

6 TESTING AND FAULT FINDING

6.1 TEST PROCEDURE 400/800 SERIES.

6.1.1 Table: Test

TEST ELEMENTS:	
Test activation/deactivation via remote control.	Shall give response signal in blinkers and siren. Central locking to operate if connected.
Check all switches with the open door indicator. (ignition on)	The LED must flash rapidly when any door or lid is opened.
Check that the microwave sensor is not adjusted too high.	Not to release on movement outside the passenger compartment. (see chapter on adjustment of microwave sensor)
Check that the Watch Dog/Glass breakage sensor is functioning.	Watch Dog must trigger the alarm if you hit the side window hard with the side of a coin.

Comments :

At activation: The LED is lit (flashes after 20 seconds) - central locking locks - one flash in blinkers – 1 response signal from siren.

At deactivation: The LED goes out – central locking unlocks – 2 flashes in blinkers – 2 response signals from siren.

Ignition ON. The opening of doors, bonnet, luggage compartment lid must give rapid flashing in the LED for up to 10 seconds if a door or lid is open..

Microwave sensor: Standard adjustment procedure plus requirement not to be able to collect an object from the middle of the seat with an arm in the car from the outside, without setting off the alarm. See programming the alarm, function 5 page 139.

Watch Dog: Activate the alarm, (The interior sensors may not be disconnected). Hit the side window with a coin. This shall trigger the Watch Dog - 5 low tones from the siren of the alarm. If the Watch Dog is functioning, the sensor will also register if a window is broken.

6.2 FAULT FINDING 400/800 SERIES.

6.2.1 Table 1: False alarms.

Control	Result	Action
Check with the aid of register nr. 1, which sensor that has triggered the alarm	The number of flashes in the LED indicates valid sensor	Find the reason for the triggered alarm and repair the sensor or sensor line-in causing the problem

6.2.2 Table 2: 800 series Remote control not functioning.

Control	Result	Action
Try to code in remote controls.	The procedure is working but the alarm is not responding when the remote control is entered.	Try a new remote control
Check that the PIN-code is correct	If the PIN-code is wrong check that the serial number on the PIN-code card is the same as the serial number on the central unit.	Use correct PIN-code
Check the connections	If the procedure is not working: Check the alarm + and - connections	Check with a Voltmeter between + 12V (red cable) and the car chassis. The voltage must be the same as the battery voltage. Check with a Voltmeter between + 12 V (red cable) and - 12 V (black cable). The voltage must be the same as the battery voltage.
Check connection	Check the voltage on the ignition wire of the alarm. (White/brown).	Check with a Voltmeter between white/brown wire and the car chassis. Voltage with the ignition ON, 12V. with ignition OFF 0 V.
		Replace central unit

6.2.3 Table 3: Central locking not working

Control	Result	Action
Check with DEFA's central locking list that the chosen configuration of the central locking plug is the right one.		If not it must be reconnected
Check that the selected central locking time is the right one.	Standard is 0,5 seconds	Select the correct central locking time in register no. 7
Check the line-outs from the alarm when activating and deactivating. With the connection to the central locking wires of the car disconnected!	Depending on which wiring diagram number that has been used the line-outs (e) shall give a pulse of the same length as the selected central locking time	If no pulse. Replace the central unit The central unit is equipped with an automatic circuit breaker on the central locking line-outs. If measuring is done with the central locking plug connected to the central locking wires of the car and the configuration of the central locking plug or the chosen central locking wires are wrong, the automatic circuit breaker will disconnect the line-outs. Always measure with disconnected lines.

6.2.4 Table 4: Passive activation after 12 seconds, not working.

Control	Result	Action
Is the function passive activation after 12 seconds selected?	If not selected the function will not operate.	Select the function in programming register no. 4.
Check that the grey wire from the door switch has connection to ground when each of the doors are opened. Check that the circuit is open when the doors are closed.	If the grey wire is connecting to ground when the doors are closed, the passive activation will not function	Check with the cars original wiring diagram if the correct wires are connected. Also make sure that the grey wire has no ground connection.
Check that the white wire from the luggage compartment light has a ground connection when the luggage lid is opened. Check that the circuit is open when the lid is closed.	If the white wire has a ground connection when the luggage compartment lid is closed, the passive activation will not function.	Check with the cars original wiring diagram that the correct wires have been connected. Also make sure the white wire has no ground connection when the lid is closed.
Check that the luggage compartment light is lit when the lid is opened even if parking light and ignition are turned off.	If not the function will not operate.	Fit a bar diode in series with the original wire between luggage compartment light and luggage compartment switch, to prevent that minus from the original circuit is connected to the white wire of the alarm.
Check that the grey/black wire from the bonnet has a ground connection when the bonnet is opened. Check that the circuit is open when the bonnet is closed.	If the grey/white wire has a ground connection when the bonnet is closed, passive activation will not function.	Check the contact gap of the bonnet switch. If this is too short the alarm will register this as if the bonnet is open all the time.
Check that the white/brown wire has a voltage of 12 V when the ignition is ON. Check that the circuit is open when the ignition is OFF. (0 V)	If not, the function will not operate.	Check with the original wiring diagram of the car that the correct wires have been connected.
Make sure the white/brown wire is not connected to ACC together with the radio.	Remaining voltage from the radio may leak out to white/brown wire and disturb the function	Move the connection point from ACC to the ignition (15)
Check if the car is equipped with original interior light delay	In some car models the passive activation will not function until 12 seconds after the interior light has gone out.	

6.2.5 Table 5: Unable to activate the alarm immediately after ignition is turned off.

Control	Result	Action
Check that the white/brown wire has a voltage of 12 V when the ignition is ON. Make sure there is no voltage when the ignition is OFF.	If not, the function will not operate	Check with the original wiring diagram of the car that the correct wires have been connected.
Make sure the white/brown wire has not been connected to the ACC together with the radio.	Remaining voltage from the radio may leak out to the white/brown wire and disturb the function	Move the connection point from the ACC to the ignition (15)

6.2.6 Table 6: Reactivation does not respond after 60 seconds.

Control	Result	Action
Check that the grey wire from the door switch (e) has a ground connection when each of the doors are opened. Check that the circuit is open when the doors are closed.	If the grey wire has a ground connection when the doors are closed, the alarm will not reactivate	Check with the cars original wiring diagram that the correct wires have been connected. Also make sure that the grey wire is not jammed with connection to the ground.
Check that the white wire from the luggage compartment light has a ground connection when the luggage lid is opened. Check that the circuit is open when the lid is closed.	If the white wire has a ground connection when the luggage compartment lid is closed, the alarm will not reactivate	Check with the original wiring diagram of the car that the correct wires have been connected. Also make sure the white wire is not jammed with ground connection.
Check that the luggage compartment light is lit when the lid is opened, even if parking light and ignition are turned off	If not, the function will not operate.	Fit a bar diode in series with the original wire between the luggage compartment light and the luggage compartment lid switch to prevent minus from the original circuit to connect to the white wire of the alarm..
Check that the grey/black wire from the bonnet has a ground connection when the bonnet is opened. Check that the circuit is open when the bonnet is closed.	If the grey/black wire has a ground connection when the bonnet is closed, the alarm will not reactivate	Check the contact gap of the bonnet switch. If this is too short, the alarm will register this as if the bonnet is open all the time.
Check that the grey wire from the doors and the white wire from the luggage lid switch are not connected to the same circuit.	On some car models this is the same circuit originally. The luggage compartment light is also lit when one of the doors is opened.	Disconnect the white wire.
Check that the white/ brown wire does not receive a voltage pulse by activation	If so, the function will not operate	Check with the original wiring diagram of the car that the correct wires have been connected.

6.2.7 Table 7: Response signal for activation and deactivation not working.

Control	Result	Action
Check that the original interior light delay is not influencing the alarm.	If the interior light is lit during activation the response signal will not occur.	Check with the original wiring diagram of the car if connection can be made to another point. Possibly use bar diodes to prevent this ground signal connects to the alarm. When it is impossible to separate the signals function 4.2 can be programmed. (VW Passat 97)
Check on each door that the grey wire from door switches (e) has a ground connection when the door is opened. Check that the circuit is open when the doors are closed.	If the grey wire has a ground connection when the doors are closed, the response signal will not occur.	Check with the original wiring diagram of the car if the correct wires have been connected. Also check that the grey wire is not jammed with connection to the ground.
Check that the white wire from the luggage compartment light has a ground connection when the lid is opened. Check that the circuit is open when the lid is closed.	If the white wire has a ground connection when the luggage lid is closed, the response signal will not occur.	Check with the original wiring diagram of the car if the correct wires have been connected. Also check that the white wire is not jammed with connection to ground.
Check that the luggage compartment light is lit when the lid is opened, even if the parking lights and the ignition are turned off	If not, there is no response signal.	Fit a bar diode in series with the original wire between luggage compartment light and luggage lid switch, to prevent minus from the original circuit to connect to the white wire of the alarm.
Check that the grey/black wire from the bonnet has a ground connection when the bonnet is opened. Check that the circuit is open when the bonnet is closed.	If grey/black wire has a ground connection when the bonnet is closed, the response signal will not occur.	Check the contact gap of the bonnet switch. If this is too short the alarm will register this as if the bonnet is open all the time and there will be no response signal.
Check that the grey wire from the doors and the white wire from the luggage lid switch <i>are not</i> connected to the same circuit.	On some car models this is the same circuit originally. The luggage compartment light is also lit when a door is opened.	Disconnect the white wire.

