

EMIT in SA

User Manual

Date : 15 May 2003

Revision : 1

Preface

This manual was written on request from the RACO committee and is intended as a guide for orienteering event planners and organizers. It sets out the recommended procedures and requirements for using the EMIT system in South Africa.

Introduction

The EMIT system purchased by the SAOF can be used to time and control orienteering events. There are two main options when it comes to using the system :

- Stand alone, without PC
- Online, with PC

The choice of which option to use depends on the planner / organizer and the availability of power for a PC and a printer at the event.

The main components of the EMIT system are :

- EMIT cards carried by competitors, some of whom own their cards and others rent them.
- Start control (EMIT reader #0) – used to clear the cards and set the start time on the card.
- Controls (EMIT reader numbers 1 to 249, excl. #100 and selected other numbers) – used to imprint times and control codes on to the card.
- Finish control (EMIT reader #100) – used to imprint the finish time on the card.
- 250 reader or MTR3 – used to read information off the card, store it and download it to a PC or directly to a printer.

In addition to the above, the system also makes use of a small backup tag attached to the card which is marked by pins on each reader when a control is 'punched'.

Besides the advantages in split timing, the EMIT system also gives a wider scope for course planning. Punching out of order is no longer an issue and thus crossovers and loops are a possibility.

The maximum number of controls on a course using EMIT is 48 (limited by the EMIT card).

EMIT Stand Alone Option User Guide

(Adapted from Craig Ogilvie's Quick Start guide – Thanks Craig!)

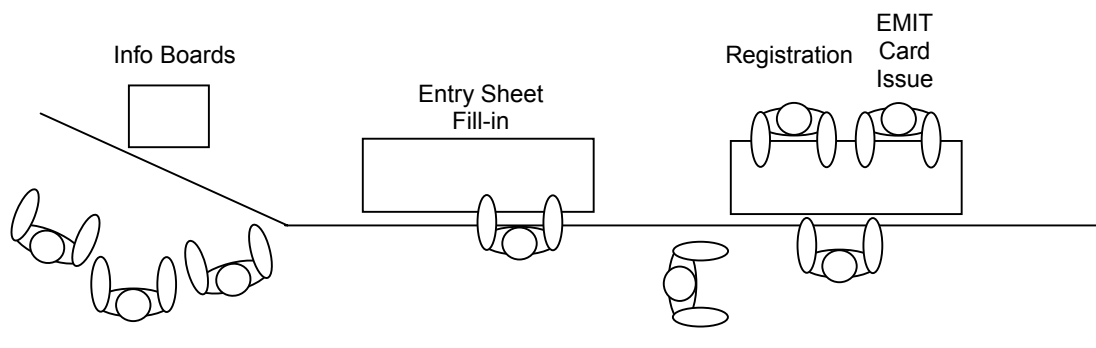
As with any 'O' event, preparation is required before the actual day. Besides the usual course planning and control site tagging, the following is recommended :

1. Collect the equipment from the custodian (presently Glen Terry - 011 896 1944) as early as possible (See page 6 for an inventory)

2. Assign EMIT reader numbers to control points / sites using a master control sheet. (Each EMIT reader has a number on the underside of the unit. Remember EMIT reader #0 will be used at the start and #100 will be used at the finish)
3. Create a master printout of each course, connect the thermal printer to the MTR3 before powering up the printer and then :
 - a. Take an EMIT card and fit a new backup tag.
 - b. Punch a start control (Emit # 0). This will reset the EMIT card.
 - c. Using the master control sheet, select the readers required for a particular course.
 - d. Punch each reader in the correct order for the course. (Allow a 2 second delay between punching each reader as it does not work otherwise).
 - e. Punch the finish control. (Emit # 100).
 - f. Punch the MTR-3 reader (connected to the thermal printer). This will automatically print a record of each control (and the time you took to make the sheet master printout!). Use this to match up codes with each competitor's printout at the event.
 - g. Label the printout clearly with the course name and date etc and attach the backup tag.
 - h. Repeat for each course.
4. Charge the printer overnight before the event and ensure that spare printer paper is available.
5. Prepare start sheets for the registration of competitors on the day and allocation of start times. Prepare a finish sheet to record competitor's backup finishing times.
6. Prepare entry sheets for each competitor. (See p 7 for a sample adapted from one produced by Glen Commins – Thanks Glen!).
7. Schedule helpers to man the event. At all times during the event, 2 people should be available for registration, 1 person for the start and 2 or 3 people for the finish.

