This unit is a radio-cassette 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 set 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 remote control, as well as two different displays.
Depending on the vehicle the audio control will be connected to one of the two satellites on the one hand, and to one of the two displays on the other.

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

For security reasons, this set 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**, automatic selection of the best stations broadcasting your **FM** programmes:
  - five wave bands L **(GO)** - M **(PO)** - U1 **(FM1)** - U2 **(FM2)** - U **AST (Autostore 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 preset stations on the same network,
    - "**clear**" display of the programme name,
    - "**Traffic information**" function,
    - broadcast of urgent messages.

- A cassette reader with "**autoreverse**"* system allowing automatic tape direction reversal at the end of the tape:
  - mechanical insertion and ejection of the cassette,
  - tape head withdrawn when the cassette is stopped,
  - radio may be heard during fast winding,
  - "**Loudness**" key for sound relief.

- Two low frequency amplifiers, each delivering a power of 6 **Watts** : −/- **1 dB**:
  - electronic adjustment of volume, balance and fader,
  - left - right speaker balance,
  - separate control of bass and treble.

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

* Depending on vehicle.

PREPARATION OF RADIOS ON NEW VEHICLES

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

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

The display alternates every second between displaying the message which shows the active mode status (radio or cassette) and the message "CODE".

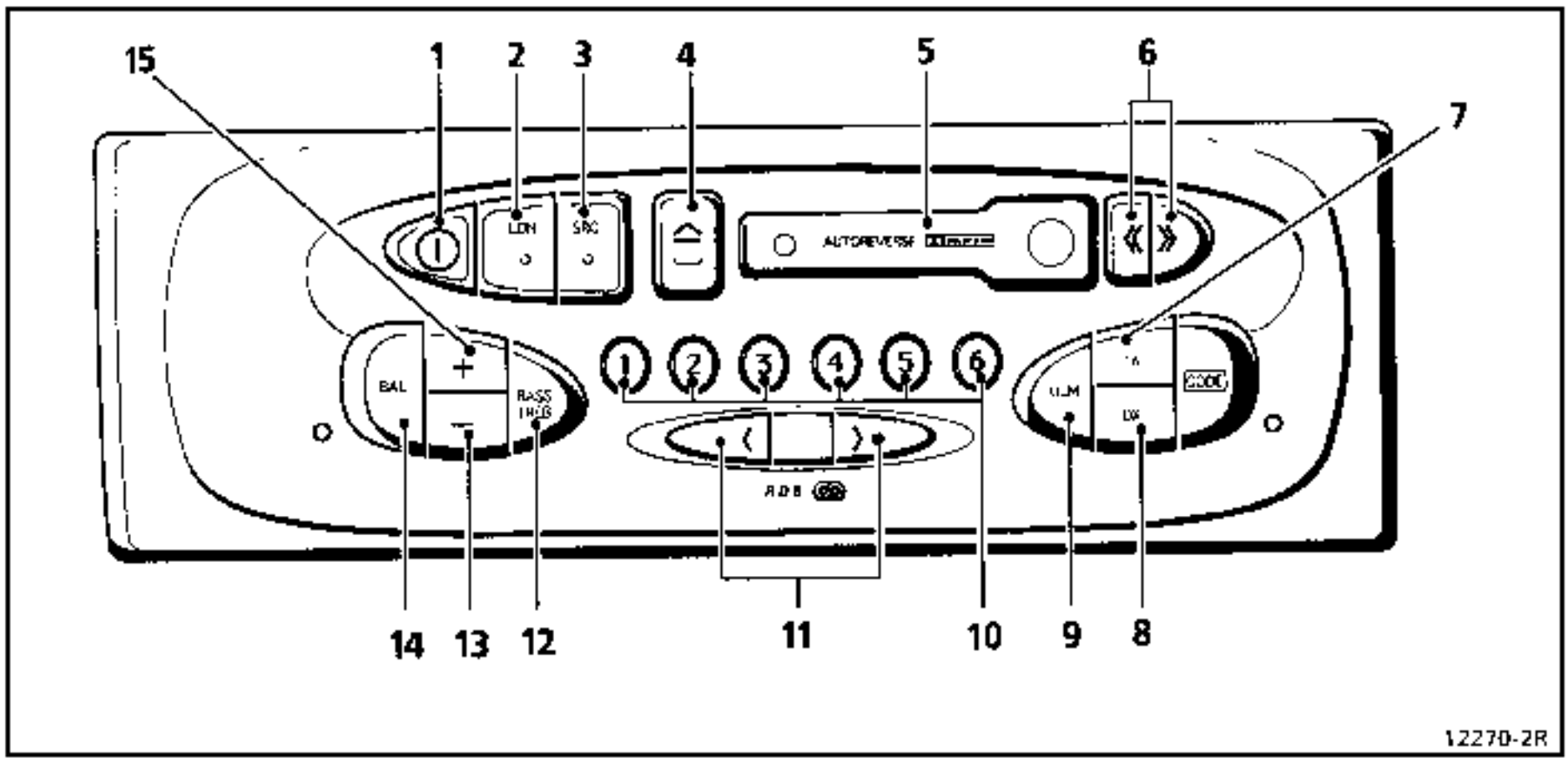
While the active mode message is displayed all functions will be operational.

