# SmartStep<sup>™</sup> Clinic User's Manual



Andante Medical Devices Ltd © Andante Medical Devices Ltd http://www.andante.co.il

# **Legal Notice**

This manual contains information that is proprietary to Andante Medical Devices Ltd. ("Andante"). No part of this publication may be reproduced in any form without prior written approval by Andante.

Right, title and interest, all information, copyrights, patents, know-how, trade secrets and other intellectual property or other proprietary rights relating to this manual and to the SmartStep<sup>™</sup> System ("the Product"), and any software components contained therein, are proprietary products of Andante protected under international copyright and patent law and shall be and remain solely with Andante.

SmartStep<sup>™</sup> is a trademark of Andante. No right, license, or interest to such trademark is granted hereunder.

You shall not copy, reverse compile or reverse assemble all or any portion of the Manual or the Product. You are prohibited from, and shall not, directly or indirectly, develop, market, distribute, license, or sell any product that supports substantially similar functionality as the Product, based on or derived in any way from the Product.

All brand and product names mentioned in this manual are trademarks and/or registered trademarks of their respective holders.

# **About this Document**

This document describes the SmartStep<sup>™</sup> insole, Control Unit, and software, used for the assessment and training of walking pathologies. The document is intended for therapists treating patients with walking pathologies.

1	Introduction	SmartStep <sup>™</sup> functions and usage.	Pg. 18
2	System Description	SmartStep <sup>™</sup> kit contents and system components.	Pg. 19
3	Installation	How to install the SmartStep™ software.	Pg. 24
4	Preparing a Session	How to prepare patient, hardware components and SmartStep™ software for a session.	Pg. 48
5	Starting a Session	How to begin a session, connect to the Bluetooth USB adapter, and perform calibration.	Pg. 53
6	Online Work	How to define an online session.	Pg. 62
7	Offline Work	How to define an offline session and download data to the computer.	Pg. 68
8	Tracking the Rehabilitation Progress	How to open saved sessions, understand and compare session statistics, and manipulate session charts.	Pg. 73
9	Turning the Control Unit Off	How to turn the Control Unit off.	Pg. 89
10	Maintenance and Administration	How to create users, change passwords, recharge batteries, change insoles, and keep SmartStep™ clean.	Pg. 90
11	Troubleshooting	How to deal with various operating problems.	Pg. 93

### **Chapters and Contents**

### **Style Conventions**

Convention	Used for
Verdana	Regular text.
Arial Bold	Names of menus, commands, buttons, and other elements of the user interface.
Arial Italics	Special terms, the first time they appear.
Monospace	Text entered by a user, values of parameters, and usage examples.
R	Notes, which offer an additional explanation or a hint on how to overcome a common problem.

SmartStep<sup>™</sup> Version 2.1.1 Revision A2 | 3



**Warnings**, which indicate potentially damaging user operations and explain how to avoid them.

# **Table of Contents**

LEC	GAL N	OTICE		2
AB	ουτ ι	THIS D	OCUMENT	3
TA	BLE O	F CON	TENTS	5
	END	ED USI	Εε	3
TEC	CHNI	CAL SP	ECIFICATION	)
WA	RNIN	IGS, PI	RECAUTIONS AND LIMITATIONS11	I
	LIMIT	ATIONS		1
	WARN	IING ANE	PRECAUTIONS	2
CLA	ASSIF	ICATI	ON15	5
REG	GULA	TORY	COMPLIANCE	>
CAI	RE AN		INTENANCE	7
1	INTE	RODUC	TION	3
	1.1	Овјест	TVE ASSESSMENT	3
	1.2	Trainii	NG	3
	1.3	Rенаві	LITATION TRACKING	3
	1.4	Using	SmartStep™ in Online and Offline Mode	3
2	SYS	rem de	ESCRIPTION	)
	2.1	SMARTS	STEP™ KIT CONTENTS	9
	2.2	SMARTS	Step™ Components	)
		2.2.1	Insole	)
		2.2.2	Control Unit 27	1
		2.2.3	SmartStep <sup>™</sup> Software	3
		2.2.4	Manual Pump 23	3
3	INS	<b>ALLA</b>	۲ION 24	ŀ
	3.1	SYSTEM	1 REQUIREMENTS	1
	3.2	SMARTS	STEP SOFTWARE INSTALLATION 24	1
	3.3	BLUETC	DOTH USB ADAPTER DRIVER INSTALLATION	3
	3.4	CONFIG	GURE SMARTSTEP™ FOR BLUETOOTH USAGE	5
4	PREI	PARIN	G A SESSION ERROR! BOOKMARK NOT DEFINED	
	4.1	Снеск	AIR PRESSURE - INFLATE THE INSOLE IF NECESSARY. ERROR! BOOKMARK NO	Г

DEFINED.

