

BRB Systems USA Co.

Instruction Manual

TX-101 and RX-101 Wireless Button Release System

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) User Modes

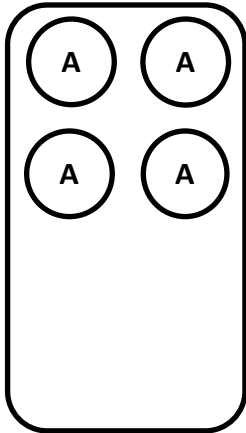
The TX-101 Transmitter and RX-101 Receiver combine to make a multi-purpose trap controller, capable of basic single trap release through more complex sequences of up to 4 traps. Select your required discipline from the list below:

- **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** – 3 traps
- **Quad Sporting 1** – 4 traps

Each discipline with 2 or more traps has 2 options of button layout, 1 basic and 1 advanced. Advanced options include features such as; automatic Report release, automatic Following Pairs and Skeet Sequences. Manual button release or voice release are selectable for all button layouts.

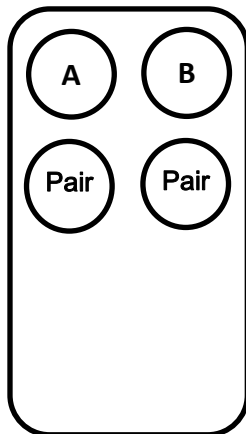
Select your required button layout from the choices below:

TX-101 Transmitter Button Layout Options



Trap Mode - 1Trap
Manual or Voice Release

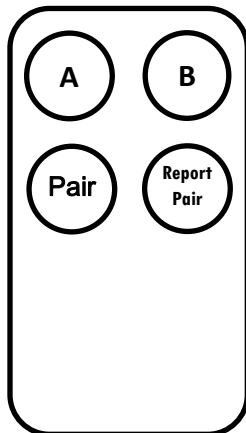
Single
Press **any button** to release Trap A



Skeet/Sporting Mode -2 Traps
Manual Release

Single
Press **A** to release Trap A
Press **B** to release Trap B

Doubles/Pairs
Press either of the **Pair** buttons to
release a True Pair

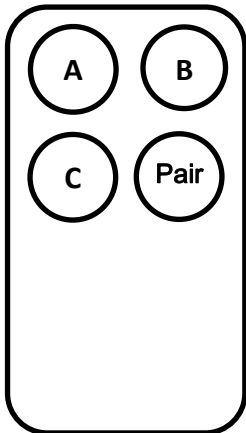


Advanced Sporting Mode - 2 Traps
Manual or Voice Release

Single
Press **A** to release Trap A
Press **B** to release Trap B

True Pair
Press **Pair** to release a True Pair

Report Pair Using Internal Microphone
Press **Report Pair** then
Press **A** to release Trap A first (Trap B on report)
or
Press **B** to release Trap B first (Trap A on report)



Super Sporting – 3 Traps
Manual or Voice Release

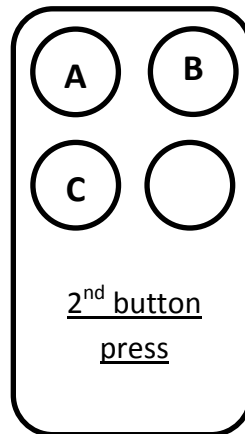
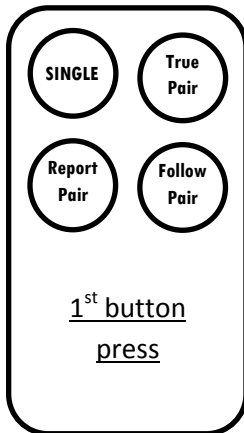
Single

Press **A** to release Trap A
Press **B** to release Trap B
Press **C** to release Trap C

True Pair

Press **Pair** then
Press **2 buttons together** of 2 traps required,
to release a True Pair

Advanced Super Sporting - 3 Traps
Manual or Voice Release



Single

Press **Single** followed by **A** to Release Trap A
Press **Single** followed by **B** to Release Trap B
Press **Single** followed by **C** to Release Trap C

Report Pair Using Internal Microphone

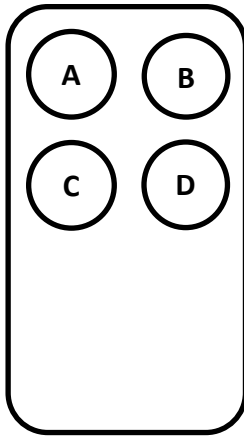
Press **Report Pair** then
Press **A, B** or **C** -1st trap to be released, then
Press **A, B** or **C** -2nd trap to be released on report

