

REPAIR MANUAL



Microwave ovens Inverter appliances 27l rotary selector

I.	SAFETY INFORMATION	Page	1
II.	FUNCTION DESCRIPTION/TECHNICAL INFORMATION	Page	4
III.	CONSUMPTION VALUES/ENERGY REQUIREMENTS/MISCELLANEOUS DATA	Page	6
IV.	REPAIRS	Page	7
V.	SUPPLEMENTS	Page	15

I. SAFETY INFORMATION

The appliances must be electrically disconnected from the mains before any repairs. Always use leakage current circuit breakers for tests which need to be carried out under powered conditions. After completion of the repair, a function and tightness test must be carried out, in addition to a test in accordance with VDE 0701.



WARNING!
Dangerous voltages running inside the appliance!

- Disconnect the appliance from the mains before removing the housing or opening the switch panel. Discharge the high-voltage capacitors before carrying out work in the high-voltage section.



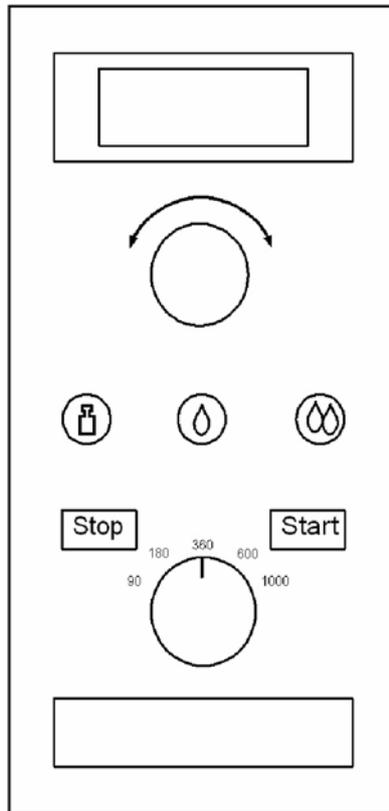
CAUTION!
Danger of damage to the appliance or to components!

Please always observe the following information:

- Never touch the conducting paths of the electronic circuit boards! MOS components!
- **Never carry out repairs by replacing components frantically and unnecessarily!**
Always proceed in a systematic manner and observe information on fault tracing!



1. Control panel





2. Features:

- 1000W microwave output with 5 power settings 90/180/360/600/1000 W
- Weight-calculated automatic defroster with 4 and 3 ranges
- 27l cooking compartment, coated or stainless steel (grill variants) with 34cm turntable
- Simple operating electronics system with retractable rotary controls.
- Recipe book
- Includes built-in frame
For tall housing with a width of 60cm!

- The built-in frames are mounted with a **new mounting technology**. They are no longer attached with screws in the built-in recess, but instead attached with **clips**. The cover is fitted with retaining brackets on all 4 corners, which fit into the catch opening of the holding parts.



II. FUNCTION DESCRIPTION/TECHNICAL INFORMATION

1. Control of the MW output power

The output levels are regulated by the inverter module using a signal from the control circuit board. The power relay for the voltage supply always remains on during microwave operation.

1.1 Output levels

The cycle times are lodged in the control electronics system.

Output (W)	Power relay (K1)	Inverter control signal
1000	On	ON
600	On	ON
360	On	ON
180	On	cycled
90	On	cycled

The heating up of the filament in the magnetron is taken into account in the cycle times by a length of 1-2 seconds.

2. Electronic starting current limit

As in the case of the predecessor models, the starting current limit is replaced by the zero-crossing recognition in the processor module. Through targeted connection of the voltage, which is **always** in the zero-crossing of the sine wave (in each cycle), it is guaranteed that the starting current remains very small. In case of missing/incorrect functions in the starting current limit, the module control (electronic circuit board) must be replaced.

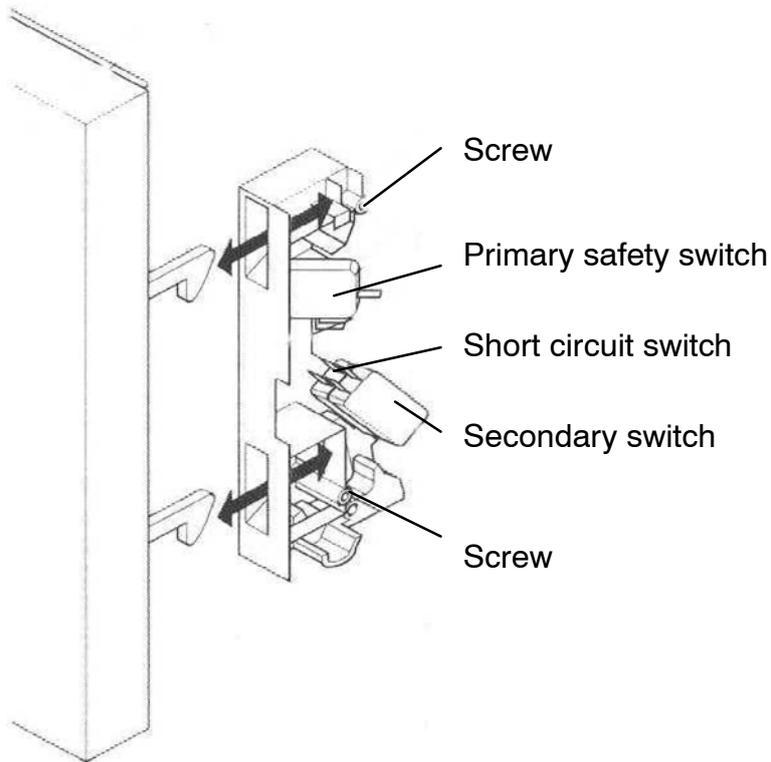
3. Door safety switches

- 3 safety switches are present in the appliance.
- The switches are mounted on a plastic housing (to the left behind the control panel).
- The switches are activated by two door latches.

Note: for the location and function of the individual switches, see circuit documentation.

It is only possible to adjust the switches by adjusting the entire plastic housing. This can then be shifted by 1-2mm by means of the two fastening screws.

There should ideally be no clearance between the cooking compartment and the door.



4. Omission of the 1.25A fuse (safety circuit)

- **No different fuses for the high-voltage and safety circuit.**

In the case of a defective fuse (10A), the cause of the fault can no longer be limited to the high-voltage circuit with certainty. There is also the possibility that the door safety switch is improperly adjusted or not fully functional.

5. Cooling fan

The cooling fan is always switched on during microwave operation and runs for a maximum of 1 minute on a time control afterwards.



III. CONSUMPTION VALUES/ENERGY REQUIREMENTS/MISCELLANEOUS DATA

1. Technical specifications

1.1 Dimensions:

Appliance: H x W x D = 30.0 x 51.0 x 38.0cm

Cooking compartment: H x W x D = 22.0 x 35.0 x 34.0cm

Installation: H x W x D = 36.2-36.5 x 46.2/56.2 x 30.0cm

1.2 Cooking compartment volume: 27l

1.3 Weight (net): 11kg

1.4 Electrical connection

Three-pin plug with power cable
3 x 1.5mm@, length = approx. 1.5m

Voltage: 220/230V 50Hz

Fuse: 10 A

Total connected load: 1240W

2. Electrical test data

See test data sheet in the circuit documentation.



IV. REPAIR

1. Safety information



Warning:
Always observe the following information!

Repairs to a microwave oven may only be carried out by a trained customer service technician! Repairs must only be carried out after disconnecting the mains plug! Discharge the high-voltage capacitor (inverter board) to the appliance earth before starting repair work! When removing or replacing the following appliance parts, there is a risk posed to the person carrying out the repairs.

By voltages over 250V against earth.

Housing cover
(Magnetron, high-voltage inverter board)

By microwave energy.

Door safety switches, door microwave shield, waveguide.

By missing earthing of the inverter unit.

Check the inverter board earthing. The board must be earthed via the housing earthing with the use of an earthing pad. Otherwise, very dangerous high voltages may be present on the board!

Check whether correct earthing is present via the housing earthing which features an earthing pad and earthing screw.

Caution! Microwave energy!

Customer service personnel should not expose themselves to the microwave energy which may be emitted by the magnetron in case of improper use or connection. All microwave input and output connections, waveguides, flanges and seals must be secure. The appliance should never be operated without an absorption charge.

Never look into an open waveguide when the appliance is in operation. A microwave tightness check must be carried out after working in the vicinity of the door and antenna, in the waveguide, after changing the magnetron or after replacing components which have been led through the walls of the cooking compartment.



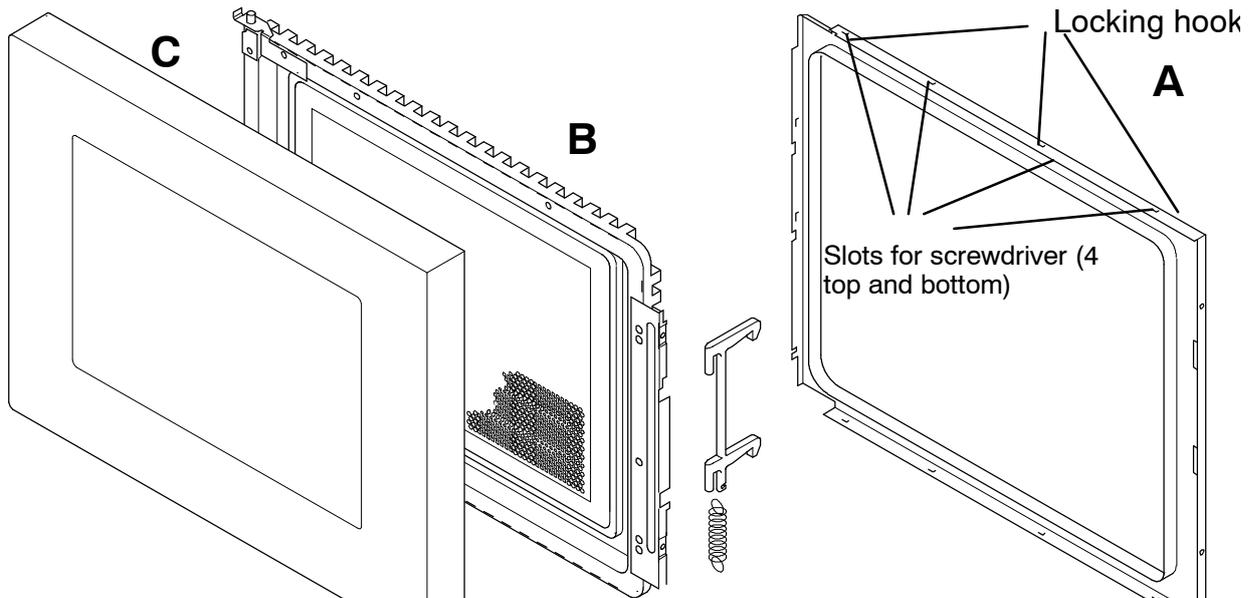
2. Replacing components

2.1 Built-in frame

See "Features".

2.2 Door unit

Firstly, the plastic cover **A** must be removed. There are 6 locking hooks in total (3 top, 3 bottom) on the interior of the cover. Carefully pry these out from part **C** with a flathead screwdriver. The slots on the cover can also be used for this.



Finally, remove the door hook upwards together with the spring. Now the outer door (C) can be removed from the door lining (B) by loosening the 4 cross-head screws. **Warning!** The outer door is also fixed with 8 plastic locking catches, however these can be broken off very easily when disassembling.

- **Stainless steel appliances** have an additional earthing clip, located to the bottom left of the door when viewed from the front, in order to secure the earthing to the outside.

Assembly is carried out by following the steps listed above in reverse order.

2.3 Turntable motor

To carry out repair work on the turntable motor, the appliance must be accessible from underneath (remove the turntable etc. first). Tip the appliance onto its rear wall and loosen the cover plate by removing the 6 screws. Finally, cut through the embossed sheet with a side cutter at the 8 mounting bars. Now the plate can be removed and the motor is accessible.

Assembly is carried out in reverse order. Please observe that the cover plate must be turned by 180 degrees to allow the tabs to be pushed into the slots provided. The final necessary step is the locking with a screw.

2.4 Cooking compartment lamp



Microwave ovens

The cooking compartment lamp (240–250V, 25W) is only accessible if the housing cover is dismantled and may only be changed by service personnel. It consists of a complete element, base and bulb.

2.5 Control and operation electronics

The electric modules are accessible after removing the housing cover. A test of the tactile switches can only be carried out by removing and performing measurements on the board.

2.6 High-voltage components

As is normally the case for this appliance series, these are accessible after disassembling the appliance and removing the housing case

2.6.1 Magnetron

1. Discharge high-voltage capacitors (on inverter board!).

(Short circuit the two cable lugs at the connection of the magnetron)

2. Loosen the temperature limiter connections.

3. Loosen the limiter's fastening screws.

4. Remove screws on the air conduction plate.

5. Remove strut rail.

6. Place the air duct, including the cooking compartment lamp, to one side.

7. Remove both leads from the magnetron.

8. Loosen the 4 fastening screws on the magnetron and remove the magnetron.

- **Warning:** Only use the magnetron outlined in the replacement parts documentation. This is intended for this specific inverter technology.

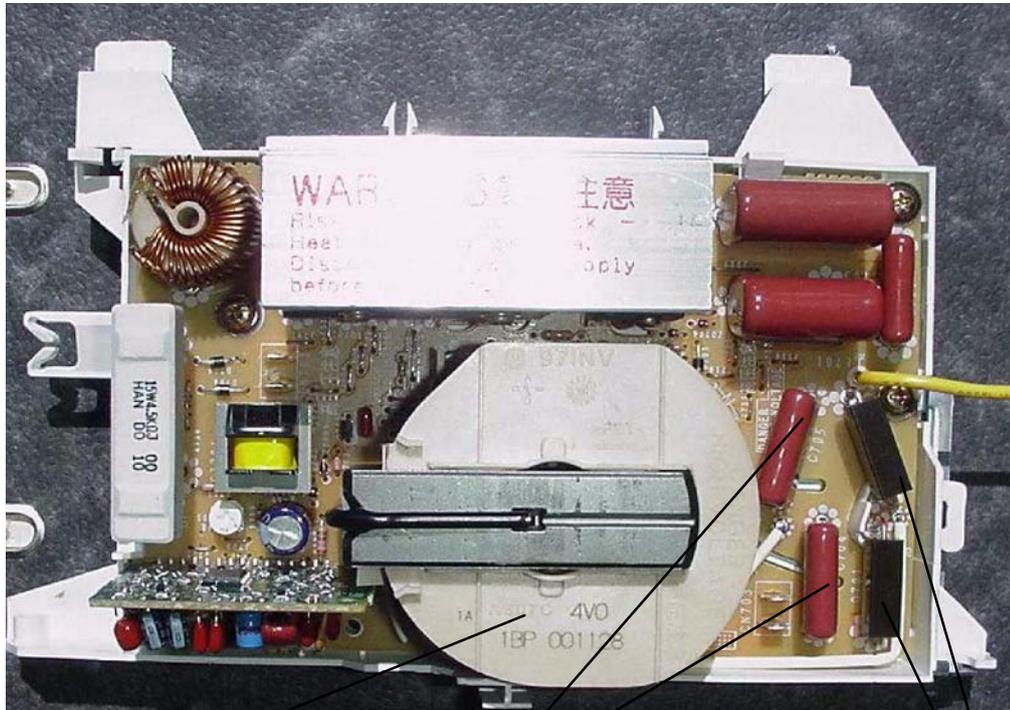
Assembly is carried out in reverse order. When doing so, ensure correct mounting of the magnetron (sealed from the cooking compartment). Tighten fastening screws fully!



2.6.2 Inverter power module

Warning! Do not try to repair the inverter unit, this module should always be replaced in its entirety!

1. Discharge high-voltage capacitors (on the inverter board!). (Short the HF connection on magnetron CN702!)
2. Remove the 3-pin plug from the inverter board (CN 701) by pressing the safety catch. Unplug the magnetron and feed line (CN 702).
3. Remove the earthing tab screw.
4. Loosen the inverter fastening screws and remove the board from the appliance together with the bracket.
5. Remove the earthing cable screw on the magnetron flange.
6. Disconnect the board by removing the 4 fastening screws from the bracket.
7. Install the new board and follow the above steps in reverse order.
 - Send the replaced board to the address given (in the insert notes) in the new board's packaging. This is a returns part.

