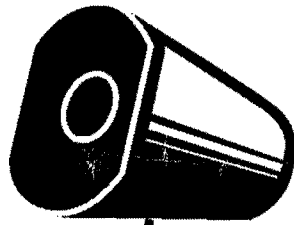


# INSTRUCTION MANUAL

For the

Canterbury wireless voice  
release



*Canterbury*  
**Voice Release**

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**1) Explanation:**

Canterbury Voice Release International Ltd is the world's leading supplier of trap shooting voice release systems. The standard product servicing the American Trap market was originally launched in 1998 utilising cable connected components. With the dramatic improvements in wireless technology over recent years, it has now become feasible to make this system operate via sophisticated wireless networking.

CVR Ltd has invested heavily over the past 2 years researching and developing the system that you have just purchased and we are satisfied that it will both meet your expectations of performance and show significant reduction in repair and service costs.

This wireless system is operating on a 'free to air' band and does not require any National or State authority to run. It complies with FCC requirements.

To assist you with understanding this wireless system, therefore gaining the maximum performance from it, each of the major components is a "transceiver". This means that each component communicates with all other components in the network to validate any sound that is heard and then release a target on a recognised voice call. Please be aware that this is NOT voice recognition, so human noises other than a call, e.g. coughing or burping, may still release a target as if a valid call had been made.

Extensive development has gone into extending battery life and we estimate that 200 hours will be normal operational use from each transceiver.

**2) Components:**

- Five (5) microphone transceivers – 3 foot cable attached
- One (1) referee's transceiver
- One (1) trap transceiver – 20 foot cable attached
- Five (5) mounting brackets
- Five (5) locating bolts for the microphone transceivers
- One (1) mounting bracket for the trap transceiver

**NOTE:**

**BATTERIES ARE NOT INCLUDED IN THE KIT FROM THE MANUFACTURER.**

### **3) Assembly:**

Remove all parts from the carton and check that all components are included and undamaged. If there is any part missing or damage has been sustained, then immediately contact the distributor that you purchased this system from.

#### **Trap transceiver:**

This part does NOT require batteries and connects directly to the CVR power supply part that you have attached to your trap and located inside the trap house.

Connect the 3-pin cable end to the socket on the power supply. This will replace the main cable that previously connected to the CVR control box.

DO NOT switch power on to this transceiver at this point.

DO NOT fix the transceiver mounting bracket to the trap house at this point as you need to locate the most suitable position, and that requires the complete system to be operating. Once you have completed tuning the complete system (see Section 5) and it is fully operational, then decide on the best location to place the trap transceiver. Depending on the materials used in construction of the trap house, it is possible that the transceiver will operate without problem through the trap house wall. However if this does not work then there is sufficient cable to mount the unit on the exterior wall facing the shooters. The plastic mounting bracket has been tested for damage by shotgun blast from the 16-yard line and it will give full protection from pellets.

#### **Microphone transceiver:**

Attach the mounting bracket to each of the five microphone bases by inserting the flat portion with 2 holes, between the flat base plate and the upright stand. The angled portion of this bracket should be on the same plane as the upright. Reassemble the plate, bracket and upright with the wing nuts.

The transceiver will now slot onto the mounting bracket. Attach the bottom portion of the transceiver to the bracket inserting the bolt through the hole at the base.

Connect the 2-pin cable connection into the socket on the underside of the microphone. It may be prudent to check the microphone male socket pins to ensure that they are clean and give a good fit to the cable end. If there is any slack then ease the pins apart gently. If there is any corrosion or dirt, then clean the socket out using a spray intended for cleaning electrical connections followed by some di-electric grease.

Place each microphone unit so that the transceiver is facing the trap and referee's transceivers. There is a reasonably wide angle of transmission from each transceiver, so this direction is not critical, however if a microphone is sideways to the trap positions then some transmission problems may be encountered.

Do NOT place any objects in between the line of sight of the various transceivers, as this may cause interference in the signal transmission.

Each transceiver has a printed label on the reverse side, which allows you to mark both the field and station of each microphone. Refer to Section 5 on 'tuning' the system and instructions on how to correctly identify each microphone transceiver.

