Scénic

N.T. 3275A

JA0X

Basic manual: M.R. 312

"CARMINAT"
NAVIGATION AID

For information not contained in this Technical Note, refer to MR 312.

Contents

GENERAL

The "CARMINAT" navigational aid system uses a screen and a voice synthesiser to guide the vehicle user.

This system allows the user to:

- get to a specific place :
  - street, avenue, boulevard, etc.,
  - hotel,
  - public utilities,
  - service station, garage,
  - etc.

- choose a set of criteria for the guidance :
  - to optimise travel time,
  - to optimise the distance,
  - to use main roads as much as possible,
  - to use main roads as little as possible.
  The guidance criteria selected appear as symbols on the status line at the bottom of the screen.

- memorise addresses (address book function).

- display a map :
  - of the current location,
  - of the destination.

- display travel time.

NOTE : refer to the handbook for operation of the system and a description of the different menus.

In order to function, this system consists of :

- a navigation computer with acceleration sensors (gyroscope) and **CD ROM** drive,

- a satellite link (**GPS** antenna) which allows the vehicle to be located,

- a screen allowing written and mapped data to be visualised,

- a keypad for programming and activating the various functions,

- a **CD ROM** with a map of the country where the vehicle is delivered,

- distance travelled information (vehicle speed sensor).

.**NOTES:**

- If the vehicle has been transported by train or on a car ferry, there may be a delay of a few minutes while the navigation system re-determines the exact position of the vehicle (see "**Relocation**").

- If the vehicle battery has been disconnected, the system may require up to **15 minutes** to re-determine the exact position of the vehicle. The vehicle must be outside (the system must be on for the **GPS** antenna to receive satellite signals).

- The system may also operate without valid **GPS** data. In this instance, there may be a lack of precision in the determination of vehicle position.

- As soon as the exact position has been found by the **GPS** system, the satellite symbol on the screen changes from red to green.

- On the motorway, the distances given by the system to indicate exits are different to those marked on motorway signs. The signs indicate the distance to the beginning of the exit whilst the **CARMINAT** system uses the distance to the end of the exit.

LOCATION OF COMPONENTS
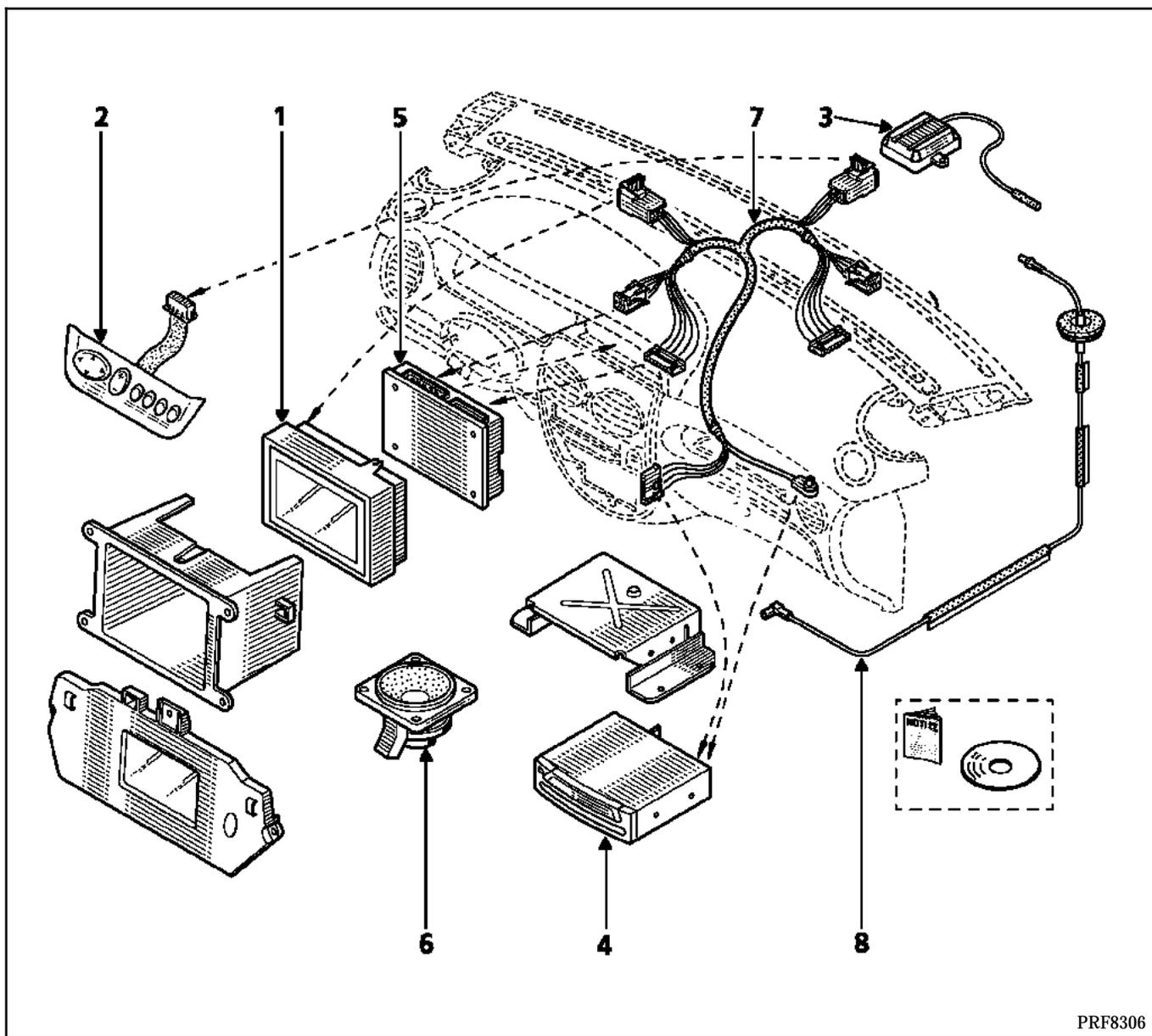
PRF8306

1 Screen
2 Keypad
3 **GPS** antenna
4 Navigation computer (**CD ROM** drive)
5 Navigation interface unit (**BIN**)
6 System speaker
7 Additional wiring
8 **GPS** connection cable

SCREEN

It allows the following to be seen :
- the different menus,
- the direction to the destination,
- the distance to the destination,
- a diagram of the trip,
- the distance to the next change of direction,
- maps,
- etc.

