



PROGRAMMING KEYBOARD

USER MANUAL

ISSUE 1, AUGUST 2003

LIBER·T

MEDTECH

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WARNINGS

- This manual has been drafted specifically to explain how to operate the Liber-T Medtech's Programming Keyboard. Read this entire manual carefully before attempting to modify any programming parameters with the programming keyboard. If you have any questions concerning the operation of your Liber-T Medtech's Electronic Wheelchair Controller, please refer to the corresponding Liber-T Medtech's Electronic Wheelchair Controller User Manual. If you have any questions concerning the operation of your wheelchair, please refer to the wheelchair Owner's Manual.
- It is possible to set up a control system so that it is unsuitable for some users and/or wheelchairs and this may involve risks of injury to the user. The Programming Keyboard should therefore only be used by qualified persons with excellent knowledge of Liber-T Medtech electronic control systems. Take care when programming a control system and if you need any advice in programming or selecting values, please do not hesitate to contact Liber-T Medtech. Liber-T Medtech accept no liability for losses of any kind if the programming of the control system is altered from his recommended values and/or if the drive or stability characteristics of the wheelchair are altered without prior notification and discussion with Liber-T Medtech.
- Before doing any modification to the parameters the healthcare professional must have carefully examined the operation of the chair and determined that a change will be safe and in the best interest of the user. Operation of the wheelchair must be closely monitored after any change in the settings, and if the chair operates in a hazardous or dangerous manner, the original settings must be reinstalled.
- When programming your control system, make sure that you observe any restrictions mentioned in your wheelchair user manual.
- The Liber-T Medtech Programming Keyboard must not be used in any other way than as described in this manual. Any attempt to gain access to or in any way abuse the electronic components and associated assemblies that make up the wheelchair control system renders the Manufacturer's Warranty void and the Manufacturer free from liability.
- Do not subject your Liber-T Medtech Programming Keyboard to water spray. Do not use your Liber-T Medtech Programming Keyboard after submersion in water or other liquids. If submersions occurs, return the unit to a qualified technician for service.
- Due to continuous product improvements, Liber-T Medtech reserves itself the right to update this manual. This manual supersedes all previous issues, which must not continue to be used.

- Do not operate Liber-T Medtech's Electronic Wheelchair Controller if it behaves erratically or shows any abnormal response, heating, smoke or arcing. Turn the system off, disconnect the battery and consult your Customer Service representative.

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1. WIRING INSTALLATION

1.1 PROGRAMMING KEYBOARD :

The programming keyboard includes a round CAN Bus connector (6 pins). To use the programming keyboard, you only have to plug a wire to this CAN Bus connector and to a similar CAN Bus connector on any Liber-T Medtech powered up unit. Then turn ON the programming keyboard with the 0/1 switch.

2. PROGRAMMING KEYBOARD

Several options and settings are available with Liber-T Medtech electronic controls. For easy setting, there is a programming keyboard to adapt the system according to each one needs.

WARNING:

It is recommended to note the parameters before doing any changes in the settings. When parameter changes were done, the wheelchair must be driven with all settings of the user controls, trying each level at low and high speed to make sure it operates correctly and safely. If the settings are not safe to use, put back settings, which are safe to drive with.

2.1 PROGRAMMING KEYBOARD DESCRIPTION

The programming keyboard includes many switches, which should be used as follows:

Press the **0/1** switch once to turn the unit ON and once more to turn it OFF.

Press on **CONFIRMATION** switch **OK** to make your selection.

Press on the **SELECTION** switches **▲** and **▼** to move the cursor to next line or increase and decrease the value.

Press on **OUT/CANCEL** to move back of one screen or cancel modification and go back one screen.

NOTE:

Since the screen can display 4 lines, the screen will scroll the options when using the switches ▼ or ▲ as indicated in the upper right corner.

When turning the programming keyboard on, the introduction text appears on Screen 1 and then is replaced with the Main menu (Screen 2) .

Screen 1 : Introduction Text

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Screen 2 : Main Menu

```

->LEVEL SETTINGS
PROGRAM CHOICE
GENERAL SETTINGS
INFORMATION

```

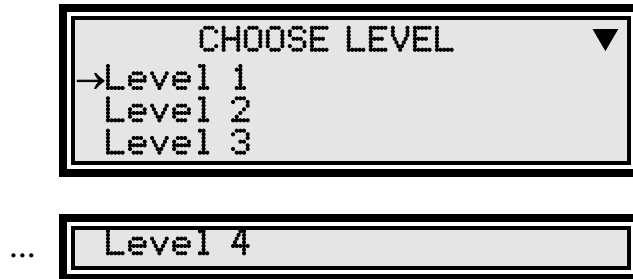
Choice	Section #
Level Settings	2.2
Program Choice	2.3
General Settings	2.4
Information	2.5

Press on **OK** to confirm the choice and to move to the screen specified on the right column.

