Flex MX Transponder & Flex Manager User Manual

(REVISION 1.0)
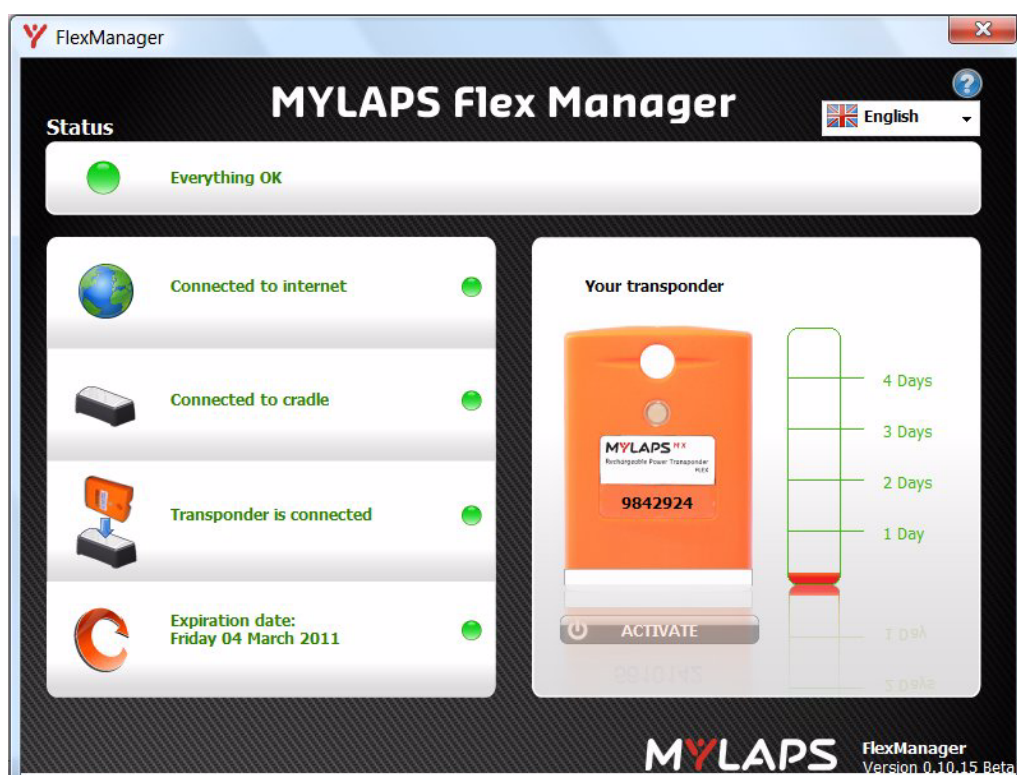
ORIGINAL INSTRUCTIONS

MYLAPS

Manual rev.	Software rev.	Date (d/m/y)	Amendments
(Revision 1.0)	(Revision 1.0.0)	19/04/11	This is the first edition of this manual.

TABLE OF CONTENTS

MYLAPS

1 INTRODUCTION

1.1 Scope of this manual

This manual is intended for users of the Flex MX Transponder & Flex Manager. It provides information on installing, operating, and maintaining your unit.

The manual is divided into the following sections:

- *Introduction* - (this section)
- *Safety* (page 5): describes all safety aspects required when working with MYLAPS equipment
- *Physical description* (page 6): physical descriptions of the major components in the unit
- *Functional description* (page 9): functional descriptions of the unit
- *Activate transponder* (page 13): installing Flex Manager software and activating the transponder
- *Operation* (page 19): how to use the unit and check status
- *Maintenance* (page 22): instructions on how to maintain and repair the equipment. Contains sub-sections for periodic maintenance schedules and corrective maintenance procedures
- *Troubleshooting* (page 26): tables with potential problems, causes and solutions
- *Appendices* (page 30): unit specifications and CE declaration form

1.2 How to use this manual

This manual is designed to be used in electronic and printed form. Cross references in the electronic version can be clicked to go directly to the referenced item. Navigation can be done with the bookmarks and/or the table of contents, which contains live links. Page numbers are also provided for ease of use with printed copy.

Before installing, operating or maintaining your Flex MX Transponder & Flex Manager for the first time, always read section *2 Safety* on page 5 to familiarize yourself with the safety aspects of this manual and your system.

To identify individual components, read *3 Physical description* on page 6.

For an explanation of how the unit works, read *4 Functional description* on page 9.

Read both *5 Activate transponder* on page 13 and *6 Operation* on page 19 completely to overview the steps required to setup and run Flex MX Transponder & Flex Manager. Refer to *8 Troubleshooting* on page 26 to find solutions to setup/operating problems.

When performing scheduled maintenance on Flex MX Transponder & Flex Manager, use *7.1 Periodic maintenance schedules* on page 22 to view the schedules and find the required maintenance procedures. Corrective maintenance is guided from the tables in section *8 Troubleshooting* on page 26.

Refer to the *Appendices* on page 30 for an overview of the technical specifications.

2   SAFETY

This section describes all safety aspects required when working with MYLAPS equipment. The safety aspect can relate to potential equipment damage or to danger to personnel working with this equipment or in the vicinity.

- When installing, operating or maintaining equipment, closely follow the prescribed instructions in this manual, and use common sense at all times
- If ever in doubt about how to do a job or task safely, always ask for assistance

2.1   General safety responsibilities

High voltages, thermal and stored energy hazards are present in some MYLAPS systems. Therefore, pay special attention to safety when transporting, operating and maintaining each system, including:

- Meet all applicable codes, laws and local regulations.
- Read and understand each item in this manual and follow the installation, operator and maintenance procedures exactly.
- Always use the correct tools for the job and only replace components with approved parts.
- Take recommended precautions—never take short cuts.

RoHS Compliant
This equipment has been tested and found to comply with the limits for RoHS compliant materials. These limits require manufacturers to ensure that they do not use materials or components that contain restricted substances that may be harmful to the environment.

2.2   Warnings and cautions

The following alerts are used in this manual:

- **WARNINGS** alert users of potentially dangerous situations
- **CAUTIONS** alert users of potential equipment damage

Warnings and cautions in this manual, are indicated by:

- an icon
- the text **WARNING** or **CAUTION**
- a textual description, which states the hazard and how to avoid it

The following icons are used in this manual to highlight and warn of safety or other aspects. These icons may also be attached to the Flex MX Transponder & Flex Manager equipment at appropriate locations.

General Caution or Warning

Dangerous voltage

Not harmful to the environment

3 PHYSICAL DESCRIPTION

3.1 Introduction

Flex MX Transponder & Flex Manager is a timing concept for sports where simple setup, plus minimal handling are needed. The Flex Transponder is portable and is designed for operation during outdoor sports events. The Flex transponder kit has the following standard components and optional accessories (see *Figure 3.1*):

- Rechargable transponder
- Universal power sockets for connecting to 100-240 VAC supply (50-60 Hz; 200 mA)
- USB cable
- Cradle for recharging transponder and signal communication with a PC
- Attachment clip
- This Flex MX Transponder & Flex Manager User Manual
- Power adaptor for connecting to 12-24 VDC auto connector (optional accessory - can be purchased separately from MYLAPS)

See Appendix *1 Specifications* on page 30 for complete specifications.