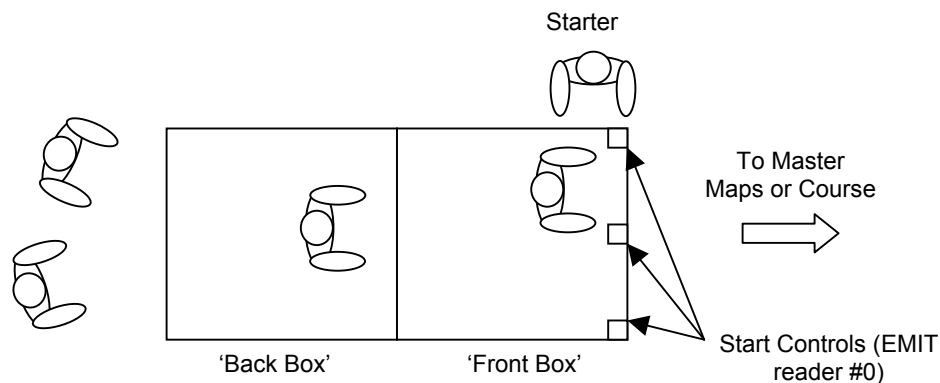
On the Day,

8. Construct the registration area in such a way as to guide the competitors from the info board, to a table for filling in entry sheets, to the registration table and EMIT card issue. Remember to ensure that the process flows to avoid the delays in registering competitors as noticed in recent times. Try to arrange cover and shade for the registration area to cope with rain or shine on the day.



9. At Entry Sheet Fill-in, competitors are provided with clean entry sheets and pens and are expected to fill in their details on the entry sheet. It is a good idea to prepare an example with explanation. Try to arrange a separate table for this function.

