

# bebalance

## 5.0 operating instructions



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bebalance3 has been designed to give you optimum control over the new bebionic3 hand. It features many new tools which will help you and your patients optimize and customize the function of the hand.

Language selection, electrode configuration with a simulation preview, and simplified menu systems are all included in bebalance3.

Note: Installation disc is affixed to the inside back cover.

 **CAUTION**

Please **DO NOT** program or control a bebionic system with unapproved, alternative software or hardware systems. Doing so will void the warranty.

# 5.1 Introduction

Out of the box, the bebionic hand is preconfigured with two site proportional myoelectric control (Mode 4), where an OPEN-OPEN signal is used to change grip patterns. This mode has been chosen to provide a standard solution that works well for the majority of users who demonstrate two well-controlled muscle signals. However, bebalance is particularly useful if muscles produce limited or difficult to control signals, as is often the case with higher-level amputation.

With bebalance the practitioner may adjust the operation of the electrode, reset co-contraction signals, change signal timing features, choose between one or two electrode or transducer control and enable the Auto Grip feature. All are able to enhance the users' natural control capability.

bebalance software also provides the ability to record patient information, and to record a history of configuration settings for each hand.

The programming of the hand requires a USB radio dongle (supplied) to be plugged into the hosting computer. When activated, the dongle will link to the radio module in the bebionic3 hand.

It is also possible to read the current configuration back from the hand and store it against the user record.

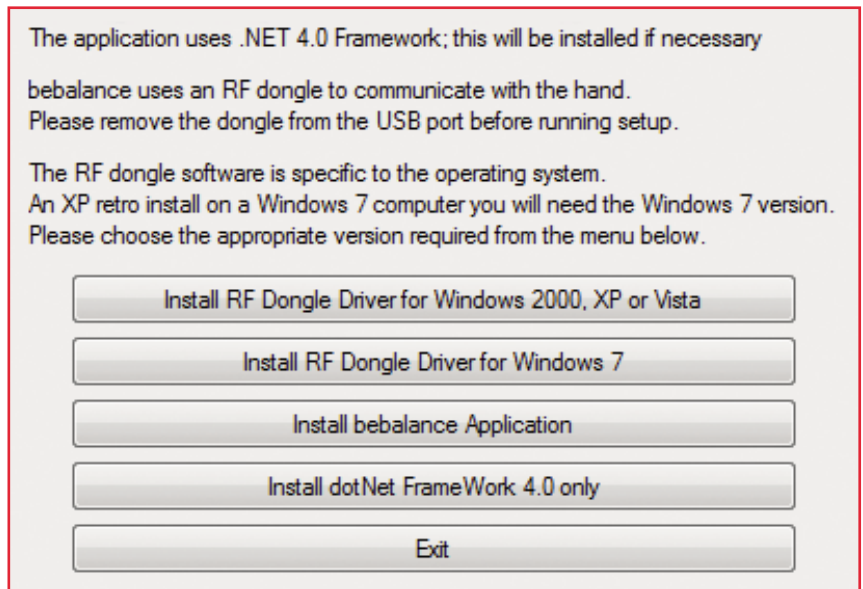
## CAUTION

This software is not intended for patient use. Alterations should be made by the practitioner **ONLY**.

Only bebionic v2 and bebionic3 hands can be programmed using bebalance3.

# 5.2 Installation

1. Close all open applications
2. Insert CD into disk drive
3. Wait for Autorun
4. Follow instructions on screen



The default target directory is C:\users\USERNAME\bebalance3. You can choose an alternative however it is essential that the application directory and sub-directories have read and write permission.

If setup fails to automatically open, run it manually from the BBsetup.exe.

If you are reinstalling bebalance, the existing version **MUST** be uninstalled. Although the existing database will be retained, it is advisable to back up the previous version before proceeding.

The bebalance application requires .Net Framework 4.0 to operate. If not already installed it can be installed from the CD by opening dotNet Framework folder and double clicking on 'dotNetFx40\_Full\_x86\_x64.exe' Similarly, the radio dongle requires software to be installed to operate. Specific versions can be found in the

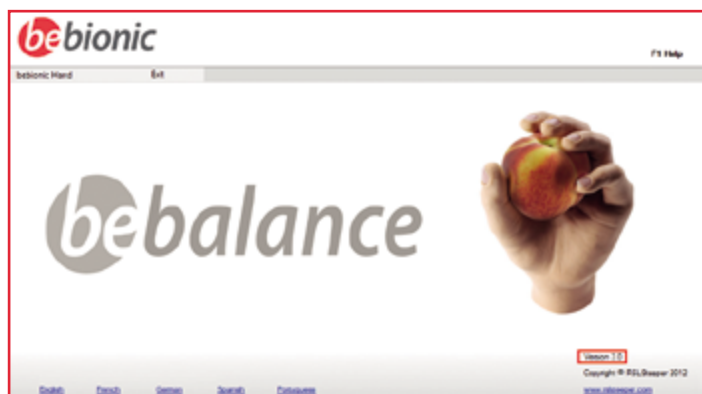
CP210\_Win2K\_XP\_Vista or CP210\_Win7 folder. If using a retro operating system it may be necessary to use software specific to the computer build.

The latest version of the software can be found at [www.bebionic.com/downloads/bebalance](http://www.bebionic.com/downloads/bebalance)

A password is required to download bebalance, contact your local supplier should you require this.