	4.2	REMOVE THE PATIENT'S SHOE ERROR! BOOKMARK NOT DEFINED.
	4.3	INSERT THE INFLATED INSOLE INTO THE SHOE ERROR! BOOKMARK NOT DEFINED.
	4.4	Put the patient's shoe back on Error! Bookmark not defined.
	4.5	Attach the Control Unit to the ankle <b>Error! Bookmark not defined.</b>
	4.6	Connect the insole to the Control Unit Error! Bookmark not defined.
	4.7	INSERTING THE BLUETOOTH USB ADAPTER ERROR! BOOKMARK NOT DEFINED.
	4.8	TURN ON THE CONTROL UNIT ERROR! BOOKMARK NOT DEFINED.
	4.9	LAUNCHING THE SMARTSTEP <sup>™</sup> SOFTWARE ERROR! BOOKMARK NOT DEFINED.
5	STAF	RTING A SESSION ERROR! BOOKMARK NOT DEFINED.
	5.1	PATIENT FILE ERROR! BOOKMARK NOT DEFINED.
		5.1.1 Creating a New Patient File Error! Bookmark not defined.
		5.1.2 Opening an Existing Patient File Error! Bookmark not defined.
	5.2	STARTING A SESSION ERROR! BOOKMARK NOT DEFINED.
	5.3	CONNECTING TO THE BLUETOOTH USB ADAPTER . ERROR! BOOKMARK NOT DEFINED.
	5.4	Performing Calibration Error! Bookmark not defined.
6	ONL	INE WORK ERROR! BOOKMARK NOT DEFINED.
	6.1	DEFINING WORKOUT PLAN AND OPERATION MODE <b>ERROR! BOOKMARK NOT DEFINED.</b>
	6.2	Performing the Workout Error! Bookmark not defined.
7	OFFL	<b>INE WORK</b> ERROR! BOOKMARK NOT DEFINED.
7	<b>OFFL</b> 7.1	<b>_INE WORK</b> ERROR! BOOKMARK NOT DEFINED. Defining Workout Plan and Operation Mode <b>Error! Bookmark not defined</b> .
7	<b>OFFL</b> 7.1 7.2	<b>_INE WORK</b> ERROR! BOOKMARK NOT DEFINED. Defining Workout Plan and Operation Mode <b>Error! Bookmark not defined.</b> Performing the Workout <b>Error! Bookmark not defined.</b>
7	<b>OFFL</b> 7.1 7.2 7.3	LINE WORK       ERROR! BOOKMARK NOT DEFINED.         Defining Workout Plan and Operation Mode       Error! Bookmark not defined.         Performing the Workout.       Error! Bookmark not defined.         Downloading Data to the Computer       Error! Bookmark not defined.
7 8	<ul> <li>OFFL</li> <li>7.1</li> <li>7.2</li> <li>7.3</li> <li>TRAC</li> <li>DEFI</li> </ul>	LINE WORK ERROR! BOOKMARK NOT DEFINED. DEFINING WORKOUT PLAN AND OPERATION MODEError! BOOKMARK NOT DEFINED. PERFORMING THE WORKOUT ERROR! BOOKMARK NOT DEFINED. DOWNLOADING DATA TO THE COMPUTER ERROR! BOOKMARK NOT DEFINED. CKING THE REHABILITATION PROGRESS ERROR! BOOKMARK NOT NED.
7 8	OFFL 7.1 7.2 7.3 TRAC DEFI 8.1	LINE WORK ERROR! BOOKMARK NOT DEFINED. DEFINING WORKOUT PLAN AND OPERATION MODEError! BOOKMARK NOT DEFINED. PERFORMING THE WORKOUT ERROR! BOOKMARK NOT DEFINED. DOWNLOADING DATA TO THE COMPUTER ERROR! BOOKMARK NOT DEFINED. CKING THE REHABILITATION PROGRESS ERROR! BOOKMARK NOT NED. OPENING PREVIOUSLY RECORDED SESSIONS ERROR! BOOKMARK NOT DEFINED.
8	OFFL 7.1 7.2 7.3 TRAC DEFI 8.1 8.2	LINE WORK
8	OFFL 7.1 7.2 7.3 TRAC DEFI 8.1 8.2	LINE WORK ERROR! BOOKMARK NOT DEFINED. DEFINING WORKOUT PLAN AND OPERATION MODEError! BOOKMARK NOT DEFINED. PERFORMING THE WORKOUT ERROR! BOOKMARK NOT DEFINED. DOWNLOADING DATA TO THE COMPUTER ERROR! BOOKMARK NOT DEFINED. CKING THE REHABILITATION PROGRESS ERROR! BOOKMARK NOT DEFINED. OPENING PREVIOUSLY RECORDED SESSIONS ERROR! BOOKMARK NOT DEFINED. UNDERSTANDING SESSION RESULTS ERROR! BOOKMARK NOT DEFINED. 8.2.1 Switching Between Absolute and Relative WeightError! Bookmark not defined.
7 8	OFFL 7.1 7.2 7.3 TRAC DEFI 8.1 8.2	LINE WORK       ERROR! BOOKMARK NOT DEFINED.         DEFINING WORKOUT PLAN AND OPERATION MODE       ERROR! BOOKMARK NOT DEFINED.         PERFORMING THE WORKOUT       ERROR! BOOKMARK NOT DEFINED.         DOWNLOADING DATA TO THE COMPUTER       ERROR! BOOKMARK NOT DEFINED.         CKING THE REHABILITATION PROGRESS       ERROR! BOOKMARK NOT DEFINED.         CKING PREVIOUSLY RECORDED SESSIONS       ERROR! BOOKMARK NOT DEFINED.         UNDERSTANDING SESSION RESULTS       ERROR! BOOKMARK NOT DEFINED.         8.2.1       Switching Between Absolute and Relative WeightError! Bookmark not defined.         8.2.2       Charts
7 8	OFFL 7.1 7.2 7.3 TRAC DEFI 8.1 8.2	LINE WORK       ERROR! BOOKMARK NOT DEFINED.         DEFINING WORKOUT PLAN AND OPERATION MODE       ERROR! BOOKMARK NOT DEFINED.         PERFORMING THE WORKOUT       ERROR! BOOKMARK NOT DEFINED.         DOWNLOADING DATA TO THE COMPUTER       ERROR! BOOKMARK NOT DEFINED.         CKING THE REHABILITATION PROGRESS       ERROR! BOOKMARK NOT DEFINED.         CKING PREVIOUSLY RECORDED SESSIONS       ERROR! BOOKMARK NOT DEFINED.         UNDERSTANDING SESSION RESULTS       ERROR! BOOKMARK NOT DEFINED.         8.2.1       Switching Between Absolute and Relative WeightError! Bookmark not defined.         8.2.2       Charts         8.2.3       Statistics
8	OFFL 7.1 7.2 7.3 TRAC DEFI 8.1 8.2	LINE WORK
8	OFFL 7.1 7.2 7.3 TRAC DEFI 8.1 8.2	LINE WORK

