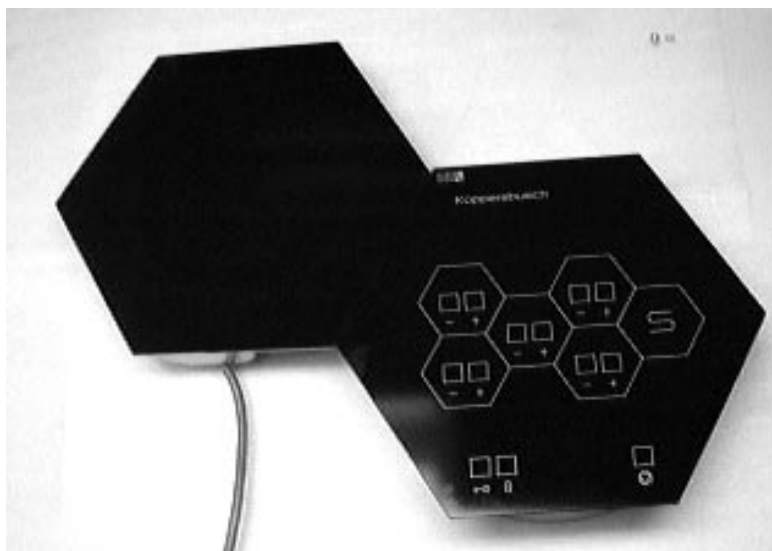


KÜPPERSBUSCH

After-Sales Service



Technical Manual

ESW 307.6 / EKW 306.0 /

EKW 306.1

VKS-H	Technical Manual ESW 307.6 / EKW 306.0 / EKW 306.1		H1-58-01
Responsible: D. Rutz	Phone.: (0209) 401-733	Fax: (0209) 401-743	Date: 4.06.1997

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1 Introduction and safety advisory

The ESW 307.6 is a photosensor-based control. This is designed to permit non-contact control of the cooking elements.

These documents are intended as an accompaniment for practical training of the customer service technician.

SAFETY ADVISORY

These devices are constructed in accordance with relevant safety regulations.

Mains connection, maintenance and repair of these devices are to be carried out only by an authorized specialist following the relevant safety regulations. Improperly performed work will endanger your safety.

Before opening the unit, the mains must be disconnected!

Further General Recommendations can be found in the Guide for Use and Assembly for Cooktops with Sensor Control Series ESW / EKW.

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2 Tools and Aids

The following tools are required for problemless customer service:

- Digital multimeter incl. measuring probes
- Battery powered or gas soldering iron
- Solder
- Small ratchet assortment
- 5.5 mm socket spanner (Belzer No. 6400-5.5)
- 8.0 mm socket spanner
- Flat screwdriver with a blade of max. 1.6 x 0.5 mm (for adjusting pots)
- Small sidecutters
- Small flat nose pliers
- Tweezer assortment
- Flat screwdrivers, various sizes (very important: with short grips)
- Phillips screwdrivers, various sizes (very important: with short grips)
- Torch, angled
- Small pocket mirror

In addition, the following aids are required :

- Power supply for calibration
- Adjusting angle for calibrating photosensors
- Glass cleaner, Sidolin or similar
- Cleaning cloths

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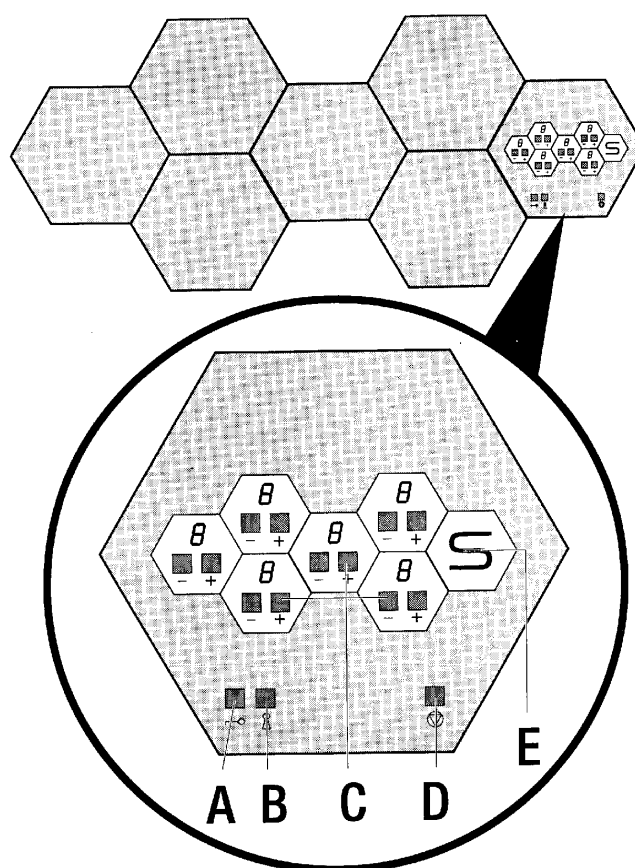
Date: 4.06.1997

3 Function description

3.1 Sensor operation with the control panel

Since the number and location of the honeycomb units can be individually determined, the control units must be adapted to the arrangement of the honeycomb unit configuration which you have selected. You may use your creativity here. The markings on the control unit correspond to the arrangement of the honeycomb units on the hob, so as to make operation as intuitive as possible.

A control unit can operate up to 6 honeycomb units. Should more than 6 honeycomb units be connected in a system, a second control unit is required. The control function of the controller always includes also control of the dual-circuit cooking zone and auto cook, as well as the child safety feature which locks out the electronics.



A Key-sensor and

B Lock sensor for the childproof lock

C Control panels for the honeycomb units with Plus and Minus sensors (example configuration)

D Central OFF sensor

E This panel has no switching function. It simply indicates the position of the control unit.

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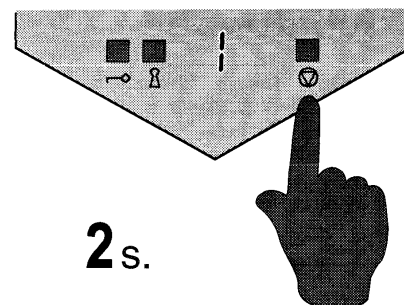
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3.2 Turn on

Hold down the central OFF sensor for ca. 2 seconds.

A vertical bar between the central OFF sensor and the childproof lock illuminates.

The appliance is ready (stand-by mode).



2 s.

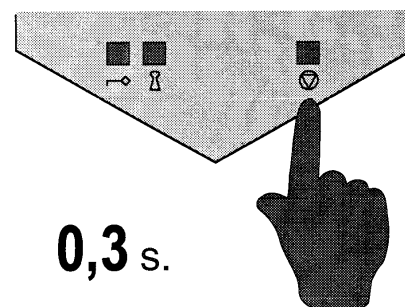
3.3 Turn off

Briefly (ca. 0.3 seconds) press the central OFF sensor.

The control unit automatically switches itself off again if:

- no other sensor is pressed within 20 seconds*,
- the control unit remains unused after 10 minutes of operation, or
- a cooking zone sensor is pressed for longer than 20 seconds*.

* After 10 seconds an acoustic warning signal indicates that the unit will shut itself off after 10 more seconds have elapsed.

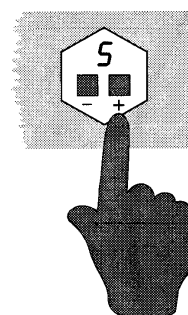


0,3 s.

3.4 The cooking levels

There are 9 cooking levels (1-9). The cooking levels are indicated in the display for the respective cooking zone. The desired level can be selected using the Plus sensor (cooking without auto parboil) or the Minus sensor (cooking with auto parboil). There is no null position.

All cooking zones have an auto parboil function available.



3.5 Cooking without auto parboil

Press the Plus sensor. The cooking zone starts at Level 5. Now select the desired cooking level.

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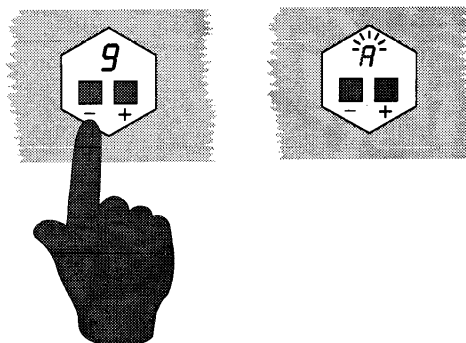
Date: 4.06.1997

3.6 Cooking with auto parboil

Press the Minus sensor. The cooking zone starts at Level 9, and the auto parboil function is activated. Now switch down to the desired cooking level. After the auto parboil function is completed, the cooking zone switches over to the desired cooking level.

During auto mode, the display flashes "A" alternating with the preset cooking level.

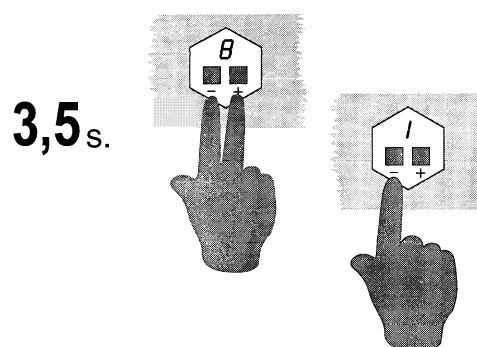
One can still switch back and forth between the individual cooking levels; the remaining time for the auto parboil is carried over.



3.7 Switch off the cooking levels

Press the Plus and Minus sensors simultaneously for ca. 3.5 seconds.

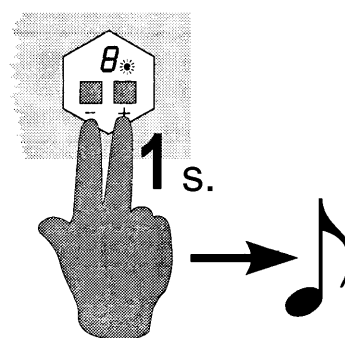
Hold the Minus sensor down. The cooking levels are counted down. After cooking level 1 the cooking zone goes off.



3.8 Dual-circuit cooking zones EKW 306.1

Dual-circuit zones are indicated by a blinking dot in the associated display.

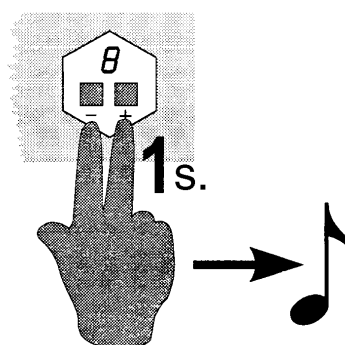
Hold down the Plus and Minus sensor simultaneously for ca. 1 second. The indicator light next to the display for the cooking level comes on and an acoustic signal is generated.



3.9 Switch off the dual-circuit zone

Hold down the Plus and Minus sensor simultaneously for ca. 1 second.

The indicator light goes out and an acoustic signal is generated to indicate that the dual-circuit zone is off.



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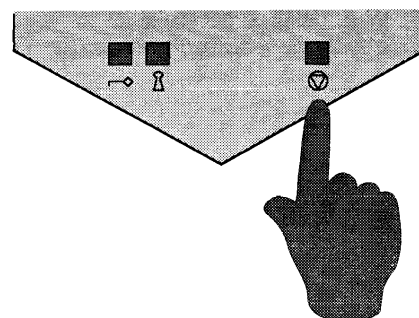
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3.10 The central OFF function

The central OFF sensor can be used to immediately turn off all functions independent of each other.

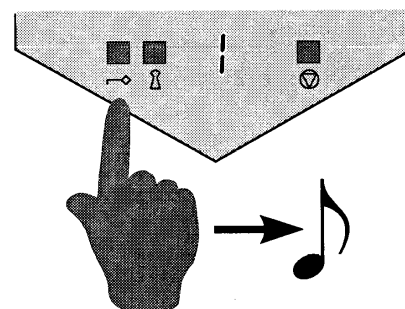


3.11 Child safety feature (sensor lockout)

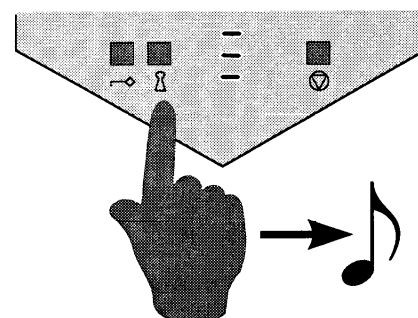
The sensor lockout can be used to prevent unauthorized use of the device. Disable the hob as follows:

Press the key sensor until an acoustic signal is heard.

Then press the lock sensor until an acoustic signal is heard.

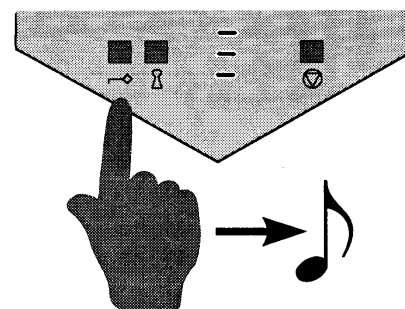


Lockout status is indicated by 3 horizontal bars in the stand-by display.



To unlock the cooking hob:

Press the key sensor until an acoustic signal is heard.



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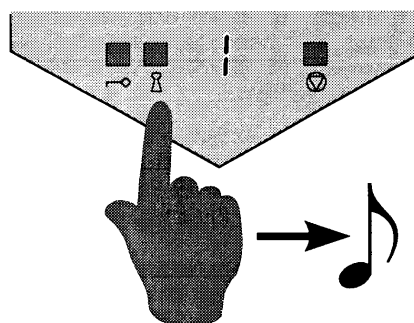
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Then press the lock sensor until an acoustic signal is heard.

Unlock status is indicated by a vertical bar in the standby display. Sensor lockout remains in effect even after the system is turned off. It is also unaffected by presence or absence of mains power.



3.12 Additional functions

Pressing two or more sensors at the same time, e.g. if a pot is accidentally placed against the sensors, does not generate a switching function. After 10 seconds an audible signal is heard, and after 20 seconds the entire electronics is shut off. Exceptions:

- Disabling the sensor lockout
- Switching dual-circuit zone on or off
- Switching off cooking zones.

If a sensor is actuated after reaching the highest level, a signal is heard after 10 seconds, and after 20 seconds the entire electronics is shut off.

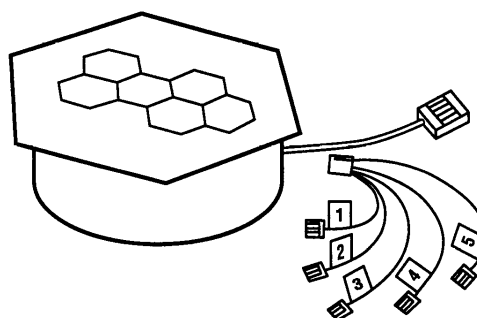
There is no automatic start-up after a power loss.

4 Electrical connection

4.1 Connecting honeycomb element to control unit

A control unit can handle up to 6 honeycomb elements.

Up to 3 EKW 306.1 dual-circuit cooking zones can be connected to one control unit.



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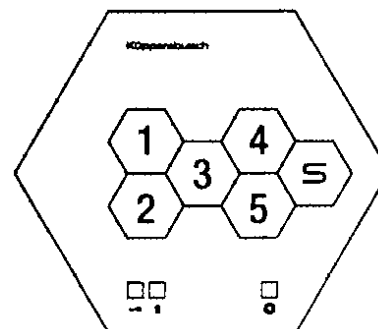
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Follow the wiring diagram exactly when making connections!

A wiring diagram is included with the ESW 307.6 control unit, with a number corresponding to each honeycomb element. These numbers are also found on the wiring guide for the honeycomb element. This allows you to easily determine which sensors control which honeycomb elements.

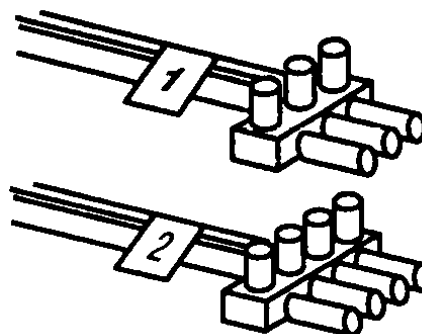


4.2 The connector

for the EKW 306.1 cooking zone has 3 connections

for the EKW 306.1 dual-circuit cooking zone has 4 connections

The connections are marked on the plugs
(N / L1 / L2 / etc.)



4.3 Connecting the mains

This connection must be made by trained personnel. Standard good electrical practice as well as any regulations of the local electricity provider must be strictly observed.

The control must have no voltage to it during assembly.

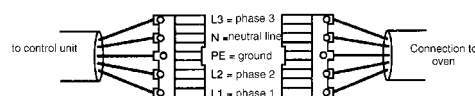
Open the isolation device on the installation side.

Insert the compact plug for the control into its mate on the connection side.

Connected load: 400 V 3N~ 50 Hz

Power consumption: max 8.7 kW

Using single-phase mains supply is only possible if maximum two single- and one dual-circuit elements are connected.



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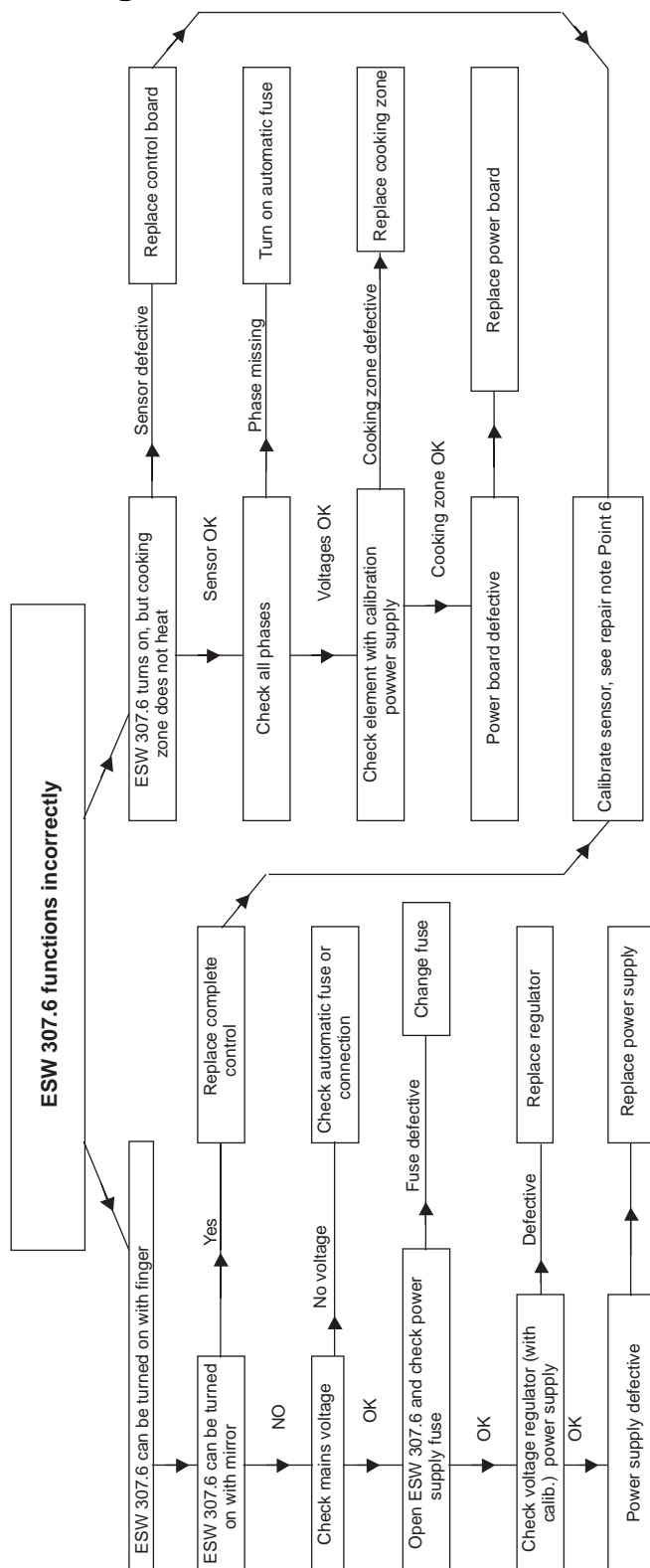
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5 Error diagnostics



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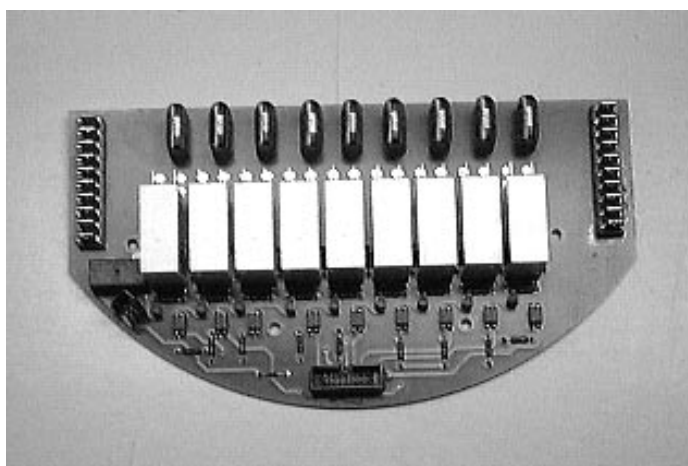
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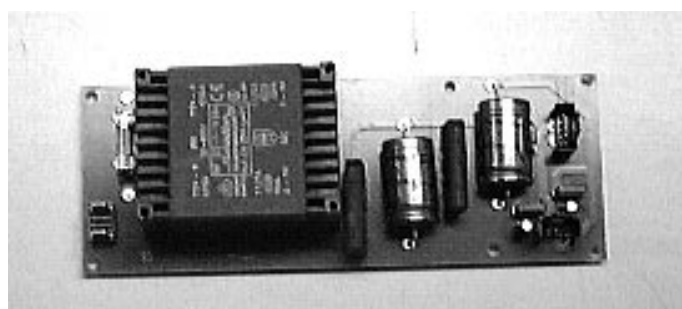
Date: 4.06.1997

6 ESW 307.6 components

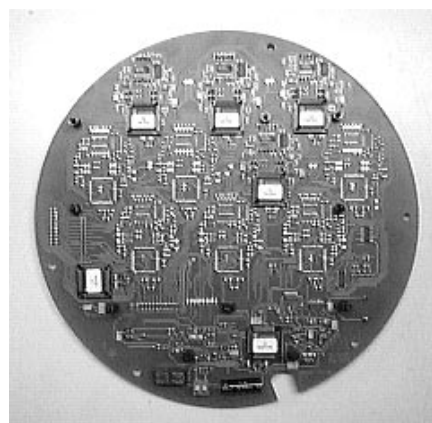
LE01 power unit



NE01 power supply



Control

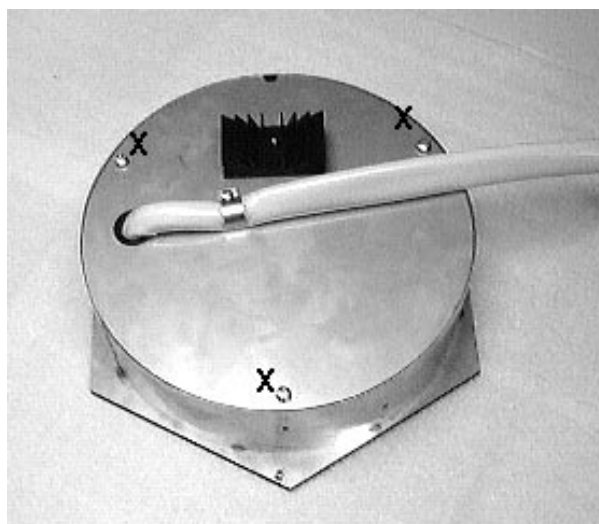


7 Disassembling the individual components

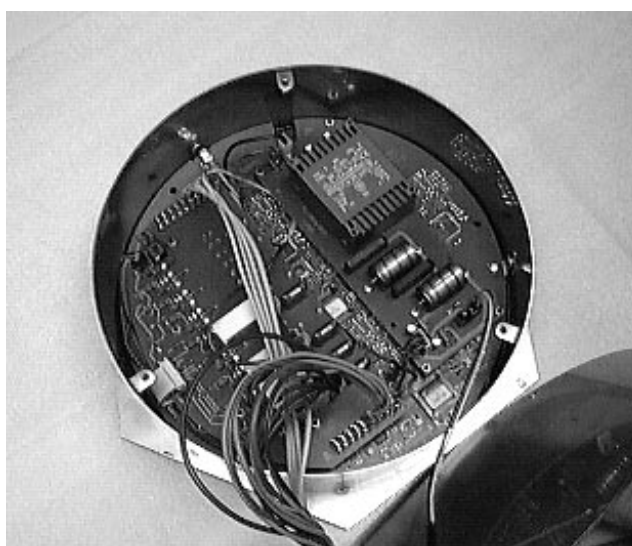
7.1 Disassembling the control

Before opening the unit, please read the safety advisory!