After 2 minutes, the set 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 set displays "CODE" (see page 86-10).

AUDIO UNIT



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

2 Loudness button for adjusting sound contrast.

3 Active source selection button (radio or cassette)

4* Cassette ejection button.

5 Cassette reader compartment.

6 Multifunction buttons:

- Fast forward/reverse of the cassette tape.

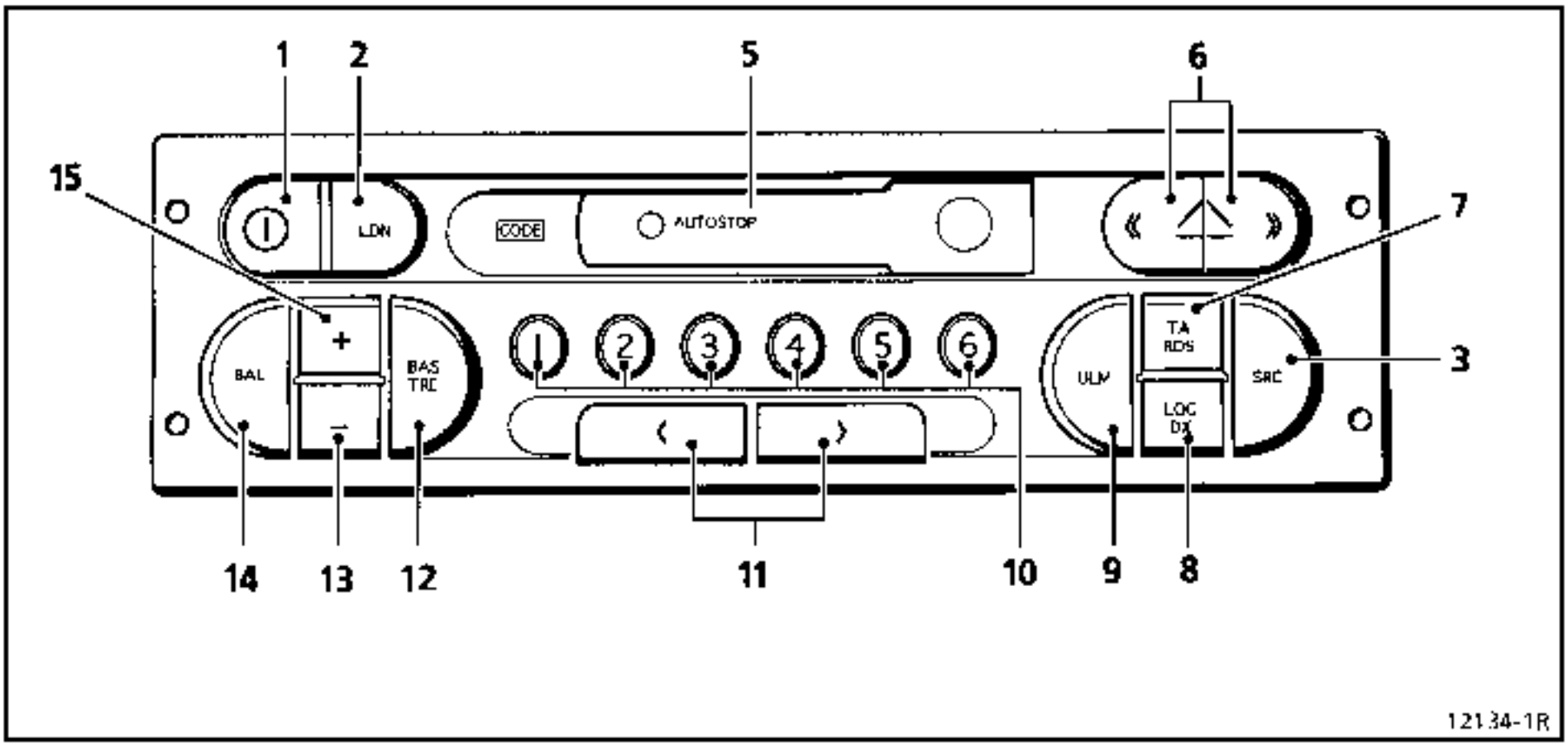
- Pressing both buttons at the same time causes :
- the tape direction to be reversed while the tape is playing, by pressing lightly*,
- the cassette to be ejected by fully depressing the buttons*.

