeve is facing up (FIG 6.6).

Step 2. With the handle side of the sheeting loop facing up, push the spectra loop through the D-ring on the Sheeting Loop (FIG 6.7).

Step 3. Pulling back the pin by the red grab handle, slide the pin through the spectra loop, over the D-ring and into the nylon sleeve (FIG 6.8).



Step 4. Push the pin all the way into the nylon sleeve and secure the Red Grab handle in place with the Velcro (FIG 6.9). Pull the neoprene cover back over the assembly and make sure that the pulley passes through the hole and the line is passing through it cleanly.



Advanced Options

The Quick Release Sheeting Loop has an O-ring to connect a safety leash to for advanced riders using a handle pass leash when not using the bar system in the waves. Although this will depower the kite, the kite may not completely depower without pushing the bar all the way to the Adjustable Depower Ball.

IMPORTANT: For the 5th line system to function properly, the Adjustable Depower Ball must be set furthest away from the bar.

7. Type Wave Kite

The Type Wave Kites are designed specifically for the ocean environment and offer numerous advantages for kiting in the surf. Many of the features that make the kite excel in the waves also make it a great all-around kite for beginners to expert.

Type Wave Features:

- 1 6 Struts for Total Stability
- 2 Extra Wide Wingtips for Fast Turning and Relaunching
- 3 Self-Rescue Handles
- 4 Impact Zone Panel Layout for Maximum Durability and Easy Repair
- 5 2 Zipping Power Zip System for Maximum Tuning Ability
- 6 Reverse Launch Snow Kiting Attachment Points
- 7 Anti-Foul Bridle System

Anti-Foul Bridle System

One of the main problems with other kites with 5th line safety systems is that when the kite crashes, the 5th line can wrap around the kite inhibiting the kite to relaunch or fly properly. The RRD Anti-Foul Bridle System on the kite (see Diagram 4.1) prohibits the lines from inverting and the 5th line becoming tangled around the kite.

TIP: There is no need to make adjustments to the bridle of your kite however; each kite size comes with the bridle system precisely tuned for each size.

Type Wave POWER ZIP System

RRD's patented Zipping Power Control System is integrated in all of the Type Wave Kites. By

adding more or less tension to the leech of the kite through the use of tough marine grade zippers. The system is simple allows you to change the power and handling characteristics of the kite.

-Close The Zipper for More Power. Pull the zipper carriage from the neoprene sleeve all the way down to the leach of the kite. With the zipper closed all the way, the kite has more low-end power. Use this setting when the wind is light for the selected kite size or when you are underpowered.

-Open the Zipper for Less Power. Open the zipper all the way and seat the carriage in the neoprene sleeve. With the zipper open all the way, the kite will have less power. Use this setting when the wind is strong for the selected kite size or when you are overpowered.

Note: All RRD Type Wave kites have 2 zippers. Always make sure that the zippers are either both zipped or both unzipped.

Zipper Care and Tuning Tips

-Before using the Zipping Power Control System, always make sure that the zippers are free of sand and other debris.

-RRD uses marine grade plastic zippers that will not rust. However, it is a good idea to rinse them with fresh water to clear any sand and salt from the zipper before storing for any length of time.

-If the leach of the kite is fluttering at all, the zipper is not closed all the way and the kite should be landed and the zipper closed or opened completely.

8. Relaunching With the Type Wave System

When you crash the kite or activate the 5th line system causing the kite to fall to the water, the Wave Bar System bar allows you to relaunch without swimming.

1. When the kite is down in the water on its leading edge, simply pushing the bar away from you while hooked into the sheeting loop, the kite will want to roll on its back.
2. Before the kite gets completely on its back, pull on one side of the bar and slowly begin to bring the bar towards you.
3. As you sheet in and release tension on the 5th line, the kite will want to power-up and relaunch. The further downwind that the kite is to you, the more tension you will want on the 5th line until the kite swims to the side of the wind window and relaunches.

NOTE: During relaunching, be careful that all the lines are coming off the bar cleanly and no lines are wrapped around you or the bar!

9. Tips, Tuning and Precautions

NOTE: The following section is very important and should be read carefully!

