



OPERA T

Universal remote-controlled table

TROUBLESHOOTING

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This manual is suitable for all versions of the universal remote-controlled table.

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1 Troubleshooting

1.1 Aim

The aim of this document is to assist personnel in charge of testing or repairing the equipment in troubleshooting during machine set-up and repair.

This guide might not include all possible fault-related occurrences; however, it is intended to provide some guidelines on possible problems and their solutions. Moreover, it is understood that most boards/control activations, due to their complexity and construction type, can be repaired with suitable equipments/materials at the board testing unit.



For further information on troubleshooting it is recommended the use of <Telediagnosis>. Refer to manual “Opera T – Telediagnosis”.

1.2 Alarms/messages Display

Alarms and messages are shown as numerical codes on the console display.

1.3 Alarms/messages list

TRANSMISSION	ERROR CODE	DESCRIPTION
TITL	001	Potentiometer
	002	Activation Protection
	003	Inverted motor+generator or dac
	004	Motor reversibility
ELEVATION	011	Potentiometer
	012	Activation Protection
	013	Inverted motor+generator or dac
	014	Motor reversibility
	015	IB Curve not activated (only for T90e)
TUBE SUPPORT	021	Potentiometer
	022	Activation Protection
	023	Inverted motor+generator or dac in dynamic area
	024	Inverted motor generator or dac in angling/centering
	025	Inverted motor+generator or dac in tomography
	026	Inverted motor+generator or dac in dynamic area+ angling/centering
	027	Motor reversibility
	028	Maximum angling exceeded between tube support and serial radiographic design
SERIAL RADIOGRAPHIC DESIGN	031	Potentiometer
	032	Activation Protection
	033	Inverted motor+generator or dac in dynamic area
	034	Inverted motor+generator or dac in angling/centering
	035	Inverted motor+generator or dac in tomography
	036	Inverted motor+generator or dac in dynamic area+ angling/centering
	037	Motor reversibility
FOCAL POINT	041	Zero input alarm
	042	Activation Protection
PARALLEL COLLIMATOR	051	Potentiometer
	052	Idle movement
PERPENDICULAR COLLIMATOR	061	Potentiometer
	062	Idle movement

TRANSMISSION	ERROR CODE	DESCRIPTION
IRIS COLLIMATOR	071	Potentiometer
	072	Idle movement
PARALLEL DIAPHRAGM	081	Zero input alarm
	082	Activation Protection
CROSS DIAPHRAGM	091	Zero input alarm
	092	Activation Protection
PARALLEL JAWS	101	Potentiometer
PERPENDICULAR JAWS	111	Potentiometer
LONGITUDINAL DRAWER	121	Zero input alarm
	122	Activation Protection
TRANSVERSE DRAWER	131	Zero input alarm
	132	Activation Protection
	133	Central drawer input alarm
IB	141	Zero input alarm
	142	Activation Protection
	143	Low IB input alarm
GRID	151	Zero input alarm
	152	Activation Protection
LONGITUDINAL PLAN	161	Potentiometer
	022	Activation Protection
	163	Inverted motor+generator or dac
	164	Motor reversibility
VARIOUS	097	Active movement power up control
	098	Incorrect transmission/optical fiber broken
	099	Power OFF
	197	Axes board stepper motors
	198	Transmission error on RS232 in installation
	199	Character transmission error on RS232
	200	EEPROM absent/broken
	201	EEPROM virgin
202	Alarm error not dealt with by the application software	

1.4 Alarm 001

Code 001 refers to the transmission of the tilt and in particular to the position transducer (potentiometer and related circuits).

The activation of this alarm disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Possible alarm causes	Problem solution
Potentiometer 3PT1 fault	Replace potentiometer. Reconnect, reacquire and check control stops following setup procedure.
Potentiometer 3PT1 exceeds acquisition limits	Bring tilt within defined limits, following setup procedure or manually. Recheck control stops.
Tie cable disconnected between board 25S3 and 3PT1	Reconnect cable. CAUTION must be exercised with the screen earth connection.
Interruption in tie cable between board 25S3 and 3PT1	Replace cable.
Incorrect connections in tie cable between board 25S3 and 3PT1	Refer to functional diagrams to restore connections.
Tracks interruptions on board 25S3	Restore connections or replace board.
Rosin joints on the connectors of board 25S3	Restore joints or replace board.
Interruption in flat-cable 25S3CN2-25S1CN2	Replace flat-cable.
Fault on reading circuit ADC1 of board 25S1 CPU	Replace board.

Events that may cause the error	Problem solution
+/-15V failure on power supplies of reading circuit ADC1 in board 25S1	Check fuses on board 25S1, the power supplies and connections from the service transformer, fuses and power supplies on transformer. Replace fuses or board 25S1, restore connections, replace fuses or auxiliaries transformer 22TR2.
Sporadic errors	Error caused by external interferences. To restore activation switch the equipment off and on.

1.5 Alarm 002

Code 002 refers to the transmission of the tilt and in particular to activation 23S1.

The activation of this alarm disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Activation 23S1 absent or not functional LED OK: OFF	While equipment is switched off insert or replace activation.
Activation powered by an out of range voltage value LED OK: OFF	Check board 23S9 and especially fuses, the power supplies and connections from the power transformer, the power supplies of the transformer and line voltage. Replace fuses or board 23S9, restore connections, replace fuses or power transformer 22TR1.

Events that may cause the error	Problem solution
Inverted motor connection LED O.K.: OFF LED m.d.: ON	Invert motor connection.
Motor disconnected LED O.K.: OFF LED O.C.: ON	Refer to functional diagrams to restore connections.
Motor short-circuit LED O.K.: OFF LED O.C.: ON	Check Motor, the generator/activation tie cable, board 23S9 and activation 23S1. Replace Motor Reducer, tie cable, boards 23S9 and 23S1.
Inverted generator connection LED O.K.: OFF LED m.d.: ON	Invert generator connection.
Generator disconnected LED O.K.: OFF LED m.d.: ON	Refer to functional diagrams to restore connections.
Generator short-circuit LED O.K.: OFF LED m.d.: ON	Check generator, the generator/activation tie cable, board 23S9 and activation 23S1. Replace Motor Reducer, tie cable, boards 23S9 and 23S1.
Activation blocked by thermal protection LED O.K.: OFF LED S.T.: ON	Use of continuous transmission function. To restore operation switch activation off, let it cool down and switch it back on.
Tracks interruptions on board 23S9 Input 25S3-IN21 off Output 25S3-OUT14 off Dac VAN3 out of range	Restore connections or replace board.

Events that may cause the error	Problem solution
Interruption in flat-cable 23S9CFC1-25S3CFC1 Input 25S3-IN21 off Output 25S3-OUT14 off Dac VAN3 out of range	Replace flat-cable.
Rosin joints on the connectors of board 23S9 and 25S3 Input 25S3-IN21 off Output 25S3-OUT14 off Dac VAN3 out of range	Restore joints or replace boards.
Input 25S3-IN21 not functional Output 25S3-OUT14 not functional Dac VAN3 out of range	Refer to testing manual to check with Test SW. Replace board I/O 25S3, CPU 25S1 and flat-cables.
Power supply failure +24Vcc on board 25S3 for digital input/output	Check connections, power supplies on boards 25S3, the power supplies from the service transformer, fuses and power supplies on transformer. Replace board 25S3, connections, fuses or auxiliaries transformer.
Power supply failure +5Vcc or +/-12Vcc on board 25S1 for digital input/output	Check connections, power supplies and fuses on boards 25S1, the power supplies from the service transformer, fuses and power supplies on transformer. Replace board 25S1, connections, fuses or auxiliaries transformer.

1.6 Alarm 003

Code 003 refers to the transmission of the tilt during movement. Through the position transducer (potentiometer and related circuits) the software determines the incorrect direction of the movement.

The activation of this alarm stops the equipment, it disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Inverted motor and generator	Refer to functional diagrams to restore connections.
Inverted dac connections	Refer to functional diagrams to restore connections.
All events that may cause error 001 (problems with potentiometer and related circuits)	See error 001 .

1.7 Alarm 004

Code 004 refers to the transmission of the tilt and in particular to the motor reducer.

Through the position transducer (potentiometer and related circuits) the software determines the movement without command of the transmission.

The activation of this alarm stops the equipment, it disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Motor reducer reversibility	Replace motor reducer.
All events that may cause error 001 (problems with potentiometer and related circuits)	See error 001 .

1.8 Alarm 011

Code 011 refers to the transmission of the elevation and in particular to the position transducer (potentiometer and related circuits).