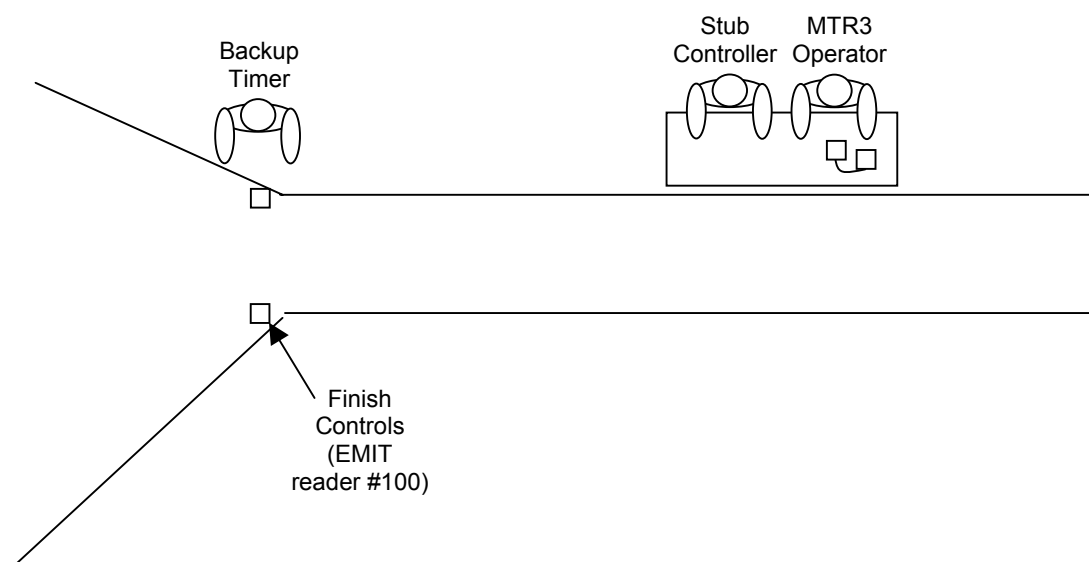
10. At registration :
 - a. Helper accepts competitor's entry sheet.
 - b. Competitor selects start time.
 - c. Helper marks off start time on start time sheet and fills in start time on entry sheet.
 - d. Helper selects correct description sheet and gives it to the competitor.
 - e. Helper accepts entry fee.
 - f. Helper passes the Competitors entry sheet to the EMIT card issue official.
11. EMIT Card issue :
 - a. Official takes an EMIT card from the box and writes the card number on the competitor's entry sheet. (If the competitor owns an EMIT card, the competitors EMIT number is written on the entry sheet). The 'hired' or 'owned' box on the entry sheet should also be marked.
 - b. The stub is removed from the sheet and given to the competitor together with the EMIT card and a backup tag. (If the competitor owns an EMIT card, only the stub and a backup tag are given to the competitor).
 - c. The competitor should write their EMIT card number on the backup tag.
 - d. The entry sheet is retained by the official and is used to track non-returned EMIT cards and create event stats. In the case of the online option, the entry sheet should be transferred to the computer operator to be entered into the database.
12. If the maps are to be handed out to competitors before the start, this should be done at the same time as handing out the description sheets (see point 11d above). If map corrections are required a separate table should be arranged.
13. The start : The start box should be constructed as per the usual fashion with a 'back box' and a 'front box'. The start box can be divided into separate boxes for each course, but this is normally not necessary considering the number of competitors at events.



14. At the start, Competitor to give stub to Starter.
15. Starter to keep track of who is starting when and count down to set competitors on their way. If the maps are to be handed over to competitors at the start, then this should be done with approx. 30 seconds to go and competitors may only look at the map once their start time is up. (Ensure that a stapler and pens are available at the start for competitors to use).
16. When starting, a competitor punches a start control (EMIT reader #0) on the start line. This resets their EMIT card and sets the start time. Competitors should put their

card into the start control with 10 seconds to go to their start time and remove it as they go. The start time is set from the moment the card leaves the start control. Should a competitor arrive late for their start, the starter should set the competitor off at a new time and note this time on their stub for backup timing purposes.

17. The competitor punches each control on their course in order. It is not necessary for the EMIT card to be placed into the readers at the controls, waving the card close above the reader should imprint the information onto the card, but the backup tag will not be punched. The risk of disqualification in this case, lies with the competitor. Should a competitor punch out of order or miss a control, this will be apparent when the competitor's printout is compared to the master printouts.
18. When finishing, competitors punch emit reader # 100 on the finish line. This records their finishing time.
19. Construct the finish so that competitors are funneled to the finish controls and then down a tunnel to keep them in their finishing order. A person is required at the finish controls to take back up finish times. At the end of the tunnel, 2 people are required : the first takes the competitor's EMIT card, finds the competitors stub and writes the competitor's finishing position on it. The second takes the competitors emit card from the first, reads it on the MTR3 and removes the back up tag. The MTR3 has a green light that will come on if the card has been successfully read. If not, a red light shines. In this case, a different card should be read before trying the card that failed again – this is a feature built in to avoid duplication.
20. The print out from the MTR3, the stub and the back up tag should be stapled together. If other competitors have yet to start the course then the maps should be collected. Once a printout has been produced, the EMIT card must be retained if hired or returned to its owner. (Note that the stub will be marked at registration to indicate if the card was hired or not). Once the control codes have been checked against the master, the stub and printout can be sent to the results line. In the event that there is a problem, the timing and controlling reverts to the old system using the backup times and punch tags.