#### **Referee's transceiver:**

This unit does not have any cable attached to it and is fully self contained.

This unit should be placed in an upright position for maximum effectiveness.

Whilst we have made this unit such a size as it is unlikely to be removed from the referee's position, you may wish to attach a light weight chain to the referee's chair and a clip to attach to the loop on the base of the transceiver. This will ensure that the unit remains on the referee's chair at all times and prevent it from dropping onto the ground.

Be aware that a person standing directly in line between the referee's unit and the base station may cause the 'SIGNAL' light to flash as the system seeks to communicate. Simply move the unit to one side of the person so that line of sight is restored.

#### **4) Battery Installation and Change:**

Batteries have not been included with this system. The five microphones and one referee's transceiver take four (4) standard AA batteries each. This is a total of twenty four (24) AA batteries.

We recommend using non-rechargeable alkaline batteries. Alkaline batteries will give about 200 hours of shooting. Zinc carbon batteries will give about 100 hours use. These are not recommended, as they tend to leak corrosive fluid and cause damage when fully discharged. e<sup>2</sup> or Lithium may give up to 300 hours. Rechargeable NiCd or Ni-MH will give 200 to 300 hours shooting respectively, however while these will work perfectly they are probably not cost effective.

Much design effort has gone in to maximizing battery life. The transceivers fully power down after 10 minutes of inactivity to avoid accidental discharge.

To fit the batteries, remove the top of the transceiver by undoing the two hex nuts on either side, located approximately half-way down the housing. These nuts are captive and will not fall out.

#### **Do not over tighten these nuts when re-assembling.**

You will now see the four (4) battery clips in situ on the circuit board. Insert each battery into place with correct positive and negative alignment. This is identified by the markings on the circuit board.

DO NOT switch the transceiver on yet. If the transceiver has been inadvertently switched on, then switch it OFF.

Before re-assembling the transceiver, you will need to tune the system onto one band – please read the next section (Section 5) of this Owner's Manual to perform this function.

#### **5) Tuning the Network:**

Each of the transceivers has either two (2) or three (3) rotary dial switches provided on the circuit board and located below the AA battery clips.

You will easily see these when you open the transceivers to insert the batteries on the microphone and referee's units. The trap unit does not require batteries (being powered from the standard CVR power supply inside the trap house) but the rotary dial switches are in the same position on the circuit board.

With each transceiver split apart, hold the portion that houses the circuit board so that the rotary switches are below the battery clips and facing towards you. Read the numbers on the rotary switches from left to right.

Each transceiver in the set has to be 'tuned' to a specific number. The rotary dial switches allow you to select any number between 01 – 60 and we would recommend that you make this the same number as the field on which the system is to be placed.

Using a fine screwdriver, turn the left and centre dials to read from 01 to 60 with each dial reading one of the two digits. E.g. if you are tuning in field #1, then the left dial will read "0" and the centre dial will read "1" or if you are tuning in field #15, then the left dial will read "1" and the second dial will read "5", etc. Take care to ensure that the arrow is pointing to the number you require and not some intermediate position. You will feel the switch click in to each position.

On the base station transceiver (the trap house unit) the right hand rotary switch must be set to the number of microphones that you want it to communicate with. When shooting trap this will usually be 5. However, you may have more or less than this for some reason.

On the microphone transceivers, the third rotary dial switch allocates the microphone position, which corresponds to the shooting station 1 – 5. Again, using the fine screwdriver, turn the right hand rotary dial to read 1, 2, 3, 4, or 5. Although each microphone has a different designator its position on the field is not relevant. This switch has 16 positions on it 0-9 then A-F. When shooting Trap, use the 1 – 5 notches. If you use more microphones to shoot other sports, e.g. "buddy shoots" then dial each additional microphone up to a maximum of 12 (C) to its corresponding number in sequence.

The referee's transceiver has just two dials. Set these to the field number.

Now mark each label on the microphone transceivers according to the shooting station number that you have just allocated it by the rotary dials. Each label is on the reverse side of the transceiver and is split between the 'Trap Number' and the 'Post' number. For each set of 5 microphones, the 'Trap Number' will be identical but the 'Post' number will be sequential from 1 – 5. This gives easy identification of which field the system is tuned to and which microphone it is on that field in case systems get mixed up or a component needs to be replaced.