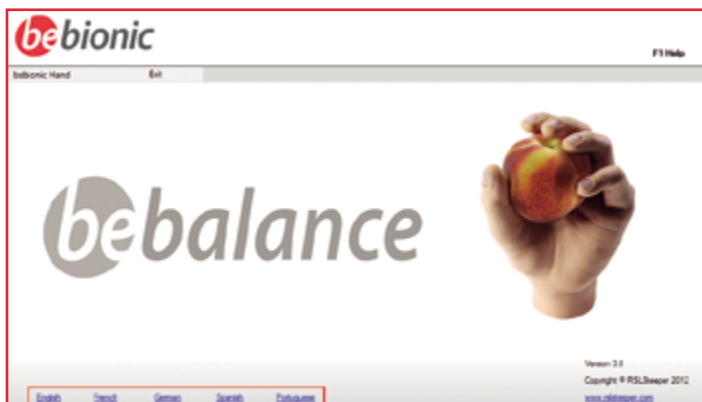


## 5.3 Start up



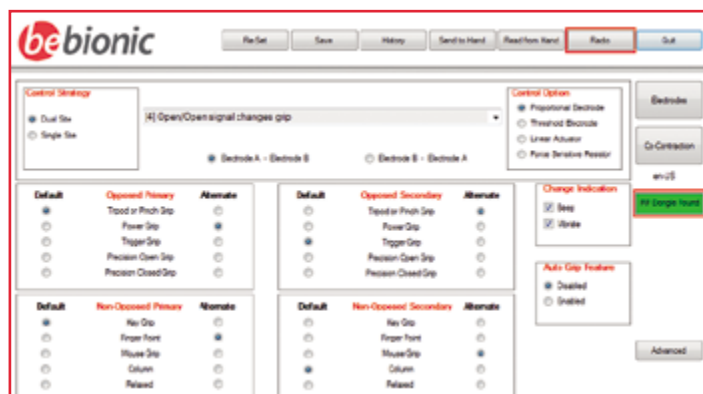
On opening the application the main screen shown above will appear. Any greyed out options are currently not operational. The area highlighted in red identifies the bebalance version number.

## 5.4 Language Selection



On the bottom left of the entry screen you can select your preferred language: English, Spanish, French, German or Portuguese.

## 5.5 Radio Frequency (RF) Module Configuration



bebalance now has an auto-detect feature for the dongle. You are advised to insert the RF dongle into a USB port of the computer before starting the application so it can be detected on start-up.

However, if you forget, just insert the dongle and return to the entry screen menu or go to the configuration screen and click on **Radio**.

When the RF Dongle has been found the message box will show 'RF Dongle Found' highlighted in green. If not found the message box will show 'No RF Dongle'

### Enabling RF Module on the bebionic v2 or bebionic3 Hand

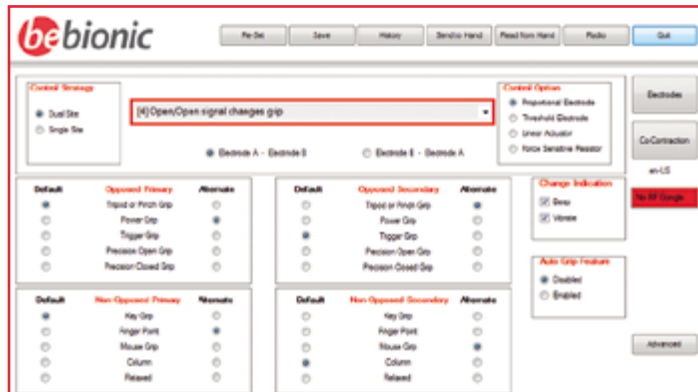
With the hand switched ON, press and hold the program switch on the back of the hand for approximately three seconds until the RF dongle begins to flash continually.

**Note:** This function differs from the glove donning mode. To enable the RF dongle the hand must be switched ON, whereas in glove donning mode the hand must be switched OFF. The RF dongle can be disabled by pressing for more than two seconds. Alternatively, you can disconnect the power to the hand by using the battery switch.

## 5.6 Operating Modes

There are six modes. These are selected from the highlighted box, along with the appropriate control strategy.

**Note:** Grip change will generate a bleep and / or vibration if this feature is enabled.



### Mode 0

Control Strategy – Single Site Threshold

- To OPEN hand – apply signal
- To CLOSE hand – remove signal

#### Grip Patterns

Thumb Opposed – up to four grip patterns  
Thumb Non-Opposed - up to two grip patterns

### Mode 1

Control Strategy – Single Site Proportional / Threshold

- To OPEN hand – apply a short burst signal
- To CLOSE hand – apply a sustained signal
- To switch between default grip and alternative grip – apply a further OPEN signal within variable time (up to two seconds) of the hand fully opening.

#### Grip Patterns

Thumb Opposed – up to four grip patterns  
Thumb Non-opposed - up to four grip patterns

### Mode 2

Control Strategy – Single Site Proportional / Threshold

- To OPEN hand – apply a quick rising stimulus
- To CLOSE hand – apply a slow rising stimulus
- To switch between default grip and alternative grip – apply a further OPEN signal within variable time (up to two seconds) of the hand fully opening.

#### Grip Patterns

Thumb Opposed - up to four grip patterns  
Thumb Non-Opposed - up to four grip patterns

### Mode 3

Control Strategy – Single Site Proportional / Threshold Alternating

- To OPEN hand – the first signal will OPEN the hand; a configurable delay of 50ms to 2.0s will allow repeat OPENS if required.
- To CLOSE hand – a signal applied outside of the delay will CLOSE the hand; a configurable delay of 50ms to 2.0s will allow repeat CLOSES if required.
- To switch between default grip and alternative grip – apply a further OPEN signal within variable time (up to two seconds) of the hand fully opening.

#### Grip Patterns

Thumb Opposed - up to four grip patterns  
Thumb Non-Opposed - up to four grip patterns

### Mode 4

Control Strategy – Dual Site Proportional / Threshold OPEN OPEN

- To OPEN hand – apply signal from OPEN electrode
- To CLOSE hand – apply signal from CLOSE electrode
- To switch between default grip and alternative grip – apply a further OPEN signal within variable time (up to two seconds) of the hand fully opening.

#### Grip Patterns

Thumb Opposed – up to four grip patterns  
Thumb Non-opposed – up to four grip patterns

### Mode 5

Control Strategy – Dual Site Proportional / Threshold Co-contrast

- To OPEN hand – apply signal from OPEN electrode
- To CLOSE hand – apply signal from CLOSE electrode
- To switch between default grip and alternative grip – apply a co-contraction signal

#### Grip Patterns

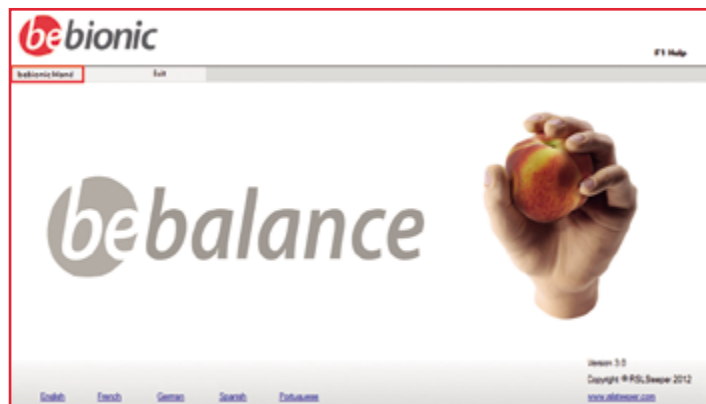
Thumb Opposed – up to four grip patterns  
Thumb Non-Opposed – up to four grip patterns

**Please note:** Where more than one grip pattern is available, the practitioner can select the default and alternative grips for both the primary and secondary grip patterns using bebalance programming software. Pressing the program switch on the back of the hand allows the user to alternate between the primary and secondary set of grip patterns.