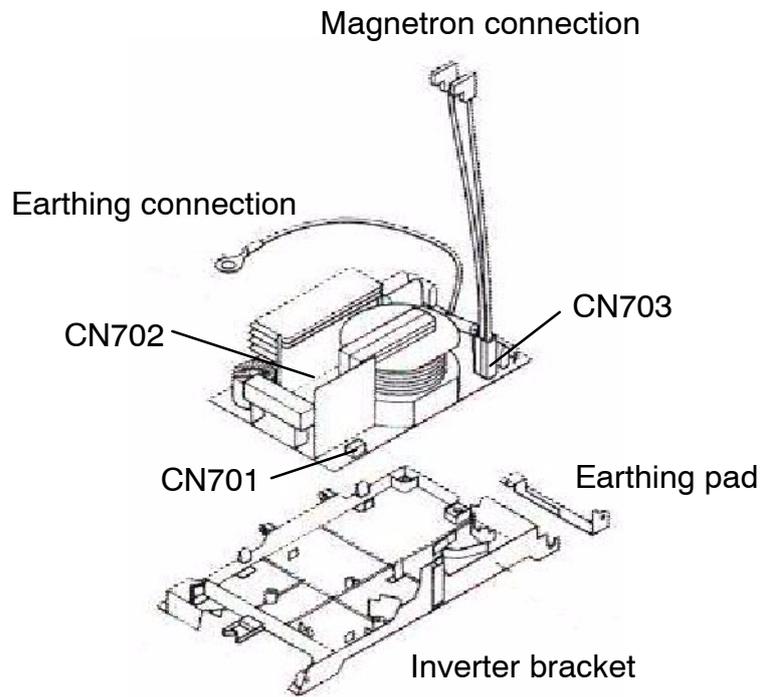


High-voltage transformer

High-voltage capacitors

High-voltage diodes

▪





3. Fault tracing in case of tripped fuses:

Symptom	Cause	Remedial action
10A fuse defective	1. Short circuit in cable harness	Exchange/insulate the affected part
	2. Fault in door safety switch	Adjustment/exchange of switch
	3. Inverter board defective - see test information!	Exchange of affected parts.

4. Other faults

Symptom	Cause	Remedial action
Output power too low, prolonged cooking time	1. Mains voltage too low	Check voltage
	2. Loose cable connection	Make connection
	3. Contamination in area of coupling	Cleaning or exchange of affected parts
Fan/cooking compartment lamp in operation if doors closed and appliance connected to power supply.	1. Defective/incorrectly adjusted secondary door safety switch	Adjustment/replacement of door safety switch
Turntable rotates when door is open.	1. Primary safety switch is short-circuited.	Adjustment/replacement of door safety switch
No function	1. Loose connection on temperature sensor	Make connection
	2. Defective temperature sensor, see circuit documentation!	Replace sensor
	3. Defective control unit	Replace control unit
Loud humming noise	1. Loose screw connection/loose fan	Fastening of loose parts
After activation of the start button, appliance returns to standby mode.	1. Broken or loose cable in the temperature sensor.	Make connection
	2. Defective temp. sensor see circuit documentation.	Replace temp. sensor.
Appliance switches itself off during operation	1. Defective/incorrectly adjusted door safety switch	Adjustment/replacement of door safety switch
	2. Magnetron temperature limiter	Check ventilation/replace limiter

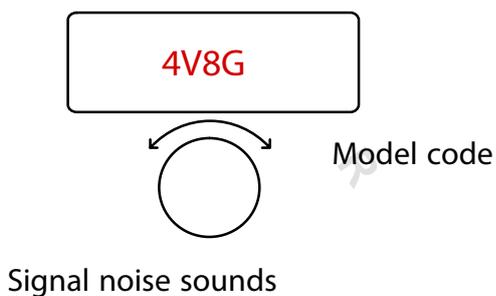
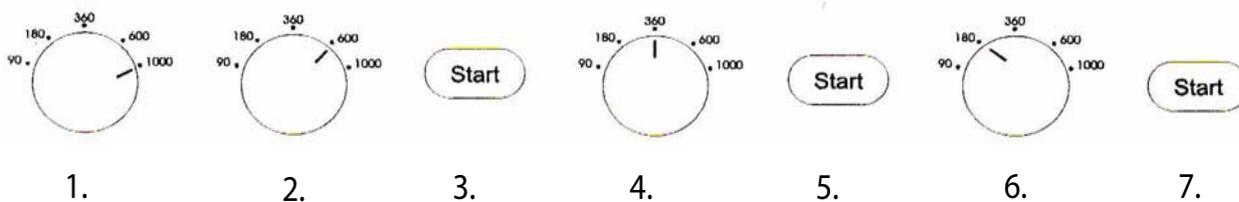


Symptom	Cause	Remedial action
Appliance switches off in operation after 15 to 33 seconds.	1. Inverter module	Test program!
	2. Control module	Test/exchange
	3. Loose connection, control line between the modules.	Check connections!
	4. Magnetron	Test/exchange

5. Test program

If the appliance turns off after a short time (15–33 seconds) during microwave operation, the following test must be carried out.

5.1 Start:





Microwave ovens

5.2 The appliance is in a test program.

Introduce heating load to the cooking compartment, e.g. water glass (note superheating!)

Set power ~~1000~~ 1000 Watt and select 1 minute duration.

Finally, press  button.

Display:

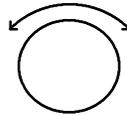
H97 or H98

And no microwave power!

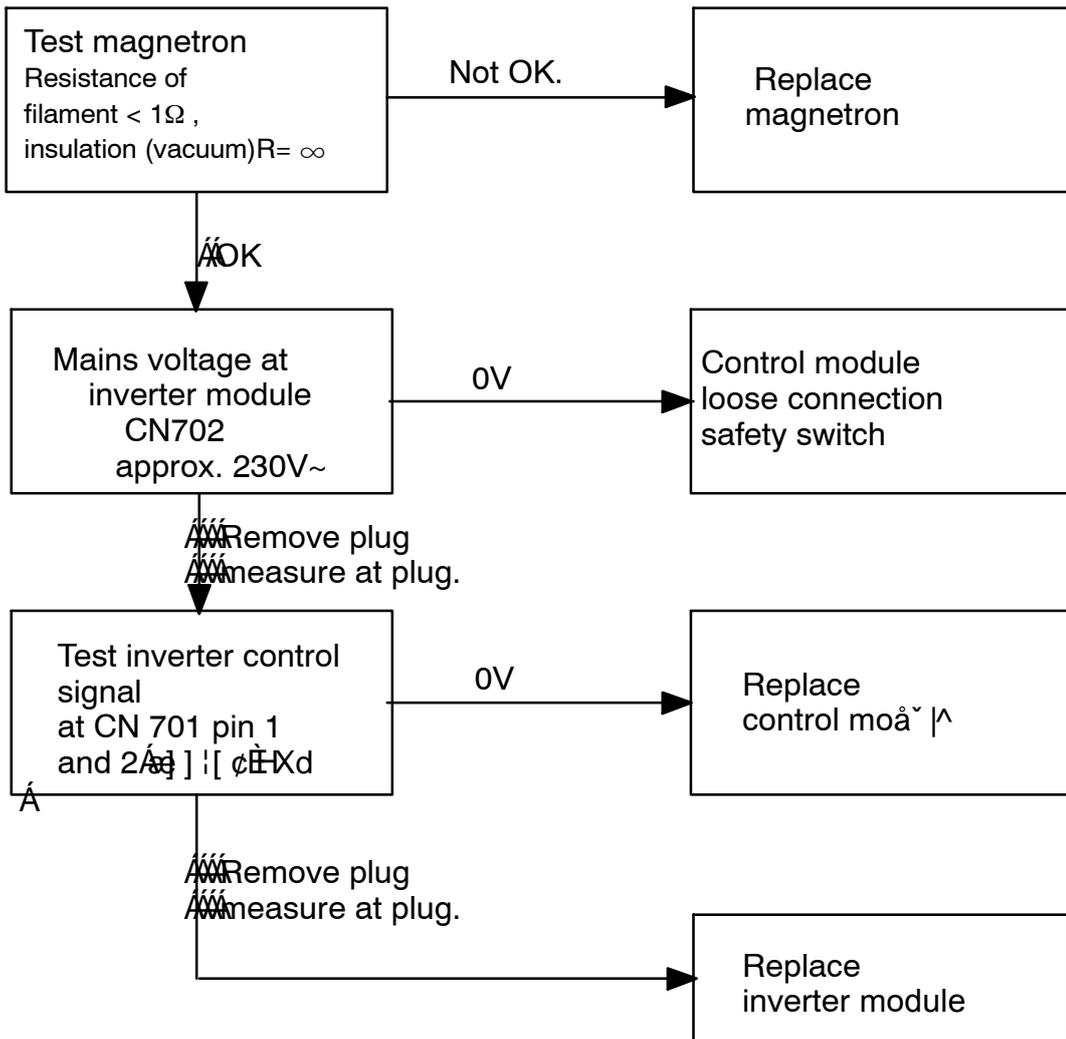
2 x signal noises

H97 = Defective inverter board

H98 = Magnetron defective



Measurements for fault limitation:





V. SUPPLEMENTS

-omitted-