

# *Skeet Claymate*

(WITH ISSF AND LOW TARGET WARNING CAPABILITIES)



**Manual covering Issue 7 PCB and Software revision 8.0x**

**THIS MANUAL IS INCOMPLETE AND SHOULD NOT BE PUBLISHED**

## ISSF Claymate Distinguishing Marks & Features.

The ISSF Skeet Claymate replaces the older (but still powerful and useful), 'Squad Skeet' variant. The ISSF variant is recognised solely by examination of the two connectors situated under the unit. A Skeet Claymate with two identical 3 pin sockets is the older 'Squad Skeet' Claymate. The ISSF Claymate has one 3 pin and one 6 pin connector. NOTE that the ISSF Claymate requires an external power supply of 12 volts AC/DC.

### What additional features does the ISSF Claymate offer?

ISSF rules state that during ISU Skeet operations, a lamp shall illuminate when the trap release button is pressed and shall extinguish when the trap is fired.

The lamp does not operate in ENGLISH SKEET Mode. (Or zero delay times)

Selection between 'English' or ISU (ISSF) Skeet is performed using the CONFIG + CREDIT mechanism covered in depth on page 7

Additionally, the ISSF Claymate offers the following features.

#### ➤ **ABT/DTL Acoustic Delay.**

In addition to the 3 second random delay for ISU Skeet, a random 1 second delay for ABT/DTL is available as per the latest rules requiring such a delay for acoustic systems (if one is not provided by the acoustic system in use). See page 7 for more information.

#### ➤ **Low Target Warning.**

The ISSF Claymate is preset with 7 carousel capacities including a testing option and 'OFF'. When EITHER trap gets within the low target limits, the Low Target Lamp is illuminated.

#### ➤ **Separate Audit Counters.**

Claymate monitors the targets drawn from each trap and records them in two audit counters. The audit is begun in the normal way with the addition of a "separator chirp" to indicate the second counter is to be read, followed by a readout in the normal way.

#### ➤ **Stuck Button Warning.**

If any of the 6 user buttons are held for more than 8 seconds, the Claymate will issue a series of equally spaced beeps and silences not created under any other circumstances hence this noise should stand out from the 'normal' beeps and chirps that the shooter will be familiar with.

#### ➤ **Enhanced Trap Detection.**

When the Claymate is used with just ONE trap, such as ABT or DTL, the trap detection allows all THREE disciplines to be selected using a multi-pole switch wired... SKEET - DTL - ABT.

Claymate will detect a single trap on whichever output it is connected and will release that one trap irrespective of whichever button, High or Low, is pressed on the handset.

During single trap operation, pressing PAIR will provide a following pair from that one trap. Whilst this is not strictly ABT or DTL, it can provide more interesting targets if required.

#### ➤ **High Credit Capacity.**

The Claymate copes with 10 shooters all 'crediting' 1 round with 3 bonus targets each.

#### ➤ **Target Release Without Counter.**

Target release will occur without a counter as long as there are 'credits' stored.

When the credits run out, target release is disabled.

Removing a counter during the crediting process will allocate only the number of targets that Claymate could count before the counter was removed.

Additional 'bonus' targets will be added internally when a complete round of 25 is credited successfully.

## Caution

**Do not connect the release wiring directly to a vehicle battery. This could damage the unit, and WILL invalidate the warranty. When first connecting traps to the System, the launcher may throw a clay.**

## Warning...

**The Claymate power supply is capable of supplying damaging current in the event of a wiring error. It is recommended that either Claymate approved personnel carry out the installation or a person qualified to read a wiring diagram correctly without error does the deed.**