2.2 LEVEL SETTINGS

The section « Level settings » is used to set each level according to the user's needs.

Screen 3 : Level Choice



Press on ▼ or ▲ to move the cursor to the desired level to be set.
 Press on OK to confirm the choice and display the level's adjustable parameters (Screen 4).

Note:
 With the integral controller Level 1 only is accessible.

Screen 4 : Level adjustable parameters

SET LEVEL 1 ▼
 →Max Fwd Speed 100%
 Max Rev Speed 50%
 Max Spin Speed 100%

...
 Turning Speed 100%
 Fwd Accel 40%
 Rev Accel 40%
 Turning Accel 40%
 Fwd Decel 40%
 Rev Decel 40%
 Turning Decel 40%
 Neutral Zone 15%
 Joystick Throw 100%
 Touchtone Yes
 Driving mode Mom.

Parameters	Section #
Max Fwd Speed	2.2.1
Max Rev Speed	2.2.2
Max Spin Speed	2.2.3
Parameters	Section #
Turning speed	2.2.4
Forward Accel	2.2.5
Reverse Accel	2.2.6
Turning Accel	2.2.7
Forward Decel	2.2.8
Reverse Decel	2.2.9
Turning Decel	2.2.10
Neutral Zone	2.2.11
Joystick Throw	2.2.12
Touchtone	2.2.13
Driving Mode	2.2.14

Press **OK** to confirm the choice and display the screen specified on the right column.

HINT:

To rapidly get a similar driving on the four levels, it is recommended to:

- 1) Adjust the Level 1 as desired
- 2) Copy the Level 1 on the Levels 2, 3 and 4 (refer to Screen 22)
- 3) Modify Levels 2, 3 and 4 as desired

2.2.1 FORWARD SPEED

Used to set the maximum forward speed of the wheelchair.

Screen 5 : Max. Forward Speed Adjustment



Press on **OK** to save the new value and to move back to Screen 4.

Note:

With the integral controller the Screen 6 will show up.

Used to set the minimum forward speed of the wheelchair.

Screen 6 : Min.Forward Speed Adjustment



Press on **OK** to save the new value and to move back to Screen 4.

2.2.2 REVERSE SPEED

Used to set the maximum reverse speed of the wheelchair.

Screen 7 : Max.Reverse Speed Adjustment



Press on **OK** to save the new value and to move back to Screen 4.

Note:
With the integral controller the Screen 8 will show up.

Used to set the minimum forward speed of the wheelchair.

Screen 8 : Min.Reverse Speed Adjustment



Press on **OK** to save the new value and to move back to Screen 4.

2.2.3 SPIN SPEED

The Spin Speed is used to set the maximum spinning speed of the wheelchair. This parameter sets the speed for a joystick position completely eastward or westward.

Screen 9 : Max.Spin Speed Adjustment



Press on **OK** to save the new value and to move back to Screen 4.

Note:
With the integral controller the Screen 10 will show up.

Used to set the minimum forward speed of the wheelchair.

Screen 10 : Min.Spin Speed Adjustment



Press on **OK** to save the new value and to move back to Screen 4.

2.2.4 *TURNING SPEED*

The Turning Speed feature is used to set the maximum turning speed of the wheelchair. This parameter sets the speed for a joystick position between north and east or west.

Screen 11 : Turning Speed Adjustment



Press on **OK** to save the new value and to move back to Screen 4.

Note:
With the integral controller this parameter is not available.

2.2.5 *FORWARD ACCELERATION*

The Forward Acceleration feature is used to set the wheelchair's forward acceleration .

Screen 12 : Forward Acceleration Adjustment





Press on **OK** to save the new value and to move back to Screen 4.

2.2.6 *REVERSE ACCELERATION*

The Reverse Acceleration feature is used to set the reverse acceleration of the wheelchair.

Screen 13 : Reverse Acceleration Adjustment



Press on **OK** to save the new value and to move back to Screen 4.

2.2.7 *TURNING ACCELERATION*

The Turning Acceleration feature is used to set the turning acceleration of the wheelchair.

