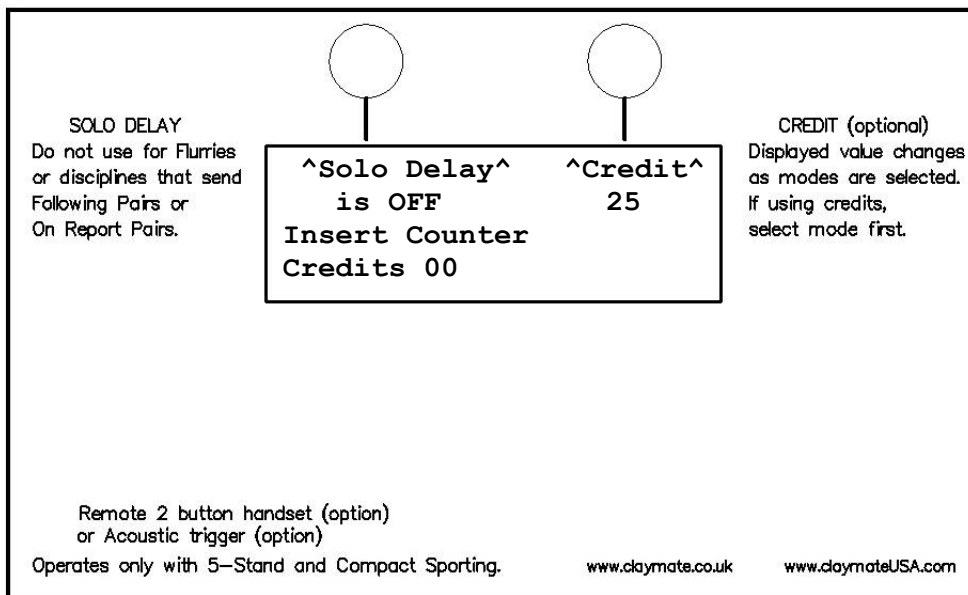


Evolution Claymate. Control Box.



MANUAL For Software versions V 1.3x

The Evolution Multitrap Claymate.

The Evolution is the latest 'state of the art' Secure, Clay Counting & Trap detecting, Multitrap Claymate. An extended range of Handsets are available and are fully interchangeable and compatible with the Evolution range of controllers.

The top of the range Evolution Claymate controller is recognised by the distinctive, large Liquid Crystal Display, used to inform the user of any relevant System information.

Features common to all Claymate Clay Counting Trap Controllers.

Security.

Before any Claymate Trap Controller will launch clays, there must be a correctly coded Counter Box plugged into the socket on the side of the unit.

A Counter Box is issued to a shooter who will subsequently pay for their clay usage based on the Count indicated.

There are more than 4000 'differs' in the coding.

Usually the code is setup at the factory and in all cases the code will not be issued again unless it is for your own use.

Counter Boxes are supplied separately but only to existing customers.

Clay Counting.

All clays launched are counted.

This statement assumes there are clays in the trap. Perhaps it would be more accurate to state that all trap releases will be counted.

The clays are counted before the trap is released and measures are taken to ensure that the Counter Box is present and has been successfully incremented before the clay is launched.

A wrongly coded Counter, or one from another ground, will be ignored by the System.

It will allow a response to button presses but will NOT launch or count clays.

Clay Auditing.

In parallel with the clay counting above, the System logs all launches by way of an internal Audit Counter. Given the information from the audit counters, the clay counters and the clays in stock, it is possible to detect and identify any clay 'shrinkage' and where it is has occurred.

Solo Shooting.

The entire Claymate Family supports the lone or Solo Shooter.

Not everyone likes to practice with an audience however well meaning or necessary their presence is.

The Shooting Ground that could not easily accommodate single guns can now welcome them all.

The benefits of the Claymate System will very soon repay the investment.

The Evolution Installation.

The Evolution Claymate comprises the Main Controlling element into which all the traps must be connected and the Handset with the command buttons.

The third part, though not usually supplied, is the POWER SUPPLY which can be any AC or DC source within the following specification: -

Supply a minimum of 12 volts DC to a maximum of 24 volts DC.

An AC supply of 12 to 15 volts (off load) is acceptable.

Power supplies are available as an option.

DO not connect ANY of the cables to the local mains supply!

MECHANICS.

The **Main Control Box** should be placed at a height that allows easy insertion of a Counter Box, but not so low that it becomes a foot rest or a handy seat!

The Control Box is weather resistant but care should be taken to minimise the effects of wind, rain or snow. It is a valuable part of your inventory and should be treated as such.

The **Release Controller** can withstand heavy rain. However, there is no harm in providing some shelter from the elements.

The Equipment consists of electronic circuitry and at least two microprocessors.

Care and respect will be rewarded.

