NOTES
This document is provided as a consultation manual intended for the device technicians.

CEFLA s.c. follows a policy based on the constant development and update of the product. For this reason, it reserves the right to change the content of this manual without prior notice.

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The original version of this manual is in English.

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INFORMATIVE NOTE OF THE MANUFACTURER ON THE MEDICAL DEVICES

The medical device referred to in this manual is an X-ray device compliant with Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

Any tampering with, modification, updating or other change both of hardware¹ and software² of the device as supplied and installed by the company (and in the conditions specified in the attached documentation) may partially or totally compromise the device expected operation. This may also alter the safety features with consequent hazard increase for patients, operators and surrounding environment.

For this reason, should the user need to modify the device, he/she must request a written authorisation by CEFLA s.c.

Failure to comply with what is specified in this informative note will null and void the device warranty and the civil and/or penal responsibility for any consequent damage and/or accident and/or worsening of the patient, operator or other people health (including the surrounding environment) will be borne by the person who tampered with the device or his/her legal representative.
TABLE OF CONTENTS

1  TARGET AND APPLICATION FIELD .................................................................................. 1-1
   1.1 ATTACHED DOCUMENTS .......................................................................................... 1-1

2  PATIENT TABLE ............................................................................................................ 2-1
   2.1 SERVICE LEVEL PROCEDURES .................................................................................. 2-1
      2.1.1 Service Level Access ............................................................................................ 2-1
      2.1.2 TOOLS page ......................................................................................................... 2-2
         2.1.2.1 ACTIONS page ................................................................................................ 2-2
         2.1.2.2 LIMIT SWITCH page ....................................................................................... 2-4
      2.1.3 DATA DEBUG page .............................................................................................. 2-4

3  PATIENT TABLE WITH STRETCHER ............................................................................. 3-1
   3.1 SERVICE LEVEL PROCEDURES .................................................................................. 3-1
      3.1.1 Service Level Access ............................................................................................ 3-1
      3.1.2 TOOLS page ......................................................................................................... 3-2
         3.1.2.1 ACTION page ................................................................................................ 3-2
         3.1.2.2 LIMIT SWITCH page ....................................................................................... 3-5
      3.1.3 DATA DEBUG page .............................................................................................. 3-6
      3.1.4 Calibration sequence .............................................................................................. 3-7
      3.1.5 Troubleshooting ..................................................................................................... 3-9
      3.1.6 Hanning boards connections and interfaces (97661177 / 97661178) .................... 3-11
      3.1.7 List of patient table electronic boards .................................................................... 3-12
      3.1.8 Screens flow chart ................................................................................................. 3-14
1 Target and Application Field

This document provides information and instructions regarding the service functions of the NewTom 5G series Patient Table.

For more details about NewTom 5G series scanner unit, please refer to the “Service Manual” document.

This manual is intended for trained personnel recognized by the manufacturer of the NewTom 5G series devices.

Prior to operating or servicing this device, this manual must be read and understood.

Keep this and other associated manuals for future reference and for new operators or qualified service personnel.

1.1 Attached documents

- 5G - Patient Table Block Schematic
- 5G series - Patient Table with Stretcher Block Schematic
2 Patient Table

2.1 Service Level Procedures

Special keys combination of the table console, allow to enable SERVICE level ("support modality")

**DANGER:**
The usage of the SERVICE level by not authorized personnel can result in mechanical damages of the table and/or the scanner and injury of the user. The SERVICE level must be used without any patient on the table. Every movement can be stopped by pressing the emergency button located under the console keypad.

**WARNING:**
Pay attention while moving the patient's table in order to avoid possible collision with object and/or person.

2.1.1 Service Level Access

From the INFO page hold the ↓ button and press the ▼ button. The SERVICE Level modality will be enabled. In order to disable the SERVICE Level modality repeat the same sequence or turn off and on the device.