7 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.

* Depending on vehicle.



8 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.

9 Wave band selection button according to following cycle : **GO** (L) / **PO** (M) / **U1** (FM1) / **U2** (FM2) / **AST** (**Autoprogramming** in **FM**) / **GO** (L) / **PO** (M) / ...

10 Multifunction buttons :

- Recall of radio station preselections (**10-1** to **10-6**) by briefly pressing the button (less than **2 seconds**).
- Memorising radio stations by continued pressure (longer than **2 seconds**).

11 Manual search for a station in increasing and decreasing frequencies, depending on button.

12 Selection button for setting mode for adjusting bass and treble; the adjustments are then made by means of buttons 13 and **15** on the front panel or **20** on the satellite

13 "–" button for :

- reducing the volume,
- reducing the bass and treble level,
- adjusting the right/left balance to the right,

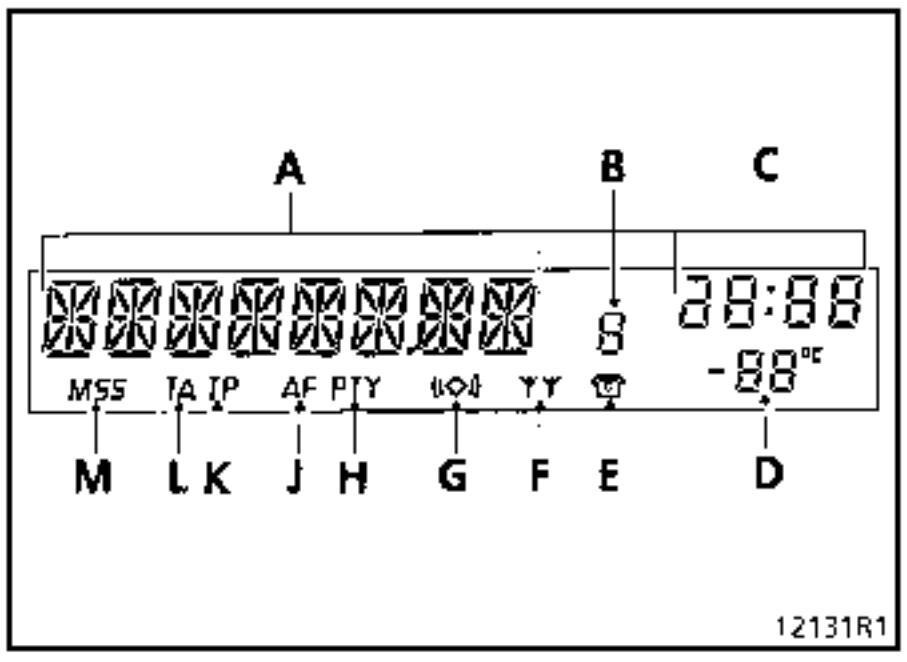
14 Button for selecting the right/left balance adjustment mode; the adjustments are then made by pressing buttons **13** and **15** on the front panel or **20** on the satellite.

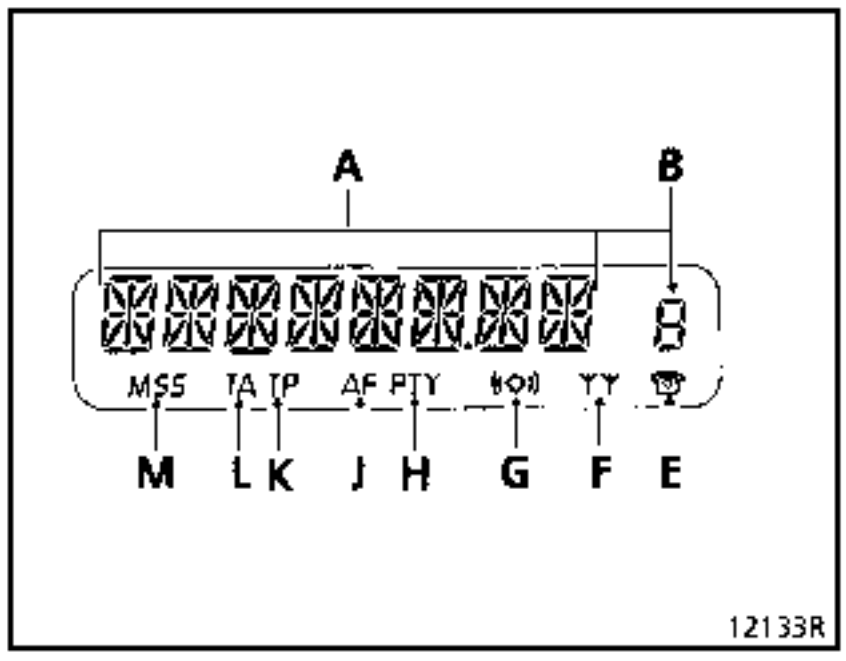
15 " + " button for :