21. The results, including split times, can be viewed by all on the results line which should be conveniently positioned close to the event centre. It is the planner's responsibility to type up the results in the format required by the log committee from the results line.

EMIT Online Option User Guide

In order to use the online option, at least one or more computers (desktop or laptop) and a printer are required at the event. The computer must have an RS-232 serial port.

The event organization is basically the same as for the stand alone option. (Please read the stand alone option above if you are not already familiar with how to arrange an event using the standalone option.)

The online option requires a database of competitors to be created at the event before majority of the competitors have finished. Then, EMIT card numbers and information can be downloaded onto the computer and linked to the database. The competitor's control punching is then checked by the computer (provided a list of controls has been loaded into the software for each course) and results are created for each course or age category etc. A printer is required to display the results at the event.

Installing eTiming Software

As stated in the documentation for the software, the eTiming software works with Microsoft Windows 95 with service release 2, Windows 98 or Windows NT with service pack 4.

NB : The computer's time and date format are required to be set a certain way for the eTiming program to operate effectively. In most cases you will need to change your computer's settings :

- a) Go to 'Start' => 'Settings' => 'Control Panel'
- b) Double click on 'Regional Settings'
- c) Click on the 'Time' tabsheet
- d) Choose 'Time Style' - HH:mm:ss
- e) Enter 'Time Separator' - :
- f) Click on the 'Date' tabsheet
- g) Choose 'Short Date Style' - dd/MM/yy
- h) Enter 'Date Separator' - .
- i) Click the 'Apply' button

Your computer's time and date formats will now be changed. Please note that this might affect other programs – in office programs for example, the dates will come up with a '.' separator.

To Install :

1. Close any programs that are running.
2. Insert the CD and wait for the autorun dialog to appear (if this does not happen, manually run the autorun file by double clicking on the 'Installed' file in windows explorer or selecting the command from the windows run utility).
3. Click on 'Install Timing Module'.
4. Read through the documentation on the right side of the dialog window that appears and then click on 'Install Timing Module' again.
5. Follow the instructions. (Reboot the computer if necessary - remove the CD from the drive. Start from step 2 again once the computer has restarted.)
6. Once the timing module installation is complete, the dialog from step 4 appears again – click on 'Exit'.
7. The first dialog should appear again, click on 'Install eTiming'.

8. Read through the documentation on the right side of the dialog window that appears and then click on 'Install eTiming' again.
9. Follow the instructions. When prompted, type in :
Name : RSA
Company : X
Serial : 19981
The company field is non-critical and the serial number should be that on the CD.
10. Again follow the on-screen instructions. Select a typical setup when prompted.
11. You will be asked to reboot the computer once the installation has been successfully completed - remove the CD from the drive.
12. eTiming will now be installed on the machine. Click on Start => Programs => Emit => eTiming to run the program. You will be prompted to choose a language and fill in your username - Use 'RSA'.
- (13. You can set up an icon on your desktop by right clicking on the desktop and selecting New => Shortcut and selecting either the command line c:\Program Files\Emit\eTiming\Timing.exe or the path where you installed the software.)

Using the eTiming software

As mentioned before, a database of event info and competitors must be built-up before any timing can be done. The database can be reused and thus to avoid some of the work, it is advisable to obtain a previously constructed database from a previous event planner. In due course, a GOC database will be set up and it will only be necessary for non-GOC club entrants to be added to the database at events. (To copy the database, Copy file the 'eTime.mdb' from the directory that was specified when the file was created and paste it into a separate folder on the computer that you wish to use for the event).

Once you have started the eTiming program, you will be prompted by the Database Wizard to specify the particulars of the database you wish to work with. If the database wizard has not automatically opened, click on 'File' => 'Database Wizard'

You will be prompted to 'Create a new Database', 'Connect to an Existing Database' or 'Reuse Data'. The 'Reuse Data' option does not appear to work properly, but it would be the correct method of importing data. Fortunately, the 'Create a new Database' option allows for importing of data.