Once the SERVICE Level is enabled on the POS page the TOOLS page and DATA DEBUG page will appear. Each page can be selected by pressing the corresponding F1 or F2 buttons.

While in the POS PAGE it is possible to show some additional informations:

- the “X” position will toggle to the “ K ” position when pressing “ + ” on the console
- the “Pantograph Encoder” position will toggle to the “Pantograph Potentiometer” position when pressing “ - ” on the console
2.1.2 **TOOLS page**

In the **TOOLS page** is possible to select the

- “ACTIONS” page by pressing F1 button
- “LIMIT SWITCH” page by pressing the F2 button.
- “POS” page by pressing MODE button.

![TOOL page](image)

### 2.1.2.1 ACTIONS page

The **ACTIONS page** contain a scroll menu with a list of possible action to perform. The F1 and F2 buttons allow to move among the list of actions that can be selected pressing the MODE button.

![ACTIONS page](image)

Some actions require a password in order to be selected. In that case besides the description of the specific action a 4 digit value will appear. It possible to modify the value using the “+” and “-” buttons. The value will be incremented/decremented by 1, 10 or 100 units depending on the pressure duration. The value is reset every time the user scroll among different actions and if necessary the correct password must be typed again.

The **PASSWORD** value is **9469**.

![ACTIONS page showing action with password request](image)

Pressing the MODE button with a wrong password will result in showing for a few seconds a “**ACCESS DENIED!**” message.

The provided actions are:

- **MOVE ALL ON**: Allow to enable the single movement of all axis. After the command has been enabled the XY axis can be manually moved. Other movements (back rest plate, leg rest plate and pantograph) could required the corresponding “referencing” signal, before to be manually moved.

- **REF. LEGREST**: Search for the minimum leg rest plate limit switch; move the leg rest plate to 90°.
To be used in case, despite the activation of "MOVE ALL ON", the leg rest doesn't move.

- **REF. BACKREST**: Search for the minimum back rest plate limit switch; move the back rest plate to 90°. To be used in case, despite the activation of "MOVE ALL ON", the back rest doesn't move.

- **REF. LIFT MOTOR**: Search for the minimum pantograph limit switch; low down the pantograph to the minimum height. To be used in case, despite the activation of "MOVE ALL ON", the pantograph rest doesn't move.

- **CONSOLLE RIGHT**: Store the console position as at the patient's right.

- **CONSOLLE LEFT**: Store the console position as at the patient's left.

- **DAILY REFER.**: Perform the daily reset procedure (same as the first movement sequence required after the device has been turned on)

- **FULL REFER.**: Perform the complete reset procedure.

- **REF. UP-DOWN ALL [PW]**: Search for the minimum and maximum limit switch of back rest plate, leg rest plate, pantograph. Can be run only with the table in the seat position and chair all out of the gantry ($X = 0mm$). **ATTENTION**: risk of collision between mechanical parts!

- **LOAD DEFAULT [PW]**: Restore the original manufacturer settings (without resetting the calibrations)

- **GO PACKAGING [PW]**: Bring the table to the position for the packaging.

- **SET HORIZ POS [PW]**: Store in the EEPROM the current position of the back rest plate and consider it as the "Horizontal Headrest" position (position in which the the back rest plate is moved at the end of the “P1” button corresponding procedure).

- **SET SERIAL NUM [PW]**: Set the table serial number. The serial number can be adjusted by pressing the “+” and “-” buttons.

- **XY CALIBRATION [PW]**: XY axis board potentiometer calibration. To be performed only after replacement of the XY motor board and/or potentiometer. Can be run only with the table in the seat position. **ATTENTION**: risk of collision between mechanical parts!

- **POTENT.CALIB. [PW]**: Pantograph potentiometer calibration: to be run only after replacement of pantograph motor/potentiometer. Can be run only with the table in the seat position. **ATTENTION**: risk of collision between mechanical parts!

