This unit is a radio-CD player (or audio unit) with:

- a remote control (satellite) located on the right hand side of the steering wheel, which has the same functions as the main controls on the audio radio which is also used for entering the confidential code (see below),

- a remote display unit located in the dashboard.

NOTE : There are two types of satellite and two types of display. Depending on the vehicle, the audio radio will be connected to one of the two satellites and one of the two displays.

Sound is distributed in the vehicle by speakers which are located for optimum sound quality.

For security reasons, each radio is coded.
Each time + before ignition feed is cut, a code must be entered (four figures) which is supplied by the manufacturer to allow the system to operate.

IMPORTANT: when preparing a new vehicle, the scrambled mode operation must be cancelled (see page 86-3). Before any operation on the vehicle, check that the customer has the confidential code.

OPERATIONAL SPECIFICATIONS

- A high performance radio tuner, with PLL frequency synthesiser and microprocessors, allowing processing and storing of many types of information, in particular, in Autostore (or Autoprogramming), automatic selection of the best stations broadcasting your FM programmes:

  - five wave bands L (GO) - M (PO) - U1 (FM1) - U2 (FM2) - U AST (Autoprogramming on FM),
  - AST (Autostore) : automatic storing of the six best received stations on FM,
  - six preselections per wave band,
  - manual or automatic electronic search for stations in increasing or decreasing frequencies,
  - automatic mono / stereo switching,
  - two levels of stop sensitivity for electronic searching may be selected from the front panel,
  - for FM, decoding of the RDS sub-carrier :

    - automatic monitoring of preradio stations on the same network,
    - "clear" display of the programme name,
    - "Traffic information" function,
    - broadcast of urgent messages.

- A CD player reading 12 cm discs :
  - sequential access to each track on the disc,
  - "random" playback mode.

- Four low frequency amplifiers, each delivering a power of 15 Watts :
  - electronic adjustment of volume, balance and fader,
  - left - right speaker balance,
  - front - rear speaker balance,
  - "Loudness" key for sound relief,
  - separate control of bass and treble.

- A remote liquid crystal display showing the time*, external temperature * and radio / CD functions.

* Depending on vehicle.

PREPARATION OF RADIOS ON NEW VEHICLES

For security reasons, when the radio leaves the factory, it will operate in the following way.

When the radio is turned on, beeps will be heard every **3 seconds** over the radio or CD sound, for **2 minutes**.

The display alternates every second between displaying the message which shows the active mode status (radio or CD) and the message "**CODE**".
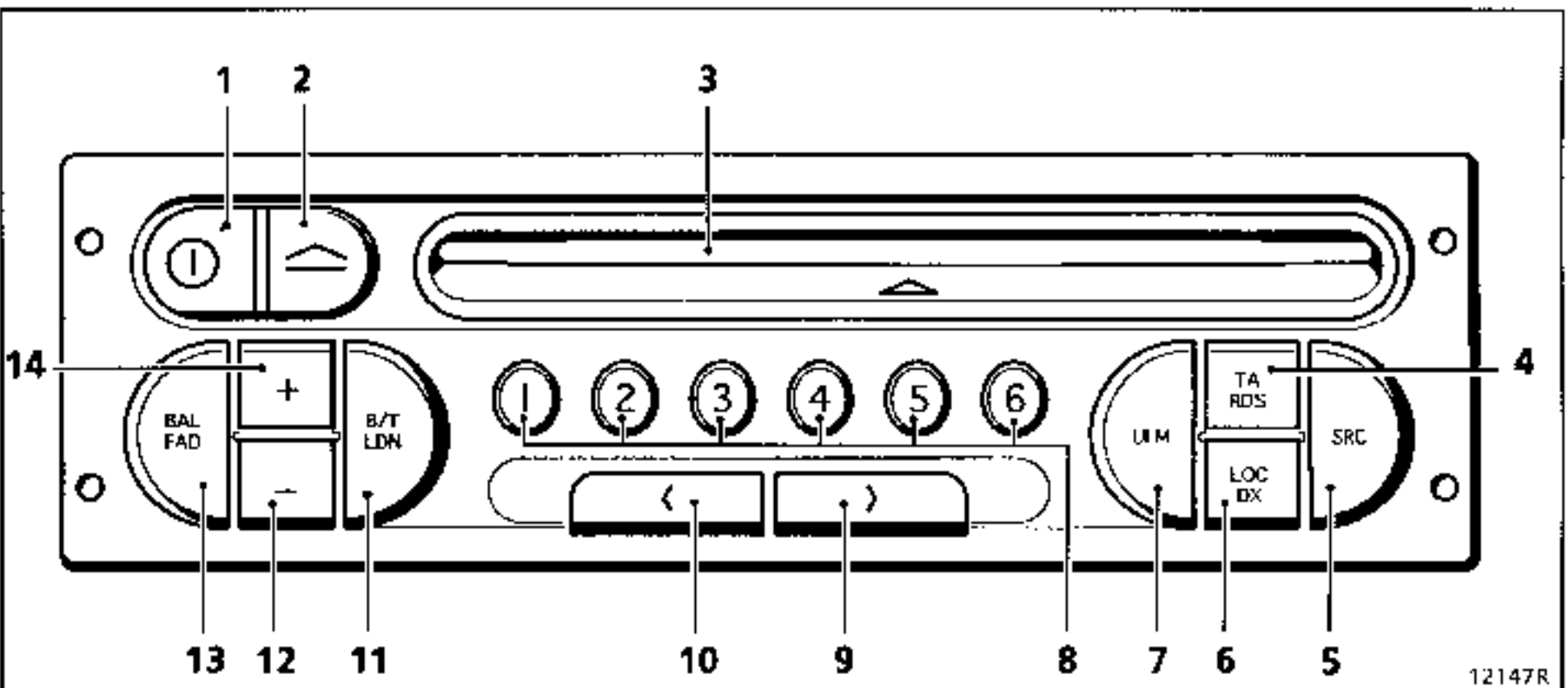
While the active mode message is displayed all functions will be operational.

After **2 minutes**, the radio will be silent and the display will permanently show "**CODE**".

This mode of operation is called "**scrambled mode**".

> To cancel the scrambled mode, enter the code when the radio displays "CODE" (see page 86-10).

AUDIO UNIT


1   Radio, CD player, satellite and remote display On/Off button.

2   CD eject button.

3   CD player compartment.

4   Multifunction button:

- Cancellation / activation of **RDS** mode which automatically monitors stations, by pressing and holding the **button** (more than **2 seconds**).

- Selection of **"Traffic information"** mode by briefly pressing the button. Selects stations broadcasting traffic information.

5   Active source selection button (radio or **CD**).

6   Automatic search stop sensitivity selection button:

- **LOC :** Normal search stop sensitivity. The electronic search will only stop on stations received with a sufficient clarity to allow comfortable listening.

- **DX :** Increased search stop sensitivity. The electronic search will stop at all stations received, even if clarity is not optimal.

7   Wave band selection button, according to the following sequence: GO (L) / PO (M) / U1 (FM1), U2 (FM2) / AST (Autoprogramming for FM) / GO (L) / PO (M) / ...

8   Multifunction buttons:

- Recall of radio station preselections (8-1 to 8-6) by briefly pressing the button (less than **2 seconds**).

- Memorising radio stations by continued pressure (longer than **2 seconds**).

9   Multifunction button:

- Radio mode:
Manual search for a station in increasing frequency.

- CD mode:
Selection of a track on the disc during playback by brief presses.

10   Multifunction button:

- Radio mode:
Manual search for a station in decreasing frequency.

- CD mode :
Selection of a track on the disc during playback by brief presses.

11   Bass and treble adjustment mode selection button; adjustments are then made using buttons **12** and **14** on the panel or buttons **20** on the satellite.
Pressing and holding the button activates/deactivates the Loudness function.

12   "-" button for:

- reducing volume,

- adjusting left / right balance to the right,

- adjusting front / rear balance (Fader) to the rear,

- reducing bass and treble levels.

13   Left/right or front/rear (fader) balance adjustment mode selection button ; adjustments are then made using buttons **12** and **14** on the panel or buttons **20** on the satellite.

14   " + " button for:

- increasing volume,

- adjusting left / right balance to the left,

- adjusting front / rear balance (Fader) to the front,

- increasing bass and treble levels.

DISPLAY

There are two types of display. Depending on the vehicle, the audio unit will be connected to one or the other.
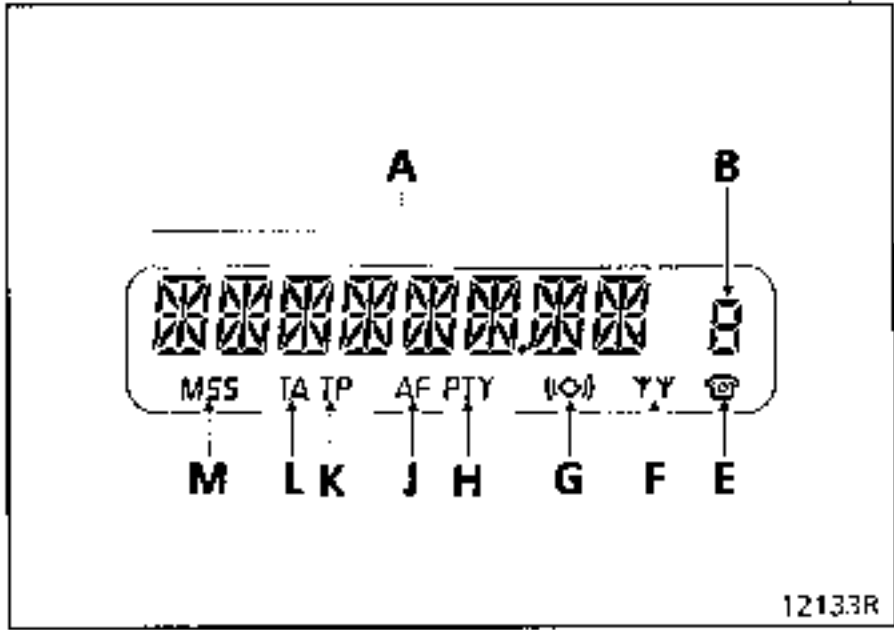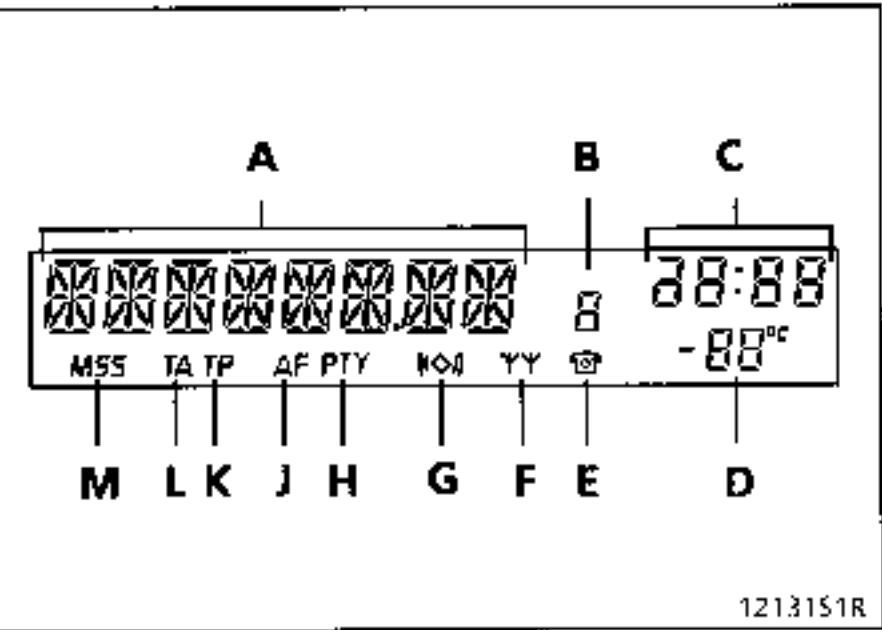
A	Various messages : the display gives a permanent indication of the active mode (radio, CD player, audio adjustments, security code, ...).
B	Active preselection (1 to 6).
C*	Clock display.
D*	External temperature display.

E
F Warning lights for use with a car phone.
   For more information, refer to the specific documentation.
G

H	Not used.
J	Indicator for automatic station monitoring mode. This shows that button **4** has been pressed (and held down).
K	Indicator showing that a station is liable to broadcast road traffic information (Traffic Information). This appears, regardless of the status (active or inactive) of the "**Traffic information**" mode.
L	"**Traffic information**"mode operation indicator. This shows that button **4** has been pressed (briefly).
M	Not used.

* Depending on vehicle.

Special notes for the first "new Safrane" vehicles

● **Display of the date**

When the ignition is turned on and the radio is not operating, the date is displayed at **A**.

● **Adjusting the time and the date**

This is done using the two buttons in the lower right hand corner of the display's plastic surround.

- Pressing and holding the left hand button activates the adjustment mode (reradioting).

- The selection of the information to be modified (hours, minutes, day, month or year) is obtained by brief presses on the left hand button.
  This selects in succession, hours, minutes, day, month then year.
  The selected information flashes on the display.