To 'Create a new Database' :

- a) Select 'Create a new Database' and click 'Next'
- b) Enter the 'Race name' (e.g. 2003 Long O)
- c) Enter the 'First start time'
- d) Select race type 'Orienteering'
- e) Enter the number of courses
- f) Select the database language 'English'
- g) Select 'No points calculation' as the points rule
- h) Click 'Next'
- i) Enter a path for the database file (etime.mdb) or browse by clicking the  icon.
- j) Leave the path and name of the database setup file.
- k) Click 'Next'
- l) Click 'Next'

- m) To import information from another database, select the fields you require (recommended : Classes, Teams, Runners, Nation). Select the directory of the file you wish to import information from. Click 'Start import' to begin importing.
- n) Once the process is complete, click 'Next'
- o) Click 'Exit'

Now that you have imported or created a database file, you can start editing or capturing the information for your event.

The data is stored in the form of records. Each record is an entry comprising many fields. The tools on the main menu are used for manipulating records. Here are the tools you will be using most :

-  Add a record
-  Delete the selected record
-  Save the selected record
-  Cancel any editing done

There are windows within the program for entering information into the records and editing information. Each window in the program operates on the same basis – there is a detail page or tab sheet, a list tab sheet and other statistics or specific function tab sheets. The detail tab sheet is for entering each field of a particular record, while the list tab sheet allows the user to see what has been entered and select records.

The information in any window can be printed by clicking on the  icon in the window. Close the window by clicking on the  or  icon in the window. Note that you will be prompted to save changes to the records if you have not already done so.

To start editing the information, click on the event () icon or go to the top menu and select 'Data' => 'Event'. It is recommended that you follow this procedure even if you have imported another database in order that you check the information and enter any new info.

Event Information Window (or 'Data' => 'Event')

The window should open to the 'Detail' tab-sheet where the information for the event is captured. The fields highlighted in yellow are those which must be filled in, however, these are not the only ones!

1. Enter a code. Default is 'Day'. A suggestion is to use 'CC' for colour coded, 'PS' for park series, 'CH' for champs and 'TR' for training.
2. Enter a day number. Under most circumstances this would be '1'.
3. Enter a year.
4. Enter a Name – this is the name of your event. E.g. 3rd Gauteng Park Series (you are limited to 30 characters)
5. Enter a Place – this is name of the area where the event takes place.
6. Enter the date – this is the date of the event.
7. Select the race type as 'orienteering' and the points rule as 'No points calculation' – the points will be calculated by the Log databases.

8. The rest of the information is optional. Select the  icon to save the record that you have created.

To view the event records that you have built up in your database click on the 'List' tab sheet. In this way you can build up a history of events or work on more than 1 event at the same time, but all within the same database. The 'Statistic' tab sheet will show you how many competitors were at each event.

The other tab-sheets are for more advanced applications.

Courses Window (or 'Data' => 'Course')

This window is to capture and display information relating to each course of a particular event. The control codes are captured here and used for verification of a competitor's punching. To fill in the information on this sheet, the control codes must have already been assigned to the control sites. (See 2 of the 'Stand alone user guide').

9. On the 'Detail' tab sheet, enter a number and name to define the course. EG. Number '2', Name 'Blue'.
10. Enter the length and climb E.g. Length '5600', Climb '150'. (I'm not sure what the 'Start' refers to at this stage, but a time format is not accepted in the textbox!).
11. In the table, enter control number and code. The control numbers are 1,2,3,4 etc and the codes correspond to the Emit reader numbers on the master control sheet for that particular course. Hit enter or down arrow key to initiate the next line.
12. Once all the controls have been entered for that course, remember to add control 100 for the finish control and save the record ( icon).
13. Click on the  icon to add a record and repeat steps 9 to 12 for the next course. Once all the courses have been entered, click on the 'List' tab sheet to check.