Screen 14 : Turning Acceleration Adjustment



Press on **OK** to save the new value and to move back to Screen 4.

2.2.8 *FORWARD DECELERATION*

The Forward Acceleration feature is used to set the Forward deceleration of the wheelchair.

Screen 15 : Forward Deceleration Adjustment



Press on **OK** to save the new value and to move back to Screen 4.

2.2.9 REVERSE DECELERATION

The Reverse Deceleration feature is used to set the Reverse Deceleration of the wheelchair.

Screen 16 : Reverse Deceleration Adjustment



Press on **OK** to save the new value and to move back to Screen 4.

2.2.10 TURNING DECELERATION

The Turning Deceleration feature is used to set the turning deceleration of the wheelchair.

Screen 17 : Turning Deceleration Adjustment

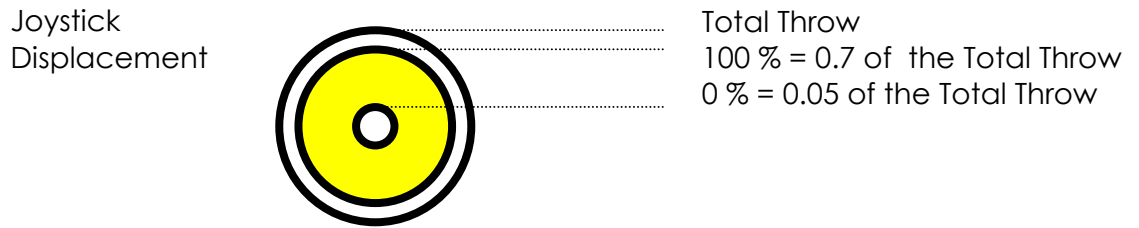


Press on **OK** to save the new value and to move back to Screen 4.

2.2.11 NEUTRAL ZONE

The Neutral Zone feature is used to increase the neutral zone whenever the joystick movements will not make the wheelchair move. The neutral zone is adjustable from 0.05 to 0.7 of the total throw. The scale is adjustable from 0 to

100 % by 5 % increments. For example, if the neutral zone is 100%, the wheelchair will not move until the joystick gets to 0.7 of its total throw.



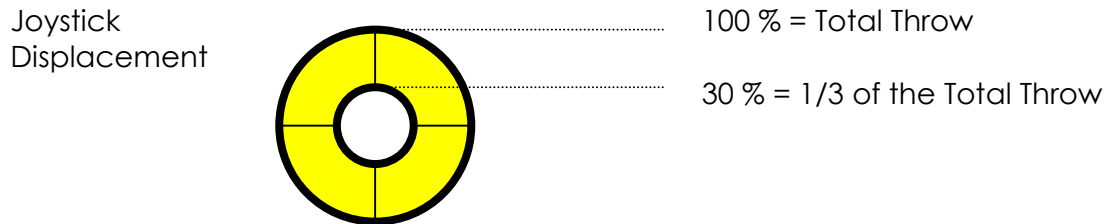
Screen 18 : Neutral Zone Adjustment



Press on **OK** to save the new value and to move back to Screen 4.

2.2.12 JOYSTICK THROW

The Joystick Throw is used to reduce the displacement of the joystick to get the maximum speed. For example, if the value of the throw is 30 %, when the joystick will get to 1/3 of its total throw, the wheelchair will achieve its maximum speed. Pushing the joystick further forward will maintain the maximum speed. This throw is adjustable from 30 to 100 % by 5 % increments.



Screen 19 : Joystick Throw Adjustment

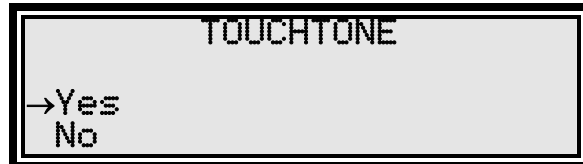


Press on **OK** to save the new value and to move back to Screen 4.

2.2.13 TOUCHTONE

If this Touchtone option is in active mode, each command will be confirmed with a tone.

Screen 20 : Touchtone Adjustment



Press on **OK** to save the new value and to move back to Screen 4.

Note:
With some integral controllers this parameter is not available.

2.2.14 DRIVING MODE

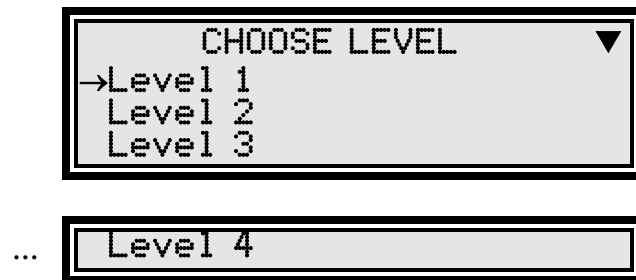
N.A.

