

BRB Systems USA Co.

Instruction Manual

Wireless Trap Voice Release System

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

Table of Contents

	Page
(1) Safety Information.....	2
(2) Assembly.....	3
(3) Installation.....	5
(4) Set Up	
(4.1) WT-TRX-101 Transmitter.....	5
(4.2) RX-101 Receiver.....	6
(4.3) WT-VB-101 Voice Box.....	7
(5) Operation.....	9
(6) Charging.....	11
(7) Maintenance.....	11
(8) Warranty.....	12

(1) Safety Information

CAUTION:

This system is powered by electricity. To reduce the risk of electric shock, do not tamper with any part of the apparatus. There are no user serviceable parts of this equipment. 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.

- WT-TRX-101 Transmitters are 6V dc, 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 any 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. System components are water resistant, not waterproof.
- Ensure that the traps are disconnected from their power sources and unloaded before connection of the Receiver, Voice Boxes, or the setup 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.

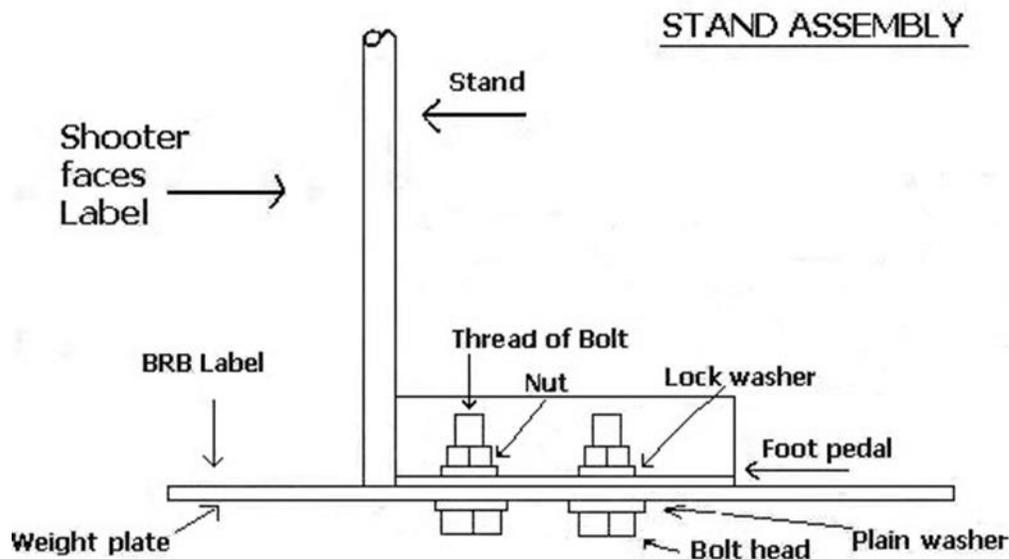
(2) Assembly

Each full BRB Wireless Trap Voice Release System is supplied with the following components:

5 x Microphones
 5 x WT-VB-101 Voice Boxes
 1 x WT-TRX-101 Button Box
 1 x RX-101 Receiver
 5 x Stands
 5 x Weight Plates
 1 x Button Box bracket
 1 x Stand bolt kit

Stands

Each of the Stands is made to be mounted to a Weight Plate. Using the parts in the Stand bolt kit, bolt each Stand to each Weight Plate as in the diagram below.



Microphones

Each Microphone bolts to the top of a stand with the bolt, washers and wing nuts supplied.

The Microphone should be bolted to the stand so that the foot pedal faces away from the shooter. Set the microphone to an angle that directs the opening toward a shooters head at approximately 3ft away.

If a stand is to be used by a single shooter for practice, then replace 1 of the microphone mounting bolts with the Button Box bracket.

WT-VB-101 Voice Box

Each Voice Box is mounted to one of the stands.

Remove the wing nuts, lock washers and flat washers from the Voice Box studs. Slide the studs through the 4 holes in the stand mounting brackets. Refit the flat washers, lock washers and wing nuts. Screw hand tight.

Screw the 2 pin plug into the microphone socket. Zip tie the cable to the shaft of the stand in a way that makes a large loose cable bend at the microphone, so that if the microphone is turned downwards it does not pull the plug connection.

(3) Installation

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 and Voice antennae.

To make the Receiver connections to your trap 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

12Vdc 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.

(4) Set Up

The WT-TRX-101 transmitter, RX-101 receiver and WT-VB-101 Voice Boxes will be preset by BRB before shipping and should be ready for use without any changes being necessary.

Should you need to make changes the setup information is listed below.

(4.1) WT-TRX-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.

UPPER

1	2	3	4	5	6	7	8	
CODE	CHN	The (7) CHN switches must match between TX, RX & VB - Set frequency						

MIDDLE

1	2	3	4	5	6	7	8	
CODE	CODE	CODE	CODE					The (5) CODE switches must match between TX,RX & VB

LOWER

1	2	3	4	5	6	7	8	
CTR	CTR	CTR	CTR					(4) CTR switches same as Upper switches 1,2,3 & 4 = No counter Any CTR switch different from Upper switches 1,2,3 & 4 = Only with counter

(4.2) 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	
CODE	CHN	The (7) CHN switches must match between TX, RX & VB - Set frequency						

SW2

1	2	3	4	5	6	7	8	
CODE	CODE	CODE	CODE	OFF	OFF	OFF	OFF	The (5) CODE switches must match between TX,RX & VB

SW1

1	2	3	4	5	6	7	8	
OFF	Receiver relay closed time= 0.25 sec.							
ON	OFF	Receiver relay closed time= 0.8 sec.						

(4.3)WT-VB-101 Voice box Set Up

The Voice Box identity and operation are set via the three, 8 position, dipswitches.