	8.3.1	Zooming In and Out Error! Bookmark not defined	d.
	8.3.2	Measuring Time Error! Bookmark not defined	d.
	8.3.3	Measuring Weight Error! Bookmark not defined	d.
	8.3.4	Erasing Session Segments Error! Bookmark not defined	d.
8.	4 Сомра	RISON STATISTICS ERROR! BOOKMARK NOT DEFINED	э.
8.	5 Sessio	N DELETION BRROR! BOOKMARK NOT DEFINED	э.
9 TI	JRNING	THE CONTROL UNIT OFF ERROR! BOOKMARK NOT DEFINED	Э.
10 M	AINTENA	NCE AND ADMINISTRATION. ERROR! BOOKMARK NOT DEFINED	Э.
10	0.1 CREAT	NG USERS AND CHANGING PASSWORDS ERROR! BOOKMARK NOT DEFINED	э.
10	.2 Recha	GING BATTERIES ERROR! BOOKMARK NOT DEFINED	э.
11 TF	ROUBLES	HOOTING DEFINED	Э.
PART	S AND A	CESSORIES ERROR! BOOKMARK NOT DEFINED	Э.

# **Intended Use**

SmartStep<sup>™</sup> is intended to measure the weight applied to the plantar surface of the affected limb during rehabilitation. The device alerts the patient and/or therapist with a beeping sound when the weight exceeds a pre-determined maximum level. SmartStep<sup>™</sup> produces objective examination, training and monitoring of gait outcomes, using accurate analysis as well as audio and visual feedback.

	•		
Control Unit	General	Dimensions	110 x 68 x 48 mm
		Weight	215 g
		Operating Time	Approx. 5 Hours (Full battery, max load)
		Charging Time	Approx. 10 Hours (Empty battery)
	Battery	Operating Voltage	3.6 VDC
		Туре	Ni-MH Rechargeable battery
		Capacity	700 mAh
		Power Consumption	0.5 W
	Indicators	Mode of Operation	7 Segment
		Charging	Green LED
		Low Battery	Orange LED
	Memory	Capacity	128 KB
		Туре	Rewritable
		Max record time	Approx. 10 Minutes
		No. of Logged files	1
	Connectors	Input Type	RJ-11
		Input Uses	Charging
	Communication	Туре	Wireless
		Protocol	Bluetooth ver. 1.1 certified
		Transmission frequency	2.4 GHz
		Output Power	0 dBm (Class 2)
		Maximum distance	10 m / 30 ft
	Environmental Conditions	Operating Temperature	10 °C to 40 °C
		Storage Temperature	-5 °C to 50 °C
		Operating Humidity	30% - 75%

# **Technical Specifications**

### **Table of Contents**

Charger	General	Manufacturer	GlobTek Inc.
		Model	GT-A81051-0509UW2
		Dimensions	54.0 x 40.0 x 29.5 mm
		Weight	90 g
		Input Voltage	90 Vac to 264 Vac
		Output Voltage	9 VDC
		Max. Output Power	5 W
		Standard	UL 60950, CUL, CLASS II
			FCC Part 15 CLASS B
Sensors	General	Туре	Silicon Pressure Sensor
		Compensation	Temperature Compensated Over –40° to +125°C
	Operating Characteristics	Pressure Range	0 – 250 kPa
		Supply Voltage	5 VDC
		Supply Current	7 mA
		Sensitivity	18 mV/kPa

# Warnings, Precautions and Limitations

Please read, understand, and follow the precautionary and operating instructions:

### Limitations

SmartStep<sup>M</sup> is a biofeedback device and does not prevent injury. Therefore if the patient feels any pain or discomfort while using the device he should stop using the device immediately and consult a physician.