1	Transponder	See *3.2 Transponder* on page 7
2	Cradle	See *3.3 Cradle* on page 8
3	12-24 VDC adaptor (optional accessory)	This adaptor is used to connect the cradle to a DC power source (see *3.4 USB connector cable and adaptors* on page 8)
4	100- 240 VAC plugs	Choose which plug can be inserted into the adaptor for connecting the adaptor to your local power source (see *3.4 USB connector cable and adaptors* on page 8)
5	100- 240 VAC adaptor	This adaptor is used to connect the cradle to a power source (see *3.4 USB connector cable and adaptors* on page 8)
6	USB cable connector	For connecting external devices and operator control (see *3.4 USB connector cable and adaptors* on page 8)

Figure 3.1 Flex transponder kit

3.2 Transponder
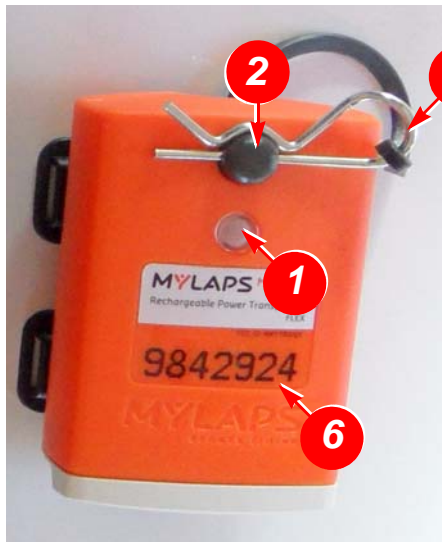
front
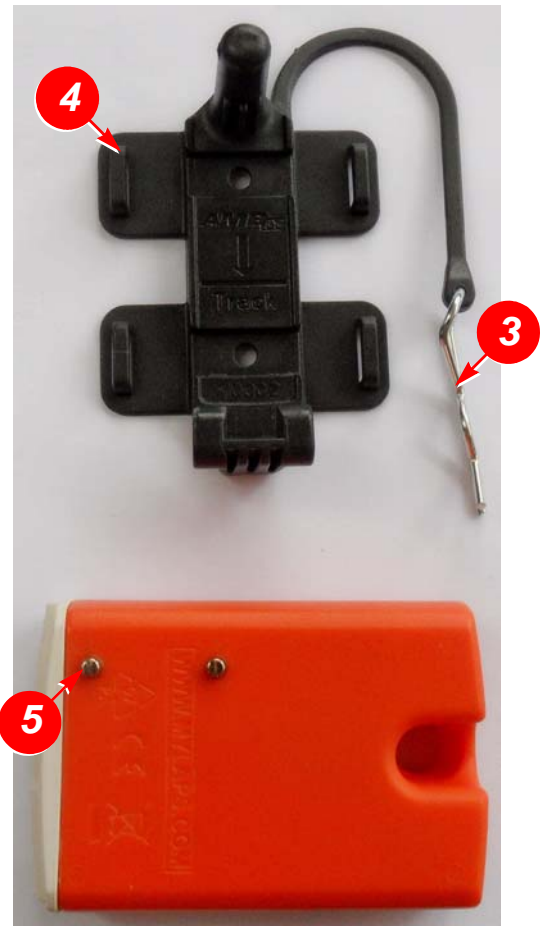
back

1	LED status display	This LED blinks and displays various colours to show the current status of the transponder - see *4.2.1 Transponder LED indicator* on page 10
2	Attachment pin for holder	This pin is inserted through the hole in the transponder to attach the transponder to the holder
3	Clip	Steel clip to lock transponder in place in holder
4	Holder	Plastic holder to attach transponder to vehicle
5	Charging pins	These contact pins align with the cradle contact points when the transponder is loaded into the cradle for charging
6	Transponder number	Unique number to identify your transponder

Figure 3.2 Transponder

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3.3 Cradle

front   **back**
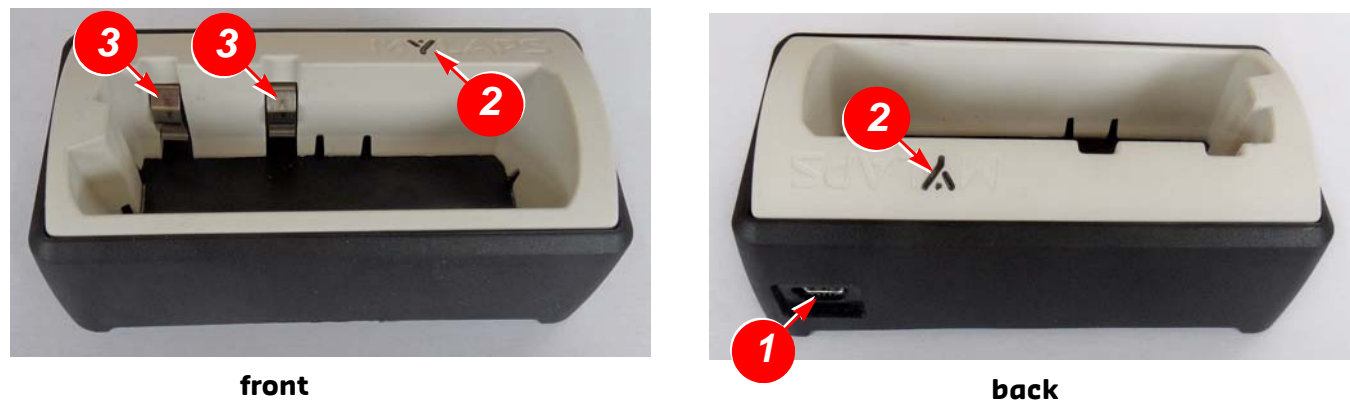
1	USB cable connector	Connect here the USB charging/communication cable
2	LED indicator	This LED blinks and changes color to indicate the status of the cradle and loaded transponder - see *4.2.2 Cradle LED indicator* on page 10
3	Slots for transponder pins	Load the transponder into this slot. The 2 metal strips in the slots are contact points for the transponder when charging in cradle

Figure 3.3 Cradle

3.4 USB connector cable and adaptors

1	100 - 240 VAC adaptor	If using an alternative adaptor, always make sure it is a 5 V USB adaptor with minimum 500 mA power output
2	USB connector cable	Insert this cable into the adaptor and cradle for charging
3	Universal plug	Select and insert the correct plug for your power supply
4	Cradle	
5	Car adaptor (optional)	Always use 5 V USB adaptor with minimum 500 mA power output

Figure 3.4 Connector cable and adaptors

3 Physical description

4 FUNCTIONAL DESCRIPTION

4.1 Basic principle

A MYLAPS personal transponder and account provides access to your official race and practice data for every lap. Your MYLAPS transponder comes with a unique ID that you can activate (after purchasing a subscription) and link to your MYLAPS account. Your MYLAPS account provides unlimited access to all your race and practice results. Being able to analyze your data will help you improve your performance. Just login to www.mylaps.com/practice from any location with an internet connection.

The benefits of your personal transponder include:

- Guaranteed accurate and reliable results
- Free and unlimited MYLAPS account
- Online access to all your practice and race lap times
- Permanent storage of your data
- Share your results with your friends
- Simplify registering for events
- Use your transponder worldwide

4.2 How does the transponder work

MYLAPS MX Rechargeable Power Transponders work in combination with the MYLAPS MX Timing System installed on the track at the start/finish line and optionally at intermediate points along the track.

Every participant in a race has his own transponder attached to their vehicle/bike. The transponder emits a unique identification signal. Systems with detection loops or mats along the course will detect the identification signals from the transponder, giving an exact time of crossing at that point in the course, e.g. a start or finish. Multiple detection lines can provide intermediate times.

