

# **BRB Systems USA Co.**

## **Instruction Manual**

### **TX-101 and RX-101 Wireless Button Release System**

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**IMPORTANT:** Read and understand this manual before assembling, installing or using this system. Improper use of this system can cause serious injury.

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## **(1) Safety Information**

### **CAUTION:**

This system is powered by electricity. To reduce the risk of electric shock, do not remove any cover from the apparatus. There are no user serviceable parts inside. Refer servicing to BRB Systems USA Co.

Make certain that any person assembling or installing this system has read and fully understood this Instruction Manual. It is your guide to safe and proper operation of this system.

- TX-101 Transmitters are 6V powered by 4 AA batteries. AA batteries are small but powerful and must be treated with respect. Never short the ends of the battery together. Never burn the battery, even when you think it is fully discharged.
- Rx-101 Receivers sold as 12V are to be powered with 12V dc power sources only.  
The 12V dc power sources that may be used with the Receivers are; 12V lead acid batteries, 12V regulated ac to dc power supplies and 12V dc power directly from the trap.  
12V lead acid batteries (such as car type batteries) contain acid and so extreme care must be taken when handling them.  
12V car batteries are capable of supplying large amounts of current and care must be taken not to connect the + (red) and – (black) terminals together.
- RX-101 Receivers sold as 120V are to be powered with 120V ac power sources only.  
Do not defeat the safety purpose of the polarized or grounding type plug fitted to this apparatus. If the provided plug does not fit into your outlet consult a qualified electrician. Exterior 120V outlets should be GFCI

protected for your safety. If the outlet is not GFCI protected then contact a qualified electrician for rectification.

- Protect the power cord from being walked on, pinched or damaged in any way.
- Disconnect this apparatus from its power source during lightning storms or when unused for extended periods of time.
- Use only the attachment parts/accessories supplied by BRB Systems USA Co.
- Do not allow liquid entry into the system components.
- Ensure that the traps are disconnected from their power sources and unloaded before connection of the Receiver or set up of the Transmitter. Failure to do so could result in the unexpected operation of the trap causing serious injury.
- Ensure that the trap is disconnected from its power source and unloaded and that it is completely disconnected from the Receiver before attempting loading, maintenance or repair of the trap. Failure to do so could result in the unexpected operation of the trap causing serious injury.
- Extreme caution must be taken when a manually loaded trap is in use. This system is not able to determine whether a loader is ready for a target to be launched. Inadvertent operation of the system may cause serious injury to the loader.

## **(2) Installation**

### **RX-101 Receiver**

To use the cabling as supplied, each RX-101 Receiver should be mounted vertically and within 10ft of the power and release connections of the trap. To lengthen the power/release cabling use a connector that is rated for outdoor use and meets current electrical standards. Ideally the Receiver antenna should have an unobstructed line of sight to the Transmitter antenna.

To make the Receiver connections to your traps use the appropriate plug for the trap. These parts can be purchased from your trap manufacturer or dealer. Release plug and socket wiring diagrams for your trap can be obtained from your trap manufacturer or dealer.

### **Single Trap Receiver Connections**

#### **Power From Trap**

10ft long 4 core cable = Receiver power and trap release connections.

Red 12V +ve.

Black = 12V -ve.

White and Green = trap release connections. Orientation of the white and green wires is not important.

#### **Power From 120Vac Wall Outlet**

10ft 120V ac power cord = Receiver power.

Plug into GFCI protected 120V outlet.

10ft 2 core cable = trap release connections. Orientation of the white and green wires is not important.

## **2 Trap Receiver Connections**

### **Power From Trap**

10ft long 4 core cable = Receiver power and trap release connections.

Red 12V +ve.

Black = 12V -ve.

White and Green = trap release connections Trap A. Orientation of the white and green wires is not important.

2 pin socket and plug = trap release connections Trap B. Orientation of white and green wires is not important.

Make solder connection of customer supplied cable into plug from Trap B.

### **Power From 120Vac Wall Outlet**

10ft 120V ac power cord = Receiver power.

Plug into GFCI protected 120V outlet.

10ft 2 core cable = trap release connections Trap A.

Orientation of wires is not important.

