

# HH SI Guide

## 1 General

- All HH laptops have user / password *user / user*.
- The server is HH5 and it's database is HH5 server - localhost\events4 on the server laptop and HH5 server - HH5\events4 on the client laptops.

## 2 Event setup

Done *before* the event.

1. Consider whether you need to update the SportIdent database (desirable at least every few months).
2. Create event in SiTiming on HH5 (the server):
  - Add **Single Event** with Name, Date, Event Type: Orienteering, and Splits Advertising with club website and date of next event.
  - For YOL event go to **Modify Event** → **Eligibility and Custom Fields** → **Add Custom Field** and add:
    - *School Year* field and check 'Visible on results etc?' (N.B. With space)
    - *School* field and check 'Visible on results etc?'
  - Add splits logo with QR code for results (**Modify Event** → **Set Logos** → **Splits Advertising**). Note that the QR code on the available splitsLogo.png is for website results *not* WiFi results.
3. Load courses which should have been provided as an IOF XML format by the planner (**Courses** → **Import XML Courses**).

## 3 Prepare entries

Done *the evening before* the event and no earlier.

1. From SiEntries download under **Entry Admin** → **Reports / Entry Lists**. Note that this requires some level of administrative access to SiEntries - currently club chairman and treasurer + Mike Bennett and Kevin Parkes:
  - The entries for the event **Entry Admin** → (**SiTiming Export** → **Export to CSV**)

- The participant list including the safety data (**Download Entries File**). This file contains the competitor safety details and contacts and is *only* used in the case of an issue with a missing or injured competitor. It contains personal information which should be stored responsibly and deleted after the event.

2. In a standard spreadsheet application modify the *entries file* (*not* the participant list) as follows:

- (a) Add dibber numbers first from HH stock then from NLSIC stock (numbers from the completed SI order forwarded by planner) to entries needing a hire card (CardNumbers field is blank). I find it easiest if I highlight the empty CardNumbers field first so I can easily distinguish hires from non-hires.
- (b) Resave still in csv format and load into the event (**Entries** → **Import/Export Entries** → **Import CSV/XLSX entries** and use the **Encoding: Unicode UTF-8** and **Entries Import Mode: Delete Existing Then Add All options**).
- (c) Select rows with hire dibbers, sort by competitor name, hide unnecessary columns and print two copies for the Dibber issue team.

3. Copy the unmodified participant list to the server laptop so it's available to anyone doing download.

4. Backup the event (**Backup Event** → **Write a one-off backup**). Save both the backup and the participant list to another device (e.g. a USB flash drive) so you have all the necessary data should there be issues with the server laptop when you set-up at the event.

## 4 Hardware & Setup

### 4.1 Event with Internet Results

This is generally only possible if there is a good Vodafone mobile data signal in the download / assembly area. Occasionally we may have access to a local WiFi (e.g. Sea Scout hut at Verulamium or the camp at Northaw Great Wood). However local WiFi can have problems, for example the FTP required for live results is blocked on the Northaw camp WiFi.

The big challenge with Internet Results is avoiding having your very limited data allowance being eaten by the OS and applications on the laptops (the HH phone has a limit of 50Mb / day although you can request more in chunks of 50Mb while the pre-paid funds last). We get round this by adding a fictitious default route on the local network and spe-

cific routes for the HH website and SiEntries on the server. This is pre-configured but the act of starting the mobile network also creates a new default route which has to be deleted. There's a script that does this automatically but it needs to be started before the mobile network. *Follow the instructions below carefully and in the order indicated.*