Based on these signals, the system records your lap time and lap counts. These lap times and results can be accessed and published on:

- mylaps.com (via your MYLAPS account)
- Scoreboards/monitors
- Your mobile phone

When you first purchase your transponder and subscription, you will need to activate it using the unique MYLAPS Flex Manager software. This software can be installed on a PC and eventually used to read out and report the status of your transponder:

- See *5.1 Purchase Subscription* on page 13 for how to purchase a subscription
- See *5.2 Install Flex Manager* on page 13 for how to install Flex Manager
- Refer to *5.3 Activate transponder* on page 16 for how to activate the transponder.
- Refer to *6.3 View status (via Flex Manager)* on page 21 for how to use the software.

The transponder (see *Figure 3.2*) is rechargeable by loading it into the cradle (when the cradle is connected to AC or DC power source).

The cradle and the transponder also have LED indicators to show their current status - see:

- *4.2.1 Transponder LED indicator* on page 10
- *4.2.2 Cradle LED indicator* on page 10

4.2.1   Transponder LED indicator

The LED on the transponder blinks or glows to show the current status of the transponder - see following table:

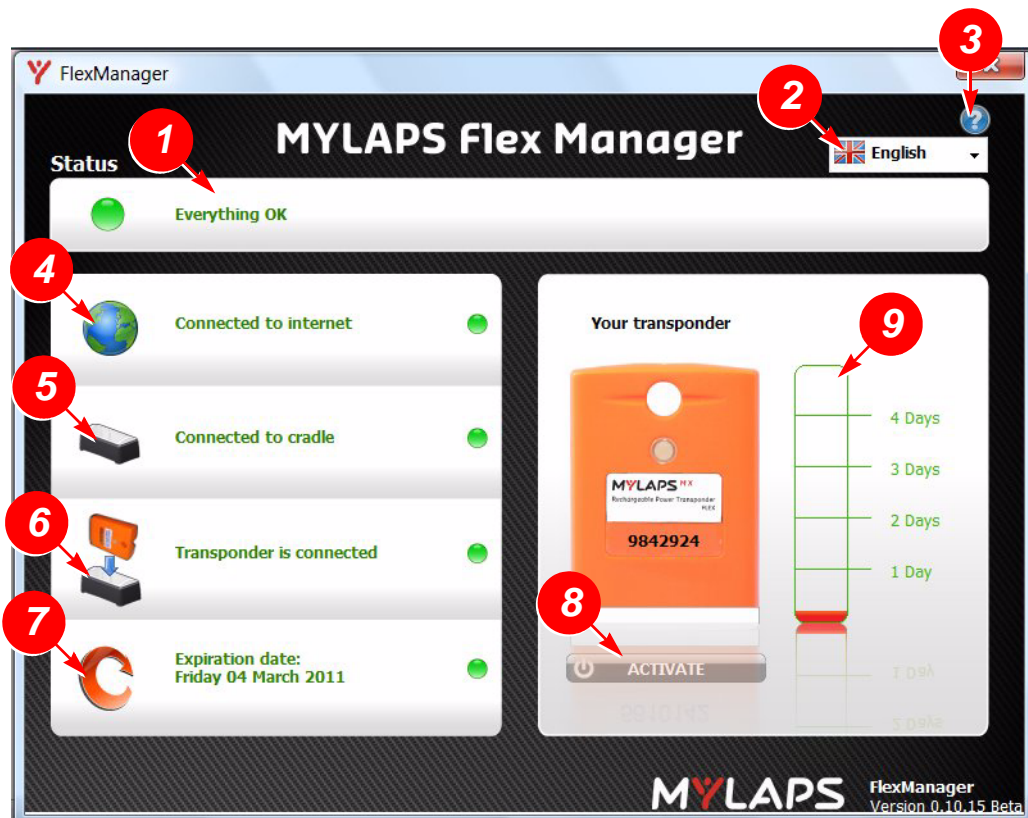| Transponder LED	Status
Steady GREEN (when in cradle)	Active (battery full)
Blinks RED once every second (when in cradle)	Active, charging (battery empty)
Blinks GREEN in a sequence to indicate the number of days of charge remaining; e.g. 4 blinks indicates 4 days of charge remaining (the blink sequence repeats every 5 sec)	Active, not charging and battery charge is getting low
Blinks RED quickly every 5 sec	Active, not charging and battery almost empty - less than 1 day of charge left
Steady RED	Active, not charging and battery empty - transponder will stop working at any moment
Blinks RED quickly 5 times per second	Inactive
LED is not lit (when in cradle)	In 'sleep mode'
LED is not lit	Battery is completely discharged

4.2.2   Cradle LED indicator

The LED on the cradle blinks or glows to show its current status - see following table:

Cradle LED	Status
Blinks GREEN	Connected to PC or to power source
Steady RED (with transponder loaded)	In error state
Blinks RED	In error state

4.3   Flex Manager

Flex Manager is a user-friendly software interface for activating and reviewing the status of your transponder. See *Figure 4.1* for an example display when the software is started with a cradle and transponder connected.

1	Status/error line	See *4.3.1 Status/Error line* on page 12
2	Language button	Choose here the desired language for the Flex Manager user interface (current choices are English, French, German, Italian, Spanish, Dutch and Russian)
3	Help (?) button	Choose here for help documentation (this documentation will be displayed in the interface language - see above)
4	Internet status	Displays if an internet connection is available or not
5	Connected to cradle	Displays if the cradle is connected to the PC with the USB cable
6	Transponder is connected	Displays if the transponder is docked in the cradle
7	Expiration date	Displays the expiration date for the transponder subscription. If the transponder is docked in the cradle after this date, then it will not work until the subscription is renewed.
8	Activate button	Used to activate transponder - see *5.3 Activate transponder* on page 16
9	Battery status	Displays the current charged state of the transponder rechargable battery (0 to 5 days charge remaining)

Figure 4.1 Flex Manager user interface

4 Functional description

4.3.1 Status/Error line

Possible displays here are update information and error situations. See 3 example messages in *Figure 4.2*.
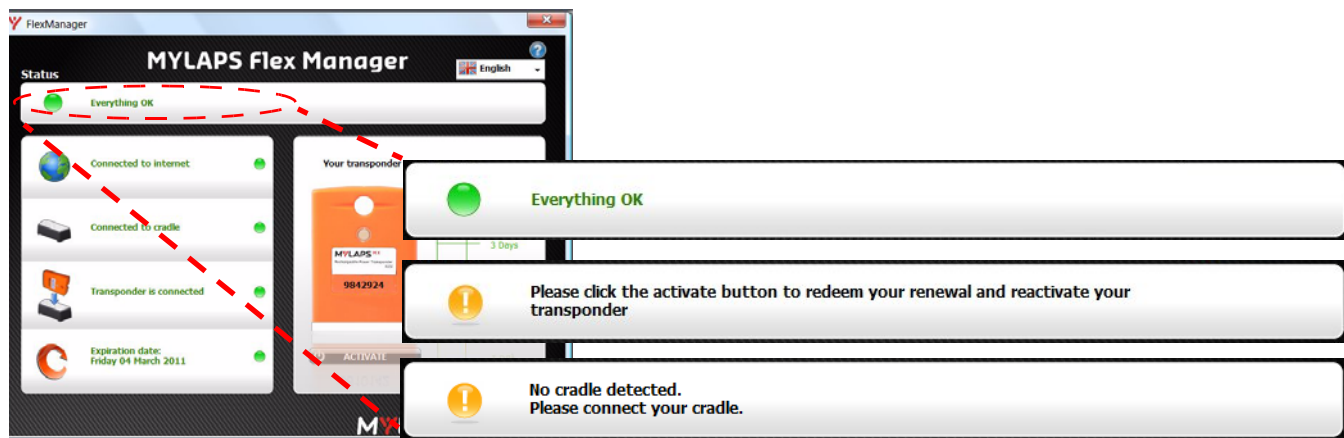