To remove the housing cover, the screws marked with an X must be unscrewed.



After removing the screws, set the cover carefully aside.

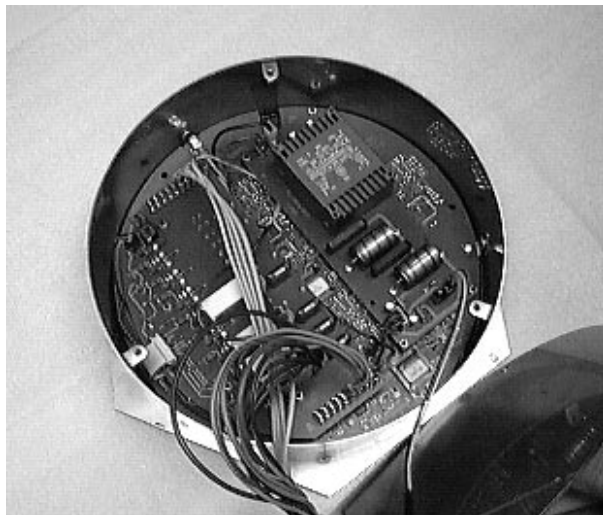


7.2 Disassembling the NE01 power supply

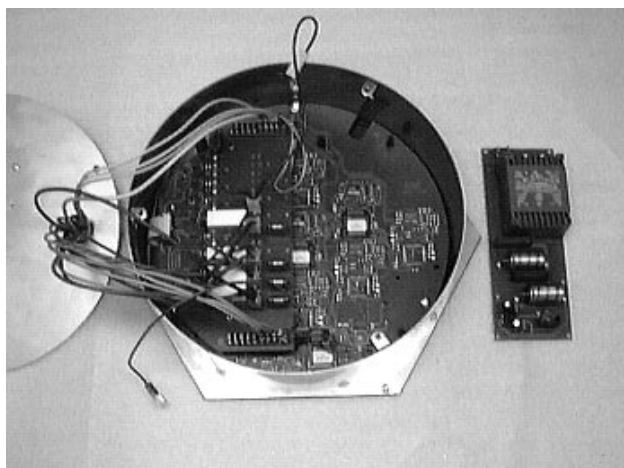
To disassemble the NE01 power supply, the connectors must first be removed (the connectors cannot be reversed when reassembling, since they all have different numbers of pins.).

Finally, a 5.5 mm socket spanner can be used to remove the nuts on the power supply.

Now the power supply can be removed from the housing.



To reassemble, follow the above steps in reverse order.



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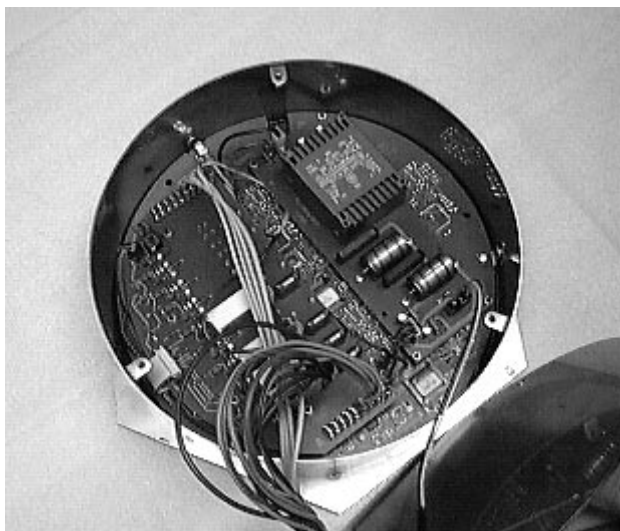
7.3 Disassembling the LE01 power unit

When removing the power unit, have a new unit ready and at hand.

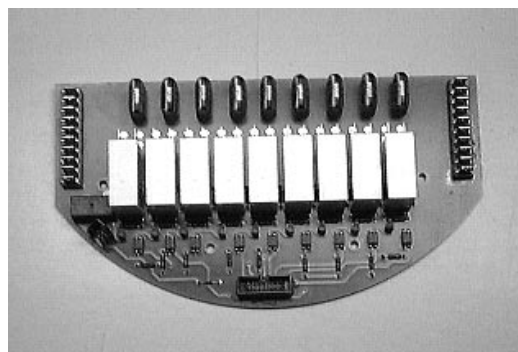
The electrical connections to the power unit are removed one by one and reconnected to the new unit in the same positions.

Do not reverse any of the electrical leads!

After the new connections are made, use a 5.5 mm socket spanner to remove the power unit nuts and remove the circuit board. Now insert the new power unit into the housing and close it up.



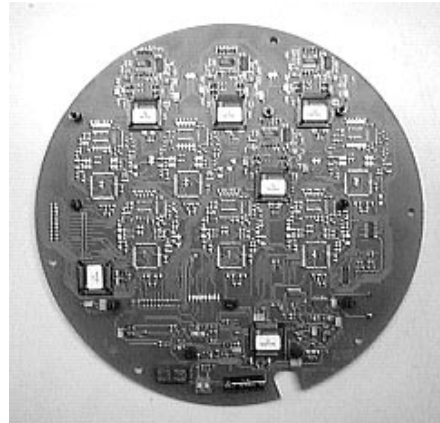
LE01 power unit



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7.4 Disassembling the control board

The control board can only be disassembled after the NE01 power supply and LE01 power unit have been removed.

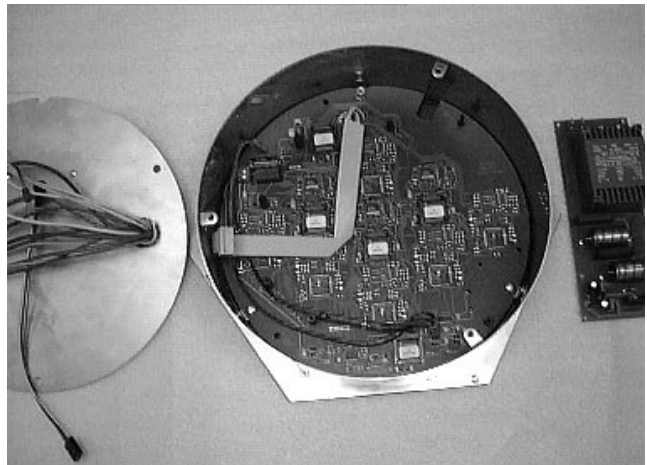


Finally, remove the 3 mounting screws from the control board. The circuit board is removed by lining up the cutout with one of the upper mounting brackets. Then remove it by lifting upwards.

Insert the new circuit board and fasten it using the 3 screws.

Use the torch to illuminate the circuit board from behind. Now the position of the individual components can be checked from above.

Should the photosensors and the imprint on the Ceran disc not coincide, the circuit board must be loosened again in order to bring it into the correct position. When the photosensors match the position of the imprint on the Ceran disc, the 3 screws can be tightened down.



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8 Calibrating the sensor electronics

Aids: Adjusting angle for sensor electronics
 Power supply for calibration

- The power supply is now electrically connected to the control board.
- Turn all potentiometers to full CCW position.
- Clean Ceran disc with glass cleaner.
- Start with the "ON-OFF" sensor. Set the adjusting angle from above on the Ceran disc on the corresponding module. Now turn the potentiometer slowly CW until the electronics turns on as indicated with the audible tone.
- After the angle adjustment, the sensor should be tested again using your finger, i.e. the sensor should respond at a height of ca. 1 cm.
- Turn one sensor pot to the "11 o'clock" position.
- Turn the control on again and touch the previously calibrated sensor directly with the finger, then calibrate again using the adjusting angle!
- Next, calibrate all cooking zone sensors in the same way.
- Finally, the "key-lock" combination is set. First set the key sensor as described earlier. Note that there is a short delay time until the acoustic signal comes on, i.e. the switchpoint must be very slowly searched with the potentiometer.
- The lock sensor can be set using the key sensor. Hold the setting angle on the lock sensor, use your finger to hold and activate the key sensor until the acoustic signal is heard. Now you must immediately begin adjustment of the pots, since only 2 seconds are available for this procedure. The process must be repeated, since the switchpoint must however be hit exactly, since improper function will result otherwise.

At the conclusion of the setting procedure, test each sensor again using your finger.

Assemble by following the steps described in the previous pages in reverse order.