POWERING.

The white cable is the supply cable to the unit.

If a DC source is used, observe the cable polarity. Brown is the positive and Blue is the negative.

Failure to observe the correct polarity will result in the System not powering up. No harm will occur.

Observe the maximum supply ratings stated in **INSTALLATION.**

CONNECTING THE TRAPS.

The 8 black cables are the Trap Release Outputs.

Connect these; observing that trap 1 is closest to the white power lead.

Trap release voltages can be from 6 to 40 volts AC or DC.

Each output is optically isolated from its neighbour.

Some of the more sensitive traps may launch as the connection is made. This should only happen once and is due to the small surge current taken to charge the triggering mechanism of the System.

For USA supplied Systems, an additional relay panel may be installed to allow connection to traps that have 110 volts AC on their release cords.

Use of this relay panel defeats the trap detection circuitry, fooling the System into thinking all traps are connected, even if they are not.

See the section **USA Systems with Relay Panels, towards the rear of this manual for additional information.**

CONNECTING THE HANDSET

The Handset is connected to the Controller by an ORANGE three core cable with waterproof connectors at each end.

The connectors are waterproof when the locking rings are finger tight.

You are not hanging shelves! The plastic materials used are built to perform a function that they do well.

Military connectors are 20 times the cost and stick to your hands in cold weather.

Remember, warranty is not an excuse to be stupid.

POWERING UP.

When power is first applied to the unit, sounders within the Handset AND the Large Control box should play a start up tune. ('BLN' in Morse code).

When the tune stops the System is ready to operate.

Should one or both remain silent, ensure that more than 10 volts is being supplied to the unit and that DC polarity is correct.

The unit can be quickly tested with two PP3, 9 volt batteries connected to provide 18 volts to the System. Current consumption is 30mA with small peaks during trap launches and sounder operation.

Two PP3 batteries should last around 4 hours if a local supply is not available.

PP3 batteries may not last if a relay panel is present due to the higher current needs of the relays.

The unit powers up in 2 distinct stages.

These should be almost invisible but the process will be described here for completeness.

Initially, both units are provided with DC and they start as individual parts.

Once the Startup tune is played out, the HANDSET waits for some information from the Controller.

This data comprises the current Audit (stored in the controller) and what traps have been seen.

If the controller does not send this information within 2 seconds, the Handset will display the text “**No Controller**”.

Attend to the controller is this message appears after a second power cycle.

In the mean time, the Controller displays the text “**Wait...**” on its own large display.

When the Handset has replied to the controller, this text disappears and the controller displays the credit status, the Solo Shooter status (OFF) and the credit button value (Typically 25).

As the handset MAY legitimately not be connected, the Controller will wait indefinitely for the handset to re-appear.

The Controller powers the Handset so it assumes that if it has power, there must be a Controller.

The interconnecting cable (3 core) between the Handset and Controller has been tested to in excess of 300 metres with no loss of data.

If the handset ever displays the text, “**Wrong Response**” after a power up, this may either be caused by an obscene length of cable or a scratchy connection which scrambled the data.

Proven operation over 300 metres of cable is a test, not a specification.

If you ARE operating over such cable lengths, please refer to BLN for advice.

System Operation.

With your System you will have been supplied a CONFIGURATION KEY.

NORMAL OPERATION.

In normal operation, the configuration key is not required and should never be left inserted.

```
      ^more^  
1 Sporting  
2 'FITASC'  
3 5-Stand
```

In Handset Manual describes in considerable detail, the screens and allowable button inputs

```
      ^more^  
4 Compact Sport  
5 Flurry  
6 SETUP
```

Option 6 is for System Set-ups

```
^menu^  
  
Key ?
```

Pressing button 6 to enter the set up menu will show this screen asking for the Configuration Key and offering a way out to the Menu if a key is not available.

Once inserted, the following screen appears.

```
^menu^      ^more^  
1 Traps 1234...  
2 Memory  
3 Show Audit
```

Button 1 toggles the Handset display to show traps as 1,2,3 or A,B,C. As depicted here, the traps are shown as 1,2,3.

Button 2 gives access to the Handset memories where Custom sequences for 5-Stand, Compact Sporting and Flurries are stored.

Button 3 is a simple restart of the system to show the System Audit.

^menu^ ^more^
1 Traps 1234...
2 Memory
3 Show Audit

Pressing **^more^** will show the second page in which there is only one addition option...

^menu^ ^more^
4 TERMINAL

^menu^
1 Sounder ON
2 Mode Lock OFF
3 Bonus Birds 0

Pressing button 1 toggles the Main Control Box acknowledge beeps ON or OFF.

This does not affect the sounder within the handset in any way.

Button 2 cycles through the 7 Mode Lock options being...

OFF. Meaning all modes are available to the user.