2 pin socket and plug = trap release connections Trap B.

Orientation of wires is not important.

Make solder connection of customer supplied cable into plug from Trap B.

## (3) Set up

### (3.1) RX-101 Receiver Set Up

The receiver identity and operation are set via the three 8 position dipswitches.

#### Receiver Dipswitch Settings

Switch numbers are printed on the body of the dipswitch.

#### **SW3**

1	2	3	4	5	6	7	8	SW3
CODE	CHN	CNH	CHN	CHN	CHN	CNH	CHN	The (7) CHN switches must match between, TX and RX and ALSO set the frequency

#### **SW2**

1	2	3	4	5	6	7	8	SW2
CODE	CODE	CODE	CODE	OFF	OFF	OFF	OFF	(5) CODE switches must match between TX and RX, but don't affect frequency
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	TRAP1 relay responds to button "A"
OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF	TRAP1 responds to "B"
OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF	TRAP1 responds to "C"
OFF	OFF	OFF	OFF	ON	ON	OFF	OFF	TRAP1 responds to "D"
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	TRAP2 responds to "A"
OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF	TRAP2 responds to "B"
OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	TRAP2 responds to "C"
OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	TRAP2 responds to "D"

#### **SW1**

1	2	3	4	5	6	7	8	SW1
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	TRAP1 Relay Closed Time 0.25 sec.
ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	TRAP1 Relay Closed Time 0.8 sec.
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	TRAP2 Relay Closed Time 0.25 sec.
OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	TRAP2 Relay Closed Time 0.8 sec.
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	TRAP1 Recock Time 0.5 sec.
OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF	TRAP1 Recock Time 1.5 sec.
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	TRAP2 Recock Time 0.5 sec.
OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF	TRAP2 Recock time 1.5 sec.

### **CHN** Channel Dipswitches

The 7 CHN dip switches (switches 2-8 of dipswitch SW3) are the primary method of Receiver identification. They set the frequency of the Receiver and give 128 possible frequency variations. Using these settings for identification eliminates cross calls between adjacent fields because each field can have a different working frequency.

The CHN dipswitch settings on both the RX-101 Receiver and TX-101 Transmitter must match for the system to operate.

### **CODE** Signal Encoding Dipswitches

The 5 CODE dipswitches (switch 1 on dipswitch SW3 and switches 1,2,3 and 4 on the dipswitch SW2) are the secondary method of receiver identification. The 5 CODE switches set the encoding, do not affect the receiver frequency and expand the possible number of individual identities to 4096. Unless you expect to need more than 128 different identities it should not be necessary to use the CODE dipswitches.

The CODE dipswitch settings on both the RX-101 Receiver and TX-101 Transmitter must match for the system to operate.

### **Which Button Operates Which Relay**

Your equipment will come preset for this. However, if you want to change which of the Transmitter buttons operate which trap relay within the Receiver, switches 5,6,7 and 8 of dipswitch SW2 allow you to do this.

### **Relay Closed Time**

Some traps require a longer time period than others that the relay must be closed for the release of a target. Switches 1 and 2 of dipswitch SW1 allow for each relay within the receiver to be individually set to a closed time of 0.25 seconds or 0.8 seconds.

### **Recock Time**

Used for a Transmitter mode that releases automatic Following Pairs from the same trap. When a Following Pair is called for, the time between the 1<sup>st</sup> and 2<sup>nd</sup> target release can be set to 0.5 or 1.5 seconds to allow the trap time to recock. To do this set switches 5 and 6 of dipswitch SW1. This setting should depend upon how fast your trap recocks and the preference of the shooter.

## (3.2) TX-101 Transmitter Set Up

The Transmitter identity and operation are set via the three 8 position dipswitches accessed by removing the battery cover and the batteries.

### Transmitter Dipswitch Settings

Switch numbers are printed on the body of the dipswitch.

#### TOP

1	2	3	4	5	6	7	8	
CODE	CHN	CHN	CHN	CHN	CHN	CHN	CHN	The (7) CHN switches must match between TX and RX, and ALSO set the RF frequency.

#### MIDDLE

1	2	3	4	5	6	7	8	
CODE	CODE	CODE	CODE	OFF	OFF	OFF	OFF	The (5) CODE switches must match between TX and RX, but don't affect RF frequency.