- Andante Medical Devices Ltd is NOT responsible for any damages that occur as a result of the misuse of this device.
- Physician or therapist must check very high arches in their patients. In cases of a high arch, system accuracy will be reduced.
- SmartStep<sup>™</sup> should only be used in accordance with the exercise options provided in the software and should not be used while running, jumping, etc.
- Weight limits should be set by qualified personal and not by the patient.
- A patient with hearing loss, particularly in the higher frequencies should not use this device as he may not be able to hear the audio feedback tone.
- SmartStep<sup>™</sup> is designed for use with sports shoes only. Do not use with other types of shoes.
- Patients must wear socks during sessions. SmartStep<sup>™</sup> should not be used by barefoot patients.
- SmartStep<sup>™</sup> should not be used in cases of:
- Non-weight bearing prescription.
- o Activity limitations due to medical disorder, medication, or emotional conditions.
- o Vascular insufficiencies or infection.
- o Severe cognitive disabilities.

### **Warning and Precautions**

**Control Unit** 

Never try to connect any other device and/or cable to the **Charging** connector of the Control Unit (e.g. telephone device or cables).



The plastic cover used to seal the **Charging** connector should never be removed while the unit is on the patient's leg. The cover should only be removed when charging the unit.

\_\_\_\_\_



When charging the Control Unit, the unit and its strap must be removed from the patient's leg.



This equipment has been approved for mobile applications where the equipment should be used at distances greater than 20cm from the human body (with the exception of hands, wrists, feet and ankles). Operation at distances less than 20cm is strictly prohibited.

-----

- Protect the Control Unit from any contact with water, such as dampness from sinks, bathtubs and shower stalls, or wet weather such as rain or snow. Do not use water or any other liquids to clean the Control Unit.
- Shock or impact may damage the Control Unit.
- The Control Unit should be operated, transported, and stored within a temperature range of 10-40°C, (50-86°F) and a relative humidity of 30-75%.
- Do not open the Control Unit case. Only an Andante Medical Devices technician is authorized to disassemble the device.

### Important Charging Information

Only use the charger provided with your SmartStep<sup>™</sup> system. Do not substitute with any other charger. Use of another charger could cause batteries to explode and possible serious injury.



- Do not operate the charger with a damaged cord or plug. If damaged, have the charger replaced immediately by a qualified service technician. Following this rule will reduce the risk of electric shock, fire, or serious personal injury.
- Do not disassemble the charger. Only an Andante Medical Devices technician is authorized to take the device a part.
- Do not use the charger if it has received a sharp blow, been dropped, or otherwise damaged in any way. Consult an Andante service technician to replace the charger. Following this rule will reduce the risk of electric shock, fire, or serious personal injury.
- When the charger is not in use, disconnect it from the power source. Do not leave the battery connected to charger for longer than a week, since overcharging may shorten its lifespan. If left unused, a fully charged battery will discharge itself over time.

### Important Battery Information

.....

There is a risk of explosion if battery is replaced by an incorrect type.

For disposal and replacement of a used battery, consult an authorized Andante service technician.

- The Control Unit is powered by a rechargeable NiMH battery. Note that a new NiMH battery's full performance is achieved only after two or three complete charge and discharge cycles.
- The battery can be charged and discharged hundreds of times but it will eventually wear out. When the operating time is noticeably shorter than normal, it is time to replace the battery.
- Do not try to remove the battery. Contact qualified service personnel to change the battery when needed.





# **Classification**

- Type of protection against electric shock -
- When the unit is at normal operation: Internally powered equipment.
- When the unit is at charging: Class II.



Degree of protection against electric shock – Type BF applied part.

- Classification according to the degree of protection against ingress of water Ordinary.
- Sterilization or disinfection Not required.
- Equipment not suitable for use in presence of flammable mixture with air, or with oxygen, or with nitrous oxide.
- Mode of operation Continuous operation.

# **Regulatory Compliance**

The SmartStep system was tested and found to be in compliance with the following standards:

### Safety

- IEC 60601-1
- IEC 60601-1-1

### EMC (Electromagnetic Compatibility)

- IEC 60601-1-2
- ETSI EN 301 489-1 V1.5.1 (2004-09)
- EN 55011 : 2003
- FCC Part 15.247

### FCC Statements:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

(2) This device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment

The antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

### FCC ID: TWMSMARTSTEP0106

## **Care and Maintenance**

- Keep Control Unit and accessories out of reach of small children.
- Keep Control Unit and accessories dry. Precipitation, humidity, and liquids contain minerals that will corrode electronic circuits.
- Do not use or store Control Unit or accessories in dusty or dirty areas.
- Do not store Control Unit or accessories in hot areas. High temperatures can shorten the lifespan of electronic devices, damage batteries, and warp or melt certain plastics.
- Don't store Control Unit or accessories in cold areas. When the Control Unit warms up (to its normal temperature), moisture can form inside the Control Unit, which may damage electronic circuit boards.
- Don't drop, knock, or shake the Control Unit. Rough handling can break internal circuit boards.
- Don't use harsh chemicals, cleaning solvents, or strong detergents to clean parts or accessories. Wipe with a soft cloth slightly dampened in a mild soap and water solution.