**Damage caused by wiring errors will invalidate the warranty.**

**Connection diagrams are supplied with this manual ONLY if the Claymate Power supply is required.**

**There are many Power Supply build options to include...**

- **'Trap Release Amplifiers' for traps that provide release voltages outside the release range of Claymate. Release voltages less than 12 volts AC/DC or greater than 40 volts AC, 60 volts DC will require the Amplifier option**
- **3 wire Claymate connection for trap control FROM Claymate.**
- **3 wire release OUTPUT to connect to existing 3 wire control.**
- **12 volts AC/DC input eliminating the mains transformer if a suitable supply is available from another source.**

## Connecting the Power Supply.

**(An additional document is supplied with the Power Supply. Read it Now)**

The ISSF Claymate uses a 6 pin connector to provide power to the Claymate and to deliver ISSF, Low Target and additional signals to the power supply which also drives the signalling lamps.

It is recommended that wiring is carried out in the following order.

1. Connect the green and brown (6 core) wires to their designated terminal within the PSU.
2. Connect the 6 pin Bulgin to the Claymate and apply power. (Claymate powers up.)
3. Connect a Counter and verify that attempting to launch a target causes Claymate to send "S.O.S". This signal is output when no traps can be detected as in this case.
4. Connect Claymate release wires to the relay Amplifier within the PSU or directly to the traps dependant on which build option is provided. See '**Connecting the traps**' for details.
5. Verify traps are launched from the Claymate as required if Claymate is wired directly to traps and then GO TO 9. OR...
6. Verify the Relays used for the 'amplifiers' operate as required.
7. Connect traps as required noting that 3 or 4 wire connection is allowed as the relay amplifiers provide 2 isolated contact closures.
8. Verify traps release as required.
9. Connect the Low Target and ISSF lamp drive wires, Red and Orange from the 6 way cable to their respective terminals within the PSU. Note that during the installation process the Low Target relay might energise when the Orange wire is connected.
10. The ISSF relay drive can be tested by selecting ISU from the configuration menu (PAGE 7) and noting that the ISSF lamp drive relay operates during ISU delays.
11. Connect the ISSF and Low Target Warning lamps to their respecting terminals and verify that the ISSF lamp illuminates as required and that the Low Target lamp operates as this should be close to operating during the testing set out above.

12. Connect the front panel button to the respective wires and verify that pressing the button extinguished the Low Target lamp.

13. Set the correct target capacity as described on page 6.

**If a 2 core power cable is supplied, apply +12 volts to the Brown wire and ground to the Blue wire.**

### **Connecting the Traps.**

**BUILD OPTION 1. (The standard build for Claymate)**

**Two cables from the Claymate System for connection to the clay launchers.**

**The GREY cable** has three cores, two are BLACK and one is GREEN & YELLOW.

This GREY cable relates to the 'A' trap or 'Hi House' trap.

The BLACK cores should be connected directly to the trap release wiring which should provide at least 10 volts AC or DC.

The GREEN core is not used and should be ignored.

**The BLACK cable** from the controller has two cores coloured BLUE and BROWN.

This cable should be connected to the 'B' or Low House trap release circuit.

Polarity is unimportant.

Both release circuits are optically isolated from each other and the Claymate metalwork offering electrical isolation to 2500 volts The Claymate CANNOT under any circumstances be directly connected to a 110 volt release circuit WITHOUT a Release Amplifier or isolation relay circuit.

#### NOTE

Do not connect the release wiring directly to any power supply.

Failure to observe this requirement could damage the unit.

### **Connecting the Traps.**

**BUILD OPTION 2. (Custom only)**

**One 3 core cable from the Claymate System for connection to the clay launchers or an original 3 wire, 3 button release connector**

**The GREY cable** has three cores, two are BLACK and one is GREEN & YELLOW.

The green and yellow cable is the release common and should be connected accordingly.

The Black cores are numbered '1' and '2' on the insulation.

Core '1' is designed for the High House and cable '2' for the Low.

The three cores can thus be connected either directly to the existing 3 core release circuit OR can be wired into the Power Supply to activate isolation relays in the event that very high or very low voltages are present on the release wires.