- increasing the volume,
- increasing the bass and treble level,
- adjusting the right/left balance to the left,

DISPLAY

There are two types of displays. 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, cassette, audio adjustments, security code, ...).

B Active preselection (**1 to 6**).

C* Clock display.

D* External temperature display..

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

H Not used.

J Indicator for automatic station monitoring mode. This shows that button **7** 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 **7** has been pressed (briefly).

M Not used.

* Depending on vehicle.

SPECIAL FEATURES OF THE FIRST "NEW SAFRANES"

- **Date display**

When the ignition is switched on and when the audio system is not operating, the date is displayed in A.

- **Adjusting the time and 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 (resetting).

- 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.

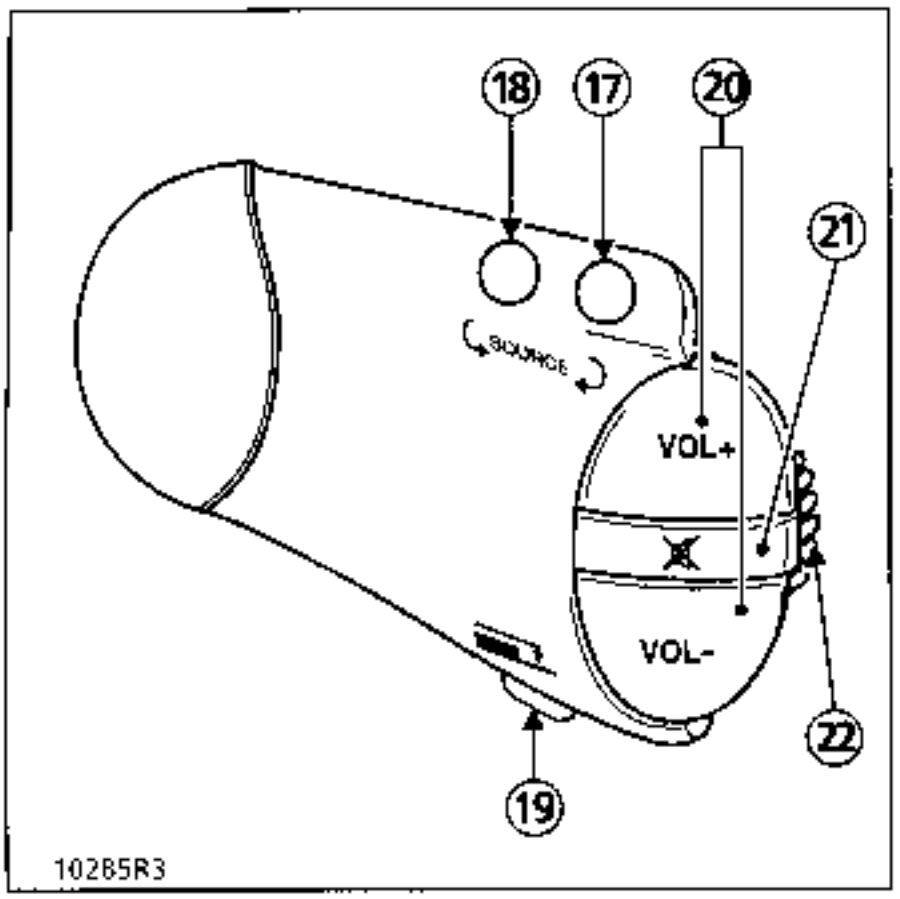
- Validation of the complete set of values is made by a long press on the left hand button.