**Objective Assessment** 

# **1** Introduction

SmartStep<sup>™</sup> was developed to assist clinicians to accurately assess, treat, and track the rehabilitation of patients who are undergoing gait training, following orthopedic or neurological impairment.

### 1.1 Objective Assessment

SmartStep<sup>™</sup> improves the objective assessment of different aspects of gait outcomes, by accurately measuring the ground reaction force exerted by the patient during different kinds of exercises.

### 1.2 Training

SmartStep<sup>™</sup> provide precise feedback in both visual and audio modes. This procedure enhances the learning process and improves movement control (weight and timing) and helps to normalize gait patterns.

### 1.3 Rehabilitation Tracking

The SmartStep<sup>™</sup> system records the assessment and training sessions. Historical data is collected and saved in each session for future examination.

The system allows you to:

- 1. Easily retrieve past sessions.
- 2. Analyze past sessions.
- 3. Compare patient sessions in order to track rehabilitation.

### 1.4 Using SmartStep<sup>™</sup> in Online and Offline Mode

In assessment as well as training, the SmartStep System can be used in online or offline mode.

- In online mode, SmartStep<sup>™</sup> communicates with your computer to provide real-time visual feedback. Audio feedback is also possible. During an online session, it is recommended to work in the vicinity of the computer (in a 7m radius).
- In offline mode, SmartStep<sup>™</sup> provide real-time audio feedback. It is possible to records session data, and downloaded it to the computer for later analysis.

SmartStep™ Kit Contents

# **2** System Description

### 2.1 SmartStep<sup>™</sup> Kit Contents



The SmartStep<sup>™</sup> Kit

The SmartStep<sup>™</sup> kit contains the following items:

1. 3 insoles in: European sizes 37/8, 41/2 and 43/4

or US sizes 6/7, 8.5/10 and 10.5/11.5.

- 2. Control Unit with strap (which includes a plastic cover for the Charging connector).
- 3. Manual pump.
- 4. Battery charger for the Control Unit
- 5. SmartStep software CD.
- 6. Bluetooth USB adapter.
- 7. Bluetooth USB adaptor driver installation CD.
- 8. Quick User's guide.

If any of the above items are missing, or appear damaged, please contact your supplier.

SmartStep<sup>™</sup> Components

### 2.2 SmartStep<sup>™</sup> Components

SmartStep<sup>™</sup> consists of four main components: An insole, Control Unit, software and a manual pump. The following sections explain each of these components in more detail.

### 2.2.1 Insole



#### Insole

The SmartStep<sup>TM</sup> insole is placed inside the patient's shoe, and is used to measure the force exerted by the patient on the foot, during an assessment or a training session.

The insole contains two inflatable compartments – the forefoot and the hind foot. Each compartment is connected, via a tube, to a pressure sensor. When a patient exerts force on the leg, increased air is driven out of the air pockets and is detected by the pressure sensors and converted into uneven weight in Kg/lb.

SmartStep<sup>TM</sup> sessions are performed on a single foot at a time. The insole is suitable for both left and right feet. It is supplied in a range of sizes (see details in 2.1 above).

Control Unit



### 2.2.2 Control Unit

**The Control Unit** 

The SmartStep<sup>™</sup> Control Unit serves three purposes:

- **Data relay** to a computer via wireless (Bluetooth) communication. The computer must have the SmartStep<sup>™</sup> software installed (see 3.2). Connecting the Control Unit to a computer allows you to view a graph of the gait pattern, as the patient performs an online workout.
- Feedback generation when the patient reaches and exceeds the desired weight range. Audio feedback is optional; it can be turned on and off by toggling the Control Unit's operation mode.
- Optional data collection in an offline mode that can be turned on or off by toggling the Control Unit's operating mode. The collected data can be downloaded to a computer and view session statistics and graphs.