#### NOTE

**Do not connect the release wiring directly to any power supply.**

**Failure to observe this requirement could damage the unit.**

# System Configuration.

## Use Configuration to tell the System...

- How many 'bonus' birds to allow per round of 25 ( None to 3 )
- To use ISU or English rules Skeet.
- Engage the Acoustic random 1 second release delay.
- The actual cycle times of each of the connected traps if the default 2 seconds is not suitable.
- To report the internal audit values.
- To change or report the current carousel capacity for Low Target Warning.
- To reset the Low Target Warning lamp. (assuming no external button is fitted)
- To reset the processor, restore default trap cycle timers and to clear any cached targets.

## To enter Configuration mode.

The configuration key is inserted into the keyhole underneath the unit. It is a small black square surround with an obvious keyhole shape in the centre.

Turn the key clockwise, gently, very little effort is required. When the key turns, the unit will signal configuration mode with a chirpy warble, and the key will lock into the keyhole.

Once the key is turned and the System has warbled to indicate configuration mode, there will be a short period of silence followed by an audible representation of the number of clays currently allowed for No Birds. These are the 'bonus' targets.

A short 'chirp' indicates that no additional clays have been added.

The beeps indicate the number of clays added for no birds, up to a maximum of 3 (three).

The CREDIT and DELAYED buttons perform different functions depending on whether these are pressed and RELEASED or, pressed and HELD.

## How to...

### Change the bonus Clay setting.

A Counter is not required to change this setting.

Pressing and releasing the **DELAYED** button will add one clay to the 'bonus' count and the System will respond by sounding the requisite number of beeps. Allow the Claymate time to report the right number of beeps.

NOTE that a maximum of 3 clays is currently allowed.

The Claymate will cycle through 1,2,3,0,1,2,3 as the button is pressed and released.

Leave Configuration by removing the configuration key.

## How to...

### Reset the Claymate.

Pressing and releasing INSTANT whilst in Configuration mode will RESET the processor.

This is useful if the System suffers a stroke and thinks it's a toaster.

At this time, the System reverts back to factory cycle timer settings and a cleared clay cache.

## How to...

### Report or change the carousel capacity.

Pressing and HOLDING the Delayed button will firstly make a change to the bonus setting (unavoidable) but if the DELAYED button is held for 8 seconds the Claymate will report the current carousel capacity by issuing a number of chirps.

Keep the button PRESSED if you want to make a change to the setting, otherwise release it as soon as the reporting process starts.

The 7 carousel capacity options, reported by the chirps are...

1. 280 targets with a warning when 20 targets remain.
2. 300 targets with a warning when 20 targets remain.
3. 360 targets with a warning when 30 targets remain.
4. 400 targets with a warning when 40 targets remain.
5. 600 targets with a warning when 60 targets remain.
6. 5 targets. Used for system testing.
7. OFF. Where the Low Target Warning is disabled.

When the Claymate is chirping, say the 3<sup>rd</sup> option of 360 targets, the button must be released before the next set of chirps begins in order to set the third option.

Claymate acknowledges the **write** to memory by issuing a long beep.

The **reading** of the setting from memory only occurs when the Claymate resets.

In order to **USE** the setting just set, exit config by turning the key and then turn the key to re-enter config.

Reset Claymate by pressing and releasing the INSTANT button.

Before removing the key, once Claymate is reset, check that the setting made to the BONUS targets which was nudged by the carousel setting process, is as you want it. See page 5, How to change the bonus setting.