Now you will have:

- All seven (7) transceivers tuned to the same trap field number.
- Each microphone transceiver marked according to its shooting station and tuned to that number

Note that if any transceiver is re-tuned it must be turned off and turned on again. The rotary dials are read only on power up

## **6) Operation:**

You are now ready to switch each transceiver on and operate the system.

1) Turn on the power in the trap house to power up the CVR power supply unit which in turn operates the trap transceiver.

2) Check to see that the 'PWR ON' light is illuminated.

'PWR ON' illuminated indicates that the unit is powered on and that voice release of the trap is disabled.

3) At this point the 'SIGNAL' light will be flashing.

The 'SIGNAL' light indicates that some part or parts of the system are not communicating. It will flash until all transceivers in the system are powered on and in range.

4) Switch each microphone transceiver on using the touch pad button on the face of each unit. Note that the touch pads require to be pressed lightly and deliberately.

5) Check to see that the 'PWR ON' light is flashing. The 'ERROR' light will normally flash once only. If it continues to flash, then the trap transceiver is turned off, the mic transceiver is out of range with the trap transceiver or a transceiver is not tuned correctly.

6) Switch the referee's transceiver on last. The 'PWR ON' light will illuminate continuously.

Note that as soon as the referee's transceiver is switched on, voice release of the trap is activated, even if less than the full number of microphone transceivers are on.

When the referee's transceiver is on the 'PWR ON' lamp on the trap transceiver goes off.

7) Check that the system is working by operating the trap manually via the referee's transceiver 'TARGET' button. Each time this button is pressed a target will be released. This can be used for 'sighting targets' or to clear the trap.

Note: Press the 'TARGET' button lightly and deliberately. The 'TARGET' button is not instantaneous. *It will release targets even when voice release is disabled.*

You will now be able to call over each microphone and a target will be released on each call. This system has a precise 1/6 second reaction time to match the best manual pullers.

The 'PWR ON' light will go out briefly each time a target is released manually or by voice.

After two minutes of inactivity voice release is disabled. In this condition the 'PWR-ON' light goes off. To re-activate, press 'ON/OFF'. After ten minutes off inactivity the mic transceivers shut down. They will now require to be switched on individually.

## 7) **Fault Finding**

**Trap Transceiver** – has two (2) light indicators and no switches.

**'PWR ON' light:** This will normally be off. This light comes on when first powered up and when voice release is disabled. This light being on is indication that power is on and voice release is disabled.

**'SIGNAL' light:** This will normally be off. This light will flash on if the unit is failing to communicate with any or all of the other transceivers in the set. This can be if a transceiver is powered down, out of range or not correctly tuned.

**Referee's Transceiver** has three (3) light indicators and two (2) switches

**'PWR ON' light:** This will be on continuously while voice release is active. The 'PWR ON' light will blink off briefly on each valid voice call or manual press of the 'TARGET' button.

Each operation of the 'ON/OFF' button sends a signal to the trap transceiver, which then signals back to the referee's transceiver to validate that it has activated or disabled voice release as required. This is indicated by the 'PWR ON' light. While the transceivers are in communication the action between the 'ON/OFF' button and the 'PWR ON' light is as if they are hard wired. If the 'PWR ON' light will go on only while the 'ON/OFF' is pressed or will not turn off, the referee's module is out of range of the trap transceiver or not correctly tuned. If the 'PWR ON' light will not turn on at all check that the battery clips are pressing firmly against the ends of the batteries, the batteries are correctly fitted and no low batteries.

**'SIGNAL' light:** This will normally be off. This light will flash on if the unit is failing to communicate with the trap transceiver, also if the Trap transceiver is failing to communicate with any or all of the other transceivers in the set. Check each of the microphone transceivers to see that they are powered on. The 'ERROR' lights on the mic transceivers should not be flashing. If an 'ERROR' light is flashing, that microphone transceiver may be out of range of the Trap transceiver or not tuned correctly.

**'LO BAT' light:** This will normally be off. If this flashes, then it indicates that either the referee's or any one of the five (5) microphone transceivers batteries are low.