The tab sheets can be used for the following:

- 'Statistic' gives information regarding the number of competitors per course.
- 'Punchcard' shows what the back up tag for the selected course should look like.
- 'Classes' gives the different categories entered on that selected course.
- 'Member' gives the names of the people entered on that course.
- 'Joker controls' is used for replacing controls that have been stolen.
- 'Controls to use 2 different code' shows how many times a control is used and will identify where duplicate readers are required (1 duplicate is available – reader 249).

Classes Window (Categories) (or 'Data' => 'Classes')

This window allows categories to be captured. For most of our events, except for championships where we compete in categories, it is not necessary to distinguish further than Male, Female and Group Competitors :

14. In the 'Details' tab sheet, enter code 'M'; name 'Men Open'; Gender 'M'.
15. Save the record ( icon) and insert a new record ( icon)
16. Enter code 'W'; name 'Woman Open'; Gender 'F'.

17. Save the record (✓ icon) and insert a new record (+ icon)
18. Enter code 'G'; name 'Group Open'; Gender 'A'.
19. Save the record (✓ icon). You can view the categories and select them for editing from the 'List' tab sheet.

Groups Window (Club)

(📁 or 'Data' => 'Groups')

This window allows club names to be entered.

20. In the 'Details' tabsheet, enter group code 'RACO'; name 'Rand Athletic Club Orienteers'
21. Save the record (✓ icon) and insert a new record (+ icon) to repeat with the other clubs.

The 'List' tab sheet allows the records to be viewed and selected for editing.

Runner Window

(🏃 or 'Data' => 'Runners')

22. In the 'Details' tabsheet, enter the competitors surname in the 'f.name' text box. In the case of a group, enter the group name here.
23. Enter the first name in the 'Name' text box. In the case of a group, enter the names here (limited to 32 characters).
24. Select a course
25. Select a class (category)
26. Select a team (club)
27. Enter the competitors ecard number in the E-card textbox.
28. Save the record (✓ icon) and insert a new record (+ icon) to repeat with the other competitors.

Nation Window

(🌐 or 'Data' => 'Nations')

This window is used to modify country names and operates on the same basis as the other windows, however, the nationality of each competitor is not important for most events or the operation of eTiming and is thus not further discussed here.

Timing Window

(🕒 or 'Results' => 'Start Timing')

This window is used to perform the timing. With the MTR3, timing can be done one at a time or in a batch. The 250 reader can only be used to capture the times as they are being read.

NB Plug the MTR3 or 250 reader into the serial port on the computer you wish to use before booting up the computer.

Once you have plugged in the reader, started the eTiming software and loaded the correct database, you are ready to start timing.

29. Open the Timing window ( or 'Results' => 'Start Timing')
30. Click on the 'Setup' tabsheet
31. Select the correct 'Timing Device' – 250 or MTR-2 (we in fact have an MTR3 but the software works the same).

250 reader or MTR3 updating as cards are being read:

32. Depending which port you have used, you may need to change the 'Serial Port'. If you are unsure try different options until it works.
33. Click 'Start Communication' - You are now ready to read EMIT cards.
34. Place the EMIT card on the reader. The MTR3 has a green light that will come on if the card has been successfully read. If not, a red light shines. In this case, a different card should be read before trying the card that failed again – this is a feature built in to avoid duplication. If both the printer and computer are connected to the MTR3 at the same time, the data will be read into the computer and split times printed at the same time. These split times can be given to the competitor.
35. You will notice the window now shows the details of the EMIT card that has been read and if the number matches a competitor's number, the competitors info is shown. Notice that the status of the competitor is shown i.e. the codes have been checked for correct punching!
36. In this way, all the competitors EMIT cards are read in.
37. To obtain a quick printout of the results, click on the  icon. For more printing options, try the other commands under 'Results'.

MTR3 batch reading:

This option can be used to produce or check the results from a 'stand alone' event. Once the event is over and all the cards have been read, the MTR3 is connected to a computer with eTiming and a database loaded. In the Timing window, use the 'MTR-2' tabsheet to batch load the data from the MTR3.