Figure 4.2 Flex Manager status line

NOTE: *The normally* green *LED on the left of the status line will glow* red *if there is an error present. See* 8 Troubleshooting on page 26 *for how to solve these errors.*

5 ACTIVATE TRANSPONDER

This section describes how to install the Flex Manager software for eventually activating the Flex transponder. You can only activate a transponder if you have previously purchased a valid subscription - see below.
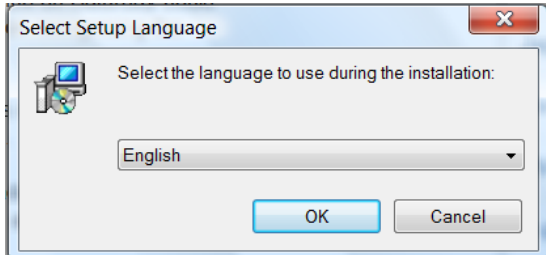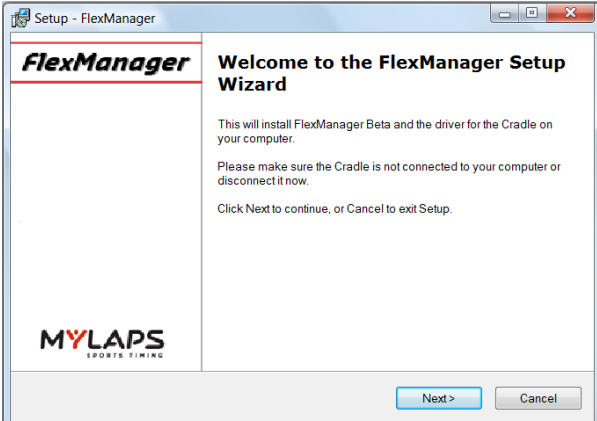
5.1 Purchase Subscription

Subscriptions are purchased through our web shop at www.mylaps.com. Buy a subscription as follows:

1. Navigate to your favourite sport (e.g. MX) at www.mylaps.com.

2. Go to the shop and select an appropriate subscription for your Flex Transponder.

3. Pay for the subscription using your credit card or other payment methods.

Once the subscription is purchased, you can continue with installing Flex Manager and activating the transponder. See following sections:
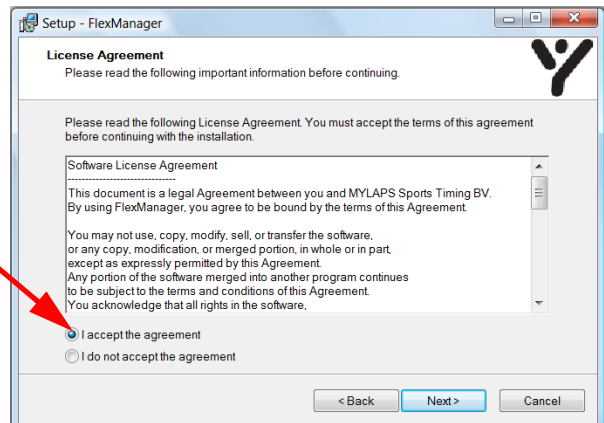
5.2 Install Flex Manager

1	Before starting installation, make sure that the cradle is not connected to the PC.	
2	Download software from: http://flex.mylaps.com	
3	From the pull-down menu, choose the language to use while running the install wizard. Press the OK button.	
4	Wait until the STARTUP screen appears for the install wizard screen. Press the NEXT button.	

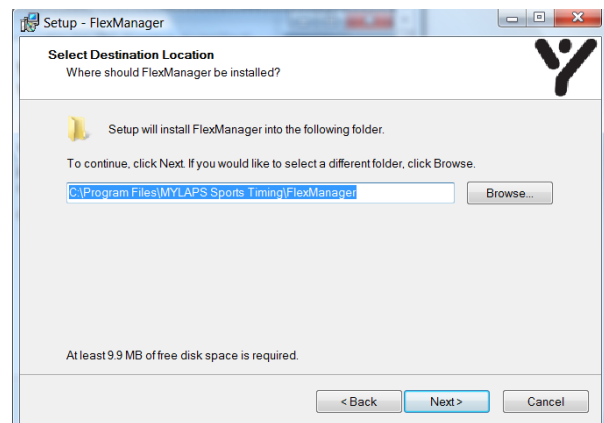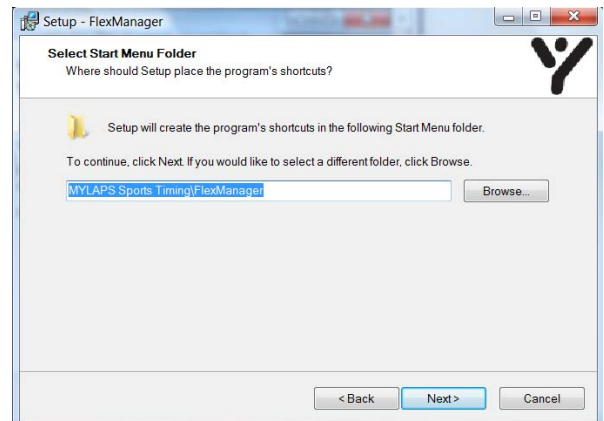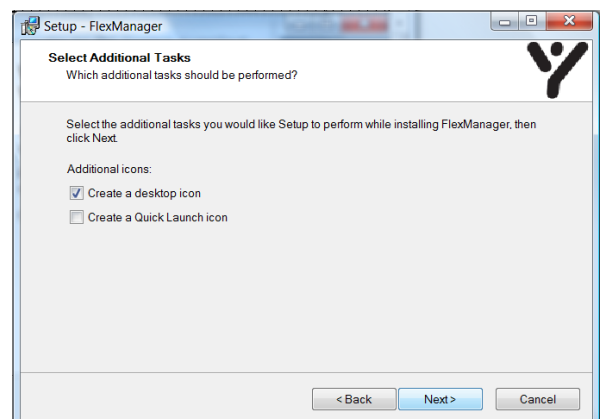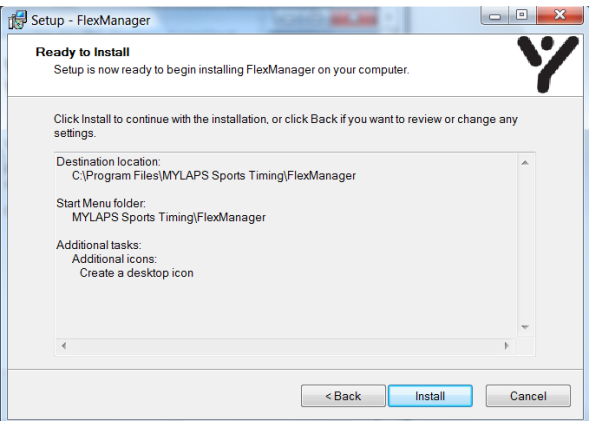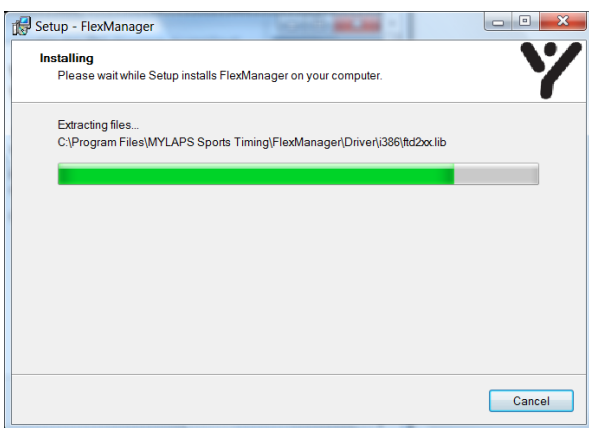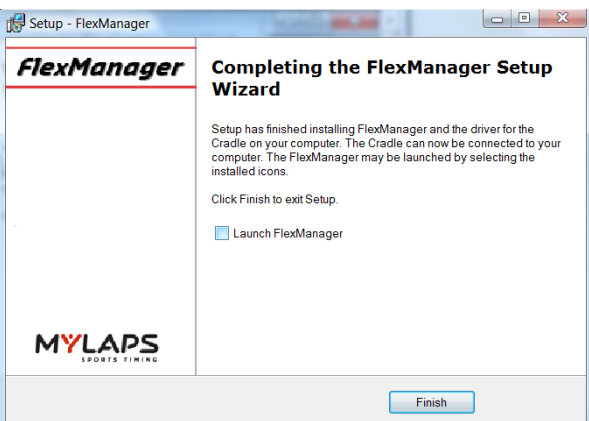| 5	Read the software license agreement, and select the 'I accept the agreement' radio button. Press the NEXT button.	
6	Check the location where the Flex Manager software application will be installed; if you want to install at a different location, choose 'Browse' and select a new location. When the location is correct, press NEXT. *If required, press BACK to return to the previous wizard screen.*	
7	Choose if and where you want the Flex Manager shortcuts. When the location is correct, press NEXT. *If required, press BACK to return to the previous wizard screen.*	
8	Choose if you want a desktop icon and/or a Quick launch icon. When ready, press NEXT. *If required, press BACK to return to the previous wizard screen.*	

