

INSTRUCTION MANUAL

For the

Canterbury wireless
voice release for

TRAP & DTL



As easy to operate as ABC

- Location of components
- Install batteries
- Switch on
- Start shooting

Contents:

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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 to each
- One (1) scorekeeper's transceiver
- One (1) trap transceiver – 20 foot cable attached
- Five (5) microphone stand mounting bracket assemblies
- One (1) blast resistant mounting bracket for the trap transceiver

NOTE:

BATTERIES ARE NOT INCLUDED IN THE KIT FROM THE MANUFACTURER.

IMPORTANT: TAKE ONE STEP AT A TIME!

OVERALL, THE INSTALLATION AND OPERATION OF THE CVR WIRELESS SYSTEM IS QUITE SIMPLE, AND NOT AT ALL COMPLICATED, BUT WE HAVE GONE INTO A GREAT AMOUNT OF DETAIL WITH THE FOLLOWING INFORMATION TO MAKE SURE YOUR INITIAL INSTALLATION IS CORRECT. THIS GIVES YOU A COMPLETE OVERALL UNDERSTANDING OF THE WIRELESS SYSTEM, AS WELL AS THE ABILITY TO DOUBLE CHECK YOURSELF IN THE EVENT YOUR SYSTEM IS NOT PERFORMING AT 100%.

PLEASE JUST TAKE THE INSTALLATION MANUAL INFORMATION ONE STEP AT A TIME, AND YOU WILL FIND IT QUITE SIMPLE ON THE INITIAL SETUP AND EXTREMELY SIMPLE TO OPERATE IN THE FUTURE.

BASICALLY WE ARE GOING TO TAKE YOU THROUGH:

- 1: PROPER INSTALLATION AND LOCATION OF THE HARDWARE ON MICROPHONE STANDS AND AT THE TRAP HOUSE.
- 2: INSERTING "AA" BATTERIES IN THE 6 TRANSCEIVERS THAT REQUIRE THEM.
- 3: TUNING THE CHANNELS ON THE 7 TRANCEIVER UNITS.
- 4: MOUNTING THE 7 TRANSCEIVERS, 5 ON MIC STANDS, 1 AT THE TRAP HOUSE AND THE SCOREKEEPER UNIT.
- 5: TURNING ON THE SYSTEM. TRAP HOUSE FIRST, MICROPHONES SECOND AND THEN SCOREKEEPER UNIT LAST.
- 6: CHECKING THE 7 TRANSCEIVER LIGHTS TO MAKE SURE EVERYTHING IS CORRECTLY TUNED.

PLEASE JUST TAKE IT ONE STEP AT TIME, AND YOU WILL FIND IT QUITE SIMPLE.

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 which is 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 polycarbonate mounting cover will give full protection from a shotgun shell at 16 yards.

The trap transceiver is the hub of this wireless system. All communication between microphone transceivers and the scorekeeper's transceiver is via the trap transceiver and this requires good line of sight

Microphone transceiver:

Attach the mounting bracket to the microphone stand, as per the addenda and photo on the last page. Once you have installed microphone transceivers as described in addenda, 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 microphone transceiver is facing towards the trap transceiver. 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. (refer to Addenda for more information on this directional position)

Do NOT allow any objects to be 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.

Scorekeeper's transceiver:

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

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

Whilst we have made this unit such a size that it is unlikely to be removed from the scorekeeper's position, you may wish to attach a light weight chain to the scorekeeper'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 scorekeeper'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 are not shipped by the manufacturer. If not supplied by your dealer, the five microphones and one scorekeeper's transceiver each takes 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^2 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 and you should expect around 200 hour's use from each set of 4 batteries.

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

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.

You can now re-fit the top of the transceiver. Note: complete section 5 before reassembling.

Do not over tighten the two hex nuts when re-assembling.

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:

NOTE; YOU WILL NEED A VERY SMALL SCREWDRIVER FOR THIS PROCEDURE.

WHEN YOU RECEIVE YOUR SET, THE MANUFACTURER HAS PRE-TUNED IT TO CHANNEL '01'. SO IF YOU HAVE ONLY ONE FIELD ON WIRELESS, YOU NOT NEED TO RE-TUNE THE SYSTEM AND YOU ARE READY TO GO.

IF YOU HAVE MORE THAN ONE SYSTEM, THEN YOU WILL NEED TO TUNE EACH SUBSEQUENT SET TO A SEPARATE CHANNEL (IF YOUR DISTRIBUTOR HAS NOT ALREADY DONE THIS FOR YOU).

Each microphone transceiver and the trap transceiver has 3 rotary dial switches provided on the circuit board and located below the AA battery clips. The scorekeeper's transceiver has 2 rotary switches only.