- **XY LIMITS OFF [PW]**: Disable the software limit switches for the XY motor (only the electric limit switches are enabled)

- **EXIT**: Exit from the ACTIONS page e return to the TOOLS page.

Once the desired action has been selected the monitor will prompt for the user confirmation.
Pressing the F1 button will confirm the request, pressing the F2 button will cancel the request and will return to the **Actions page**, pressing the MODE button will cancel the request and will return to the **Home page**.

After confirming the selected action, in case the action required movements or a sequence that takes a few seconds, at the end will automatically return to the HOME page, while if the action task can be carried out instantly the “**DONE**” message will appear for a few seconds before returning to the TOOLS page.

### 2.1.2.2 Limit Switch Page

In the **Limit Switch page** are shown the status of the Hardware limit switch for the X,Y,Z,L,B of the anti-pitch safety switches and of the hand crashing security and of the emergency button. An X sign shows the active signals. In the bottom right corner the software version is shown.

By pressing the MODE button is possible to return to the TOOLS page.

```
X Y Z L B A E
L X X
H X
```

**Limit Switch Page**

- **X** = X Axis (gantry in / out)
- **Y** = Patient’s left / right
- **Z** = Pantograph
- **L** = Legrest
- **B** = Backrest
- **A** = Anti-pitch safety switch status
- **E** = Emergency button switch status

### 2.1.3 Data Debug Page

In the **Data Debug page** appear data about the system status.

```
St = 0  T = 1234
E0 = 0  T0 = 0
E1 = 0  T1 = 0
E2 = 0  T2 = 0
D0 = 0000 D1 = 0
D2 = 0000 D3 = 00
```

**Data Debug Page**

- **St** represents the CPU status. It is 0 if OK.
- **T** represents the elapsed seconds from the device start up.
- **E0**, **E1** and **E2** contains the last three error codes and **T0**, **T1** and **T2** are the time corresponding to each error.

The **D0..D3** value can assume different meaning depending on the firmware. For version equal or more recent than 0.8 they represents:

- **D0**: pantograph potentiometer value corresponding to minimum limit switch.
- **D1**: 0 if the CAN communication is OK.
- **D2**: pantograph potentiometer value corresponding to maximum limit switch.
- **D3**: pantograph potentiometer current value

Pressing the MODE button is possible to return to the POS page.
3 Patient Table with stretcher

3.1 Service Level Procedures

Special keys combination of the table console, allow to enable SERVICE level (“support modality”)

**DANGER:**
The usage of the SERVICE level by not authorized personnel can result in mechanical damages of the table and/or the scanner and injury of the user. The SERVICE level must be used without any patient on the table.

**WARNING:**
Pay attention while moving the patient’s table in order to avoid possible collision with object and/or person.

**WARNING:**
Every movement can be stopped by pressing the emergency button located under the console keypad only if the patient table is powered through the 5G series gantry

3.1.1 Service Level Access

From the INFO page hold the button and press the button. The SERVICE Level modality will be enabled.

In order to disable the SERVICE Level modality repeat the same sequence or turn off and on the device.

**WARNING:**
If the service mode is enabled, all buttons are available in the console including longitudinal movements (FORWARD/BACK)

Once the SERVICE Level is enabled on the **POS page**, press:

- F1 to enter in the “TOOLS” page
- F2 to enter in the “DATA DEBUG” page
- MODE to return in the “INFO” page.
While in the POS PAGE it is possible to show some additional informations:

- Stretcher insertion longitudinal absolute quota [mm]
- Stretcher transversal movement absolute quota [mm]
- Stretcher vertical movement absolute quota [mm]
- Stretcher potentiometer relative quota [mm]
- Longitudinal pantograph movement relative quota [mm]
- Vertical pantograph movement relative quota [internal units]

3.1.2 TOOLS page

In the TOOLS page it is possible to select:

- “ACTIONS” page by pressing F1 button
- “LIMIT SWITCH” page by pressing the F2 button.
- “POS” page by pressing MODE button.