The hand will be delivered pre-set to Mode 4 with default values set to provide an operational hand straight out of the box. Therefore, configuration via bebalance may not be essential pre-fitting

## 5.7 Hand Configuration Introduction

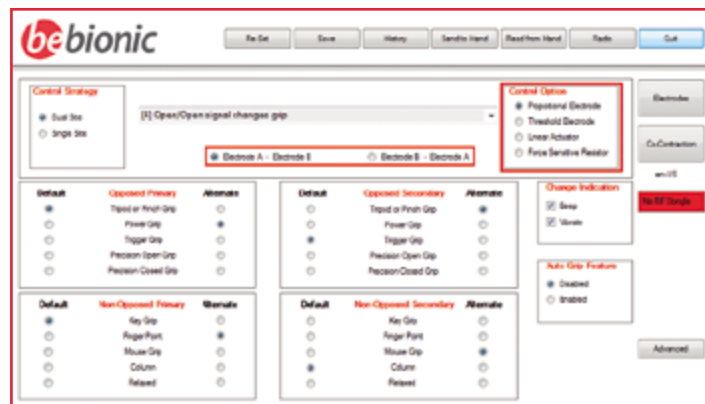
For most patients, the factory settings on the bebionic hand will be adequate. However, for experienced practitioners bebalance software can be used to customize the hand to each individual through the bebionic menu option.



Configuration essentially changes the way the bebionic hand operates. These changes are downloaded from the computer to the hand to allow the user to try them. Successful alterations can be loaded and saved in the hand's memory. Details of individual iteration, once saved, are with the patient's ID in the History file.

## Hand Configuration

Select bebionic on the main menu to open the configuration screen as shown below. The 'No RF Found' message may be replaced with 'RF Dongle Found'.



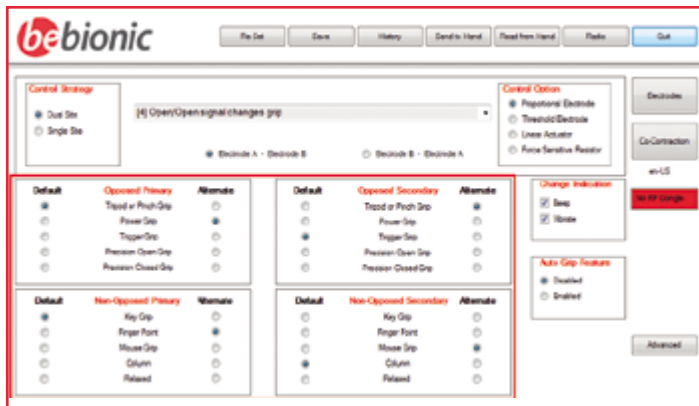
By default the configuration screen opens with dual-site control strategy. You can change to single-site by point and clicking on **Single-Site** under Control Strategy.

### ! CAUTION

Only bebionic v2 and bebionic3 hands can be programmed using bebalance3

## 5.8 Grip Selection

Grips can be selected and ordered as desired by the user by a simple point and click in the relevant tables.



### Opposed Primary

This refers to selection of the initial two grip patterns available with the thumb in the opposed position. The default grip is available immediately, the user can switch to the alternate grip by applying the appropriate change signal, e.g. in mode 4, an OPEN OPEN signal will switch between the default and alternate grip patterns.

### Non-Opposed Primary

Allows selection of the grip patterns as described above, but with the thumb in the non-opposed position.

### Opposed Secondary

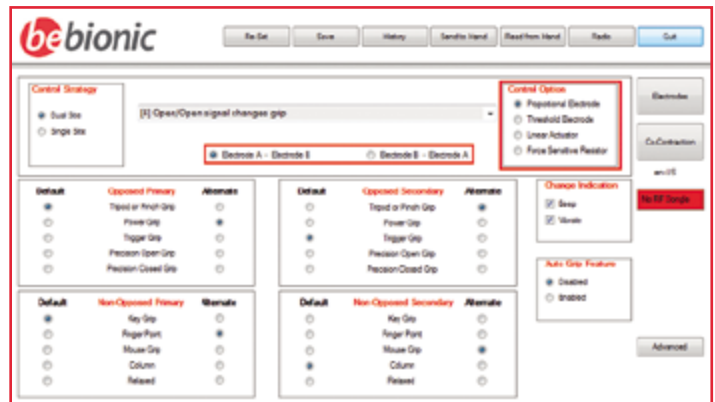
This enables selection of a further two grip patterns with the thumb in the opposed position. These grips are activated by pressing the program switch on the back of the hand. As with the primary grip patterns, the user can switch between the default and the alternate grip by applying the appropriate change signal. The user can return to the primary grip patterns by pressing the program switch.

### Non-Opposed Secondary

This refers to the grip patterns as described for Opposed Secondary but with the thumb in the Non-Opposed position.

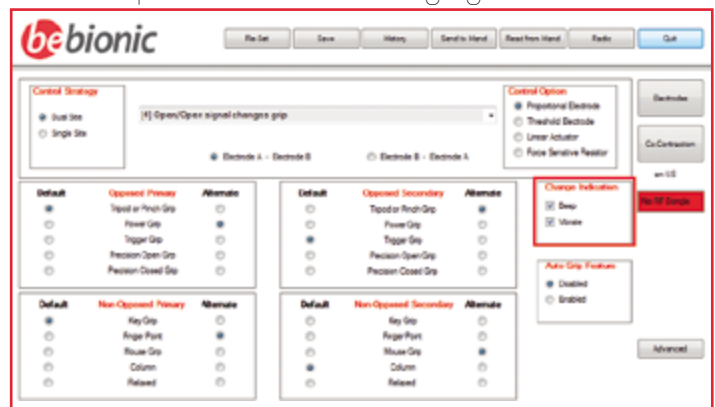
## Control Option

The hand can be controlled by proportional or threshold electrodes or alternatively by linear transducers or force sensitive resistors. It is possible to reverse the electrode/transducer operation without the need to physically swap cables. Simply select the appropriate configuration as highlighted in screen below.