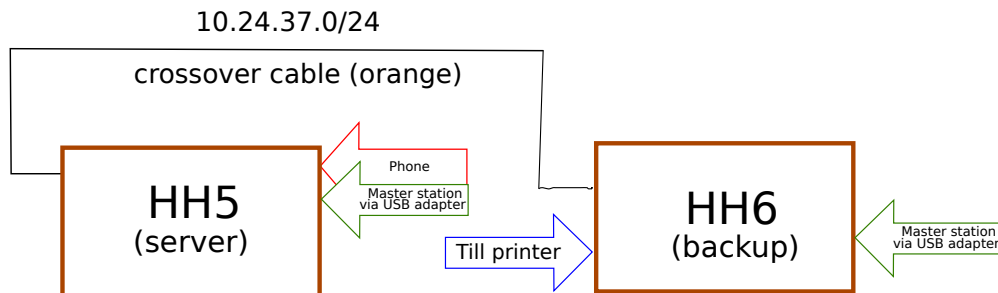


Figure 1: Set-up for event with internet results

1. Connect up laptops and peripherals as in Figure 1. Note that the USB to serial adaptors used to connect the SI masterstations are *machine specific*.
2. On HH5 (the database server):
  - 2.1 Start the script `DeleteDefaultRoute` (which is found on the desktop) as Admin (right click menu).
  - 2.2 Start the HH phone, and start hotspot: `Settings` → `Mobile hotspot and tethering` → `USB tethering`.
  - 2.3 Start one instance of SiTiming and set to upload results to the HH website every 10 minutes on timer (`Results` → `HTML Results`). Make sure you set an external link (Add External Link) "Return to results" with the URL of the results page for the event. *Note:* you need to check in advance the URL of the result page and location of the FTP results folder to do this.
    - Upload Type: Create Local Then FTP
    - Folder: `C:\Users\'user'\Desktop\Results`.
    - Server credential fields should auto-fill from the database but you will need to update the Path to the FTP folder for the event.
    - Check box for Results, and Split Times (unless concerned about mobile data capacity), uncheck Calculate Colour Standards, and tick Courses to select all. Add a link back

- 2.4 Start one instance SiTiming to import new entries from SiEntries every 5 minutes. `Entries` → `Import/Export Entries` → `Import from SiEntries`. *Note:* you will need the EventID and Report Key of the event from SiEntries to do this which are available on the `Entry Admin` → `SiTiming Export` page of SiEntries which you visited to download the entries.
- 2.5 Start one instance of SiTiming for Punch Registration (`Entries` → `Registration` → `Punch Registration with Station Mode: Read SI-cards`). Starting Punch Registration will create a new Control Master in the event called REG and if necessary reprogram the master station. It is essential if valid results are to be produced that the REG control master is used for registration and the RDO for download. Because of the need for SiTiming to reprogram the master station when swapping between Punch Registration and Download it's recommended that this machine is not also used for Download.
 

This screen is used to assign hire dibbers to individuals who've entered after the entries download and assignment of hire SI cards. The runner in question will have gone to Si card issue who will have failed to find their name and forwarded them

to you. Type their name, or part thereof, into the search box, select the correct entry, take an unused hire dibber, punch to register the card to the entry, and hand to the competitor. Note that in the case of very late entries you may need to wait a few minutes until the new entry is downloaded from SiEntries.

- 2.6 If required additional instances of SiTiming can be run to check on entries, outstanding runners etc.
3. On HH6:
  - 3.1 Start one instance SITiming running timed backups every 5 minutes to the folder `backup` on the desktop. N.B. Empty this folder at the beginning of the event (`Backup Event` → `Backup Type`: Write files regularly on a timer or on an ad hoc basis)
  - 3.2 One instance SITiming for download using the RDO control master. `Data Collection` → `Downloads` → `Download SI Cards` → `Download Mode`: Automatic, Manual on Error or Mispunch)
 

*NOTE*: that use of the REG master will lead to incorrect competitor records which generate somewhat corrupt results. This is fixable by editing the event setup and forcing a recalculation of results but probably shouldn't be attempted mid event.

*NOTE*: that the Splits Printer selected must match the model you've connected.
4. If more than one download laptop is required use the USB-powered switch powered from HH5. You will probably need a USB-C to USB-B adapter to do this.
5. The full set-up leaves no free USB ports, so no options for optional extras such as mice on any of the laptops.

## 4.2 Hanger and Controller Downloads

It is good practice, although not always observed, for hangers and controllers to download their cards to check that all the boxes are working and return the control numbers expected. This can be done without messing up the event database with non-competitor downloads with `Data Collection` → `Downloads` → `Si-Card Data Dump`.