It illuminates several seconds after the ignition is switched on:

• If the screen was on standby when the ignition was last switched off, only the outside temperature, the clock and the radio display (if this is on) will be shown. To activate the **CARMINAT** system, turn the knob on the keypad and the user menu appears. Validate "**OK**" by pressing the knob and the "**Contents**"menu appears.

• If **CARMINAT** was active when the ignition was last switched off, the outside temperature, the clock, radio display (if this is on) and a user menu are displayed. Validate "**OK**" by pressing the knob and the "**Contents**"menu appears, **CARMINAT** may then be activated.

It turns off completely **40 seconds** after the ignition is switched off.

NOTE:
•The brightness of the screen may be adjusted using the keypad multifunction keys with the lighting symbol:

- in daytime position (side lights extinguished),
- in nighttime position (side lights illuminated).

• The colour of the screen may be adjusted using the "**Adjustment**" then "**Screen configuration**" menus:
- daytime colours are blue or dark blue (side lights extinguished),
- nighttime colours are blue or dark blue (side lights illuminated).

Special notes for the radio

These vehicles are equipped with a factory-fitted radio.

The radio display appears on the screen (radio only on) in the upper or lower band depending on the map.

When making adjustments, the radio display takes up the whole screen (for greater visibility).

Special notes for the clock

The satellite link (GPS) automatically sets the clock to the correct time.

The time displayed may be adjusted using the "Adjusting the time" menu after having selected "Adjustment" :
- Time format = 12 or 24 hour clock.
- Adjusting the time = allows the time to be adjusted in relation to the satellite time.
- Time difference = indication of the time difference between the vehicle clock and the satellite.

As a result, when the battery or the navigation computer are disconnected, do not reset the clock using the "Adjusting the time" menu, but by moving the vehicle outside (satellite link is correct). Otherwise, the time difference will add to the value given by the satellite link.

IMPORTANT : never use a cleaning product to clean the screen (clean using a soft, dry or slightly damp cloth).
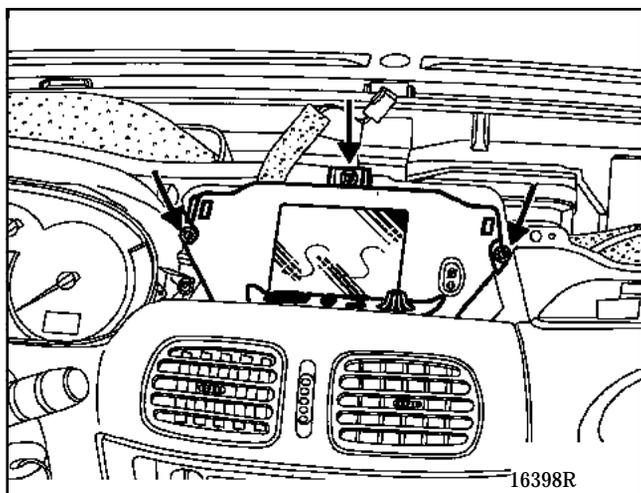
Removing - **Refitting**

Ignition off, remove:
- the upper part of the dashboard (two bolts under the speaker grilles) by unclipping the keypad and disconnecting the integral system speaker under the visor,
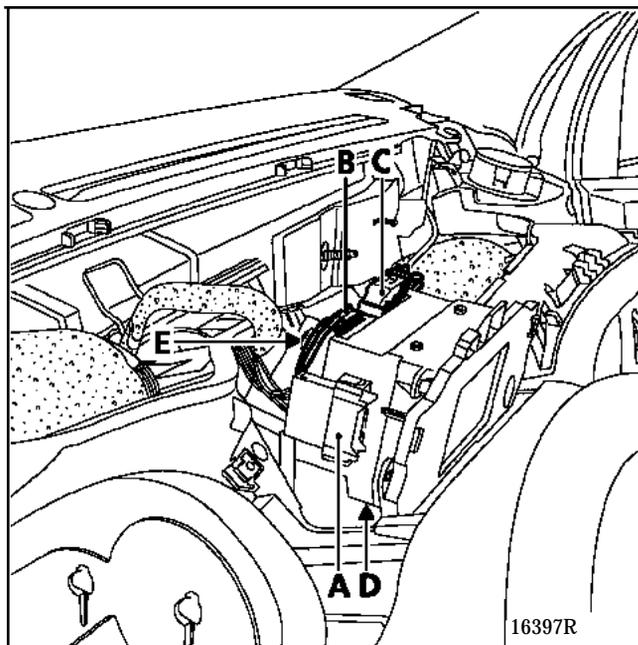

16386S

- the three mounting bolts for the screen mounting.

16398R
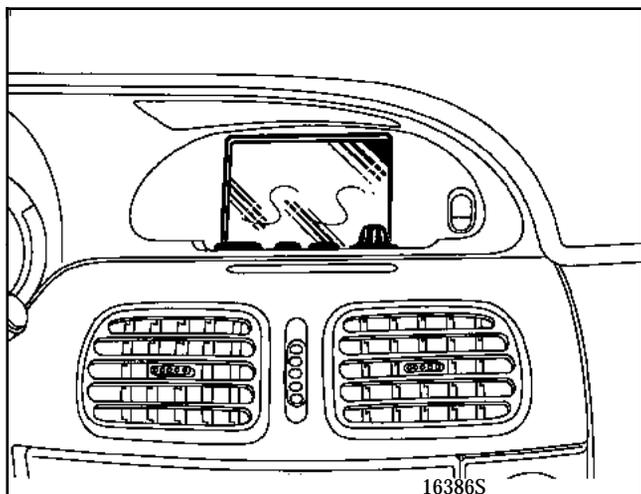
Disconnect:
- the keypad (blue connector) (A),
- the radio satellite (red connector) (B),
- the 30 track grey connector (C),
- the 15 track green connector (D).

16397R

Release the interface unit (E) by gently separating the tabs (F) and disconnect the two screen connectors.