Note:
With some integral controllers this parameter is not available.

2.3 PROGRAM CHOICE

In this section, you can choose between eight(8) different pre-programs, which can be adapted for typical groups of people. On Screen 22, each pre-program can be downloaded in one of the four selectable levels or it is possible to copy all the parameters of one of the four levels in another one.

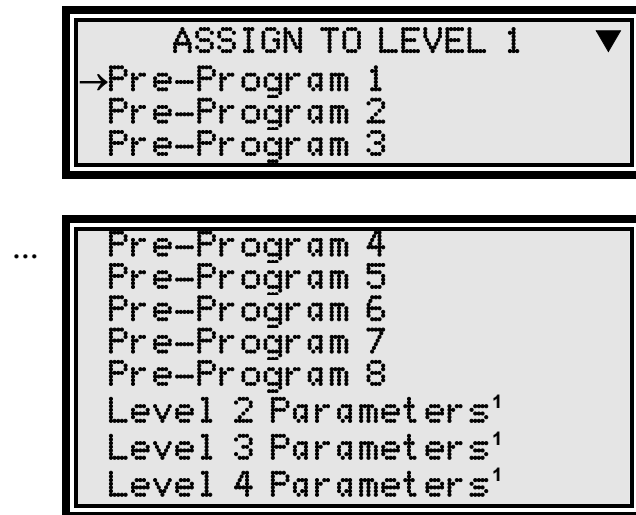
Screen 21 : Level's adjustable parameters



Press on **OK** to confirm the choice and display Screen 22.

Note:
With the integral controller Level 1 only is accessible.

Screen 22 : Assign Pre-program



Press on **OK** to assign the selected Pre-Program (or Level Parameters) to the chosen level and to move back to Screen 21.

¹ With integral controllers these parameters are not available.

2.4 GENERAL SETTINGS

The General Settings menu is used to set the controller according to the wheelchair and all the components on which it interacts. Some general parameters are also available on this menu.

Screen 23 : General Settings

<pre> GENERAL SETTINGS ▼ →Auto Shut Off Yes Arm. Auto Tune Yes Mot1 Arm. Res 220mΩ </pre>	<table border="1"> <thead> <tr> <th>Parameters</th> <th>Section #</th> </tr> </thead> <tbody> <tr> <td>Auto Shut Off</td> <td>2.4.1</td> </tr> <tr> <td>Arm. Auto Tune</td> <td>2.4.2</td> </tr> <tr> <td>Mot1 Arm.Res</td> <td>2.4.3</td> </tr> </tbody> </table>	Parameters	Section #	Auto Shut Off	2.4.1	Arm. Auto Tune	2.4.2	Mot1 Arm.Res	2.4.3																						
Parameters	Section #																														
Auto Shut Off	2.4.1																														
Arm. Auto Tune	2.4.2																														
Mot1 Arm.Res	2.4.3																														
<pre> ... Mot2 Arm. Res 220mΩ Motor1 Protection Motor2 Protection Suspension Yes Horn in Reverse Yes Date 04/01/2001 Time 17:52:14 Joystick Calib. Alignment Motor Swap No Mot1 Polar. Swap No Mot2 Polar. Swap No Selection Mode Dir. Drive Type Front </pre>	<table border="1"> <thead> <tr> <th>Parameters</th> <th>Section #</th> </tr> </thead> <tbody> <tr> <td>Mot2 Arm.Res</td> <td>2.4.4</td> </tr> <tr> <td>Motor1 Protection</td> <td>2.4.5</td> </tr> <tr> <td>Motor2 Protection</td> <td>2.4.6</td> </tr> <tr> <td>Suspension</td> <td>2.4.7</td> </tr> <tr> <td>Horn in Reverse</td> <td>2.4.8</td> </tr> <tr> <td>Date</td> <td>2.4.9</td> </tr> <tr> <td>Time</td> <td>2.4.10</td> </tr> <tr> <td>Joystick Calib</td> <td>2.4.11</td> </tr> <tr> <td>Alignment</td> <td>2.4.12</td> </tr> <tr> <td>Motor Swap</td> <td>2.4.13</td> </tr> <tr> <td>Mot1 Polar. Swap</td> <td>2.4.14</td> </tr> <tr> <td>Mot2 Polar. Swap</td> <td>2.4.15</td> </tr> <tr> <td>Selection Mode</td> <td>2.4.16</td> </tr> <tr> <td>Drive Type</td> <td>2.4.17</td> </tr> </tbody> </table>	Parameters	Section #	Mot2 Arm.Res	2.4.4	Motor1 Protection	2.4.5	Motor2 Protection	2.4.6	Suspension	2.4.7	Horn in Reverse	2.4.8	Date	2.4.9	Time	2.4.10	Joystick Calib	2.4.11	Alignment	2.4.12	Motor Swap	2.4.13	Mot1 Polar. Swap	2.4.14	Mot2 Polar. Swap	2.4.15	Selection Mode	2.4.16	Drive Type	2.4.17
Parameters	Section #																														
Mot2 Arm.Res	2.4.4																														
Motor1 Protection	2.4.5																														
Motor2 Protection	2.4.6																														
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Mot2 Polar. Swap	2.4.15																														
Selection Mode	2.4.16																														
Drive Type	2.4.17																														