The activation of this alarm stops the equipment, it disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Potentiometer 3PT2 not functional	Replace potentiometer. Reconnect, reacquire and check control stops following setup procedure.
Potentiometer 3PT2 exceeds acquisition limits	Bring transmission within control stops defined limits, following setup procedure or manually. Recheck control stops.
Tie cable disconnected between board 25S3 and 3PT2	Reconnect cable. CAUTION must be exercised with the screen earth connection.
Interruption in tie cable between board 25S3 and 3PT2	Replace cable.
Incorrect connections in tie cable between board 25S3 and 3PT2	Refer to functional diagrams to restore connections.
Tracks interruptions on board 25S3	Restore connections or replace board.
Rosin joints on the connectors of board 25S3	Restore joints or replace board.
Interruption in flat-cable 25S3CN2-25S1CN2	Replace flat-cable.
Fault on reading circuit ADC2 of board 25S1 CPU	Replace board.

Events that may cause the error	Problem solution
Power supply failure +/-15V of reading circuit ADC2 of board 25S1	Check fuses on board 25S1, the power supplies from the service transformer, the connections, fuses and power supplies of the transformer. Replace fuses or board 25S1, restore connections, replace fuses or auxiliaries transformer.
Sporadic errors	Error caused by external interferences. To restore activation switch the equipment off and on.

1.9 Alarm 012

Code 012 refers to the elevation transmission and in particular to activation 23S2.

The activation of this alarm stops the equipment, it disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Activation 23S2 absent or not functional LED OK: OFF	While equipment is switched off insert or replace activation.
Activation powered by an out of range voltage value LED OK: OFF	Check board 23S9 and especially fuses, the power supplies and connections from the power transformer, power supplies and line voltage. Replace fuses or board 23S9, restore connections, replace fuses or power transformer 22TR1.

Events that may cause the error	Problem solution
Inverted motor connection LED O.K.: OFF LED m.d.: ON	Invert motor connection.
Motor disconnected LED O.K.: OFF LED O.C.: ON	Refer to functional diagrams to restore connections.
Motor short-circuit LED O.K.: OFF LED O.C.: ON	Check Motor, the generator/activation tie cable, board 23S9 and activation 23S2. Replace Motor Reducer, tie cable, board 23S9 and 23S2.
Inverted generator connector LED O.K.: OFF LED m.d.: ON	Invert generator connection.
Generator disconnected LED O.K.: OFF LED m.d.: ON	Refer to functional diagrams to restore connections.
Generator short-circuit LED O.K.: OFF LED m.d.: ON	Check generator, the generator/activation tie cable, board 23S9 and activation 23S2. Replace Motor Reducer, tie cable, board 23S9 and 23S2.
Activation blocked by thermal protection LED O.K.: OFF LED S.T.: ON	Use of continuous transmission function. To restore operation switch activation off, let it cool down and switch it back on.
Tracks interruptions on board 23S9 Input 25S3-IN22 off Output 25S3-OUT20 off Dac VAN4 out of range	Restore connections or replace board.

Events that may cause the error	Problem solution
Interruption in flat-cable 23S9CFC1-25S3CFC1 Input 25S3-IN22 off Output 25S3-OUT20 off Dac VAN4 out of range	Replace flat-cable.
Rosin joints on the connectors of board 23S9 and 25S3 Input 25S3-IN22 off Output 25S3-OUT20 off Dac VAN4 out of range	Restore joints or replace boards.
Input 25S3-IN22 not functional Output 25S3-OUT20 not functional Dac VAN4 out of range	Refer to testing manual to check with Test SW. Replace board I/O 25S3, CPU 25S1 and flat-cables.
Power supply failure +24Vcc on board 25S3 for digital input/output	Check connections, power supplies on boards 25S3, the power supplies from the service transformer, fuses on transformer and power supplies. Replace board 25S3, restore connections, replace fuses or auxiliaries transformer.
Power supply failure +5Vcc or +/-12Vcc on board 25S1 for digital input/output	Check connections, power supplies on boards 25S1, the power supplies from the service transformer, fuses and power supplies on transformer. Replace boards 25S1, restore connections, replace fuses or auxiliaries transformer

1.10 Alarm 013

Code 013 refers to the transmission of the elevation during movement. Through the position transducer (potentiometer and related circuits) the software determines the incorrect direction of the movement.

The activation of this alarm stops the equipment, it disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Inverted motor and generator	Refer to functional diagrams to restore connections.
Inverted dac connections	Refer to functional diagrams to restore connections.
All events that may cause error 011 (problems with potentiometer and related circuits)	See error 011 .

1.11 Alarm 014

Code 014 refers to the transmission of the elevation and in particular to the motor reducer. Through the position transducer (potentiometer and related circuits) the software determines the movement without command of the transmission.

The activation of this alarm stops the equipment, it disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Motor reducer reversibility	Replace motor reducer.
All events that may cause error 011 (problems with potentiometer and related circuits)	See error 011 .

1.12 Alarm 015

Code 015 refers to the transmission of the elevation during the synchronised movement with the tilt.

Through the position transducers (potentiometers and related circuits) the software determines the incorrect direction of the movements.

The activation of this alarm stops the equipment, it disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Inverted motor and generator due to tilt and elevation	Refer to functional diagrams to restore connections.
Inverted dac connections due to tilt and elevation	Refer to functional diagrams to restore connections.
All events that may cause error 001 and 011 (problems with potentiometer and related circuits)	See error 001 and 011 .

1.13 Alarm 021

Code 021 refers to the transmission of the tube support and in particular to the position transducer (potentiometer and related circuits).

The activation of this alarm stops the equipment, it disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Potentiometer 3PT3 not functional	Replace potentiometer. Reconnect, reacquire and check control stops following setup procedure.
Potentiometer 3PT3 exceeds acquisition limits	Bring transmission within control stops defined limits, following setup procedure or manually and recheck control stops.
Tie cable disconnected between board 25S3 and 3PT3	Reconnect cable. CAUTION must be exercised with the screen earth connection.

Events that may cause the error	Problem solution
Interruption in tie cable between board 25S3 and 3PT3	Replace cable.
Incorrect connections in tie cable between board 25S3 and 3PT3	Refer to functional diagrams to restore connections.
Tracks interruptions on board 25S3	Restore connections or replace board.
Rosin joints on the connectors of board 25S3	Restore joints or replace board.
Interruption in flat-cable 25S3CN2-25S1CN2	Replace flat-cable.
Fault on reading circuit ADC3 of board 25S1 CPU	Replace board.
Power supply failure +/-15V of reading circuit ADC3 of board 25S1	Check fuses on board 25S1, the power supplies from the service transformer, the connections, fuses and power supplies of the transformer. Replace fuses or board 25S1, restore connections, replace fuses or auxiliaries transformer 22TR1.
Sporadic errors	Error caused by external interferences. To restore activation switch the equipment off and on.

1.14 Alarm 022

Code 022 refers to the transmission of the tube support and in particular to activation 23S3. The activation of this alarm stops the equipment, it disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Activation 23S3 absent or not functional LED OK: OFF	While equipment is switched off insert or replace activation
Activation powered by an out of range voltage value LED OK: OFF	Check board 23S9 and especially fuses, the power supplies and connections from the power transformer, power supplies and line voltage. Replace fuses or board 23S9, restore connections, replace fuses or power transformer 22TR1.
Inverted motor connection LED O.K.: OFF LED m.d.: ON	Invert motor connection.
Motor disconnected LED O.K.: OFF LED O.C.: ON	Refer to functional diagrams to restore connections.
Motor short-circuit LED O.K.: OFF LED O.C.: ON	Check Motor, the generator/activation tie cable, board 23S9 and activation 23S3. Replace Motor Reducer, tie cable, boards 23S9 and 23S3.
Inverted generator connection LED O.K.: OFF LED m.d.: ON	Invert generator connection.
Disconnected generator LED O.K.: OFF LED m.d.: ON	Refer to functional diagrams to restore connections.

Events that may cause the error	Problem solution
Generator short-circuit LED O.K.: OFF LED m.d.: ON	Check generator, the generator/activation tie cable, board 23S9 and activation 23S3. Replace Motor Reducer, tie cable, boards 23S9 and 23S3.
Activation blocked by thermal protection LED O.K.: OFF LED S.T.: ON	Use of continuous transmission function. To restore operation switch equipment off, let it cool down and switch it back on.
Tracks interruptions on board 23S9 Input 25S3-IN11 off Output 25S3-OUT13 off Dac VAN1 out of range	Restore connections or replace board.
Interruption in flat-cable 23S9CFC1-25S3CFC1 Input 25S3-IN11 off Output 25S3-OUT13 off Dac VAN1 out of range	Replace flat-cable.
Rosin joints on the connectors of board 23S9 and 25S3 Input 25S3-IN11 off Output 25S3-OUT13 off Dac VAN1 out of range	Restore joints or replace boards.
Input 25S3-IN11 not functional Output 25S3-OUT13 not functional Dac VAN1 out of range	Refer to testing manual to check with Test SW. Replace board I/O 25S3, CPU 25S1 and flat-cable.

Events that may cause the error	Problem solution
Power supply failure +24Vcc for input/output board 25S3	Check connections, power supplies on boards 25S3, the power supplies from the service transformer, fuses on transformer and power supplies. Replace board 25S3, restore connections, replace fuses or auxiliaries transformer.
Power supply failure +5Vcc or +/-12Vcc for input/output board 25S1	Check connections, power supplies and fuses on boards 25S1, the power supplies from the service transformer, fuses and power supplies on transformer. Replace board 25S1, restore connections, replace fuses or auxiliaries transformer

1.15 Alarm 023

Code 023 refers to the transmission of the tube support during movement in dynamic area. Through the position transducer (potentiometer and related circuits) the software determines the incorrect direction of movement.

The activation of this alarm stops the equipment, it disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Inverted motor and generator	Refer to functional diagrams to restore connections.
Inverted dac connections	Refer to functional diagrams to restore connections.
All events that may cause error 021 (problems with potentiometer and related circuits)	See error 021 .

1.16 Alarm 024

Code 024 refers to the transmission of the tube support during movement in angling/centering. Through the position transducer (potentiometer and related circuits) the software defines the incorrect direction of movement.

The activation of this alarm disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Inverted motor and generator	Refer to functional diagrams to restore connections.
Inverted dac connections	Refer to functional diagrams to restore connections.
All events that may cause error 021 (problems with potentiometer and related circuits)	See error 021 .

1.17 Alarm 025

Code 025 refers to the transmission of the tube support during movement in tomography. Through the position transducer (potentiometer and related circuits) the software determines the incorrect direction of movement.

The activation of this alarm disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Inverted motor and generator	Refer to functional diagrams to restore connections.
Inverted dac connections	Refer to functional diagrams to restore connections.
All events that may cause error 021 (problems with potentiometer and related circuits)	See error 021 .

1.18 Alarm 026

Code 026 refers to the transmission of the tube support during simultaneous movement of dynamic area and angling/centering. Through the position transducer (potentiometer and related circuits) the software determines the incorrect direction of movement.

The activation of this alarm disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Inverted motor and generator	Refer to functional diagrams to restore connections.
Inverted dac connections	Refer to functional diagrams to restore connections.
All events that may cause error 021 (problems with potentiometer and related circuits)	See error 021 .

1.19 Alarm 027

Code 027 refers to the transmission of the tube support and in particular to the motor reducer. Through the position transducer (potentiometer and related circuits) the software determines the movement without command of the transmission.

The activation of this alarm disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Motor reducer reversibility	Replace motor reducer.
All events that may cause error 021 (problems with potentiometer and related circuits)	See error 021 .

1.20 Alarm 028

Code 028 refers to the transmission of the tube support and in particular it is activated when there is an angle with the serial radiographic design higher than 42°.

Through the position transducer (potentiometer and related circuits) the software determines the incorrect direction of movement, to avoid the disengagement of the rod.

The activation of this alarm disables the power transformer connection relay. All movements are disabled, the layer display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Inverted motor and generator tube support or serial radiographic design	Refer to functional diagrams to restore connections.
Inverted dac connections tube support or serial radiographic design	Refer to functional diagrams to restore connections.
All events that may cause errors 021-031 (problems with potentiometers and related circuits)	See errors 021-031 .

1.21 Alarm 031

Code 031 refers to the transmission of the serial radiographic design and in particular to the position transducer (potentiometer and related circuits).

The activation of this alarm disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Potentiometer 3PT4 not functional	Replace potentiometer. Reconnect, reacquire and check control stops following setup procedure.
Potentiometer 3PT4 exceeds acquisition limits	Bring transmission within defined control stops limits, following setup procedure or manually and recheck control stops.
Tie cable disconnected between board 25S3 and 3PT4	Reconnect cable. CAUTION must be exercised with the screen earth connection.
Interruption in tie cable between board 25S3 and 3PT4	Replace cable.
Incorrect connections in tie cable between board 25S3 and 3PT4	Refer to functional diagrams to restore connections. .
Tracks interruptions on board 25S3	Restore connections or replace board.
Rosin joints on the connectors of board 25S3	Restore joints or replace board.
Interruption in flat-cable 25S3CN2-25S1CN2	Replace flat-cable.
Fault on reading circuit ADC4 of board 25S1 CPU	Replace board.

Events that may cause the error	Problem solution
Power supply failure +/-15V reading circuit ADC4 of board 25S1	Check fuses on board 25S1, the power supplies from the service transformer, the connections, fuses and power supplies of the transformer. Replace fuses or board 25S1, restore connections, replace fuses or auxiliaries transformer.
Sporadic errors	Error caused by external interferences. To restore activation switch the equipment off and on.

1.22 Alarm 032

Code 032 refers to the transmission of the serial radiographic design and in particular to activation 23S4.

The activation of this alarm disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Activation 23S4 absent or not functional LED OK: OFF	While equipment is switched off insert or replace activation.
Activation powered by an out of range voltage value LED OK: OFF	Check board 23S9, fuses on board 23S9, the power supplies from the power transformer, the connections and power supplies of the transformer, line voltage. Replace fuses or board 23S9, restore connections, replace fuses or power transformer 22TR1.

Events that may cause the error	Problem solution
Inverted motor connection LED O.K.: OFF LED m.d.: ON	Invert motor connection.
Motor disconnected LED O.K.: OFF LED O.C.: ON	Refer to functional diagrams to restore connections.
Motor short-circuit LED O.K.: OFF LED O.C.: ON	Check Motor, the generator/activation tie cable, board 23S9 and activation 23S4. Replace Motor Reducer, tie cable, board 23S9 and 23S4.
Inverted generator connection LED O.K.: OFF LED m.d.: ON	Invert generator connection.
Generator disconnected LED O.K.: OFF LED m.d.: ON	Refer to functional diagrams to restore connections.
Generator short-circuit LED O.K.: OFF LED m.d.: ON	Check generator, the generator/activation tie cable, board 23S9 and activation 23S4. Replace Motor Reducer, tie cable, board 23S9 and 23S4.
Activation blocked by thermal protection LED O.K.: OFF LED S.T.: ON	Use of continuous transmission function. To restore operation switch equipment off, let activation cool down and switch equipment back on.
Tracks interruptions on board 23S9 Input 25S3-IN12 off Output 25S3-OUT12 off Dac VAN2 out of range	Restore connections or replace board.

Events that may cause the error	Problem solution
Interruption in flat-cable 23S9CFC1-25S3CFC1 Input 25S3-IN12 off Output 25S3-OUT12 off Dac VAN2 out of range	Replace flat-cable.
Rosin joints on the connectors of board 23S9 and 25S3 Input 25S3-IN12 off Output 25S3-OUT12 off Dac VAN2 out of range	Restore joints or replace boards.
Input 25S3-IN12 not functional Output 25S3-OUT12 not functional Dac VAN2 out of range	Refer to testing manual to check with Test SW. Replace board I/O 25S3, CPU 25S1 and flat-cables.
Power supply failure +24Vcc for input/output board 25S3	Check connections, power supplies on boards 25S3, the power supplies from the service transformer, fuses and power supplies on transformer. Replace boards 25S3, restore connections, replace fuses or auxiliaries transformer 22TR1.
Power supply failure +5Vcc or +/-12Vcc for input/output board 25S1	Check connections, power supplies on boards 25S1, fuses on board 25S1, the power supplies from the service transformer, fuses on transformer. Replace board 25S1, restore connections, replace fuses or auxiliaries transformer.

1.23 Alarm 033

Code 033 refers to the transmission of the serial radiographic design during movement in dynamic area. Through the position transducer (potentiometer and related circuits) the software determines the incorrect direction of movement.

The activation of this alarm disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Inverted motor and generator	Refer to functional diagrams to restore connections.
Inverted dac connections	Refer to functional diagrams to restore connections.
All events that may cause error 031 (problems with potentiometer and related circuits)	See error 031 .

1.24 Alarm 034

Code 034 refers to the transmission of the serial radiographic design during movement in angling/centering. Through the position transducer (potentiometer and related circuits) the software determines the incorrect direction of movement.

The activation of this alarm disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Inverted motor and generator	Refer to functional diagrams to restore connections.
Inverted dac connections	Refer to functional diagrams to restore connections.
All events that may cause error 031 (problems with potentiometer and related circuits)	See error 031 .

1.25 Alarm 035

Code 035 refers to the transmission of the serial radiographic design during movement in tomography. Through the position transducer (potentiometer and related circuits) the software determines the incorrect direction of movement.

The activation of this alarm disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Inverted motor and generator or	Refer to functional diagrams to restore connections.
Inverted dac connections	Refer to functional diagrams to restore connections.
All events that may cause error 031 (problems with potentiometer and related circuits)	See error 031 .

1.26 Alarm 036

Code 036 refers to the transmission of the tube support during the simultaneous movement of dynamic area and angling/centering. Through the position transducer (potentiometer and related circuits) the software determines the incorrect direction of movement.

The activation of this alarm disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Inverted motor and generator	Refer to functional diagrams to restore connections.
Inverted dac connections	Refer to functional diagrams to restore connections.
All events that may cause error 031 (problems with potentiometer and related circuits)	See error 031 .

1.27 Alarm 037

Code 037 refers to the transmission of the serial radiographic design in particular to the motor reducer. Through the position transducer (potentiometer and related circuits) the software determines the movement without command of the transmission.

The activation of this alarm stops the equipment, it disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Motor reducer reversibility	Replace motor reducer.
All events that may cause error 031 (problems with potentiometer and related circuits)	See error 031 .

1.28 Alarm 041

Code 041 refers to the transmission of the focal point and in particular to the position transducer (reference photocell).

The activation of this alarm stops the equipment, it disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Microswitch 3FC5 not functional	Replace microswitch.
Power amplification board 3S3 not functional	Replace power amplification board.
Tie cable disconnected between photocell 3FC5 and board 3S3	Reconnect cable.
Interruption in tie cable between photocell 3FC5 and board 3S3	Replace cable.
Tie cable disconnected between board 3S3 and 24S9	Reconnect cable. CAUTION must be exercised with the screen earth connection.

Events that may cause the error	Problem solution
Interruption in tie cable between board 3S3 and 24S9	Replace cable.
Incorrect connections in cables	Refer to functional diagrams to restore connections.
Tracks interruptions on boards	Restore connections or replace boards.
Rosin joints on connectors	Restore joints or replace boards.
Interruption in flat-cable 25S3CN2-25S1CN2	Replace flat-cable.

1.29 Alarm 042

Code 042 refers to the transmission of the focal point and in particular to activation 24S7. The activation of this alarm stops the equipment, it disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Activation not powered or powered by an out of range voltage value LED HV: OFF LED FAU: ON	Check tracks on board 24S9, fuses and operation of power supply board 24S5, the power supplies from the power transformer, the connections, fuses and power supplies of the transformer, line voltage. Replace board 24S9, 24S7, fuses or board 24S5, restore connections, replace fuses or power transformer 22TR1.
Activation powered by an out of range voltage value LED HV: OFF LED FAU: ON	Check line voltage, the operation of power supply board 24S5, the power supplies of the transformer. Replace board 24S5 and power transformer 22TR1.

Events that may cause the error	Problem solution
Activation blocked by thermal protection LED TER: ON LED FAU: ON	Ventilators off or not functional, use of continuous transmission function. To restore operation switch activation off, let it cool down and switch the equipment back on.
Motor short-circuit LED HV: ON LED FAU: ON	Check tracks of board 24S9, the tie cable of activation/motor and of motor 3MT5. Replace cable and motor.
Incorrect motor connection LED HV: ON LED FAU: ON	Refer to functional diagrams to restore connections.
Tracks interruptions on board 24S9 Input 25S2-IN4 off	Restore connections or replace board.
Interruption in flat-cable 24S9CFC2-25S2CN2 Input 25S2-IN4 off	Replace flat-cable.
Rosin joints on the connectors of board 24S9 and 25S2 Input 25S2-IN4 off	Restore joints or replace boards.
Input 25S2-IN4 not functional	Replace axes board 25S2.
Power supply failure +12Vcc for input/output board 25S2	Check connections, power supplies on board 24S9 and 24S5, fuses on power supply board 24S5, the power supplies from the service transformer, fuses on transformer and power supplies. Replace boards 25S2, 24S9 and 24S5, restore connections, replace fuses or auxiliaries transformer.

1.30 Alarm 051

Code 051 refers to the transmission of the parallel collimator and in particular to the position transducer (potentiometer and related circuits).

The activation of this alarm stops the equipment, it disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Potentiometer 3PT7 not functional	Replace potentiometer. Reconnect, reacquire and check control stops following setup procedure
Potentiometer 3PT7 exceeds acquisition limits	Bring transmission within control stops defined limits, following setup procedure or manually. Recheck control stops.
Tie cable disconnected between board 25S3 and 3PT7	Reconnect cable. CAUTION must be exercised with the screen earth connection.
Interruption in tie cable between board 25S3 and 3PT7	Replace cable.
Incorrect connections in tie cable between board 25S3 and 3PT7	Refer to functional diagrams to restore connections.
Tracks interruptions on board 25S3	Restore connections or replace board.
Rosin joints on the connectors of board 25S3	Restore joints or replace board.
Interruption in flat-cable 25S3CN2-25S1CN2	Replace flat-cable.
Fault on reading circuit ADC7 of board 25S1 CPU	Replace board.

Events that may cause the error	Problem solution
Power supply failure +/-15V reading circuit ADC7 of board 25S1	Check fuses on board 25S1, the power supplies from the service transformer, the connections, fuses and power supplies of the transformer. Replace fuses or board 25S1, restore connections, replace fuses or auxiliaries transformer 22TR1.
Sporadic errors	Error caused by external interferences. To restore activation switch the equipment off and on.

1.31 Alarm 052

Code 052 refers to the transmission of the parallel collimator during movement.

Through the position transducer (potentiometer and related circuits) the software determines the incorrect direction of movement.

The activation of this alarm stops the equipment, it disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Tie cable disconnected between board 23S8 and collimator	Reconnect cable.
Interruption in tie cable between board 23S8 and collimator	Replace cable.
Incorrect connections in tie cable between board 23S8 and collimator	Refer to functional diagrams to restore connections.
Tracks interruptions on board 23S10 Input 25S3-IN17 off Output 25S3-OUT23 off Dac VAN5 out of range	Restore connections or replace board.

Events that may cause the error	Problem solution
Fault on board 23S8	Restore and replace board.
Interruption in flat-cable 23S10CFC1-25S3CFC2 Input 25S3-IN17 off Output 25S3-OUT23 off Dac VAN5 out of range	Replace flat-cable.
Rosin joints on the connectors of board 23S9 and 25S3 Input 25S3-IN17 off Output 25S3-OUT23 off Dac VAN5 out of range	Restore joints or replace boards.
Input 25S3-IN17 not functional Output 25S3-OUT23 not functional Dac VAN5 out of range	Refer to testing manual to check with Test SW. Replace board I/O 25S3, CPU 25S1 and flat-cable.
Power supply failure +24Vcc for input/output board 25S3	Check connections, power supplies on boards 25S3, the power supplies from the service transformer, fuses on transformer and power supplies. Replace board 25S3, restore connections, replace fuses or auxiliaries transformer.
Power supply failure +5Vcc or +/-12Vcc for input/output board 25S1	Check connections, power supplies and fuses on boards 25S1, the power supplies from the service transformer, fuses and power supplies on transformer. Replace board 25S1, restore connections, replace fuses or auxiliaries transformer.

1.32 Alarm 061

Code 061 refers to the transmission of the perpendicular collimator and in particular to the position transducer (potentiometer and related circuits).

The activation of this alarm stops the equipment, it disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Potentiometer 3PT8 not functional	Replace potentiometer. Reconnect, reacquire and check control stops following setup procedure
Potentiometer 3PT8 exceeds acquisition limits	Bring transmission within control stops defined limits, following setup procedure or manually. Recheck control stops.
Tie cable disconnected between board 25S3 and 3PT8	Reconnect cable. CAUTION must be exercised with the screen earth connection.
Interruption in tie cable between board 25S3 and 3PT8	Replace cable.
Incorrect connections in tie cable between board 25S3 and 3PT8	Refer to functional diagrams to restore connections.
Tracks interruptions on board 25S3	Restore connections or replace board.
Rosin joints on the connectors of board 25S3	Restore joints or replace board.
Interruption in flat-cable 25S3CN2-25S1CN2	Replace flat-cable.
Fault on reading circuit ADC8 of board 25S1 CPU	Replace board.

Events that may cause the error	Problem solution
Power supply failure +/-15V reading circuit ADC8 of board 25S1	Check fuses on board 25S1, the power supplies from the service transformer, the connections, fuses and power supplies of the transformer. Replace fuses or board 25S1, restore connections, replace fuses or auxiliaries transformer 22TR1.
Sporadic errors	Error caused by external interferences. To restore activation switch the equipment off and on.

1.33 Alarm 062

Code 062 refers to the transmission of the perpendicular collimator during movement. Through the position transducer (potentiometer and related circuits) the software determines the incorrect direction of movement.

The activation of this alarm stops the equipment, it disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Tie cable disconnected between board 23S8 and collimator	Reconnect cable.
Interruption in tie cable between board 23S8 and collimator	Replace cable.
Incorrect connections in tie cable between board 23S8 and collimator	Refer to functional diagrams to restore connections.
Tracks interruptions on board 23S10 Input 25S3-IN17 off Output 25S3-OUT23 off Dac VAN6 out of range	Restore connections or replace board.

Events that may cause the error	Problem solution
Fault on board 23S8	Restore or replace board.
Interruption in flat-cable 23S10CFC1-25S3CFC2 Input 25S3-IN17 off Output 25S3-OUT23 off Dac VAN6 out of range	Replace flat-cable.
Rosin joints on the connectors of board 23S9 and 25S3 Input 25S3-IN17 off Output 25S3-OUT23 off Dac VAN6 out of range	Restore joints or replace boards.
Input 25S3-IN17 not functional Output 25S3-OUT23 not functional Dac VAN6 out of range	Refer to testing manual to check with Test SW. Replace board I/O 25S3, CPU 25S1 and flat-cable.
Power supply failure +24Vcc for input/output board 25S3	Check connections, power supplies on boards 25S3, the power supplies from the service transformer, fuses on transformer and power supplies. Replace board 25S3, restore connections, replace fuses or auxiliaries transformer.
Power supply failure +5Vcc or +/-12Vcc for input/output board 25S1	Check connections, power supplies and fuses on boards 25S1, the power supplies from the service transformer, fuses and power supplies on transformer. Replace board 25S1, restore connections, replace fuses or auxiliaries transformer.

1.34 Alarm 071

Code 071 refers to the transmission of the iris collimator and in particular to the position transducer (potentiometer and related circuits).

The activation of this alarm disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Potentiometer 3PT9 not functional	Replace potentiometer. Reconnect, reacquire and check control stops following setup procedure.
Potentiometer 3PT9 exceeds acquisition limits	Bring transmission within control stops defined limits, following setup procedure or manually and recheck control stops.
Tie cable disconnected between board 25S3 and 3PT9	Reconnect cable. CAUTION must be exercised with the screen earth connection.
Interruption in tie cable between board 25S3 and 3PT9	Replace cable.
Incorrect connections in tie cable between board 25S3 and 3PT9	Refer to functional diagrams to restore connections.
Tracks interruptions on board 25S3	Restore connections or replace board.
Rosin joints on the connectors of board 25S3	Restore joints or replace board.
Interruption in flat-cable 25S3CN2-25S1CN2	Replace flat-cable.
Fault on reading circuit ADC9 of board 25S1 CPU	Replace board.

Events that may cause the error	Problem solution
Power supply failure +/-15V reading circuit ADC9 of board 25S1	Check fuses on board 25S1, the power supplies from the service transformer, the connections, fuses and power supplies of the transformer. Replace fuses or board 25S1, restore connections, replace fuses or auxiliaries transformer 22TR2.
Sporadic errors	Error caused by external interferences. To restore activation switch the equipment off and on.

1.35 Alarm 072

Code 072 refers to the transmission of the iris collimator during movement.

Through the position transducer (potentiometer and related circuits) the software determines the incorrect direction of movement.

The activation of this alarm stops the equipment, it disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Tie cable disconnected between board 23S8 and collimator	Reconnect cable.
Interruption in tie cable between board 23S8 and collimator	Replace cable.
Incorrect connections in tie cable between board 23S8 and collimator	Refer to functional diagrams to restore connections.
Tracks interruptions on board 23S10 Input 25S3-IN17 off Output 25S3-OUT23 off Dac VAN7 out of range	Restore connections or replace board.
Fault on board 23S8	Restore and replace board.

Events that may cause the error	Problem solution
Interruption in flat-cable 23S10CFC1-25S3CFC2 Input 25S3-IN17 off Output 25S3-OUT23 off Dac VAN7 out of range	Replace flat-cable.
Rosin joints on the connectors of board 23S9 and 25S3 Input 25S3-IN17 off Output 25S3-OUT23 off Dac VAN7 out of range	Restore joints or replace boards.
Input 25S3-IN17 not functional Output 25S3-OUT23 not functional Dac VAN7 out of range	Refer to testing manual to check with Test SW. Replace board I/O 25S3, CPU 25S1 and flat-cable.
Power supply failure +24Vcc for input/output board 25S3	Check connections, power supplies on boards 25S3, the power supplies from the service transformer, fuses and power supplies on transformer. Replace boards 25S3, restore connections, replace fuses or auxiliaries transformer.
Power supply failure +5Vcc or +/-12Vcc for input/output board 25S1	Check connections, power supplies and fuses on boards 25S1, the power supplies from the service transformer, the fuses and power supplies of the transformer. Replace board 25S1, restore connections, replace fuses or auxiliaries transformer.

1.36 Alarm 081

Code 081 refers to the transmission of the parallel diaphragms and in particular to the position transducer (reference photocell).

The activation of this alarm disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Photocell 3FC16 not functional	Replace photocell.
Power amplification board 3S3 not functional	Replace power amplification board.
Tie cable disconnected between photocell 3FC16 and board 3S3	Reconnect cable.
Interruption in tie cable between photocell 3FC16 and board 3S3	Replace cable.
Tie cable disconnected between board 3S3 and 24S9	Reconnect cable. CAUTION must be exercised with the screen earth connection.
Interruption in tie cable between board 3S3 and 24S9	Replace cable.
Incorrect connections in cables	Refer to functional diagrams to restore connections.
Tracks interruptions on boards	Restore connections or replace boards.
Rosin joints on connectors	Restore joints or replace boards.
Interruption in flat-cable 25S3CN2-25S1CN2	Replace flat-cable.

1.37 Alarm 082

Code 082 refers to the transmission of the parallel diaphragms and in particular to activation 24S2.

The activation of this alarm disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Activation not powered or powered by an out of range voltage value LED HV: OFF LED FAU: ON	Check tracks on board 24S9, the operation of power supply board 24S1, fuses on board 24S1, the power supplies from the power transformer, connections to transformer, fuses on transformer, the power supplies of the transformer and line voltage. Replace board 24S9, 24S2, fuses or board 24S1, restore connections, replace fuses or power transformer 22TR1.
Activation powered by an out of range voltage value LED HV: OFF LED FAU: ON	Check line voltage, the operation of power supply board 24S1, the power supplies from the power transformer, the power supplies of the transformer. Replace board 24S1 and power transformer 22TR1.
Activation blocked by thermal protection LED TER: ON LED FAU: ON	Ventilators off or not functional, use of continuous transmission function. To restore operation switch activation off, let it cool down and switch the equipment back on.
Motor short-circuit LED HV: ON LED FAU: ON	Check tracks on board 24S9, the activation/motor tie cable and motor 3MT13. Replace cable and motor.

Events that may cause the error	Problem solution
Error in motor connection LED HV: ON LED FAU: ON	Refer to functional diagrams to restore connections.
Tracks interruptions on board 24S9 Input 25S2-IN1 off	Restore connections or replace board.
Interruption in flat-cable 24S9CFC2-25S2CN2 Input 25S2-IN1 off	Replace flat-cable.
Rosin joints on the connectors of board 24S9 and 25S2 Input 25S2-IN1 off	Restore joints or replace boards.
Input 25S2-IN1 off	Replace axes board 25S2.
Power supply failure +12Vcc for input/output board 25S2	Check connections, power supplies on board 24S9 and 24S5, fuses on power supply board 24S5, the power supplies from the service transformer, fuses on transformer and power supplies. Replace board 25S2, 24S9 and 24S5, restore connections, replace fuses or auxiliaries transformer.

1.38 Alarm 091

Code 091 refers to the transmission of the cross diaphragms and in particular to the position transducer (reference photocell).

The activation of this alarm disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Photocell 3FC17 not functional	Replace photocell.
Power amplification board 3S3 not functional	Replace power amplification board.
Tie cable disconnected between photocell 3FC17 and board 3S3	Reconnect cable.
Interruption in tie cable between photocell 3FC17 and board 3S3	Replace cable.
Tie cable disconnected between board 3S3 and 24S9	Reconnect cable. CAUTION must be exercised with the screen earth connection.
Interruption in tie cable between board 3S3 and 24S9	Replace cable.
Incorrect connections in cables	Refer to functional diagrams to restore connections.
Tracks interruptions on boards	Restore connections or replace board.
Rosin joints on connectors	Restore joints or replace boards.
Interruption in flat-cable 25S3CN2-25S1CN2	Replace flat-cable.

1.39 Alarm 092

Code 092 refers to the transmission of the cross diaphragms and in particular to activation 24S3.

The activation of this alarm disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Activation not powered or powered by an out of range voltage value LED HV: OFF LED FAU: ON	Check tracks on board 24S9, the operation of power supply board 24S1, fuses on board 24S1, the power supplies from the power transformer, connections to transformer, fuses on transformer, the power supplies of the transformer and line voltage. Replace board 24S9, 24S3, fuses or board 24S1, restore connections, replace fuses or power transformer 22TR1.
Activation powered by an out of range voltage value LED HV: OFF LED FAU: ON	Check line voltage, the operation of power supply board 24S1, the power supplies from the power transformer, the power supplies of the transformer. Replace board 24S1 and power transformer 22TR1.
Activation blocked by thermal protection LED TER: ON LED FAU: ON	Ventilators off or not functional, use of continuous transmission function. To restore operation switch activation off, let it cool down and switch the equipment back on.
Motor short-circuit LED HV: ON LED FAU: ON	Check tracks on board 24S9, the activation/motor tie cable and motor 3MT14. Replace cable and motor.

Events that may cause the error	Problem solution
Error in motor connection LED HV: ON LED FAU: ON	Refer to functional diagrams to restore connections.
Tracks interruptions on board 24S9 Input 25S2-IN2 off	Restore connections or replace board.
Interruption in flat-cable 24S9CFC2-25S2CN2 Input 25S2-IN2 off	Replace flat-cable.
Rosin joints on the connectors of board 24S9 and 25S2 Input 25S2-IN2 off	Restore joints or replace boards.
Input 25S2-IN2 off	Replace axes board 25S2.
Power supply failure +12Vcc for input/output board 25S2	Check connections, power supplies on boards 24S9 and 24S5, fuses on power supply board 24S5, the power supplies from the service transformer, fuses on transformer and power supplies. Replace boards 25S2, 24S9 and 24S5, restore connections, replace fuses or auxiliaries transformer.

1.40 Alarm 096

Code 096 refers to the battery of board CPU 25S1. The activation of this alarm interrupts the ignition of the equipment. All movements are disabled, the angle of tilt display flashes and shows the code while the remaining displays are switched off. This error must be reset with keys P57 or P48 to complete the equipment ignition (pulse selection key or 0° tilt). If the battery is flat the new alarms are not stored and the previous ones are lost.

Events that may cause the error	Problem solution
Battery flat	Replace battery on board 25S1.
Fault on reading circuit of battery voltage	Replace board CPU 25S1.

1.41 Alarm 097

Code 097 refers to the keys, joysticks and control levers of console 1S1 and of remote keypad 3S1. The activation of this alarm interrupts the ignition of the equipment. All movements are disabled, the angle of tilt display flashes and shows the code while the remaining displays are switched off. This error must be reset with keys P57 or P48 to complete the equipment ignition (pulse selection key or 0° tilt). While the ignition is on, the movements activated by controls (pressed at ignition stage) are disabled.

Events that may cause the error	Problem solution
Fault on control lever or joystick	Replace control lever or joystick.
Fault on connections between control levers or joysticks and console board 1S1	Replace or restore connections.
Fault on console board 1S1	Replace board.
Tie cable fault between console board 1S1 and board CPU console 1S2.	Replace cable.
Fault on CPU Console 1S2	Replace board.
Fault on remote keypad board 3S1	Replace board.
Fault on tie cable between control keypad board 3S1 and board I/O 25S3.	Replace cable.
Fault on board I/O 25S3	Replace board
Tie cable fault between board I/O 25S3 and board CPU 25S1.	Replace cable.
Fault on board CPU 25S1	Replace board

1.42 Alarm 098

Code 098 refers to the transmission of data between board CPU 25S1 and console board 1S2. The activation of this alarm disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Fault on board CPU 25S1	Replace board.
Fault on Console board 1S2	Replace board.
Tie cable fault between board CPU 25S1 and console 1S1 (fiber-optic cable)	Replace cable.
Fiber-optic cable disconnected	Connect cable.
Connection error on fiber-optic cable	Adjust connection.

1.43 Alarm 099

Code 099 refers to the absence of the command of the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Red stop button pressed on console	Restore stop button.
Console stop button disconnected from board 1S1	Restore connections.
Tracks interruptions or rosin joints on board 1S1	Restore connections or replace board.
Tie cable disconnected or incorrect connections between board 1S1 and 25S3	Connect cable or restore connections

Events that may cause the error	Problem solution
Red stop button pressed on remote keypad	Restore stop button.
Tie cable disconnected or incorrect connection between IB safety, stop button and board 25S3	Connect cable or restore connections.
Tilt total safety activated	Release tilt safety manually or using setup procedure. Check software and hardware control stops.
Tie cable disconnected or incorrect connection between tilt safety and board 25S3	Connect cable or restore connections.
Elevation total safety activated (if present)	Release elevation safety manually or following setup procedure. Check software and hardware control stops.
Tie cable disconnected or incorrect connection between tilt safety, elevation and board 25S3	Connect cable or restore connections.
IB safety activated	Release IB safety manually or following setup procedure. Check IB configuration and safety positioning.
Ceiling safety activated (if present)	Release ceiling safety manually or following setup procedure. Check room configuration and safety positioning.
Tie cable disconnected or incorrect connection between ceiling safety and board 25S3	Connect cable or restore connections.
Switch 25S3SW1-4 OFF and ceiling safety absent	Turn ON switch 25S3SW1-4.

Events that may cause the error	Problem solution
Watch-dog activated on board CPU 25S1	Check connections of watch-dog contact and board CPU 25S1. Adjust connections or replace board.
Incorrect connections between board 25S1 and 25S3 (watch-dog contact)	Restore connections.
Tracks interruptions or rosin joints on board 25S3	Restore connections or replace board.
Power supply failure +24Vcc for safety circuit on board 25S3	Check connections, power supplies on boards 25S3, the power supplies from the service transformer, fuses on transformer and power supplies. Replace boards 25S3, restore connections, replace fuses or auxiliaries transformer.

1.44 Alarm 101

Code 101 refers to the transmission of the parallel jaws and in particular to the position transducer (potentiometer and related circuits).

The activation of this alarm stops the equipment, it disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Potentiometer 3PT10 not functional	Replace potentiometer. Reconnect, reacquire and check control stops following setup procedure.
Potentiometer 3PT10 exceeds acquisition limits	Bring transmission within defined control stops limits following setup procedure or manually and recheck control stops.
Tie cable disconnected between board 25S3 and 3PT10	Reconnect cable. CAUTION must be exercised with the screen earth connection.

Events that may cause the error	Problem solution
Interruption in tie cable between board 25S3 and 3PT10	Replace cable.
Incorrect connections in tie cable between board 25S3 and 3PT10	Refer to functional diagrams to restore connections.
Tracks interruptions on board 25S3	Restore connections or replace board.
Rosin joints on the connectors of board 25S3	Restore joints or replace board.
Interruption in flat-cable 25S3CN2-25S1CN2	Replace flat-cable.
Fault on reading circuit ADC10 of board 25S1 CPU	Replace board.
Power supply failure +/-15V of reading circuit ADC10 of board 25S1	Check fuses on board 25S1, the power supplies from the service transformer, the connections, fuses and power supplies of the transformer. Replace fuses or board 25S1, restore connections, replace fuses or auxiliaries transformer 22TR2.
Sporadic errors	Error caused by external interferences. To restore activation switch the equipment off and on.

1.45 Alarm 111

Code 111 refers to the transmission of the perpendicular jaws and in particular to the position transducer (potentiometer and related circuits).

The activation of this alarm stops the equipment, it disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Potentiometer 3PT11 not functional	Replace potentiometer. Reconnect, reacquire and check control stops following setup procedure.
Potentiometer 3PT11 exceeds acquisition limits	Bring transmission within control stops defined limits following setup procedure or manually and recheck control stops.
Tie cable disconnected between board 25S3 and 3PT11	Reconnect cable. CAUTION must be exercised with the screen earth connection.
Interruption in tie cable between board 25S3 and 3PT11	Replace cable.
Incorrect connections in tie cable between board 25S3 and 3PT11	Refer to functional diagrams to restore connections.
Tracks interruptions on board 25S3	Restore connections or replace board.
Rosin joints on the connectors of board 25S3	Restore joints or replace board.
Interruption in flat-cable 25S3CN2-25S1CN2	Replace flat-cable.
Fault on reading circuit ADC11 of board 25S1 CPU	Replace board.

Events that may cause the error	Problem solution
Power supply failure +/-15V reading circuit ADC11 of board 25S1	Check fuses on board 25S1, the power supplies from the service transformer, the connections, fuses and power supplies of the transformer. Replace fuses or board 25S1, restore connections, replace fuses or auxiliaries transformer 22TR2.
Sporadic errors	Error caused by external interferences. To restore activation switch the equipment off and on.

1.46 Alarm 121

Code 121 refers to the transmission of the longitudinal drawer and in particular to the position transducer (reference photocell).

The activation of this alarm stops the equipment, it disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Photocell 3FC14 not functional	Replace photocell.
Power amplification board 3S3 not functional	Replace power amplification board.
Tie cable disconnected between photocell 3FC14 and board 3S3	Reconnect cable.
Interruption in tie cable between photocell 3FC14 and board 3S3	Replace cable.
Tie cable disconnected between board 3S3 and 24S9	Reconnect cable. CAUTION must be exercised with the screen earth connection.

Events that may cause the error	Problem solution
Interruption in tie cable between board 3S3 and 24S9	Replace cable.
Incorrect connections in cables	Refer to functional diagrams to restore connections.
Tracks interruptions on boards	Restore connections or replace board.
Rosin joints on connectors	Restore joints or replace boards.
Interruption in flat-cable 25S3CN2-25S1CN2	Replace flat-cables.

1.47 Alarm 122

Code 122 refers to the transmission of the longitudinal drawer and in particular to activation 24S6.

The activation of this alarm stops the equipment, it disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Activation not powered or powered by an out of range voltage value LED HV: OFF LED FAU: ON	Check tracks on board 24S9, the operation of power supply board 24S5, fuses on board 24S5, the power supplies from the power transformer, connections to transformer, fuses on transformer, the power supplies of the transformer and line voltage. Replace board 24S9, 24S6, fuses or board 24S5, restore connections, replace fuses or power transformer 22TR1.

Events that may cause the error	Problem solution
Activation powered by an out of range voltage value LED HV: OFF LED FAU: ON	Check line voltage, the operation of power supply board 24S5, the power supplies from the power transformer, the power supplies of the transformer. Replace board 24S5 and power transformer 22TR1.
Activation blocked by thermal protection LED TER: ON LED FAU: ON	Ventilators off or not functional, use of continuous transmission function. To restore operation switch activation off, let it cool down and switch the equipment back on.
Motor short-circuit LED HV: ON LED FAU: ON	Check tracks on board 24S9, the activation/motor tie cable and motor 3MT11. Replace cable and motor.
Error in motor connection LED HV: ON LED FAU: ON	Refer to functional diagrams to restore connections.
Tracks interruptions on board 24S9 Input 25S2-IN3 off	Restore connections or replace board.
Interruption in flat-cable 24S9CFC2-25S2CN2 Input 25S2-IN3 off	Replace flat-cable.
Rosin joints on the connectors of board 24S9 and 25S2 Input 25S2-IN3 off	Restore joints or replace boards.

Events that may cause the error	Problem solution
Input 25S2-IN3 not functional	Replace axes board 25S2.
Power supply failure +12Vcc for input/output board 25S2	Check connections, power supplies on boards 24S9 and 24S5, power supplies on power supply board 24S5, the power supplies from the service transformer, fuses on transformer and power supplies. Replace boards 25S2, 24S9 and 24S5, restore connections, replace fuses or auxiliaries transformer.

1.48 Alarm 131

Code 131 refers to the transmission of the transverse drawer and in particular to the position transducer (reference photocell).

The activation of this alarm stops the equipment, it disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Photocell 3FC15 not functional	Replace photocell.
Power amplification board 3S3 not functional	Replace power amplification board.
Tie cable disconnected between photocell 3FC15 and board 3S3	Reconnect cable.
Interruption in tie cable between photocell 3FC15 and board 3S3	Replace cable.
Tie cable disconnected between board 3S3 and 24S9	Reconnect cable. CAUTION must be exercised with the screen earth connection.

Events that may cause the error	Problem solution
Interruption in tie cable between board 3S3 and 24S9	Replace cable.
Incorrect connections in cables	Refer to functional diagrams to restore connections.
Tracks interruptions on boards	Restore connections or replace boards.
Rosin joints on connectors	Restore joints or replace boards.
Interruption in flat-cable 25S3CN2-25S1CN2	Replace flat-cable.

1.49 Alarm 132

Code 132 refers to the transmission of the transverse drawer and in particular to activation 24S8.

The activation of this alarm stops the equipment, it disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Activation not powered or powered by an out of range voltage value LED HV: OFF LED FAU: ON	Check tracks on board 24S9, the operation of power supply board 24S5, fuses on board 24S5, the power supplies from the power transformer, connections to transformer, fuses on transformer, the power supplies of the transformer and line voltage. Replace board 24S9, 24S8, fuses or board 24S5, restore connections, replace fuses or power transformer 22TR1.

Events that may cause the error	Problem solution
Activation powered by an out of range voltage value LED HV: OFF LED FAU: ON	Check line voltage, the operation of power supply board 24S5, the power supplies from the power transformer, the power supplies of the transformer. Replace board 24S5 and power transformer 22TR1.
Activation blocked by thermal protection LED TER: ON LED FAU: ON	Ventilators off or not functional, use of continuous transmission function. To restore operation switch activation off, let it cool down and switch the equipment back on.
Motor short-circuit LED HV: ON LED FAU: ON	Check tracks of board 24S9, the activation/motor tie cable and motor 3MT12. Replace cable and motor.
Error in motor connection LED HV: ON LED FAU: ON	Refer to functional diagrams to restore connections.
Tracks interruptions on board 24S9 Input 25S2-IN5 off	Restore connections or replace board.
Interruption in flat-cable 24S9CFC2-25S2CN2 Input 25S2-IN5 off	Replace flat-cable.
Rosin joints on the connectors of board 24S9 and 25S2 Input 25S2-IN5 off	Restore joints or replace boards.
Input 25S2-IN5 not functional	Replace axes board 25S2.

Events that may cause the error	Problem solution
Power supply failure +12Vcc for input/output board 25S2	Check connections, power supplies on boards 24S9, 24S5, fuses on power supply board 24S5, the power supplies from the service transformer, fuses on transformer and power supplies. Replace boards 25S2, 24S9 and 24S5, restore connections, replace fuses or auxiliaries transformer.

1.50 Alarm 133

Code 131 refers to the transmission of the transverse drawer and in particular to the microswitch of the drawer centre.

The activation of this alarm stops the equipment, it disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Microswitch 3FC21 not functional	Replace microswitch.
Power amplification board 3S3 not functional	Replace power amplification board.
Tie cable disconnected between photocell 3FC21 and board 3S3	Reconnect cable.
Interruption in tie cable between photocell 3FC21 and board 3S3	Replace cable.
Tie cable disconnected between board 3S3 and 24S9	Reconnect cable. CAUTION must be exercised with the screen earth connection.
Interruption in tie cable between board 3S3 and 24S9	Replace cable.

Events that may cause the error	Problem solution
Incorrect connections in cables	Refer to functional diagrams to restore connections.
Tracks interruptions on boards	Restore connections or replace boards.
Rosin joints on connectors	Restore joints or replace boards.
Interruption in flat-cable 25S3CN2-25S1CN2	Replace flat-cable.

1.51 Alarm 141

Code 141 refers to the transmission of the IB and in particular to the position transducer (reference photocell).

The activation of this alarm stops the equipment, it disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Microswitch 3FC19 not functional	Replace microswitch.
Power amplification board 3S3 not functional	Replace power amplification board.
Tie cable disconnected between photocell 3FC19 and board 3S3	Reconnect cable.
Interruption in tie cable between photocell 3FC19 and board 3S3	Replace cable.
Tie cable disconnected between board 3S3 and 24S9	Reconnect cable. CAUTION must be exercised with the screen earth connection.
Interruption in tie cable between board 3S3 and 24S9	Replace cable.

Events that may cause the error	Problem solution
Incorrect connections in cables	Refer to functional diagrams to restore connections.
Tracks interruptions on boards	Restore connections or replace boards.
Rosin joints on connectors	Restore joints or replace boards.
Interruption in flat-cable 25S3CN2-25S1CN2	Replace flat-cable.

1.52 Alarm 142

Code 142 refers to the transmission of the IB and in particular to activation 24S7.

The activation of this alarm stops the equipment, it disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Activation not powered or powered by an out of range voltage value LED HV: OFF LED FAU: ON	Check tracks on board 24S9, the operation of power supply board 24S5, fuses on board 24S5, the power supplies from the power transformer, connections to transformer, fuses on transformer, the power supplies of the transformer and line voltage. Replace board 24S9, 24S7, fuses or board 24S5, restore connections, replace fuses or power transformer 22TR1.
Activation powered by an out of range voltage value LED HV: OFF LED FAU: ON	Check line voltage, the operation of power supply board 24S5, the power supplies from the power transformer, the power supplies of the transformer. Replace board 24S5 and power transformer 22TR1.

Events that may cause the error	Problem solution
Activation blocked by thermal protection LED TER: ON LED FAU: ON	Ventilators off or not functional, use of continuous transmission function. To restore operation switch activation off, let it cool down and switch the equipment back on.
Motor short-circuit LED HV: ON LED FAU: ON	Check tracks on board 24S9, the activation/motor tie cable and motor 3MT16. Replace cable and motor.
Error in motor connection LED HV: ON LED FAU: ON	Refer to functional diagrams to restore connections.
Tracks interruptions on board 24S9 Input 25S2-IN4 off	Restore connections or replace board.
Interruption in flat-cable 24S9CFC2-25S2CN2 Input 25S2-IN4 off	Replace flat-cable.
Rosin joints on the connectors of board 24S9 and 25S2 Input 25S2-IN4 off	Restore joints or replace boards.
Input 25S2-IN4 off	Replace axes board 25S2.
Power supply failure +12Vcc for input/output board 25S2	Check connections, power supplies on boards 24S9 and 24S5, fuses on power supply board 24S5, the power supplies from the service transformer, fuses on transformer and power supplies. Replace boards 25S2, 24S9 and 24S5, restore connections, replace fuses or auxiliaries transformer.