- Modification of a value, while it is flashing, is carried out using the right hand button; either by successive presses to give a "step by step" change to the value, or by pressing and holding the button to change the value quickly.

- Validation of a value is carried out when another value is selected to be modified; by a brief press on the left hand button.

- Validation of the complete radio of values is made by a long press on the left hand button.

● **Display of the time**

The clock display at **C** may be made to completely disappear.
To do this, press and hold down the two adjustment buttons, at the same time and for longer than 2 seconds.

Repeat this operation to return the clock to **C** on the display.

SATELLITE (remote control unit)

There are two types of satellite. Depending on the vehicle, the radio will be fitted with one or other of them.

10285R

12390R
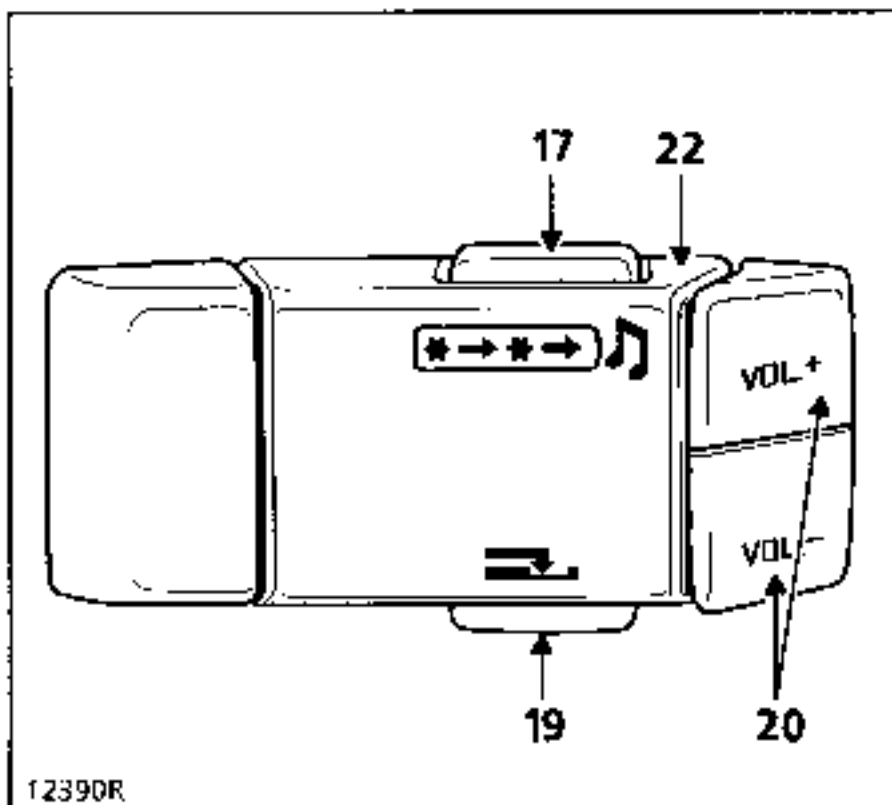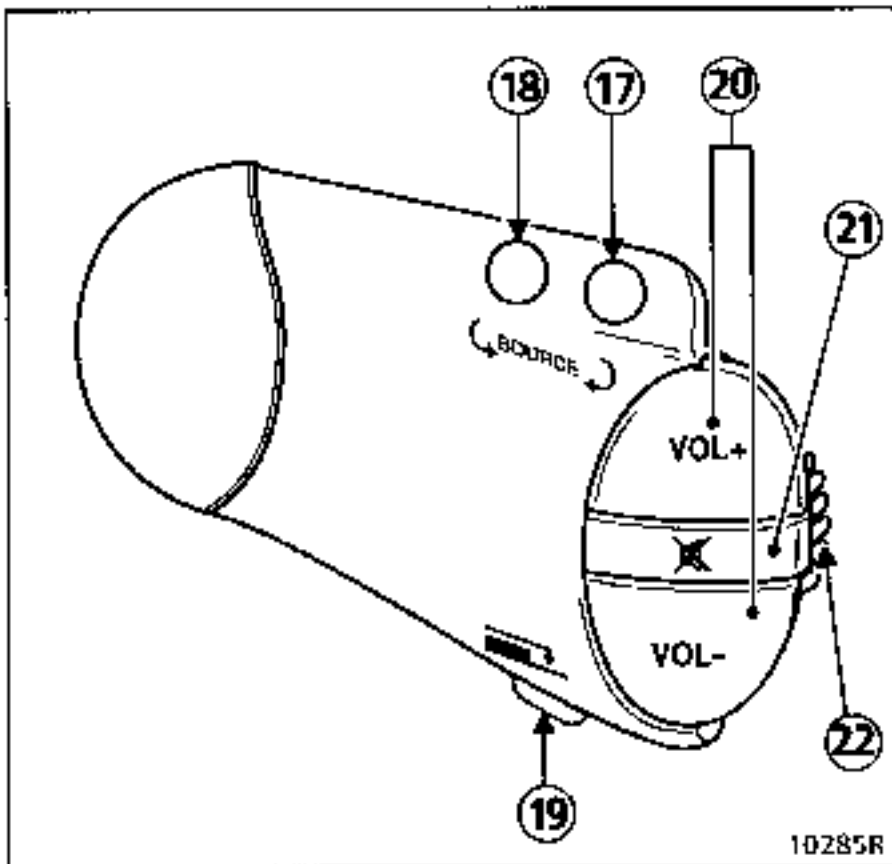
17 Change wavelength or source each time the button is pressed according to the following sequence
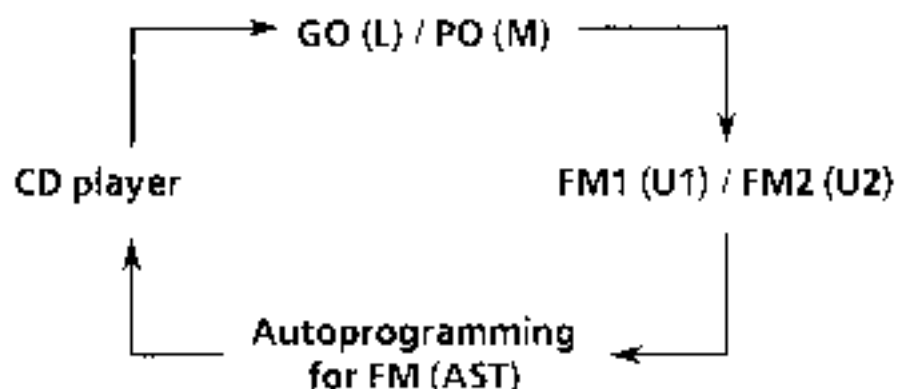
18 Change wavelength or source each time the button is pressed in the reverse sequence.

19   — **Radio mode**

- **Brief press**: starts automatic search for a station in increasing frequency

- **Long press**: starts automatic programming for FM or **Autostore** (**AST**).

  — **CD mode**

- **Brief press**: starts random playback of the CD currently being played

- **Long press**: starts automatic programming for FM (**AST**), as long as the radio was tuned to an FM station, before the source was changed.

  — **Mode for entering the confidential code**

- **Brief press**: validation of the various code figures.

- **Long press**: validation of the code.

20   + / - **command to :**

- Adjust:
  - the volume,
  - right / left balance,
  - front / rear balance (**fader**),
  - bass,
  - treble.

- Cut/restore sound by simultaneously pressing the two buttons ("MUTE" function).

NOTE : during CD playback, CD player operation is suspended (pause).

21 – Radio and CD modes

Cut or restore sound depending on the previous state ("MUTE" function).

NOTE : during CD playback, CD player operation is suspended (pause).

– **Mode for entering the confidential code**

- **Brief press**: validation of the various code figures.

- **Long press**: validation of the code.

22 **Tumblewheel**

– **Radio mode**

Change the preselection in the active wave band (1 to 6).

NOTE : in the case of grouped wave bands (L and M or FM1 and FM2), the six preselections from one are shown, then the six preselections from the other.

– **CD mode**

Selection of a track on the CD being played with playback beginning again at the start of the chosen track.

– **Mode for entering the confidential code**

Entering the four code figures.

The code is a four figure number between 0000 and 9999.

It is shown on the detachable part of the PV des Mines stuck on the warranty booklet or, for export, on the vehicle invoice.

Programmed in the unit at the time of manufacture, this code may not be modified by the user.

PROCEDURE FOR ENTERING THE CODE

- After cutting + before ignition feed.

- To cancel scrambled mode operation

    a) Press button **1** to turn the radio on, the message "CODE" is shown briefly on the display (at the end of 2 minutes operation in scrambled mode) before being replaced by "0000", where the first "0" is flashing.

    b) To enter the four figures of the code:
        - adjust the first figure of the code which is flashing using the satellite tumblewheel **22**,
        - briefly press button **19** on the satellite to validate the figure and allow the next figure to flash,
        - repeat these two operations until all four code figures are displayed.

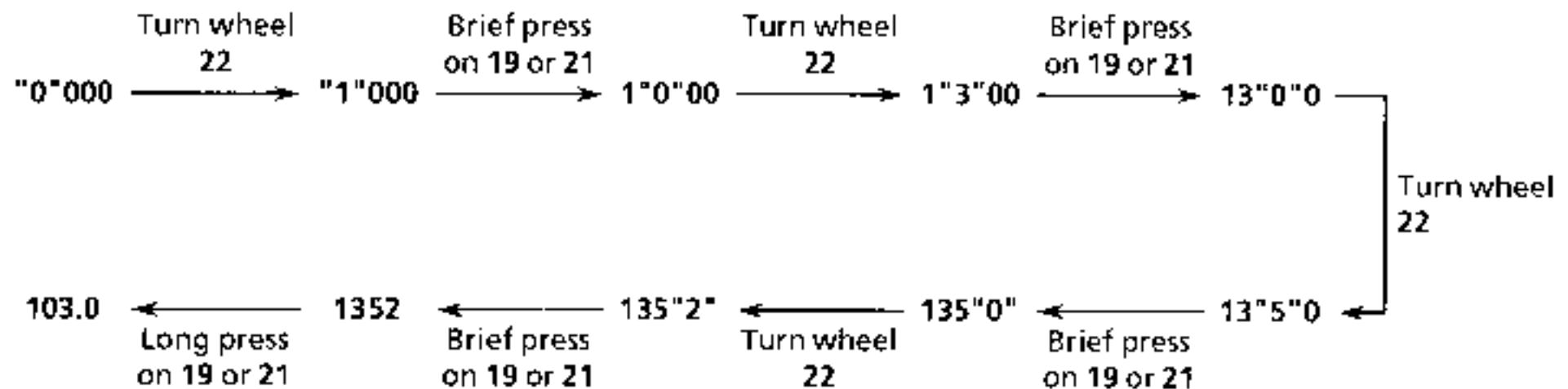   c) Press and hold button **19** on the satellite to validate the code.

NOTE : on a satellite with button **21** "MUTE", this may be used instead of button **19** to validate one figure of the code or the complete code.

The radio will beep when the code has been validated and a frequency corresponding to the last heard station will be displayed. The radiotings for volume, tonality and balance were stored, with a maximum threshold for volume.

Example :
A flashing figure is shown between inverted commas ("0").
To enter code 1352 :

"0"000	Turn wheel 22 →	"1"000	Brief press on 19 or 21 →	1"0"00	Turn wheel 22 →	1"3"00	Brief press on 19 or 21 →	13"0"0

Turn wheel 22

103.0	← Long press on 19 or 21	1352	← Brief press on 19 or 21	135"2"	← Turn wheel 22	135"0"	← Brief press on 19 or 21	13"5"0

IMPORTANT :
If the code entered is incorrect, the radio will beep and the message "CODE" will be displayed.
The code may only be entered using the method described above when the display shows four zeros once more. For this, **the radio must be left turned on for one minute.**
If the second attempt is unsuccessful, new attempts may be made, keeping the radio turned on, but the delays between each operation (if a mistake is made) will increase: **2, 4, 8, 16 and 32 minutes.**

ON / OFF

Press button **1**.

When the power is turned on, the last heard radio programme is restored.

Special note: a system may be used to allow the radio to be used without turning the vehicle ignition on (+ before ignition feed).

This function has a time limit of **10 minutes** at the end of which period the radio will automatically turn off to avoid discharging the battery.

5 seconds before this timed period expires, a beep is heard and the display flashes.

When + before ignition operation is interrupted by pressing button **1**, pressing the same button again restarts the timed period of 10 minutes.

ADJUSTING SOUND LEVELS

VOLUME : buttons **12** or **14** on the front panel or **20** on the satellite.

Cutting the sound (MUTE)

The sound may be cut completely by pressing button **21** on the satellite or by simultaneously pressing buttons **20**.

The message "PAUSE" is displayed at A.

Repeating the action returns the volume to its previous level.

The sound is automatically cut when a telephone call* is received or when the voice synthesiser * broadcasts a message.

The message "SPEECH" is displayed at A.

If this occurs during playback of a CD, playback is suspended and the radio is paused.

Playback resumes as soon as the phone call is ended (handradio put back on hook) or the voice synthesiser message is complete.