#### BOTTOM

1	2	3	4	5	6	7	8	
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	TRAP
ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	SKEET - Instant Release
ON	OFF	OFF	OFF	OFF	ON	OFF	OFF	SKEET - 1/6th second delay before the first release
ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	AMERICAN SKEET- Random Delay 0-1 second
OFF	OFF	OFF	OFF	OFF	ON	ON	OFF	INTERNATIONAL SKEET- Random Delay 0-3 seconds
OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	SPORTING
OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF	SUPER SPORTING-1
OFF	OFF	ON	OFF	OFF	OFF	ON	OFF	SUPER SPORTING-2
OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF	QUAD SPORTNG -1
OFF	OFF	OFF	ON	OFF	OFF	ON	OFF	QUAD SPORTING -2
OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF	1/6 <sup>th</sup> SECOND DELAY added before the first release (any game except Skeet)
OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	HOLD VOICE MODE



### **CHN** Channel Dipswitches

The 7 CHN dip switches (switches 2-8 of the top dipswitch) are the primary method of Transmitter identification. They set the frequency of the Transmission signal and give 128 possible frequency variations. Using these settings for identification eliminates cross calls between adjacent fields because each field can have a different working frequency.

The CHN dipswitch settings on both the Receiver and Transmitter must match for the system to operate.

### **CODE** Signal Encoding Dipswitches

The 5 CODE switches (switch 1 on the TOP dipswitch and switches 1,2,3 and 4 on the MIDDLE dipswitch) are the secondary method of Transmitter identification. The 5 CODE switches set the encoding, do not affect the transmission frequency and expand the possible number of individual identities to 4096. Unless you expect to need more than 128 different identities it should not be necessary to change the CODE dipswitches.

The CODE dipswitch settings on both the Receiver and Transmitter must match for the system to operate.

### **Select A Discipline** BOTTOM Dipswitch

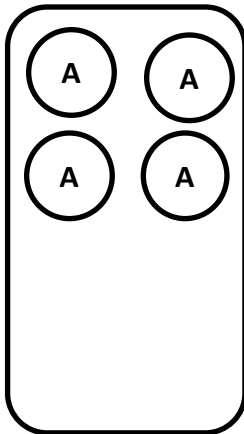
Each TX-101 Transmitter can control 1-4 traps and has different user programmable settings for each discipline and each number of traps. Select how you intend to use the product from the list below.

Selectable disciplines are:

- **Trap** – 1 trap
- **Skeet – Instant release**– 2 traps
- **American Skeet 0-1 sec random delay** – 2 traps
- **International Skeet 0-3 sec random delay**- 2 traps
- **Sporting** – 2 traps
- **Super sporting 1** – 3 traps
- **Super Sporting 2** – 3 traps
- **Quad Sporting 1** – 4 traps
- **Quad Sporting 2** – 4 traps

The button layouts for each discipline are shown below

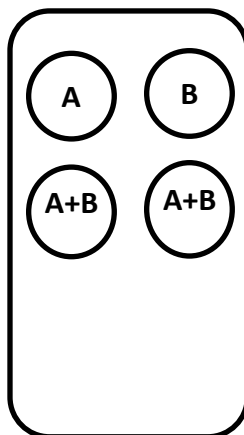
## Button Layouts & Operating Sequences.



### **Single Trap Mode**

#### Single

Press any button



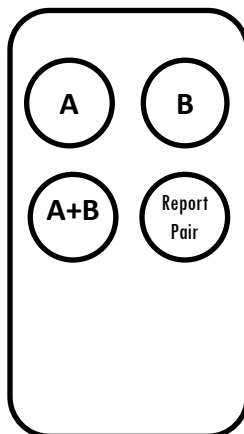
### **Skeet Mode**

#### Single

Press A or B

#### Doubles

Press either of the A+B Buttons



### **Sporting Mode** - 2 Traps

#### Single

Press A or B.

#### True Pair

Press A+B.