True Pair

Press **True Pair** then
Press **A, B** or **C** – 1st trap of pair, then
Press **A, B** or **C** – 2nd trap of pair

Following Pair From 1 Trap

Press **Following Pair** then
Press **A** for a Following Pair from Trap A
or
Press **B** for a Following Pair from Trap B
or
Press **C** for a Following Pair from Trap C



Quad Sporting- 4 Traps

Manual or Voice Release

Single - Target is released when button is released

Press and release **A** to release Trap A

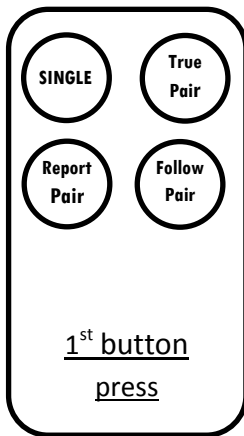
Press and release **B** to release Trap B

Press and release **C** to release Trap C

Press and release **D** to release Trap D

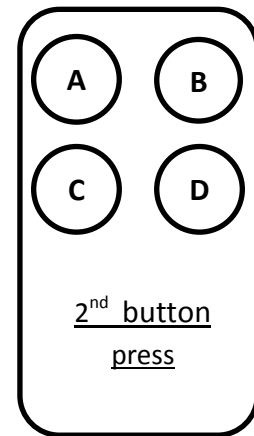
True Pair

Press **2 buttons together** of 2 traps required, to release a True Pair



Advanced Quad Sporting-4 Traps

Manual or Voice Release



Single

Press **Single** followed by **A** to Release Trap A

Press **Single** followed by **B** to Release Trap B

Press **Single** followed by **C** to Release Trap C

Press **Single** followed by **D** to Release Trap D

Report Pair Using Internal Microphone

Press **Report Pair** then

Press **A, B, C** or **D** -1st trap to be released, then

Press **A, B, C** or **D** -2nd trap to be released on report

True Pair

Press **True Pair** then

Press **A, B, C** or **D** - 1st trap of pair, then

Press **A, B, C** or **D** - 2nd trap of pair

Following Pair From 1 Trap

Press **Following Pair** then

Press **A** for a Following Pair from Trap A
or

Press **B** for a Following Pair from Trap B
or

Press **C** for a Following Pair from Trap C
or

Press **D** for a Following Pair from Trap D

Using the tables and descriptions below as a guide, set your selected discipline and button layout into the TX-101 transmitter and set the operation of the RX-101 Receivers.

(3) Set Up

(3.1) 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 – Used to set 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

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 / SPORTING - Instant Release
ON	OFF	OFF	OFF	OFF	ON	OFF	OFF	INTERNATIONAL SKEET – Random Delay 0-3 Seconds (Ignores any set delay)
ON	OFF	OFF	OFF	OFF	OFF	ON	OFF	AMERICAN SKEET- Random Delay 0-1 second (Ignores any set delay)
OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	ADVANCED SPORTING
OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF	SUPER SPORTING
OFF	OFF	ON	OFF	OFF	OFF	ON	OFF	ADVANCED SUPER SPORTING
OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF	QUAD SPORTING
OFF	OFF	OFF	ON	OFF	OFF	ON	OFF	ADVANCED QUAD SPORTING
OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF	1/6 th SECOND DELAY added before the first release
OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	HOLD VOICE MODE (Repeats last call if mic. detected)

CHN Channel Dipswitches

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

These will be preset when the unit is shipped and so under most circumstances should not need you to change them.

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.

CODE Signal Encoding Dipswitches

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

These will be preset when the unit is shipped. Unless you need more than 128 different transmitter identities it should not be necessary to change the CODE 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.

1/6th SECOND DELAY

To add a 1/6th second delay before the release of the first clay use switch 5 of the BOTTOM dipswitch. This delay is not added to 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.