3.1.2.1 ACTION page

The ACTIONS page contain a scroll menu with a list of possible action to perform.

The F1 and F2 buttons allow to move among the list of actions that can be selected pressing the MODE button.

Some actions require a password in order to be selected. In that case besides the description of the specific action a 4 digit value will appear. It possible to modify the value using the “+” and “-” buttons and change digit by using “F1” and “F2”. The value is reset every time the user scroll among different actions and if necessary the correct password must be typed again. The PASSWORD value is **9753**.

If you press MODE button after entering a wrong password, you will return automatically to the ACTION page.
The provided actions are:

- **DISABLE COLLISION DETECTION**
  (ATTENTION: risk of collision between mechanical parts!)
  Disable the anticollision security. This settings stays enabled until the device is turned off. To restore the functionality refer to the command enable collision detection.

- **ENABLE COLLISION DETECTION**
  Enable the anticollision security (always enabled by default after device has been turned on).

- **COMPLETE BURNIN:**
  (ATTENTION: risk of collision between mechanical parts!)
  Perform 40 cycles of predefined movements. To stop the process keep pressed any button for a few seconds until the DONE.

- **BURNIN W/O TABLE:**
  (ATTENTION: risk of collision between mechanical parts!)
  Perform 20 cycles of predefined longitudinal and vertical pantograph movements. To stop the process keep pressed any button for a few seconds until the DONE.

- **CONSOLE RIGHT:**
  Store the console position as at the patient's right.

- **CONSOLE LEFT:**
  Store the console position as at the patient's left.

- **SET SERIAL NUMBER:**
  Set the table serial number. The serial number can be adjusted by pressing the “+” and “-” buttons. Change digit by the arrows keys.

- **NEW TABLE POT. TYPE:**
  To setup only in case the small potentiometer cod. 97643500 is mounted (enabled by default).
  Perform only for patient table with S/N: **0005 , 0012 and subsequent**

- **OLD TABLE POT. TYPE:**
  To setup only in case the big potentiometer 97643400 is mounted.
  Perform only for patient table with S/N: **0001 ÷ 0004 , 0006 ÷ 0011 (included)**

- **TABLE POT. CALIB:**
  Perform the stretcher potentiometer calibration.
  Slide all the way out the stretcher and press the MODE button. Once the procedure is succesfully carried out the sign DONE sould appear.

- **XY CALIBRATION:**
  (ATTENTION: risk of collision between mechanical parts!)
  XY axis board potentiometer calibration. To be performed only after replacement of the XY motor board and/or potentiometer. To perform also during the table installation

- **X CALIBRATION:**
  (ATTENTION: risk of collision between mechanical parts!)
  X axis potentiometer calibration. To be performed only after replacement of the X axis potentiometer. It is part of the XY CALIBRATION process

- **PANT. FC BOTTOM**
  (ATTENTION: risk of collision between mechanical parts!)
  Search for the minimum limit switch of the pantograph. Procedure performed during device manufacturing. It is part of the PANT FC BOTH procedure.

- **PANT. FC TOP**
  (ATTENTION: risk of collision between mechanical parts!)
Search for the maximum limit switch of the pantograph. It is part of the PANT FC BOTH procedure.

- **PANT. FC BOTH**
  (ATTENTION: risk of collision between mechanical parts!)
  Pantograph potentiometer calibration: to be run only after replacement of pantograph motor/potentiometer.
  This procedure includes both the PANT FC BOTTOM and PANT FC TOP processes.

- **SET 1177 PANTOGRAPH:**
  This procedure sets the firmware installed on the Hanning 97661177 pantograph board.

To set the board:

1) Disconnect C6 connector (5G - patient table).
2) Disconnect X207 connector located on 97661178 board.
3) Disconnect J8 connector located on 97660897 board.
4) Select “SET 1177 PANTOGRAPH” command from the service menu and press OK to confirm.
5) Turn off the machine.
6) Connect C6 connector (5G - patient table), J8 connector and X207 connector.
7) Turn on the machine and perform the “Pantograph potentiometer calibration” by select PANT. FC BOTH command from Service menu.