Press on **OK** to confirm the choice and to move to the screen specified on the right column.

2.4.1 AUTO SHUT OFF

If YES is chosen, the controller will automatically turn OFF after 30 minutes whenever the wheelchair is in driving mode and if no command has been given.

Screen 24 : Auto Shut Off Adjustment



Press on **OK** to save the new value and to move back to Screen 23.

2.4.2 ARMATURE AUTO TUNE

If YES is chosen, the controller will automatically tune the motor armature resistances. If NO is chosen, the motor armature resistances will have to be set manually.

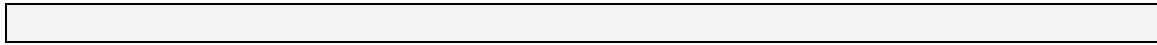
Screen 25 : Armature Auto Tune Adjustment



Press on **OK** to save the new value and to move back to Screen 23.

WARNING:

The armature resistance must be set according to the motor characteristics, cable and connector resistances. If the ARMATURE AUTO TUNE is set to YES, a qualified person must verify if the wheelchair reacts well to the autosetting and if the motor compensation does not react well, the Armature resistances of the motors must be set manually with the two following parameters: MOTOR1 ARMATURE RESITANCE and MOTOR2 ARMATURE RESITANCE. If the ARMATURE settings are not set well, the driving may be affected and the unit may drive unsafely, especially on gradients. The person who sets them must then be qualified and in case of any doubts concerning the settings, contact Liber-T Medtech for advices.



2.4.3 MOTOR 1 ARMATURE RESISTANCE

NB: Parameter accessible only if Armature Auto-Tune is set to NO.

The Motor 1 Armature Resistance feature is used to adapt the control to the motor 1 armature resistance.

Screen 26 : Motor 1 Armature Resistance



Press on ▲ or ▼ to increase or decrease the value.

Press on **OK** to save the new value and to move back to Screen 23.

2.4.4 MOTOR 2 ARMATURE RESISTANCE

NB: Parameter accessible only if Armature Auto-Tune is set to NO.

The Motor 2 Armature Resistance feature is used to adapt the control to the motor 2 armature resistance.

Screen 27 : Motor 2 Armature Resistance



Press on ▼ or ▲ to increase or decrease the value.

Press on **OK** to save the new value and to move back to Screen 23.

2.4.5 MOTOR1 PROTECTION

The Motor1 protection feature is used to set the current limitation to protect the motor1.