(3.2) 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 - Use to set frequency

SW2

1	2	3	4	5	6	7	8	SW2
CODE	CODE	CODE	CODE	OFF	OFF	OFF	OFF	The (5) CODE switches must match between TX and RX
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	Receiver relay 'TRAP1' responds to Transmitter button 'A'
OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF	Receiver relay 'TRAP1' responds to Transmitter button 'B'
OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF	Receiver relay 'TRAP1' responds to Transmitter button 'C'
OFF	OFF	OFF	OFF	ON	ON	OFF	OFF	Receiver relay 'TRAP1' responds to Transmitter button 'D'
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	Receiver relay 'TRAP2' responds to Transmitter button 'A'
OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF	Receiver relay 'TRAP2' responds to Transmitter button 'B'
OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	Receiver relay 'TRAP2' responds to Transmitter button 'C'
OFF	OFF	OFF	OFF	OF	OFF	ON	ON	Receiver relay 'TRAP2' responds to Transmitter button 'D'

SW1

1	2	3	4	5	6	7	8	SW1
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	Receiver relay 'TRAP1' closed time= 0.25 sec.
ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	Receiver relay 'TRAP1' closed time= 0.8 sec.
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	Receiver relay 'TRAP2' closed time= 0.25 sec.
OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	Receiver relay 'TRAP2' closed time= 0.8 sec.
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	Receiver relay 'TRAP1' re-cock time= 0.5 sec.
OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF	Receiver relay 'TRAP1' re-cock time= 1.5 sec.
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	Receiver relay 'TRAP2 re-cock time= 0.5 sec.
OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF	Receiver relay 'TRAP2' re-cock time= 1.5 sec.

CHN Channel Dipswitches

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

These will be preset when the unit is shipped and so under most circumstances should not need you to change them.

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.

CODE Signal Encoding Dipswitches

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

These will be preset when the unit is shipped. Unless you need more than 128 different transmitter identities it should not be necessary to change the CODE dipswitches.

The 5 CODE switches (switch 1 on the 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.

Which Button Operates Which Trap

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

For a target to be released, some traps require a longer receiver relay closed time than others. 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. If set too short the trap may start to move, but not release a target. If set too long a fast re-cocking trap may release more than 1 target for 1 relay closure.

Re-cock Time

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

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) Installation

RX-101 Receiver

Using 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.

Receiver Connections – 1Trap Receiver

Power From Trap

10ft 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 wires is not important.

Receiver Connections – 2 Traps Receiver

Power From Trap

10ft 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.

(5) Operation

RX-101 Receiver Operation

When connected to a power source, 1 green LED will light on the Receiver and will stay lit as long as a good power level is maintained.

If the power supply 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 re-cock 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 and releases the target(s).

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

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 Transmitter release sequence is pressed, LED(s) corresponding to the sequence will light. When the sequence has ended the LED(s) will extinguish.

Once a 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 1/20th second.

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 sequence to be completed. If the remainder of the sequence 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.

Release Of An Automatic Report Pair

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

"PULL"- 1st target is released – **BANG** - 2nd 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 Advanced Super Sporting and Advanced Quad Sporting modes. In these modes a second target will be released after the 0.5 sec or 1.5 sec re-cocking 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 sequence being pressed, the unit will reset and will require a new button sequence to be pressed to release a target.

After the target has been released the unit will ignore the microphone for 2 seconds during which time no more targets can be released.

When the microphone jack is removed from the TX-101 Transmitter the unit returns to a manual button release.

HOLD Voice Mode

If the HOLD mode has been set (using switch 8 of the lower dipswitch), after the target has been released and the 2 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.

Without HOLD selected, to release another target, another button press sequence is required.

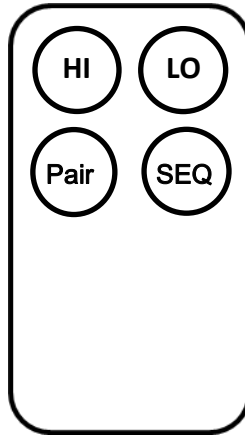
Skeet Sequence Voice Mode (SEQ)

In voice release mode (when a microphone is detected) the Skeet button layout changes to accommodate the addition of a 2 target user selectable Skeet sequence.

Release of targets is as follows:

“**PULL**”-1st target is released - **BANG** - “**PULL**”-2nd target is released.

The Skeet button layout on the TX-101 now becomes:



Skeet Mode – 2 Traps
Voice Release

Singles

Press **HI** to release trap A
Press **LO** to release trap B

Doubles /Pairs

Press **Pair** button to release a Double

Skeet Sequence – High Followed By Low
Press **SEQ** then
Press **HI**

Skeet Sequence – Low Followed by High
Press **SEQ** then
Press **LO**

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

(6) 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.

(7) 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

or call: 412 773-2128.