* Depending on vehicle and equipment.

SPATIAL SOUND DISTRIBUTION

Left/right balance

Select the adjustment mode using button **13** then adjust using buttons **12** or **14** on the front panel or button **20** on the satellite.

Front / rear balance (Fader)

When the left / right adjustment mode is active, pressing button **13** again switches to front / rear balance adjustment mode ; adjustment is made as above.

As soon as button **13** is pressed, the display indicates the function selected and its radioting.

Adjustment scales

Left / right balance	
▷ 9I0 ◁	fully left
▷ 9I9 ◁	centre
▷ 0I9 ◁	fully right

Front / rear balance	
▽9F0△	fully front
▽9F9△	centre
▽0F9△	fully rear

TONALITY

Bass

Select the adjustment mode by pressing button **11** then make the adjustment using buttons **12** and **14** on the front panel or button **20** on the satellite.

Treble

When the bass adjustment mode is active, pressing button **11** again switches to treble adjustment mode ; adjustment is made as above.

Adjustment scales

Bass	Treble	
BASS--9	TREB--9	min
BASS 0	TREB 0	average
BASS+9	TREB+9	max

Loudness

This system accentuates the treble and bass frequencies at low listening levels to compensate for the characteristics of the human ear.

Activate (or deactivate) the function by pressing and holding button **11**.

The radio will beep and the display will briefly show the status of the function (active or not) by one of the two messages "**LOUD ON**" or "**LOUD OFF**".

As soon as button **11** is pressed, the display shows the function selected and its radioting.

General information on the various adjustments

If, after **4 seconds** no adjustment has been made, the display returns to its previous message and the adjustment mode is cancelled.

Adjustments of volume, left / right balance and front / rear balance (**Fader**) are unique.

The bass and treble levels may however differ depending on the active source (radio or CD player).

These adjustments are recalled each time the power is turned on.

If + before ignition feed is cut:

- the volume returns to a preradio average level,

- the tonality and balance radiotings are radio to the average level and "Loudness" is deactivated.

SELECTION OF THE WAVE BAND

Using the radio front panel

Press button **7** to select one of the wave bands L (GO), M (PO), FM1 (U1), FM2 (U2) or Autoprogramming for FM (AST).

Using the satellite

Press button 17 (or **18** depending on the satellite type) to select one of the wave bands :
L (GO) / M (PO), FM1 (U1) / FM2 (U2) or
FM Autostore (AST).

The two wave bands GO (L) and PO (M) are grouped, as are FM1 and FM2.

You may pass from one to the other by running through the preselections by rotating the tumblewheel 22.

MANUAL FREQUENCY SEARCH

This may be in increasing or decreasing frequencies from the front panel.

Select the wave band as described above:

- Briefly pressing button **9** or **10** : the frequency changes one step (100 kHz for FM, 1 kHz for PO and 1 kHz for GO).

- Press and hold button **9** or **10** : the frequencies change quickly for as long as the button is depressed

AUTOMATIC SEARCH

This can only be carried out from the satellite.

Select the wave band as described above:

Briefly press button 19 on the satellite to start automatic searching with increasing frequencies only.

For AM (PO or GO), the message "SEARCH ▶" is displayed at **A**.

If no station is received with a sufficient level of clarity after scanning the complete band, the original frequency will be heard once more.

For FM, the search stop sensitivity level is displayed:

- "LOC ▶" or "DX ▶" if the "Traffic information"mode is not selected,

- "LOC INFO" or "DX INFO" if the "Traffic information" mode is active.

Search sensitivity levels

For the first automatic search started after turning the radio on, the message "LOC ▶" (or "LOC INFO" if the"Traffic information" mode is selected) is displayed and remains for the duration of the search.

This is carried out as follows:

- the first search is carried out at the first level (LOCAL),

- if no station is selected, the search will start again at a higher sensitivity level (DX — average reception) which will only be memorised for one minute ; if the following search is not started within the minute, it will start once again at the LOCAL level,

- if, once more, no station is selected, the radio returns to the starting frequency.

For FM, the sensitivity level DX may be intentionally selected by pressing button 6.

The message "DX" is briefly displayed.

Any automatic searches then started will only be carried out at this level with the indication "DX ▶" (or "DX INFO" if "Traffic information" mode is selected).

Under these conditions, pressing button 6 selects the lower level once more (LOCAL). The message "LOC" is briefly displayed.

PRESELECTIONS

Programming

Select a wave band as described above.

Search for a station manually or automatically.

Press the desired preselection button **8** ; the sound turns off.

Hold the button down until a beep is heard and the sound returns.

The frequency displayed is programmed.

Recall

Briefly press the required button **8** or turn the tumblewheel **22** on the satellite, after selecting a wave band.

AUTOMATIC PROGRAMMING IN FM

Automatic memorisation (AST) is an extension of the automatic search command.

In one single operation this function searches and memorises the six strongest stations in the region, without knowing their wavelengths.

If less than six stations are found, the preselections which could not be filled are allocated the value "0000".

If no stations are found, the old values are retained.

Process

Automatic programming is started by pressing and holding button **19** on the satellite.

Initial conditions:

- radio mode, regardless of the active FM wave band (an error beep is heard if one of the AM wave bands was selected),

- CD mode if the last frequency heard was in FM.

A beep is heard:

- in radio mode the sound is cut and the message "AST" is displayed at A,

- in CD mode the sound continues, but the message "AST" is displayed at A.

At the end of automatic programming, the system beeps once more:

- in radio mode the sound returns to the station memorised in the first preselection (8-1) for AST,

- in CD mode the message present before automatic programming began returns to the display.

NOTE : the active source may be changed during automatic programming, without affecting the process.

USE IN RDS MODE (Radio Data System)

The RDS system allows certain stations to transmit inaudible information (RDS codes) together with the normal FM signal.

This unit uses RDS information for the following features:

- "clear" display of the RDS station name, instead of its frequency ("PS" code),

- automatic monitoring, during a journey, of a preradio station by tuning in to stations which broadcast the same programme but are received with a stronger signal ("AF" signal),

- selection of stations broadcasting road traffic information ("TP" code),

- broadcasting of road traffic information from other stations on the same network (station groups) by using the "EON" system,

- broadcasting of urgent messages.

NOTE : RDS cannot operate correctly in areas where RDS transmission is still at an experimental stage or when signals are too weak.

Displaying the programme name

When the radio is tuned to an RDS station, during a manual search or an automatic search in the FM wave band, the frequency is displayed briefly before being replaced by the name of the station.

This brief period is used by the radio to decode the "PS" code from the RDS station.

When the preselection is changed, this name is displayed immediately.

Automatic monitoring - principle of operation ("AF" mode)

For this mode to operate, the radio must be tuned to an RDS station, memorised in one of the **18** FM wave band preselections.

An RDS station broadcasts a list of all the stations broadcasting the same programme as itself (alternative frequencies = **AF**).

During a journey, these stations are systematically monitored by the radio which will tune to the one whose signal is received the clearest.

This process is not obvious on the display as the name of the programme remains the same.

When the station is no longer received with enough clarity to allow the radio to use the RDS information which is being sent, the system begins an automatic search to locate another station which is broadcasting the same programme.

During this period the name of the programme remains displayed, but the warning light J flashes.

If the system finds the programme, it remains on the new frequency and broadcast begins again.

If, after **30 seconds**, the radio beeps and returns to the original frequency but without the display of RDS information (station name is not displayed) ; the preselection is deactivated (warning light B extinguishes).

In this case:

- either the original programme is broadcast once more with poor listening quality,

- or, in this region, the frequency corresponds to another programme ; this may be heard clearly.

Turning automatic monitoring on or off ("AF" mode)

It is activated automatically when the radio is turned on using button **1**.

It is turned on or off by pressing and holding button **4** for more than **2 seconds** . The radio will then beep.

It is re-activated when a new RDS station is selected.

The "AF" warning light illuminates at J, on the display to show that the function is active.

- It illuminates permanently when automatic monitoring is operating normally.

- It flashes:

  • when the function is activated but the radio is not tuned to an RDS station,

  • when no other station is able to be found; there are several reasons for this:
    - signal received from the other stations is too weak,
    - poor reception of the list of alternative frequencies,
    - original station does not transmit the list of alternative frequencies.

Automatic search and memorisation of RDS stations

After selecting the function by pressing and holding button **4**, the procedures are the same as for non RDS stations. RDS stations are not however given priority.

In automatic programming (AST), if the radio finds less than six RDS stations with the correct reception level, the preselection positions are filled by non RDS stations. When these are recalled, the warning light ⅃ will flash.

If an RDS station is memorised in one of the preselections 8 when the RDS mode is deactivated, when it is recalled, the radio will not look for other frequencies.

Recall of preselections

● "AF" mode activated

When a preselected RDS station is recalled, the programme name is displayed immediately.

Pressing the preselection button again will cause its frequency to be displayed briefly.

If the signal for this station is weak or its identification code is not the same (because the region has changed, for example), the radio will search for a new suitable frequency; the message "SEARCH" is displayed during the search.

When the radio tunes into a new frequency, the name of the programme is displayed; the frequency will have changed.

If the radio does not find a suitable frequency to which it can be tuned, the frequency (and not the name of the programme) which was preselected in the beginning reappears on the display but the pre-selection is deactivated (warning light **B** extinguishes).

In this case:

- either broadcast of the original programme begins again with a poor level of sound quality (or no sound at all, just "noise"),

- or this frequency corresponds to another programme (as the region is now different) and this is broadcast under good conditions.

● "AF" mode de-activated

When a preselected RDS station is recalled, the name of the programme is displayed directly and the RDS mode is reactivated.

If the station to which the radio is tuned has a different identification code to that memorised for the initial frequency (because the region has changed, for example), the new name will be displayed when the signal received is strong enough.

Listening to regional stations ("Regional" mode)

National RDS stations may offer regional programmes at certain times of the day. These regional RDS stations may have the same identification code or a different one.

The list of alternative frequencies may be common to all regional stations in the same network or each may have its own list of alternative frequencies.

If the list of frequencies is common, the radio will change frequency fairly regularly. The signal received will remain strong. The listening quality will therefore be good if the programmes broadcast are all the same.

This automatic monitoring may be disruptive if the programmes broadcast are different. In this case, deactivate the automatic monitoring mode by pressing and holding button 4.

There are also regional RDS stations which have their own existence, independent of any national station; they only broadcast to a well-defined region.

They have their own particular identification code and a specific list of alternate frequencies.

When the automatic monitoring mode ("AF" mode) is active, the radio remains tuned to a regional RDS station when this is available.

Turn the "AF" mode on by pressing and holding button 4. Warning light J illuminates on the display.

If a regional RDS station has been stored in one of the preselection buttons (buttons 8-1 to 8-6), the radio could search for another regional station in the same network using the corresponding alternative frequency list. This is however not automatic; each new press on the appropriate button 8 starts a search for another station on the list.

Broadcast of urgent messages

When the radio receives the signal from a station broadcasting an urgent message, broadcast of the radio programme or CD playback is interrupted.

The display shows "ALARM" at A while the urgent message is broadcast then returns to the previous display.

Use in "Traffic information" mode ("TA" code)

This system allows broadcast of road traffic information messages. It uses "TP" (Traffic Programme) and "TA" (Traffic Announcement) codes broadcast by the RDS stations, in parallel to the normal FM signal.

The "TP" code allows the radio radio to recognise stations which will broadcast traffic information. If the radio is tuned to such a station, warning light **K** illuminates on the display.

The road traffic information messages are however only heard, when the "INFO" mode ("TA" code) is active; warning light **L** is then illuminated on the display.

Radioting the "INFO" configuration

Activate the "INFO" mode by briefly pressing button 4, warning light L illuminates on the display.

Two cases may arise:

- The radio is already tuned to a station which can broadcast traffic information (warning light K illuminated) and the programme continues.

- The radio is not tuned to a station which can broadcast traffic information (warning light **K** extinguished), warning light **L** flashes on the display and the radio beeps in error.
  An automatic search may be started by briefly pressing button **19** on the satellite to select an "INFO" station. The message "LOC INFO" is displayed at A during the search.

The radio will now broadcast messages concerning road traffic by interrupting the radio programme being heard or CD playback.

Broadcast of messages

While traffic information is being heard, the message "TRAFFIC" is displayed at A.

Messages concerning road traffic are heard at a preradio minimum volume level, which can be altered during broadcast of the messages, but is not memorised.

Briefly pressing button **4** during broadcast of a traffic information message stops the message, recalls the frequency which was active before the message began and deactivates the "INFO" mode.

Broadcast of messages during CD playback

If road traffic information is required during playback of a CD, before changing the active source, select the frequency of an "INFO" station and activate the "INFO" mode.

When a message is received, the CD player "pauses" and playback is suspended. At the end of the message CD playback resumes.

Under these conditions of use, when the "INFO" station signal weakens, the radio will search automatically (approximately **10 seconds** after warning light K has extinguished).

It automatically tunes to the "INFO" station with the strongest signal in the region.

Changing " INFO " station

- In automatic search:
  Briefly press button **19** on the satellite.
  The display shows "**LOC INFO**" during the search then the radio tunes to the "**INFO**" station, depending on region.