Control Unit

Operation mode	Name	Description
0	On	Control Unit is on.
1	Online Assessment	Online assessment mode (when no weight thresholds are determined) with graphic visual feedback of patient performance.
1.	Offline Assessment and	Offline assessment mode (when no weight thresholds are determined). Data is collected. Later it is possible to save it in the patient's file.
2	Data collection Online/Offline Training	Online/Offline training mode (when weight thresholds are determined). Audio feedback is available in the form of beeps to alert patient and/or therapist to weight exerted by the patient. In Online mode graphic visual feedback is available as well.
2.	Offline Training and Data collection	Offline training mode (when weight thresholds are determined). Data is collected. Later it is possible to save it in the patient's file. Audio feedback is available in the form of beeps to alert the patient and/or therapist to weight exerted by the patient.
4	Download Completed	Data collected offline has successfully been downloaded to the computer. After a pause, mode reverts to 1 or 2 (without the dot, depending on the mode before the download process).
4.	Download in Progress	Data collected offline is being downloaded to the computer. When download is complete, the mode reverts to 4 (without the dot).
E	Air Pressure Error	Incorrect initial air pressure.
с	Wireless Error	Wireless connection was lost.
S	Sensor Problem	Sensor error detected.
Р	Low Air Pressure	Air pressure is lost in insole compartments (hind and/or fore).
н	Maximum Values Exceeded	System exceeded maximum values.
L	Low Battery	The unit is turned off automatically.

### Control Unit Modes of Operation

SmartStep<sup>™</sup> Software

### 2.2.3 SmartStep<sup>™</sup> Software

The desktop software is used to perform the following functions:

- Monitor gait parameters.
- Display visual feedback.
- Show results and statistics from Online/Offline sessions.
- Track rehabilitation progress.

### 2.2.4 Manual Pump



### The Manual Pump

The manual pump is designed to inflate the two compartments with air. The manual pump is not connected directly to the insole. The inflation is done via the Control Unit.

System Requirements

# 3 Installation

### 3.1 System Requirements

- Microsoft Windows<sup>®</sup> XP Professional or Home Edition.
- 128 MB of RAM minimum, 256 MB or greater recommended.
- Up to 20 MB of available hard-disk space.

### 3.2 SmartStep Software Installation

- 1. Insert the SmartStep Installation disk into the CD-ROM drive.
- 2. Open the CD-ROM root folder and double click on the SmartStep icon.



SmartStep Software Installation

3. Click Next.



4. It is recommended to use the default destination folder. Click Next.



SmartStep Software Installation

5. It is recommended to check the Create a desktop icon check-box. Click Next.

🖋 Setup - SmartStep	X
Select Additional Tasks Which additional tasks should be performed?	B
Select the additional tasks you would like Setup to perform while installing SmartStep, then click Next.	
Additional icons:	
✓ Create a desktop icon	
< Back (Next>) Cancel	

6. Click Install.

🧈 Setup - SmartStep	
Ready to Install Setup is now ready to begin installing SmartStep on your computer.	
Click Install to continue with the installation, or click Back if you want to review or change any settings.	
Start Menu folder: SmartStep Additional tasks: Additional icons: Create a desktop icon	
<	×
< Back Install C	ancel

SmartStep Software Installation

7. Click Finish.



SmartStep installation is now complete. The next step is the Bluetooth USB Adapter installation.

Bluetooth USB Adapter Driver Installation

### 3.3 Bluetooth USB Adapter Driver Installation

To avoid software installation problems, please do NOT insert the Bluetooth USB Adapter until the installation displays a message to do so (step8).

1. Insert the USB Adapter installation disk into the CD-ROM drive. The Setup program should launch automatically. Click the **Install Software** button.



2. Click the Next button.



Bluetooth USB Adapter Driver Installation

3. Choose the laccept... option, and click the Next button.

😸 WIDCOMM Bluetooth Software 3.0.1.915 - InstallShield Wiz	ard 🛛 🛛
License Agreement Please read the following license agreement carefully.	
END USER LICENSE AGREEMENT	
THE SOFTWARE ACCOMPANYING THIS ELLICENSE AGREEMENT (THE "SOFTWARE") IS	ND USER LICENSED
TO YOU ONLY ON THE CONDITION THAT YOU AC OF THE TERMS IN THIS END USER LICENSE AGI DIEASE DEAD THE TERMS CAREFULLY, BY CH	CEPT ALL REEMENT.
THE "YES" BUTTON YOU ACKNOWLEDGE THAT READ THIS AGREEMENT, UNDERSTAND IT AN	YOU HAVE
<ul> <li>I accept the terms in the license agreement</li> <li>I do not accept the terms in the license agreement</li> </ul>	
InstallShield	
< Back Next >	

4. In this screen it is possible to change the destination folder by clicking the **Change...** button. It is recommended to use the default destination folder. Click **Next**.

	AM Bluetooth Software 3.0.1.915 - InstallShield Wizard 🛛 🛛 🔀
<b>Destinati</b> Click Ne>	on Folder At to install to this folder, or click Change to install to a different folder.
	Install WIDCOMM Bluetooth Software 3.0.1.915 to: C:\Program Files\MSI\BToes Bluetooth Software\ Change
InstallShield –	< Back Next > Cancel

Bluetooth USB Adapter Driver Installation

5. Click Install. The installation might take several minutes.



6. If the dialog below opens, click Cancel.

Driver Signature Notice	? 🛛
Currently Microsoft does not have a certification program in a result, at this time it is not possible to provide certified driv the event that Microsoft implements a Windows Logo certif devices, signed drivers will be made available.	place for Bluetooth devices. As ers for Bluetooth devices. In ication process for Bluetooth
To avoid receiving several prompts for signed drivers durin OK to disable unsigned driver warnings, and proceed with warning option will be re-enabled at the completion of the ir drivers. This option is an effort to provide the best custome product. If you select Cancel, the installation will continue v and you will be required to select Continue at each prompt	g the installation process, select the installation. The default istallation of the Bluetooth r experience while using this vithout disabling the warnings to proceed with the installation.
	OK Cancel

Bluetooth USB Adapter Driver Installation

7. If the dialog below opens, click on the **Continue Anyway** button.



8. A message box indicating that **No Bluetooth device was detected** should popup. Please insert the Bluetooth USB adapter and click **OK**.