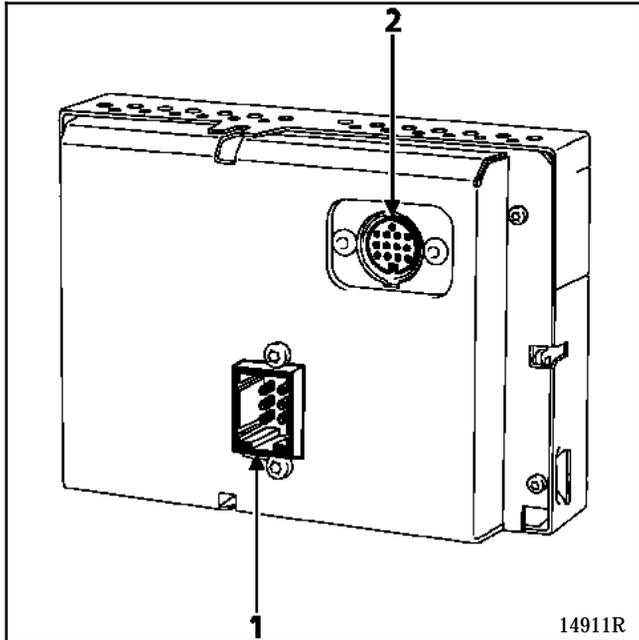To release the screen from the panel and its mounting, remove the bolts (G).

16388R

Connections

14911R
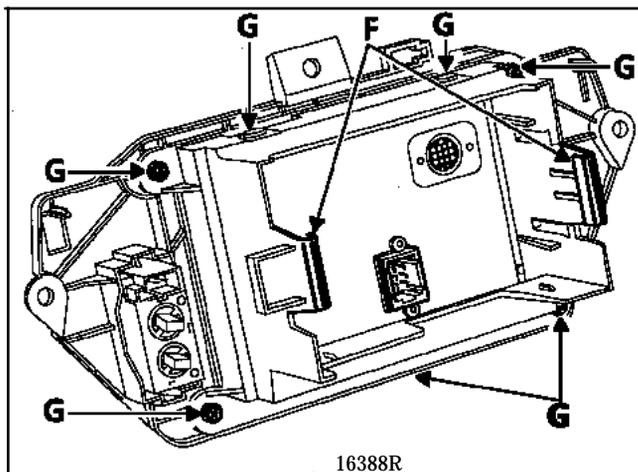
6 track grey connector (1)

Track	Description
A1	+ Lighting rheostat
A2	- Lighting rheostat
A3	Not used
B1	Not used
B2	Not used
B3	Not used

**13 track round black connector (2)**

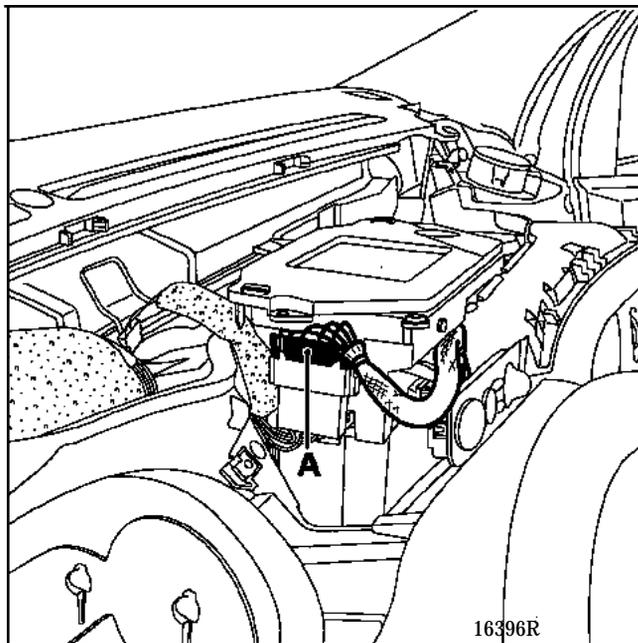| Track	Description
1	Video signal
2	Not used
3	Green video signal
4	Blue video signal
5	Not used
6	Video synchronisation signal
7	Red video signal
8	- Video signal
9	Not used
10	+ 12 volts lighting
11	+ 12 volts electronic
12	Not used
13	Not used

THE KEYPAD

It allows the following:

- selection and validation of a function (1),

- screen brightness to be reduced (2),

- screen brightness to be increased (3),

- guidance messages to be blocked (4),

- guidance messages to be repeated (5),

- standby mode to be entered (6),

- the address book to be accessed (7),

- the volume of guidance messages to be increased (8) **VOL+**,

- the volume of guidance messages to be reduced (9) **VOL-**.
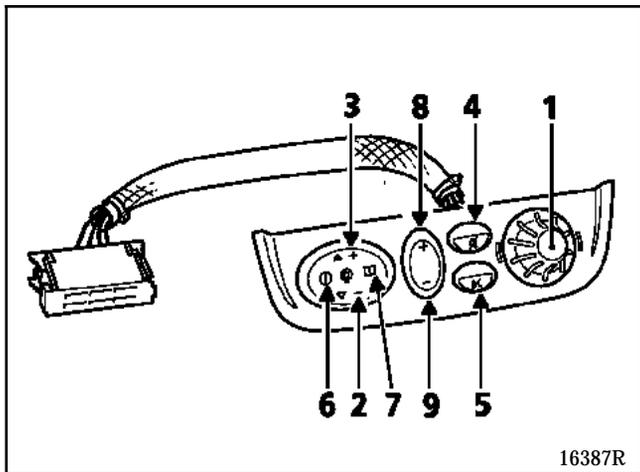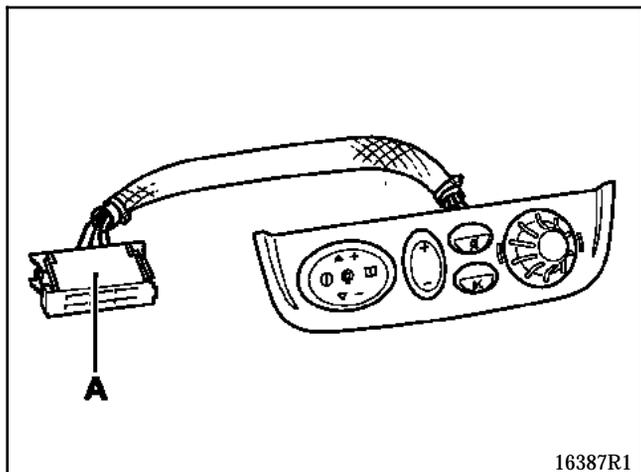
Removal - **Refitting**

Ignition off, remove:
- the upper part of the dashboard (two bolts under the speaker grilles) by unclipping the keypad and disconnecting the integral system speaker under the visor,
- the three mounting bolts for the screen mounting.

16396R

Gently move the screen to one side and disconnect the keypad (A).

