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GPSports TEAM Analysis User Manual PN: 2005-12-24 March 2006 Version 1.5

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Chapter 1 - Introduction

GPSports has developed the SPI-Elite to allow coaches and conditioners to examine the performance of their athletes with a view to ensuring their best performance on game day. The SPI-Elite System can help you to identify over-training, record game style, and allow you to ensure that your player is training appropriately for the way they need to play the game. The SPI-Elite System allows you to accurately capture data about athletes' performance that previously was too difficult to collect. It ensures that you know how far and how hard your athletes have run during training or during a game so you can ensure they have appropriate recovery before their next game or training session. It allows you to make sure your players are always fit and primed for game day.

SPI Elite

The SPI Elite is a small device worn in a specially designed mini back pack under the athlete's top. It records position, time, body movements, impacts and heart rate continuously. The information recorded can be analysed post game or session to provide the coach or conditioner with detailed information about the session AND its impact on the athlete.

The operation of the SPI Elite is simple. Once it is turned on it searches for satellites to determine it's position - this may take a few moments. Once it has established its location the SPI Elite Beeps 3 times and it starts recording session information. It will continue to collect session information until the unit is turned off. Because positional information requires satellites it can only be used outdoors. With the exception of turning the SPI Elite Units on when connected to the SPI Elite Docking Station please avoid turning the units on indoors.

TEAM AMS

Team AMS is the software that manages and analyses session data collected from the SPI Elite. This software will generate reports on your players and training sessions. It allows you to compare sessions, athletes and to look at performance trends of your players, look for signs of over or under training or stagnation. It will allow you to deliver the promises of periodisation and have your players performing their best on game day.

PerfectSession

PerfectSession is GPSports' on line training software. It integrates with both the TEAM Analysis software and the SPI Elite. This means that coaches can monitor the performance of their athletes when the players are on tour. PerfectSession has many of the basic features of TEAM AMS and is invaluable for keeping in touch with player performance. For more detailed information on the features of PerfectSession please visit www.perfectsession.com.

Chapter 2 – Installation

Installing the TEAM AMS system.

Prior to installation please ensure that you computer meets the Operational System Requirements.

Operating System:	Windows XP SP2
Memory (RAM):	512 megabytes minimum
Processor:	Pentium IV
Graphics Card:	An accelerated graphics card is recommended
Disk space:	100 MB for initial installation. Additional disk space is required to store the Athlete and Analysis databases.

The GPSports TEAM AMS software will guide you through the installation process. For installation please ensure your SPI Elite Docking Station Case is NOT connected to your computer.

Put the GPSports TEAM AMS CD into your computer CD Drive. The install program should automatically start in a few moments. If the install software fails to auto start got to WINDOWS XP "My Computer" window and double click on the TEAM AMS icon.

Installing TEAM AMS Software



Once the auto installing CD is running the first screen you will see is the following:

This install screen has several pages of information on the SPI Elite and GPSports (What's Inside, Documentation, Support).

To install the Team AMS software, just click on the <u>Install SPI Elite AMS Software and</u> <u>drivers</u> link. This process installs all the necessary software to manage and analyse your athletes' sessions. You will be guided through this process by the install program.

Team AMS is now ready to use, you can now connect the Elite Docking Station and access training information stored in your SPI Elite units. Please refer to the **Quick Start Guide** or **Chapter 3** for information on how to download data from your SPI Elite System for analysis in TEAM AMS.

You are now ready to use TEAM AMS to analyse your players' performance.

Chapter 3 - Tour of the Team AMS Environment

There are a few simple rules to remember when using Team AMS. By remembering these rules you will be able to explore the features of the SPI Elite System.

Navigation Panes

To the left of the **TEAM AMS** window are 4 panes for navigation. If you want to go to a particular area in TEAM AMS examine the options in the Navigation Panes. The panes consist of;

Finder

This pane allows you to access information about Players, Downloading or Analysis of Sessions.

Views

Views allow you to examine data using standard view templates. You can modify our standard views to develop a view that allow you to access special information that you need to understand what is happening to your athletes.

Custom Views

Once you have generated a view for reporting, you can save this as a custom view by right mouse clicking in the Custom View window and selecting "Save As". You are prompted to type in the name you wish to use and this template view is then added to this pane until you decide to either rename or remove.

History

A list of the 8 most recent views you have examined.

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🞯 Views		Player	: SPI Elite 1										
		View	SPI Elite 1	20051026204716	10/26/2005 20:47:16	02:04:32.0	4122.4	90	2.0	21.5	0.0	7	
Sessions		View	SPI Elite 1	20051029100459	10/29/2005 10:04:59	01:13:17.0	5975.3	90	4.9	23.0	0.0	11	
By Player		View	SPI Elite 1	20051031102205	10/31/2005 10:22:05	01:30:34.0	2966.6	90	2.0	21.1	0.0	100	
By Session		View	SPI Elite 1	20051101101847	11/1/2005 10:18:47	01:34:59.0	26199.0	90	16.5	101.3	0.0	129	
Player By Round		View	SPI Elite 1	20051103100701	11/3/2005 10:07:01	01:15:17.0	4619.9	90	3.7	23.0	0.0	27	
Player By Opposition	ſ	View	SPI Elite 1	20051104085942	11/4/2005 08:59:42	01:12:49.0	4268.3	90	3.5	27.0	0.0	28	-
Position Ru Round		View	SPIEIte I	20051107142641	11/7/2005 14:26:41	00:04:17.0	301.1	90	4.9	b.1	0.0	70	-
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		View	SPIERe 1	20051114142724	11/14/2005 14:27:24	00.57-01.0	4708.0 5420.5	30 90	5.7	24.1	0.0	27	-
h Custom Views		View	SPI Elite 1	20051115095410	11/15/2005 09:54:10	01-50-00.0	4228.3	90	23	20.4	0.0	117	-
PlayerTEST		View	SPI Elite 1	20051116094748	11/16/2005 09:47:48	01:45:53.0	5274.8	90	3.0	23.5	0.0	93	-
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	~)	,

Navigation Panes to the left of main window in Team AMS

Drag Column Headings

One of the most powerful features of TEAM AMS is the sort and grouping feature of the Sessions screen. This feature allows you to group data from any data set or characteristic of your data. For example you can group by player name and sort by session type. Or group by Player name and sort by exertion level. This allows you to work out who works hardest at which activity. To group data you have one of two choices:

1. Drag the Column Heading to the **Query Region** (the space immediately above the column headings). Multiple column headings can be dragged into this region for detailed analysis.

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File	<u>C</u> ommands	Windows	He	р					
P F	inder		^	С	ustor	n Views -	Player	TEST	
	Players Downloads				s (1	În			
0	Analysis			Play		Zone 🛆 🔽	Session Name ⊽	🗸 Interval 🔽 [Distance 💌
ø۷	ïews			7	Player : SPI I	Elite 1			
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E	By Player			H	View	12/2/2005 03:38:47	20051202033847	00:29:48.0	5351.7
E	By Session			H I	View	11/18/2005 10:10:40	20051118101040	01:08:40.0	2720.0
F	Player By Roun	d		Π	View	11/16/2005 09:47:48	20051116094748	01:45:53.0	5274.8
F	Plaver By Oppo	sition 🖊			View	11/15/2005 09:54:10	20051115095410	01:50:00.0	4228.3
	Position Bu Bou	Ind		Π	View	11/14/2005 14:27:24	20051114142724	00:57:01.0	5430.5
	osition by mod				View	11/9/2005 10:04:34	20051109100434	01:38:25.0	4706.0
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F					<u>View</u>	11/4/2005 08:59:42	20051104085942	01:12:49.0	4268.3
	ession by time				View	11/3/2005 10:07:01	20051103100701	01:15:17.0	4619.9
9	Sessions				View	11/1/2005 10:18:47	20051101101847	01:34:59.0	26199.0
	/				View	10/31/2005 10:22:05	20051031102205	01:30:34.0	2966.6

Query Region with Player and Zone selected for group analysis.