-For wave riding you only need to use the kite when the power of the wave isn't sufficient

enough to keep you planning. Sheet in the bar so that you have sufficient speed to catch the wave. Once on the face of the wave, you can sheet out to depower the kite as the power in the wave pushes you forward. If the wave lacks sufficient power to keep you planning, pull the bar towards you to get power back in the kite

-The Wave Bar is designed to be used with the Type Wave kites and should be optimally tuned out of the bag with the Depower Adjuster Ball set at 30 cm, however wind conditions can change rapidly and in strong wind, you may need more than 30 cm between the Power Adjuster Ball and the bar to completely depower the kite.

-When using the Wave Bar System in the waves, you should never be connected to the bar by any kind of leash!

-When doing spins the lines of the kite will become twisted. Simply spin the bar back the other way and then sheet in and out a few times and the 5th line anchor bar on the sheeting line above the bar will spin and remove the twists. The safety system should still function with up to 3 twists in the center lines.

-Each time before using the Wave Bar System make sure that the releasable sheeting loop is connected properly and the release pin is completely inserted into the sleeve.

-When you are sheeting the kite out and tensioning the 5th line, the kite will be unresponsive. In order to be able to steer the kite you must sheet in to put tension on the steering lines.

-Always use the Wave System bar with the RED release handle on the sheeting loop facing towards you!

-When using the Wave Bar System on any other kite, it is crucial that the 5th line system be tuned properly with the with a 5th line extension. The length of the extension depends on each individual kite.

-Lines occasionally stretch and you may need to periodically make adjustments to your knots. With the bar pulled all the way down, the 5th line should be slightly slack but tensioned when under load.

-Do not completely sheet out the bar with the kite overhead on land to land the kite. In this case, it is best to use the Quick Grab Depower Ball to activate the 5th line safety system.

-Never completely depower the kite overhead by pushing the bar away from you unless you are safely in the water. It is possible that you may accidentally sheet back in when the kite is in the power zone and get dragged downwind.

-The Wave Bar System can also be used with the Type 6 kites. The latest Type 6 kites come with a 5th line extension.

-To use the Wave Bar System on other kites will require the addition of a reinforced 5th line attachment on the leading edge and an optimally tuned 5th line extension.

-For beginners, you may remove the wingtip to wingtip span line on the bridle system. This can allow the 5th line to wrap around the kite, however, it will be easier for a beginner to relaunch the kite while still providing the advantages of a 5th line.

-The beginner safety leash that comes included with the kite should never be used in waves. It is provided as an option for beginner and intermediate riders wanting to use the system in flat water conditions.

10. Warranty

RRD International warrants this product to be free of major defects in material or workmanship to the original purchaser, for a period of six (6) months from the date of purchase. This warranty is subject to the following limitations: The warranty is valid only when the warranty card is properly filled out and returned to RRD International within seven (7) days from the date of purchase. The warranty is valid only when the product is used for KITEBOARDING ON WATER, and does not cover products used in rental or teaching operations. RRD International will make the final warranty determination, which may require inspection and/or photos of the equipment, which clearly show the defect(s). If necessary, this information must be sent to the RRD International distributor in your country, postage prepaid. Products can be returned only if a return authorization number (RA) is given by the RRD International Distributor in advance. The RA number must be clearly labeled on the outside of the package, or will be refused. If a product is deemed to be defective by RRD International, the warranty covers the repair or replacement of the defective product only. RRD International will not be responsible for any costs, losses, or damages incurred as a result of loss of use of this product. This warranty does not cover damage caused by misuse, abuse, neglect or normal wear and tear including, but not limited to, punctures, rigging with other than RRD International components, damage due to excessive sun exposure, or damage due to over inflation of the bladders, damage caused by improper handling and storage, damage caused by use in waves or shore break, and damage caused by anything other than defects in material and workmanship. This warranty is voided if any unauthorized repair, change or modification has been made to any part of the equipment. The warranty for any repaired or replaced equipment is good from the date of original purchase only. The original purchase receipt must accompany all warranty claims. The name of the retailer and date of purchase must be clear and legible. There are no warranties, which extend beyond the warranty specified herein.

Warranty Claims

Warranty claims must be processed and be issued a return authorization prior to shipping to RRD International. Please call or write for claims processing to the national RRD International distributor or:

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