## 4.3 Event with WiFi Results

*Note that local WiFi results are deprecated and only provided very occasionally when there is no mobile signal. If this is required several weeks notice to test and update the software is required.*

1. Connect up laptops and peripherals as in Figure 2.
2. start HHRESULTS.
3. On HH5 (the database server):
  - 3.1 Delete old result files from the “results folder exported by HH results.
  - 3.2 Start one instance SITiming to export results on timer every 3 minutes to the share `\results` on HHRESULTS.
  - 3.3 Start one instance SITiming for data entry and download.
4. On HH6:
  - 4.1 Start one instance SITiming running timed backups every 5 minutes to the folder `backup` on the desktop. N.B. Empty this folder at the beginning of the event.
  - 4.2 One instance SITiming for data entry and download.
5. HHRESULTS
  - The webserver and program generating the Splits Browser results start automatically when HHRESULTS is booted.
  - Linux laptop exports a network share on 10.24.37.0/24 network and provides web results and DNS on 172.16.0.0/16 network.
  - 172.16.0.0/16 network is via a USB to RJ45 adapter which *must* be plugged in before powering on.
  - Laptop will suspend if closed. DON'T.
  - There is no accessible user account on this machine. All required processes start on power on and laptop can be powered off with a long press of the power button at the end of the event.
6. WiFi access points (5)
  - On 172.16.0.0/16 network.
  - Each provides own DHCP (172.16.x.0/24)
  - Capacity of each is limited (ca 30 clients).
  - Can be daisy-chained.
  - Don't forget the aerial.

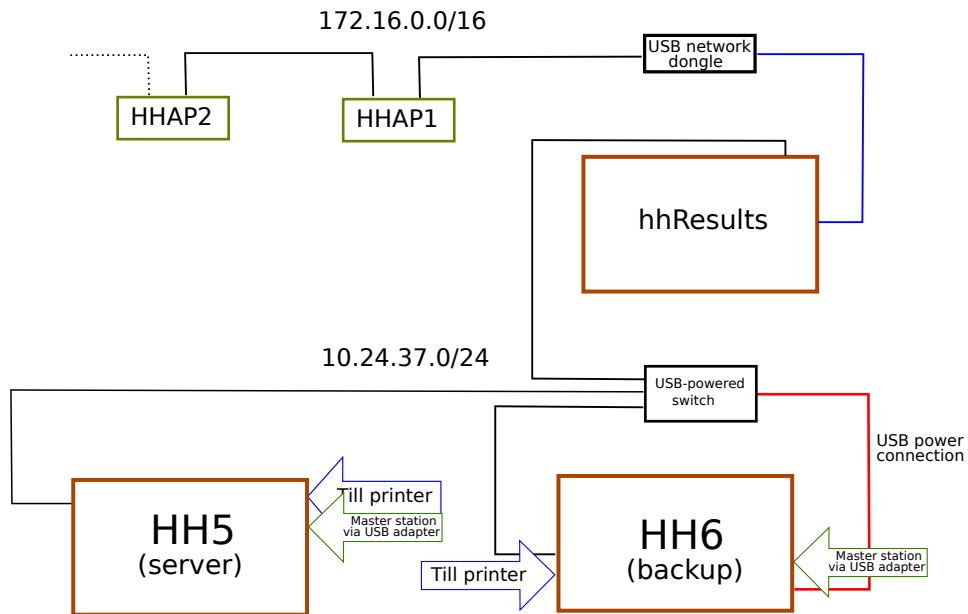


Figure 2: Set-up for event with local WiFi results

- Typically two are deployed for a Saturday Series event. Be careful of cable runs and place high and separated to get the best coverage.
- 7. The full set-up leaves no free USB ports, so no options for optional extras such as mice on any of the laptops.

## 4.4 Printed results

Printed results can be added to either of the above setups using the HH Oki B/W laser printer:

- Printed results encourage congregation and shouldn't be provided when COVID restrictions apply.
- Generating printed results is easy, but posting them is time consuming and will require a dedicated shift two volunteer.
- A4 laser printing requires more (peak) power than either the club's portable power station or suitcase generator can provide. Printed results are only possible if you have access to mains power or a larger (3 or 5 kVA) generator.

## 5 Power

### 5.1 General

Except for occasional events where we have an indoor download location with mains power you will need a source of electrical power to run your event.

