

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 B and 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	SIAC
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	8,000,001 – 8,999,999
Control Storage	30 + 6	64	30	50	128	128	128

The '+ 6' for type 5 controls means 6 additional controls stored with the code of the control visited but not the visit time.

Note that SI also produces combined compass and dibber units (Comcards). 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 '[SIAC Dibbers](#)' 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. Level D events (Winter and Summer Leagues) are allocated 30 controls numbered 31-60. Level C events (East Midland League events and similar) have sixty controls numbered 31-96 but with missing numbers in the upper range to avoid the numbers that are confusable when inverted (66, 68, 81, 86, 89)

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 their own checks to be made. For planners running a level D event they must 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 grapple 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 A1 31-60
- Set A2 31-60
- Set C 62-96



- Set Maze 62-96 (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 purple service key to power up each control. It will sequentially show a series of values on its display.

- 1) Control number (preceded by 'BC') – Should match the number printed on the control box

- 2) Time – Ignore this for now
- 3) Batt – this should show a value greater than 310
- 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.
- Any boxes that fail to start or synchronise must be isolated and returned to the SI Equipment Officer for repair.
- 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 so that the download software knows the courses. Refer to the planning software guide (e.g. Purple Pen) for instructions how to obtain the XML file. For level D events the XML file should be sent to the person preparing the results. It may not be clear until the day of the event which of the results team require the file
- Control boxes may be sited on the day before the event providing they are locked and not in well frequented areas (not alongside paths).
- 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 download the dibber(s) once all controls are sited. This allows the planner a final check the controls are correctly programmed. If the controls are being left overnight use the purple service key to switch the control off and save battery. It will be activated by the controller.
- 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. Equipment 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 ideal control with control box, (a separate control number card is not needed for our events) and kite. Back-up punches are not now included with the equipment but may be obtained from the SI Co-ordinator for level A events.

Note the kite is looped onto the control number card 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.

If a control box fails on the day:

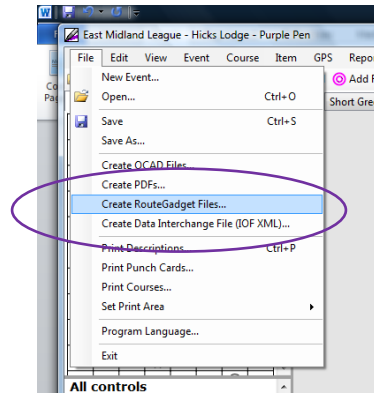
- Simply replace the offending box with a spare.
- There will be a blank SI box in the event kit and a marker pen
- There are a number of sleeves each control set which can cover up the incorrect control number of the replacement. Write the correct control number on the sleeve. The spare will upload 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.
- Segregate and label the failed control and pass it to the SI co-ordinator so it can be repaired.

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 download 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 (beacon). 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 should be aware of the additional control box which is labelled 'Battery Check'. This must be sited at the exit from the assembly area. Not used for level C and D events at present. Each competitor should be encouraged 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 if they want to compete using contactless dibbing.

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 control switches the dibber off.

Following the race the competitor downloads in the normal manner.

Prior to the race the planner positions the control boxes in the same manner as described above for standard dibbers. The only difference is the planner must ensure the control box is active so that the first competitor is not disadvantaged by having to punch the control.

Control boxes are set with an 'active on time' of 4 hours. Therefore, they must be visited less than this time before the first competitor. Control boxes set up the previous day will need to be punched on the morning of the event. At level B and C events this is typically achieved by the controller during their pre-event checks. At level D events the planner should activate each control as they site it. If the active on time is too short for an event the planner should liaise with the SI equipment Coordinator so that a longer control time can be

programmed. This means the planner must work with the controller to ensure they can work within the set times.

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

The planner must be aware that when used in contactless mode the control box does not record the time it sees each dibber. The planner must make a careful decision which mode to use for an event if they feel the courses are particularly remote and the likelihood of having to do a search is higher (unlikely to happen in Leicestershire).

Appendix A – Useful Contacts

Role	Name	Email	Phone
SI Equipment Monitor & Coordinator	Peter Hornsby	ashbymapping@gmail.com	01530 456066
Minor Events Coordinator	Ursula Williamson	ursula.williamson.orienteer@gmail.com	0116 429 5381
Treasurer	Roger Edwards	rwmhedwards@gmail.com	0116 212 7547
Results	Kevin Bradley	kevin@elya.co.uk	01664 424163
Results Printer Team	Peter Hornsby John Marriott Iain Phillips Alastair Paterson Roger Phillips	ashbymapping@gmail.com john.marriott@gmail.com iainwp@gmail.com abpaterson@hotmail.com rogerphillips34@gmail.com	01530 456066 07813 013911
Route Gadget	Peter Hornsby	ashbymapping@gmail.com	01530 456066
Purple Pen Support	Peter Hornsby Simon Starkey	ashbymapping@gmail.com simon.starkey@gmail.com	01530 456066 07963 124139

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. Check required on time for controls
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

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