You will easily see these when you open the transceivers to insert the batteries on the microphone and scorekeeper'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 location 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.

To set the Field number:

- tune the left and centre rotary switches (both switches on the scorekeeper's unit) to the same two digit number
eg. left switch set to '0' and centre switch set to '1' would designate field '01'
eg. left switch set to '2' and centre switch set to '5' would designate field '25'
- ensure that all 7 wireless transceivers used on each trap field are tuned to the SAME 2 digit number
- if you are running more than one wireless set, then tune the second set at least 3 digits different so that there will not be any frequency leakage between adjacent fields

To set the Microphone number:

- each microphone must have the right hand rotary switch allocated a different number, from 1 through to 5.
- It does not matter which shooting position each microphone is placed on, but it is critical that each microphone is tuned to either 1, 2, 3, 4, or 5 on the right hand rotary switch.

To set the Trap conditions:

- the right hand rotary switch on the Trap unit designates how the system will operate.
- For US Trap/Down-The-Line shooting conditions where the standard 1/6th second delay is required and the unit is operating 5 microphones on the field, then set this rotary switch to 5.
- For all other operating conditions, refer to your Distributor or the manufacturer.

When tuning each of the rotary switches, use a fine-pointed screwdriver only and take care to ensure that the arrow on the switch is pointing to the number you require. You will feel the switch click lightly in to each position.

Now mark each label on the external rear of the microphone and scorekeeper's transceivers so that they correspond to one 'set'. This will mean that you do not mix any units up and cause confusion when setting up fields. You can use 'Trap' number' and the 'Post' number as you see fit.

When you have finished tuning the set, you will have:

- All seven (7) transceivers tuned to the same 2 digit field number.
- Each Microphone transceiver set to 1, 2, 3, 4 or 5.
- The Trap transceiver set to operate 5 microphones on delayed release

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

6) Operation:

THE CVR WIRELESS IS SELF MONITORING:

THIS SECTION ON THE LIGHTS OF THE VARIOUS TRANSCEIVERS IS TO VERIFY THAT EACH COMPONENT IS COMMUNICATING PROPERLY. AGAIN, VIEW THE LIGHTS ON THE UNITS INDIVIDUALLY ON INITIAL INSTALLATION TURN-ON, TO VERIFY EVERYTHING IS CORRECTLY COMMUNICATING. AFTER INITIAL INSTALLATION, IT IS NOT NECESSARY TO VIEW THE LIGHTS AGAIN, EXCEPT TO VERIFY EVERYTHING IS TURNED ON, OR IN THE EVENT SOMETHING IS NOT FUNCTIONING PROPERLY

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 on the Trap transceiver.

'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 'SIGNAL' light will normally flash once only. If it continues to flash, then the trap transceiver may be turned off, the microphone transceiver may be out of range with the trap transceiver or a transceiver is not tuned correctly.

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

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

When the scorekeeper'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 scorekeeper'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 blink out briefly each time a target is released manually or by voice.

Automatic shut down:

After 2 minutes of no activity over the set, the scorekeeper's transceiver will automatically switch off. This ensures that a set cannot be left on continuously and presents a hazard on the grounds, through a false release when someone may be at the trap machine.

If this mode has occurred, then simply press the 'PWR ON' switch on the scorekeeper's transceiver and the system will revert to full operational mode again.

The microphone transceivers will remain powered on full time until either switched off manually or the trap transceiver is powered off. When the trap transceiver is powered off, the microphone transceivers will automatically power off after 5 minutes.

NOTE: If for any reason during a shoot, the trap machine (and hence the trap transceiver) is switched off and 5 minutes elapses before the trap is powered up again, then you WILL HAVE to re-power up each microphone transceiver.

A visible sign that the trap transceiver has been powered off, is that the microphone transceiver will blink rapidly during the 5 minutes prior to powering off automatically.

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.

Scorekeeper’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 on each valid voice call or manual press of the ‘TARGET’ button.

‘ON/OFF’ BUTTON: Each operation of the ‘ON/OFF’ button sends a signal to the trap transceiver, which then signals back to the scorekeeper’s transceiver to validate that it has either 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 scorekeeper’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 there are no low power batteries in the set of 4.

‘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 ‘SIGNAL’ lights on the microphone transceivers should not be flashing. If a ‘SIGNAL’ light is flashing, that microphone transceiver may be out of range of the Trap transceiver or not tuned correctly.

‘LO BATT’ 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.

‘TARGET’ button: Operation of this button will manually release a target. If no target is released, then check that the Trap transceiver is powered on and that the scorekeeper’s unit is fully powered.