- In manual search:
  If the frequency of an "**INFO**" station is known (from signs at the edge of the road, for example), the station may be accessed directly. To do this, refer to the section "**Manual station search**". Once the station has been selected, activate the "**INFO**" mode by briefly pressing button 4.

Programming

The "**INFO**" stations are programmed as for conventional "**non INFO**" stations into the preselections **1** to **6** in the **FM** wave band; they substitute the stations preselected in normal FM mode.

Activate the "**INFO**" mode by briefly pressing button **9** before starting an automatic search or automatic programming.

NOTE : for automatic programming, if the radio finds less than six stations which are capable of broadcasting traffic information, the preselections are filled by "**non INFO**" stations.

Broadcast of messages from other stations

The **EON** (Enhanced Other Networks) system is an RDS service which groups stations in a common network.

If the radio is tuned to a station which is linked to others in the **EON** system, it will broadcast traffic information messages from the current station together with those from the other stations.

NOTE : the **EON** system cannot be cancelled.

Insert a CD into compartment 3, with the printed side upwards.

The message "CD CHECK" is displayed at A while the unit self-tests.

If the system detects a fault(disk condition or direction of insertion), this display remains.

Otherwise, playback begins with the first track on the disk and the message "TR 1 CD" is displayed at A.

In this case, 1 represents the number of the track being played. It changes as the CD is played through.

When the end of the CD is reached, playback begins again at the start of the first track.

NOTE : refer to the section "Radio operation" for information on changing listening levels.

ACCESS TO CD PLAYER MODE

If there is already a CD in compartment 3, select the CD player mode by pressing button 5 on the front panel or by successive presses on button 17 on the satellite (or 18 depending on the satellite type).

Playback will begin at the point where it was stopped if the disk was not ejected since the last time the CD mode was selected.

The system carries out a self-test (briefly displaying the message "CD CHECK") if the power was turned off by button 1 or if the disk was ejected between CD operations.

If there is no CD in compartment 3, the CD mode is not selected when the source is changed.

RANDOM PLAYBACK

A brief press (less than 2 seconds) on button 19 of the satellite selects "random" playback mode.

The playback of various tracks on the disk is no longer in increasing order, but according to a random sequence.

The message "RD track n° CD" is displayed at A.

When all the tracks on the current disk have been played, random playback continues again.

● *Track search*

- Turning the tumblewheel starts playback of another track on the disk, selected at random.

● *Cancelling the mode*

- Changing the source using button 5 on the front panel or button 17 on the satellite (or 18 depending on the satellite type) does not deactivate the random mode.
Thus, when the CD player is active again, random playback will resume.

- This playback mode is deactivated by pressing and holding button 19.
The message "TR track n° CD" is displayed at A and playback continues.

- This type of playback is deactivated when audio system operation is interrupted by pressing button 1 during random playback.

SELECTION OF TRACKS

This is carried out using tumblewheel **22** or by briefly pressing one of buttons **9** or **10** on the front panel.

Each time tumblewheel **22** on the satellite is turned or for each press on buttons **9** or **10**, the number of the track changes on the display and playback begins at the start of the corresponding track.

In this way a particular track on the current disk may be reached.

To do this, turn the tumblewheel the number of notches required (upwards or downwards) or keep pressing buttons **9** or **10**, checking the track display.

When the last track on the disk is reached, the sequence returns to the first track (and vice versa).

STOPPING PLAYBACK

- *Broadcast of messages from the voice synthesiser**

  When the voice synthesiser broadcasts a message, playback is interrupted and the CD player pauses.
  The message "SPEECH" is displayed at **A**.
  At the end of the message, playback resumes.

- *Broadcast of traffic information messages*

  If the "INFO" mode is active (warning light **L** illuminated) and if the station to which the radio was tuned before changing source was an "INFO" station, broadcast of a traffic information message will stop playback.
  The message "TRAFFIC" is displayed at **A**.
  The CD player pauses.
  At the end of the message, playback resumes.

- *Broadcast of an urgent message*

  When the radio receives a signal from a station broadcasting an urgent message, a double beep is heard and CD player operation is interrupted; "ALARM" is displayed at **A**.
  At the end of the message, playback resumes.

- *Cutting sound*

  Using button **21** or simultaneously pressing buttons **20** on the satellite stops playback.
  The CD player pauses.
  The message "PAUSE" is displayed at **A**.
  Repeating the action starts playback again.

- *Receiving a telephone call**

  When a telephone call is received, the sound is cut automatically, and the CD player pauses.
  The message "SPEECH" is displayed at **A**.
  At the end of the communication (handradio put back on hook), playback resumes.

- *Changing source*

  Pressing button **5** on the front panel or button **17** on the satellite (or **18** depending on the type of satellite) activates the radio mode.
  The CD player pauses. Playback is interrupted.

  REMINDER : When the CD player is selected once more, if the disk was not removed from the player, playback will commence where it was stopped, otherwise the first track on the disk is heard after the system has performed its self-test.

EJECTION

The CD is ejected by pressing button **2**.

A CD may be ejected even when the power has been turned off.

After ejection, if the disk is not removed from compartment **3**, it is automatically re-inserted after a few seconds.

* depending on vehicle and equipment

AERIAL AMPLIFIER (depending on vehicle)

New Safrane vehicles fitted with a radio as standard have an aerial amplifier.

This aerial differs depending on the whether the vehicle has radio telephone pre-equipment or not.

There are three possible configurations:

- a **"simple"** basic aerial, with no amplifier, for vehicles which are not fitted with a radio as standard,

- an aerial amplifier fitted with a feed clip and a single coaxial output for the radio aerial,

- an aerial amplifier fitted with a feed clip and two coaxial outputs ; a black plug for the radio aerial and a red plug for the radio telephone aerial (GSM only).

In the latter two cases, the aerial base is part of the amplifier unit.

NOTE : the feed wire to the clip comes from track 5 on the connector (A) at the rear of the audio unit (see below "**Audio unit connections**").

It is not required for the radio telephone to operate correctly.

Removal

Inside the vehicle, unclip the plastic cover behind the headlining.

From the outside:

- unscrew the aerial from its mounting,

PRN8600
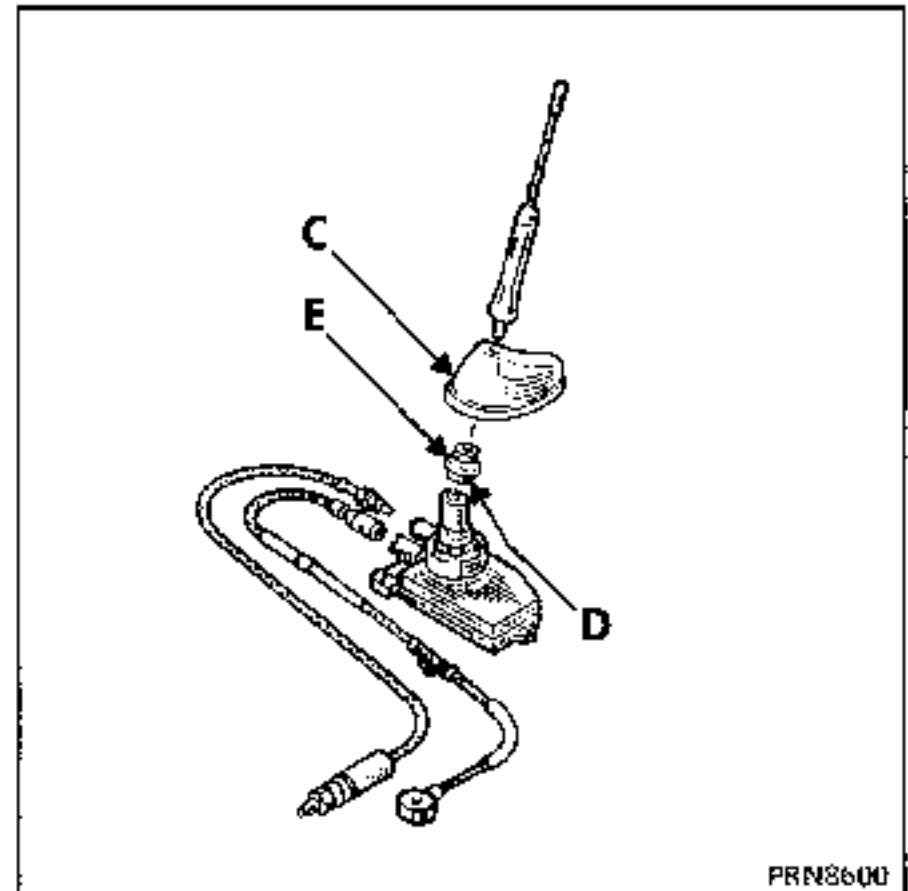
- remove the cover (C) over the base of the aerial and the rear screen washer jet,

- slacken nut (E) mounting the aerial base.

  NOTE : a rubber washer (D) inside the nut ensures the connection is sealed. Remember to reposition the washer on refitting.

11628R
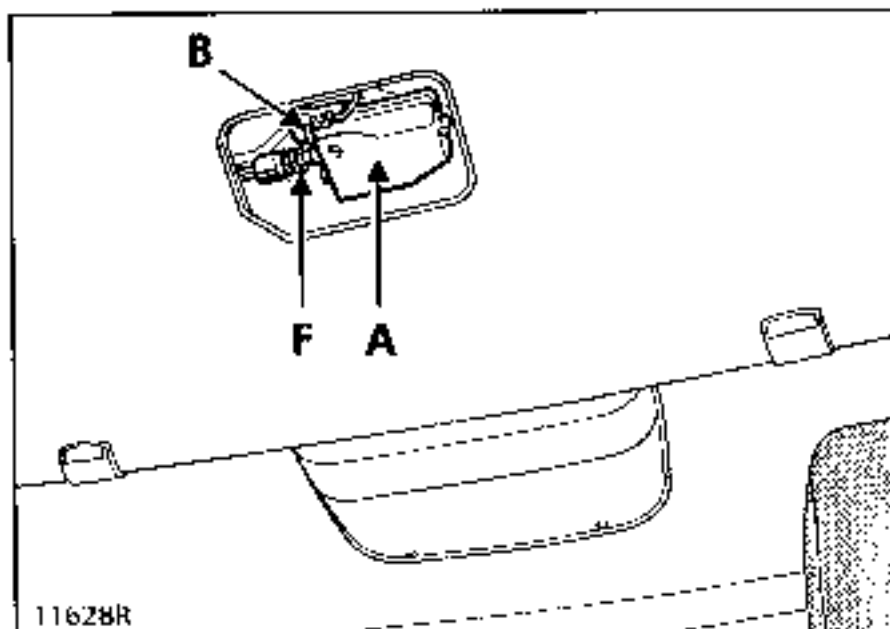
Release the aerial amplifier unit (A) from inside the vehicle.

Disconnect the coaxial cable(s) and the feed clip (B) to remove the unit.

Special note for connecting plugs for coaxial cable on the amplifier unit

These are fitted with an automatic locking system.

To disconnect the coaxial cable, hold the plug by the knurled section (F) and push it in :

- towards the unit in the case of the radio aerial coaxial cable(black plug),

- towards the cable in the case of the radio telephone coaxial cable(red plug).
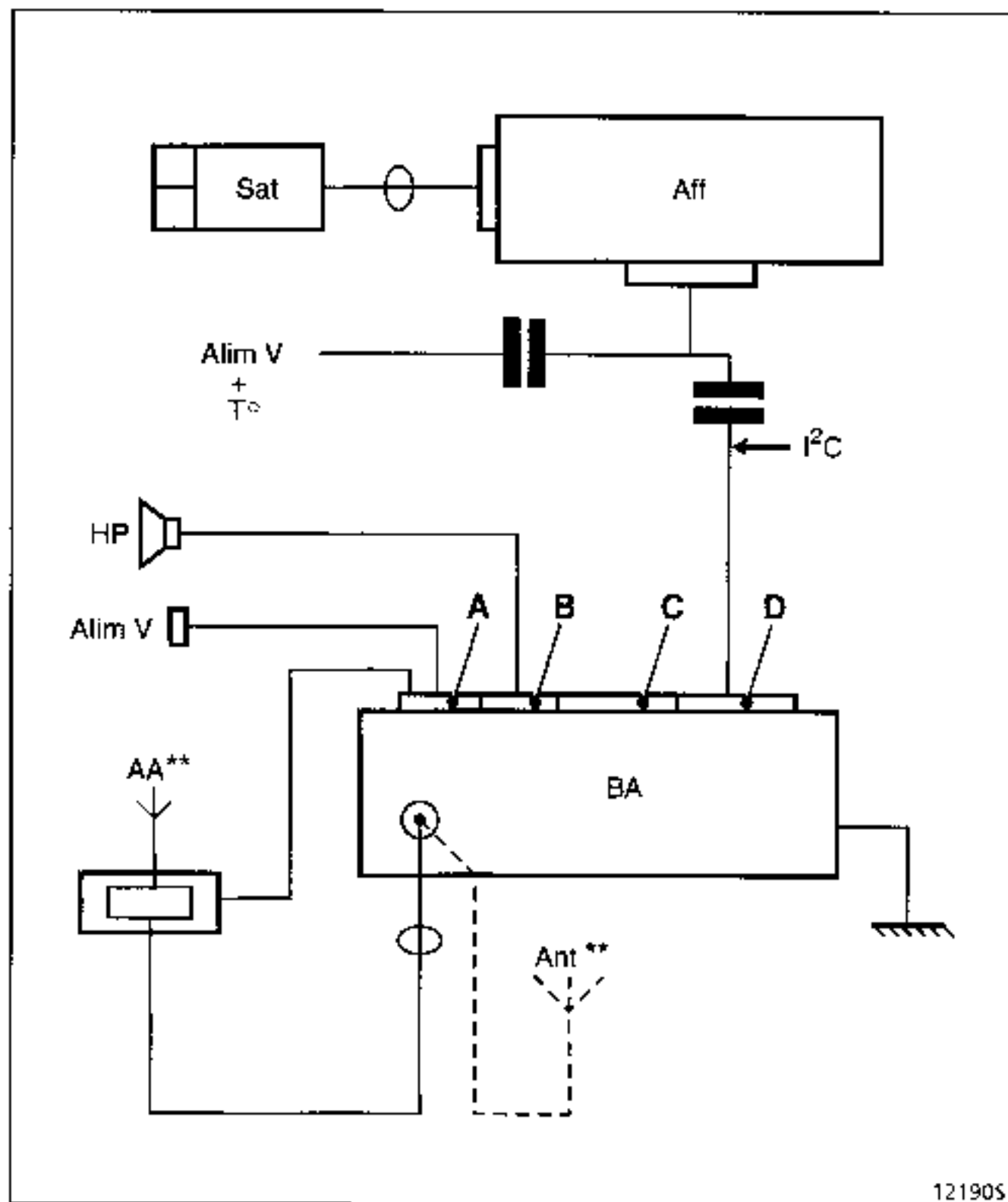
12190S