Click Column Headings

To sort columns click the Column Headings, to sort in reverse order click column headings again.

Descending files					
Session Time 🛛 🔽					
igging & Running					
12/2/2005 03:38:47					
11/18/2005 10:10:40					
11/16/2005 09:47:48					
11/15/2005 09:54:10					
11/14/2005 14:27:24					
11/9/2005 10:04:34					
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44 14 100005 00 50 40					

Ascending Files	
Session Time 🔺 💌)
Elite 1	
aging & Bunning	
10/26/2005 20:47:16	
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10/31/2005 10:22:05	
11/1/2005 10:18:47	
11/3/2005 10:07:01	
11/4/2005 08:59:42	
11/7/2005 14:26:41	
11/7/2005 15:01:37	

2. Use drop down menus on each column to select the player, session, date or any other variable(s) that you may wish to use to develop a printable template.

GPSports Team AMS V1.2					
<u>File C</u> ommands <u>W</u> indows <u>H</u> el	р				
P Finder	Custo	om Views ·	- jonas		
🛔 Players	r 🔁 🖄	😂 🔰			
S Downloads	Drag a colu	mn header here to grou	up by that column		
	View	Player 🛛 🔽	Session Name 📑	Session Time 🛛 🔽 I	nte val 🖃
	View	SPI Elite 1	20051202033847	(All)	00:29:48.0
🔞 Views	View	SPI Elite 1	20051118101040	Yesterday	01:08:40.0
	View	SPI Elite 1	20051116094748	This Week	01:45:53.0
Sessions	View	SPI Elite 1	20051115095410	Last Week This Month	01:50:00.0
By Player	View	SPI Elite 1	20051114142724	Last Month	00:57:01.0
By Session	View	SPI Elite 1	20051109100434	This Year	01:38:25.0
Player Pu Payed	View	SPI Elite 1	20051107150137	Last Year	01:05:35.0
	View	SPI Elite 1	20051107142641	11/7/2005 14:26:41	00:04:17.0
Player By Opposition	View	SPI Elite 1	20051104085942	11/4/2005 08:59:42	01:12:49.0
Position By Round	<u>View</u>	SPI Elite 1	20051103100701	11/3/2005 10:07:01	01:15:17.0
	View	SPI Elite 1	20051101101847	11/1/2005 10:18:47	01:34:59.0
P. Contan Minus	View	SPI Elite 1	20051031102205	10/31/2005 10:22:05	01:30:34.0
	View	SPI Elite 1	20051029100459	10/29/2005 10:04:59	01:13:17.0
asdasd	View	SPI Elite 1	Petrie Volent	10/26/2005 20:47:16	02:04:32.0

Selectable <u>drop down menu</u> for each column.

Columns can be selected/deselected by using the "Select Visible Columns" icon.

😹 GPSports Team AMS V1.2								
File	<u>C</u> ommands	<u>W</u> indows	<u>H</u> elp					
P F	inder		^	Custom \	/iews -	jonas		
å	Players			💼 न 획 🎒	bir.			
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9	Analysis			/iew Player	⊽ 👻	Session Name	🖌 Session Time 🛛 💌	
				Player	1	20051202033847	12/2/2005 03:38:47	
10 V	iews			Session Name	1	20051118101040	11/18/2005 10:10:40	
				Activity Type	1	20051116094748	11/16/2005 09:47:48	
	Sessions			Session Time	1	20051115095410	11/15/2005 09:54:10	
	By Player			Download Time	1	20051114142724	11/14/2005 14:27:24	
	3v Session			Position	1	20051109100434	11/9/2005 10:04:34	
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	layer by hour	iu ii	n	Opposition	1	20051107142641	11/7/2005 14:26:41	
.	Plaver Ru Onno	nsition 📃		T Comment				

Columns are either selected or unselected by checking or un-checking each box.

Advanced reporting functions – 3 mouse clicks.

Team AMS has the capability to develop advanced reports. They can be developed by building multiple column comparisons using the Filter Builder. This feature can be found by clicking on any of the down arrows and selecting the Custom link.

View	Player	Session Name		Interval 💌	Arrow brings
View	Sarah	(All)	•	01:30:42.0	up menu -
View	Claire Visser	March 7th 2006		01:39:07.0	select
View	Claire Verhage	07/10 Run		01:32:47.0	(Custom)
View	Bernadette	07/12/2002-1		01:30:54.0	to view Repo
View	Marcelle	15/06-1		01:31:10.0	Builder.

ere to g	roup by that column					
7	7 🔽 Session Name 🛛 💌	Session Time 🛛 💌	Interval 💌	Distance 💌	Weig 🛆 💌	Avg Speed 💌
	20051202033847	12/2/2005 03:38:47	00:29:48.0	5351.7	90	10.8
	20051118101040	11/18/2005 10:10:40	01:08:40.0	2720.0	90	2.4
	Filter builder - funt	titled.flt1		14		3.0
						2.3
	Filter <u>OR</u> <root></root>					5.7
	···· <u>Player</u> equals	SPI Elite 1				2.9
	Player equals	2				4.8
		equals 2062006				4.3
-	A shiring a small					3.3
	<u>Activity</u> equals	s Running •	7			16.6
	press the button to	add a new condition	J			2.0
						4.9
						2.0
						_
	Open Save As.		ОК	Cancel	Apply	

This feature allows for the development of weekly reports comparing athlete to athlete, position to position and session to session.

A template can be generated that automatically adds new sessions as they are added to the database – allowing for updated reports to be easily generated each week.

Once templates are generated it is only 3 mouse clicks from download to any report you require.

Downloading Sessions

To download a session from a SPI Elite turn the SPI Elite unit on and place it securely in the Docking station cradle. Connect the docking station to your computer via the cable and start up the TEAM AMS software.

In the Navigation Pane go to the Downloads page. Ensure that "Enable Docking Station" option is checked.

GPSports Team AMS V1.1			
<u>File Commands Windows Help</u>			
P Finder	Downloads		
h Sessions	3. G. h		
A Players	1 2 3 4 5 6 7 8 9 10		5
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Roala . 20031130003141	Age: Today CH2/2005 12:00:24 2/02/2005 22:54:20 Op.00:05:0 CH2/50	20051202225 (20	
500001 - 10/03/02 NO 100	View 6/12/200512:06:34 2/12/2005 23:54:26 00:05:30 3F1 Elite	20051202235428	
Soccer : 18/09/02/01	View 6/12/2005 12:09:08 30/11/2005 00:57:13 01:25:38.0 SPI Elite	20051130005713	
Soccer: 18/09/02 No 16a	View 6/12/2005 12:09:12 2/12/2005 23:54:55 00:00:15.0 Ferret	20051202235455	
Kangaroo : NZWH2ndYoungest	View 6/12/2005 12:09:29 2/12/2005 22:09:35 01:14:41.0 Ferret	20051202220935	
Koala : NZWH YOUNGEST	View 6/12/2005 12:09:47 30/11/2005 00:51:40 01:30:07.0 Ferret	20051130005140	
Ferret : WNZ H Oldest	View 6/12/2005 12:10:08 2/12/2005 22:09:34 01:14:15.0 Kangaroo	20051202220934	
SPI Elite : NZWH 2nd Oldest	View 6/12/2005 12:10:15 30/11/2005 00:52:38 00:15:55.0 Kangaroo	20051130005238	
1	View 6/12/2005 12:10:23 2/12/2005 23:54:32 00:00:44.0 Koala	20051202239432	
🐼 Map	View 6/12/2005 12:10:58 30/11/2005 00:51:41 01:30:40.0 Koala	20051130005141	
Overlay	Age : Yesterday		
Layer 1			
Layer 2	Age : This Week		
Layer 3	I Ane Last Week		
Layer 4			
	Age: Older		

Turn Elite Units On.