16387R

Connections

16387R1

18 track blue connector (A)

Track	Description
A1	Keypad / interface unit connection
A2	Keypad / interface unit connection
A3	Keypad / interface unit connection
A4	Keypad / interface unit connection
A5	+ Screen brightness control
A6	- Screen brightness control
A7	Keypad / interface unit connection
A8	Keypad / interface unit connection
A9	Keypad / interface unit connection
B1	Keypad / interface unit connection
B2	Keypad / interface unit connection
B3	+ Keypad lighting
B4	- Keypad lighting
B5	Not used
B6	Not used
B7	Not used
B8	Not used
B9	Not used

THE SPEAKER

This is mounted in the visor in the upper part of the dashboard.

16386R
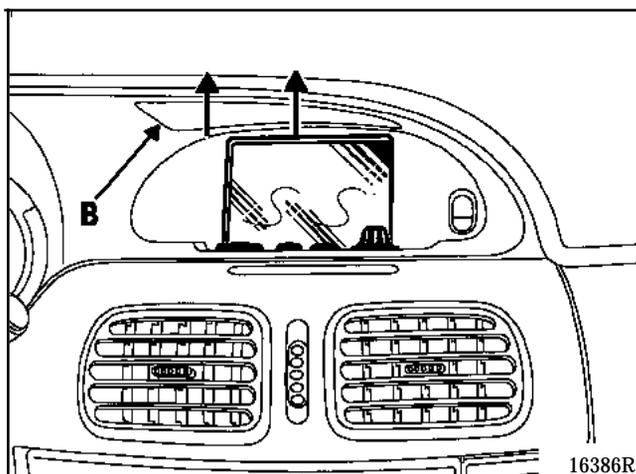
Removal - Refitting

Use a small screwdriver to unclip the grille (B).

Disconnect the speaker.

INSTRUMENT PANEL
"CARMINAT" navigational aid

NAVIGATION COMPUTER (CD ROM drive)

In order to operate, this uses sensors which detect the movement of the vehicle. The vehicle speed sensor determines the distance travelled whilst the gyroscope (inertial compass) integrated in the computer determines rotational movement when driving around a corner. In comparison with the digital map (on **CD ROM**), the system corrects imprecise data (pressure and wear of tyres, temperature, ...) to determine the exact position of the vehicle.

Relocation

After disconnecting the battery or replacing the navigation computer, the vehicle has to reposition itself :
• Put the vehicle outside in a clear space, with the ignition switched on and wait a few minutes. When the GPS link (satellites) is good, 3 **green** dashes are displayed on the screen on the symbol representing the earth.
  If the vehicle is not correctly positioned on the map, start the relocation procedure.
• Relocation may be carried out:
  - **Automatically** by moving the vehicle to different points on the mapped streets (must be 1 to 3 km apart).
  - **Manually** by using the "Vehicle position menu" after selecting "Adjustments".
    Indicate the town, street, and the chosen point of intersection to carry out the procedure.
    Validate "Relocation at point of intersection".

Changing the language

After replacing the navigation computer, the programmed default mode of the system is French. The language CD delivered to the customer with the "Carminat" handbook must be used to change the language and the procedure below must be followed :

1. With the ignition switched on, remove the mapping CD from the navigation computer by pressing the eject button.

2. The message "No CD in the drive" is displayed on the screen.

3. Validate "OK" by pressing the selector knob.

4. Select the "Adjustments" menu, then "Language" and "Other language".

5. The system asks for the language CD to be inserted.

6. Insert the language CD and validate by pressing the selector knob.

7. Choose the language to be replaced (language 1 or 2) using the selector knob and validate.

8. Use the selector knob to select the language which is to be loaded from those available on the CD and validate "Load".

9. Wait a few seconds, the screen becomes black then changes to white with black and red text and a horizontal bar indicates the progress of the loading.

10. When loading has been carried out, the language CD is ejected and "OK" is displayed on the screen.

11. Switch off the ignition and wait until the screen turns off, (approximately 70 seconds) the new language is loaded.

12. Replace the mapping CD in the drive.

WARNING: if the navigation computer is replaced, it will not be possible to recover the addresses memorised in the old computer.

NOTE :
- With the ignition switched off, the CD ROM drive turns on automatically when the eject button is pressed and may remain on for up to 1 minute (without the ignition being switched on again).
- When the ignition is switched on, the drive turns on automatically.
- When the ignition is switched off, it remains on for approximately 40 seconds.
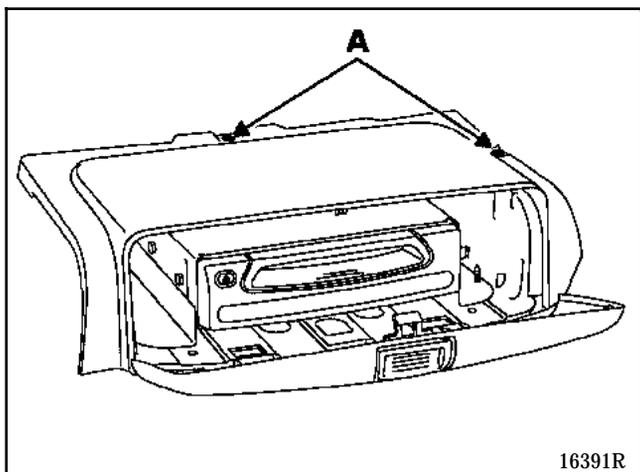
Removal - **Refitting**

This unit is located under the front right hand seat.
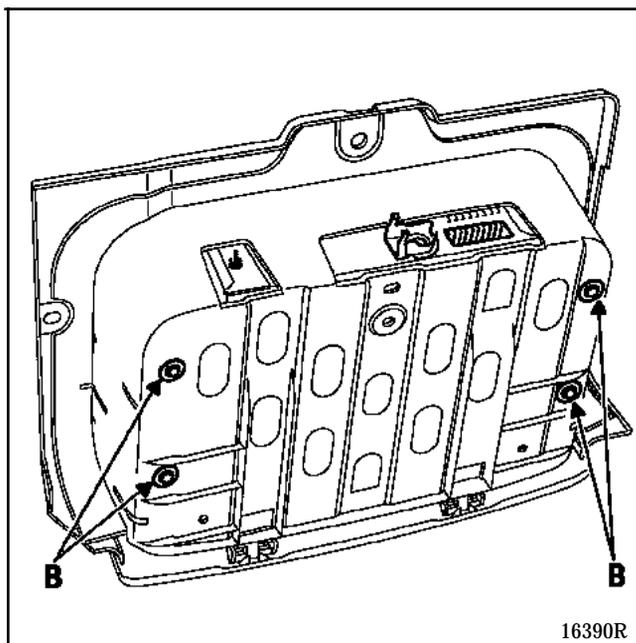