Voice Box Dipswitch Settings

Switch numbers are printed on the body of the dipswitch.

SW1

1	2	3	4	5	6	7	8	
CODE	CHN	The (7) CHN switches must match between TX, RX & VB - Set frequency						

SW2

1	2	3	4	5	6	7	8	
CODE	CODE	CODE	CODE	OFF	MIC	MIC	MIC	The (5) CODE switches must match between TX,RX & VB The (3) MIC switches set the microphone sensitivity - see page 8

SW3

1	2	3	4	5	6	7	8	
OFF	Unused							

CHN Channel Dipswitches

The CHN dipswitch settings on the Receiver, Transmitter and Voice Box 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) are the primary method of system 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 the Receiver, Transmitter and Voice Box must match for the system to operate.

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

The 5 CODE switches are the secondary method of system identification. The 5 CODE switches set the encoding, do not affect the transmission frequency and expand the possible number of individual identities to 4096.

CTR Counter Use Dipswitches

The 4 CTR dipswitches allow the club to use the equipment with or without a counter.

To use the equipment without a counter the transmitter switches 1,2,3 & 4 of the lower dipswitch must match those of switches 1,2,3 & 4 of the upper dipswitch. If there is any difference between these the equipment will only operate with a counter.

MIC Microphone Sensitivity Dipswitches

The 3 MIC dipswitches (switches 6, 7 & 8 of SW2) are used to set the sensitivity. The unit will be preset to a standard setting at the time of purchase and may not need to be changed by the user. However, the sensitivity can be changed up or down using the 8 possible settings in the chart below.

6	7	8	
OFF	OFF	OFF	LEAST SENSITIVE
OFF	OFF	ON	
OFF	ON	OFF	
OFF	ON	ON	
ON	OFF	OFF	
ON	OFF	ON	
ON	ON	OFF	STANDARD PRESET SENSITIVITY
ON	ON	ON	MOST SENSITIVE

(5) Operation

RX-101 Receiver Operation

When connected to its power source, the green 'PWR' 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 'PWR' LED will flash continuously to signify low power.

When the receiver relay closes, the 'T1' LED will light for the time that the relay is closed. When the relay opens, the LED will flash rapidly during the trap reload time.

WT-TRX-101 Transmitter Operation

The WT-TRX-101 has no power on switch. Simply press a button and the unit will react immediately.

Low battery

If a low battery voltage is detected the red 'Low Batt' LED lights for 10 seconds when a button is pressed.

Manual Operation

A target can be released manually by pressing the 'Trap' button. When 'Trap' is pressed, the WT-TRX-101 sends the instruction directly to the RX-101 Receiver and a target is immediately released.

Voice Release Operation

With the Voice Boxes powered on, the referee can open and close the microphones by pressing the 'Mic On' and 'Mic Off' buttons.

Before a target can be released by voice the microphones must be opened by pressing the 'Mic On' button.

WT-VB-101 Voice Box Operation

To power on a Voice Box, press the power button on the top of the unit.

When powered on, an indicator LED will illuminate around the power on button and an audible 'beep' will sound. The color of the indicator LED indicates the unit battery charge level.

Green = Fully charged – 50%.

Amber = 50% - 15%.

To protect the battery, the unit will automatically power off, the LED extinguish and an audible 'beep' will sound, when the battery level drops below 15%.

When the Voice Box has been powered on and the referee has opened the microphones a target can be released by the shooter on his call.

With the microphones installed approximately 3ft from the shooter, the shooter should be able to call for a target in the same way as he would if the trap was being released by a person. There is no need to turn and call toward the microphone or call excessively loudly.

When a call is detected, the indicator LED will extinguish and a target will be released.

Once a call is detected the Voice Box will not operate again for 2 seconds, in order to allow the trap time to reload.

When ready to accept another call the indicator LED will light.

When shooting is finished a Voice Box can be powered off by pressing the power button. The indicator LED will extinguish and an audible 'beep' will sound.

If a Voice Box does not detect a call for 10 minutes it will automatically power off.

Do not store a Voice Box in a freezing environment. Extreme cold temperatures will damage the battery and drastically shorten its lifespan.

(6) Charging

Only charge a Voice Box with the equipment supplied by BRB Systems USA Co.

Use of any unauthorized chargers may damage the equipment and cause a fire.

Use of unauthorized chargers will invalidate your warranty.

The simplest way to ensure that a Voice Box unit does not shut off, due to low battery charge level, is to keep each unit fully charged. When shooting is finished, plug each Voice Box into its charger.

When a charger is connected to a Voice Box the power button LED will show the battery charge status by lighting amber and green in proportion to the charge level. As the battery charges, less amber and more green is shown until only a green LED is lit. When only a green LED shows the unit is fully charged.

The Voice Box circuitry acts as both a battery charger and maintainer. The Voice Box cannot be overcharged and it is recommended that each Voice Box be left connected to its charger when not in use.

A totally discharged Voice Box should recharge in approximately 4.5 hours.

(7) Maintenance

The rugged manufacturing of this Wireless Voice Release System 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.
- Keep the Voice Boxes fully charged.
- Do not leave the equipment outside, in the weather, for indefinite periods of time. Store in a cool dry place.
- Regularly inspect the equipment for wear or damage. If any wear or damage is found seek service from BRB Systems USA Co.

Should difficulty be found with the system operation, do not dismantle any part of the system. This will void the warranty and may result in an electric shock.

Refer servicing to BRB Systems USA Co.

(8) BRB Systems USA Co. - Limited Warranty

This BRB Systems USA Co. product, supplied in the original packaging to the original purchaser, is warranted 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.