If the system has been inactive for 2 minutes, the Trap transceiver will disable voice release and the 'PWR ON' light turned off. In order to restore voice release, press 'ON/OFF' again.

After ten minutes of inactivity the microphone and referee's transceivers power down. In order to restore the system to normal operation you will need to switch each microphone transceiver on, and then switch the referee's transceiver on.

**Microphone Transceiver** has three (3) light indicators and two (2) switches

**'PWR ON' light:** This will flash intermittently to indicate that this unit is powered on. If there is no light showing, then there is no power. This will normally start flashing when the 'ON/OFF' switch is pressed. If not, check that the battery clips are pressing firmly against the ends of the batteries and the batteries are correctly fitted. The 'PWR ON' light flashes each time a target is released.

**'ERROR' light:** This will normally be off. This light will flash on only if that particular microphone transceiver is failing to communicate with the Trap transceiver.

**'LO BATT' light:** This will normally be off. If this flashes, then it indicates that that particular microphone transceiver batteries are low. The batteries should be changed as soon as possible.

If the system has been inactive for ten minutes the microphone transceiver will switch off. An 'ERROR' light will now be showing on the Trap transceiver. To power the microphones up again, you will need to press the 'OFF/ON' button on each transceiver.

Persistent 'ERROR's indicate that this microphone transceiver is out of range of the trap transceiver or not correctly tuned, the trap transceiver may be powered off, or another mic tuned to the same post number.

Check that all components of the system are powered on and no low batteries.

Check that all components of the system are tuned to the same trap and that each mic is to its own post.

All communication between microphone transceivers and with the referee's transceiver is via the trap transceiver. The trap transceiver is the master controller. Communication at the microwave frequencies used is strictly line of sight and is absorbed by moisture, eg someone standing in the way or long grass. For best results the trap transceiver should be mounted on the outside of the trap house as high as possible. However in many cases it may work fine from within the trap house. Some experimentation may be required for some installations. The internal antenna orientation is such that best results are obtained when the pods are orientated vertically with either flat face pointing in the direction of communication. In most circumstances there will be adequate signal margin to be able to relax this requirement.

**Slow, no targets, or intermittent targets:**

Persistent flashing of the 'SIGNAL' lights can result in no targets, slow targets and false targets. See above.

If no targets, check the 'PWR ON' light. On the referee's module the 'PWR ON' light should be continuously on. It flashes off briefly each time a target is released. On each microphone module the 'PWR ON' light should flash each time the system releases a target. If this is working and there is no target, check the trap machine. On the Trap transceiver the 'PWR ON' light should be off.

Slow or intermittent targets may be caused by the microphone connection. Unscrew the plug from the microphone, check for dirt, moisture or corrosion on the pins. Clean with an electrical cleaning spray and apply a smear of dielectric grease. Ensure that the fit feels firm as the plug is slid home. If necessary spread the male pins apart slightly in the microphone socket using a fine screwdriver or penknife.

## Warranty

### Congratulations on your purchase!

This Canterbury Voice Release wireless product is warranted against faulty materials and labour for a period of twelve (12) months from the date of original purchase.

If service is required during the warranty period, please contact your nearest Canterbury Voice Release distributor. These repairs will be carried out at no charge to the owner, subject to the conditions specified herein.

The owner is responsible for any transportation and insurance costs if the product has to be returned for repair.

This warranty does not extend to defects or injuries caused by or resulting from causes not attributable to faulty parts or the manufacture of the product, including but not limited to, defect or injury caused by or resulting from misuse, abuse, neglect, accidental damage, improper voltage, liquid immersion, vermin infestation, or any other alterations made to the product which are not authorised by Canterbury Voice Release International Ltd.

Please retain your sales documentation, as this will need to be produced to validate a warranty claim.

**IMPORTANT: DO NOT RETURN THIS CARD TO CANTERBURY VOICE RELEASE INTERNATIONAL LTD or YOUR LOCAL DISTRIBUTOR.**

For your reference only, please enter the particulars of your purchase below and retain, along with your purchase documentation

Model:

Serial Number:

Date of Purchase:

Distributor/Dealer: