

Digital Remote Controlled Table with dynamic flat panel detector

User's Manual

REVISIONS HISTORY

Revision	Date	Reason for change
0	30 January 2015	First edition Of reorganisation of the manuals

Please read the whole documentation before using the medical device



TABLE OF CONTENTS

Note to the user	6
Guarantee conditions	7
Environmental protection	8
Safety and protection	9

1. C	DESCRIPT	10N	13
1.1.	Generalit	ties	13
1.2.	Table co	ntrol console	14
	1.2.1.	Table switching on	14
	1.2.2.	Table switching off	14
	1.2.3.	Tube movements controls with joystick	15
	1.2.4.	Column reset button	15
	1.2.5.	Collimator shutters controls with joystick	15
	1.2.6.	Automatic collimation mode	15
	1.2.7.	Light beam switching on	15
	1.2.8.	Compression controls (option)	16
	1.2.9.	Unique control for autopositioning	16
	1.2.10.	Detector IN / OUT (for version with removable detector)	16
	1.2.11.	Centring controls with joystick	16
	1.2.12.	Tabletop longitudinal movement	17
	1.2.13.	Tabletop height and tilting with joystick	17
	1.2.14.	Tabletop reset button	17
	1.2.15.	Exposure controls	17
	1.2.16.	Touch screen display	18
1.3.	Automati	ic collimator	19
1.4.	Remote h	handswitch	20

2.	OPERATI	ON	21
2.1.	Switchi	ng on	21
2.2.	Detecto	r positionning (for version with removable detector)	22
2.3.	Patient	positioning	23
	2.3.1.	Accessories Installation	23
	2.3.2.	Patient Installation	23
	2.3.3.	Patient positioning	24
2.4.	Table a	utopositioning	25
2.5.	Prepara	tion for exposure	26
2.6.	Generat	tor interface use	27
	Refer	to Generator interface User Manual	
2.7.	Digital s	system control console use	27
	Refer	to Digital System User Manual	
2.8.	Detecto	r use (for version with removable detector)	27
2.9.	Tomogr	raphy use	28
2.10). Stitchin	g use (option)	
2.11	. Motoris	ed compression system use (option)	31
3.	TABLE M	AINTENANCE	32
3.1.	Cleani	ing and disinfecting	
3.2.	Prevei	ntive maintenance	33
4.		IESSAGES	34
4.1.	Informa	tion messages	34
4.2.	Operati	on messages	36
4.3.	Failure	messages	
4.4.	Service	messages	

IMPORTANT ! ... X-ray Protection X-RAY EQUIPMENT IS DANGEROUS TO BOTH PATIENT AND OPERATOR UNLESS MEASURES OF PROTECTION ARE STRICTLY OBSERVED

X-ray equipment if not properly used may cause injury. Accordingly, the instructions herein should be thoroughly read and understood before attempting to place this equipment in operation. We will be glad to assist and cooperate in placing this equipment in use.

Although this apparatus is built to the highest safety standards and incorporates a high degree of protection against X-radiation other than the useful beam, no practical design of equipment can provide complete protection. Nor can any practical design compel the operator to take adequate precautions to prevent the possibility of any persons carelessly, unwisely, or unknowingly exposing themselves or others to X-radiation.

It is important that everyone working with X-radiation be properly trained and take adequate steps to insure protection against injury.

The manufacturer assumes that all operator and service personnel authorized to use, install, calibrate and maintain this equipment is cognizant of the danger of excessive exposure to X-radiation, is sufficiently trained and has the required knowledges for it. The equipment herein described is sold with the understanding that the manufacturer, its agents, and representatives are not liable for injury or damage which may result from exposure to X-radiation. Various protective material and devices are available. It is recommended that such materials and devices be used.

In normal use, (detector integrated into the table as image receptor) the reference axis of the X-ray beam must form an angle of 90 ° with the surface of the tabletop, so that the X-ray beam corresponds to the image area. There is an indexing system, activated by the buttons on the tube cover that automatically positions the X-ray tube assembly at 0° , + / -90° and 180°.

Be sure that in normal use (detector in the table) the X-ray tube assembly is well positioned at 0 ° with the indexing system.



NOTE TO THE USER

Your X-ray department has just purchased a Digital Dynamic Remote System with flat panel detector.

We congratulate you on this choice, and are sure you will be fully satisfied with its use and diagnostic capabilities.

These radiology units offer high quality and advanced technology.

To become familiar with its operation and make the most of its performance, the use of this equipment is conditioned by the initial training received during approximately 5 days, depending on the X-ray service requirements, provided during entry into service as well as the careful reading and understanding of the full user manual.

Read all documentation before using the medical device.



Keep this manual with the others in a safe place so that you can easily refer to it in the future. Thank you for your confidence.

GUARANTEE CONDITIONS

It is the responsibility of the user to ensure that the government regulations respecting installation and operation of the equipment are observed.

Incorrect operation or failure of the user to maintain the equipment in accordance with the schedule of maintenance relieves the manufacturer or his agent from all responsibility for consequent non-compliance, damage, injury, defects and/or other malfunction.

In normal use, the table must be fixed to floor by eight screws M8x120. Refer to Service manual, in « Mounting » chapter in paragraph « Implementation to floor ». No specific foot exists for the control console: it must be layed on the shelf behind the shield but it is not necessary to fix it.

Refer to Service manual for any question related to the installation of the remote controlled table.

In any case of trouble, please contact the authorized company in charge with the equipment.

Refer to Service Manual to obtain pieces of information retated to:

- functioning, transport, and to storage of the equipment,
- the conditions necessary for installation of the equipment,
- the preparation for use of the equipment,
- the replacement of fuses, power supply cords and other parts,
- the circuits diagrams, and to the list of components,
- mains isolation.

The installation and equipment must not be used if any mechanical, electrical or radiation-emitting component is defective, or if the procedures described in the schedule of maintenance have not been carried out.

Changes and additions to the equipment may only be carried out by the manufacturer or by third parties expressly authorized by the manufacturer to do so. Such changes must comply with local regulations and accepted standards of good practice.

In case the power lines do not meet the specifications given in section A "Preinstallation" of the Service Manual, the table cannot reach its maximum performance and the standard use cannot be guaranteed.

Technical files (diagrams, parts list, measurement procedure and so on...) are available on request to the manufacturer.

ENVIRONMENTAL PROTECTION

This equipment or system contains environmentally dangerous components and materials (electronic boards, electronic components, lead, transformers, etc...) that, once the life-cycle of the equipment or system comes to end, becomes dangerous and need to be considered as harmful waste according to the international, domestic and local regulations.

Please, contact the manufacturer once the life-cycle of the equipment or system comes to end and before remove this equipment or system.



Label in compliance with 2002 / 96 / EC European Directive

SAFETY AND PROTECTION

X-rays are not innocuous and can be dangerous if used badly. You must, therefore, take precautions even when following the instructions in this manual.

Are entitled to use the remote controlled table physicians specialized in radiology and medical imaging as well as medical electroradiology operators, these users receive initial and ongoing training in radiation protection to implement these measures.

X-rays units manufactured by the manufacturer comply with the strictest safety standards in force throughout the world. They guarantee optimum protection against radiation risks.

Nonetheless, you are handling a unit specifically designed to generate X-rays to allow medical diagnosis on a film or using a digital imaging system. Consequently, despite the inherent safety of our equipment, we recommend using conventional commercially available equipment to protect yourself and your patient against scattered radiation risks.

The following instructions must be strictly observed:

1- Safety:

✤ Use only the following accessories supplied by the manufacturer:

- Remote control
- Compression band and compression winches
- Footrest
- Stool
- Handles
- Double pedal
- OPTIONAL ACCESSORIES:
- Triple pedal
- Cup holder
- Pair of shoulder rests
- Pair of gynaecological stirrups
- Retaining bar
- Compression ladle
- Compression plexi
- IV-Pole
- Multi FPD lateral support
- 1m ruler for stitching
- Ruler support for stitching
- 10cm ruler for measuring
- Ruler support for measuring
- Secondary console

Note: applied parts, as defined in the general requirements for basic safety and essential performance are tabletop, footrest, stool, handles, compression band, pair of shoulder rests, pair of gynaecological stirrups, retaining bar, compression ladle, compression plexi.

Reminder: the applied part is defined as the part of the electromedical device (EM) which in normal use is necessarily in physical contact with the patient so that the EM device or EM system performs its function.

- Equipment described herein is unsuitable for operation where and when flammable gasses or vapours are present.
- It is vital that an authorized distributor carries out the assembly, extensions, adjustments, modifications and repairs. Also, your radiology unit must be installed in premises that comply with IEC provisions and the standards in force.
- ✤ Any modification, not recommended or not approved by the manufacturer, is prohibited
- Use care must be taken to prevent injury to the patient. Ensure that patient's clothing cannot be trapped in the equipment. The user must ensure that the patient remains to the specified handgrips.
- So For examinations without using the detector inside support, that is to say for direct exposure in the room, for example with one additional portable detector put on the tabletop (elbow, hand ...), the user must position the patient at the head of the table and not on lateral side.
- The normal load of patients should be done when the tabletop is in the central position
- * The system « 120 cm tabletop movement » works only for patient loading in lying position, from stretcher to tabletop. In this case, the heights of the stretcher and the table must be identical. Never let the patient at the end of the tabletop. When the tabletop is out, do not sit or exert pressure on the tabletop.
- The patient must be correctly and securely positioned (using handgrips, footrest...), before moving or tilting the table.
- Solution The user must always ensure that there are no obstacles that would interfere with the table. Ensure that accessories such as shoulder supports, leg supports or footrest are correctly fixed to the table.
- When the table is switched on, an operator must be in the exam room while a patient is on or close to the table.
- In the event of mains supply microcuts, control inverter fault may happen for the motor of carriage, column, tilting or longitudinal tabletop movement (120cm one). Then you have to switch off the table with the general ON /OFF and switch it on again two minutes later.
- Safety signs:



General warning sign



Warning: dangerous voltage



Follow operating instructions



CAUTION : X-RAYS

2- X-ray protection:

- ♦ Use the smallest possible X-ray field
- Use the shortest possible fluoroscopy time
- 🗞 Use the highest possible Skin-Focus distance, in order that the patient dose is the lowest possible
- Check the good condition of working for the X-ray tube and detector
- Keep as far away from the beam as possible
- buring exposure, personnel not directly involved with the patient must go behind lead or lead-glass shielding
- Should the collimator be damaged, it must be repaired or replaced before the equipment is returned to service
- It is important that all procedures dealing with X-ray radiation must be made by personnel that is qualified and fully acquainted with the radiation protection
- 3- Ionizing radiation

♥ Risks



Risks associated with ionizing radiation depend on the dose delivered during an examination but also the accumulation of dose during several successive examinations. The purpose of radiation protection is to prevent or reduce these risks.

♦ Nature of hazard

The user is faced with the risks associated with ionizing radiation. Therefore, if the user does not respect safety regulations put in place, he can be exposed to a radiation hazard

♥ Precautions

Two main rules regarding radiation protection are daily implemented: justification and optimization.

The justification lies in the fact that, as with any medical procedure, the benefit must be greater than the risk. Although the risk of low doses is not demonstrated, caution is to consider that they can be responsible. Therefore the achievement of examination with ionizing radiation is well thought out and weighed.

The optimization of doses is the role of the users who need the least radiation necessary to obtain an examination to answer questions.

♦ Contraindications



There are no contraindications to the achievement of a radiographic examination except for pregnant women. The case of examination requiring the injection of contrast product, for patients suffering from a particular disease or have allergies, should be studied and requires taking certain precautions before intervention.

Refer to the chapter "Radiation protection and imaging performance". Also note that the use of a second console in room should be done within the significant zone of occupancy, or a greater distance from the x-ray beam.

4- Electromagnetic risks:

✤ Emission:

This equipment can cause electromagnetic inteferences to other apparatuses, medical or not. For adapted protection against interferences, the equipment is in compliance with the criteria of CEI 60601-1-2 medical standard and EN 55011 emission standard, class A

✤ Immunity:

In order to avoid disturbances risks for the table, it is recommended not to use apparatuses that generate Radio Frequency energy intentionally, in the vicinity.

Switch off these apparatuses when they are close to the remote controlled table.

Equipments or instruments operating in the vicinity of table must be in compliance with the ElectroMagnetic Compatibility standards.

- 5- Electrical Hazards
- The remote controlled table may cause electrical hazards in very rare cases.
 In order to provide the most effective protection possible, it has been designed to meet the requirements of Article 8 of IEC 60601-1 "Protection against electrical hazards from electromedical equipments."
 It is recommended to refer to the manuals before any maintenance on this device.
- ✤ No additional multiple portable socket outlet or extension cord shall be connected to the system.
- Do not connect items which are not specified as part of the system.
- When a non medical electrical equipment, which has been supplied as a part of the system, is directly connected to the wall outlet, the user does not benefit from the specific protections of the system power supply, notably concerning the leakage currents.
- When an electric equipment, which has not been supplied as a part of the system is connected to a socket outlet dedicated to the system, it can be prejudicial to the safety of the system.

WARNING: To avoid electric shock, this unit must be connected only to a mains supply with a protective ground.

- 6- Cleaning:
 - Solution Always disconnect the equipment from the general mains supply before cleaning or disinfecting.
 - Avoid water or other liquid to enter the equipment, as such liquid may cause short circuits and/or some corrosion.
 - It must be noted that some disinfectants vaporise, forming potentially explosive mixtures. Should such disinfectants be used, the vapours must first be allowed to disperse before the equipment is returned to use.

In the event of failure to comply with these instructions, the manufacturer shall not be held responsible for the safety, reliability and characteristics of the machine.

Your distributor will be pleased to help you with the initial use of your unit and to answer any subsequent questions you may have.

1. DESCRIPTION

1.1. GENERALITIES

This remote control table is a universal X-ray examination table with variable height fully digitized & microprocessor controlled and developed for easy and fast examinations in fluoroscopy and radiography.

The table is suited for functional and for anatomical examinations with the patient in any position.

This multipurpose table is designed for performing following examination on adults, children and babies:

Radiography exams:

- > General x-ray procedures: skull, chest, abdomen, pelvis, spine, extremities ...
 - Tomography
 - Extremities (skyline patella, weight bearing exams ...)
 - Paediatrics (baby pelvis ...)
 - Stitching (option)

> Dynamic exams:

- Full digestive tract
- Uro-genital system
- Endoscopy
- Arthrography
- Myelography
- Paediatrics
- DSA (option)

This list of procedures is not an exhaustive one, but gives an idea of the wide range of possibilities that the system offers.

1.2 TABLE CONTROL CONSOLE

Note: a seconday console is optional. The way to use it is almost the same as for the main console. On secondary console, a locking key activates the main console (and thus activates the infrared control handswitch and inactivates the secondary console) OR activates the secondary console (and thus inactivates the infrared control handswitch and inactivates the main console).

The controls of axes as collimator shutters, detector rotation (for version with removable detector), or zoom change can be done on the two consoles whatever locking system position is.

The secondary console allows triggering the emission of X-rays, but it is not possible to perform parameter Λ settings, Generator interface is not available.

WARNING: The secondary console should only be connected to the power cable located in the table output

1.2.1. TABLE SWITCHING ON

1 (I) button on the back of the control console switches on the table.



1.2.2. TABLE SWITCHING OFF

(O) button on the back of the control console switches off the table.

(O) button on the back of the control console swicthes off the generator

One emergency stop button on the main control console (n°2)



Two other emergency stop buttons are located on the table, one on each side of detector support.

Note: these emergency stop buttons only stop the table movements.





1.2.13. TABLETOP HEIGHT AND TILTING WITH JOYSTICK

23 Table height UP movement
23
24 Table height DOWN movement
25 Trendelenburg (negative) tilting
26 Positive (to vertical position) tilting
25 26
1.2.14. TABLETOP RESET BUTTON
27 Table horizontal stop
27

1.2.15. EXPOSURE CONTROLS

- 28 Preparation (1st trigger) control
- 29 X-ray emission (2nd trigger) control



Radiography can be also performed by pressing the pedal indicated by the symbol with preparation control (1st trigger) and X-ray emission control (2nd trigger) as for standard protocols with two buttons on the table console.

Fluoroscopy is performed by pressing the pedal indicated by the symbol

Cine mode is performed by pressing the pedal indicated by the symbol (for versions with this functionality, please refer to the user manual of digital system).

IMPORTANT ! ... X-ray Protection

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It is important that everyone working with X-radiation be properly trained and take adequate steps to insure protection against injury. The manufacturer assumes that all operator and service personnel authorized to use, install, calibrate and maintain this equipment is cognizant of the danger of excessive exposure to X-radiation, is sufficiently trained and has the required knowledges for it. The equipment herein described is sold with the understanding that the manufacturer, its agents, and representatives are not liable for injury or damage which may result from exposure to X-radiation. Various protective material and devices are available. It is recommended that such materials and devices be used.

1.2.16. TOUCH SCREEN DISPLAY

- AUTO Ŗ 180 cm 90° 8 0 ° 93 CM 131 cm 43 cm 36 cm २३३ KVp: mAs: --狀 KVp: mAs: -CAM TABLE GEN X
- 30 LCD screen to display parameters (example below)

This screen shows the parameters according to the anatomical programming for table, generator and can display images from video camera for centring without fluoroscopy.

It indicates the name of position in anatomical programming (if not, it indicates "manual positioning"), with values of SID, column and tilting angles, height of tabletop regarding floor, height of detector centre regarding table foot border, shutters opening, zoom if selected.

For the video camera, it displays the parameters of table and the image filmed by the camera in real time. Refer to the following chapter "2. OPERATION"

For the generator, it displays the interface to modify exposure parameters as kV, mA, s, mAs, AEC selection ... Refer to the following chapter "2. OPERATION"

It also displays error or warning message, or messages asking the user to input information.

For more details and explanations, refer to the following chapter "2. OPERATION"

1.3 AUTOMATIC COLLIMATOR



- > The LCD screen indicates SID value, lateral and longitudinal blades openings in cm.
- > The knobs that disengage the motor driving of blades permit to collimate manually.
 - 8 shutter longitudinal opening
 - 9 shutter longitudinal closing
 - 10 shutter lateral opening
 - 11 shutter lateral closing
- These soft keys control the opening or closing of the collimator motorised blades in order to limit the X-ray beam. The final image field can be checked by switch on the collimator lamp. These controls can be used in both Automatic and Manual modes.
 - 13 This soft key is used to switch on the collimator lamp. It is on for approximately 20 seconds.
- > When green LED turns On, automatic collimation mode is ready.
 - The red LED turns momentarily On when the blades are moving and/or the system is NOT ready. X-rays are inhibited.
- Not used.
- Soft key to select the filtres manually, choice between no filtration, 0.1mm Cu added to 1mm Al, 0.2mm Cu added to 1mm Al, 1mm Al added to 1mm Al. This selection is made automatically with anatomical progamming from the main console. It is possible to set different filtres between fluoro and graphy. The current used filtre is displayed in front of the corresponding icon. You can select the filtre using + and keys.

1.4 REMOTE HANDSWITCH

The major functions are available in the room using the remote handswitch:



- Incidence movement: correspond with the controls 5, 6 & 7 of the main console
- Collimation controls: correspond with the controls 8, 9, 10 & 11 of the main console and of the collimator
- Light beam switching on: corresponds with the control 13 of the main console and of the collimator
- Carriage movement: corresponds with the controls 19 of the main console
- Tabletop lateral movement: correspond with the controls 20 of the main console
- > Move control: corresponds with the control **16** of the main console
- Tabletop longitudinal movement: correspond with the controls 21 &
 22 of the main console
- SID movement: correspond with the controls 3 & 4 of the main console
- Detector rotation: no correspondence with any control of the main console, only active for version with removable detector
- Compression movement (optional): correspond with the controls 14
 & 15 of the main console
- Tilting movement: correspond with the controls 25, 26 & 27 of the main console
- Table height movement: correspond with the controls 23 & 24 of the main console
- Detector IN/OUT movement: correspond with the controls 17 & 18 of the main console, only active for version with removable detector

WARNING

Controls: to ensure patient safety, it is essential that the operator keeps eye contact with the patient whereas he controls table motion.

2. OPERATION

2.1. SWITCHING ON

Switch on the X-ray room general contactor, then the following contactors:

- > For Table: press button 1, the LCD display lights up, the table is ON
- > Then all other equipment in the room



When the table main console switches on, the following screen is displayed.

AUTO	
	<u>م</u> 180 cm بنه 90 °
	(♀) 131 cm
	43 cm
	∔ 36 cm
	<u> <</u>
∭ KVp: mAs: ⊟ KVp: mAs:	
TABLE CAM	GEN_X

Note: in this manual, in the corresponding fixed icons, the term "TABLE" is used for the table, "CAM" for the camera and "GEN_X" for the generator



For digital system and generator (detector, control console and generator interface), please refer to corresponding user manuals.

2.2. DETECTOR POSITIONING (for version with removable detector)

The version of remote controlled table with removable detector has a slightly different interface, because the main screen display icons that concern this detector.



CAUTION: Before any table movement, chek that the detector is in right place for the exam, physically inserted in the table or free in room, and by software that will indicate the following on the first screen



The detector is in place, inserted, in landscape format.

HEAD table side FOOT table side

You can change the orientation by pressing the icon

	1	



The detector is in place, inserted, in portrait format. You can change the orientation by pressing the icon



The detector is inserted, but its orientation is not detected. Please, check if there is any detector positioning trouble firstly by pressing again the icon, and if nothing happens, remove the detector, insert it again. If the same icon appears, press again the icon. If nothing happens, call After-Sales Service



The detector is not detected in place, inserted. Please, correct this situation verifying that the detector is there and correctly inserted.

2.3. PATIENT POSITIONING

CAUTION: Before any table movement, overall tilting or tabletop movements, make sure there are no obstacles that can collide during movement.

WARNING

Controls: to ensure patient safety, it is essential that the operator keeps eye contact with the patient whereas he controls table motion.

2.3.1. ACCESSORIES INSTALLATION

- In order to ensure equipment reliability, use only accessories supplied with the table (1 footrest, 1 stool, 2 handles, 2 winches and compression band). The user is held solely responsible if use of accessories not supplied by the manufacturer.
- The handles can be placed anywhere in the rails of the tabletop, except at the center of rails where a slot is. Flip the lever on the side opposite to the handle, insert the handle into rail to the desired location and then flip the lever on the other side to lock the handle
- The compression winches can be placed anywhere in the rails of the tabletop: put the table in horizontal position, loosen the small knob, insert the winch support by one or the other end of the rail, place the winch to the desired location and tighten this knob. For the second winch, repeat the operation and place it symmetrically to the first one. Then, put each metal end of band inside winch slot and make compression by rotating assymetrically axes of winches thanks to large knobs.
- The footrest can be placed anywhere in the rails of the tabletop, except at the center of rails where a slot is: put the table in horizontal position, grasp the footrest with two handles, tighten the left one and insert the white wheels precisely aligned in the rails of the tabletop. Slide the footrest to the desired position and release the left handle that blocks the brake. To remove the footrest, grasp the two handles, tighten the left one and press the tab on the right. Slide the footrest to get completely out of rails.
- > The footrest can not be positioned at centre of tabletop

2.3.2. PATIENT INSTALLATION

- If accessories are to be used to secure the patient in position, refer first to the relevant fitting instructions.
- Set the table in horizontal (or < & >) or vertical >> position according to the examination (tilting control).
- In the case of recumbent patients, it is advised to move the tabletop fully towards the head end and opposite to the column u, and to lower the table , to allow maximum access by an assistant when transferring a patient from a trolley.

2.3.3. PATIENT POSITIONING

- > Using tilting (\checkmark & \checkmark), carriage (P, tabletop | ateral (P, tabletop | ongitudinal (P, a P)) and incidences ($(\textcircled{P}, \texttt{a} \not{P})$) movements, position the patient according to the examination.
- > Set the SID ($\hat{\mathbf{Q}} \& \hat{\mathbf{Q}}$) according to the examination.
- Switch on the collimator light beam (☑)
 It is possible to reduce the X-ray field using the joystick that controls collimator shutters (H, #, ±, ±)

Adjust the patient position using the previous movements.

- Check the position using video camera (and finalizing with fluoroscopy if really necessary, refer to Digital System User manual for fluoro mode).
- The variable height of the table (& -) can be used during examination to fit the optimum height for the doctor.

Note: the table positions (vertical and horizontal) usually used can be registered during installation for rapid positioning of table before installing the patient. Afterwards, patient positioning can be adjusted as explained above.

Note: the maximum patient load on the tabletop and on the removable footrest is 230 kg without any movement limitation. A patient having a maximum weight of 310 kg is also authorized with tabletop in horizontal centred position provided the user does not do the following movements: elevation, tilting, longitudinal tabletop movements and lateral tabletop movements.

2.4. TABLE AUTOPOSITIONING

> Select an anatomical programme on Digital system control console

Refer to Digital System User manual

The following screen appears on the table control console and displays the table parameters in relation with the selected anatomical programme

	АИТО	
	<u>A</u>	90 ° م بسبر 180 cm
	、空,	0° 🔶 93 cm
		131 cm
		43 cm
	H H	36 cm
	<u> < </u>	⊙ ⊕
∭ KVp: mAs: ∐ KVp: mAs:		ĬĬĬ
TABLE	CAM	GEN_X

- Install and position the patient as explained in chapter 2.3. This can be done before or after table positioning regarding the exam to do and user working habits.
- CAUTION: Before any table movement, overall tilting or tabletop movements, make sure there are no obstacles that can collide during movement.
 To prevent injury to the patient, ensure that patient's clothing cannot be trapped in the equipment. Ensure that the patient remains to the specified handgrips.
 The patient must be correctly and securely positioned (using handgrips, footrest...), before moving or tilting the table.
 - Then, press the "MOVE" button and hold it down until the table raises its final position as shown on the illustration on the left, the message "position reached" is displayed

2.5. PREPARATION FOR EXPOSURE

- Table autopositioned and patient installed, switch on the collimator light beam (
- Check the position using video camera (and finalizing with fluoroscopy if really necessary, refer to Digital System and Generator interface User manuals for fluoro mode). On touch screen, press "CAM" icon and the following screen appears:

	Αμτο
	Ω 180 cm بنه 90 °
	<u>م</u> • • • • • • • • • • • • • • • • • • •
	(♀) 131 cm
	43 cm
	<u>₹</u> ₹₹ ⊙ ⊙
∭ KVp: mAs: ∐ KVp: mAs:	ĬĬĬĬ
TABLE	CAM GEN_X

The white rectangular on the left displays usually the video images that correspond to the zone where you are collimating

- > Adjust the patient position using the movements described previously in chapter 2.3.
- > It is possible to reduce the X-ray field using the collimator shutters manual control joystick $(\exists, \ddagger, \mp, \mp)$
- After modifying parameters if needed (refer to corresponding manuals), make the exposure using exclusively the controls on the main table console: press the first trigger (preparation) button and holding down this button, press the second trigger (emission) button Preparation and emission buttons must be held down until the buzzer sounds off indicating the exposure end.
- The acquired image appears few seconds later on Digital system control console.
 Refer to Digital System User manual for image post-processing, page-setting, sending, archiving ...

2.6. GENERATOR INTERFACE USE

> Press GEN_X key, to get access.

It is possible at any time to go to Table or Camera menu pressing TABLE or CAM.

> Refer to generator interface User Manual for more details

2.7. DIGITAL SYSTEM CONTROL CONSOLE USE

> Refer to Digital System User Manual

2.8. DETECTOR USE (for version with removable detector)



To remove the detector from its rotating support, press Detector-OUT button \bigcirc . The support moves to Portrait format, the tabletop moves laterally to maximum on column side; when movements are finished, the detector is accessible, then release the key. Press the latch, unplug the detector from the connector on left side and then remove it.

To insert the detector, press Detector-IN button . When movements are finished, release the key, insert the detector in its support and connect it.

Refer to Digital System User Manual

2.9. TOMOGRAPHY USE

After selecting the tomography protocol on Acquisition console LCD screen, press MOVE until the table reaches its position. The following screen shows on the table console:



The buttons and labels have the following meaning:



- > You can adjust the Fulcrum and incrementation if needed.
- Choose a tomography speed and angle. Once selected, the tomography time is displayed. Make sure that it is the same as the one mentioned in the tomography protocol that you selected on the Acquisition console LCD screen. If not, you can change the combination by pressing another speed or angle. The slow speed / 40° angle (4seconds exposure) is not possible.
- Press the Exposure Preparation (1st trigger) button, the column angulation will move to the starting position of the tomography.

If needed, you can release the Preparation button and use the carriage movement to center the Xrays on the region of interest, using the light of the collimator

To start the exposure, make sure that the sensor is READY, then press the Exposure Preparation (1st trigger) button, then the Xray Emission (2nd trigger) button.

The column will rotate and Xrays will be made.

You MUST keep both buttons pressed during the whole movement. If you release one of them, the table will exit the tomography mode.

Once the column rotation is finished, you can release the Preparation and Emission buttons.

If the message "Tomography not possible, move carriage" appears, it means that the carriage/sensor holder is too close to the head side of the table to allow the tomography movement. In this case, release the Preparation button, press "OK", move the carriage to the feet side of the table, and try again by pressing the Preparation button.

If there are additional tomography protocols in the list and you want to make other tomography exposures, you can press the Preparation button to make the column rotate to its initial position. You MUST keep that button pressed during the whole movement. You can release the Preparation button after the movement is finished.

Once the column is back to its original position, if there was an increment other than 0 displayed on the table console screen, the new fulcrum height is indicated. You can still modify it directly. You can not modify the speed and angle of the tomography.

- Make sure the sensor is in ready state. Press the Exposure Preparation (1st trigger) button, then the Xray Emission (2nd trigger) button. A new tomography exposure will be made.
- > You can repeat this until you have made the necessary tomography exposures, or there are no longer tomography protocols in the list, or the fulcrum height has reached 0mm or 300mm.

2.10. STITCHING USE (OPTION)

- With Digital system control console (refer to Digital System User Manual), select programmed stitching protocol needed for spine or legs examination.
- > On the main console, in Table menu, the « stitching mode exit » icon appears.



Note : it is possible to exit from stitching mode anytime by pressing this key

- Then, press the "MOVE" button and hold it down until the table reaches its final position, the message "position reached" is displayed as well as the number of exposures for exam.
- > Select the acquisition with 2, 3 or 4 exposures on the table console
- Prepare the exposure using exclusively the controls on the main table console pressing the first trigger (preparation) button and holding down this button until the tube-detector assembly reaches its initial position

Note: the programme is always done from head to toe

- Adjust the patient position (see corresponding chapter) using the movements of carriage, of tabletop (lateral) and the video camera (and finalizing with fluoroscopy if really necessary).
- $\succ\,$ It is possible to reduce the X-ray field laterally using the collimator shutters manual control joystick $\,\#\,$
- After modifying parameters if needed, make the exposure using exclusively the controls on the main table console: press the first trigger (preparation) button and holding down this button, press the second trigger (emission) button
- After the first exposure, hold down preparation & emission buttons: following table positioning and exposure(s) are done automatically.
- After the last exposure, hold down preparation & emission buttons until the message "End of Stitching" is displayed.
- The acquired image appears few seconds later on Digital system control console. Refer to corresponding User manuals for automatic stitching software and for image post-processing, page-setting, sending, archiving ...

2.11. MOTORISED COMPRESSION SYSTEM USE (OPTION)

Two systems are available: first is removed manually from X-ray beam, second is motor-driven.

- For motorised compression device manually removable, mount the compression accessory in its support located on the column
- Button (makes the compression device move down and press against the patient. Check in fluoroscopy if really necessary
- After the exposure, lift up the compression device up to parking position using button in until the message "compressor upper limit" is displayed. Remove the accessory if it is compression device manually removable

Note: From a certain compression value applied to the patient (factory setting), tabletop, carriage and incidence movements are inhibited.

If the table is switched off from mains supply while the patient is under compression, you can disengage the compression device manually

For motorised compression device manually removable:





For motorised compression device motor-driven removable:



Turn the handle anticlockwise <u>several times</u> (unscrewed) as shown below.

To re-engage compression paddle, first do check that it is returned to its original position (see first image), especially when the table is in the vertical position. Once verified, turn the handle clockwise (screwing) until it is completely tight.

Note: the compression device movement is impossible if column is out of -10°/+10° incidences range.

Note: when patient is under compression, movements for incidence / carriage / tabletop longitudinal & lateral are prohibited;

Movements for elevating / tilting / SID / detector rotation are authorised.

3. TABLE MAINTENANCE

3.1. CLEANING AND DISINFECTING

Warning: always disconnect the equipment from the mains before cleaning or disinfecting it.
Do not allow water or other liquids to enter the equipment as such liquids may cause short-circuits or corrosion.

Clean all enamelled parts with mild detergent only. Apply with a clean cloth, and then rub down with a dry woollen cloth.

Never use abrasive, solvent or corrosive cleaning agents.

Clean chrome parts by rubbing with a dry woolen cloth. Should you desire to polish such parts, use car wax. *Do not use abrasive polishes.*

Wiping them with a cloth moistened with a disinfectant solution may disinfect the equipment, accessories and connecting cables.

Never use solvent, corrosive or phenol-based disinfectants.

The table and control console must not be exposed to gaseous disinfectants.

Spray disinfectants are not recommended since they can enter the equipment causing short-circuit and/or corrosion.

If the procedure room containing the equipment is to be disinfected by mean of an atomiser, it is mandatory to respect the following recommendations:

- Switch off the equipment
- Allow them to cool well in advance
- Cover them carefully with plastic or similar sheeting.

After the mist has dispersed, the covers may be removed and the equipment disinfected by wiping in the manner described above.

The equipment must not be used in the presence of disinfectants that vaporize, forming potentially explosive gases. All vapour must be allowed to disperse before returning the equipment to use. Disinfecting procedures must comply with all current and relevant regulations and recommendations, including those concerning prevention of potentially explosive hazards.

3.2. PREVENTIVE MAINTENANCE

Any maintenance operation must be carried out by the manufacturer or thirds parties expressly authorized by the manufacturer.

Before starting the maintenance operations, read carefully the procedure to follow.

All operations to do on the unit must be carried out when it does not work.

The person who is responsible of the maintenance must completely disconnect the unit, before the adjustment or replacement of an equipment part.

Keep hands, feet, dresses, jewels and hair at safety distance from any moving parts in order to avoid any danger of getting caught.

Do not change any part of the unit; changes which are not authorized can compromise the equipment functioning and safety.

After the maintenance, it is necessary to check the correct mounting and functioning of all electrical and mechanical devices before making the unit operative again. The operator's absolute attention is an essential safety element.

It is recommended that the user initiates a periodic maintenance schedule as shown in the table below.

These checks will take place in the morning before the first patient.

In case of problem, call immediately the authorized service engineer in charge with the equipment.

FUNCTION	CHECKS TO DO	FREQUENCY
All controls	Charle for correct functioning	
All indicators & leds		vveekiy
Cabling	Inspect for kinks, cracks and signs of crushing	Weekly
Emergency stops (3)	Check for correct functioning of the three emergency stops	Monthly
Cone mounted on the collimator	Check it is well fixed, without any clearance within the fixing rails	Monthly
Automatic stops	Check the automatic stops of each element (tube, tabletop) regarding the floor, the walls and the roof	Monthly
Checking of x-ray beam limitations	An automatic system limits the opening of x-ray beam regarding the detector format and the focus /film distance. To check the correct functioning of this system, proceed as follow: Press the button « Preparation (1 st trigger) control », the collimator shutters are opened to the detector format Keep the button held down Check that the light field corresponds with the detector format (± 0.5 cm) by switching on the light beam and that must correspond whatever the focus /film distance is, from 110 cm to 180 cm This automatic system limits the opening of x-ray beam to the maximum of detector format. Therefore, it is recommanded to use the smaller possible x-ray field, closing the collimator shutters with the proper control joysticks.	Monthly

Preventive maintenance visits (refer to chapter « preventive maintenance » of service manual) must be done at least once a year by the manufacturer or company expressly authorized by the manufacturer. In the contrary case, the manufacturer releases all responsibilities in the event of incidents and/or dysfunctionning of the material.

4. 4. ERROR MESSAGES

During the routine use of the equipment, the display shows various messages about the status of the table. This includes movement restrictions due to either room configuration or clearance space parameters or present table status. Please, refer to the tables below.

4.1. INFORMATION MESSAGES

These messages appear on the top of touch screen of the main table control console



Messages displayed on top of screen	description	What to do
MANUAL POSITIONING	This indicates that you are working in manual positioning mode instead of automatic one	
POSITIONING IN PROGRESS	This indicates that the system is moving to reach the selected position	
TABLE TOP MIN	This indicates that the tabletop reaches its end longitudinal position on foot side	
TABLE TOP MAX	This indicates that the tabletop reaches its end longitudinal position on head side	
TILTING LEFT LIMIT	This indicates that the table reaches its end tilting position in tredelenburg	
TILTING RIGHT LIMIT	This indicates that the table reaches its end tilting position at $+90^{\circ}$	These messages are
S.I.D. LOWER LIMIT	This indicates that the tube reaches its lower position for minimum SID	informative and do not require pressing any key. These indications stay
S.I.D. UPPER LIMIT	This indicates that the tube reaches its higher position for maximum SID	displayed until any change (other control).
CROSS COLLIMATOR MIN LIMIT	This indicates that the lateral shutters of collimator are closed completely	when you order another movement, turn the
CROSS COLLIMATOR MAX LIMIT	This indicates that the lateral shutters of collimator are opened completely	system OFF and ON. If the equipment remains inoperative, turn it OFF
LONG COLLIMATOR MIN. LIMIT	This indicates that the longitudinal shutters of collimator are closed completely	and call Field Service
LONG COLLIMATOR MAX LIMIT Y	This indicates that the longitudinal shutters of collimator are opened completely	
CARRIAGE MIN LIMIT	This indicates that the carriage reaches its end position on foot side	
CARRIAGE MAX LIMIT	This indicates that the carriage reaches its end position on head side	
COLUMN ANGULATION MIN LIMIT	This indicates that the column reaches its end angulation position at -40°	
COLUMN ANGULATION MAX LIMIT	This indicates that the column reaches its end angulation position at $+40^{\circ}$	

INFORMATION MESSAGES (TO BE CONTINUED)

Messages displayed on top of screen	description	What to do	
TABLE TOP REAR LIMIT	This indicates that the tabletop reaches its end lateral position on rear side (column)		
TABLE TOP FRONT LIMIT	This indicates that the tabletop reaches its end lateral position on front side		
ELEVATION LOWER LIMIT	This indicates that the tabletop reaches its lower position	These messages are	
ELEVATION UPPER LIMIT	This indicates that the tabletop reaches its higher position	informative and do not require pressing any key. These indications stay displayed until any change (other control).	
Collimator Not Ready	This indicates that the collimator is opening or closing to the desired format		
Compressor Upper limit	This indicates that the compression device reaches its higher position	If the message persists when you order another movement, turn the	
Compressor Lower limit	This indicates that the compression device reaches its lower position	system OFF and ON. If the equipment remains inoperative, turn it OFF	
Tomography In Progress	This indicates that the tomography device is moving	and call Field Service	
Patient Compression Detected	This indicates that the system detects compression		
Max. Compression Level Reached	This indicates that the maximum compression level is reached		
Patient Compression Detected, Tube Angulation Disabled	This indicates that the system detects compression and then forbids any movement of angulation		
Patient Compression Detected, Carriage Disabled	This indicates that the system detects compression and then forbids any movement of carriage	In order to allow the desired movement, lift UP the compression device	
Patient Compression Detected, Lat. Table Top Disabled	This indicates that the system detects compression and then forbids any lateral movement of tabletop		
Patient Compression Detected, Long. Table Top Disabled	This indicates that the system detects compression and then forbids any longitudinal movement of tabletop		
TUBE ROTATED, FLUORO DISABLED	This indicates that the X-ray tube is rotated and then not centred on the detector	Place X-ray tube faced to detector, at 0 $^{\circ}$ with the indexing system.	
NO AUTO POSITIONING SELECTED	This indicates that you did not select any anatomical programme so then no autopositioning before pressing the MOVE button	Select an anatomical programme before wanting to position the system by MOVE button	
ELEVATION LOWER LIMIT: TABLE IS TILTED	This indicates that the system cannot go lower the tabletop as table is tilted	To reach elevation lower limit, untilt the table before lowering	
Column Angulation Is Not Enabled For SID > 150 cm	This indicates that you are not allowed to make a column incidence if the SID is over 150 cm	Decrease the SID under 150 cm to be able to make an incidence	
Position Reached	This indicates that the system reaches the selected position	Now, you can follow your exam procedure	
End of Stitching	This indicates that the system has just finished the last exposure of the stitching programme	Now, you can end your exam procedure	
End of Tomography	This indicates that the system has just finished the last exposure of the tomography programme	Now, you can end your exam procedure	
ROTATION IMPOSSIBLE, PRESS MOVE (for version with removable detector)	This indicates that the system cannot rotate the detector due to its support position and selected programme	For version with removable detector. Press MOVE to cancel carriage	

4.2. OPERATION MESSAGES

These messages appear at the bottom of touch screen of the main table control console

They indicate unusual operation and ask for corrections to continue the procedure

After corrections, if the message persists, turn the system OFF and ON. If the message remains displayed and equipment inoperative, turn it OFF and call Field Service



Messages displayed on bottom of screen	description	What to do	
MOVEMENT IS DISABLED	The movement you ask for is disabled	Make another movement	
Position Can Not Be Reached	The parameters you set for the desired position are wrong , then position cannot be reached due to physical reasons	Check that parameters set a reachable position	
THE TUBE IS TOUCHING THE LEFT WALL	This indicates that the tube is reaching a end position on the left regarding layout, this limit stops the movement immediately		
THE TUBE IS TOUCHING THE RIGHT WALL	This indicates that the tube is reaching a end position on the right regarding layout, this limit stops the movement immediately	Move the system differently in order to avoid	
THE TUBE IS TOUCHING THE CEILING	This indicates that the tube is reaching a end position at the top regarding layout, this limit stops the movement immediately	this limit, without column incidence or high SID	
THE TUBE IS TOUCHING THE FLOOR	This indicates that the tube is reaching a end position at the bottom regarding layout, this limit stops the movement immediately		
THE TABLE TOP IS TOUCHING THE LEFT WALL	This indicates that the tabletop is reaching a end position on the left regarding layout, this limit stops the movement immediately		
THE TABLE TOP IS TOUCHING THE RIGHT WALL	This indicates that the tabletop is reaching a end position on the right regarding layout, this limit stops the movement immediately	Move the system differently in order to avoid	
THE TABLE TOP IS TOUCHING THE CEILING	This indicates that the tabletop is reaching a end position at the top regarding layout, this limit stops the movement immediately	this limit, by entering or centring the tabletop	
THE TABLE TOP IS TOUCHING THE FLOOR	This indicates that the tabletop is reaching a end position at the bottom regarding layout, this limit stops the movement immediately		
THE TABLE IS TOUCHING THE FOOT LEFT SIDE	This indicates that the table is reaching the end position in tredelenburg (on the left), this limit stops the movement immediately	Move the system slightly	
THE TABLE IS TOUCHING THE FOOT RIGHT SIDE	This indicates that the table is reaching the end position in $+90^{\circ}$ (on the right), this limit stops the movement immediately	in the other way	
For version with removable detector	Additional messages		
Sensor is missing	Additionally to the corresponding icon (refer to chapter 2.2), this message indicates that the detector is not in place and not connected	Insert and connect the detector	
Sensor is disconnected	Additionally to the corresponding icon (refer to chapter 2.2), this message indicates that the detector is not connected	Connect the detector	
Unknown Sensor Position	Additionally to the corresponding icon (refer to chapter 2.2), this message indicates that the detector is inserted but not positioned correctly	Press on corresponding icon, and if nothing happens, remove the detector and insert it again. If same icon appears, press it again.	
No Sensor, change APR	Additionally to the corresponding icon (refer to chapter 2.2), this message indicates that the detector is not in place and not connected regarding the	Select another anatomical	
Sensor disconnected, change APR	Additionally to the corresponding icon (refer to chapter 2.2), this message indicates that the detector is not connected regarding the selected programme	programme or install correctly the detector	
Unknown Sensor Position, change APR	Additionally to the corresponding icon (refer to chapter 2.2), this message indicates that the detector is inserted but not positioned correctly regarding the	-	
Center Table Top Before Rotating The Sensor	This indicates that the detector rotation will be possible only with centred tabletop	Centre the tabletop by pressing "sensor input"	

4.3. FAILURE MESSAGES

These messages appear at the bottom of touch screen of the main table control console

They indicate the potential cause of a system failure. In general, to remove the indication on the console, press OK.

After corrections, if the message persists, turn the system OFF and ON. Try again movements, if the message remains displayed or appears often later, turn it OFF and call Field Service



Messages displayed on bottom of screen	description	What to do
CARRIAGE TIME OUT	This indicates a system failure with the carriage but allows other movements	
COLUMN TIME OUT	This indicates a system failure with the column incidences but allows other movements	Press OK, move the system slightly in the other way and try again the movement. If the message appears again, turn the system OFF and ON. If the message appears whereas switching ON, then switch OFF and call Field Service. If not, try again the movement, and if the message appears, turn the system OFF and call Field Service
TILTING TIME OUT	This indicates a system failure with the table tilting but allows other movements	
TABLE HEIGHT TIME OUT	This indicates a system failure with the table variable height but allows other movements	
LONG TABLE TOP TIME OUT	This indicates a system failure with the tabletop longitudinal movement but allows other movements	
S.I.D. TIME OUT	This indicates a system failure with the tube movement (SID) but allows other movements	
LAT TABLE TOP TIME OUT	This indicates a system failure with the tabletop lateral movement but allows other movements	
TIME OUT COMPRESSOR UP/DOWN	This indicates a system failure with the compression device movement but allows other movements	
COLLIMATOR FAULT	This indicates a system failure with the collimator shutters movements but allows other movements	
Collimator Direct Mode(Key is turned)	This indicates that the collimator key is turned and selected workstation is different from direct mode during exposure attempt	
Sensor ROT. TIME OUT (for version with removable detector)	This indicates a system failure with the detector rotation but allows other movements	
DAP METER MISSING	This indicates a system failure with the Dose Area Product meter system	Press OK. If the message appears again, turn the system OFF and ON. and if the message appears again, call Field Service.
THE GRID DOES NOT FIT THE S.I.D. REQUIREMENT	This indicates an error of use with the grid.	Insert the other grid or continue the procedure
GRID INSERTION FAULT	This indicates an error of use with the grid, it is inserted upside down	Insert the grid in the right way

FAILURE MESSAGES (TO BE CONTINUED)

CARRIAGE EOT +	This indicates a system failure with the carriage end position on foot side and forbids all the movements	Press OK. - If the message does not appear again, move the system slightly in the other way and try again the movement. Then, if the message appears, turn the system OFF and call Field Service. - If the message appears again, turn the system OFF and call Field Service
CARRIAGE EOT -	This indicates a system failure with the carriage end position on head side and forbids all the movements	
COLUMN EOT +	This indicates a system failure with the column incidence end position on foot side $(+40^{\circ})$ and forbids all the movements	
COLUMN EOT -	This indicates a system failure with the column incidence end position on head side (-40°) and forbids all the movements	
TILTING EOT +	This indicates a system failure with the table tilting end position on foot side $(+90^{\circ})$ and forbids all the movements	
TILTING EOT -	This indicates a system failure with the table tilting end position on head side (-25°) and forbids all the movements	
TABLE HEIGHT EOT +	This indicates a system failure with the table variable height in higher position and forbids all the movements	
TABLE HEIGHT EOT -	This indicates a system failure with the table variable height in lower position and forbids all the movements	
LONG TABLE TOP EOT +	This indicates a system failure with the tabletop longitudinal end position on foot side and forbids all the movements	
LONG TABLE TOP EOT -	This indicates a system failure with the tabletop longitudinal end position on head side and forbids all the movements	
S.I.D. EOT +	This indicates a system failure with the tube movement (SID) in higher position and forbids all the movements	
S.I.D. EOT -	This indicates a system failure with the tube movement (SID) in lower position and forbids all the movements	
LAT TABLE TOP EOT +	This indicates a system failure with the tabletop lateral end position on front side and forbids all the movements	
LAT TABLE TOP EOT -	This indicates a system failure with the tabletop lateral end position on rear side and forbids all the movements	
BACK TO AUTOPOSITIONING	This indicates a system failure with the autopositioning and forbids all the movements	
MANUAL COLLIMATOR	This indicates a system failure with the automatic collimator and forbids all the movements	
Stitching not Possible, Move Carriage	Regarding the number of exposures selected for stitching, the carriage position is too close to end of table.	Move the carriage up and try again the acquisition
Tomography not Possible, Move Carriage	Regarding incidence and number of exposures selected for tomography, the carriage position is too close to end of table.	

4.4. SERVICE MESSAGES

These messages appear at the bottom of touch screen of the main table control console

They indicate the potential cause of a system failure. In general, the system forbids all the movements and messages are dedicated to Field Service.

Then, if any of the messages below appears, turn the system OFF and ON; if the message remains, call Field Service



Messages displayed on bottom of screen			
NO COMMUNICATION WITH THE TABLE	ELEVATION EPS SUP MAX		
POTENTIOMETER 10V SUPPLY DEFAULT	LONG TABLE TOP EPS SUP MAX		
DEFAUT AUTOMATE (TPU)	S.I.D EPS SUP MAX		
ERR. FILE PARAM.CFG	LAT TABLE TOP EPS SUP MAX		
ERR. FILE PRG.CFG	TILTING POTENTIOMETER OUT OF RANGE		
ERR CMDE CARRIAGE	TABLE HEIGHT POTENTIOMETER OUT OF RANGE		
ERR CMDE COLUMN	LONG TABLE TOP POTENTIOMETER OUT OF RANGE		
ERR CMDE TILTING	S.I.D. POTENTIOMETER OUT OF RANGE		
ERR CMDE TABLE HEIGHT	LAT TABLE TOP POTENTIOMETER OUT OF RANGE		
ERR CMDE LONG TABLE TOP	CARRIAGE SLIPPING FAULT		
ERR CMDE S.I.D.	COLUMN SLIPPING FAULT		
ERR CMDE LAT TABLE TOP	TILTING SLIPPING FAULT		
ERR CMDE COMPRES ESCAMOT	ELEVATION SLIPPING FAULT		
ERR CMDE COMPRES H/B	LONG TABLE TOP SLIPPING FAULT		
CARRIAGE INVERTER DEFAULT	S.I.D. SLIPPING FAULT		
COLUMN INVERTER DEFAULT	LAT TABLE TOP SLIPPING FAULT		
TILTING INVERTER DEFAULT	DEFAUT GLISSEMENT COMPRES ESCAMOT		
TABLE HEIGHT INVERTER DEFAULT	DEFAUT GLISSEMENT COMPRES H/B		
LONG TABLE TOP INVERTER DEFAULT	CODEUR CHARIOT HORS LIMITE LOG		
CARRIAGE ENCODER DEFAULT	CODEUR INCIDENCE HORS LIMITE LOG		
COLUMN ENCODER DEFAULT	POTAR BASCULT HORS LIMITE LOG		
TILTING POTENTIOMETER FAULT	POTAR ELEVAT HORS LIMITE LOG		
TABLE HEIGHT POTENTIOMETER FAULT	POTAR DOS LONG HORS LIMITE LOG		
LONG TABLE TOP POTENTIOMETER FAULT	POTAR FOCALE HORS LIMITE LOG		
S.I.D. POTENTIOMETER FAULT	POTAR DOS. LAT HORS LIMITE LOG		
LAT TABLE TOP POTENTIOMETER FAULT	POTAR COMP.ESCAMOT HORS LIMITE LOG		
DEFAUT COM. TELECOMMANDE	POTAR COMP.HB HORS LIMITE LOG		
CARRIAGE EPS SUP MAX	RET. COMPRESSOR POTENTIOMETER OUT OF SOFT RANGE		
COLUMN EPS SUP MAX	RET. COMPRESSOR STRAIN GAUGE FAULT		
TILTING EPS SUP MAX			
For version with removable detector	Additional messages		
ERR CMDE SENSOR ROTATION	POTAR ROT CAPT HORS PLAGE		
SENSOR ROTATION POTENTIOMETER FAULT	SENSOR ROTATION SLIPPING FAULT		
SENSOR ROTATION EPS SUP MAX	POTAR ROT CAPT HORS LIMITE LOG		

In all cases, follow the instructions given in the display.

For any other messages, make a note of them and call the After-Sales Service of your reseller or the manufacturer.