Sat	:	Satellite or remote control
Aff	:	Remote display
BA	:	Audio unit with connectors A, B, C, D
Prétél**	:	GSM** radio telephone pre-equipment
Alim V	:	Vehicle feed
HP	:	Speakers
AA**	:	Aerial with amplifier and duplexer**
Ant*	:	"Simple" aerial
T°*	:	External temperature information*
I²C	:	Communication connection between remote display and audio unit

* Depending on vehicle.
** Depending on vehicle and equipment.

AUDIO UNIT
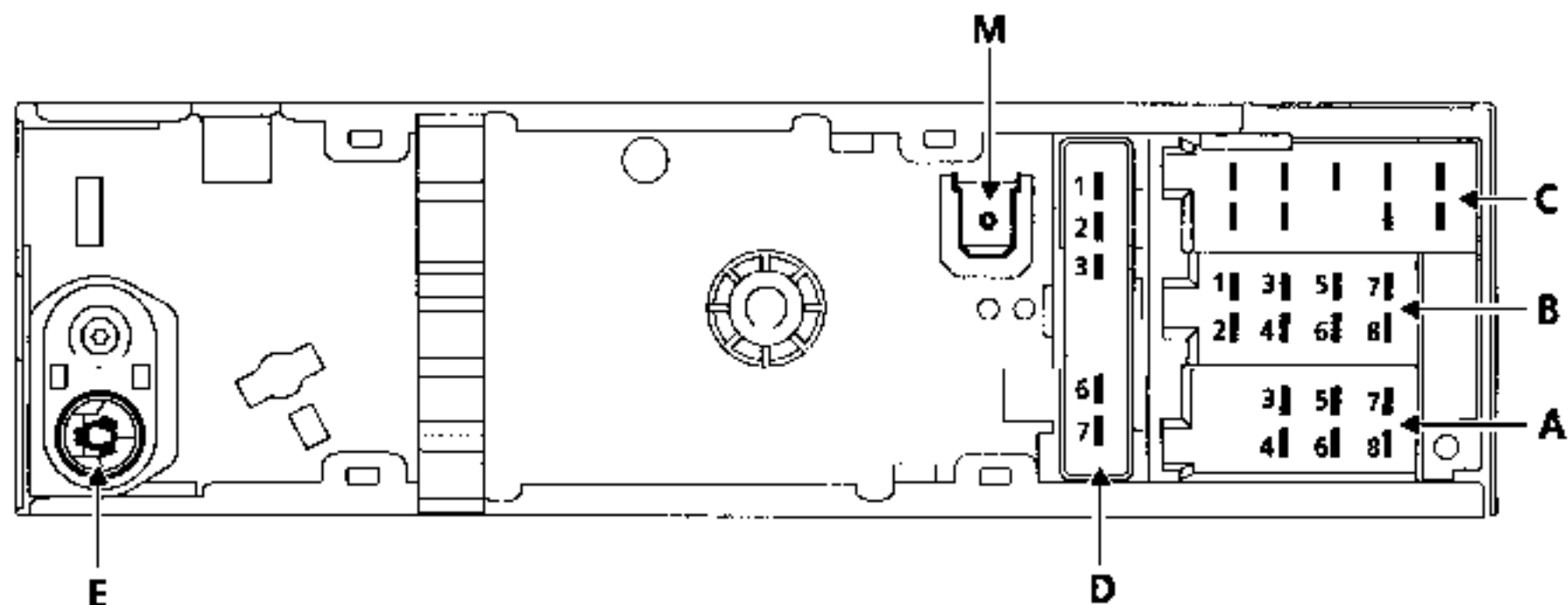
12135R1

Connector (A) : feed

Track	Allocation
1	Not connected
2	Strap or rheostat earth lighting*
3	Radio sound cut-out (MUTE)**
4	+ before ignition
5	+ amplified aerial*
6	+ side lights (lighting)
7	+ accessories
8	Earth

Connector (B) : speakers connection

Track	Allocation
1	+ Rear right speaker
2	- Rear right speaker
3	+ Front right speaker
4	- Front right speaker
5	+ Front left speaker
6	- Front left speaker
7	+ Rear left speaker
8	- Rear left speaker

Connector (C)

Not used

Connector (D) : display connection

Track	Allocation
1	Communication connection information
2	Clock signal
3	MRQ signal
4	Not connected
5	Not connected
6	"radio operating" information
7	Screened earth

Connector (E) : aerial

M : Earth clip

* depending on vehicle
** depending on vehicle and equipment.

REMOTE DISPLAY (depending on vehicle)
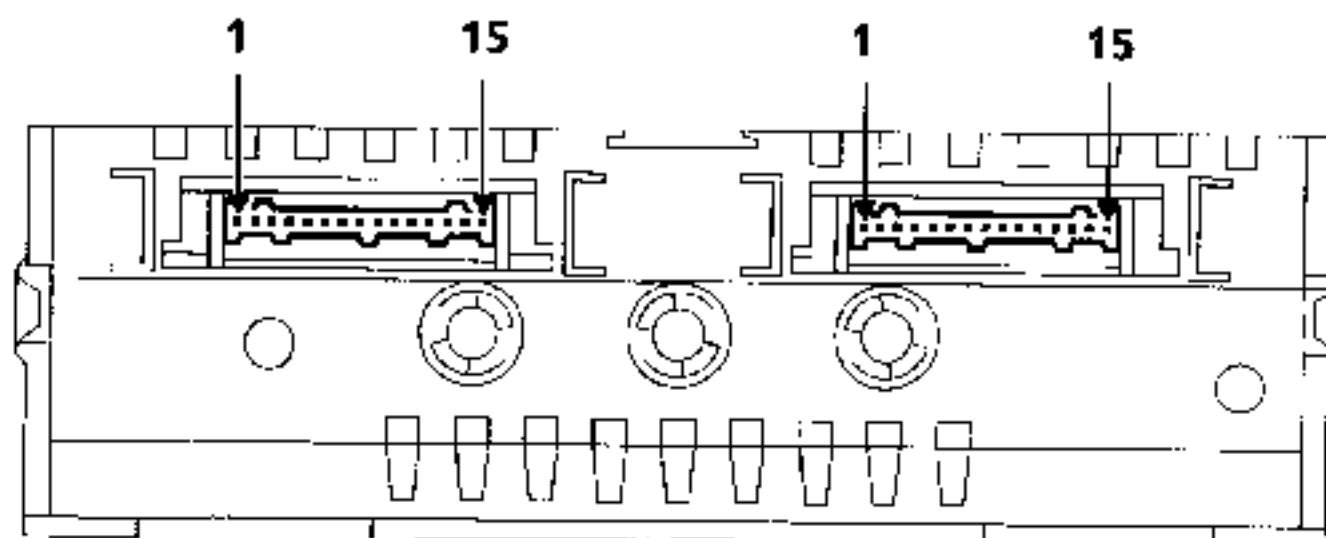
12132R

15 track blue connector

Track	Allocation
1	External temperature sensor information
2	0 V External temperature sensor
3	Not connected
4	Not connected
5	Earth
6	+side lights
7	+ rheostat lighting
8	⌐ accessories
9	+ before ignition
10	Not connected
11	Screened earth
12	"radio operating" information
13	Communication connection information
14	Clock signal
15	MRQ signal

15 track red connector

Track	Allocation
1	Not connected
2	Not connected
3	Not connected
4	Not connected
5	Not connected
6	Not connected
7	Not connected
8	Not connected
9	⌐ before ignition
10	To satellite
11	To satellite
12	To satellite
13	To satellite
14	To satellite
15	Screening

REMOTE DISPLAY (depending on vehicle)
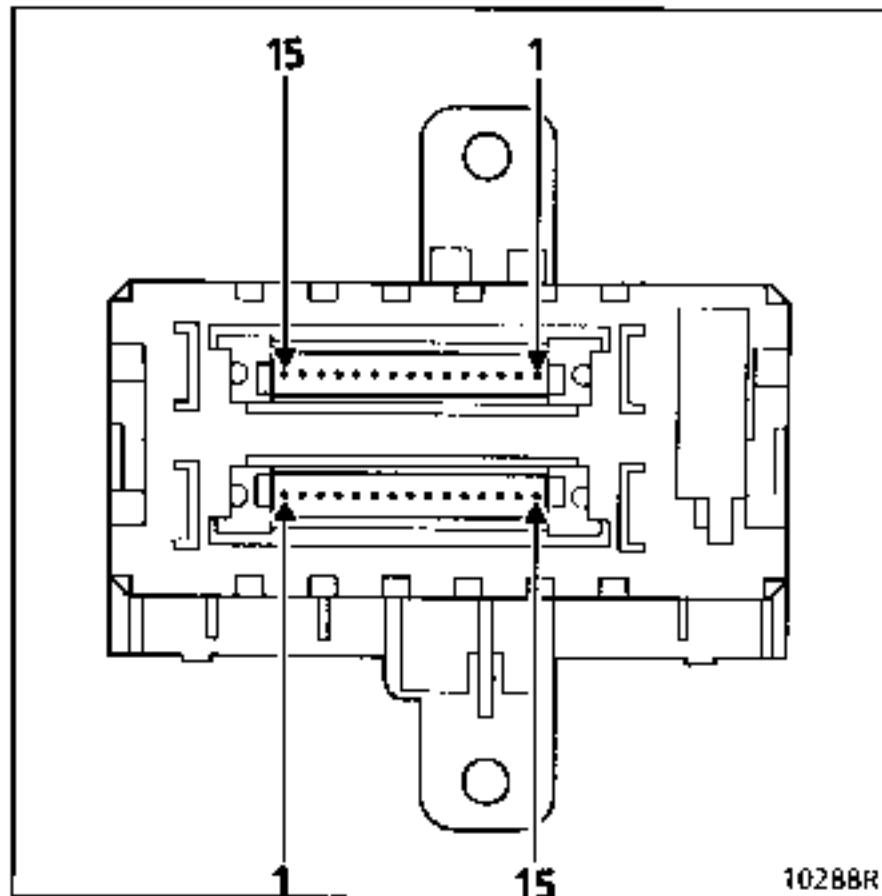
10288R

15 track blue connector

Track	Allocation
1	External temperature sensor information
2	0 V External temperature sensor
3	Clock signal
4	MRQ signal
5	Earth
6	+ side lights
7	+ rheostat lighting
8	+ accessories
9	+ before ignition
10	Secondary speed information
11	Screened earth
12	+ aerial control
13	Communication connection information
14	Clock signal
15	MRQ signal

15 track red connector

Track	Allocation
1	Not connected
2	Not connected
3	Not connected
4	Not connected
5	Not connected
6	Not connected
7	Not connected
8	Not connected
9	+ before ignition
10	To satellite
11	To satellite
12	To satellite
13	To satellite
14	To satellite
15	Screening

- The connection between the display and the audio unit is by an I2C type communication connection.
  If the display is completely disconnected, the audio unit remains operational and the display remains blank.
  When the connection is re-established, the system becomes fully operational once more.

- If the I2C connection is earthed (short circuit), the complete system turns off (audio unit and display).

- If the I2C is cut, depending on the vehicle:
  - either the display remains illuminated but all the segments and the specific radio warning lights extinguish,
  - or the date is displayed in place of the radio message and the warning lights extinguish.
  The audio unit itself remains fully operational.

- If there is no satellite, the system remains completely operational but the code cannot be entered.

- Depending on the vehicle, there is no external temperature display when the sensor is not connected (all the segments concerned on the display remain extinguished).

DISPLAY TEST

To enter into display test mode, press buttons **20** simultaneously on the satellite,then, while keeping them depressed, press button **17** on the satellite.

10285R

12390R
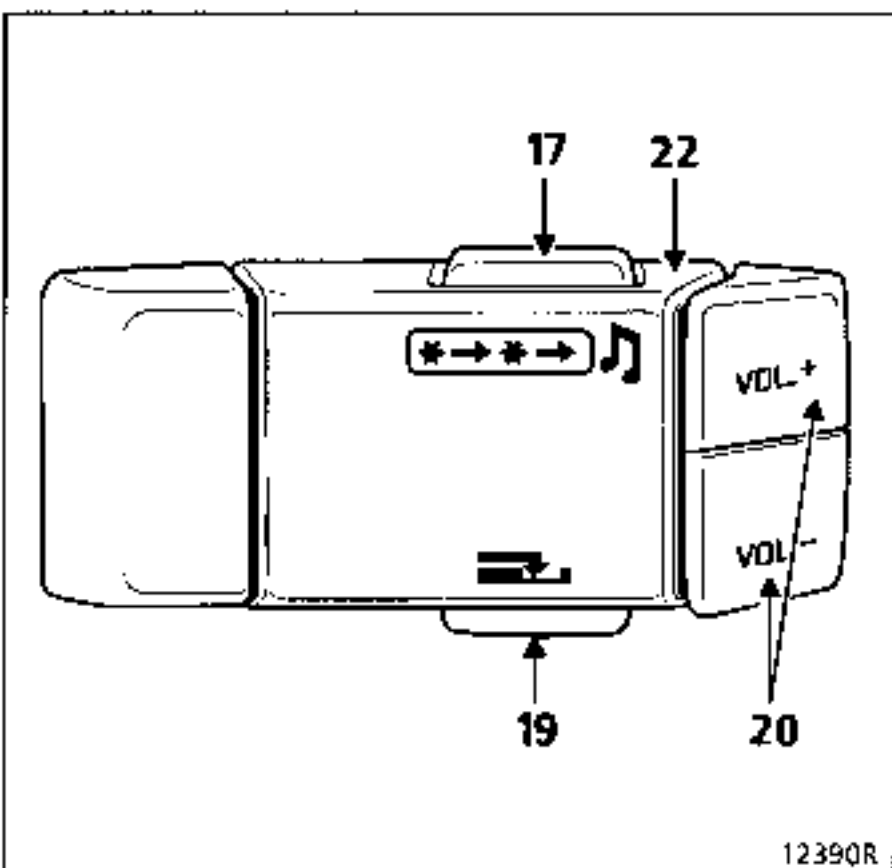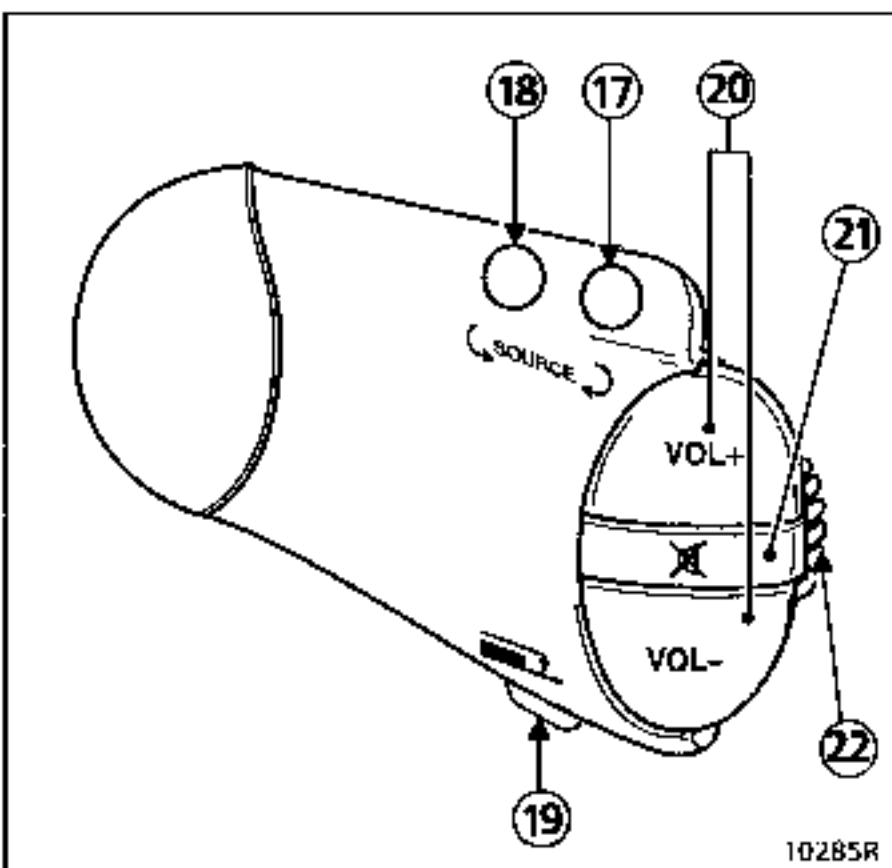
One of two cases will arise:

1) Ignition key in "+ accessories" position and radio off

As soon as test mode is entered, the display will briefly indicate that it is communicating with the audio unit via an I2C type connection (message "NO BAM").

All the segments and all the warning lights on the display will illuminate together, permanently.

If they are all correct, one of the following displays will be seen, depending on vehicle.

12131S1

121335
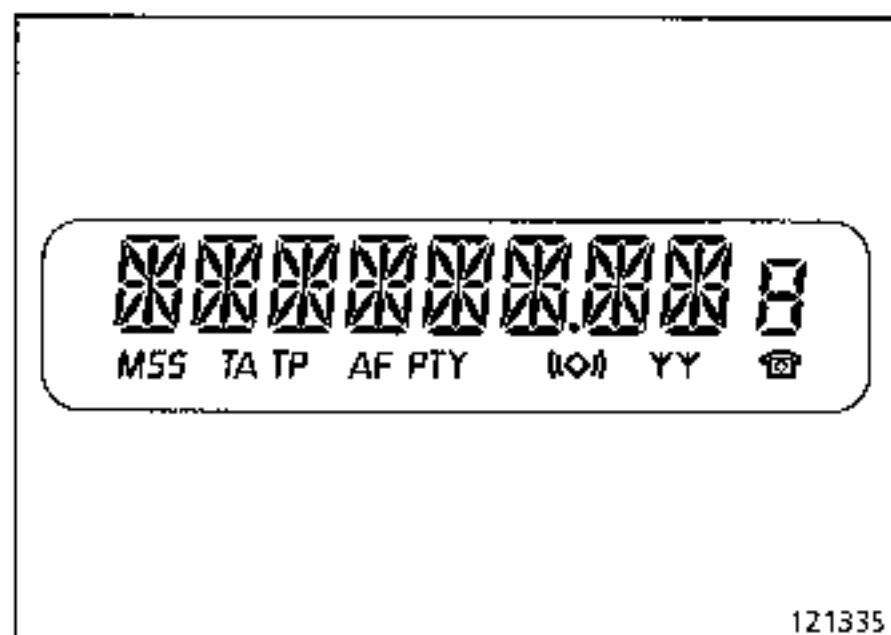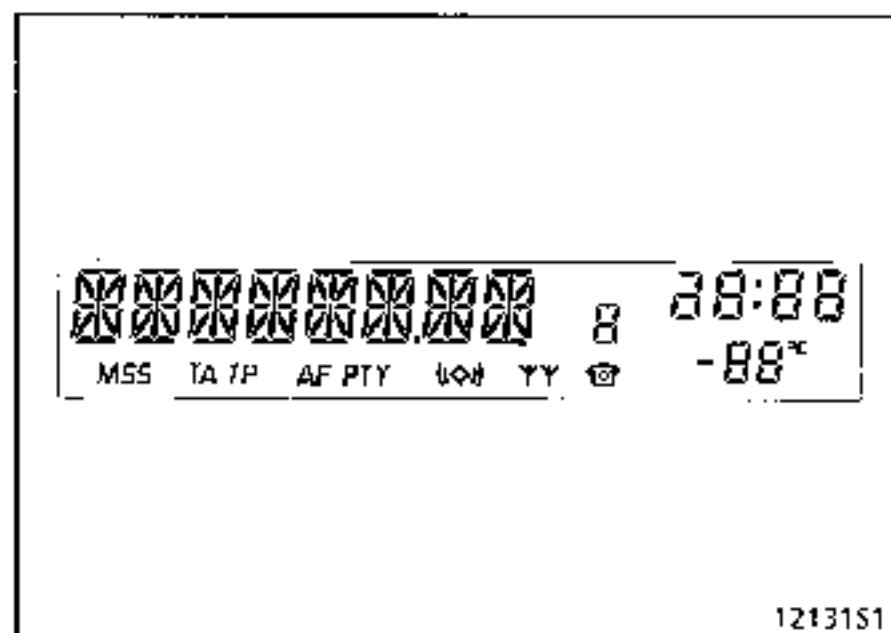
To leave test mode, turn the vehicle ignition off or turn the radio on using button **1**.

2) Radio operating

All the segments and all the warning lights on the radio display will illuminate together, for 2 seconds.

The segments which are specific to the clock and external temperature displays are not tested and continue to indicate the values for these functions.

After **2 seconds**, the display returns to the message present before **test** mode was entered.

NOTE : this test may be carried out, regardless of the active mode (radio or CD).

AUDIO UNIT TESTS (depending on vehicle)

To enter into audio unit test mode, the system must be off ("**Off**").

Press the third preselection button **8-3**, then, while keeping this button held down, turn the unit on by pressing button **1**.

If a fault is detected on initialisation, the message "**FALSE**" is displayed at **A**.

Otherwise, four zeros "**0000**"are briefly displayed, then the message "**T--**" indicates that the system is waiting for one of the front panel buttons to be pressed.

Each press displays the message "**KEY##**" at **A** where ## represents the number of the button pressed.

Table of correspondence between the button pressed and the number allocated to it by the manufacturer

Button pressed on front panel	Reference	Number ##
Eject	2	1
Bal/Fad	13	2
Volume (+)	14	3
Volume (-)	12	4
B/T/LDN	11	5
Preselection 1	8-1	6
Preselection 2	8-2	7
Preselection 3	8-3	8
Preselection 4	8-4	9
Preselection 5	8-5	10
Preselection 6	8-6	11
ULM	7	12
TA/RDS	4	13
DX	6	14
SRC	5	15
Downwards search (<)	10	16
Upwards search (>)	9	17

If more than one button is pressed at the same time or if there is a short circuit, the message "**FALSE**" is displayed.

When all the buttons have been pressed at least once, the message "**KEYS OK**" is displayed at **A**.

To leave test mode, turn the radio off at button 1 "**On/Off**", then turn it on again.

CUSTOMER COMPLAINTS

- Ignition off, button **1** On/Off does not illuminate when it is pressed, or ignition key in "**accessories**" position, button **1** does not illuminate.
  On radios where button **1** does not illuminate, ignition off or ignition key in "**accessories**" position, nothing happens.

- The display is extinguished, ignition key in "**accessories**" position and after pressing button **1** On/Off , the button illuminates but the display remains extinguished.

- The display illuminates, "**CODE**" is briefly displayed, then four zeros with the first figure flashing, but the first figure cannot be displayed.

- The display illuminates, shows "**CODE**" and remains on this message.

- After turning the radio on using the **On/Off** button, a frequency is displayed but there is no reception.

- The audio unit buttons do not illuminate when the side lights are turned on (except the **On/Off** button, depending on the type of equipment).

- Everything is operational before turning the side lights on, but as soon as they are turned on, the remote display extinguishes.
  - For vehicles with a separate display of external temperature and clock.
  - For vehicles with general display.

On radios where the 1 On/Off button illuminates:
- ignition off, button **1** does not illuminate when it is pressed,

or
- ignition key in **"accessories"** position, button **1** does not illuminate.

On radios where the **1 On/Off button** does not illuminate, ignition off or ignition key in **"accessories"** position, nothing happens.

Check:
- the **"radio"** fuse/s (depending on vehicle) on the passenger compartment fuse board (see vehicle **wiring diagram**).
  Replace if necessary.
- the audio unit feeds:
  - . earth,
  - . -I permanent,
  - . + accessories.

If the button still does not illuminate or if the system does not react, follow the repair procedure on the **"Diagnostic fiche"** at the end of the document.

The display is extinguished, ignition key in "accessories" position and after pressing button **1** On/Off, the button illuminates (depending on vehicle) but the display remains extinguished (side lights off).

↓

Check the condition of the display bulbs. → *incorrect* → Replace the bulbs

↓ *correct*

Check the connection of connector D at the rear of the audio unit and the condition of the connections (see previous pages "Connections"). → *incorrect* → Repair.