**Note that the actual capacity of the carousels as they run down is NOT stored when Claymate is turned off. When Claymate powers up, or is reset, the capacity counters are restored to FULL.**

## How to...

### Reset the Low Target Lamp.

- Method 1. If an external Low Target reset button is available. (The preferred option)  
Pressing this button will extinguish the Low Target lamp if lit, and reset the carousel counter. It is assumed that the carousels have been filled to capacity before the button is pressed.
- Method 2. If an external Low Target reset button is **NOT** available.  
Enter Configuration and then press and HOLD the CREDIT button.  
This will change the English ISU selection, (unavoidable) but HOLDING the button for more than 8 seconds will force a reset of the Low Target lamp and reset the capacity to 'FULL'.  
The Lamp will extinguish and come on again.  
It is assumed that the carousels have been filled to capacity before performing this operation.  
Before removing the config key, restore the English ISU setting.  
When the key is removed, the Lamp, if illuminated, will go out.
- Method 3. Enter configuration and RESET Claymate by pressing the Instant button.  
This method is quicker than method 2 BUT it WILL clear any cached targets that the shooters may want to shoot and reset any trap cycle timers that may be in use. Any other settings are unaffected.

## How to...

### Change Release delays. (None, ISU & DTL)

Pressing and releasing the **CREDIT** button switches between English Skeet (1 beep) ISU (2 beeps) and "DTL" random 1 second acoustic delay (3 beeps).

## How to...

### Change the cycle times of a trap.

**It will help to have sight of the trap or knowledge that the trap has reset and can throw again.**

- Press the button of the trap you wish to adjust.  
The trap selected will launch.  
The System will now mark time up to the point at which you...
- Press the trap button again.  
The System will use the time between the two launches to wait for the trap to cycle.  
A third clay will be launched to confirm that the trap has indeed managed to cycle in the time recorded.

Repeat the above process if you wish to change your original timing, or if you wish to adjust the cycle time of the other trap.

**Note these settings are NOT stored over a power down.**

## How to...

### Read the Internal Audit Counter.

Pressing **PAIRS** will read the clay count from the internal non volatile memory.  
The clay count capacity is a MAXIMUM of, 9,999,999 clays. In other words, 1 short of 10 Million per trap.

The method used to express the clay count is quite unique and very easy to use.  
You will need a pen and paper to write down the numbers down as they appear, and it works like this...

You need a counter. The ONLY condition is that the very LAST digit MUST READ '0', ZERO.  
For the purposes of this explanation, a small clay count of 123 will be described.

**As you gain experience, you will be able to read the audit by counting the beeps without a counter.**

- Plug in the Counter, noting the LAST digit is ZERO.
- Press PAIRS on the handset.
- The counter will increment, beeping as it goes, and STOP with '1' displayed in the LAST DIGIT.
- The display will remain static for 2 seconds... Write the number down.
- The counter will increment silently to zero and then increment and beep to display '2' in this case.
- The display will remain static for 2 seconds... Write the number down.
- The counter will increment silently to zero and then increment and beep to display '3' in this case.
- The display will remain static for 2 seconds... Write the number down.
- The counter will then increment silently to zero

The Claymate has just reported the HIGH house audit.  
Following a brief pause and a chirp to mark the separation between audits, the LOW house audit will follow.  
The Low house audit may be different to the High house audit. This is not uncommon.

The process is designed to reset the LAST DIGIT to zero so you can either read the clay count again, or move to another Claymate to repeat the process.

In the above example you would have written down 1,2,3 which is 123 targets launched.

Note that a zero digit is output as TEN beeps so 1,230 targets would be expressed as 1 beep, 2 beeps, 3 beeps and 10 beeps.

Once you have done the process a few times, it will become more familiar.

It is now possible to do an audit of the entire ground in slightly more than the time taken to visit each stand.

This is a significant advance over earlier Claymate models.

The system should be allowed to restore the last digit to ZERO. If you remove the counter before the process is completely finished, the last digit on the display may not be zero.

The Counter box will appear to clock up large clay counts as it is always incremented in order to allow the LAST DIGIT to display the number you need to write down.

The number the Counter eventually displays is MEANINGLESS.

You should take note of this when the counter is eventually reset for use as the number displayed will not represent targets actually launched.

The last digit is all that is important in this instance and this method is the only way to present a large audit value as the display is only 4 digits long and could never read directly millions of clays.