16392S
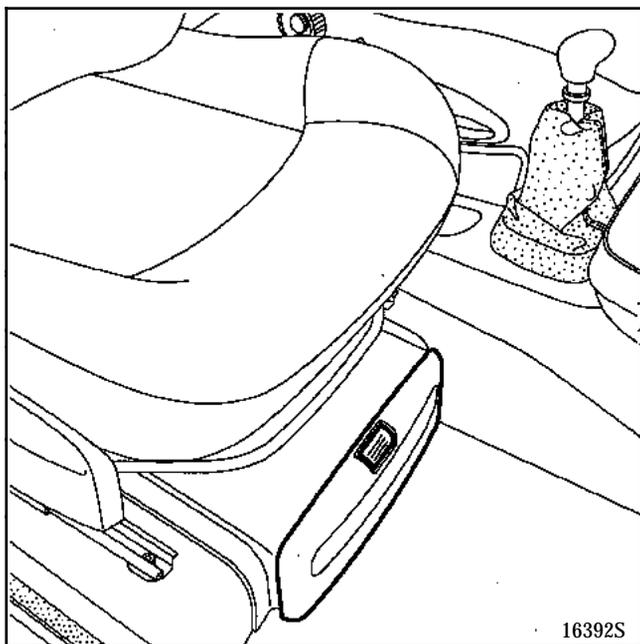
Ignition off, remove:
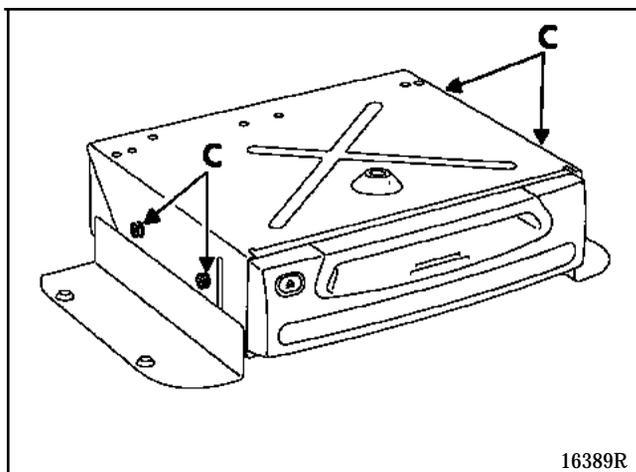- the two bolts (A) under the seat (the seat does not have to be removed),

16391R

- the four bolts (B) to release the computer and its mounting.

16390R
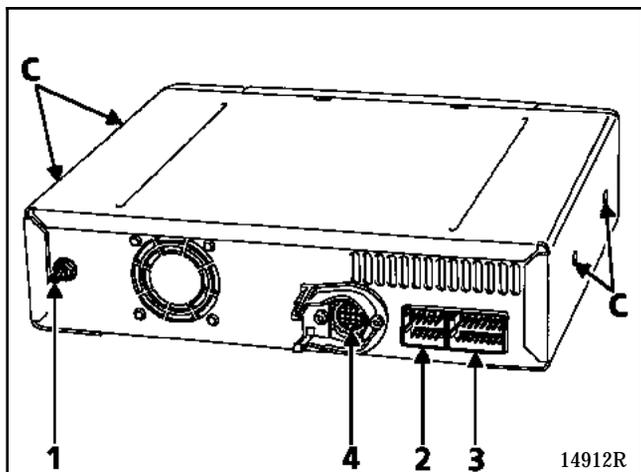
Release the drive from its mounting - four bolts (C).

16389R

IMPORTANT: the **GPS** antenna cable is very fragile. Do not bend or pinch it.

NOTE : if the bolts (C) have to be replaced, bolts of the same length as those originally used must be used to prevent damage to the computer electronic components.

Connections

14912R

GPS antenna connection connector (1)

12 track black connector (2)

Track	Description
1	+ Battery
2	+ CARMINAT loud speaker
3	+ CD ROM drive control
4	Reverse information
5	Vehicle speed information
6	- CD ROM drive control
7	Earth
8	- CARMINAT loud speaker
9	Not used
10	Not used
11	Not used
12	Not used

16 track black connector (3)

Track	Description
1	Interface unit / CD ROM drive connection signal
2	Interface unit / CD ROM drive connection signal
3	Not used
4	Not used
5	Not used
6	Not used
7	Not used
8	Not used
9	Interface unit / CD ROM drive connection signal
10	Earth / Screening
11	Not used
12	Not used
13	Not used
14	Not used
15	Not used
16	Not used

13 track round connector (4)

| Track	Description
1	Video signal
2	Not used
3	Green video signal
4	Blue video signal
5	Not used
6	Video synchronisation signal
7	Red video signal
8	- Video signal
9	Not used
10	+ 12 volts lighting
11	+ 12 volts electronic
12	Not used
13	Not used

INTERFACE UNIT (BIN)

This unit acts as an interface between different components of the system and the vehicle wiring.
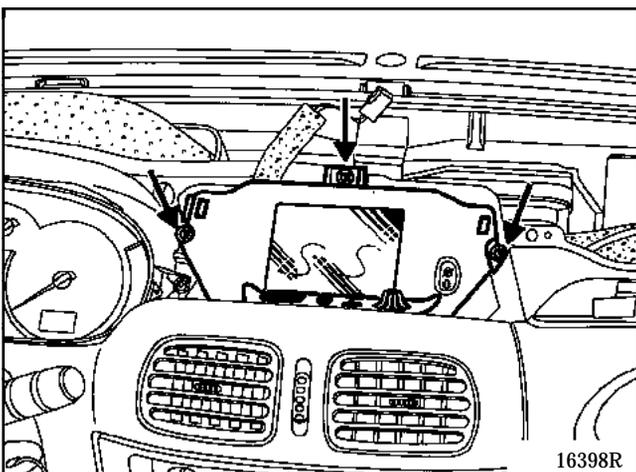
It is located behind the screen.

Removal - **Refitting**
Ignition off, remove:
- the upper part of the dashboard (two bolts under the speaker grilles) by unclipping the keypad and disconnecting the integral system speaker under the visor,
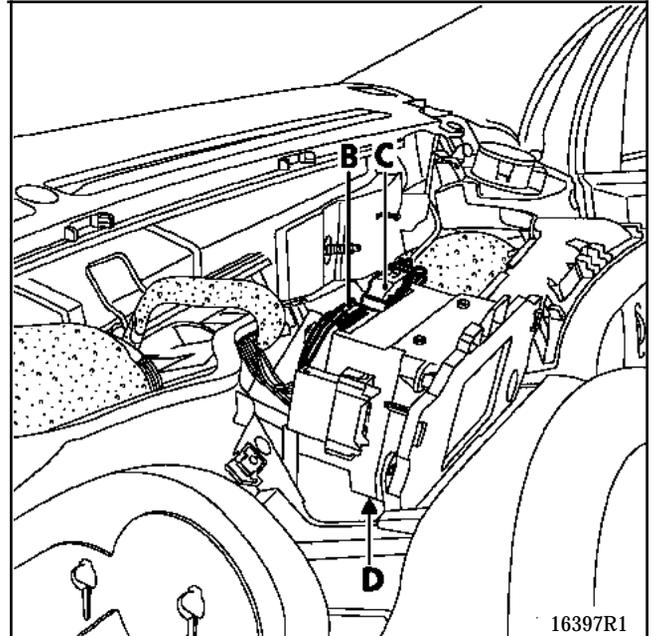

16386S

- the three mounting bolts for the screen mounting.
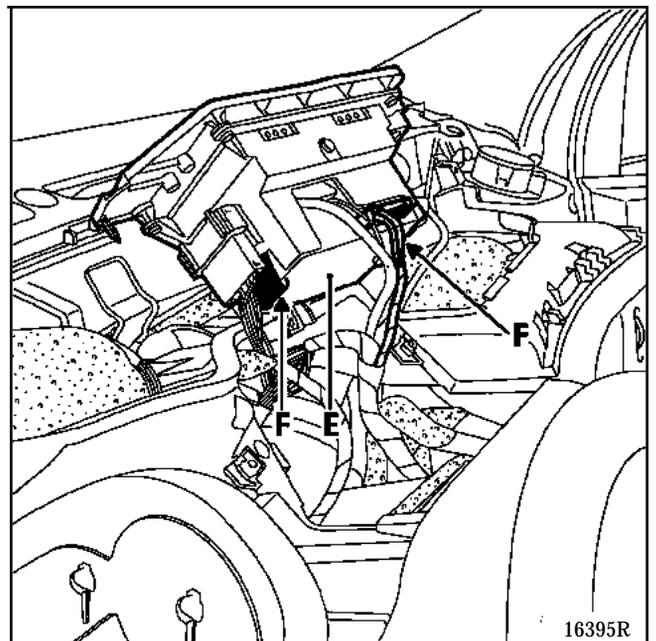

16398R
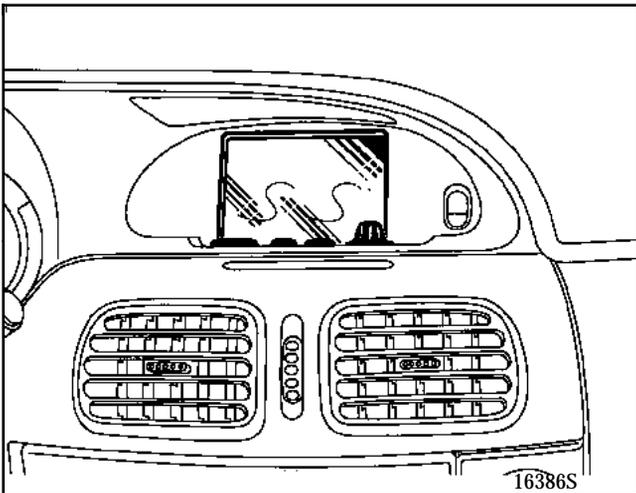
Disconnect:
- the radio satellite (red connector) (B),
- the 30 track grey connector (C),
- the 15 track green connector (D).

16397R1

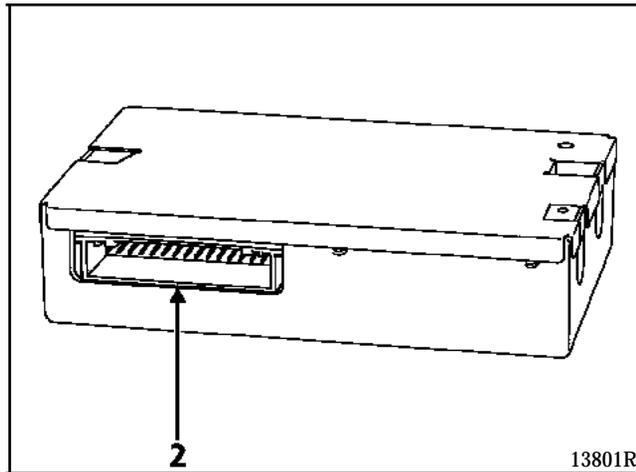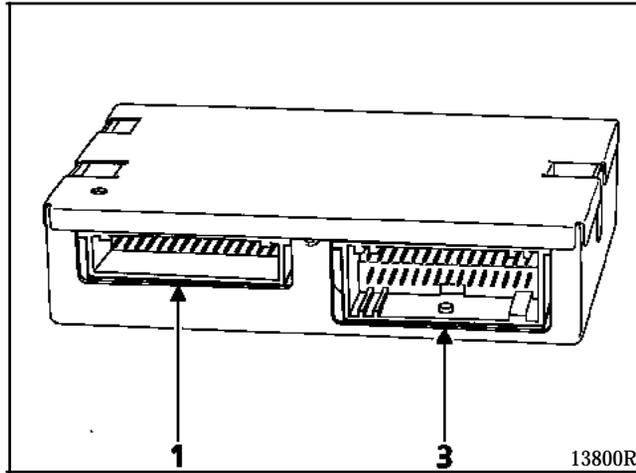Release the interface unit (E) by gently separating the tabs (F).

16395R

Connection

13800R

13801R

15 track red connector (1)

Satellite radio connection.