## Change Indication

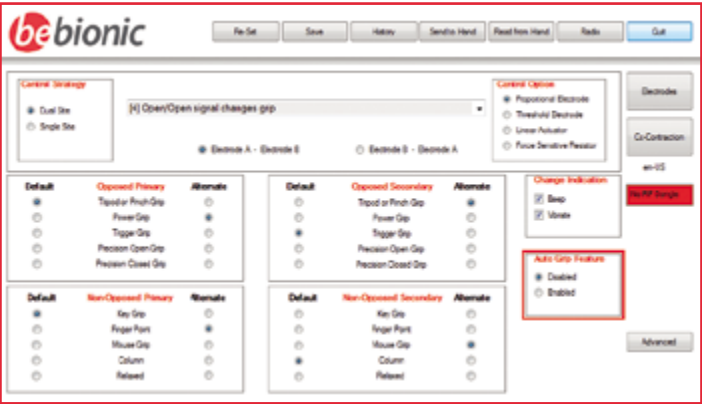
Function change indication is available by selecting either beep and / or vibrate as highlighted below.





# Auto Grip

This feature can be set to enabled or disabled. Please note that Auto Grip functions in Tripod Grip only. Auto Grip is activated by providing three consecutive close signals. Deactivation occurs when the hand is opened. Reactivation is made again by three consecutive close signals.

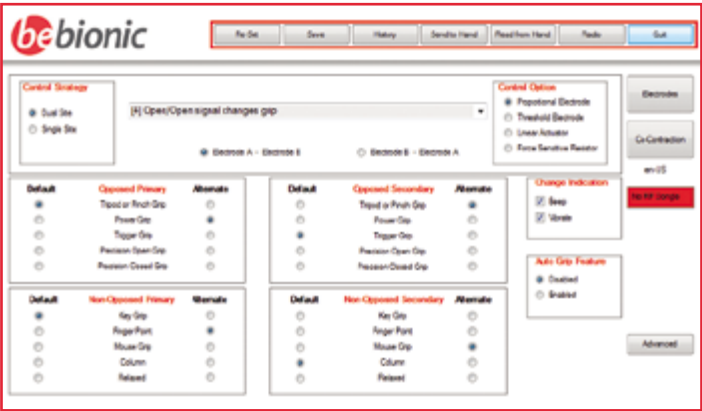


When Auto Grip is active, the electronics monitor motor position for movement. If movement / slippage of an object is detected, the finger position / grip force is automatically altered to provide a more secure grip. Electronic monitoring of this process occurs every 50ms.

# Horizontal Buttons

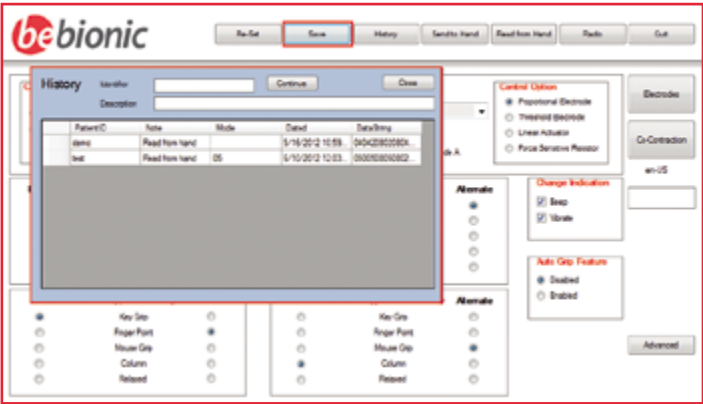
## Reset

If at any time you want to start again with your configuration, clicking **Reset**, reverts all the controls to the default settings for the current mode.



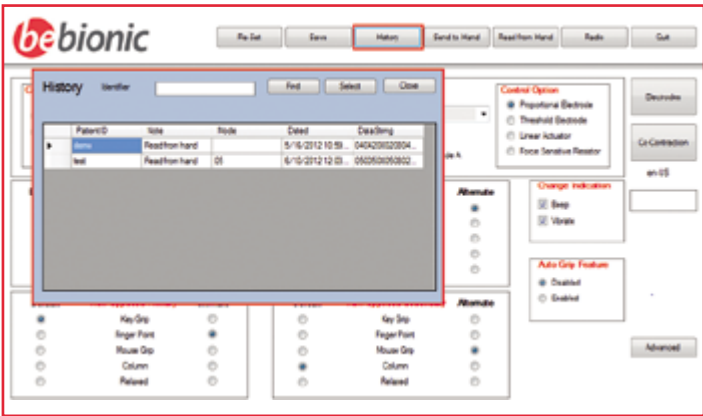
## Save

The hand can be configured and the settings sent to the hand without saving if you want to trial a configuration. If you want to retain these settings for further amendment or back-up click **Save**. Before the data is saved a patient identifier must be entered. There is a description field for recording specific information as necessary.



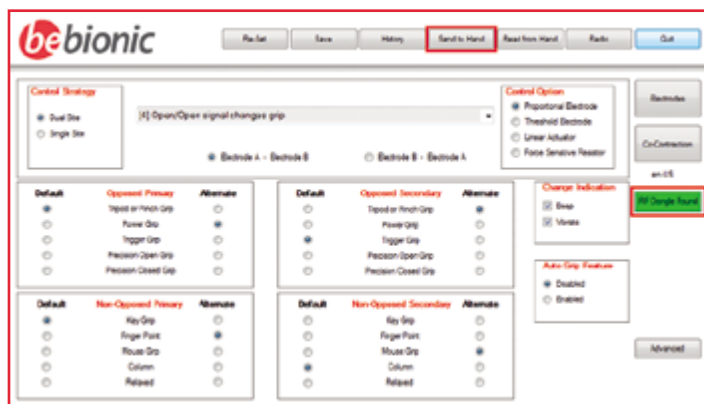
## History

Clicking **History** opens a list of saved configurations. By entering a patient identifier and clicking **Find** you can filter the records. This feature enables the recovery of previous settings for resending to the hand or providing a base to work from.