↓ *correct*

Check the connection of the blue / white connector at the rear of the display and the condition of the connections. → *incorrect* → Repair.

↓ *correct*

Check the continuity of the lines:
- between track **13** of the blue / white connector on the display and track **1** of connector D at the rear of the audio unit,
- between track **14** of the blue / white connector on the display and track **2** of connector D at the rear of the audio unit,
- between track **15** of the blue / white connector on the display and track **3** of connector D at the rear of the audio unit.

→ *incorrect* → Repair.

↓ *correct*

(A)

(A)

Check the earth on track **5** of the blue / white connector for the display.

→ incorrect →

Check the continuity of the line between track **5** of the blue / white connector for the display and , depending on vehicle:
- track **B2** on the black 6 track connection (R279) on the additional radio / display / passenger compartment wiring,

or
- track **A3** of the black 10 track connection (R279) on the additional radio / display / passenger compartment wiring.

→ incorrect → Repair.

correct

correct

Check the earth, depending on vehicle:
- on track **B2** of the black 6 track connection (R279) on the additional radio / display / passenger compartment wiring,

or
- on track **A3** of the black 10 track connection (R279).

→ incorrect → Repair.

correct

Check for **12 volts** between track 5 (earth) and track 9 of the blue / white connector for the display

→ incorrect →

Check the continuity of the line between track **9** of the blue / white connector for the display and , depending on vehicle:
- track **B1** of the black 6 track connection (R279) on the additional radio / display / passenger compartment wiring,

or
- track **A5** of the black 10 track connection (R279).

→ incorrect → Repair.

correct

correct

(B)

(C)

(B)

(C)

Check the continuity of the line, depending on the vehicle:
- between track **B1** on the black 6 track connection (**R279**),

or
- between track **A5** on the black 10 track connection (**R279**),

and
the "**radio**" fuse output (depending on vehicle) on the passenger compartment fuse board (see **vehicle wiring diagram**).

incorrect

Repair.

correct

Replace the remote display.
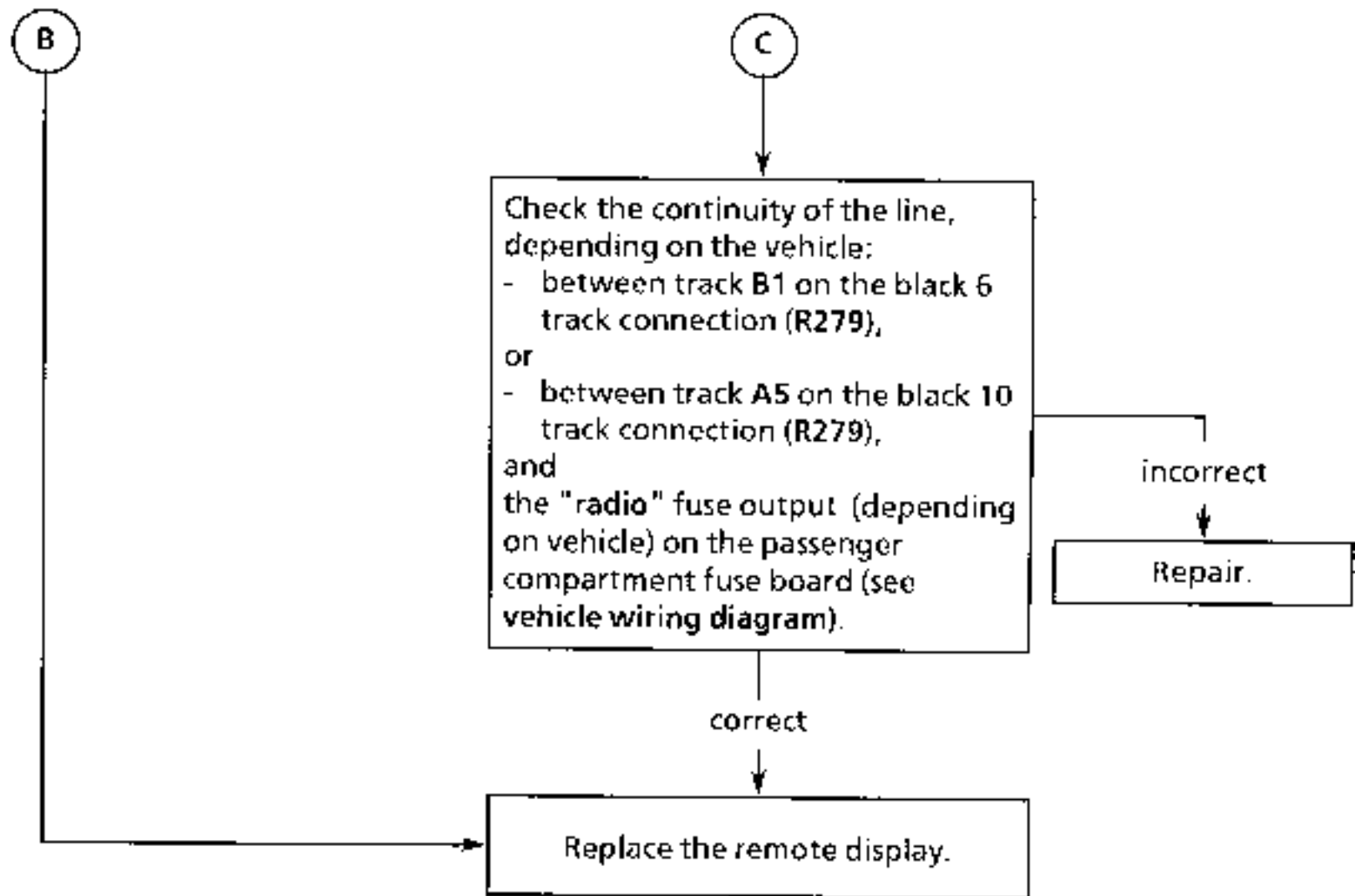
The display illuminates, shows "CODE" briefly then four zeros where the first figure flashes.

The display illuminates, shows "CODE" and remains on this message.

An incorrect code has been entered. Leave the radio on and wait for 1 to 32 minutes until the four zeros appear on the display again, with the first figure flashing. Check the confidential code. Check with the Customer Relations service for example for France.

The first figure of the code cannot be displayed using the satellite tumblewheel or validated using button 19 on the satellite or 21 depending on the type of remote control (see section "Procedure for entering the code").

Check the connection of the red connector behind the display and the condition of the connections.

correct

incorrect

Replace the satellite

Repair.

If the fault persists, follow the repair procedure on the "Diagnostic fiche" at the end of the document.

After turning the radio on using button **1 On/Off** , a frequency is displayed but there is no reception.

Manually tune to an **FM** station which is well received in the area.

Good reception but there is radio interference.

Check:
- the aerial earth,
- the aerial coaxial cable,
- the aerial amplifier unit*.

Sound is heard, but high degree of interference.

Still no reception

Tune to a **GO {L}** station which is well received in the area.

Test with a CD

No reception

Good reception ⇒ fault with FM.

Still no sound

Check:
- the aerial coaxial cable is correctly connected,
- the aerial coaxial cable.
- the aerial amplifier unit*.

(Test using another aerial, another coaxial cable and another amplifier unit*).

Check the connection of connector B (see section "Connections") at the rear of the radio and check the condition of the connections. Does the fault persist?

yes

no

Check the connection of the various speakers and the condition of the connections.
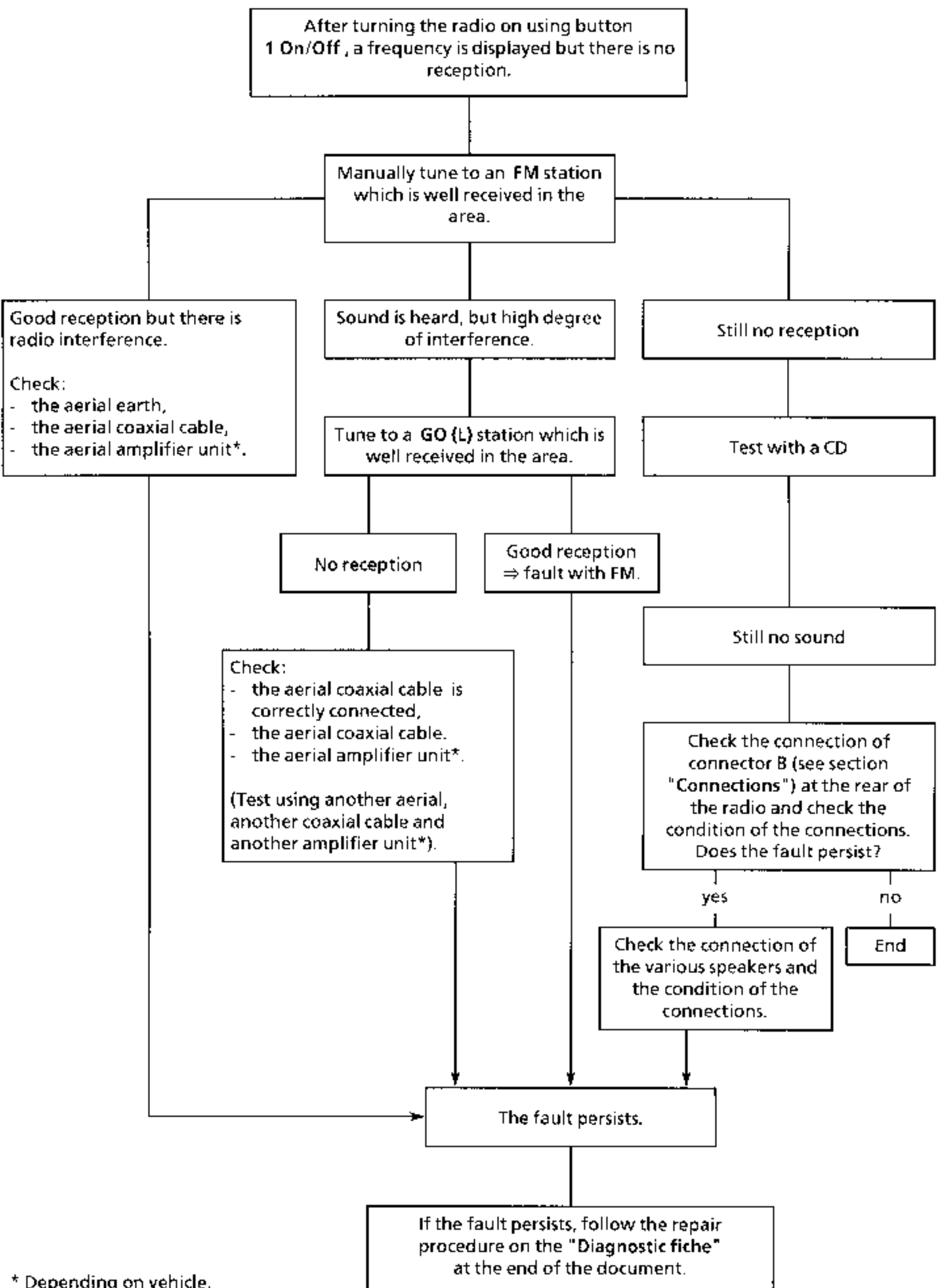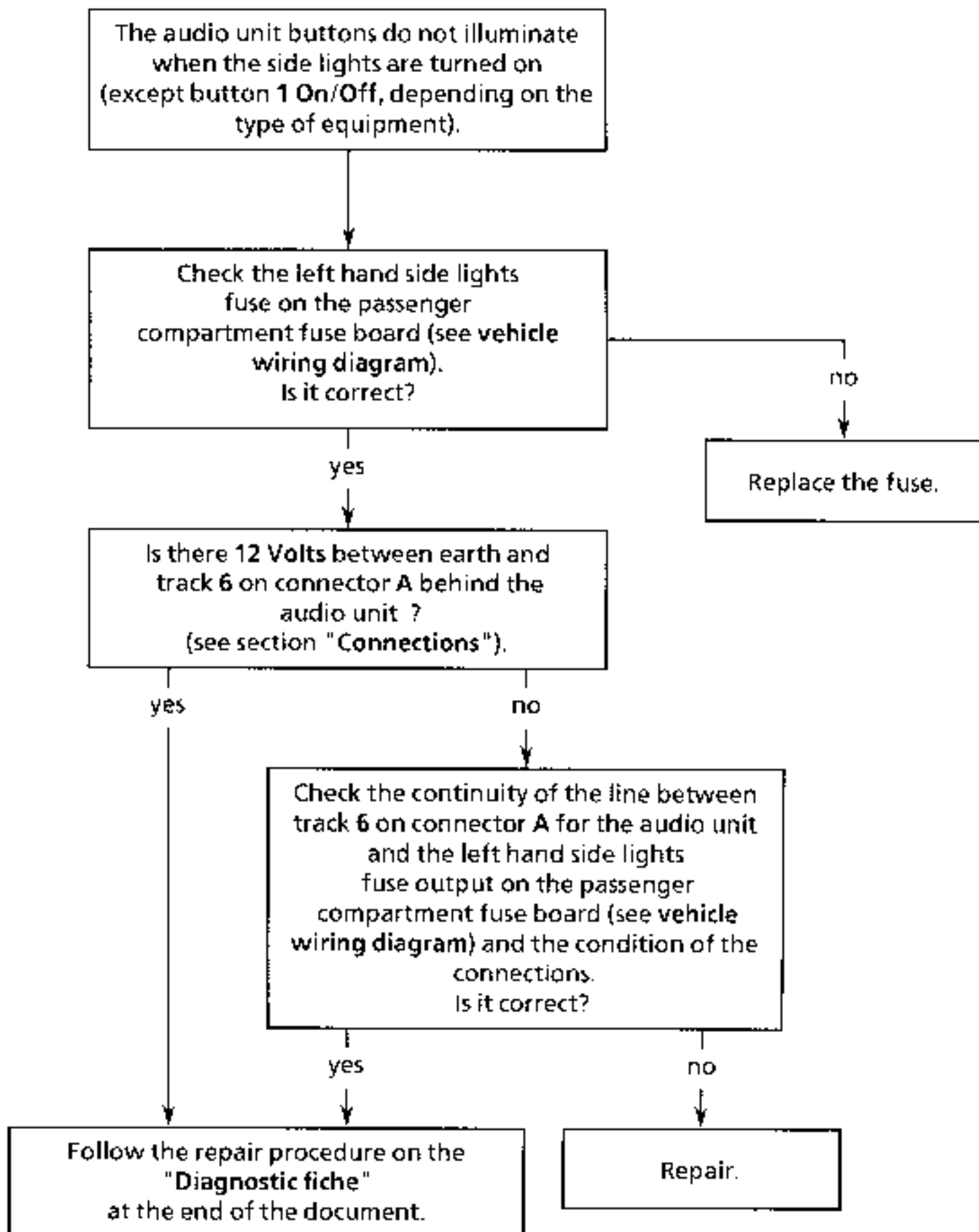
End

