

# LEIOC

## Electronic Systems Planner's Guide

This guide is intended to provide an indication of the steps the planner must take when using the LEI SI systems. It does not give detailed information about the configuration and operation of the system.

In this document you will find:

- [A brief introduction to the Sport Ident System](#)
- [Instruction on the planning process for the electronic systems](#) including
  - [The preparation of the control boxes](#) and
  - [The time synchronisation of the control boxes](#)
- [How to use the systems on the day of the event](#)
- [Use of the SIAC contactless dibber](#)
- [A list of useful contacts](#)
- [A timeline to follow](#)

If you are unsure at any point in the planning process please ask. For level C events your controller should be able to help. For Level D and training events contact the Minor Events Co-ordinator.

## Introduction

The SI (SportIdent) system is a sophisticated timing system. Each competitor carries a 'dibber' which contains a small memory device. That memory holds a unique serial number together with store to record the controls visited. Each control station contains a precision electronic clock and an electronic circuit to communicate with the competitor's dibber. When the competitor inserts their dibber into the control station the control station wakes up and sends power to the dibber unit. This allows the control station to send its number and the current time to the dibber and get the dibber's serial number from the dibber.

At the end of the event a competitor's dibber will contain a list of control numbers and the time at which those controls were visited. This list is uploaded by the results system and used to provide the event results.

The planner must remember that each control box is independent, so for the results to make sense the time clocks within each box must be synchronised. This is particularly important if two controls are close together, two controls are used to operate a time-out (for example at a road crossing) or if multiple controls boxes are used at a single control point (or start/finish).



Note that there are now a range of SI dibbers, from the original type 5 through to the SIAC dibber. It is important for the planner to appreciate the limitations of the dibbers (see table below). Most of the LEI hire dibbers are the older type 5 or type 8. If any planned course has more than 30 controls the planner must consider the provision of hire dibbers and possibly an exchange system for

competitors with the older dibber. The competitor must not be penalised because they have not purchased the correct dibber.

Dibber Type	5	6	8	9	10	11
Number Range	1 - 499,999	500,000 – 999,999	2,000,000 – 2,999,999	1,000,000 – 1,999,999	7,000,001 – 7,999,999	9,000,001 – 9,999,999
Control Storage	30 + 6	64	30	50	128	128

The '+ 6' for type 5 controls means 6 additional controls stored with control number only.

Note that SI also produces combined compass and dibber units. These have either a Type 8 or a Type 10 chip

If additional dibbers are required contact the SI Co-ordinator who will provide the appropriate sets.

At the start of the event the competitor's dibber must be prepared. This involves removing old events from the dibber memory. This is done at the clear station.

The latest SIAC dibbers are type 10 dibbers that can operate in a non-contact mode. Please refer to Appendix A for the considerations that must be applied to events where this feature is planned to be used.

## The Planning Process

Early in the planning process the planner should find out which control set has been allocated for the event (<http://www.tiny.cc/leikitrota>). This will give an indication how many controls are available and the number of those controls. If the number of controls allocated is causing restrictions contact the SI Systems Co-ordinator to request extra equipment.

The control sets will have been checked by the SI co-ordinator, however they may have been used by several planners since the last check, so the planner should aim to have custody of the controls at least one week before the event to allow checks to be made. For planners running a level D event they have to also ensure they have the appropriate results equipment (print box or similar).

The control sets come with combination padlocks to allow the control boxes to be secured. The club also has a gripper set which may be requested from the SI Systems Co-ordinator. This allows the planner more flexibility securing the control boxes (particularly useful in urban situations).

## Control Box Preparation

Each control set has a number of control boxes together with a set of start, finish, clear, check and Timemaster boxes.



The control boxes are sequentially numbered:

- Set A 170 - 199
- Set B 200 - 229
- Set C 230 – 249 (subject to changes based on availability of controls)



The Timemaster box will have a service key and a connector attached via a cord.

Lay the controls out on a table.

Use the service key to power up each control. It will sequentially show a series of values on its display.

- 1) Control number (preceded by 'CN') – Should match the number printed on the control box
- 2) Time – Ignore this for now
- 3) Batt – this should show a value greater than 3.10V
- 4) Software version – ignore

If there are any problems contact the SI co-ordinator

## Control Box Synchronisation

A maximum of 2 days before the event the controls should be synchronised.