1.53 Alarm 143

Code 143 refers to the transmission of the IB of the low IB microswitch.

The activation of this alarm disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Microswitch 3FC20 not functional	Replace microswitch.
Power amplification board 3S3 not functional	Replace power amplification board.
Tie cable disconnected between photocell 3FC15 and board 3S3	Reconnect cable.
Interruption in tie cable between photocell 3FC20 and board 3S3	Replace cable.
Tie cable disconnected between board 3S3 and 24S9	Reconnect cable. CAUTION must be exercised with the screen earth connection.
Interruption in tie cable between board 3S3 and 24S9	Replace cable.
Incorrect connections in cables	Refer to functional diagrams to restore connections.
Tracks interruptions on boards	Restore connections or replace boards.
Rosin joints on connectors	Restore joints or replace boards.
Interruption in flat-cable 25S3CN2-25S1CN2	Replace flat-cable.

1.54 Alarm 151

Code 151 refers to the transmission of the grid and in particular to the position transducer (reference photocell).

The activation of this alarm stops the equipment, it disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Photocell 3FC18 not functional	Replace photocell.
Power amplification board 3S3 not functional	Replace power amplification board.
Tie cable disconnected between photocell 3FC18 and board 3S3	Reconnect cable.
Interruption in tie cable between photocell 3FC18 and board 3S3	Replace cable.
Tie cable disconnected between board 3S3 and 24S9	Reconnect cable. CAUTION must be exercised with the screen earth connection.
Interruption in tie cable between board 3S3 and 24S9	Replace cable.
Incorrect connections in cables	Refer to functional diagrams to restore connections.
Tracks interruptions on boards	Restore connections or replace boards.
Rosin joints on connectors	Restore joints or replace boards.
Interruption in flat-cable 25S3CN2-25S1CN2	Replace flat-cable.

1.55 Alarm 152

Code 152 refers to the transmission of the grid and in particular to activation 24S4. The activation of this alarm stops the equipment, it disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Activation not powered or powered by an out of range voltage value LED HV: OFF LED FAU: ON	Check tracks on board 24S9, the operation of power supply board 24S1, fuses on board 24S1, the power supplies from the power transformer, connections to transformer, fuses on transformer, the power supplies of the transformer and line voltage. Replace boards 24S9, 24S4, fuses or board 24S1, restore connections, replace fuses or power transformer 22TR1.
Activation powered by an out of range voltage value LED HV: OFF LED FAU: ON	Check line voltage, the operation of power supply board 24S1, the power supplies from the power transformer, the power supplies of the transformer. Replace board 24S1 and power transformer 22TR1.
Activation blocked by thermal protection LED TER: ON LED FAU: ON	Ventilators off or not functional, use of continuous transmission function. To restore operation switch activation off, let it cool down and switch the equipment back on.
Motor short-circuit LED HV: ON LED FAU: ON	Check tracks on board 24S9, the activation/motor tie cable and motor 3MT15. Replace cable and motor.

Events that may cause the error	Problem solution
Error in motor connection LED HV: ON LED FAU: ON	Refer to functional diagrams to restore connections.
Tracks interruptions on board 24S9 Input 25S2-IN6 off	Restore connections or replace board.
Interruption in flat-cable 24S9CFC2-25S2CN2 Input 25S2-IN6 off	Replace flat-cable.
Rosin joints on the connectors of board 24S9 and 25S2 Input 25S2-IN6 off	Restore joints or replace boards.
Input 25S2-IN6 not functional	Replace axes board 25S2.
Power supply failure +12Vcc for input/output board 25S2	Check connections, power supplies on boards 24S9 and 24S5, fuses on power supply board 24S5, the power supplies from the service transformer, fuses on transformer and power supplies. Replace boards 25S2, 24S9 and 24S5, restore connections, replace fuses or auxiliaries transformer.

1.56 Alarm 161

Code161 refers to the transmission of the longitudinal plan and in particular to the position transducer (potentiometer and related circuits).

The activation of this alarm disables the power transformer connection relay. All movements are disabled, the layer display flashes and shows the alarm code while the remaining displays switch off.

Possible alarm causes	Problem solution
Potentiometer 3PT17 not functional	Replace potentiometer. Reconnect, reacquire and check control stops following setup procedure.
Potentiometer 3PT17 exceeds acquisition limits	Bring tilt within defined limits, following setup procedure or manually. Recheck control stops.
Tie cable disconnected between board 25S3 and 3PT17	Reconnect cable. CAUTION must be exercised with the screen earth connection.
Interruption in tie cable between board 25S3 and 3PT17	Replace cable.
Incorrect connections in tie cable between board 25S3 and 3PT17	Refer to functional diagrams to restore connections.
Tracks interruptions on board 25S3	Restore connections or replace board.
Rosin joints on the connectors of board 25S3	Restore joints or replace board.
Interruption in flat-cable 25S3CN2-25S1CN2	Replace flat-cable.
Fault on reading circuit ADC6 of board 25S1 CPU	Replace board.

Events that may cause the error	Problem solution
Power supply failure +/-15V on the power supplies of reading circuit ADC6 in board 25S1	Check fuses on board 25S1, the power supplies and connections from the service transformer, fuses and power supplies on transformer. Replace fuses or board 25S1, restore connections, replace fuses or auxiliaries transformer 22TR2.
Sporadic errors	Error caused by external interferences. To restore activation switch the equipment off and on.

1.57 Alarm 163

Code 163 refers to the transmission of the longitudinal plan during movement. Through the position transducer (potentiometer and related circuits) the software determines the incorrect direction of movement.

The activation of this alarm stops the equipment, it disables the power transformer connection relay. All movements are disabled, the layer display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Inverted motor and generator	Refer to functional diagrams to restore connections.
Inverted dac connections	Refer to functional diagrams to restore connections.
All events that may cause error 161 (problems with potentiometer and related circuits)	See error 161 .

1.58 Alarm 164

Code 164 refers to the transmission of the longitudinal plan and in particular to the motor reducer.

Through the position transducer (potentiometer and related circuits) the software determines the movement without command of the transmission.

The activation of this alarm stops the equipment, it disables the power transformer connection relay. All movements are disabled, the layer display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Motor reducer reversibility	Replace motor reducer.
All events that may cause error 161 (problems with potentiometer and related circuits)	See error 161 .

1.59 Alarm 189÷196

Codes 189÷196 refer to board CPU 25S1.

The activation of this alarm disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Board CPU 25S1 not functional	Replace board CPU.

1.60 Alarm 197

Code 197 refers to the axes board for stepper motors 25S2.

The activation of this alarm disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Axes board 25S2 not functional	Replace axes board.

1.61 Alarm 198

Code 198 refers to the transmission of data between board CPU 25S1 and PC in setup mode in <Telediagnosis>. The activation of this alarm disables the power transformer connection relay. All movements are disabled, the layer display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Serial cable or connection by modem interrupted	Recheck cable. To restore operation switch the equipment off and on.

1.62 Alarm 199

Code 199 refers to the transmission of data between board CPU 25S1 and PC in telecontrol mode in <Telediagnosis>. The activation of this alarm disables the power transformer connection relay. All movements are disabled, the layer display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Serial cable or connection by modem interrupted	Recheck cable. To restore operation switch the equipment off and on.

1.63 Alarm 200

Code 200 refers to the fault of Eeprom mounted on board 25S1. The activation of this alarm disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Eeprom not functional	Replace Eeprom. Reinsert default data on Eeprom in setup mode. Acquire configuration data, control stops and calibration following the service manual.
Eeprom absent	Insert Eeprom.

1.64 Alarm 201

Code 201 refers to the content of Eeprom mounted on board 25S1.

The activation of this alarm disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.

Events that may cause the error	Problem solution
Eeprom new (during testing)	Reinsert default data on Eeprom in setup mode. Acquire configuration data, control stops and calibration following the service manual.
Replace board CPU 25S1	Remove Eeprom from the replaced board.
Eeprom content modified due to change in software version	Follow instructions enclosed with software version.
Eeprom dirty	Reinsert default data on Eeprom in setup mode. Acquire configuration data, control stops and calibration following the service manual.

1.65 Alarm 202

Code 202 identifies the activation of a hypothetical alarm that has been generated but not dealt with by the application software. There are no plausible events that may activate this alarm.

The activation of this alarm disables the power transformer connection relay. All movements are disabled, the angle of tilt display flashes and shows the alarm code while the remaining displays switch off.