1 Only allows Sporting mode to be selected.

2 Only allows 'Fitasc' mode to be selected

3 Only allows 5-Stand to be selected

4 Only allows Compact Sporting to be selected

5 Only allows Flurries to be selected.

1/2 Permits Sporting and 'Fitasc' modes

3/4 Permits 5-Stand and Compact Sporting modes.

Button 3 cycles through the bonus birds setting indicating the number of 'free' targets that will be credited in addition to the 25*** credits selected by pressing the credit button.

Additional credits are only added when a complete credit of 25*** targets has been successfully added to the connected counter.

Removing a counter during the crediting period will result in only those targets credited being available to shoot.

The setting ranges from 0 (none) to 3

Note that the Credit value CHANGES dependant on the number of targets in a particular sequence.

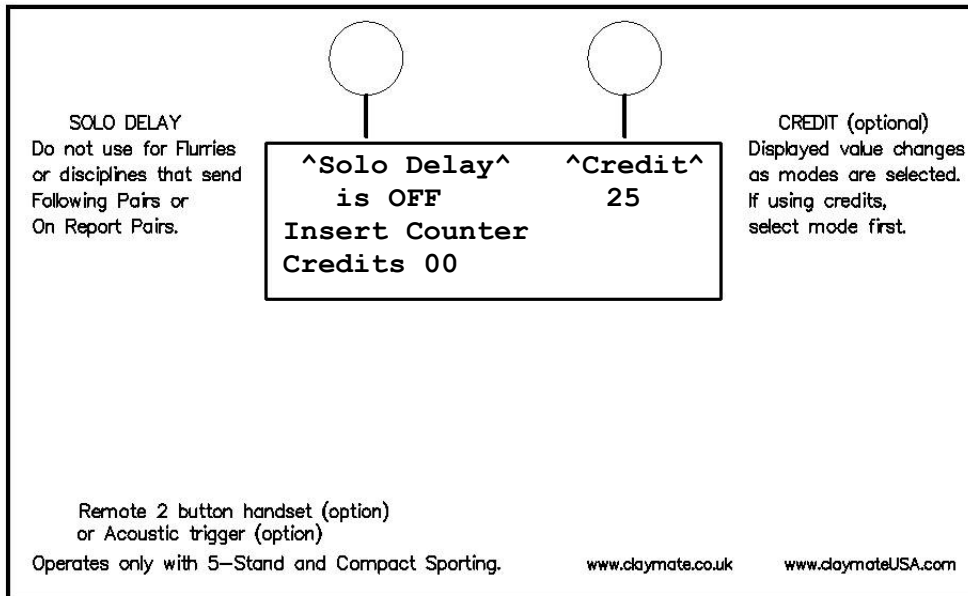
The default of 25 would change to, say, 40 if a 40 bird 5-Stand was selected.

Indeed, selecting a 4 man 75 bird flurry will change the credit value to 75.

Sporting and 'Fitasc' modes have a default credit value of 25 targets.

When all changes and adjustments are completed, the Key should be removed and the **^menu^** button pressed to restart the System with the new settings.

The User Buttons.



The User will typically see this display when they arrive at the stand.

The text “Insert Counter” is offered when the credits displayed on the bottom line reaches Zero.

Pressing the **^Solo Delay^** button toggles the delay ON or OFF.

Pressing **^Credit^** will add 25, or whatever value the selected discipline needs, to the connected counter. The CREDITS display will increment to show a running total of current credited targets

Unlike the Skeet Claymate, credits remain until used or the System is turned off or reset. Additionally, the Solo Delay remains ON, if selected, even when the counter is removed and/or there are no Credits remaining.

If the user calls for a target from a non existent trap, no target will be released or counted. A message “Missing Trap X” will be displayed.

This text is in addition to any text that is displayed on the HANDSET when a discipline is selected that requires traps that cannot be found on the System. 5-Stand, for instance.

Note that the handset will not report a missing trap in Sporting or ‘Fitasc’ modes. The controller will report the missing trap in all cases.

USA Systems with Relay Panels

For traps that have 110 volts AC appearing at the release button end, found typically in the USA and thoroughly illegal in the UK, Claymate offers an internal relay panel to isolate the user from the potentially lethal voltages.

The relay panel is a Junior Claymate release panel fitted inside the lid of the Controller and connected to the Claymate release Electronics.

Sadly, the presence of the relays is seen by the Trap Detection circuitry as an indication that all traps are present and correct, even though there may be some relay outputs not connected to traps at all.

In this case, and in order not to annoy the shooters who would end up paying for non-existent targets, it is recommended that trap outputs that are not connected should be disconnected **INSIDE** the Claymate by simply removing the Green Plug that connects to the main Claymate processor board.