- Again lay the all controls out on the table.
- Insert the service key repeatedly into the Timemaster until the display shows 'TIMEMA'.
- Insert the coupling stick wide end into the Timemaster's dibber hole.



- At each control insert the other end of the coupling stick into the dibber hole until the 2 boxes are side by side. Wait till the control box beeps twice and flashes its red light. This indicates the time in the control is synchronised to the Timemaster.



- If the Timemaster fails to beep try the following actions:
  - Remove and re-insert the TimeMaster
  - Remove the Timemaster, turn the control box over and re-insert the TimeMaster.
  - Remove the Timemaster, use the 'Service Off' dibber to wake up the control box before re-inserting the TimeMaster
- Repeat this step for all control, start and stop boxes.
- Finally there will be a purple 'Clear Backup' dibber in each set. Insert this into the start, check and clear boxes in turn. Each box should beep when it has cleared. This clears the list of dibbers seen by the box. (The start box will be interrogated by the Download staff to upload a list of starters. This list is compared (by the download software) with the list of those who have downloaded to compile a list of runners still out on the course.)



This completes the pre-event preparation.

## Additional Preparation

The following tasks must also be done prior to the event.

- For level C and above events the Planner must send the XML course file to the download operator. Refer to the planning software guide (e.g. Purple Pen) for instructions how to obtain the XML file.
- Control boxes may be sited on the day before the event providing they are locked and not in well frequented areas.
- If control boxes are to be sited on the day before the event contact the treasurer to ensure insurance is arranged.
- The planner is recommended to punch every control box as they site them to ensure they wakeup correctly. The planner should start with a cleared dibber of appropriate capacity (or multiple cleared dibbers). The planner can then download the dibber(s). This allows the planner a final check the controls are correctly programmed.
- For Level D events the planner is also responsible for download. A print station will have been allocated. The planner must ensure the print station is fully charged and its memory is cleared. Refer to the print station guide at <http://www.leioc.org.uk/members/guides/>
- Extra printer paper can be obtained from the Treasurer or the SI-Coordinator.
- For insurance reasons control equipment should not be left in a car overnight. It should always be transported in a locked part of the car out of sight.

## On the day

The planner is responsible for setting up each control site prior the event start (though they may co-opt assistants).



The picture above shows the idea control with control box, control number, backup punch and kite.

Note the kite is looped onto the control number hooks. Do not trap the kite cord between the control box and the stake clip. This has been shown to strain the clip and be a contributory cause to control box LCD failure (when the LCD is rear mounted)

Please do not press on the control box when pushing the stake into the ground (again this has been shown to be contributory to control box LCD failure).

If you need to leave control boxes out overnight the following guidelines must be observed:

- The control site must be away from any public area (e.g. not on foot path)
- The control box must be locked to something solid
- The treasurer must be informed to ensure the insurance is validated.

Wherever possible controls should be locked to something solid.

At level C and above events the controls should be fitted with a control number card.

If a control box fails on the day:

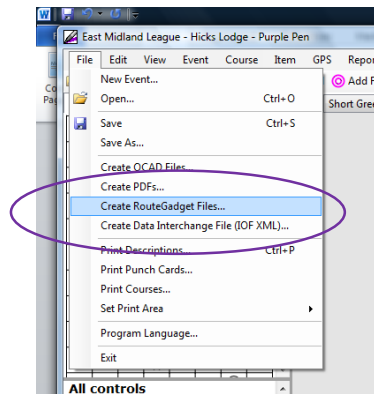
- Simply replace the offending box with a spare.
- There are a number of sleeves each control set which can cover up the incorrect control number of the replacement. Write the correct control number on the sleeve. The spare will upload the incorrect control number (when compared to the number in the download software).
- Do not attempt to get the box re-programmed, report the incorrect control number to the download staff who will setup an alias so that the download software recognises the change.
- Label the failed control and pass it to the SI co-ordinator.

## After The Event

The planner is responsible for gathering all the equipment used on the course and returning it to the SI Co-ordinator (or if instructed the planner of the next event). Equipment should not be left out for collection the following day. The planner must notify the SI co-ordinator as soon as possible of any missing or failed equipment particularly if this will affect the next event.