The fault persists.
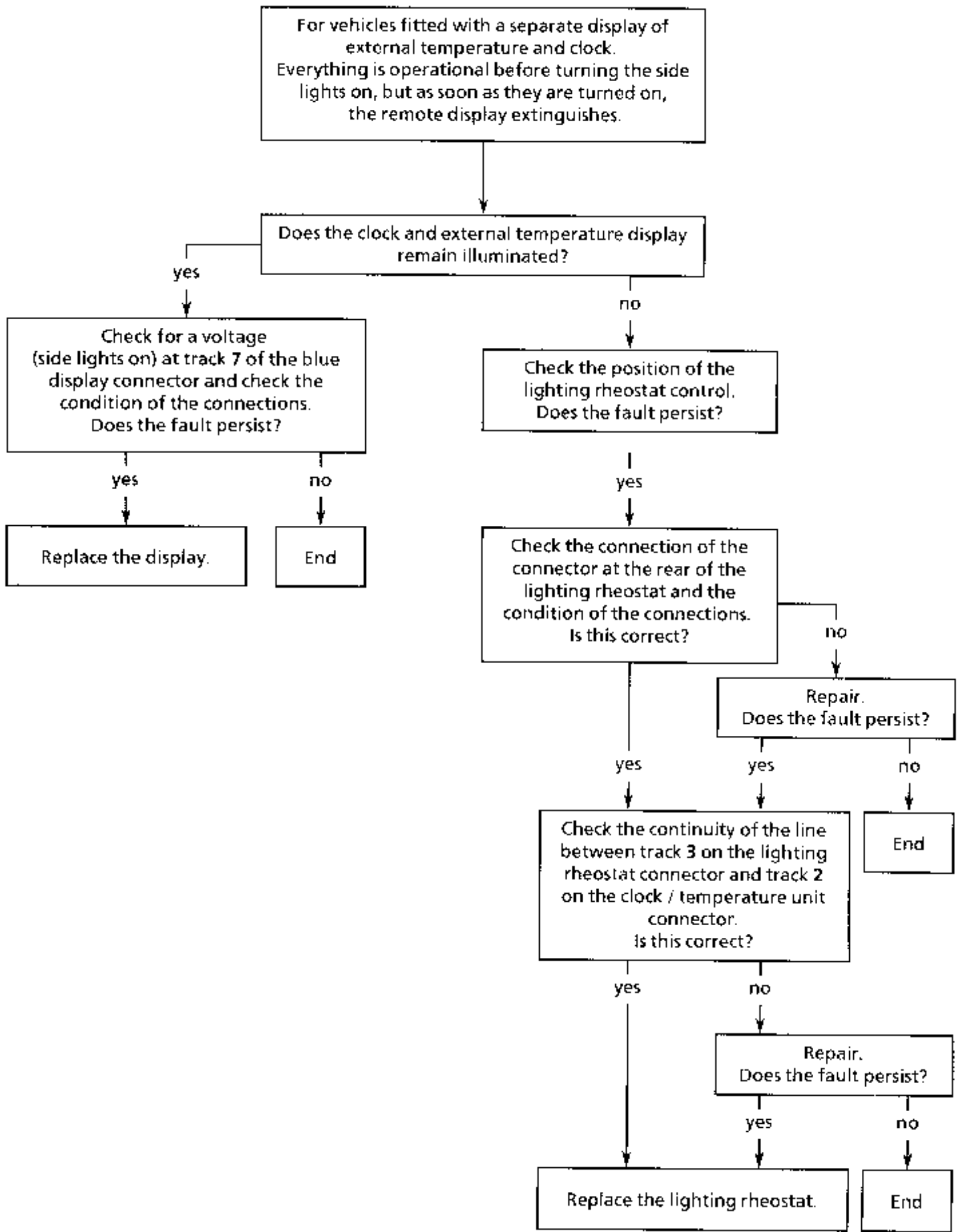
If the fault persists, follow the repair procedure on the "Diagnostic fiche" at the end of the document.

* Depending on vehicle.

The audio unit buttons do not illuminate
when the side lights are turned on
(except button **1 On/Off**, depending on the
type of equipment).

↓

Check the left hand side lights
fuse on the passenger
compartment fuse board (see **vehicle
wiring diagram**).
Is it correct? ────────→ **no** → Replace the fuse.

yes

↓

Is there **12 Volts** between earth and
track **6** on connector **A** behind the
audio unit ?
(see section "**Connections**").

yes   **no**

↓ (no)

Check the continuity of the line between
track **6** on connector **A** for the audio unit
and the left hand side lights
fuse output on the passenger
compartment fuse board (see **vehicle
wiring diagram**) and the condition of the
connections.
Is it correct?

yes   **no**

↓ (yes)   ↓ (no)

Follow the repair procedure on the
"**Diagnostic fiche**"
at the end of the document.   Repair.

For vehicles fitted with a separate display of external temperature and clock.
Everything is operational before turning the side lights on, but as soon as they are turned on, the remote display extinguishes.

Does the clock and external temperature display remain illuminated?

yes

Check for a voltage (side lights on) at track **7** of the blue display connector and check the condition of the connections.
Does the fault persist?

yes

Replace the display.

no

End

no

Check the position of the lighting rheostat control.
Does the fault persist?

yes

Check the connection of the connector at the rear of the lighting rheostat and the condition of the connections.
Is this correct?

no

Repair.
Does the fault persist?

yes

yes

no

End

Check the continuity of the line between track **3** on the lighting rheostat connector and track **2** on the clock / temperature unit connector.
Is this correct?

yes

no

Repair.
Does the fault persist?

yes

no

End

Replace the lighting rheostat.

For vehicles with a general display.
Everything is operational before turning the side
lights on, but as soon as they are turned on,
the remote display extinguishes.

Check for a voltage (side lights on) at
track 7 of the blue/ white connector for the
display and check the condition
of the connections.
Is this correct ?

yes

no

Replace the display.

Check the continuity of the line between track 7 of
the blue / white connector for the display, the day /
night relay and the lighting rheostat
(see the wiring diagram for the vehicle concerned).
Check the condition of the connections.
Is this correct ?

yes

no

Repair.
Does the fault persist?

yes

no

Replace the lighting rheostat.

End

1. Tuner

- **Wave bands**

PO - (M)	:	531 to 1 602 kHz
GO - (L)	:	153 to 279 kHz
FM	:	87.5 to 108 MHz
AST	:	87.5 to 108 MHz

- **Intermediate frequency**

  10.7 MHz for PO - GO and FM

- **FM sensitivity**

  6 µV (for S/B 26 dB at 93 MHz)
  Automatic search at 2 sensitivity levels.
  Autostore search at 2 sensitivity levels (search from bottom of wave band).

- **I.A.C. system**

  Interference suppression in FM.

- **S.D.S. system**

  Automatic change to mono when the signal received at the aerial reduces.

- **S.D.R. system**

  Automatic attenuation of treble when the signal received at the aerial reduces.

- **M.D.S. system**

  Automatic operation of S.D.S. circuits in the presence of multi-track distortion.

- **M.D.R. system**

  Automatic attenuation of treble in the presence of multi-track distortion.

2. CD player

- Distortion $\leq$ 0.05 % at 1 kHz
- Crosstalk   > 90 dB at 1 kHz
- Signal / noise ratio   > 90 dB

3. Low frequency amplifier

- Output (4 Ohms : 14.4 V)   4 x 15 W $\perp$ 1 dB for D $\leq$ 10 %
- Frequency response   30 Hz to 15 kHz
- Digital balance   Right/ Left
- Digital mixing   Front/ Rear
- Bass correction $\pm$ 12 dB at 60 Hz
- Treble correction $+$ 10 dB at 10 kHz
- Loudness $\vdash$ 12 dB at 60 Hz
      $\perp$ 10 dB at 10 kHz

MUST BE ATTACHED TO THE EQUIPMENT
OBLIGATORY FOR APPLICATION OF THE WARRANTY

DIAGNOSTIC FICHE: RADIO – DISPLAY – CD PLAYER

COMPANY NAME: .... TEL : .... FAX : ....

COMPANY ADDRESS: ....

CONTACT NAME: ....

FULL DESTINATION PARTS DEPARTMENT CODE NO. : .... Date : .. ../.. .. /..

VEHICLE : Type .... Fabrication No.(⬬) Delivery date: .. / .. ./.. ..

RADIO : Make: .... Fabrication No.(*) or Type (*) : ....

CODE : .... Serial No.(*) : ....

WARRANTY: YES / NO   (Reply YES only for contractual warranty)

CUSTOMER COMPLAINT:

WORKSHOP DIAGNOSIS

GENERAL
☐ Does not come on   ☐ no sound or weak sound
☐ Security code refused (Have you checked with customer relations department by MEMO?)

On certain radios, the code may only be entered using the satellite

RADIO
☐ Poor reception in: ☐ FM   ☐ FM RDS   ☐ G.O.   ☐ P.O.
☐ Interference in : ☐ FM ☐ FM RDS ☐ G.O. ☐ P.O. Engine ☐ Running ☐ Off

Specify circumstances: ....
☐ Button: .... does not operate

CASRadio TE
☐ Inserting   ☐ Ejecting difficult or impossible
☐ Sound weak
☐ Damages tape
☐ Autoreverse broken
☐ Poor running (wowing)
☐ Button: .... does not operate

COMPANY STAMP WITH DATE

C.D.
☐ Inserting   ☐ Ejecting difficult or impossible
☐ No sound
☐ Button: .... does not operate

AMPLIFIER
☐ Balance does not operate   ☐ Front/rear   ☐ Left / Right
☐ Speaker does not operate   ☐ Front LH   ☐ Front RH
                                ☐ Rear LH   ☐ Rear RH
☐ Equaliser does not operate   ☐ Loudness   (Check headphones switch) ☐ bass ☐ treble

DISPLAY
☐ Does not come on   ☐ Display fault   ☐ Clock / Temperature

SATELLITE
☐ Satellite operating fault. Does the radio work when the satellite is disconnected? ☐ Yes ☐ No

OTHER FAULTS - SPECIFY:

(*) Look for type and serial numbers: see page 86-46

FAULT FINDING : Refer to the Workshop Repair Manual concerned

WARRANTY PROCEDURE - SEE DITG : 8/3 - 8/4 - 8/5 - 8/6 - 8/10

PHILIPS

PHILIPS | 22 DC 679/62 | ◀—————————————— Type

77 00 803 648

Z A602 477 S
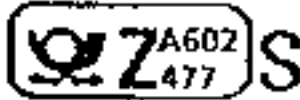
9022 216 65725

MADE IN FRANCE

| FD 02 90 44 550 3890 | ◀—————————— Serial No.

BLAUPUNKT

BLAUPUNKT

77 00 818 275 Ind

| FD 9128 | ◀—————————— Fabrication Code

7 640 495 . 091

| BP0495N2450828 | ◀—————————— Serial No.

Made in Germany

PIONEER

—————————————— Type

◉ PIONEER

—————————————— Serial No.

SPEC NO./NO. DE LOT

SERIAL NO./NO. DE SERIE 0 B 000091

PIONEER ELECTRONIC CORP.

RENAULT 7700 841 007

ALPINE / LUXMAN

A42

77 CO ... ...

AL .. .. ◀—————————— Serial No.

CE

MC9RN410 .. —————————— Type

MADE IN JAPAN