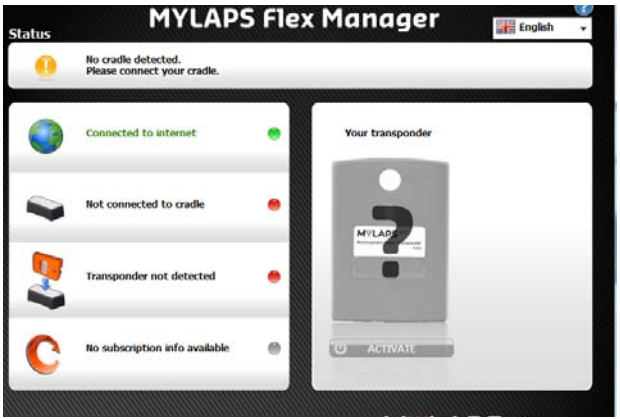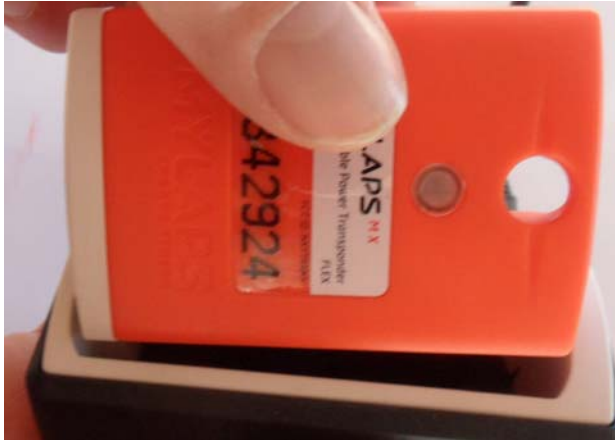| 9	Check that all the listed selections are correct. When ready, press INSTALL. *If required, press BACK to return to the previous wizard screen.*	
10	Wait while the install wizard installs the application software (this may take a few minutes during which a progress bar will be displayed).	
11	When Flex Manager is correctly installed, a FINAL window will appear. If required, select the checkbox to launch Flex Manager after closing the screen. Press FINISH to acknowledge and exit the wizard. If Flex Manager does not install correctly, repeat steps 3 to 10; if Flex Manager still does not install correctly, contact MYLAPS.	

5 Activate transponder

MYLAPS

5.3 Activate transponder

Refer to the following possibilities:

- Activate a transponder subscription via internet - see *5.3.1 Activate transponder (via internet) on page 16*
- Activate a transponder subscription via SMS - see *5.3.2 Activate transponder (via SMS) on page 18*

NOTE: *When activating a transponder in a cradle, make sure that no other transponder is closer than 50 mm to the cradle.*

5.3.1 Activate transponder (via internet)

1	Start up Flex Manager on the PC (if not already started). *Flex Manager will automatically try to find a connected cradle.*	
2	Use the supplied USB cable to connect the cradle to a USB connector on the PC.	
3	Insert your transponder in the cradle and check that the LED on the transponder is showing RED or GREEN.	

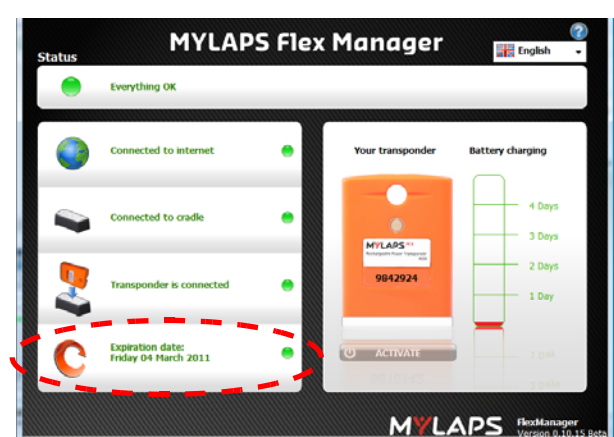| 4	Activate your transponder by pressing the 'ACTIVATE' button in Flex Manager (make sure you have previously purchased a subscription).	
5	If you have correctly activated the transponder, the expiration date will be shown in the bottom left of the screen and you can use your transponder - see *6 Operation* on page 19. If the transponder is not correctly activated, you may need to purchase a new subscription from http://flex.mylaps.com. If the transponder information is not known by MYLAPS, a 'Registration form' will be displayed. Complete this form and press OK. If problems still occur, contact MyLaps at support@mylaps.com.	
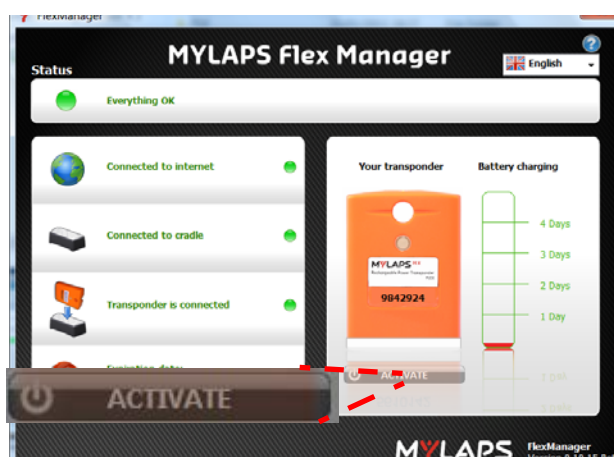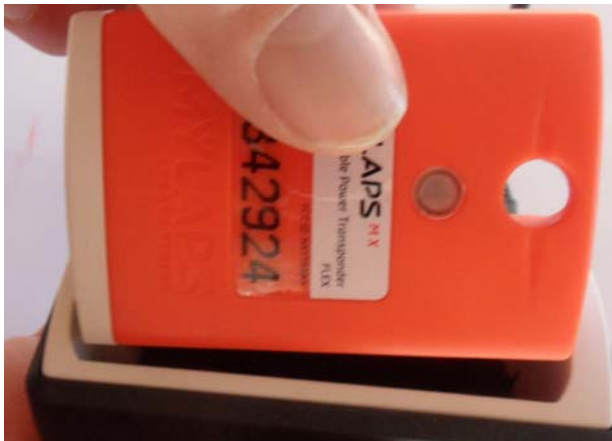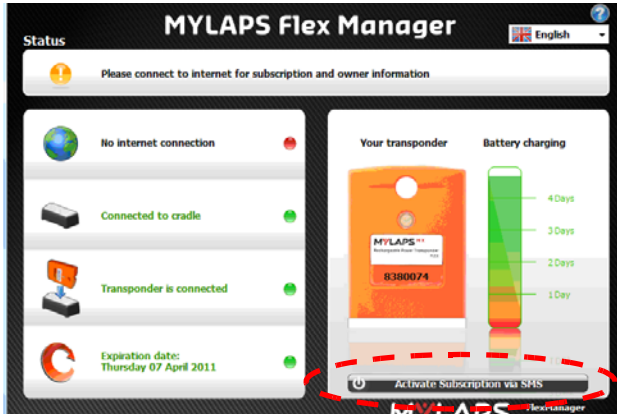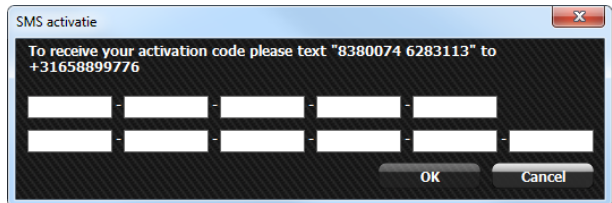
5.3.2 Activate transponder (via SMS)