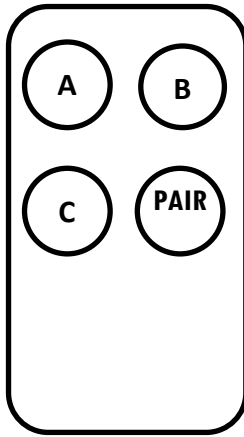
#### Report Pair Using Internal Microphone

Press Report Pair.

Press A or B of 1<sup>st</sup> trap to be released.

#### Report Pair Without Microphone

Press A or B to release 1<sup>st</sup> and 2<sup>nd</sup> traps manually.



### **Super Sporting 1** – 3 Traps

#### Single

Press A, B or C.

#### True Pair

Press PAIR.

Press 2 traps of pair together.

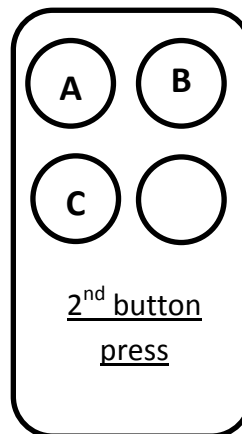
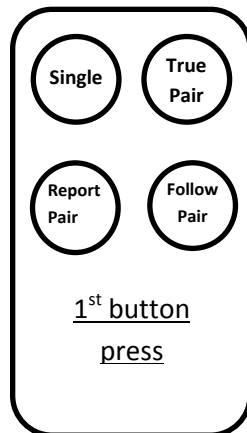
#### Report Pair Using Internal Microphone

Press PAIR button.

Press and release 1<sup>st</sup> trap.

Press and release 2<sup>nd</sup> trap.

### **Super Sporting 2** - 3 Traps



#### Single

Press Single

Press A, B or C of trap to be released.

#### True Pair

Press True Pair.

Press 1st trap of pair.

Press 2nd trap of pair.

#### Report Pair Using Internal Microphone

Press Report Pair.

Press 1st trap to be released.

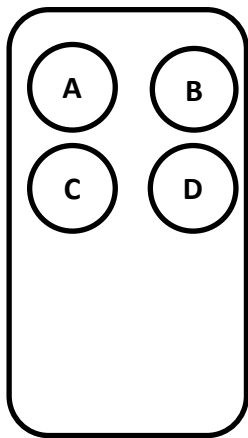
Press 2nd trap to be released.

#### Following Pair

Press Following Pair.

Press 1st trap to be released.

Press 2nd trap to be released.



### **Quad Sporting 1** – 4 Traps

#### Single

Press and release A, B, C or D.

#### True Pair

Press & hold 1<sup>st</sup> trap of pair.

Press & hold 2<sup>nd</sup> trap of pair.

Release 1<sup>st</sup> button.

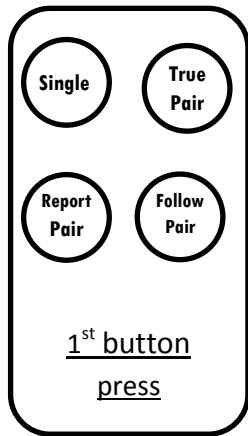
Release 2<sup>nd</sup> button.

#### Report Pair Using Internal Microphone

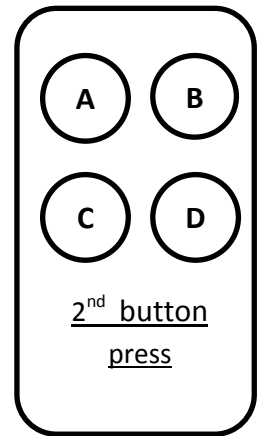
Press & hold 1<sup>st</sup> trap to be released.

Press & release 2<sup>nd</sup> trap to be released.

Release 1<sup>st</sup> button.



### **Quad Sporting 2**—4 Traps



#### Single

Press Single.

Press A, B,C or D of trap to be released.

#### True Pair

Press True Pair.

Press 1<sup>st</sup> trap of pair.

Press 2<sup>nd</sup> trap of pair.

#### Report Pair Using Internal Microphone

Press Report Pair Button.

Press 1<sup>st</sup> trap to be released.

Press 2<sup>nd</sup> trap to be released.

#### Following Pair

Press Following Pair button.

Press 1<sup>st</sup> trap to be released.

Press 2<sup>nd</sup> trap to be released.