6.2.8 Table 8: Siren not working when the alarm is activated. Standard siren.

Control	Result	Action
Activate the alarm, wait until the LED starts to flash. Open a door and check if the siren sound is present.	The siren has no sound	Disconnect the P4 plug. Measure with an Ohm-meter between pin 8 and 9. Measurement result: ca. 4 Ohm. If OK replace central unit. If not, check the wires between siren and central unit/ replace siren.

6.2.9 Table 9: Alarm not activated when door is opened.

Control	Result	Action
Check that the grey wire from the door switches (e) has a ground connection when each of the doors are opened. Check that the circuit is open when the doors are closed.	If the grey wire has a ground connection when the doors are closed, the alarm will not register that the doors have been opened.	Check with the original wiring diagram of the car that the correct wires have been connected. Also check that the grey wire has not been jammed with connection to ground.
Check that the white wire from the luggage compartment light has a ground connection when the luggage lid is opened. Check that the circuit is open when the lid is closed.	If the white wire has a ground connection when the luggage compartment lid is closed, the alarm will not register that the lid has been opened.	Check with the original wiring diagram of the car that the correct wires have been connected. Also check that the white wire has not been jammed with ground connection.
Check that the luggage compartment light is lit when the lid is opened even if the parking light and the ignition have been turned off.	If not the alarm can not register that the luggage lid has been opened.	Fit a bar diode in series with the original wire between luggage compartment light and the luggage lid switch, to prevent minus from the original circuit to connect to the white wire of the alarm.
Check that the grey/black wire from the bonnet has a ground connection when the bonnet is opened. Check that the circuit is open when the bonnet is closed.	If the grey/black wire has a ground connection when the bonnet is closed, the alarm will not register that the bonnet has been opened.	Check the contact gap of the bonnet switch. If this is too short, the alarm will register this as if the bonnet is open all the time.

6.2.10 Table 10: Microwave sensor not responding.

Control	Result	Action
Activate the alarm. Wait until the LED starts to flash.	By movement of fluid or metal in the passenger compartment the microwave sensor shall trigger the alarm.	If not: Try to adjust the microwave sensor to the highest level (8) via function 5 in the programming register
Check the location of the microwave sensor.	Metal in front of the microwave sensor reduces the range of the microwave sensor to a minimum.	Move the microwave sensor to a better location: (roof lining)
Check for possible damage on the connection point and sensor cable .		Replace sensor If OK. Replace central unit

6.2.11 Table 11: Glass breakage sensor not responding

Control	Result	Action
Activate the alarm. Wait until the LED starts to flash .	When you rattle a bunch of keys in front of the glass breakage sensor, it shall trigger the alarm .	If the sensor triggers the alarm, the sensor is OK
Check the location of the glass breakage sensor	The sensor should be placed in the middle of the car, for instance by the centre console. Remember that the sensor must cover all windows in the car.!	Move the sensor
Check for possible damage on the connection plug and the sensor cable .		Replace the sensor If OK. Replace the central unit

6.2.12 Table 12: LED not responding

Control	Result	Action
Activate the alarm. The LED shall be lit	If the LED remains dark	The LED must be checked .
Remove the LED holder and plug in the central unit .		Check the throughflow of the diode with a diode tester. Throughflow only in one direction.. If OK, continue If not, Replace LED .
Measure the LED wire from plug to diode.	Both shield and center conductor shall have throughflow. Without connection between them.	Break/short circuit: Replace LED If OK. Replace central unit.

6.2.13 Table 13: Start motor not responding even when alarm is deactivated.

Control	Result	Action
Try another deactivation and an immediate attempt to start the car .	If the car is now starting, the Immobiliser of the alarm is activated.	If the car has a DEFA immobiliser fitted, this will be activated automatically 30 seconds after the ignition has been turned off and a door has been opened. If the car does not have a DEFA immobiliser fitted, the start lock function must be de-programmed with the aid of register 9 .
For possible break or faulty connection in the starter circuit .	Turn on the ignition and measure the troughflow in the start lock relay with an Ohm-meter	No throughflow in the central unit. Replace the central unit.

6.2.14 Table 14: Siren not working when alarm is triggered. Backup alarm.

Control	Result	Action
Activate the alarm. Wait until the LED starts flashing. Open a door and note if siren sound is present.	Siren has no sound	Measure the voltage levels on the P2 plug with the Backup alarm disconnected.
Measure P2.1 BLUE, DEFAnet	Approx. 11 V, Pulsating rapidly by activation and deactivation.	If OK continue If not : Replace central unit
Measure P2.3 RED, +12V	Constant +12V voltage.	If OK continue If not : Replace central unit
Measure P2.4 BLACK, ground	Direct contact to car chassis . (Ohmmeter)	If OK, Replace Backup Alarm. If not : Replace central unit