<table>
<tr>
<td>1</td>
<td>Use the supplied USB cable to connect the cradle to a USB connector on the PC.</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Insert your transponder in the cradle and check that the LED on the transponder is flashing RED.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Start up Flex Manager on the PC.
The 'No internet connection' status will be shown.

Select the 'ACTIVATE SUBSCRIPTION VIA SMS' button.
A new screen will be displayed with a message and a series of code fields - see next step.</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Text the number listed in the message to the telephone number '31658899776'.
You will receive a 55 character code which you must enter into the fields displayed on the screen, and then press OK.
Your transponder will then be activated.</td>
<td></td>
</tr>
</table>

5 Activate transponder
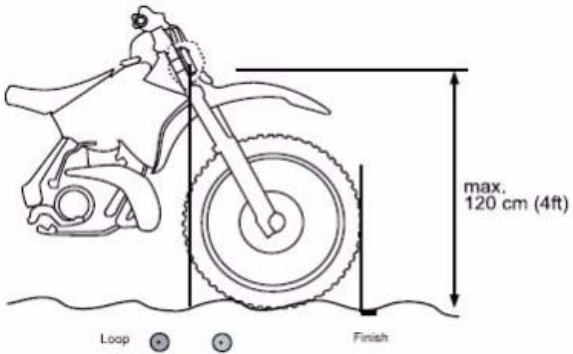
6   OPERATION

Once correctly activated via Flex Manager (and fully charged), the transponder is ready to be mounted to your vehicle/bike and automatically record your times as you pass the measuring point(s).

The following operation steps may be required:

- Mount the transponder on your vehicle/bike for the race - see *6.1 Mount transponder* on page 19 for more details; if required
- Check your lap/race results on the scoreboard or by logging in to 'Your results' page on www.mylaps.com/practice
- If required after the race, you can remove the Flex transponder from your vehicle/bike and store it as described in *6.2 Remove and store transponder* on page 20.
- Mount the Flex transponder in the cradle and check the charge and subscription status - see *6.3 View status (via Flex Manager)* on page 21.

6.1   Mount transponder

1	Remove holder from transponder: • Remove retaining clip • Carefully detach the holder from the transponder	
2	Use tie wraps to mount holder on vehicle/bike: • Find a suitable location on vehicle/bike, making sure that the holder is not more than 120 cm above the track surface • Check that the holder is mounted firmly and cannot become loose **WARNING:** Loose transponders are very dangerous.	

3	Attach transponder in holder: • Press the transponder into place in the holder • Lock the transponder in place with the retaining clip	

6.2 Remove and store transponder

1	Remove the transponder from the holder: • Normally you can leave the holder attached to the vehicle/bike • Remove the retaining clip • Detach the transponder from the holder	
2	Store the transponder in a dry cool location: • Normally you can best load the transponder into the cradle for charging - see *7.3 Charge battery* on page 24 • After charging, you can disconnect the cradle from the power source and allow the transponder to enter the 'sleep' mode (transponder LED is not lit while transponder is in cradle). The 'sleep' mode turns off transponder signal output and saves battery life (up to 3 times longer on a single charge).	
3	When needed for the next race, remove the transponder from the cradle to de-activate 'sleep' mode.	
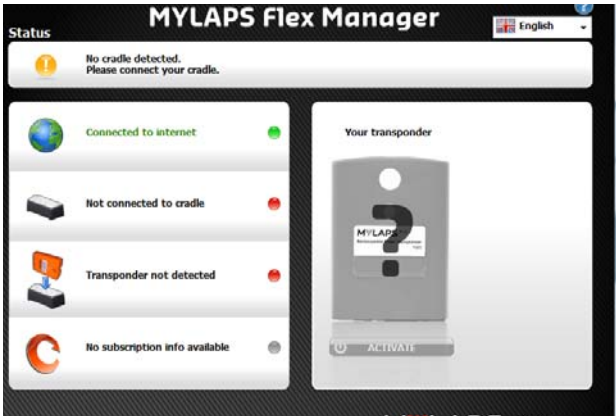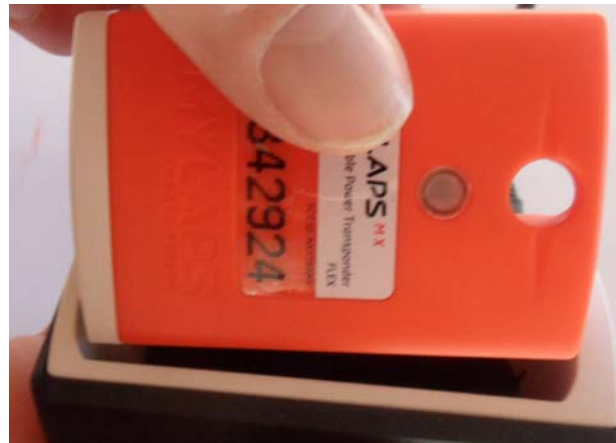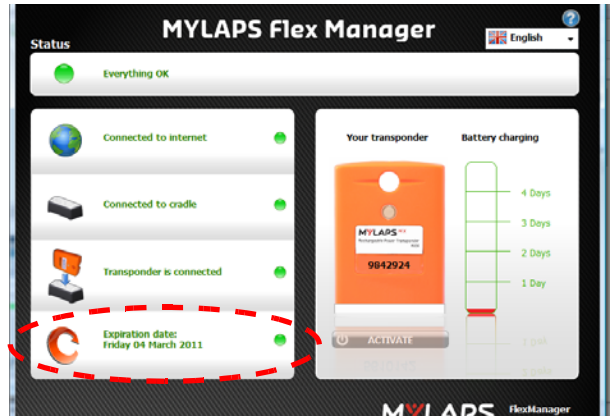
NOTE: *Because many airline regulations require that all equipment output signals are switched off during flights - you can best transport the transponder in the cradle in 'sleep' mode.*

(6 Operation)

6.3 View status (via Flex Manager)

1	Start up Flex Manager on a PC.	
2	Use the supplied USB cable to connect the cradle to a USB connector on the PC.	
3	Insert your transponder in the cradle and check that the LED on the transponder is lit.	
4	Check the expiration date in the bottom left of the screen. Also check the battery level on the right of the screen and charge the transponder if necessary - see *7.3 Charge battery* on page 24. NOTE: When checking the status of a transponder in a cradle, make sure no other transponder is within 50 mm of the cradle.	