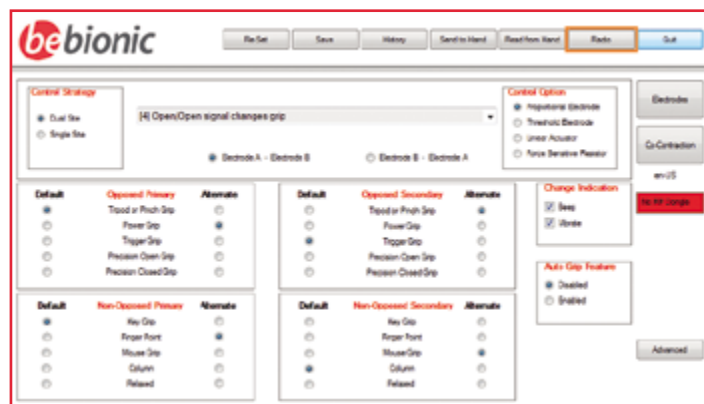
## Send to Hand

With the RF Dongle inserted and configured, and the radio on the hand activated, a stream of signals begin transmission. These can be identified by the rapid flashing of the LED on the dongle. On completion, the message panel on the right will show success or failure of the process.



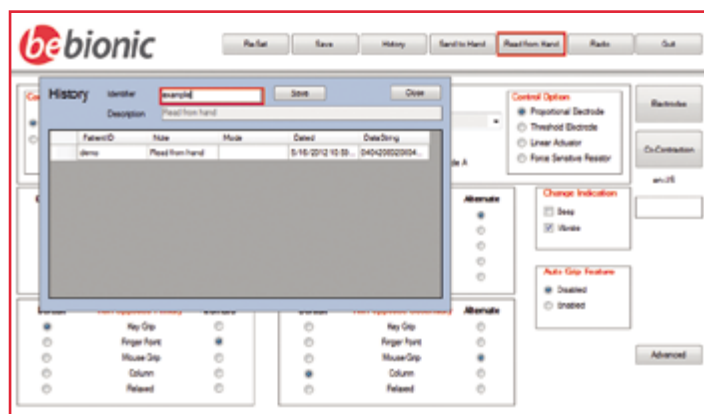
## Radio

This enables connection of the RF Dongle should you forget to install the dongle before running the application. When the dongle is found the message box will read 'RF Dongle Found' highlighted in green. If not found the message box will show 'No RF Dongle' highlighted in red. See section 8.1 for more information.



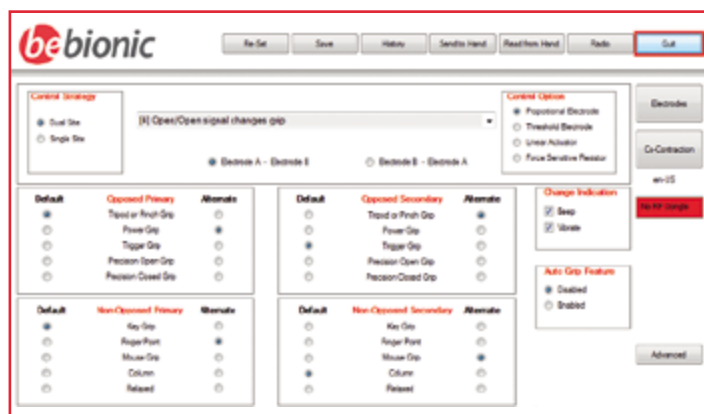
## Read from Hand

This feature enables the current hand configuration to be read from the hand and stored in the history file. Following a read you are required to enter a patient identifier. This enables retrieval of the specific patient configuration, if desired.



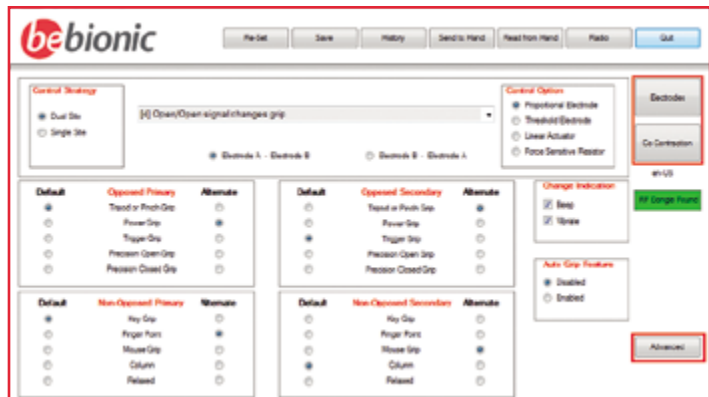
## Quit

This will close the configuration form and return to the main entry screen.

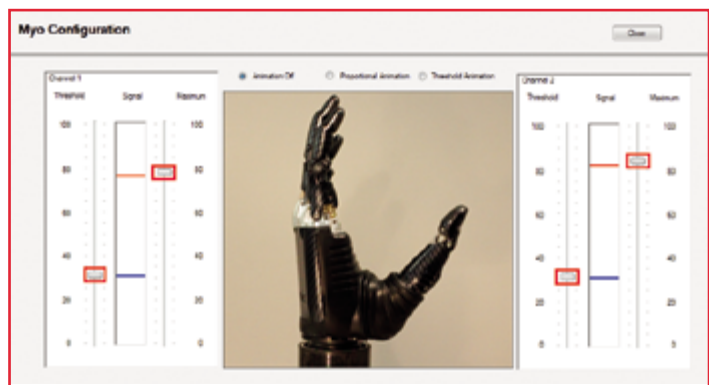


## Electrodes

Selecting **Electrodes** from the vertical button menu opens a form, see the myo configuration screen below. This allows electrode signals to be monitored, reviewed and adjusted.



The sliders highlighted on the screen below are for independently adjusting on-threshold and maximum levels of the individual channels on the hand.



The off-threshold is a predetermined offset from the on level. The on level (blue line) determines the level the electrode signal must reach before it is active. Once the signal reaches this level the hand operates until the signal drops below the predetermined off level. The maximum level (red line) sets the proportional range of the signal input.