The internal Audit Counter CANNOT BE RESET other than to launch more than 9,999,999 clays.

During Final Inspection and Testing, Claymate is pre-loaded with 9,999,992 clays using test software and more than 10 launches are performed to roll the count over to zero and provide a factory count of 2 or more.

**When you have finished reading the Audit Counter, simply remove the Configuration Key.**

If you remove the key during an audit read process, the process will continue to a satisfactory conclusion.

You should not remove the counter during an audit read, otherwise the last digit might not be reset to zero.

### **IMPORTANT NOTE.**

Later Claymate counters are microprocessor controlled, as indicated by a flashing last digit and the absence of leading zeros in the display.

These counters are designed to 'lock out' at certain values, typically 1500 but sometimes considerably less, in order to reduce the 'damage' a lost or stolen counter can do.

Simply be aware, when doing an audit that the counter might lock out at an inopportune moment.

The internal audit counter only records targets LAUNCHED... Not those 'credited'

### **How to...**

#### **Leave Configuration Mode.**

When configuration is complete, the key is removed. The System will respond with a chirp.

NOTE that the following internal settings are **NOT** stored when the unit is powered down.

1. Current ACTUAL carousel capacity (as the trap empties)
2. Cycle timers for the traps.

# OPERATION.

The Squad Skeet Claymate can be operated in two ways.

- 1) On a per clay basis.
- 2) On a credit basis.

## Per Clay Operation.

A counter is plugged into the system and clays are counted as they are launched.

This is most suitable for the Solo Shooter who may not want to pay for multiples of 25 targets and is also recommended for competitions when it is not necessary to have the participants carry a Counter Box.

## Credit Basis.

This is used when a number of shooters, who would comprise a squad, wish to shoot a round of Skeet and wish to have 'their clays' added to 'their box' with no messing around between shots.

The group of shooters should present their counter boxes in turn to the Claymate and press the CREDIT Button to add 25 clays to their Counters. 25 clays will also be added to the internal 'cache' PLUS a number of clays allowed by the ground owner for No Birds etc (Bonus birds).

The System detects if the Counter is removed and will simply stop crediting clays and result in only those clays counted being credited to the cache.

Pulling the counter this way will not defraud the ground of clays or cheat the shooters.

**'Bonus clays' are added when a count of 25 has been completed.**

When all members of the squad have credited the Claymate with 25 clays each, the shooting can begin.

The MODE of shooting, INSTANT or DELAYED can be changed at any time.

**A counter is NOT required for target release if there are targets in the cache.**

**If Claymate does not see any action by way of button presses for longer than 10 minutes, the internal clay cache will be cleared, indicated by a few seconds of chirps and warbles to indicate the fact.**

**If a counter is left plugged in or simply plugged in and removed, the 10 minute timer is reset.**

**Likewise the 10 minute timer is reset at any button press**

During the shoot, the 'Clay Cache' count will be decremented for each clay launched.

A connected Counter Box will NOT be incremented whilst clays remain in credit.

When all the clays in credit have been launched, additional clay launches will be allowed only if there is a Counter to record the launches.

In the case that one cached target remains and a pair is called for, (without a counter), the Claymate will not launch.

The credit feature also allows the ground owner to give a round 'free' to a shooter or group by simply using another counter to clock up the 'free' round. The free round does not show up on the group counter but is stored in the Claymate cache.

This is a useful operational trick if the shooters are expected to 'vanish' with a counter and without paying.

## AUDIT FEATURES.

The Skeet Claymate separately audits High and Low house targets. Whenever a trap is released, the Audit Counter for that trap is incremented. The audit value is stored in non volatile memory with a retention life of 100 years. The counter has a capacity of 9,999,999 targets per trap before the counter rolls over to Zero. Audit counters will have a low value at purchase of usually no more than 20.

The audit count can ONLY be reset by returning the unit to the factory.