6 Operation

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7   MAINTENANCE

Maintenance can be described as, but not limited to:

- Checking and testing components
- Cleaning the unit and individual components - accumulated dirt can hamper unit operations
- Charging the unit
- Troubleshooting any malfunctions that may occur on the unit before, during and after operations

7.1   Periodic maintenance schedules

Use the following table to plan routine maintenance for your unit. If you are using the electronic version of this document, click the text or the page number to jump to the procedure.

Maintenance activity	Page	Service interval			
		daily	100 hours	300 hours	as required
Clean	23	●			●
Charge battery	24		●		
Check/Update subscription	25				●
Replace parts and accessories	25				●

7.2 Clean

1	Take a clean soft cloth or brush and moisten it with clean water (do not use an abrasive cleaning liquid).	
2	Use the moist cloth or brush to clean the transponder, paying particular attention to remove any dirt on the connector pins. Dry off any excess moisture.	
3	Take a fresh clean cloth and moisten it with clean water. Clean the cradle making sure not to get moisture on the electrical connector where the USB cable can be connected. Dry off any excess moisture. If necessary use clean cotton tips to clean any dirt off the connectors on both the cradle and transponder.	

⚠️	**CAUTION** *ENVIRONMENTAL HAZARD* *Plastic and other waste products are harmful to the environment. Dispose of waste items in a responsible, environment-friendly manner. Separate recyclable products from other, non-recyclable waste. Heed site regulations and obey local environmental by-laws*

4	Dispose of the cleaning materials (check your local environmental regulations).

7 Maintenance

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7.3 Charge battery

1	Check that temperature of the charging location is within range 0 to +40 °C (+32 to +104 °F).	

	CAUTION
⚠	**CAUTION** *HIGH VOLTAGE:* *Before connecting power to the cradle, make sure that all electrical connections are secure..*

2	Connect power to cradle: • If charging with AC power, attach the 100 - 240 VAC cable between the cradle and an AC power source • If charging with DC power, attach the 12 - 24 VDC cable between the cradle and a DC power source • Check that the LED on the cradle shows blinking green	
3	Load the transponder into the cradle: • The LED on the transponder will flash red to show it is charging • The LED on the cradle blinks green	
4	Check the battery status on the LED on the transponder: • The LED will show a constant green when the transponder is fully charged (takes approximately 16 hours from empty to full)	
5	Disconnect power: • Remove power connector from source • Allow the transponder to enter the sleep mode (transponder LED is not lit while transponder is in cradle)	
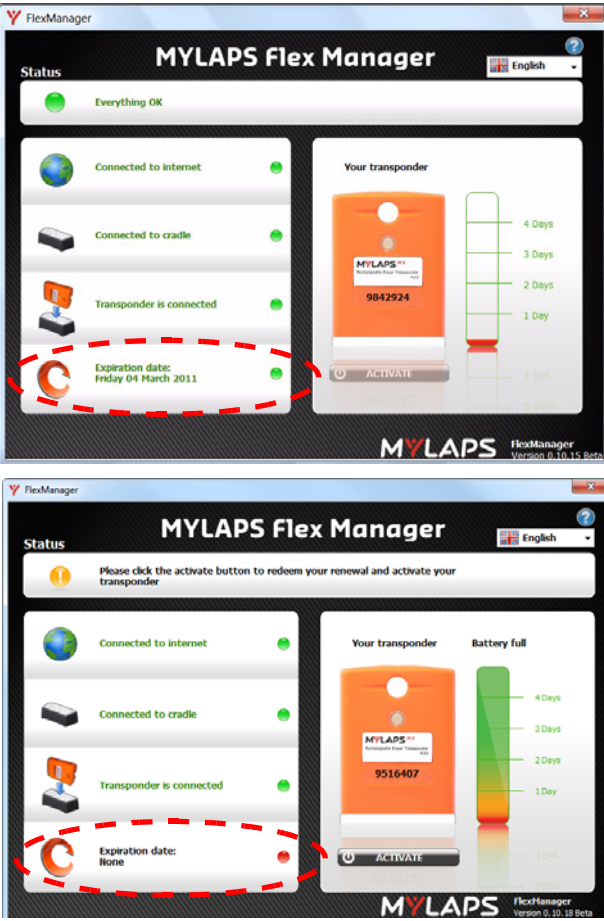
7 Maintenance

7.4   Check/Update subscription

1	Connect the cradle with loaded transponder to a PC with the USB cable. Make sure there is no other transponder located within 50 mm from the cradle.	
2	Check on the PC that you are connected to the internet. Start up the FlexManager application.	
3	Check the subscription valididy in the bottom left corner of the screen. If the expiration date shows 'None', update the subscription as described in *5 Activate transponder* on page 13.	

7.5   Replace parts and accessories

Please contact MYLAPS for the part numbers and ordering instructions for defect or lost parts.

8 TROUBLESHOOTING

8.1 Troubleshooting principles

Troubleshooting for the Flex transponder can be divided into 5 distinct categories:

- Activation - see
- Flex Manager - see
- General - see
- Flex Cradle - see
- Flex Transponder - see

If troubleshooting does not solve a problem, contact MYLAPS at support.flex@mylaps.com.

8.2 Activation

Q: How can I activate (the subscription of) my transponder?
A: See *5 Activate transponder*

Q: Can I upgrade my transponder when I don't have an internet connection?
A: If you have no internet connection but you do have a subscription, there is a backup solution - see *5.3.2 Activate transponder (via SMS)*

8.3 Flex Manager

Q: My Flex Manager won't connect to internet - what do I do?
A: Try to access a website to check your internet connection is OK (e.g. www.mylaps.com)

1. If you cannot access a website, check your internet settings.
2. If you can access a website, check that you can access "flex.mylaps.com".
3. If you cannot access "flex.mylaps.com", please contact MYLAPS.

Q: How do I install Flex Manager?
A: Download it from flex.mylaps.com (make sure that you have administrator rights to install Flex Manager).

Q: Can I install Flex Manager on every Operating System?
A: Only on a Windows Operating System.

Q: Am I using the latest version of Flex Manager?

A: Flex Manager automatically checks for the latest version when it starts up on your PC with internet.

8.4   General

Q: What is the Mylaps MX Flex Rechargeable Power Transponder?

A: It is a pay for use based transponder for timekeeping. You pay a fee for using the transponder for a certain period of time (normally 1 year).

Q: I didn't activate my transponder but I want to race now. What do I do?

A: Follow the instruction in section *5.3.1 Activate transponder (via internet) on page 16*. If you have no internet connection but you do have credit available - see *5.3.2 Activate transponder (via SMS) on page 18*

Q: How do I see when my transponder is NOT active?

A: The LED on the transponder will flash RED fast (5 x per second).

If you connect your transponder to the Flex Manager software (on your PC) using the Flex cradle, Flex Manager will display the expire date and the status of the transponder (active or not active) next to the LED on the screen.

Q: How/Where can I see that my subscription is about to expire?

A: Connect your transponder to Flex Manager using the Flex cradle; Flex Manager will display the expire date and the state of the transponder (active or not active)

Q: Is MYLAPS Flex transponder compatible with the timing system at my club?

A: If your club uses the Mylaps MX Timing System for timekeeping, you can use the Mylaps Flex transponder at your club.

Q: Is there documentation in my own language?

A: The documentation is available in English, French, German, Italian, Spanish, Dutch and Russian. Select the correct language online in Flex Manager (upper right corner) to automatically set the manual language.