With the signals displayed the electrode threshold and maximum levels can be adjusted using the relevant sliders. The strength of the signal is displayed as a green vertical bar with the peak signal indicated as single green line. On closing the form the settings are retained for configuring the hand using the **Send to Hand** option. The embedded animation system enables modification of the threshold settings to be sampled without the need to keep sending data to the hand. These can then be sent to the hand once the user is comfortable with the settings.

To turn on select **Proportional Animation** or **Threshold Animation** as highlighted below.

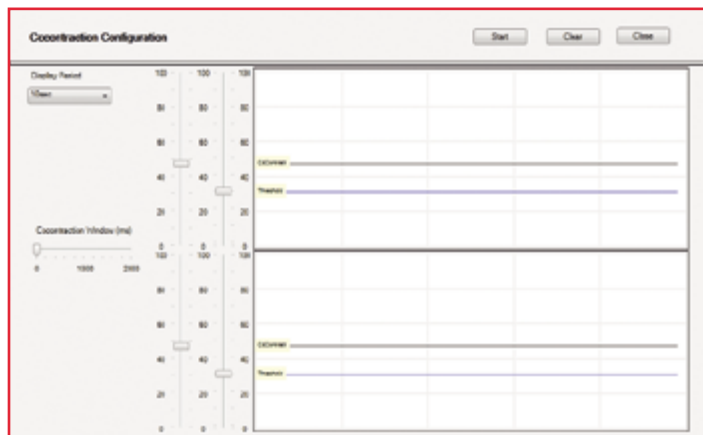


The animation shows Tripod Grip as the default, which will open and close in response to the electrode signals. By applying an OPEN-OPEN signal within a definable period (default 1sec) the hand will change to / from Power Grip.

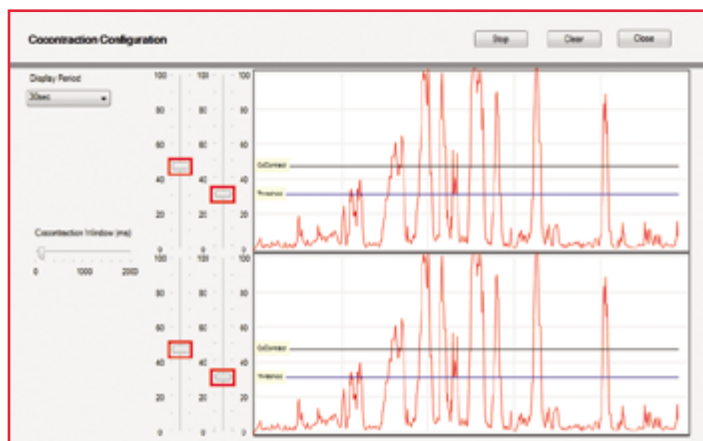
This system provides a useful 'myo' assessment tool for the upper extremity amputee, and also provides a training aid for use both pre and post prescription.

## Co-contraction

Selecting **Co-contraction** opens a form, shown below, to monitor and set the co-contraction signals. This option is only available when Mode 5 is selected from the drop down menu.



In Mode 5, co-contraction is used to move between default and alternate grip patterns. The blue horizontal lines show the on-threshold level set during the myo configuration process, and can be adjusted from this option if necessary.



The slider items highlighted on the image above are used to set the required characteristics of co-contrast signals. Clicking **Start** will initiate tracing of the electrode signal. One channel will be displayed with raising signals moving upward and the second channel raising signals moving downward. When the trace reaches the right hand side of the display it will stop. To continue click **Clear**, this will remove the previous trace and automatically start a new one. If you wish to stop the trace at any point, click **Stop**.

The display period can be changed by selecting the appropriate time period (10, 20 or 30 seconds) from the display period drop down menu (top left).

The black horizontal lines identify the co-contraction level and can be adjusted as necessary. The horizontal lines on the display area move simultaneously with the vertical slider.



The horizontal slider highlighted above (centre left) can be used to set the co-contraction time window.

A co-contraction signal is considered to exist when signals from both channel 1 and 2 pass through both the on-threshold and co-contraction within a designated timeframe (co-contraction window).

With the bebionic hand there is a 'soft' co-contraction option where the co-contraction threshold can be set lower than the on-threshold level. Providing that the peak signal does not exceed the on-threshold, a co-contraction signal will be considered to exist.

## 5.9 Advanced Features

In bebalance adjustment of more specific features can be accessed by clicking **Advanced**.



This opens an overlay form similar to the screen highlighted below. The features displayed will be appropriate to the mode selected.



### Grip Current

It is possible to select High, Medium or Low Grip Current. This setting provides adjustment of grip strength and battery consumption; the lower the setting, the lower the grip and current draw. Note: This has minimal effect on operation speed.

### Speed Control

Should you want to open or close the hand at less than maximum speed, the numeric up / down controls provide independent hand opening and closing speeds; 40 (default) being maximum.

### Timer Control

For modes 1, 2, 3 and 4 there are two numeric up / down controls to change mode timings. The upper control **Mode Change Period** sets the window of time to search for a mode change signal. In these modes additional signals received will have no effect and will be considered to be the same signal.

The lower control **Mode Return Period** sets the period after which the mode reverts to default where there has been no activity. Setting the slider to zero deactivates the revert feature. For Mode 5 there is no upper control as mode change is activated by a co-contraction signal.

### Dwell Threshold (Upper and Lower)

This feature is only used on Mode 1. The Upper control sets the time that the signal has to exist to be identified as a CLOSE signal. The Lower control sets the value for the period a signal has to be held once considered an OPEN signal.

### Signal Select and Increase on Threshold

This feature is used on Mode 4 and Mode 5. This feature offers **Open** and **First** protocols. The default is **Open** which means that the hand will move in response to receipt of the larger signal if both exceed the electrode on-threshold. When the **First** option is selected, the hand will open on receipt of the first signal to exceed the threshold and remains with this signal even if a larger opposing signal is received.

The exception to the **First** signal protocol is when an opposite signal exceeds the value of the controlling signal by the amount set on the **Minimum Dwell Threshold** control. If this happens the larger signal becomes the dominant signal. If multiple signals are received to open and close, the hand will continue to open unless the close signal exceeds the amount set on the **Minimum Dwell Threshold** control, which is a value above the standard electrode level.