Preparation before the event

1. If possible, obtain the GOC database.
2. Carry out the same preparation as for the standalone option and remember to setup the database.
3. Do a dry run with the system before the day of the event, giving yourself enough time to rectify any glitches that may arise – the person who will operate the computer on the day should do the dry run.
4. Check that sufficient power supply is available, even if it rains!

On the day

5. Run the event based on the same principles as the standalone option.
6. As soon as people enter, arrange to enter them on the database. This should be done with the stub retained at registration.
7. As people finish, their EMIT cards should be read into the database.
8. Results print outs should be made regularly (every half hour) and displayed.
9. Again, it is the responsibility of the planner to provide the results to the log committee in an acceptable format.

Some Technical Details

- EMIT readers must NOT be mounted on steel. The units are normally mounted on wooden blocks which place any steel support a minimum distance of 10mm (1cm) away.
- Both the EMIT cards and the EMIT readers have batteries. An EMIT reader will show an error code on the printout of 99 if the battery is low and the light on the reader will double flash when a card is read. The battery life of a cards and readers is expected to be 8-10 years.
- The thermal printer should be connected to the MTR3 before powering up.
- The MTR3 to thermal printer cable can be extended by a standard PC keyboard cable by up to 3m if necessary.
- The MTR3 will print a line at the end of a split time sheet saying 'low' if the battery is low.

GOC EMIT inventory

Last updated : 28 March 2003

	Detail :	Check :
1	80 EMIT cards in wooden holder for hire + 1 demo EMIT card	
2	For Sale EMIT cards in cardboard box (13 left as at 26/3/2003)	
3	Role of Backup tags	
4	'eTiming Version 1.5' CD	
5	42 EMIT readers mounted on wooden bases in plastic toolbox [EMIT reader #'s : 33, 41, 42, 43, 57, 58, 59, 63, 64, 67, 70, 78, 79, 80, 81, 84, 87, 91, 92, 94, 95, 99, 103, 104, 106, 110, 111, 112, 113, 114, 115, 116, 117, 119, 120, 121, 123, 125, 127, 138(demo), 249, 249(duplicate)]	
6	3 start controls (EMIT reader #0) on wooden bases in plastic toolbox	
7	2 finish controls (EMIT reader #100) on wooden bases in plastic toolbox	
8	16 spare EMIT readers [EMIT reader #'s : 118, 132, 133, 134, 135, 150, 152, 172, 178, 181, 182, 183, 184, 187, 188, 191]	
9	250 reader	
10	MTR3	
11	MTR3 to PC serial cable	
12	Thermal Printer (EPT-4) and charger	
13	Spare printer paper rolls	

<u>Stub to finish / results</u>		<u>Stub to finish / results</u>		<u>Stub to finish / results</u>	
Fold for results line		Fold for results line		Fold for results line	
*Name:		*Name:		*Name:	
*GOC Number:		*GOC Number:		*GOC Number:	
EMIT card #:		EMIT card #:		EMIT card #:	
Hired	Owned	Hired	Owned	Hired	Owned
*Course:		*Course:		*Course:	
*Club:		*Club:		*Club:	
Start Time:		Start Time:		Start Time:	
Time:		Time:		Time:	
Cut here		Cut here		Cut here	
<u>Emit Hire</u>		<u>Emit Hire</u>		<u>Emit Hire</u>	
EMIT card #:		EMIT card #:		EMIT card #:	
Hired	Owned	Hired	Owned	Hired	Owned
*Name:		*Name:		*Name:	
*GOC number:		*GOC number:		*GOC number:	
<u>Or contact details:</u> *Club:		<u>Or contact details:</u> *Club:		<u>Or contact details:</u> *Club:	
*Telephone:		*Telephone:		*Telephone:	
*Address:		*Address:		*Address:	
*e-mail:		*e-mail:		*e-mail:	