Set the shooting disciplines by using switches 1-8 of the BOTTOM dipswitch. See the 'Transmitter Dipswitch Settings' diagram.

**1/6<sup>th</sup> SECOND DELAY**

To add a 1/6<sup>th</sup> second delay before the release of the first clay use switch 6 of the BOTTOM dipswitch. This delay is not added to Instant, American or International Skeet modes.

**HOLD Voice Mode** Switch 8 of the BOTTOM dipswitch is for Voice Release Mode only. In this mode when a call is made and a target released the unit will rearm for another release the same as the last release. This will continue until a new button sequence is pressed.

Once the dipswitch settings have been made, install the 4 x AA batteries into the rear of the unit. Take care to ensure correct orientation. Each battery direction is clearly marked inside the battery cavity.

## **(4) Operation**

### **RX-101 Receiver Operation**

When powered 1 green led will light on the Receiver and will stay lit as long as a good power level is maintained.

If battery voltage drops below 10.5V the power led will flash continuously to signify a flat battery.

When a receiver relay closes a corresponding green led will light for the time that the relay is closed. When the relay opens the same led will flash rapidly for the duration that the recock timing has been set to before extinguishing.

### **TX-101 Transmitter Operation**

The TX-101 has no power on switch. When you want to use it simply press the appropriate button or sequence of buttons. The unit awakens immediately.

For optimum performance stand facing toward the Receiver when holding the TX-101, with the antenna in the vertical position.

See the Button Layouts and Operating Sequences diagrams in the Transmitter Set Up section of this manual for the button press sequence of your set discipline.

Low battery if a low battery voltage is detected a red led lights for 10 seconds at the start of each button sequence.

### **Manual Operation**

When a button is pressed, an led, or series of led's will light. When the sequence has ended the led(s) will extinguish.

If 1 or more button presses of a sequence are made, but the sequence is not completed, the unit will wait for up to 10 seconds for the next button press. If the next button press is not entered during that time the unit will reset ready for the next sequence to begin.

If an illegal button press is made in a sequence, the unit waits for up to 10 seconds for the next correct button press and puts it into the sequence already started. Effectively it ignores the wrong button press.

Once the button sequence has been correctly entered the TX-101 transmits the information to the RX-101 Receiver. The time between the button being pressed and the Receiver relay closing is less than 1/20<sup>th</sup> second.

#### Automatic Report Pair

In any of the Sporting modes an automatic Report Pair can be released via the units internal report microphone.

**PULL**- 1<sup>st</sup> target is released – **BANG** - 2<sup>nd</sup> target is released.

When a Report Pair is released, if no gunshot is detected after 5 seconds the unit will reset ready for a new sequence.

Automatic Following Pair An automatic Following Pair from the same trap can be released in Super Sporting 2 and Quad Sporting 2 modes. In these modes a second target will be released after the 0.5sec or 1.5 sec recocking time that has been set in the RX-101 Receiver.

#### **Voice Release Operation**

When either the supplied lapel microphone, or the optional full size microphone are plugged in to the TX-101 Transmitter, the unit automatically recognizes that it is in voice release mode. A target now cannot be released manually.

To release a target the procedure is the same for each discipline. Press the appropriate button or sequence that you want to be released. 1 second after the button is pressed the microphone will listen for your call. Call for the target and the target will be released.

If no call is detected after 30 seconds of the button press the unit will reset and will require the button to be pressed again to release a target.

After the target has been released the unit will ignore the microphone for 2.5 seconds during which time no more targets can be released.

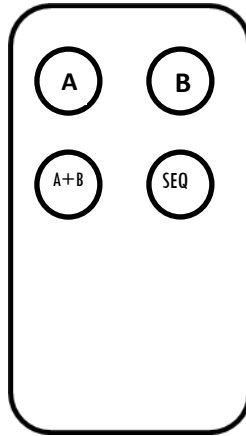
#### HOLD Voice Mode

If the HOLD mode has not been selected (switch 8 of the lower dipswitch), to release another target another button press or sequence is required.

If the HOLD mode has been selected, after the target has been released and the 2.5 seconds waiting period, the microphone will listen for another call. When a call is detected the same target will be released as the last. This will continue until a different button selection is made.