### Dwell Threshold (Min and Max)

This feature is only used on Mode 2. The minimum control sets the level that the signal has to exceed within a time set by the maximum control.

### Direction Change Timer

This control is used in Mode 3 only. It is used to set the additional time window when a second signal will be accepted as an additional same direction movement. If set to zero, hand movement will alternate with the next detected signal.



A man with a white beard and mustache, wearing a light-colored cowboy hat and a plaid shirt, is working with a large pile of hay in a field. He is looking down at the hay. The background shows a line of trees and a clear sky.

be confident

***bebionic3***



# be**bionic**3

6.0 additional information,  
warranty, returns and  
repairs



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There are a number of field repairs and replacement parts that are available for the bebionic3. Instructions are set out in this section.

For further advice on any repairs please contact your local supplier or email: [bebionic@rslsteeper.com](mailto:bebionic@rslsteeper.com)

For both parts and service, please mention that the hand is a bebionic3 hand; include details on date of purchase, size (large or medium) and side (left or right).



# Repairs

## 6.1 Gaiter Removal

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1. Pull the rear strap down and over the EQD to reveal the serial number on the back of the hand.



2. Tilt the hand backward and stretch the strap over the bottom of the EQD.



5. Pull the gaiter away from the palm of the hand, making sure that the thumb cable stays in position.



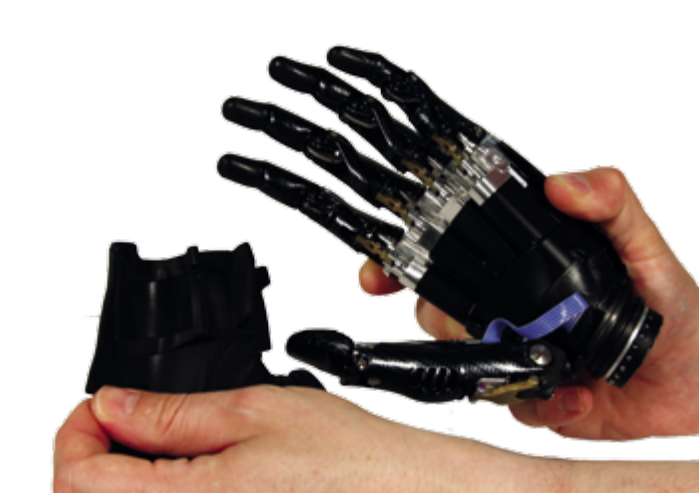
6. Taking care to avoid the thumb cable, pull the gaiter over the thumb and off the bebionic3 hand.



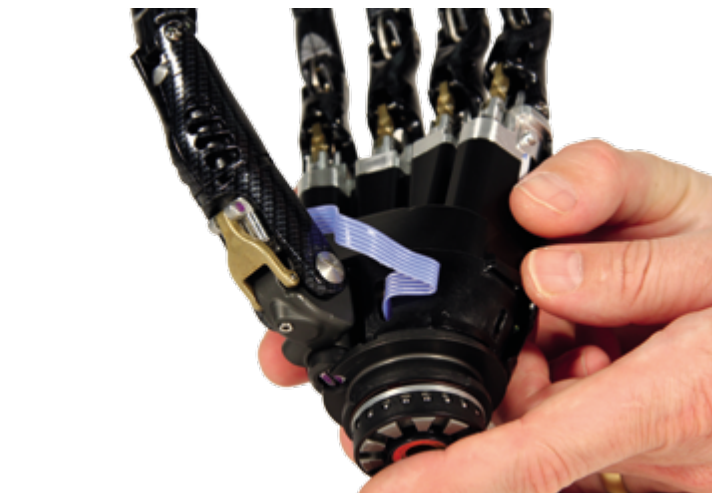
3. Using the screwdriver with the 1.50mm hex bit contained within the toolkit, loosen the screws in the rear cover.  
**Note:** Do not completely remove.



4. Slide gaiter flaps out from under the rear cover.



7. Completely remove the gaiter from the hand.



8. Note the thumb cable position, as this is key when refitting a new gaiter.



# Repairs

## 6.2 Gaiter Refitting

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1. Slide the thumb section of the gaiter over the thumb. Ensure the gaiter strap is under the thumb. Pay special attention to the thumb cable position.



2. Ensure the thumb section of the gaiter is pushed all the way to the gap shown in the image above.



5. Carefully push the flap all the way home under the rear cover.



6. Ensure there is as small a gap as possible between the gaiter and the rear cover.



3. Pull the gaiter strap around to the rear of the hand and up over the EQD.



4. Line up the sections of the hand highlighted with the sections of the gaiter when pushing the gaiter flaps under the rear cover. Pay special attention to the thumb cable position.



7. Retighten both of the screws in the rear cover.

**Note:** Do NOT overtighten.



8. Finished.

# Repairs

## 6.3 Clevis Link Replacement

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1. The clevis link has been designed to bend, should the hand be excessively loaded during use. If this should occur the part will need to be replaced so that the finger can be driven again.



2. Firstly ensure the thumb is in the nonopposed position and that all of the fingers are fully driven open. Then remove the pivot pin between the clevis and leadscrew with the bionic pivot removal pliers (Part:508-27430\*). Alternatively the pivot can be removed with the pin punch provided in the tool kit.

\*available for purchase separately.



5. Keeping the finger flexed, use needle point pliers to insert the pivot pin through both parts of the link.



6. Using a pair of standard pliers ensure that the pivot pin sits flush with the surface on both sides of the leadscrew.

**Note:** The pin is tapered and can only be inserted from one side.





3. Using a spare clevis link assembly from the tool kit. Place it into the slot in the proximal. Ensure that the curve of the clevis link curves away from the finger towards the palm.



4. Bend finger forward to align the holes for the pivot pin.



7. Ensure that the finger flexes fully forward and springs back to the upright position as shown in the two images above.



8. Finished.

## 6.4 Quality Assurance

RSLSteeper / SteeperUSA operate a UKAS approved quality management system and fully complies with the requirements of BS EN ISO 9001:2008, ISO27001:2005 & TickIT Issue 5. This certifies that RSLSteeper / SteeperUSA meet the appropriate international quality standards for design, manufacture and supply of prosthetic products and user software.