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.

‘SIGNAL’ 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 the microphone transceiver batteries are low. The batteries should be changed as soon as possible.

Persistent 'SIGNAL' light flashes, 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 scorekeeper's transceiver is via the trap transceiver. The trap transceiver is the hub of the system. Communication at the microwave frequencies used, is strictly line of sight and may be absorbed by moisture, eg someone standing in the way or long grass. 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 is an indication of loss of signal between transceivers. Loss of signal can result in no targets, slow targets or false targets. See the above for causes.

If no targets, check the 'PWR ON' light. On the scorekeeper'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.

Microphones:

As with our wired systems, your new wireless system is only as good as the microphones you will be using. If the microphones you are using are old and are in less than perfect calibration, then the wireless set may not perform to full expectation. We recommend that you use only CVR approved microphones. If you are intending to use an old set of CVR microphones (off a wired voice release unit) then we suggest you return them to your Distributor for checking their calibration.

MANUFACTURER:

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New Zealand.
Tel: 64 3 356 0327
Fax: 64 3 356 0328
Contact: Mr Bruce Rickard
E-mail bruce@cvr.co.nz

Warranty

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 distributor. These repairs will be carried out at no charge to the owner, subject to the conditions specified herein.

The owner is responsible for 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:

Distributors & Service Centre details - UK/Europe/Canada

<p><u>Mid Wales Shooting Ground</u> Ffinnant Farm, Trefeglwys, Caersws Powys SY17 5QY UNITED KINGDOM Contact: <u>Mr Arthur Williams</u> Tel: (01686) 430 215</p>	<p><u>Claymate Technologies</u> Silver Willows, The Croft Bures, Suffolk CO8 5JL UNITED KINGDOM Contact: <u>Mr Rick Fornalski</u> Tel: 01787 228 143</p>
<p><u>Beomat Sweden AB</u> Norra Ind. Omr S-688 21 Storfors SWEDEN Contact: <u>Mr Sune Svensson</u> Tel: 46 550 617 70</p>	<p><u>Western Gun Parts</u> 18124 - 107 Ave Edmonton, T5S 1K5 CANADA Contact: <u>Mr Erv HEIMAN</u> TEL: 780 489 5711</p>

Distributors & Service Centre details - USA

<p style="text-align: center;">Rocky Mountain States</p> <p><u>Rocky Mountain Clay Sports</u> 8144 S Kearney Ct Centennial, Colorado 80122 Tel: (720) 530 5327 Web: www.rmclaysports.com <u>Mr Gary Norton</u></p> <p><u>Distributor & Service Centre</u></p>	<p style="text-align: center;">Alaska</p> <p><u>Starichkof Enterprises</u> PO Box 50 Anchor Point, Alaska 99556 Tel: (907) 235 5534 Fax: (907) 235 6373 <u>Mr Dave INMAN</u></p> <p><u>Distributor & Service Centre</u></p>
<p style="text-align: center;">NW USA + BC, Canada</p> <p><u>Northwest Shooters Supply</u> 10410 Douglas Drive S.W. Tacoma Washington 98499-4817 Tel: (253) 582 2940 Fax: (253) 584 2707 <u>Mr Ron Tree</u></p> <p><u>Distributor & Service Centre</u></p>	<p style="text-align: center;">Southern USA</p> <p><u>Wells Equipment</u> 3302 C R. A3901 HCR 72 Stanton, Texas 79782 Tel: (432) 270 0535 Fax: (432) 459 2694 <u>Mr Theadore WELLS</u></p> <p><u>Distributor & Service Centre</u></p>
<p style="text-align: center;">Central USA</p> <p><u>Champion Shooting Supplies</u> N5512 CTH Onalaska, Wisconsin 54650 Tel: (608) 781 5073 Fax: (608) 781 5076 <u>Mr Ken Bethke</u></p> <p><u>Distributor & Service Centre</u></p>	<p style="text-align: center;">Eastern USA</p> <p><u>Target Shotguns</u> 330 Airport Road PO Box 66, Arden North Carolina 28704 Tel: 1 800 684 6329 Fax: (828) 654 9925 Web: www.targetshotguns.com <u>Mr Bob Schultz</u></p> <p><u>Distributor & Service Centre</u></p>
<p>Mr Bill May 156 Kaneg Ridge Road Greenbrier AR 72058 Tel: (501) 679 4626</p> <p><u>Service Centre only</u></p>	<p>Mr Bryan Pierce 432 Oakridge Drive Portage Wi 53901 Tel: (608) 617 6631</p> <p><u>Service Centre only</u></p>