Bluetooth USB Adapter Driver Installation

### 9. Click Finish.



10. Click Exit.



Bluetooth USB Adapter Driver Installation

11. Double click on the **My Bluetooth Places** icon on the desktop. It is also possible to double click the Bluetooth icon that is located in the notification area of the taskbar, or to right click it and select **Start Using Bluetooth**.



ΕN





Bluetooth USB Adapter Driver Installation

### 13. Click Next.

🖫 General 🛛 🔀
Device Name and Type: You must select a name for this computer and indicate what type of computer it is.
WIDCOMM Bluetooth Software 3.0.1.915
Identity Enter a unique name for this computer. This name will be displayed to other IAM Bluetooth devices if this computer is configured to allow itself to be discovered.
Select a computer type from the drop-down menu. This selection determines the icon that represents this computer on remote devices.
Computer name: LENY-COMP
Computer type: Laptop
< Back Next > Cancel

14. Click Next.



Bluetooth USB Adapter Driver Installation

15. Leave the default settings. Click Next.



16. Click Skip.



Bluetooth USB Adapter Driver Installation

### 17. Click Finish.



18. Double click the My Bluetooth Places icon on the desktop.



Bluetooth USB Adapter Driver Installation

19. Turn the **Control Unit** on.

In the Bluetooth Tasks menu, click the View Devices in Range option.



20. The list should contain only devices that were already connected to the computer. In the **Bluetooth Tasks** menu click the **Search for Devices in Range** option.



Bluetooth USB Adapter Driver Installation

My Bluetooth Places\Entire Bluetooth	ooth Neighborhood	
File Edit View Bluetooth Favorites	Tools Help	<i></i>
🚱 Back 🝷 💿 🕤 🏂 🔎 Sear	ch 🎼 Folders 🛛 💷 🔹	
Address 🧕 My Bluetooth Places\Entire Blue	tooth Neighborhood	💌 🄁 Go
Bluetooth Tasks     Image: Constraint of the services       Bluetooth Setup Wizard       Wew My Bluetooth services       Search for devices in range       Wew or modify configuration	(No Name> Nokia 6230 Nokia 6230 Nokia 6230 RONITF-COMP RONM-COMP	
Other Places		
Bluetooth Exchange Folder My Bluetooth Places My Network Places Printers and Faxes	Cto N Explore Open Discover Available Services	
Details	Pair Device	
Bluetooth Devices	Paste Properties	

21. Right-click the icon marked with the circle (the icon with the question mark on) . Choose the **Properties** option.

22. Make sure that the device address matches the address on the back of the Control Unit. The 4 characters marked in the screenshot are the **Bluetooth Pin Code**. Close the window by clicking **OK**.

<no name=""> Properties</no>	? 🛛
General	
<no name=""></no>	
Type Unknown: Major(0)	, Minor(0)
Device Address 00:50:c2:07(86:86)	k Hati dirtininga ist dirtinga
СКС	ancel Apply

Bluetooth USB Adapter Driver Installation

23. Right click the icon marked with the circle (the icon with the question mark on). Choose the **Pair Device** option.



24. Enter the four letter **Bluetooth Pin Code** (marked in the screenshot in step 22). Use capital letters only. Click **OK**.

Bluetoot	n PIN Code Request	
P	Device Name:	<no name=""></no>
~	Before a connection can be establis above must be "paired."	shed, this computer and the device
	The Bluetooth pairing procedure cre future connections between these to encrypt the data that these devices	eates a secret key that is used in all wo devices to establish identity and exchange.
	To create the paired relationship, er	nter the PIN code and click OK.
<	Bluetooth PIN Code:	
	ОК	Cancel Help

Bluetooth USB Adapter Driver Installation



25. Double click the icon marked with a circle (the icon with the question mark on).

26. Right click the icon below and choose the Create Shortcut option.



Bluetooth USB Adapter Driver Installation

27. Click the **OK** button.



28. Choose the My Bluetooth Places option, in the Other Places menu.



29. Right-click the marked icon, and Rename it for later easy recognition.



Bluetooth USB Adapter Driver Installation

- 30. Right-click the marked icon again, and choose the Properties option.
- 31. Uncheck the Secure Connection checkbox. Click OK.