Screen 28 : Motor1 Protection

<pre> MOTOR 1 PROTECTION →C1= Max Current 100 A C2= Mid Current 75 A C3= Low Current 50 A </pre>	<table border="1" style="width: 100%;"> <thead> <tr> <th style="background-color: #e0e0e0;">Parameters</th> <th style="background-color: #e0e0e0;">Section #</th> </tr> </thead> <tbody> <tr> <td>C1= Max Current</td> <td>2.4.5.1</td> </tr> <tr> <td>C2= Mid Current</td> <td>2.4.5.2</td> </tr> <tr> <td>C3= Low Current</td> <td>2.4.5.3</td> </tr> </tbody> </table>	Parameters	Section #	C1= Max Current	2.4.5.1	C2= Mid Current	2.4.5.2	C3= Low Current	2.4.5.3		
Parameters	Section #										
C1= Max Current	2.4.5.1										
C2= Mid Current	2.4.5.2										
C3= Low Current	2.4.5.3										
<pre> ... T2= T. over C2 3 m T2 reset delay 10 m T3= T. over C3 3 m T3 reset delay 10 m </pre>	<table border="1" style="width: 100%;"> <thead> <tr> <th style="background-color: #e0e0e0;">Parameters</th> <th style="background-color: #e0e0e0;">Section #</th> </tr> </thead> <tbody> <tr> <td>T2= T. over C2</td> <td>2.4.5.2</td> </tr> <tr> <td>T2 reset delay10m</td> <td>2.4.5.2</td> </tr> <tr> <td>T3= T. over C3</td> <td>2.4.5.3</td> </tr> <tr> <td>T3 reset delay</td> <td>2.4.5.3</td> </tr> </tbody> </table>	Parameters	Section #	T2= T. over C2	2.4.5.2	T2 reset delay10m	2.4.5.2	T3= T. over C3	2.4.5.3	T3 reset delay	2.4.5.3
Parameters	Section #										
T2= T. over C2	2.4.5.2										
T2 reset delay10m	2.4.5.2										
T3= T. over C3	2.4.5.3										
T3 reset delay	2.4.5.3										

Select the parameter to set and press on **OK** to confirm the choice.

It is configured in such a way that three current levels can be set:

- C1= Max Current
- C2= Mid Current
- C3= Low Current

Whereas : $C1 \geq C2 \geq C3$

2.4.5.1 C1= MAX CURRENT

This is the maximum current level which should never be exceeded.

2.4.5.2 C2= MID CURRENT

This is a current level which may be exceeded for a limited maximum time set with T2.

Whenever the current goes over C2, a software time counter starts increasing. And whenever the current is equal to or lower than C2, the same time counter starts decreasing.

If the counter reaches the maximum time T2, the current is then limited to a maximum value of C2 for a time delay equal to the value set in the parameter "Delay to reset T2".

Once the "Delay to reset T2" is over, then the whole process is reset and the current can once more go over C2 for a time period of T2.

2.4.5.3 C3= LOW CURRENT

This is a current level which may be exceeded for a limited maximum time set with T3.

Whenever the current goes over C3, a software time counter starts increasing. And whenever the current is equal to or lower than C3, the same time counter starts decreasing.

If the counter reaches the maximum time T3, the current is then limited to a maximum value of C3 for a time delay equal to the value set in the parameter "Delay to reset T3".

Once the "Delay to reset T3" is over, then the whole process is reset and the current can once more go over C3 for a time period of T3.

Notes:

$$T3 \geq T2$$

The current limitation processes for C2 and C3 levels function separately from one another and are both constantly in process. Note that a reset of one of them does not reset the other one.

The preceding settings can be done separately for each motor (i.e. motor1 and motor2).
However, if one of the motors is limited to its current limitation C2, then the other motor will automatically be limited to its own C2 current limitation.
And, if one of the motors is limited to its current limitation C3, then the other motor will automatically be limited to its own C3 current limitation.

2.4.6 MOTOR2 PROTECTION

The Motor2 protection feature is used to set the current limitation to protect the motor2. Refer to Motor1 protection section for more details.

Screen 29 : Motor2 Protection

<pre> MOTOR 2 PROTECTION →C1= Max Current 100 A C2= Mid Current 75 A C3= Low Current 50 A </pre>	<table border="1"> <thead> <tr> <th>Parameters</th> <th>Section #</th> </tr> </thead> <tbody> <tr> <td>C1= Max Current</td> <td>2.4.5.1</td> </tr> <tr> <td>C2= Mid Current</td> <td>2.4.5.2</td> </tr> <tr> <td>C3= Low Current</td> <td>2.4.5.3</td> </tr> </tbody> </table>	Parameters	Section #	C1= Max Current	2.4.5.1	C2= Mid Current	2.4.5.2	C3= Low Current	2.4.5.3		
Parameters	Section #										
C1= Max Current	2.4.5.1										
C2= Mid Current	2.4.5.2										
C3= Low Current	2.4.5.3										
<p>...</p> <pre> T2= T. over C2 3 m T2 reset delay 10 m T3= T. over C3 3 m T3 reset delay 10 m </pre>	<table border="1"> <thead> <tr> <th>Parameters</th> <th>Section #</th> </tr> </thead> <tbody> <tr> <td>T2= T. over C2</td> <td>2.4.5.2</td> </tr> <tr> <td>T2 reset delay10m</td> <td>2.4.5.2</td> </tr> <tr> <td>T3= T. over C3</td> <td>2.4.5.3</td> </tr> <tr> <td>T3 reset delay</td> <td>2.4.5.3</td> </tr> </tbody> </table>	Parameters	Section #	T2= T. over C2	2.4.5.2	T2 reset delay10m	2.4.5.2	T3= T. over C3	2.4.5.3	T3 reset delay	2.4.5.3
Parameters	Section #										
T2= T. over C2	2.4.5.2										
T2 reset delay10m	2.4.5.2										
T3= T. over C3	2.4.5.3										
T3 reset delay	2.4.5.3										

Select the parameter to set and press on **OK** to confirm the choice.