Removal of this plug will prevent Claymate seeing the relay and hence Claymate will know there is no trap connected.

Future Software additions to look out for.

It is planned to give the Multitrap Claymate programmable trap cycle timers to conform to all current Clay Counting Controller Specifications.

It is also planned to allow for the removal of traps from the System Electronically to prevent the launching of targets from traps that are either not connected, (In the case of a relay panel) or the segregation of traps that are required for a later competition, say, where prior sight of the target would be frowned upon. This always was a feature of the older 'DTMF' Systems but has not quite made it into this advanced model.

Allowing for traps to be counted as single or double arm traps will **NOT** be permitted in this Claymate. The lower cost (Baby Evolution) Claymate will have this double arm count facility in due course.

GUARANTEE & POLICY STATEMENT

Claymate Trap Control Systems is wholly owned and operated by **BLN Technical Services**.

BLN Technical Services guarantees the Claymate product described to be free of manufacturing defects for the purpose of clay trap launcher control for a period of one year from date of purchase in the UK. Non UK countries may be subject to a different warranty period at the discretion of local dealers.

This guarantee specifically does not cover wear and tear to cables or enclosures, faults caused by wear and tear, misuse, abuse or application of excessive or inappropriate voltages, including lightning strikes.

The owner shall at all times be responsible for the care of the product and shall take steps to ensure that the product is protected from the damaging effects of wind, rain or snow.

BLN Technical Services reserve the right to change or amend the specification or software without notice. Software changes as requested by customers become the copyright of BLN technical Services and such changes may be included in future software releases, or may be offered to existing customers as an option or an upgrade.

The software supplied at any time has been thoroughly tested and is believed to be free from bugs or anomalies.

Software upgrades may or not be chargeable at the discretion of BLN.

Neither Claymate Trap Control Systems, BLN Technical Services or agents of BLN will be responsible for accidents or injury or loss caused by operation of traps or associated equipment under the control of any Claymate System whether the operation of such equipment is desirable or not; is caused by operation of any equipment when it is unsafe to do so, or under any fault condition of any equipment howsoever caused including 'acts of God', or man.

Repair policy, and care of the Equipment

Suspected problems can usually be rectified or explained after a few minutes on the telephone. If in doubt... Read the instructions.

If Claymate is returned for warranty work, a copy of the original invoice may be required.

The printed board has no user serviceable parts apart from the processor that can be changed to implement a software upgrade or special change.

Do not remove or replace the processor or short processor pins on powered equipment. That path can lead to large repair bills.

The Handset will stand rain but it is a valuable piece of kit. Do not leave out when not in use.

The Release Controller IS waterproof yet it too should be treated with some respect.

Warranty does not include stupidity or neglect.

Do not dry a damp unit out in a microwave oven.

This will destroy the unit completely and BLN will not entertain anything other than a complete replacement at your expense.

In all cases, BLN reserves the right to repair or replace boards at the discretion of BLN.

Replacement parts may be new or 'reworked' at the discretion of BLN.

The design of mechanical or electronic components may change without notice.

Evolution Multitrap Claymate Technical Specification.

Supply voltage range.

12 volts DC

15 volts AC

Current requirements.

30mA total of which 10mA is the Handset, at 12v DC

Add 10mA per energised relay if a relay option is fitted, (half a second energised time)

Trap Release Specification. 2 build options.

➤ 12 to 48 volts AC/DC (standard UK build state)

➤ 'Volt free' relay contacts rated at 240v 3A max. (USA Option for Winchester traps)

Built in Trap Cycle Timer.

Timing is factory set in software at 2.5 seconds.

Controlling elements.

Arizona Microchip PIC.

Auditing.

To one target short of 10 million launches.

Printed Circuit Boards.

Conformal coating to high specifications.

All Claymate products have been tested and certified to exceed European EMC regulations and specifications including conducted and radiated emissions and susceptibility to external electromagnetic fields.

An independent EMC test house was employed to perform the certification.

The specifications achieved exceed FCC specifications.

BLN Technical Services reserve the right to change specifications in the pursuance of product improvement without notice.

Such changes are, however, usually announced on the web site.

If you have any good experiences whilst using the Claymate product, tell your friends.

If you have any bad experiences... Tell me!

BLN Technical Services

E-mail rick@blntechnicalsvcs.com

Claymate Trap Control Systems

E-mail sales@claymate.co.uk

Silver Willows

The Croft

Bures

Suffolk

CO8 5JL

UK

Tel +44(0) 1787-228143

Fax +44(0) 1787-227503

WEB www.claymate.co.uk

ClaymateUSA comprises...

Kevin Sheren of Mid Michigan Mobile Clays LLC

ksheren@acd.net

(517) 321 6230

Jim Moses of Sporting Specialty Co

clamp5@aol.com

(248) 613 6786