Bluetooth Properties	Bluetooth Properties
General	General
COM Port: COM38 💌	COM Port: COM38 💌
OK Cancel Apply	OK Cancel Apply

32. In the **Taskbar** notification area right-click the marked icon. Choose the **Advanced Configuration** option.



Bluetooth USB Adapter Driver Installation

33. Select the **Client Applications** tab. Select the **Bluetooth Serial Port** list item and click the **Properties...** button.

Bluetooth Configuration		? 🛛
General Accessibility Discovery L Specify how this computer will access Double-click an application name to s	ocal Services Client A s services on other Blue set its security and edit it	pplications Hardware tooth devices. s properties.
Application Name         Bluetooth Imaging         Human Interface Device         Printer         Audio Gateway         Headset         PIM Synchronization         Fax         File Transfer         PIM Item Transfer         Dial-up Networking         Network Access         Bluetooth Serial Port	Secure Connection Not Required Not Required Not Required Not Required Required Required Required Required Required Required Required	COM Port
Properties	Add COM port	Delete COM port
	Cancel	Apply Help

34. Uncheck the Secure Connection checkbox. Click OK.

Hluetouth Properties 🛛 🦉 🔀	Bluetooth Properties 💦 🔀
General           Secure Connection	Breesel Bluetooth Serial Part
CDM Poil: COM38 💌	CDM Port CDM38
OK Cancel Apply	

Bluetooth USB Adapter Driver Installation

	~ ~		~	
ieneral Accessibilit	y Discovery	cal Service	es Client Applications	Hardware
Select the services Double-click a servi	that this computer ce name to set its	will provide security, sta	e to other Bluetooth dev art-up options and prop	ices. erties.
Service Name		Startup	Secure Connection	COM Port
Bluetooth Imaging		Auto	Not Required	
Audio Gateway		Auto	Not Required	
Headset		Auto	Not Required	
PIM Synchronizati	on	Auto	Required	
Fax		Auto	Required	
File Transfer		Auto	Required	
PIM Item Transfer		Auto	Not Required	
Dial-up Networkin	9	Auto	Required	
Network Access		Auto	Required	
Bluetooth Serial P	ort	Manu	Required	COM46
Properties			Add Serial Service	Delete

35. Choose the Local Services tab. Select the Bluetooth Serial Port list item and click the Properties... button.

36. Uncheck the Secure Connection and the Startup Automatically checkboxes. Click OK.

Bluetooth Properties 🛛 🕐 🔀	Bluetooth Properties 🛛 🖓 🔀
General Notifications	General Notifications
Bluetooth Serial Port	Bluetooth Serial Port
Sartup Automatically	Startup Automatically
COM Port: COM46 💌	COM Port: COM46 💌
OK Cancel Apply	OK Cancel Apply

Bluetooth USB Adapter Driver Installation

37. Double-click the My Bluetooth Places icon on the desktop.



38. Double-click the icon you named in step 29.



39. The location of the serial port number that is required by the SmartStep program is marked in the screenshot. Click **OK**.



40. The icon should change to the icon shown below, the control unit beeps twice to indicate that the connection with the device has taken place .



### SmartStep<sup>™</sup> Antenna Installation Instructions

The Bluetooth icon that is located in the notification area of the taskbar can be one of the following colors:

White - The adapter is connected and enabled.	Red - The adapter is not connected to the USB port. Bluetooth support is disabled.	Green - Bluetooth communication was established.	
8	8	8	

### 3.4 SmartStep<sup>™</sup> Antenna Installation Instructions

- No antenna installation is needed.
- Antenna is internal and assembly on the PCB (Printed Circuit Board)

### 3.5 Configure SmartStep<sup>™</sup> for Bluetooth Usage

Make sure that the Bluetooth USB adapter is placed at a location free from signal obstruction. Concrete walls, metal substances, paints with metal composites, etc. may cause signal obstruction and disable the Bluetooth function.

\_\_\_\_\_

1. Start the SmartStep<sup>™</sup> software, by double-clicking on the desktop shortcut icon



Or by clicking on the SmartStep shortcut in the Start->Program Files->SmartStep program group.

	🖬 SmartStep	•	🍠 SmartStep
All Programs	😵 My Bluetooth Places		45
	Internet Explorer		
	MSN		
🏭 start 💦 👘	🗐 Outlook Express		

46 | SmartStep<sup>™</sup> Version 2.1.1 Revision A2

Configure SmartStep™ for Bluetooth Usage

2. The Login dialog box opens.



- 3. Select your **User Name** from the drop-down menu and type your **Password** in the edit box.
- 4. Click the **OK** button to log in.
- 5. In the Select Patient window, go to the System menu and select System Configuration.

🤌 Sele	ct Patie	nt		
Patient	System	Version		
	Clinician		•	
Code	🐁 Systi	em configuration		Last Name
6	Connect to Bluetooth			
5				

6. In the **Configuration** window select the correct Bluetooth port number and click **OK**. See step 39 of the Bluetooth USB adapter Installation section.

🤌 Configure	Þ	N		
Select COM				1
COM38			-	
COM32 COM33 COM34 COM35 COM35 COM36 COM37 COM38				
COM39				1
L	<u>0</u> K			
				_