Refer to "Motor1 protection" section for more details on the parameters.

2.4.7 *SUSPENSION*

The Suspension feature can be used whenever the wheelchair is using a suspension, selecting YES will add the suspension mode on the user interface menu.

Screen 30 : Suspension Adjustment



Press on **OK** to save the new value and to move back to Screen 23.

Note:
This parameter is available only on some controller models.

2.4.8 *HORN IN REVERSE*

The Horn in Reverse feature is used to set the horn in reverse direction.

Screen 31 : Horn in Reverse Adjustment



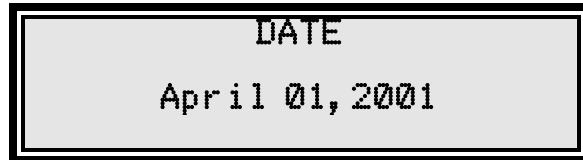
Press on **OK** to save the new value and to move back to Screen 23.

Note:
With some integral controllers this parameter is not available.

2.4.9 DATE

The Date feature is used to set the date of the system.

Screen 32 : Date Adjustment



The month will be blinking.

Press on ▲ or ▼ to increase or decrease the value.

Press on **OK** will switch to day adjustment.

Press on **OK** a second time will switch to year adjustment.

Press on **OK** a third time to confirm the new value and to move back to Screen 23

Note:

With integral controllers this parameter is not available.

2.4.10 TIME

The Time feature is used to set the time of the system.

Screen 33 : Time Adjustment



The hours will be blinking.

Press on ▲ or ▼ to increase or decrease the value.

Press on **OK** to switch to minutes adjustment.

Press on **OK** to switch to seconds adjustment.

Press on **OK** to confirm the new value and to move back to Screen 23.

Note:

With the integral controller this parameter is not available.

2.4.11 JOYSTICK CALIBRATION

The Joystick Calibration feature is used to calibrate the joystick.

Screen 34 : Neutral Calibration



JOYSTICK CALIBRATION
Leave Joystick on neutral
position & Press CONFIRM

Leave the joystick in neutral position.
Press on the LEVEL switch (on the joystick) to save the new values and to move to next screen.

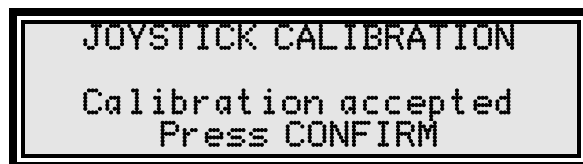
Screen 35 : Joystick Calibration



JOYSTICK CALIBRATION
Rotate joystick &
Press CONFIRM

Rotate the joystick completely around the maximum limits. The system will record the maximum values .
Press on the LEVEL switch (on the joystick) to save the new values, to have a confirmation of the calibration state (see next two temporary screens) and to move to Screen 23

Screen 36 : Joystick Calibration Accepted



JOYSTICK CALIBRATION
Calibration accepted
Press CONFIRM

Screen 37 : Joystick Calibration Rejected



If the calibration is out of range in any of the positions, the calibration is rejected, a fault indication is displayed on the user interface and the controller will keep the last calibration in memory.

2.4.12 ALIGNMENT

The Alignment feature is used to ensure that the wheelchair drives straight forward or reverse when the control is sending either a forward or a reverse command.

Screen 38 : Alignment Selection Adjustment



Press on **OK** to confirm the choice.

Selecting Forward will display Screen 39 whereas Reverse will display Screen 40.

Press on **OUT/CANCEL** to move back to Screen 23.

Note:

With the PREMIER (LTM-6000) controller this parameter is not available.

Screen 39 : Forward Alignment Adjustment



Normally it is set to 0. Depending on which side the wheelchair is veering you might have to press **▲** to increase or **▼** to decrease the value in order to drive straight forward when the control is sending a forward command.

Press on **OK** to save the new value and to move back to Screen 38.