NOTE: It is possible to set only “not setted” boards.

- **SET 1178 TABLE:**
  This procedure sets the firmware installed on the Hanning 97661178 table board (located on the upper structure).

To set the board:

1) Disconnect C6 connector (5G - patient table).
2) Disconnect X207 connector located on 97661177 board.
3) Disconnect J8 connector located on 97660897 board.
4) Select “SET 1178 TABLE” command from the service menu and press OK to confirm.
5) Turn off the machine.
6) Connect C6 connector (5G - patient table), J8 connector and X207 connector.
7) Turn on the machine and perform the “Stretcher potentiometer calibration” by select TABLE POT. CALIB. command from Service menu.

NOTE: It is possible to set only “not setted” boards.
• **RESET HANNING BOARDS:**
This procedure delete the firmware installed on the Hanning boards (97661177 pantograph board and 97661178 table board).

To reset the boards:

8) Disconnect C6 connector (5G - patient table)

9) Disconnect J8 connector located on 97660897 board.

10) Disconnect X207 connector located on 97661178 board if you want to reset 97661177 board OR Disconnect X207 connector located on 97661177 board if you want to reset 97661178 board.

11) Select “RESET HANNING BOARDS” command from the service menu, insert the password and press OK to confirm.

12) Turn off the machine.

13) Connect C6 connector (5G - patient table), J8 connector and X207 connector.

14) Turn on the machine.

• **EXIT:**
Exit from the ACTIONS page and return to the TOOLS page.

If the action task is carried out, “DONE” message will appear for a few seconds before returning to the ACTIONS page.

3.1.2.2 LIMIT SWITCH page

In the LIMIT SWITCH page are shown the status of the hardware limit switch for the X,Y,Z,LT,UT, A (anti-pitch safety switches and of the hand crashing security) and E (emergency button).

A white / black small circle shows the active signals. By pressing the MODE button is possible to return to the TOOLS page.
The following table shows the meaning of each limit switch

<table>
<thead>
<tr>
<th>Limit switch</th>
<th>L status</th>
<th>H status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>X Stretcher Longitudinal movement switches</td>
<td>○</td>
<td></td>
<td>Pantograph all the way out of the gantry</td>
</tr>
<tr>
<td></td>
<td></td>
<td>○</td>
<td>Pantograph all the way toward the gantry</td>
</tr>
<tr>
<td>Y Stretcher Transversal movement switches</td>
<td>○</td>
<td></td>
<td>Stretcher completely on the left</td>
</tr>
<tr>
<td></td>
<td></td>
<td>○</td>
<td>Stretcher completely on the right</td>
</tr>
<tr>
<td>Z Pantograph vertical movement switches</td>
<td>○</td>
<td></td>
<td>Pantograph in the lowest position</td>
</tr>
<tr>
<td></td>
<td></td>
<td>○</td>
<td>Pantograph in the highest position</td>
</tr>
<tr>
<td>LT Stretcher completely out of the gantry switch</td>
<td>○</td>
<td></td>
<td>Stretcher all the way out of the gantry</td>
</tr>
<tr>
<td>UT Unlock table switch</td>
<td>○</td>
<td></td>
<td>Stretcher lock</td>
</tr>
<tr>
<td>A Anti-pitch safety switch</td>
<td>●</td>
<td></td>
<td>AntiPinch activated</td>
</tr>
<tr>
<td>E Emergency button switch</td>
<td>●</td>
<td></td>
<td>Emergency button activated</td>
</tr>
</tbody>
</table>

3.1.3 DATA DEBUG page

In the DATA DEBUG page appear data about the system status.