8 Troubleshooting

MYLAPS

8.5   Flex Cradle

Q: Can I use someone else's cradle to activate and/or charge my transponder?

A: Yes.

Q: How do I connect the flex cradle to my PC?

A: Use the enclosed USB cable to connect to a USB port.

Remember to FIRST install the software before connecting the cradle.

Q: I've put my transponder in the cradle, but the Flex Manager still says "Transponder not detected".

A: See flowchart on page 29.

Q: What is the LED indication on my cradle?

A: See *4.2.2 Cradle LED indicator* on page 10.

8.6   Flex Transponder

Q: What is the LED indication on my transponder?

A: See *4.2.1 Transponder LED indicator* on page 10.

Q: How can I see that my transponder is active?

A: Flex Manager shows the transponder is active; or, check the LED indicator on the transponder - see *4.2.1 Transponder LED indicator* on page 10

Q: How/Where can I see that my subscription is about to expire?

A: Place your transponder in the cradle and start up Flex Manager on your PC to see when your transponder subscription will expire.

![MYLAPS]

Q: I've put my transponder in the cradle, but Flex Manager still says "Transponder not detected".

A: Troubleshoot using the following flowchart:

MYLAPS
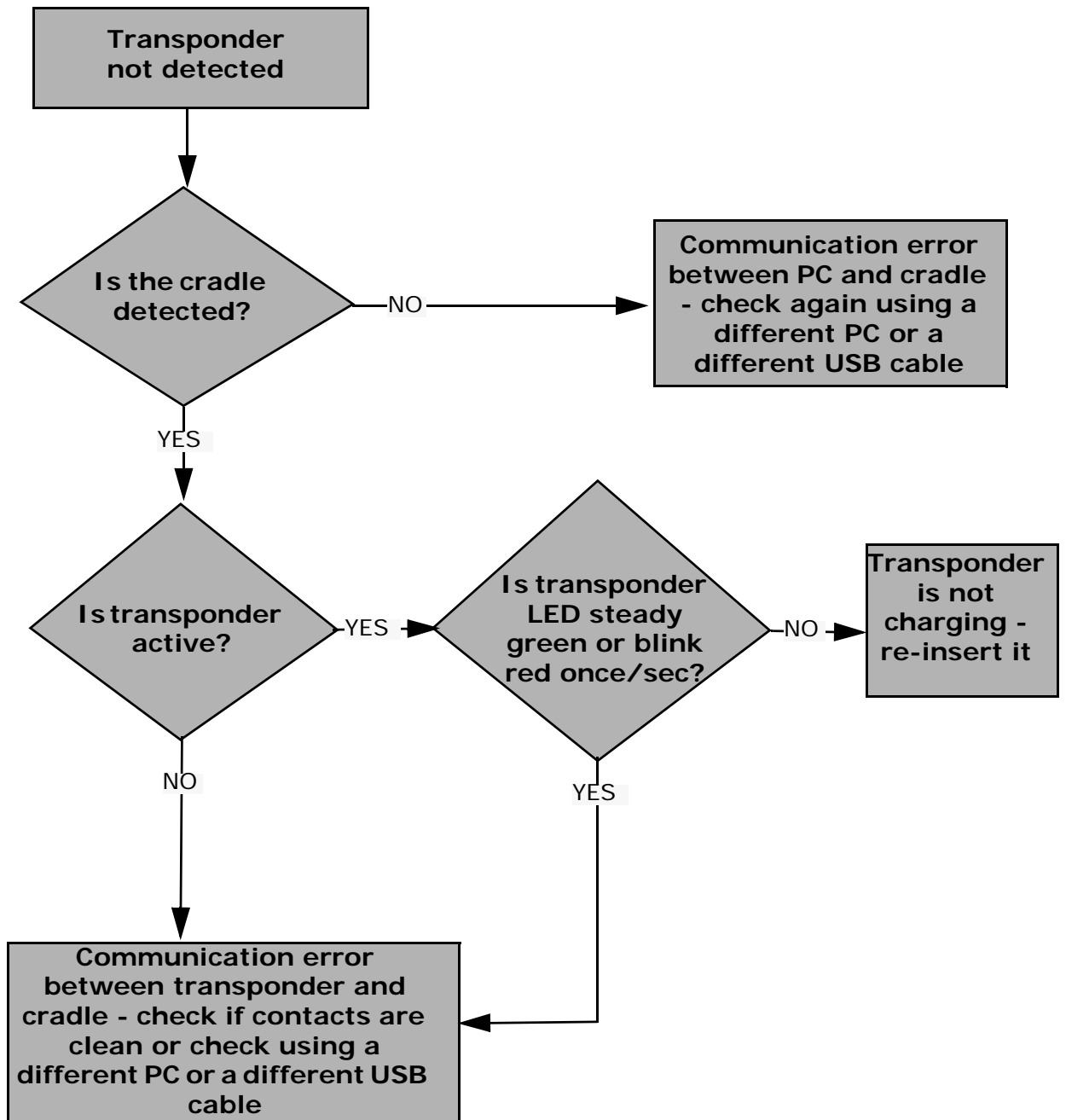
APPENDICES

Appendix 1: Specifications

> **NOTE:** *Specifications are subject to change without notice.*

Transponder

Dimensions (B x D x H)	73 x 50 x 22 mm (approx. 2.9 x 2 x 0.9 in)
Weight (including accessories)	90 g (approx. 0.2 lb)
Charge time	min. 16 hours for full charge
Operating time	min. 4 days (after full charge)
Operating temperature	-20 to +50 °C (-4 to +122 °F)
Protection class	Water and shockproof (IP67)
Maximum speed	120 km/h (75 mph)
Timing Resolution	0.006 sec
Signal transfer	magnetic induction
Transponder mounting position	Max. height 120 cm (4 ft)

Cradle

Dimensions (B x D x H)	95 x 45 x 38 mm (approx. 3.74 x 1.77 x 1.50 in)
Weight	80 g (approx. 0.17 lb)
Operating temperature	0 to +50 °C (+32 to +122 °F)
Input voltage	USB powered [1]
Power consumption	0.08 A / 5 V
IP Protection Class	Indoor use only (IP20)

Accessories

USB cable length	1000 mm (approx. 39 in)
USB cable type	A to mini-B
Wall adapter input voltage	100 to 240 VAC at 50/60 Hz
Wall adapter DC output voltage	5 V $^+$/- 5%
Wall adapter output current	1 A / 5 V

(1) When connecting multiple cradles to a PC, only use a USB hub with an extra power source.

Appendix 2: CE Declaration

MYLAPS
SPORTS TIMING

CE DECLARATION OF CONFORMITY

We,

MYLAPS

Zuiderhoutlaan 4

2012 PJ Haarlem, The Netherlands

Declare that the system

MX Flex System

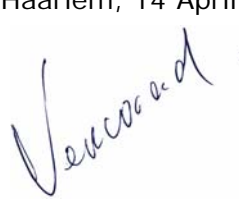in accordance with the following directives:

2006 / 95 / EC	The Low Voltage Directive
2004 / 108 / EC	The Electromagnetic Compatibility Directive
1999 / 5 / EC	Radio & Telecommunications Terminal Equipment Directive

has been designed and manufactured to the following specifications:

EN 300 330-2 V1.5.1 (2010-02)

EN 60950-1 (2006) + A11 (2004)

Name of authorized person:	John Verwoerd
Function of authorized person:	R&D Director
Place and Date:	Haarlem, 14 April 2011
Signature of authorized person:	

MYLAPS

MYLAPS contact information:

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Local enquiries

Please contact your local distributor