Used properly, it becomes possible to detect clay 'shrinkage' and locate the point at which the loss occurs. Assuming that the traps are filled to the same degree at audit time, should the sales office log of clays sold not tally reasonably closely with the total audit counter figures then it is possible that clays are being launched but not paid for. Further, the total of audit figures and actual stock of clays should agree with initial clay stock. Any discrepancy would be the result of clays not reaching the traps!

Additionally, the Skeet Claymate can be used in a switchable Skeet / ABT or DTL if it is convenient or desired to co-site these.

The Low target warning however, cannot detect the change to another trap and the indication of a near empty trap will become unreliable

## SECURITY FEATURES.

Claymate Trap Release Systems will not release clays unless a correctly coded Hand Counter Box is connected to the unit either to count targets as they are launched or to credit targets to an internal cache.

The Counter Box that accompanies the shooter or group around the ground is coded to match the code in all the release controllers on the ground.

The initial coding of these units is done by BLN, with a code that will be different to any other ground code. The code is set using two switch banks. One is an eight way switch the other is a four way. An identical set of switches will be found in the hand counter boxes, and the RESET BOX.

Because of the losses that could be realised if a craftily retained box goes undetected, BLN has designed Microcontroller driven counters that are designed to 'lock out' at a certain count value. These counters are recognised by a flashing right most digit and no leading zeros in the count display.

**How you manage these security features is of course your own affair.**

You have been given the option of being as security minded as you like, or not as you please.

## COUNTER RESET BOX.

Purchased additionally with your Claymate Trap Release System will be a Counter Reset Box.

It is important that you take care of this unit.

The Reset Box is fitted with 2 buttons on the front face.

The BLACK button will INCREMENT the counter **whatever the security code.**

The RED button will Reset the Counter Box ONLY if the internal security code of the Reset Box matches the code in the Counter to be reset.

## Stuck Button Detection

If any button is held inadvertently or deliberately in normal operation, the Claymate will respond, after 8 seconds, with equally spaced beeps and silences to indicate that a button has become stuck.

Control buttons on the main enclosure are rarely damaged by water or other effect.

If the problem persists and visually no buttons are pressed, removal of the handset at the base of the Claymate will isolate a problem to the handset.

Flagging a stuck button in this way does not affect any internal operation or event.

If a damaged handset is to be replaced bear in mind the 10 minute inactivity timer that runs in the background. If the swap of the handset is likely to exceed 10 minutes and there are shooters waiting to shoot their 'cached' targets, simply plug in a counter to defeat the timer or arrange that one of the other buttons on the main enclosure is pressed occasionally to reset the timer to 10 minutes.

## Optional Accessories.

### The Trap Release Amplifier.

The Amplifier is especially useful in circumstances that would otherwise cause the Claymate to fail or to become damaged by release voltages.

Some older style Skeet Timers boxes that came complete with their respective traps originally, do not provide more than 6 volts to the Claymate release electronics.

This voltage is too low for 100% reliable operation. The bottom voltage limit for Claymate is 10 volts.

Also, the USA is a source of traps that carry 100 volts AC down the release cord. (Illegal in the UK)

The release amplifier can be supplied as an option or can be fitted inside the Claymate power supply if ISSF or Low Target lamps are used.

The release amplifier can also interface Claymate to devices not designed to be Claymate compatible, like certain makes of radio release.

### Skeet / ABT Overlay Switch Box

This unit allows the ground to co-site a Skeet and an ABT layout together, selecting both Skeet traps or the single ABT trap.

The Skeet Claymate operates ABT or DTL by virtue of the design that recognises that only one (or no) traps are connected and either releases that one trap whichever release button is pressed, or makes "SOS in Morse Code to indicate no traps can be detected.

### "Intellegent" Overlay Box

This box allows the ground to set the centre trap mechanically to throw one or two targets (Double Trap) and then the shooter can select between Skeet and either Trap or Double Trap, whichever has been set by the ground. The box also switches between the handset for Skeet and an acoustic system, for DTL.