Screen 40 : Reverse Alignment Adjustment



Normally it is set to 0. Depending on which side the wheelchair is veering you might have to press **▲** to increase or **▼** to decrease the value in order to drive straight reverse when the control is sending a reverse command.

Press on **OK** to save the new value and to move back to Screen 38.

2.4.13 MOTOR SWAP

The Motor Swap feature is used to swap the motor output connections (M1, M2) on the motor controller.

Screen 41 : Motor Swap



Press on **OK** to confirm the choice.

Selecting Yes will swap the motor output connections M1 and M2. If set to No, the normal condition will apply.

Note:

With the PREMIER (LTM-6000) controller this parameter is not available.

2.4.14 MOT1 POLAR. SWAP

The Mot1 Polar. Swap feature is used to swap the motor polarity of Motor1 connection on the motor controller.

Screen 42 : Motor Swap



Press on **OK** to confirm the choice.

Selecting Yes will swap the Motor1 polarity. If set to No, the normal condition will apply.

2.4.15 MOT2 POLAR. SWAP

The Mot2 Polar. Swap feature is used to swap the motor polarity of Motor2 connection on the motor controller.

Screen 43 : Motor Swap



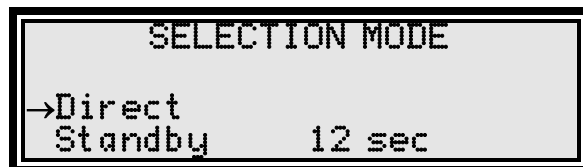
Press on **OK** to confirm the choice.

Selecting Yes will swap the Motor2 polarity. If set to No, the normal condition will apply.

2.4.16 SELECTION MODE

The user can choose between two different selection modes.

Screen 44 : Selection Mode Adjustment



The Direct Mode is selected to use the switches in a standard way. The StandBy Mode is used to eliminate the necessity of using switches to control the wheelchair. Please refer to the wheelchair controller user manual for detailed instructions on how to use the StandBy Mode.

If DIRECT is chosen press on **OK** to save the new value and to move back to Screen 23.

If STANDBY is chosen, move to screen 48 (see below)

Used to set the delay time used with the Standby mode. This time is adjustable between 2 and 120 seconds.

Screen 45 : Standby Time Adjustment



Press on **OK** to save the new value and to move back to Screen 23.

Note:
With the integral controller this parameter is not available.

2.4.17 *DRIVE TYPE*
N.A.

2.5 INFORMATION

With the programming keyboard you can get two types of information;
VERSION = identification of each version of all the units plugged in
TROUBLESHOOTING = details on the current and past warnings and faults.

Screen 46 : Information



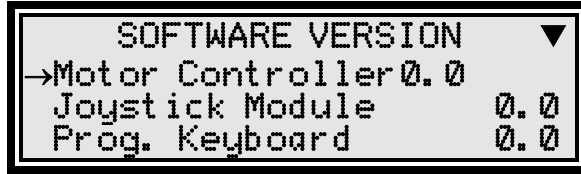
Choice	Section #
Versions	2.5.1
History Failure	2.5.2
Used Time	2.5.3

Press on **OK** to confirm the choice and to move to the screen specified on the right column.

2.5.1 *VERSIONS*

Screen 47 : Software Versions

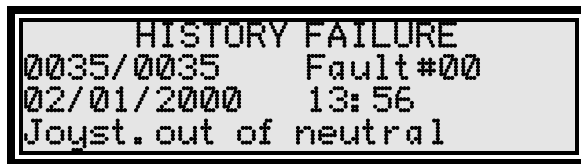




2.5.2 HISTORY FAILURE

The History Failure feature gives details concerning the past 1200 faults, including date and time.

Screen 48 : History Failure



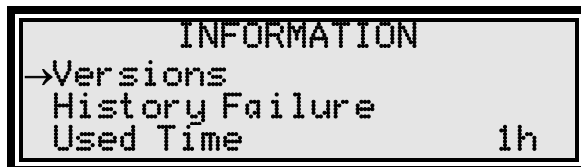
Press on ▲ or ▼ to move to the next or preceding fault.

Note:
With some integral controllers this parameter is not available.

2.5.3 USED TIME

The Used Time feature gives information on the total time the wheelchair has been driven.

Screen 49 : Used Time



Note:
With the integral controller this parameter is not available.

2.5.4 HEAD CONTROL DIRECTION

N.A.

Note:
With the integral controller this parameter is not available.

3. SALES AND SERVICE INFORMATION

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