If you are downloading data from the SPI Elite Units they should be Turned On and placed in the SPI Elite Docking Station. Units that are switched off will not be recognised even though they are in the docking station. Units placed in the docking station when the Docking Station is connected to power will be charged regardless of whether the unit is ON or OFF.

Team AMS is capable of downloading all units automatically. Once you click on Download All, Team AMS will then download each unit and the results will appear in the pain below outlining date and time, player and session.

	Download A	All Delete after o	downloading 🗌	Confirm Deletior	n 🗌 Delete Emp	ty Sessions 🗌 Enable Dock	king Station
:	View	Downloaded \triangle	Session Time	Interval	Player	Session	
	- Age : Yes	terday					
R	<u>View</u>	3/7/2006 07:08:25	3/7/2006 05:27:04	01:30:54.0	Bernadette	20060307052704	
V	View	3/7/2006 07:09:41	3/7/2006 05:26:53	01:31:10.0	Marcelle	20060307052659	
	View	3/7/2006 07:09:49	3/7/2005 86:53:09	00:04:15.0	Field	20060307065309	

Download screen with most recent downloaded files and information of each session.

Managing Sessions

This may seem an obvious recommendation however it is critical that you are disciplined to ensure that you don't mix up session information between players. To help you keep this simple we have provided stickers for labelling units, and each unit can also be given a unique electronic name to identify the unit in the TEAM AMS Software. If you plan to share units between players it might be best to use a numbering system. We recommend if possible having players use the same SPI Elite device to minimise confusion between units. Always note clearly which player has which device.

If units are going to be used exclusively by a player it is good practice to label the unit the player's name or nick name.

Downloads	
ne po 🖄 🤷 📙	
1 2 3 4 5 6 7	8 9 10
E-💊 1	Name Unit
Configuration Product Name = SPI Elite Version = 1.6.2 Version Date = 11.01.2006 Unit Name = 5	Enter New Name
Download All Delete after download	

Labelling a unit electronically with a user name.

Right click on "Unit Name" and rename to the athlete who is wearing the unit. When downloading the data the file will automatically be stored in that athlete's database.

Creating Sessions Types

It is useful to create session types to allow you to record what kind of session your athlete is undertaking. A session type is a description of the activity during a session. For example you may want to record whether the session recorded is a:

- Practice game
- Competition game
- Speed Session
- Power Session
- Beep Test
- Drill etc.

As above it is important to have consistency in assigning these descriptors to Sessions. The most useful session type is one that describes the activity, and perhaps the intensity. It is not generally useful to add a time element to the session type. For example 20 minute speed session or 40 minute speed session are largely redundant descriptors. Your SPI Elite automatically records the time aspect of sessions and this can easily be reviewed in TEAM AMS.

Adding Session Information

After downloading a session in the download screen you have the opportunity to add extra information about the session. It is very good practice to do this at the time you download the data. Additional information that might be useful in obtaining an insight into your athlete's performance could include:

- Session Type or Activity,
- Weather conditions,
- Ground Condition,
- Temperature

Useful Session Type names might include Exertion Drill, or Recovery Drill. The makeup of the Drills can be recorded in the comments field.

Enable Docking Station							
Activity Type	Activity	Unit Name					
Tempo	Running	David					

The area in the download screen where specific activities, activity types and unit names can be attached to an individual session.

This feature is important to allow for more powerful reporting functionality in the Sessions window.

Player's Database

An athlete's details can be stored in the Player's database (link can be found in the top left Finder navigation pane). The Player's database allows the coach to input a player's personal details and importantly specific variables that are used in calculations throughout the Team AMS software.

These include:

- Maximum Heart Rate,
- Athletes weight,
- Maximum Speed.

Maximum heart rate and maximum speed are used to evaluate a percentage of maximum for these variables during any training session or game.

Players						
r 🖗 🧃 +	- × ✓					
Player						
Preferred Name	Robbo					
First Name	Michael					
Last Name	Robinson					
Date of Birth	2/6/1960	-				
Position	Winger					
Group						
Number	25					
Weight	90.0 kg					
Maximum Heart Rate	190 bpm					
Start Date	3/10/2002	-				
Squad						
Unit Name						

Key data in each player's database is used in the calculation of certain functions in TeamAMS.

Weight is used in the calculation of body load and impacts,

Maximum Heart Rate is used in the calculation of percentage of maximum heart rate when comparing athletes.

Analysing Performance

TEAM AMS has many features that allow you to identify key areas of your athlete's performance. These include:

- Their strengths and weaknesses
- Where they need to improve game performance
- How they need to train for how they play their game

The fastest way to get information back on your athletes' performance for a single session is to view the summary page. The summary page provides a standard view of key elements of the session.

Distance travelled Max Heart Rate Average Heart Rate Average Speed Maximum Speed

😹 GPS	ports Tear	n AMS V1	1.2							
<u>F</u> ile	<u>C</u> ommands	<u>W</u> indows	<u>H</u> elp							
🔎 Fin	der iyers		^	Analysis - z_Mont 24 Hour 20/09 -1 Graph Table Summary Sprint Map Comparison Zones Accelerometer						
S Do D <u>An</u>	wnloads <u>alysis</u>	-		Summary Distance Speed Heart Rate Splits by Time Splits by Distance Compare						
🕑 Views				Athlete Name Start Time Interval z_Mont 24 Hour 10:09:42 9/20/2004 01:12:08						
Se	ssions			Session Name End Time Analysis Zone						
By	Player			20/09 -1 11:21:50 9/20/2004 Mountain Biking 💌						
By Session Player By Round Player By Opposition Position By Round				Minimum Maximum Average Distance Speed 0.0 km/h 42.2 km/h 14.0 km/h Total 16782.3 m Heart Rate 75 bpm 185 bpm 141 bpm Zonal 16782.3 m						
h Cus	stom Views									
PlayerTEST session by time Sessions		<	Track Position Track Condition Coranderrk Forrest Dry Comments Weather Conditions Track was dry, dusty and slippery around tight bends. Sunny Temperature °C 30							

Team AMS Individual Athlete Summary Screen.

Analysis Window

Click on the Analysis item on the Toolbar or select the Analysis menu item



Hint: To find out what a Toolbar item does, hold the cursor over it for a moment and a hint is displayed describing the function of the toolbar item.

Analysis Graph Window

Team AMS displays the raw GPS/Heart Rate data of any session as the first window you view when entering the Analysis section of the software. This window allows for detailed manipulation of the data, selecting/deselecting certain parts of a session, viewing graphical response to speed and heart rate output during any session, and allowing for session exporting and importing (for file sharing - see next section).



Performance of a professional soccer player during 4 separate drills in one training session.

Import Window



Team AMS allows for individual file importing or exporting. Simply view the file you wish to import/export and click on the appropriate menu icon.

The Import Window allows a previously Exported Session to be used by the Analysis program. The Import Window provides a simple means to make use of Analysis data from other users of the Team AMS software.

Note:

A unique Athlete and Session name is required when Importing. A warning will be issued if the Athlete and Session name is already in use. Renaming the existing Athlete and Session will permit the Import of the data.

Export Window



The Export Window allows session data to be saved in a file. The Export function provides a simple means to exchange Analysis data with other users of the Team AMS software. When Exporting a selected portion or all the data can be saved using the Selected and All buttons respectively.