Correct single and double trap counting is performed.

Sadly, these overlay boxes came after some considerable Claymate development and as such the Claymate cannot know of the setting of the boxes to modulate any required delay. It follows therefore that such Overlay Boxes may only be of significant value if a Zero Release Delay can be accommodated in both disciplines.

## **GUARANTEE & POLICY STATEMENT**

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.

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 lightening 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.

**BLN Technical Services or agents of BLN will not 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.**

### **Repair policy, and care of the Equipment**

The ground can usually correct units that become suspect or fail in the field after some help on the 'phone.

Do not return units to BLN or agents of BLN without a covering letter.

In most cases, it is possible to replace whichever element has failed without returning the entire System.

The Hand Release Boxes are fitted with a connector. If a handset is suspected, verify by substitution.

A Spare handset is a wise investment.

Counter Boxes can be checked on the Reset Box.

The internal battery inside the Counter will last several years and is mechanically held in place.

The Reset Box contains a battery which will last a time dependant of the amount of 'resets' and 'counts' performed.

The most current is consumed during a 'reset. If the Reset Box is suspect, verify on more than one counter.

The Electronics.

Contained inside the Unit is the Printed Circuit Board.

All connections to the PCB are by multi pin connectors.

Should it be necessary to remove the Circuit Board proceed with care.

Do not turn a warranty replacement into a chargeable repair!

Use a small hook to ease the board away from the mountings whilst simultaneously releasing the board lock. **DO NOT PULL ON THE COMPONENTS.**

Should a Board be suspected, BLN can usually supply a loan board to verify that a problem exists, reducing down time.

In all cases, BLN reserve the right to repair or replace 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.

# Skeet Claymate Technical Specification.

Trap release voltage range.  
DC - 12 to 60 volts.  
AC - 10 to 40 volts.

External Supply voltage range  
AC/DC - 12 volts only.  
Reverse polarity protected (DC)

Current requirements.  
1mA quiescent  
1.5 mA peaks during trap release and sounder operation.  
Up to 2 amps with both ISSF lamps lit.

Trap Release Specification.  
Optical isolation of traps to 2500 volts  
FET and full wave bridge release circuit.  
Maximum allowable trap release voltage, 40 volts AC, 60 volts DC.  
Low impedance switch with burden voltage equivalent to 2 silicon diodes.  
Trap release amplifier provides isolated contact closures of 240v AC at 5 amps.

Built in Trap Cycle Timers.  
2.0 seconds standard. (Time for a trap to cycle and be ready to launch again)  
Ground selectable cycle timer down to ¼ of a second.

Controlling elements.  
Arizona Microchip PIC.  
12 bit CODEC chip for security.

Build options  
Call with requirements.

Security.  
Factory set, owner changeable code offering 4096 combinations.

Auditing.  
Internal memory records 1 short of 10 million targets before rolling over to zero.  
Separate High & Low house audit counters

Printed Circuit Boards.  
Conformal coating to a high specifications.  
High quality board connections for easy board removal and replacement.

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.

The software and board designs are the copyright of BLN Technical Services.  
BLN Technical Services reserve the right to change a design or specification without notice at any time.  
Compatibility between Systems is guaranteed unless specifically stated at time of purchase.  
"Claymate" is a registered trade mark of BLN Technical Services.

BLN Technical Services  
Silver Willows  
The Croft  
Bures  
Suffolk  
CO8 5JL

Tel 01787-228143 Fax 01787-227503 E-mail  
Additionally

[rick@blntechnicalsvcs.com](mailto:rick@blntechnicalsvcs.com)  
[sales@claymate.co.uk](mailto:sales@claymate.co.uk)

WEB [www.blntechnicalsvcs.com](http://www.blntechnicalsvcs.com)  
& [www.claymate.co.uk](http://www.claymate.co.uk)