If it is clear that equipment has been stolen or vandalised the planner must report this to the Police and obtain a crime number. The planner must also talk to the Treasurer to provide details for an insurance claim.

The planner should send the Route Gadget files to the upload contact see [Appendix A – Useful Contacts](#). The files are obtained in Purple Pen by selecting File -> Create RouteGadget Files.



## SIAC Dibbers

SportIdent provide a contactless system. The difference here is that the dibber only has to get within 0.5m (about 18") on the control station to register a punch. The competitor is aware of the punch as the dibber itself beeps and flashes.

If you are the planner of an event which wants to use contactless controls ensure that the control set allocated to the event is the contactless set. The control boxes in this set will have been programmed for contactless operation. The planner should check the operation time of the controls.

Competitors may still use the standard dibbers in a contactless event though they may be at a disadvantage to those using the SIAC (contactless) dibber because of the speed through the control site. The planner must ensure that the control box sites do not allow the competitor to punch on the wrong side of an uncrossable barrier. For example in an urban event if the control box is placed against an uncrossable fence the competitor can achieve a successful punch from either side of the fence.



The planner has to be aware of the additional control box which is labelled 'Battery Check'. This must be sited at the exit from the assembly area.

Each competitor should be invited to dib their SIAC dibber in the Battery Check control

- Normal beep confirms dibber battery OK
- No beep means battery is flat. Can still be used as normal dibber (similar to type 10) when out of power. The battery in the SIAC dibber can be replaced if the dibber is returned to SportIdent.

Competitors with flat batteries should be able to hire a replacement dibber, though the dibber will still operate in manual mode as a Type 10 dibber.

It is mandatory for the competitor to dib the 'Clear' station (as with other dibbers) to clear the previous event. The dibber will not subsequently activate unless it is clear.

SIAC dibbers **must** dib the 'Check' station as this activates the dibber. A slowly flashing green LED on the dibber indicates the ON state. The competitor must not approach another control until they start. The dibber remains active until the competitor passes the finish control. Competitors must punch the finish as this switches the dibber off.

Following the race the competitor downloads in the normal manner.

Prior to the race the planner sites the control boxes in the same manner as described above for standard dibbers. Prior to leaving the control box must be punched to switch it on. The planner should be aware of the 'active on time' programmed into the box to ensure the box is on when the first competitor arrives. Control boxes set up the previous day will need to be punched on the morning of the event to ensure they are powered and ready for the first competitor.



Following the race and once all the control boxes have been collected the planner should use the purple 'Power Off' dibber to switch each control box off.

## Appendix A – Useful Contacts

Role	Name	Email	Phone
SI Equipment Monitor & Coordinator	Peter Hornsby	<a href="mailto:mapping@lineone.net">mapping@lineone.net</a>	01530 456066
Minor Events Coordinator	Bob Haskins	<a href="mailto:bobh@piperdrive.org">bobh@piperdrive.org</a>	01509 842449
Treasurer	Roger Edwards	<a href="mailto:rwmhedwards@gmail.com">rwmhedwards@gmail.com</a>	0116 212 7547
Results	Kevin Bradley	<a href="mailto:kevin@elya.co.uk">kevin@elya.co.uk</a>	01664 424163
Results Printer Team	Peter Hornsby, Iain Tebbutt, John Marriott	<a href="mailto:mapping@lineone.net">mapping@lineone.net</a> <a href="mailto:ijt@claritech.co.uk">ijt@claritech.co.uk</a> <a href="mailto:john.marriott@ntlworld.com">john.marriott@ntlworld.com</a>	01827 880992 0116 212 7547
Purple Pen Upload	Peter Hornsby	<a href="mailto:mapping@lineone.net">mapping@lineone.net</a>	01827 880992

## Appendix B – Planning Timeline

Time	Action
As soon as appointed planner	Obtain details of SI kit to be used.
2 weeks before event	Advise treasurer of controls to be left out overnight (time details and number of controls)
2 weeks before event	Maps to printer
	Obtain SI kit and check correct number of stakes, kites
1 week before event	Level C and above = XML course files to Download
	Level D – Recharge print station
48 hours before event	Time sync all boxes

Simon Starkey  
February 2016  
V1.1