Using mains voltage electricity in the field, whether provided by a mains extension, a generator or the club battery, is **HAZARDOUS!**, make sure you take adequate precautions:

- Ensure that your equipment is all well sheltered from the weather, for example being far enough inside the tent to avoid rain and that any tent or other shelter is sufficiently well secured and weatherproof.
- Keep all laptop, till-printer, extension blocks, and WiFi access point power supplies *off the ground*.
- Avoid trip hazards from your cable runs, taping if necessary.

### 5.2 Portable Power Station

The majority of HH events are now powered using an Anker 1024Wh Portable Power Station (aka a Battery).

- Ensure that the battery is fully charged and registering 100% before leaving for the event.
- The battery does *NOT* have sufficient capacity to support a printer. If your event requires printed results you will need to access a *ca* 3kVA generator.

### 5.3 Generator

As an alternative to the Portable Power Station the club also has a Honda EU10i suitcase generator. For the majority of events this offers no advantages, but for major events with high power requirements or of long duration, it may be more suitable. However, if you are unlucky enough to have an organiser who insists on laser printed on-the-day results the club generator is still not adequate and you will need to arrange for the hire of a *ca* 3kVA generator with an adequately smoothed output including spike suppressor to safely power the results electronics.

Using a generator adds several additional hazards to those of using mains voltage electricity in the field, in particular highly inflammable petrol, hot and asphyxiating exhaust gas, and the additional trip hazards associated with the cabling to the generator. *Read* the laminated safety and operation guidelines in the generator box.

Since the fuel turn-over of the generator is very low it is run on 4-stroke Aspen fuel to avoid problems with degradation and gumming of the carburettor and fuel lines. **DO NOT** refill with standard garage forecourt petrol.

Key points include:

- Only refill generator when it's *NOT* running.
- Keep the fire extinguisher near the fuel / generator.
- Avoid trip hazards from your cable runs.
- Consider if the generator needs taping off.
- Use the generator shelter.
- Ensure adequate ventilation for the generator.

Power is required by:

- All download laptops (HH6, HH5, etc.).
- The results laptop (HHresults) if providing results over WiFi.
- Each till printer.
- Any WiFi access points used.
- Results printer if used (Oki).
- Nothing else.

## 6 Miscellaneous

- NB essential to delete the BOF number on dibber / name changes.
- Dibbers can be reused *after* they've been downloaded.

## 7 Safety Check

When the start has closed the clear, check and start boxes should be returned to you and can be read once the flow of finishers decreases and / or courses close time approaches. Typically just download the check box (or boxes - more than one may have been used) punching of which will have been enforced by the start team and unlike clear won't be punched until the competitor is committed to starting, and unlike start which can be missed in the excitement of the moment.

- **Data Collection** → **Collect Punches** → **Read Punches (Slave)**.
- **Connect, Read Station, and remember to Save** the downloaded punches.
- **Safety Check** → **View Outstanding Participants**.

## 8 Results - after the event

- Finalise the event unless you want the controller to review the provisional results first. In the latter case the event needs to be finalised and results re-uploaded to the web after approval.
- Generate HTML results for the web with the same options as on the day:
  - URL to return for index page
  - Select All (courses)
  - Simple Results
  - Split Times
  - Uncheck 'Calculate Colour Standards?'
- Export the results in IOF XML v 3.0 format (**Results** → **Export Results** → **Export XML Results**) and forward to Kevin Parkes for Saturday League calculation.
- Save an OE export for RouteGadget (**Results** → **Export Results** → **Export OE file** *not* 'Export for RouteGadget'). Then choose **Delimiter**: comma, **Encoding**: Unicode(UTF-8), (**File Destination**): Route-gadget. Forward to Simon Errington with the courses XML file you used to setup the event.
- For YOL events export a 'processable csv' file, (**Results** → **Export Results** → **Processable CSV Results**) remembering to check the box to include school year, and forward to Dave Tookey for generation of league results.

- Use the export generated above for RouteGadget to upload results to BOF (has to be done by a user registered with BOF - e.g. Kevin Parkes).
- Report NLSIC SI card usage to nlsicequipment@gmail.com so the club can be charged appropriately.
- Delete the participant list from the server laptop and any other copies since it contains personal data that should not be retained.