15 track green connector (2)

Track	Description
1	+ Lighting rheostat
2	- Lighting rheostat
3	+ CD ROM drive control
4	Interface unit / CD ROM drive connection signal
5	Interface unit / CD ROM drive connection signal
6	Interface unit / CD ROM drive connection signal
7	Earth / screening
8	- CD ROM drive control
9	Not used
10	Not used
11	Not used
12	Not used
13	Not used
14	Not used
15	Not used

30 track grey connector (3)

Track	Description
1	Outside temperature sensor
2	Earth
3	- temperature sensor (controlled AC)
4	+ temperature sensor (controlled AC)
5	Earth
6	+ Side lights
7	Radio cut-out
8	+ Accessories
9	+ Before ignition
10	Voice synthesiser cut-out
11	Interface unit / radio connection signal
12	Interface unit / radio connection signal
13	Interface unit / radio connection signal
14	Interface unit / radio connection signal
15	Interface unit / radio connection signal
16	Keypad / interface unit connection
17	Keypad / interface unit connection
18	Keypad / interface unit connection
19	Keypad / interface unit connection
20	Keypad / interface unit connection
21	Keypad / interface unit connection
22	Keypad / interface unit connection
23	Keypad / interface unit connection
24	Keypad / interface unit connection
25	Keypad / interface unit connection
26	Keypad / interface unit connection
27	+ Keypad lighting
28	- Keypad lighting
29	Not used
30	Not used

THE GPS ANTENNA (A)

This ensures satellite reception in order to allow the navigation computer to locate the vehicle (**CD ROM** drive) (A).

When the **GPS** (satellite) link is good, three **green** dashes are displayed on the screen on the symbol representing the earth.

When the satellite link is poor (when driving through a tunnel, in a small street between large buildings, etc.), three **red** dashes are displayed on the symbol representing the earth.

NOTE: after disconnecting the battery or replacing the navigation computer, the vehicle has to relocate itself. Move the vehicle to an open space outside, with the ignition switched on and wait a few minutes. When the **GPS** (satellite) link is good, three **green** dashes are displayed on the screen on the symbol representing the earth.

IMPORTANT: the **GPS** antenna cable is very fragile and must not be bent or pinched.

Removal - **Refitting**

It is located under the scuttle panel grille.

16394R
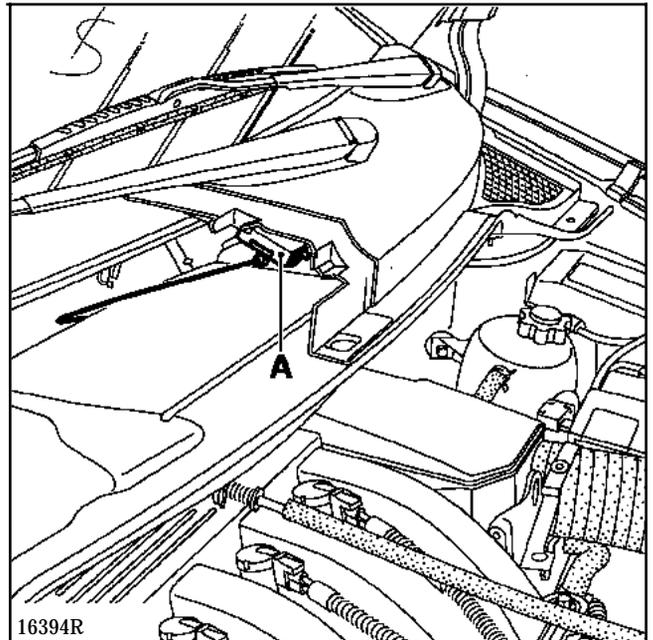
Remove:
- the windscreen wiper arms,
- the two sections of the scuttle panel grille.

16393R
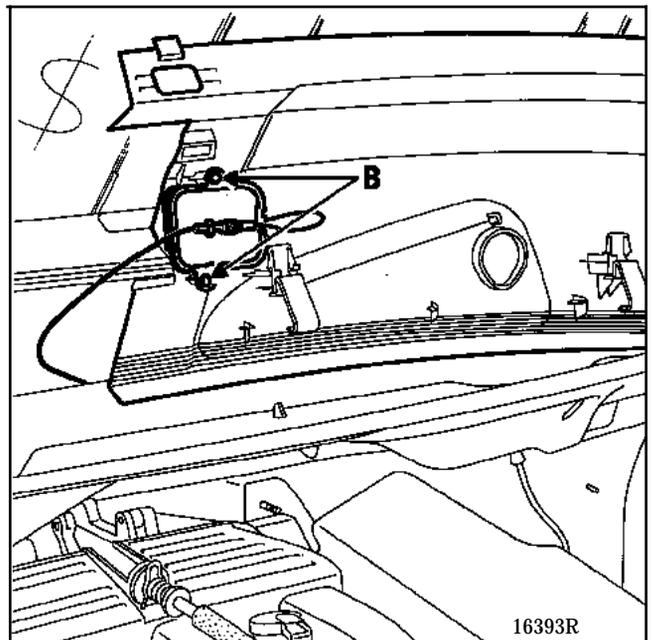
Disconnect the antenna connector.

Remove the antenna, releasing the two bolts (B).