<table>
<thead>
<tr>
<th>REC=</th>
<th>TEC=</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAN CA0</td>
<td>CAN CA1</td>
</tr>
<tr>
<td>CAN CA2</td>
<td>CAN CA1</td>
</tr>
<tr>
<td>E0=</td>
<td>E1=</td>
</tr>
<tr>
<td>E2=</td>
<td>E3=</td>
</tr>
</tbody>
</table>

DATA DEBUG page

REC= N° of received data packets with errors
TEC= N° of trasmitted data packets with errors
CAN CA0= CAN tree status: if “Ok” connection is good, if “NOk” connection failed
CAN CA1= CAN tree status: if “Ok” connection is good, if “NOk” connection failed
CAN CA2= CAN tree status: if “Ok” connection is good, if “NOk” connection failed
E0,E1,E2,E3= Contains the last four error codes

Press any button to return to the POS page.
### 3.1.4 Calibration sequence

**WARNING:**
In case of it is necessary to perform PANT. FC BOTH calibration, if the patient table is mechanical connected with the 5G series gantry, exit from TOOLS page, slide the stretcher completely out of the gantry and completely draw back the pantograph by using BACK button.

In case of **table installation**, **console replacement** or **firmware update**, perform the following calibrations:

1. Insert the device serial number (following procedure SET SERIAL NUMBER)
2. Set the console position (following procedure CONSOLLE RIGHT/ LEFT)
3. Select the right type of mounted potentiometer (following procedure NEW TABLE POT. TYPE / OLD TABLE POT. TYPE)

**OLD TYPE** potentiometer (cod. 97643400)
mounted on patient table with S/N: 0001 ÷ 0004, 0006 ÷ 0011 (included)
NEW TYPE potentiometer (cod. 97643500)  
mounted on patient table with S/N: 0005, 0012 and subsequent

4) Calibration of the stretcher potentiometer (following procedure TABLE POT. CALIB)

5) Calibration of the pantograph potentiometer (following procedure PANT. FC BOTH)

6) XY Calibration (following procedure XY CALIBRATION)

Once all the calibration steps has been carried out restart the device and verify the correct functionality.

In case of potentiometer replacement or after adjustment of the limit switch position follow the next steps:

1) Select the type of mounted potentiometer (following procedure NEW TABLE POT. TYPE / OLD TABLE POT. TYPE)

2) Calibration of the stretcher potentiometer (following procedure TABLE POT. CALIB)

3) Calibration of the pantograph potentiometer (following procedure PANT. FC BOTH)

4) XY Calibration (following procedure XY CALIBRATION)

Once all the calibration steps has been carried out restart the device and verify the correct functionality.

In case of replacement of boards responsible for the pantograph movement or for the stretcher position reading please contact service support.
### 3.1.5 Troubleshooting

The following table shows the stretcher / pantograph the correct ranges verificabili from the "POS" page (by pressing P1 button and with the stretcher completely extracted from the gantry)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stretcher insertion longitudinal absolute quota</td>
<td>310 ÷ 320 [mm]</td>
</tr>
<tr>
<td>Stretcher transversal movement absolute quota</td>
<td>-5 ÷ 5 [mm]</td>
</tr>
<tr>
<td>Stretcher vertical movement absolute quota</td>
<td>735 ÷ 745 [mm]</td>
</tr>
<tr>
<td>Stretcher potentiometer relative quota</td>
<td>≤ 2 [mm]</td>
</tr>
<tr>
<td>Longitudinal pantograph movement relative quota</td>
<td>200 ÷ 210 [mm]</td>
</tr>
<tr>
<td>Vertical pantograph movement relative quota</td>
<td>300 ÷ 315 [internal units]</td>
</tr>
</tbody>
</table>