Skeet Sequence Voice Mode In voice release mode the button layout changes to accommodate the addition of a 2 target user selectable Skeet sequence.

The button layout on the TX-101 now becomes:



When the SEQ button is pressed the Skeet Sequence Voice Mode is selected.

To release a HI target followed by a LOW target, press the SEQ button followed by the HI button. The unit knows that the 2<sup>nd</sup> target is a LOW and so it does not need to be pressed.

To release a LOW target followed by a HI target press the SEQ button followed by the LOW button.

**PULL**–1<sup>st</sup> target is released - **BANG** - **PULL**–2<sup>nd</sup> target is released.

This mode can be used with the HOLD mode to repeat the sequence until a new button sequence is selected.



## **(5) Maintenance**

The rugged manufacture of the BRB TX-101 and RX-101 should ensure many years of trouble free use if it is not abused and given simple maintenance.

- Do not allow any component to be immersed in water.
- Regularly inspect the power/trap control cords for damage. If any wear or damage is found, replace immediately.

There are no adjustments that can be made to the system by the user. Should difficulty be found with the system operation, do not remove any of the system covers. This will void the system warranty and may result in an electric shock hazard.

Refer servicing to BRB Systems USA Co.

## **(6) BRB Systems USA Co. - Limited Warranty**

This BRB Systems USA Co. product, supplied in the original packaging to the original purchaser, is warranted by BRB Systems USA Co. against manufacturing defects in materials and workmanship for a limited warranty period of:

### **One (1) Year Parts and Labor.**

This limited warranty begins on the original date of purchase and is valid only on products purchased and used in the USA.

This warranty will terminate automatically prior to its stated expiration if the original purchaser sells or transfers the product to any other party.

BRB Systems USA Co. will repair or replace this product, at our option and at no charge as stipulated herein, with new or reconditioned parts or products if found to be defective during the limited warranty period specified above.

All replaced parts and products become the property of BRB Systems USA Co. and must be returned to BRB Systems USA Co.

Replacement parts and products assume the remaining original warranty or ninety (90) days, whichever is longer.

This limited warranty covers defects in materials and workmanship encountered in normal use of this product and shall not apply to defects or injuries caused by the following, including, but not limited to: damage which occurs in shipment; delivery and installation; applications and uses for which this product was not intended; product alterations not authorized by BRB Systems USA Co.; cosmetic damage or exterior finish; accidents; neglect; fire; water damage; vermin or insect infestation; lightning or other acts of nature; use of products, equipment systems, utilities, services, supplies, accessories, applications, installations, repairs, external wiring or connectors not supplied or authorized by BRB Systems USA Co. which damage this product or result in service problems; incorrect electrical line voltage; fluctuations and surges; customer adjustments and failure to follow operating instructions, cleaning, maintenance and environmental instructions that are covered and prescribed in the Instruction Manual.

BRB systems USA Co. does not warrant uninterrupted or error-free operation of the product.

BRB Systems USA Co. shall not be liable for loss of revenue or profits, failure to realize savings or other benefits, or any other special, incidental or consequential damages caused by the use, misuse or inability to use this product, regardless of the legal theory on which the claim is based, even if BRB Systems USA Co. has been advised of the possibility of such damages. Nor shall recovery of any kind against BRB Systems USA Co. be greater in amount than the purchase price of the product sold by BRB Systems USA Co. Without limiting the foregoing, the purchaser assumes all risk and liability for loss, damage or injury to purchaser and purchaser's property and to others and their property arising out of the use, misuse or inability to use this product sold by BRB Systems USA Co. not caused directly by the negligence of BRB Systems USA Co.

To receive warranty service contact BRB Systems USA Co. for problem determination and service procedure. If it is determined that the product requires warranty service, ship the product, in its original packaging or its equivalent, together with proof of purchase, prepaid insured to BRB Systems USA Co.

Products repaired or replaced under warranty will be returned to you, within a reasonable time, freight prepaid.

To obtain warranty service contact BRB Systems USA Co. at:

[brbsystemsusa@yahoo.com](mailto:brbsystemsusa@yahoo.com)

or call: 412 773-2128.