RSLSteeper is registered with both the **Medicines and Healthcare Regulatory Authority** in the UK and the **Food and Drugs Administration** of the United States Government for the manufacture and supply of prosthetics and orthotics products.

MHRA Registration N°: CA001031

FDA Registration N° : 9612243

FCC Registration N° : PBBGC350616

IC : 10634A-RSLRFBB

Model N°: RSL-RP609

Continued compliance with the standard is monitored by a programme of internal and external audits.

All individual products are marked indicating that they comply with the requirements of the Medical Devices Directive 93/42/EEC (MDD).

The  mark may be applied on packaging, accompanying literature or an enclosure, rather than the product itself.

The bionic hand and its associated components listed in this document are covered by test certificates for:-

BS EN 60601-1-2-2007

BS EN 60601-1-2006

BS EN 60950-1-2006

ETSI 300 440-2 V1.3.1 (2009-03)

ETSI 301 489-3 V1.4.1 (2002-08)

Electromagnetic Compatibility for Electronic Hand (EMC)

Medical Electrical Essential requirements for Safety

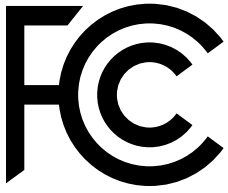
Information Technology Equipment for Safety

Electromagnetic Compatibility for RF Module

Electromagnetic Compatibility for RF Module

Additional internal and external test results and associated project documentation can be found in the Technical File RP609.





## FCC Warning Statement

- 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.
- This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
- Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
- The RSLSteeper bebionic Hand, Model: RSL-RP609, complies with Part 18 of the FCC Rules (Section 18.212).
- The antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20cm from all persons.
- The End product must have a label stating 'Contains FCC ID:PBBGC350616' place on it inline with FCC labelling regulations.

The FCC and IC information is located on the wrist plate.



## INDUSTRY CANADA STATEMENTS

*This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.*

*Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.*

*This radio transmitter (IC:10634A-RSLRFBB) has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.*

| Name / Model     | Gain | Impedance |
|------------------|------|-----------|
| 7488910245/Wurth | 1,0  | 50 Ohm    |

## OEM Responsibilities

The AMB2520-RSL Module has been certified for integration into products only by OEM integrators under the following conditions:

1. The antenna(s) must be installed such that a minimum separation distance of 20cm is maintained between the radiator (antenna) and all persons at all times.
2. The transmitter module must not be co-located or operating in conjunction with any other antenna or transmitter.

As long as the two conditions above are met, further transmitter testing will not be required. However, the OEM integrator is still responsible for testing their end-product for any additional compliance requirements required with this module installed (for example, digital device emissions, PC peripheral requirements, etc.).

## **IMPORTANT NOTE:**

In the event that these conditions can not be met (for certain configurations or co-location with another transmitter), then Industry Canada certification is no longer considered valid and the IC Certification Number can not be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate Industry Canada authorization.

### **End Product Labeling**

The AMB2520-RSL Module is labeled with its own IC Certification Number. If the IC Certification Number is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. In that case, the final end product must be labeled in a visible area with the following:

**“Contains Transmitter Module IC 10634A-RSLRFBB”**

or

**“Contains IC 10634A-RSLRFBB”**

The OEM of the AMB2520-RSL Module must only use the approved antenna(s) listed above, which have been certified with this module.

The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module or change RF related parameters in the user's manual of the end product.

The user's manual for the end product must include the following information in a prominent location:

**“To comply with Industry Canada RF radiation exposure limits for general population, the antenna(s) used for this transmitter must be installed such that a minimum separation distance of 20cm is maintained between the radiator (antenna) and all persons at all times and must not be co-located or operating in conjunction with any other antenna or transmitter.”**

# Radio Equipment - Canadian Warning Statements

## Radio Equipment - Canadian Warning Statements

"Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada.

To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication."

"This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:

- (1) this device may not cause interference, and
- (2) this device must accept any interference, including interference that may cause undesired operation of the device."

"Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada.

Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante."

"Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

- (1) l'appareil ne doit pas produire de brouillage, et
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement."

**"To comply with industry Canada RF radiation exposure limits for general population, the antenna(s) used for this transmitter must be installed such that a minimum separation distance of 20cm is maintained between the radiator (antenna) and all persons at all times and must not be co-located or operating in conjunction with any other antenna or transmitter."**

## 6.5 Warranty

### Warranty Terms

| Item                 | Warranty Period | Warranty Terms                            |
|----------------------|-----------------|-------------------------------------------|
| bebionic Hand        | 12 months       | Design and Manufacture                    |
| Cables               | 12 months       | Design and Manufacture                    |
| Wrist                | 12 months       | Design and Manufacture                    |
| Batteries / Chargers | 12 months       | Design and Manufacture, correct charging  |
| Gloves               | 3 months        | Design and Manufacture, not wear and tear |

An extended warranty is available for the bebionic hand, providing additional cover for year 2 or years 2+3.

### Hand Policy

Hands returned to the bebionic service centres will be assessed and where deemed beyond repair will be replaced. Where a claim is made under warranty, this claim must be supported by appropriate documentation. The warranty will be void on all system components if any components have been subject to abuse, repair or maintenance by an uncertified person, deliberate damage, loads beyond those for which the product was designed, or by modification or neglect. You must state that you wish us to supply a replacement.

To identify the hand serial number, lift the gaiter on the back of the hand. The serial number can be found underneath.

### Glove Policy

Cosmetic gloves are only replaceable under warranty where the failure is due to a manufacturing fault as we have no control over the environment in which they are used. Please inspect the glove at first fitting to identify any faults so that we can provide a replacement where necessary.

**Please note:** Each bebionic hand is fitted with a passive Radio Frequency Identity Device to allow identification and trace during manufacture and in case of return to our bebionic service centres.

## 6.6 Returns

If bebionic components are to be returned for servicing please contact us or your local distributor stating the hand's serial number. We will issue a returns number and returns form that will need completing in full so your request can be dealt with promptly.

### Spare Parts Policy

Some components of a bebionic system are replaceable by bebionic accredited practitioners.

For further advice on any repairs please contact your bebionic distributor or email us.

For both parts and service, please mention that the hand is a bebionic3 hand; include details on date of purchase, size (large or medium) and side (left or right).



# Notes



# Notes



Installation Disc

Please refer to page 39 for installtion instructions



be confident

be in control



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