The following table shows the stretcher / pantograph the correct ranges verificabili from the "POS" page (by pressing P2 button and with the stretcher completely extracted from the gantry)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stretcher insertion longitudinal absolute quota</td>
<td>220 ÷ 230 [mm]</td>
</tr>
<tr>
<td>Stretcher transversal movement absolute quota</td>
<td>-5 ÷ 5 [mm]</td>
</tr>
<tr>
<td>Stretcher vertical movement absolute quota</td>
<td>515 ÷ 525 [mm]</td>
</tr>
<tr>
<td>Stretcher potentiometer relative quota</td>
<td>≤ 2 [mm]</td>
</tr>
<tr>
<td>Longitudinal pantograph movement relative quota</td>
<td>260 ÷ 270 [mm]</td>
</tr>
<tr>
<td>Vertical pantograph movement relative quota</td>
<td>47 ÷ 57 [internal units]</td>
</tr>
</tbody>
</table>
The following table includes error codes that could appear on the console display and possible causes / solutions.

<table>
<thead>
<tr>
<th>Err. Code</th>
<th>Description</th>
<th>Possible causes / Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Power supply of Hanning boards &lt; 26VDC</td>
<td>40VDC power supply of Hanning boards may be missing or may not be connected properly.</td>
</tr>
<tr>
<td>2</td>
<td>Power supply of Hanning boards &gt; 43VDC</td>
<td>40VDC power supply of Hanning boards not be connected properly.</td>
</tr>
<tr>
<td>5</td>
<td>Motor or Hanning pantograph board overheating</td>
<td>Wait 2 minutes and try again the movement. If the error persists, there may be a malfunction of the pantograph motor or the pantograph is not free to move.</td>
</tr>
<tr>
<td>9</td>
<td>Overcurrent peak output to Hanning pantograph board</td>
<td>There may be a malfunction of the pantograph motor.</td>
</tr>
<tr>
<td>13</td>
<td>Short-circuit output to Hanning boards</td>
<td>The pantograph motor may be faulty, or incorrect wiring of the motor power supply: X102, X103, X104 on one of the Hanning boards.</td>
</tr>
<tr>
<td>16</td>
<td>Enable external command not present on Hanning boards</td>
<td>May be missing the enable jumper between pins 3 and 2 of X208.</td>
</tr>
<tr>
<td>17</td>
<td>Hanning pantograph board movement sequence time out</td>
<td>The Hanning board may be faulty or not programmed properly or the pantograph motor is locked.</td>
</tr>
<tr>
<td>18</td>
<td>Error on the start of the movement of the Hanning pantograph board.</td>
<td>The Hanning board may be faulty or not programmed properly.</td>
</tr>
<tr>
<td>128</td>
<td>Internal timing error on one of the Hanning boards.</td>
<td>The Hanning board may be faulty or not programmed properly.</td>
</tr>
<tr>
<td>129</td>
<td>System error of Hanning boards</td>
<td>The Hanning board may be faulty or not programmed properly.</td>
</tr>
<tr>
<td>131</td>
<td>Reset for Hanning boards error</td>
<td>The Hanning board may be faulty or not programmed properly.</td>
</tr>
<tr>
<td>132</td>
<td>Reset for power supply change in Hanning boards</td>
<td>40VDC power supply of Hanning boards may have undergone rapid &gt; 5 VDC.</td>
</tr>
<tr>
<td>133</td>
<td>Software reset of Hanning boards</td>
<td>The Hanning board may be faulty or not programmed properly.</td>
</tr>
<tr>
<td>140</td>
<td>CRC error on parameters reading of hanning boards</td>
<td>The Hanning board may be faulty or not programmed properly.</td>
</tr>
<tr>
<td>141</td>
<td>Read error of Hanning board table</td>
<td>The Hanning board may be faulty or not programmed properly.</td>
</tr>
<tr>
<td>142</td>
<td>Read error on parameters of Hanning boards</td>
<td>The Hanning board may be faulty or not programmed properly.</td>
</tr>
<tr>
<td>150</td>
<td>XY axes controller board doesn’t send regularly the status message.</td>
<td>The board may be turned off, faulty or CANBUS is not working properly.</td>
</tr>
<tr>
<td>151</td>
<td>Hanning pantograph board doesn’t respond correctly if cyclically interrogated</td>
<td>The board may be faulty, not powered or with wrong address. CAN may be faulty.</td>
</tr>
<tr>
<td>152</td>
<td>The Hanning board that control the stretcher position and handle release doesn't respond properly if cyclically interrogated</td>
<td>The board may be faulty, not powered or with wrong address. CAN may be faulty.</td>
</tr>
<tr>
<td>210 ÷ 213</td>
<td>Error during motion started by remote control</td>
<td>The system can not reach the required positions or the movement is stopped before its completion.</td>
</tr>
<tr>
<td>253</td>
<td>There is a position mismatch between the potentiometer and pantograph encoder</td>
<td>It may not have been carried out a correct calibration, the Hanning board may have lost some encoder count or may be an hardware problem to encoder, potentiometer or wiring.</td>
</tr>
<tr>
<td>254</td>
<td>Calibration data stored in the console are not compatible with the new firmware version just installed and consequently restored</td>
<td>The console board may have been replaced or updated with new firmware without calibrations.</td>
</tr>
</tbody>
</table>
3.1.6 Hanning boards connections and interfaces (97661177 / 97661178)