Table data

Analysis - BW Skills													
Couch Table Summar	Carlab	4	Common			a la sansata à							
Graph Table Summary	Sprint	мар	Compan	son 20n	es Acc	elerometer							
Time	Cumultive	HB	Zone	Speed	Zone	Distance	Distance *	X	Y	Latitude	Longitude	Altitude	Sats
15/12/2005 22:59:28.00	00:00:00	0	1	0.4	1	0.0	0.0	33.4	28.3	-35.3262533	149.1334867	593.0	T 4
15/12/2005 22:59:29.00	00:00:01	0	1	0.2	1	3.2	3.2	34.2	25.1	-35.3262817	149.1334950	590.0	T 4
15/12/2005 22:59:30.00	00:00:02	0	1	0.2	1	7.7	7.7	34.9	20.7	-35.3263217	149.1335033	586.0	T 4
15/12/2005 22:59:31.00	00:00:03	0	1	0.2	1	11.9	11.9	35.7	16.6	-35.3263583	149.1335117	582.0	T 4
15/12/2005 22:59:32.00	00:00:04	0	1	0.2	1	16.0	16.0	36.6	12.6	-35.3263950	149.1335217	578.0	T 4
15/12/2005 22:59:33.00	00:00:05	0	1	0.2	1	19.5	19.5	37.3	9.2	-35.3264250	149.1335300	574.0	T 4
15/12/2005 22:59:34.00	00:00:06	0	1	0.2	1	22.4	22.4	37.8	6.3	-35.3264517	149.1335350	571.0	T 4
15/12/2005 22:59:35.00	00:00:07	0	1	Edit	1	24.5	24.5	38.1	4.3	-35.3264700	149.1335383	569.0	Т4
15/12/2005 22:59:36.00	00:00:08	0	1	Farme	1	26.4	26.4	38.3	2.4	-35.3264867	149.1335400	568.0	T 4
15/12/2005 22:59:37.00	00:00:09	0	1	<u>D</u> elete	1	27.5	27.5	38.4	1.3	-35.3264967	149.1335417	567.0	Т4
15/12/2005 22:59:38.00	00:00:10	0	1		1	28.6	28.6	38.6	0.2	-35.3265067	149.1335433	566.0	T 4
15/12/2005 22:59:39.00	00:00:11	0	1	<u>С</u> ору	1	28.8	28.6	38.6	0.0	-35.3265083	149.1335433	566.0	Т4
15/12/2005 22:59:40.00	00:00:12	0	1	Save	1	28.8	28.6	38.6	0.0	-35.3265083	149.1335433	566.0	T 4
15/12/2005 22:59:41.00	00:00:13	0	1	0.4	1	29.2	28.6	38.4	0.4	-35.3265050	149.1335417	567.0	Т4
15/12/2005 22:59:42.00	00:00:14	0	1	0.4	1	29.8	28.6	38.3	0.9	-35.3265000	149.1335400	568.0	T 4
15/12/2005 22:59:43.00	00:00:15	0	1	0.6	1	30.7	29.5	38.1	1.8	-35.3264917	149.1335383	569.0	Т4
15/12/2005 22:59:44.00	00:00:16	0	1	0.4	1	32.0	30.9	37.8	3.1	-35.3264800	149.1335350	570.0	T 4
15/12/2005 22:59:45.00	00:00:17	0	1	0.6	1	33.4	32.2	37.5	4.4	-35.3264683	149.1335317	571.0	T 4
15/12/2005 22:59:46.00	00:00:18	0	1	0.6	1	34.9	33.7	37.2	5.9	-35.3264550	149.1335283	573.0	T 4
15/12/2005 22:59:47.00	00:00:19	0	1	0.6	1	36.4	35.2	36.9	7.4	-35.3264417	149.1335250	574.0	T 4
15/12/2005 22:59:48.00	00:00:20	0	1	0.6	1	37.7	36.5	36.6	8.7	-35.3264300	149.1335217	575.0	T 4
15/12/2005 22:59:49.00	00:00:21	0	1	0.6	1	39.0	37.9	36.3	10.0	-35.3264183	149.1335183	577.0	T 4
15/12/2005 22:59:50.00	00:00:22	0	1	0.6	1	40.5	39.4	36.0	11.5	-35.3264050	149.1335150	578.0	Т4
15/12/2005 22:59:51.00	00:00:23	0	1	0.7	1	41.8	40.7	35.8	12.8	-35.3263933	149.1335133	580.0	T 4
15/12/2005 22:59:52.00	00:00:24	0	1	0.6	1	42.8	41.6	35.7	13.7	-35.3263850	149.1335117	581.0	Τ4
15/12/2005 22:59:53.00	00:00:25	0	1	0.6	1	43.4	41.6	35.5	14.2	-35.3263800	149.1335100	581.0	T 4
15/12/2005 22:59:54.00	00:00:26	0	1	0.6	1	43.9	41.6	35.4	14.8	-35.3263750	149.1335083	582.0	Τ4
15/12/2005 22:59:55.00	00:00:27	0	1	0.6	1	44.3	41.6	35.4	15.2	-35.3263717	149.1335083	582.0	T 4
15/12/2005 22:59:56.00	00:00:28	0	1	0.4	1	44.5	41.6	35.4	15.3	-35.3263700	149.1335083	582.0	Т4
15/12/2005 22:59:57.00	00:00:29	0	1	0.4	1	44.5	41.6	35.4	15.3	-35.3263700	149.1335083	582.0	T 4
15/12/2005 22:59:58.00	00:00:30	0	1	0.7	1	44.6	41.6	35.5	15.3	-35.3263700	149.1335100	582.0	T 4
15/12/2005 22:59:59.00	00:00:31	0	1	0.4	1	44.8	41.6	35.5	15.2	-35.3263717	149.1335100	581.0	T 4
15/12/2005 23:00:00.00	00:00:32	0	1	0.0	1	62.1	58.9	32.5	32.2	-35.3262183	149.1334767	598.0	T 6
linu of toblo d		L .	- ن - ا ـ		- I			and all a	f	11	- I I - · · A I	CDC	a cond

View of table data tab - this page shows every second of data collected by the GPS and heart rate receiver.

Table data panel Functions

The Table data popup menu provides access to a number of additional analysis functions.

Edit. Dele Copy	 te / •	2 2 2 2 2	2.5 2.5 2.5 2.5 2.5 2.5
<u>S</u> ave		<u>C</u> S\	/
.00.09	94	DXF	-
:00:11	94	TAE	3
:00:12	94	NM	EA
:00:13	95	DUT	
:00:14	95	PLI	
:00:15	96	Т <u>х</u> т	
:00:16	97	GP)	6
.00.17	98	207	

Right clicking on any row allows for several options:

- 1. Edit row data
- 2. Delete row
- 3. Copy selected rows or all
- 4. Save export data in multiple formats.

The Delete popup menu item and **Delete** keyboard shortcut allows both individual and multiple entries to be deleted from the session data. The Delete function is useful to remove extraneous entries from the session.

The Confirm Window will request confirmation before deleting the entries.

Confir	m 🙁
2	Do you want to delete the selected items ?

Copy Menu Item

The Copy menu item copies the contents of the Table to the Clipboard. This allows the analysis data to be Pasted into other applications. The Copy function can be accessed by using the **Ctrl C** keyboard shortcut.

Session Summary

Sports Team AMS V1.2					
nalysis - H Skills	6				
aph Table Summary Sprint Ma	p Comparison Zones Acce	lerometer			
) 🛍 न 🚖 🖄 🕕 🕀					
mmary Distance Speed Heart Rat	e Splits by Time Splits by Dis	stance Compare			
Athlete Name) (Start Time) (Interval			
1	22:59:28 15/12/2005	01:11:03			
Session Name	End Time	Analysis Zone			
Skills	00:10:31 16/12/2005	Team Sports 🔹			
Minimum Maxi Speed 0.0 km/h 23. Heart Rate 0 bpm	mum Average 3 km/h 3.3 km/h Tu 0 bpm 0 bpm Z	Distance otal 3863.0 m onal 3863.0 m			
Frack Position	rack Condition				
Comments		Weather Conditions			
Player H has returned from knee recor minor pain when running at moderate	intensity.	Temperature °C			
	¥				

The Summary Tab summarizes the portion of session data that has been selected on the Graph Tab.

Session Summary	Description		
Start	Start date and time of the session		
End	End date and time of the session		
Interval	Elapsed time of the session		
Speed	The minimum, maximum and average speed is displayed		
Heart Rate	The minimum, maximum and average heart rate is displayed		
Total Distance	The total distance is displayed		
Zonal Distance	The distance within the speed zones is displayed		
Comments	Allows comments to be entered which maybe saved to that		
	session		
Weather Conditions	Weather conditions maybe entered manually		
Temperature	Temperature may be entered manually		
Track position	Track condition maybe entered manually		
Track condition	Track position maybe entered manually		

After selecting the summary tab, another row of tabs will appear underneath the menu bar and includes:



Summary Tab	Function							
Distance	Displays distance and % of total distance within speed zones in tabular and graphical form							
Time	Displays time and % of total time within speed zones in tabular and graphical form							
Heart Rate	Displays time and % ti	me within heart rate zones						
Splits by Time	Displays summary of intervals.	session data split by configurable time						
	Speed/Heart Rate	Displays : 1. Split and cumulative distance 2. Minimum, maximum and average speed 3. Minimum, maximum and average heart rate						
	Distance	Displays Distance-Time splits in graphical format						
	Speed	Displays Speed-Time splits in graphical format. Minimum, Maximum and Average speed is displayed						
	Heart Rate Displays Heart Rate-Time splits form Minimum, Maximum and Average displayed							
Splits by Distance	Displays summary of s intervals.	session data split by configurable distance						
	Speed/Heart Rate	Displays : 1. Split and cumulative time 2. Minimum, maximum and average speed 3. Minimum, maximum and average heart rate						
	Time Displays Time-Distance splits in format format							
	Speed	Displays Speed-Distance splits in graphical format. Minimum, Maximum and Average speed is displayed						
	Heart Rate	Displays Heart Rate-Distance splits in graphical form Minimum, Maximum and Average heart rate is displayed						

Distance within Speed Zone Summary

The Distance within Speed Zone Summary displays the distance, percentage distance and number of times each speed zone is entered. The percentage of distance within each speed zone is also shown graphically.



Distance within Speed Zone Summary

Time within Speed Zone Summary

The Time within Speed Zone Summary displays the time, percentage of total time and number of times each speed zone is entered. The percentage of time within each speed zone is also shown graphically. The speed exertion number is an accurate portrayal of the players running intensity for a given session.



Time within Heart Rate Zone Summary

The Time within Heart Rate Zone Summary displays the time, percentage of total time and number of times a heart rate zone was entered. The percentage of time within each heart rate zone is also shown graphically.



Splits by Time Summary

The Splits by Distance Summary displays the split time, cumulative time, minimum, maximum and average speed as well as the minimum, maximum and average heart rate for each split distance interval. Adjusting the split interval will automatically recalculate the Split by Distance Summary information.

	Summary	Distance Spee	d Heart Rate Sp	lits by 1	Time Split	ts by Dist	ance	Compare	1				
	Speed/Heart Rate Time Speed Heart Rate												
					Speed (km	1/h)	Н	Heart Rate (bpm)					
	Distance	Split Time	Cumulative	Min	Max	Avg	Min	Max	Avg				
	500.0	00:12:22.5	00:12:22.5	0.0	15.7	2.4	0	0	0				
	1000.0	00:14:58.4	00:27:20.9	0.0	17.2	2.0	0	0	0				
	1500.0	00:13:09.6	00:40:30.6	0.0	21.5	2.3	0	0	0				
	2000.0	00:08:10.10	00:48:41.5	0.0	20.9	3.7	0	0	0				
	2500.0	00:07:11.9	00:55:53.5	0.0	20.7	4.2	0	0	0				
	3000.0	00:09:00.1	01:04:53.6	0.0	23.1	3.3	0	0	0				
	3500.0	00:08:24.7	01:13:18.3	0.0	24.1	3.6	0	0	0				
	4000.0	00:03:38.2	01:16:56.5	0.0	28.2	8.2	0	0	0				
	4500.0	00:02:52.5	01:19:48.10	0.0	25.7	10.4	0	0	0				
	5000.0	00:09:54.3	01:29:43.2	0.0	19.6	3.0	0	0	0				
	5500.0	00:09:16.4	01:38:59.7	0.0	16.5	3.2	0	0	0				
	5655.1	00:04:17.3	01:43:17.0	0.0	11.3	2.2	0	0	0				
•	Split Distanc	e 500 韋	Predict last Split										

Splits by Time (Distance Covered)

The Splits feature allows the user to view a session broken into either time intervals or distance intervals. Showing below is a session broken into 5 minute time intervals with each interval detailing total distance covered during that time.



Splits by Time (Min, Max, Ave Speed)

The user can also view maximum, average and minimum speeds achieved for any time period giving an indication of intensity of performance throughout the session/game.



Sprint Tab

The Sprint Tab is used to perform an analysis of the time, length and length distribution of sprints. A Sprint is considered to be present if the speed exceeds the Zone 4 setting for more than the minimum sprint interval. The minimum sprint interval is configurable in second increments between 1 and 30 seconds.



Sprint Analysis is useful in determining training strategies for activities where Sprint/Rest Intervals are present. The Sprint Interval Distribution graph instantly shows the sprint requirements for the activity.

To perform a Sprint analysis for a session:

- Ensure an appropriate Analysis Zone is selected on the Zones Tab
- Adjust the Zone 4 Speed setting as required
- Select the Sprint Tab by Clicking on the Sprint Tab
- Expand the Athlete grouping by clicking on the + symbol on the Athlete-Session panel
- Select the Session by clicking on the session name
- Adjust the Minimum Sprint Interval as required

The Sprint Analysis will be automatically updated when any changes to the Minimum Sprint Interval are made.

Map Tab

This is one of the features of the Team AMS that is only capable due to the positioning feature of GPS. This feature allows for the exact movements of a player to be shown from a "birds eye view".



The above image is of a professional soccer player playing one half of football. The different colours on the image represent different speed zones (or heart rate zones). For example, walking is displayed in yellow, jogging in blue, running in red and the remainder are sprint performance.

Overlay Menu Item



The Overlay Menu Item is used to mark a session of data for use as an Overlay.

An overlay is displayed on the Map Tab in white behind all other data. Overlays are used primarily to display the outlines or boundaries of playing fields, but can also be used to compare sessions.

- 1. The Overlay is displayed in white behind the session data.
- 2. The map is automatically resized to fit both the Overlay and session data. If the Overlay and session data are a large distance apart the map will be difficult to interpret.

Map Toolbar

Toolbar Item	Function
Print	Prints the Analysis Window.
Reset Zoom	Reset the Zoom level to display the entire map area.
Pan	Allow the map to be panned Left, Right, Up and Down by holding the left mouse button down and dragging the mouse
Zoom In / Out	 Zoom In – Places the map in 'Zoom In' mode. When in this mode the mouse can be used to zoom in a portion of the map by dragging the mouse with the left button down. The Insert key will decrease the map size by 25%. Zoom Out – Places the map in Zoom Out mode. Clicking the mouse on the map will result in the map increasing in size by 25%. The Delete Key also performs the same function.
Ruler	The Ruler toolbar item permits the measurement of distances on the map by drawing line segments on the screen.
Statistics	Show the Statistics Window.
Rotate CW / CCW	Rotates the map Clockwise (CW) and Counter-clockwise (CCW).
Reset Rotation	Resets any rotation applied to the map data.
Show / Hide Points	Shows or hides the data points on the map.
Show / Hide Overlay	Shows or hides the overlay data points on the map.
Speed / HR	Selects the display of Speed or Heart Rate data on the map.
Zone 1 – 4	Permits the information for individual zones to be shown or hidden.

Map Shortcut Keys

Shortcut keys have been assigned for some of the more common map manipulations.

Action	Shortcut keys
Panning Map Up, Down, Left, Right	Use the Left, Right, Up and Down Arrow
	keys to move the map centre point.
Aligning the Map to Overlay data.	Hold the Alt key down and press the Left , Right , Up or Down Arrow keys.
Rotating the Map Clockwise	Hold the Shift key down and press the
	Right Arrow key down.
Rotating the Map Counter-clockwise	Hold the Shift key down and press the Left
	Arrow key down.
Removing one or more Ruler line segment	Press the Backspace key.
Removing all the Ruler line segments	Press the ESC key.
Moving the highlighted section	Hold the Control key down and press the
	Left or Right Arrow keys.
	Note: Control-Left Arrow will move the
	highlighted section towards the end of
	the session
	Control-Right Arrow will move the
	nignighted section to the start of the
	Session
Removing a segment from the start of	Hold the Control key down and press the
the highlighted section	Backsnace key
Removing a segment from the end of	Hold the Shift key down and press the
the highlighted section	Backspace key
Showing/Hiding Zone data	Press 1, 2, 3 or 4 to show and hide zone
	data
Toggling between Speed/Heart Rate	Press S to switch between the display of
data	Speed and Heart Rate data. The Map Toolbar
	will display 🛉 when Speed data is present and
	when Heart Rate data is present.
Showing/Hiding Overlay data	Press O to show or hide the overlay data
Showing/Hiding the data points	Press P to show or hide the data points

Map orientation and rotation

The session data is shown on the map with North upwards by default. The session data may be rotated by using the Rotate CW and Rotate CCW Toolbar items or keyboard shortcut keys.

Accelerometer Tab

The SPI Elite has the additional functionality of a Tri-Axis Accelerometer. This device measures accelerations and decelerations of an athlete during any activity.

Team AMS is able to evaluate several outputs from this device and using data from the Player's database can supply the coach with very valuable information about an athlete and how they are performing in a session or game.



Raw Accelerometer data output. The Red, Yellow and Green graphs are the raw Accelerometer data in three planes (X, Y, Z), the blue graph is the summation of the three axis.

GPSports is working closely with several clients to evaluate further valuable output from this device - currently we are able to supply clients with two new variables that have shown to supply new information on a player performance that has been previously unattainable (See below).

Body Load

Taking into account a player's weight, GPSports is able to measure an athlete's "Body Load". This is the sum of all forces placed on an athlete during activities such as accelerating, decelerating, changing directions & jumping (Measured in G-Forces).

This score is similar to the Speed Exertion score using in many sports with the SPI 10 GPS device, it allows for bench marks to be set for players, can be used in comparison between players, positions, a single player over time and used as a measure of workload (and subsequent recovery) between training sessions.



Body Load output from a team sport athlete. The loading is broken into zones and a Total Body Load score is generated allowing for accurate analysis over time of an athlete's adaptability to training.

A key use of "Total Body Load" is setting total workloads for an athlete throughout a training week. Once the athlete has achieved/exceeded this previously determined value, the athlete is instructed to complete low intensity or recovery sessions for the remainder of the week, this has reduced injury in players in many different codes of football and has allowed the coaches to have an objective analysis of total intensity of training sessions and training weeks.

Impacts

Recent research into impacts in contact sports has highlighted that there is much greater muscle damage done to an athlete than previously thought. The level of muscle damage affects the recovery time of an athlete and better understanding of how much impact has taken place will allow coaching staff to develop more appropriate training and recovery routines for their athletes.

GPSports SPI Elite is capable of measuring impact loads (in G-Forces) allowing coaches to gain insight into the physical stress placed on each player during a session or game.



Impacts measured during a training session. Team AMS records the intensity (hardness) of each impact and the total number of impacts sustained during any one session.

Both Body Load and Impacts are based on GPSports standard 6-Zone structure. Zones can be individually set for each athlete or position. Team AMS inserts default zones that can be easily modified (in the Zones tab).

Zones

Zones form the basis of the analysis performed by the Team AMS software. Zones allow 6 ranges of Speed and Heart Rate to be set and used for analysis.

Note: Setting an Analysis Zone that is not suited to the type of activity being analysed may lead to misleading or confusing results. Make sure you select an appropriate Analysis Zone with on the Zone Tab.

The Team AMS software allows the user to Insert, Delete and Modify the Zones.

raph Table Summary Sp	rint Ma	p Zon	es Acce	eleromete	er			
💐 🛍 🗗 🗢 🖄 🛛 🕂 🗕	X V							
Default Zone Team Sp	orts Index A	.cceleron	•					
Speed Zone Ranges								
Speed Zone Name	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Upper	^
Walking	0	3	6	7	8	9	25	
Jogging & Running	0	7	10	12	13.5	17	35	
Roller Blading	0	10	18	22	24	30	70	=
Mountain Biking	0	10	18	22	25	30	100	
Cycling Road & Track	0	15	25	28	35	40	120	~
Heart Rate Zone Ranges Heart Rate Zone Name	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Upper	~
Walking	0	90	120	150	165	170	240	
Jogging & Running	0	90	120	150	165	170	240	
Roller Blading	0	90	120	150	165	170	240	
Mountain Biking	0	90	120	150	165	170	240	
	0	00	100	150	100	170	240	_

Zone Tab

The user can set a variety of zones, speed, heart rate, exertion and accelerometer zones to best customise the software for their needs.

GPSports has attempted to supply template zones for all major sports, these are to be used as examples only and your own zones may need to be set to best reflect your athlete output.

Zone Toolbar



Toolbar Item	Function
Print	Prints the Zone window.
Report	The Report Toolbar item will generate a report of the zone configuration.
Insert	Inserts a new zone entry.
Delete	Delete the currently selected zone
Cancel	Cancel any changes mode to the current
	zone.
Save	Save any changes made to the current zone.

The Team AMS software has been pre-configured with several set Zones (eg team sports, cycling, running, walking etc). These zones may be adjusted to the user's specific requirements or entirely new Zones added.

Speed Zones

The speed zones are supplied in km/h. If units other than km/h are used or you frequently change speed units, it is suggested that new zones are added for each of the units required. Appending the speed units to the end of the zone name such as Rowing (km/h) or Rowing (m/s) is a simple method of keeping track of the different speed zones.

Setting the Analysis Zone

The Analysis Zone used by the software is set on the Zones Tab. The Analysis Zone is used by the Summary, Sprint and Map tabs when determining speed and heart rate zones.

ар	h Table Summary	Sprint Ma	ap Cor	nparison	Zones	Acceler	ometer		
	🛍 🖥 ڠ <u>1</u> 🕂	- × ✓							
_	Cross	Country Sk	iina	_					
	Cross	Country Sk	ing (
pe	ed & Heart Rate Exerti	on Index 🚺	cceleron	neter					
Boo	y Load Impacts								
В	ody Load Zone Ranges	l							
	Name	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Upper	1
Þ	Rowing	4	5	6	7	8	9	11	
	Team Sports	4	5.5	6	7	8	9	11	
	Luke S	4	5	6	7	8	9	11	
	Test Y	4	5	6	7	8	9	12	
	Hawes	4	5	6	7	8	9	12	1,
L									
В	ody Load Intensity								
Г	Name		Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	
Þ	Rowing		0.2	0.35	0.5	0.65	0.85	1	1
	Team Sports		0.2	0.35	0.5	0.65	0.85	1	
	Luke S		0.2	0.35	0.5	0.65	0.85	1	1
-	Test Y		0.2	0.35	0.5	0.65	0.85	1	

Zones maybe applied to players on the views or summary page. To apply a zone, click on 'zone' and select the zone you wish to apply.

	e GPSports Team AMS V1.2												
Ē	ile <u>C</u> omma	nds <u>W</u> indows <u>H</u> elp											
	Views - By Session												
	🛍 😫 🔊	b)											
	Session Na	me 🛆 🔽											
3	View	Player 💌	Session Name 🛛 🔽	Zone 🔽	Weight 💌 I	Max Speed 💌	Speed Exerl 💌	Total B 💌	Impact: 💌 1	impact: 💌	Impact: 💌	Impact: 💌	Impact: 💌 Total
Þ	Session I	Name : speed wb											
	<u>View</u>	davidson	speed wb	davidson	85	28.9	5087.0	102.2	1	0	0	0	0
	View	cross	speed wb	cross	81	28.9	5475.0	1510.2	5	3	0	0	0
	View	harris	speed wb	harris	97	30.7	4652.0	810.1	3	0	1	0	0
	View	moguiness	speed wb	Mcguiness	84	30.4	4954.0	1153.9	2	0	0	0	1
					86.8	30.7 km/h	5042.0	894.1	2.8	0.8	0.3	0.0	0.3

Configuration Window

This window is selected from the menu list at the top left of the software window

🕃 GP	Sports Tea	m AMS V1	.2
File	<u>C</u> ommands	<u>W</u> indows	<u>H</u> elp
	Configure		^
	Exit		

Once clicked the following window appears.

St Configure			8
Units Map Spi	rint Database Up	odates	
Com Port 🛛 👰	•	Altitude Units	metres
Speed Units	km/h 💌	Cadence/Rating Units	Disabled 💌
Distance Units	metres 💌	Temperature Units	°C ▼
L		Save	Close

- Click on the appropriate tab to select Units, Map or Sprint configuration items
- Alter the required items and Click on the Save button
- Click on the Close button to close the Configure Window
- The Database tab is for setting up how often you would like to back up your data
- The Updates tab allows you to select auto check for new Team AMS updates or manually check at your convenience.

Configuration Window tab information

Item	Function						
Com Port	Set the COM Port to be used when downloading data from the SPI10.						
A	The Search button will scan through the PC COM ports looking for an attached SPI10.						
Speed Units	Shows the measurement units to be used when displaying Speeds. The following Speed Units options are available:						
	Km/h m/s Mph Knots	Kilometres per hour Metres per second Miles per hour Knots					
Distance Units	Shows the measu when displaying Dis The following Dis available: <u>Metres Kilometres</u> Yards <u>Miles Furlongs</u> Metric Furlong	rement units to be used stances. stance Units options are					
Altitude Units	Shows the measurement units to be used when displaying Altitude. The following Altitude Units options are available:						
Cadence/Rating Units	Feet Shows the measurement units to be used when displaying Cadence or Rating data The following Cadence/Rating Units options are available: Disabled Cadence/Rating not used Cadence/Rating not used						
	rpm	Revolutions per minute					

Reporting Functions

The Team AMS software allows for a variety of reports to be generated, viewed and printed.

Currently there are two reporting features, one for the Sessions window (group analysis) and a second for individual athlete reporting.

Session Reporting:

Once the user has determined the data they wish to view in the sessions window, to generate a report simply click on the report icon and select print.

١	Views - Sessions										
ß		- ×	e h								
	Drag	Seasion	Report der here to group	by that colur	nn						
i	1	/iew	Player 🛛 🕹 💌	Interval 📃	Distance 📃 💌	Avg Speed 💌	Max Speed 💌	Speed Exertion 💌			
	V	/iew	1	00:07:22.0	58.2	0.5	6.7	479.0			
	N	/iew	1	00:51:51.0	3027.0	3.5	28.9	4015.0			
Π	V	/iew	1	00:06:25.0	476.6	4.5	7.0	398.0			
	V	/iew	1	00:04:16.0	45.3	0.6	0.7	256.0			
	N	/iew	1	00:06:25.0	476.6	4.5	7.0	398.0			
	V	/iew	1	01:59:14.0	9958.1	5.0	25.2	10525.0			

The view the user wish to print has been configured and report icon selected.

Print	Preview										
<u>File Vi</u>	iew F <u>o</u> rma	at <u>G</u> o									
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Margins	Left:	0.5 *	Top:	0.5 " Rig	ht: 0.5	Bottom:	0.5 Header:	0.1" F	ooter: 0.2 *		
							Consta	. Finder	Denert		
							Sessio	n Finder	керог		
		View	Player	2	Interval	Distance	Avg Speed	Max Speed	Speed Exertion	HR Exertion	Total Body Load
		View <u>View</u>	Player 1		Interval 00:07:22.0	Distance 58.2	Avg Speed 0.5	Max Speed 6.7	Speed Exertion 479.0	HR Exertion 442.0	Total Body Load 44.6
		View <u>View</u> <u>View</u>	Player 1 1		Interval 00:07:22.0 00:51:51.0	Distance 58.2 3027.0	Avg Speed 0.5 3.5	Max Speed 6.7 28.9	Speed Exertion 479.0 4015.0	HR Exertion 442.0 3111.0	Total Body Load 44.6 4718.9
		View <u>View</u> View View	Player 1 1 1		 Interval 00:07:22.0 00:51:51.0 00:06:25.0 	Distance 58.2 3027.0 476.6	Avg Speed 0.5 3.5 4.5	Max Speed 6.7 28.9 7.0	Speed Exertion 479.0 4015.0 398.0	HR Exertion 442.0 3111.0 385.0	Total Body Load 44.6 4718.9 169.0
		View View View View View	Player 1 1 1 1		 Interval 00:07:22.0 00:51:51.0 00:06:25.0 00:04:16.0 	Distance 58.2 3027.0 476.6 45.3	Avg Speed 0.5 3.5 4.5 0.6	Max Speed 6.7 28.9 7.0 0.7	Speed Exertion 479.0 4015.0 398.0 256.0	HR Exertion 442.0 3111.0 385.0 264.0	Total Body Load 44.6 4718.9 169.0 0.0
		View View View View View View	Player 1 1 1 1 1 1 1 1		 Interval 00:07:22.0 00:51:51.0 00:06:25.0 00:04:16.0 00:06:25.0 	Distance 58.2 3027.0 476.6 45.3 476.6	Avg Speed 0.5 3.5 4.5 0.6 4.5	Max Speed 6.7 28.9 7.0 0.7 7.0	Speed Exertion 479.0 4015.0 398.0 256.0 398.0	HR Exertion 442.0 3111.0 385.0 264.0 385.0	Total Body Load 44.6 4718.9 169.0 0.0 96.5
		View View View View View View View	Player 1 1 1 1 1 1 1 1		 Interval 00:07:22.0 00:51:51.0 00:06:25.0 00:04:16.0 00:06:25.0 01:59:14.0 	Distance 58.2 3027.0 476.6 45.3 476.6 9958.1	Avg Speed 0.5 3.5 4.5 0.6 4.5 5.0	Max Speed 6.7 28.9 7.0 0.7 7.0 25.2	Speed Exertion 479.0 4015.0 398.0 256.0 398.0 10525.0	HR Exertion 442.0 3111.0 385.0 264.0 385.0 7155.0	Total Body Load 44.6 4718.9 169.0 0.0 96.5 121984.5
		View View View View View View View	Player 1 1 1 1 1 1 1 1 1		Interval 00:07:22.0 00:51:51.0 00:06:25.0 00:04:16.0 00:06:25.0 01:59:14.0	Distance 58.2 3027.0 476.6 45.3 476.6 9958.1 14.0	Avg Speed 0.5 3.5 4.5 0.6 4.5 5.0 3.1	Max Speed 6.7 28.9 7.0 0.7 7.0 25.2 12.6	Speed Exertion 479.0 4015.0 398.0 255.0 398.0 10525.0 16071.0	HR Exertion 442.0 3111.0 385.0 264.0 385.0 7155.0 11742.0	Total Body Load 44.6 4718.9 169.0 0.0 96.5 121984.5 21168.9

The report window appears once the report icon is selected. A direct report can be generated from this window.

Hint: To find out what a Toolbar item does, hold the cursor over it for a moment and a hint is displayed describing the function of the toolbar item.

Individual Athlete Reporting

When reviewing an athlete's individual data, the user can print from any window in the Analysis feature of the Team AMS Software.

🚳 Summary Report			e 😒
· □ ■ 🖭 · K • • • • A 🛆 🗅 🛛 🕮 🖄 🗠	Close		
	<section-header><section-header><section-header><complex-block></complex-block></section-header></section-header></section-header>		
Foge 2 of 0	ual(5).d 🐼 GPScorts Team AMS 🧿 Qatar/Europe Feb/M 🎟 Issues to br	ring up wit	(0 @ 🔊 🔿 1:08 AM

This is an example of a typical report page when printing from the Summary tab in the Analysis window.

Chapter 4 - Utilities

Backing Up Sessions

The user is advised to regularly back up their data as database corruptions can occur with any database system, with the resulting being that you could lose many months or even years of data.

Team AMS allows for backing up either manually or auto reminders.



By selecting the backup button, Team AMS will ask if you want to back up and that it could take several minutes.

You can also select the number of backups to keep and at the end of each week Team AMS will ask you if you wish to back up your data.

Team AMS Upgrades

The Team AMS software is a continuous "Work in Progress". With each new suggestion given by our many clients, we aim to incorporate these features into our software as soon as we are able to achieve the output that is required.

The user can either manually check or have the software regularly check for updates and when found will ask to take you to the download window.



The software will also advise if it is unable to make a connection with the Team AMS server requiring the user to check at a time when there is a suitable internet connection. Typical download sizes are around 12-15 megabytes.

Upgrades – Details

Due to the many modifications GPSports is and will continue to make to our Team AMS software - we supply the user with a feature update list with each update installed.

Once the update has been installed, the user can go to the following menu item to access this file:



Once selected a text file is opened with every modification made to our software since it's release. At the bottom of the list will be the latest features added.

GPSports Team AMS V1.2	
<u>File C</u> ommands <u>W</u> indows <u>F</u>	ieb
P Finder	Analysis - 1 20060307204710
🛔 Players	🖡 ReadMe.txt - Notepad
😂 Downloads	File Edit Format View Help
Analysis Views	4. Add DbiSaveChanges to database table Post and Delete handlers 5. Add ability to view Backup log and Audit Trail from Configure -> Database -> Logfiles window 6. Grouping changes to the view and Custom Views are now saved automatically. 7. Sort order of Download Screen updates instantlynow rather than adding to the end then updating to the correct
Sessions	Iocation 8. Modificationa to Delete, Delete All, Download, Download All functionality from the Download window to prevent data corruption when downloading and SPI Elite devices are removed or added
By Player	9. Fix the loading of the current zone information for downloads into the session database 10. Map screen can print map a report using the Express Printing System
By Session	11. Minimum HR algorithm changed to use only heart rates above 30 bpm 12. zone addition automatically fills with default values
Player By Round	13. Autorum disabled on drive A and B, this stops warning on laptops and pc's with a A or B drive and no disk in it.
Player By Opposition	13. Fix Refresh problem when zone changed from Session Finder window
Position By Round	v1.2.0.23 2/03/2006
Custom Views	1. Don't check the A or B drives as they are generally floppies and will give a disk error when checking
	2. Add new Updates tab to the configure window to allow the immediate checking if a new version of the
gatar3	 Add Check and pownload buttons to the new tab to check and download software
RotterdamHockey	4. Backup code will not be run if any errors are detected on startup 5. Add Hint to Update Available message on Status bars
	6. pocking station Autofind is now set as the default action when perform the initial install 7. powerload of Software Underse can be initiated by clicking on the Underse Available message
	on the status bar
	succeeded. The error message was incorrect, this has been fixed
	9. Multi drive memory stick devices reported that the drive was empty when Team AMS was run this warning will no longer be displayed
🔗 History	10. Side Navagation Bar keeps same color style as rest of program
1 : 20060307204710	
Kharta : 20060307213	B-A Murad Hussain

It is advised that this procedure is repeated every time the user updates their Team AMS software.

Upgrading Firmware

Occasionally there may be the need to update/upgrade the software that runs the SPI elite unit. In this case the updating of SPI Elite software (known as firmware) is a follows:

Procedure for Upgrading Firmware in SPI Elite

- Connect power to SPI Elite docking station and connect docking station to PC. Start Team AMS application
- 2. Turn SPI Elite on and place in a docking station cradle.
- 3. Select 'Downloads' from the Navigation pane of the TEAM AMS window and ensure that 'enable docking station' is checked. The software will go through the auto find sequence.
- 4. Once SPI Elite units have appeared in the *Docking Station Pane*, click on the "+" symbol to access the 'configuration' option and select it.
- 5. Right click on 'version' and select 'upgrade'.
- 6. Using this Dialog, navigate to the upgrade file and click on *open*. The upgrade file will be named something like eliteVxxx.hex
- 7. -Click YES to proceed with upgrade.
- 8. *"Upgrade file copied successfully"* will appear when transfer is complete. Click OK and remove SPI Elite from docking station and turn SPI Elite off.
- 9. Press and hold the button on the SPI Elite until 5 lots of 3 beeps is sounded, then release the button. The left power LED will now flash twice per second indicating the upgrade is ready to proceed.
- 10. Press and hold the button on the SPI Elite until a double beep sounds and then release. The left LED will flash RED quickly for a time. The SPI Elite will sound a series of beeps before turning itself off.

To confirm upgrade, turn SPI Elite on and replace in docking station. Open configuration folder and note firmware version number.

Glossary:

Body Load: The collation of all stresses placed upon an athlete during a session or game. These stresses includes acceleration deceleration change of direction impacts (players and foot strikes) and takes into account the athletes body weight.

Exertion Index (Heart Rate): The Heart Rate Exertion Index calculation is based on the time spent in each Heart Rate zone weighted for each zone. This measure is an effective way to perform comparative analysis between sessions of an individual athlete or between athletes.

Exertion Index (Speed): The Speed Exertion Index calculation is based on the time spent in each Speed Zone weighted for each zone. As with the Heart Rate Exertion Index above it is an effective way to compare sessions of an individual athlete or comparing athletes across a Session Type or Activity. It provides a clear indication of the running intensity of the session.

Finder: The Finder is part of the Navigation Pane that allows you to access information about; Sessions, Athletes, Analysis or Downloading Sessions.

Heart Rate: Heart Rate is a measure of the number of heart beats per minute. To collect Heart Rate data using the SPI Elite the athlete must be wearing a GPSports Heart Rate Strap or other PolarTM compatible Heart Rate Strap.

Heart Rate Zones: See Zones - Heart rate below.

History: History forms part of the Navigation Pane that allows you to easily access your last 8 Views of data.

Impacts: The Impact measure in TEAM AMS reports on the number (count) of impacts of various intensities experienced by the athlete. Impact intensity is broken up in Zones. Impacts include all impacts experienced by the athletes during a session including tackles, bumps, and foot strikes.

Impact Zones: See Zones - Impact Below.

Navigation Panes: The area on the left of TEAM AMS that allows you to navigate through the various features of the TEAM AMS to analyse athlete performance.

Maps: Maps forms part of the Navigation Panes. It allows you to examine how your athlete moves on the field or during exercise.

Sessions: A session is any single recorded set of data recorded by your SPI Elite assigned to an athlete.

Session Type: The planned activity or game undertaken by your athlete and recorded by your SPI Elite.

Speed Zones: See Zones - Speed below

Sprint Intervals: In TEAM AMS Sprint Interval generates a report on Zone 6 speed data. TEAM AMS provides a count of how many times Zone 6 speeds were obtained during a session and when they occurred. It also provides information on the time spent in the highest speed zone, and the highest speed achieved.

Views: A view a way of creating a standard template to examine any set of data. TEAM AMS comes with some standard Views and also allows you to create your own custom views to suit your needs.

Right Click: Most computer mice have 2 buttons the left button performs a standard click function and the right button provides quick access to other menu options.

Zones:

- Heart Rate:
- Impact:
- Speed:

Zones in TEAM AMS are used to divide activity into 6 bands. Heart Rate, Impact, and Speed data are all broken into 6 Zones. Zone 1 indicates the lowest effort or lowest impacts; Zone 6 indicates the highest effort or the highest impacts. Zone details can be used to assess or analyse a training session, they can also be used to compare player performance or session intensity. Zones can be selected for various sports or can be customised for your needs. For more information about Zones see chapter x.