DIAGRAM

16409S
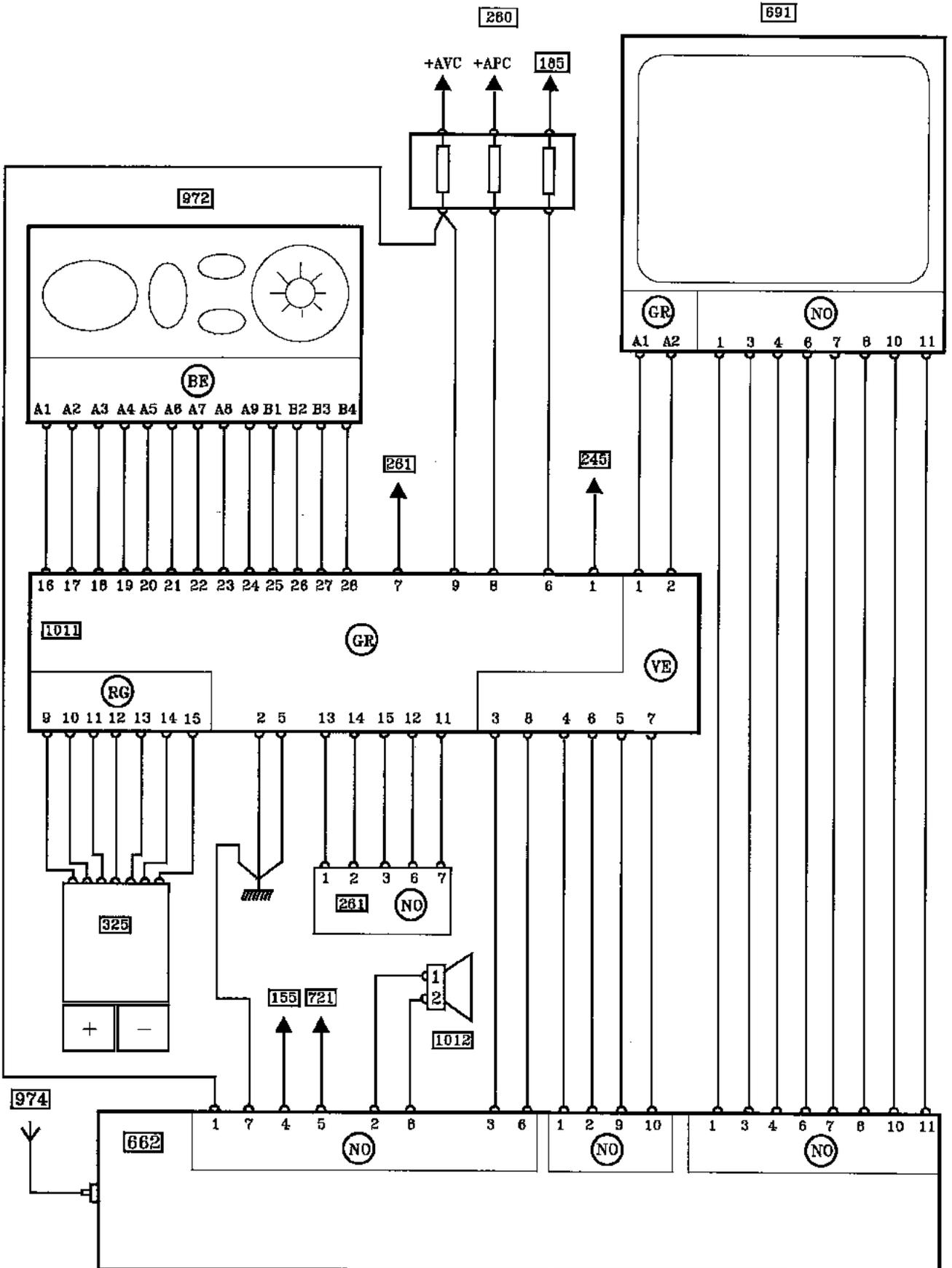
KEY

155	Reverse lights switch
185	Side lights
245	External temperature sensor
260	Fuse box
261	Radio
325	Radio satellite
662	Navigation computer (**CD ROM** drive)
691	**CARMINAT** screen
721	Vehicle speed information (ABS)
972	**CARMINAT** keypad
974	GPS antenna
1011	Interface unit (**BIN**)
1012	Voice synthesiser unit speaker

FAULT FINDING

If there is a system fault, a fault finding function allows possible memorised faults in the electronics of the system to be visualised on the screen and specific parameters to be checked.

To gain access to the fault finding :

- Switch on the ignition and wait a few seconds until the screen turns on.
  The user menu is displayed on the screen, validate "**OK**".

- The "**Contents**" menu is displayed. Use the selector knob to select and validate "**Adjustment**".

- The "**System configuration**" menu is displayed. Using the selector knob, select and validate "**System information**" then "**Fault finding**".

- The "**Entering the code**" menu is displayed. Validate "**Code**" using the selector knob, select and validate the four access code numbers. This code (reserved for the technician) is : **4112** ("**Exit**" = return to the "**Contents**" menu).

- The "**Fault finding function**" menu is displayed. Choose the required fault finding function.

SYSTEM

• **Connections :**

  - Radio / BIN (test radio on).
  - BIN / NAV.
  - External temperature.
  OK = Connection correct.
  NOT OK = Poor connection.
  - GPS reception
  Search sat or ____= no satellite reception .
  2RH or 3RH position = satellite link correct.

  Tracking = looking for an additional satellite (if displayed for more than 5 minutes, check the condition of the GPS wiring (damaged wiring)).

  "**Exit**" = return to "**Fault finding system**".

Display :

  A vertical line black and white test pattern appears.
  After validation, three vertical lines (one red, one green, one blue) should appear on the screen.
  Check that there are no faults.

  NOTE : if one of these coloured lines is missing, check the video signal connections.

• Turn the knob =return to "**Fault finding system**" .

• **Vehicle:**

  - Reverse :
    YES= Gear lever in reverse position. Reversing information correct.
    NO = Gear lever in position other than reverse or reversing information faulty.

  - Vehicle speed :
    A value close to the vehicle speed should be displayed whilst driving.

  - + Permanent :
    Battery voltage should be displayed.

    IMPORTANT: the response time when a status changes is approximately **15 seconds**.

• **Keypad:**

  - Nav. mute.
  - Previous message.
  - Stand-by.
  - Address book.
  - Vol +.
  - Vol -.
  - Press knob.

  Press the corresponding key:
  OK = correct.
  None= check the keypad or its wiring.

  Turning the knob = return to "**Fault finding system**".

COMPUTER

- **Reading status inputs/outputs:**

  - Speed pulse :
    Vehicle speed should be displayed whilst driving.

  - Temperature :
    The internal temperature of the computer should be displayed.

  - Battery :
    Battery voltage should be displayed.

  - Eject button :
    0 = CD eject button not pressed.
    1 = CD eject button pressed (hold down for more than 5 seconds).

  - Direction :
    ARR = gear lever in reverse position.
    Reversing information correct.
    AVA = gear lever in position other than reverse or reversing information faulty.

  - Lights = on or off
    Function not used.

IMPORTANT: the response time when a status changes is approximately **15 seconds**.

- **Fix status inputs/outputs:**

  IMPORTANT : do not change these parameters.

  - Direction :
    act low must be selected.
    act high = do not use this parameter.

  - Lights :
    act low or act high = functions not used.

- **Demo :**

  IMPORTANT : do not change these parameters.

  - Taxi mode present = do not use this parameter.

  - Taxi mode absent must be selected.

- **Reading GPS status:**

  Example :
  - Sensor status :   3RH position
  - Longitude :   2° 14' 24"East
  - Latitude :   48° 46' 31" North
  - Height above sea level : 226 m
  - Satellite number :   > 3

- **Fault memory :**

  - Fault code.
  - Frequency of fault.
  - Type of fault.

  Ignore these parameters, they are not operational.

CONFIGURATION

This test allows the system to be identified.

To gain access to this function :

- Switch on the ignition and wait a few seconds
  until the screen turns on.
  The user menu is displayed on the screen,
  validate "**OK**".

- The "**Contents**" menu is displayed. Using the
  selector knob, select and validate
  "**Adjustment**".

- The "**System configuration**" menu is displayed.
  Using the selector knob, select and validate
  "**System information**" then "**Configuration**".

- The "**System identification**" table is displayed.

Example :

Serial n° :	SY586/62
Hardware index :	0109
Software index :	0050
Production week:	51
Production year :	97