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>X202, X203</td>
<td>Motor temperature sensor</td>
</tr>
<tr>
<td>X204</td>
<td>Hall sensor</td>
</tr>
<tr>
<td>X200, X201</td>
<td>Power supply</td>
</tr>
<tr>
<td>X102, X103, X104, X105</td>
<td>Motor</td>
</tr>
<tr>
<td>X205</td>
<td>Control connection 1</td>
</tr>
<tr>
<td>X206</td>
<td>Control connection 2</td>
</tr>
<tr>
<td>X207</td>
<td>Digital interface</td>
</tr>
<tr>
<td>X208</td>
<td>Enable</td>
</tr>
</tbody>
</table>

**Operational display**

The operational mode is displayed with a yellow LED (VD119).

<table>
<thead>
<tr>
<th>Signal</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>LED on</td>
<td>Inverter is ready</td>
</tr>
<tr>
<td>LED flashes 3 times</td>
<td>Error</td>
</tr>
<tr>
<td>LED flashes off for short period</td>
<td>Drive on (motor PWM on)</td>
</tr>
</tbody>
</table>

Table 7-1  Operational display

**Status display**

Status is displayed with a yellow LED (VD118).

<table>
<thead>
<tr>
<th>Signal</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>LED on</td>
<td>No message</td>
</tr>
<tr>
<td>LED flashes 3 times</td>
<td>The current position is unknown.</td>
</tr>
<tr>
<td>LED flashes (symmetric)</td>
<td>Error on CAN bus</td>
</tr>
</tbody>
</table>
3.1.7 List of patient table electronic boards

UPPER STRUCTURE BOARDS

1) 97661178 (97660848) – TABLE BOARD
2) 97660897 - XY MOTORS CONTROL BOARD
3) 97660888 – MANAGEMENT BOARD

PANTOGRAPH BOARDS

1) 97660905 – POWER SUPPLY BOARD
2) 97661177 (97661071) – PANTOGRAPH MOTOR BOARD
3.1.8 Screens flow chart

Options
DISABLE COLLISION DETECTION
ENABLE COLLISION DETECTION
COMPLETE BURNIN
BURNIN W/O TABLE
CONSOLE RIGHT
CONSOLE LEFT
SET SERIAL NUMBER
NEW TABLE POT. TYPE
OLD TABLE POT. TYPE
TABLE POT. CALIB.
X CALIBRATION
XY CALIBRATION
PANT. FC BOTTOM
PANT. FC TOP
PANT. FC BOTH
SET 1177 PANTOGRAPH
SET 1178 TABLE
RESET HANNING BOARDS
EXIT
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