## 9 Disaster Recovery

### 9.1 Server fails to boot

The server laptop failing to boot in the field is a relatively minor inconvenience - HH6 has a full version of SiTiming including the database already installed so you merely need to restore the backup you fortunately took after you prepared the event the previous evening and continue as usual with HH6 as server and with the spare laptop (HH4) as the download client.

### 9.2 Server fails during the event

This is fortunately something that has never happened to me so I can only outline how I would approach the problem rather than give a detailed recipe.

The process if the server fails *during* the event is basically the same as if it fails at the beginning of an event but with the substantial added problem that there may be 'lost' downloads from the period between you last automatic backup on HH6 and the point of the server failure. If you know the competitors involved and they're still in the field when you're back up its worth asking them to re-download. Results of competitors who are no longer available will have to be recreated manually from the control box data. This is a potentially substantial and non-trivial task and you will need to start by reading all the control boxes with SiConfig+ and saving the punches to files before they get returned to the NLSIC.

The missing downloads will also be missing from the safety check and can be confirmed as likely lost downloads by reading the finish box(es). This should (hopefully) give you a relatively short list of Si card numbers to search for in your control box log files for the data needed to restore the missing downloads.

## A Kit List

### A.1 Standard kit. Always issued

1. Grey computer crate containing:
  - Brown laptop bag ‘HH5’ + ‘HH6’ containing:
    - HP laptop ‘HH5’ - server (Win 10).
    - Dell laptop ‘HH6’ - backup server (Win 7).
    - Power supply for each laptop.
    - USB to serial adaptor for each laptop for use with SI master stations.
  - Toshiba laptop HH4 (Win 7) with USB to serial converter and power supply in black laptop case. This is issued as backup in case of machine failure and wouldn’t be used at events ( $\leq 150$  competitors) where two laptops are sufficient.
  - 8-gang surge-protected extension lead.
  - 1.8m orange cross-over cable.
  - Club phone and USB connection cable in small box with white lid.
  - Car charging adapter for the Anker portable power station.
2. Case containing 22 type-5 SI-cards numbers: 331820 - 331824 and 331826 - 331842
3. 30m extension cable
4. Translucent plastic box containing:
  - An A4 desk notices on SI-card hire vs purchase.
  - 6 plastic baskets for key dumps and hire dibber returns.
  - Black Box USB-powered 5-port switch and spare.
  - Cat 5 ethernet cables: 0.5m,  $2 \times 1.0\text{m}$ ,  $2 \times 2\text{m}$ . Additional and longer cables are available on request.
5. Notice boards (currently held by Mike Bennett)
  - Board with QR codes for EOD and results. EOD QR code needs to be generated and printed for each event (Event ID in URL changes).
  - Information board on orienteering and HH.
6. Anker 1024Wh Portable Power Station.

### A.2 Other kit. Issued on request

*NOTE:* much of this kit is rarely used and will need testing and updating before issue. Please give as much notice as possible.

1. Honda EU10i generator with 5L can of Aspen 4-stroke, Lifesaver multi-purpose fire extinguisher, and generator shelter.
2. WiFi server  
Black bag containing:
  - HP laptop ‘hhResults’.
  - Power supply for laptop.
  - StarTech USB to RJ45 network adapter.
  - 5 carrier bags - sometimes useful when deploying multiple access points.
3. WiFi access points. Box of 5 Alcatel-Lucent OmniAccess 5305 BG access points, each containing:
  - 1 WiFi access point.

- 1 aerial.
  - 1 power-supply
  - 1 dark grey 2m RJ45 internet cable.
4. Printer
- Oki B2400 laser printer with power cable, and USB printer cable.
5. iZettle card reader. Allows you to take card payments in the field but requires account set-up and companion app on a mobile phone.
6. A4 desk notice, currently with details about accessing WiFi results.
7. Additional laptops, each in separate bag with power supply and USB to serial adaptor for each laptop for use with SI master stations.
- **HH3** IBM thinkpad with power supply and USB to serial converter in black bag (Win 7).
  - **HH1** Dell Inspiron with power supply and USB to serial converter in black bag (Vista).
8. Solar charging adapter for Anker Portable Power Station.