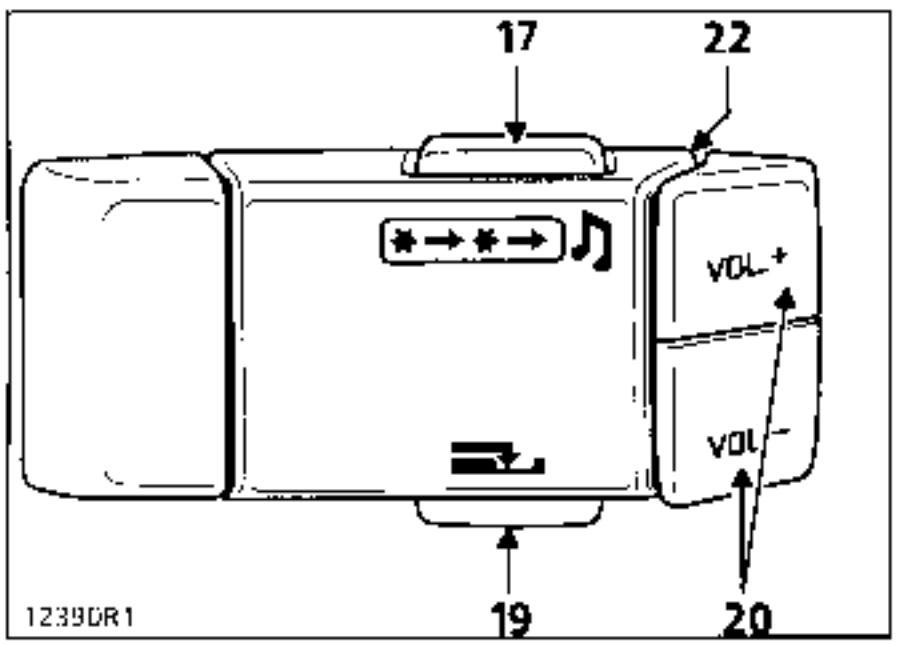
- **Clock display**

It is also possible to make the clock display in C disappear completely.
To do this keep the two setting buttons pressed **simultaneously for more than 2 seconds.**

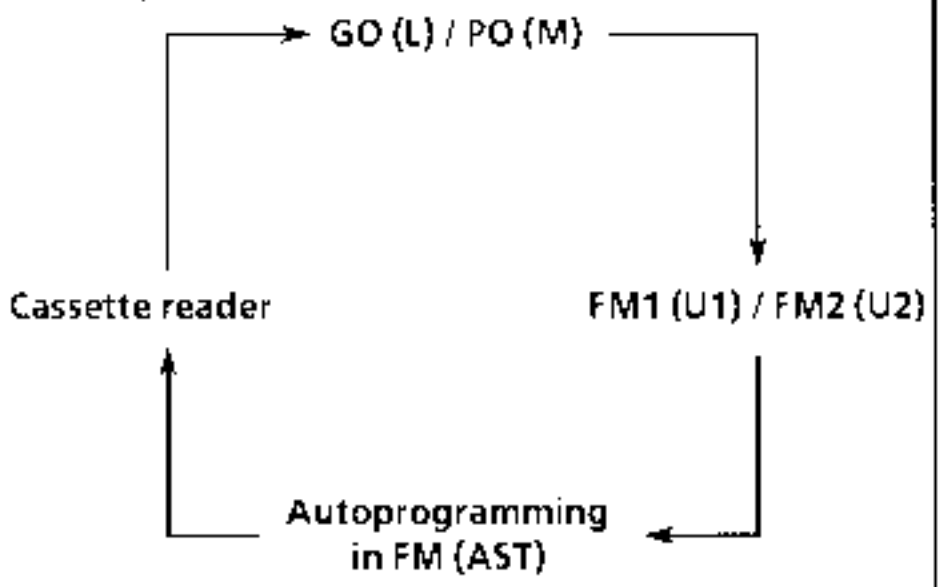
Repeat this operation to make the time reappear in C on the display.

SATELLITE (remote control unit)
There are two types of satellite. Depending on the vehicle the audio system will be connected to one or other of them.





17 Change wavelength or source each time the button is pressed according to the following sequence:



18 Change the radio wavelength or source each time the button is pressed in reverse order.

19 # **Radio mode**

- **Brief press** : initiates automatic search for a station in increasing frequencies.
- **Long press** : initiates autoprogramming in FM or **Autostore (AST)**.

Cassette mode

- **Brief press** : no result.
- **Long press** : initiates autoprogramming in FM (AST), provided that the set is tuned to an FM station before the source is changed.

Mode for entering the confidential code

- **Brief press** : validation of the different code figures.
- **Long press** : validation of the code.

20 **+ /- command to** :

Adjust:
- the volume,
- right / **left balance**,
- bass,
- treble.

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

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

21 # **Radio, cassette reader modes**

Cuts or restores sound according to the previous status ("**MUTE**" function).

NOTE : during cassette playback, the cassette operation is suspended (pause).

Mode for entering the confidential code

- **Brief press** : validation of the different 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.

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 set 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.

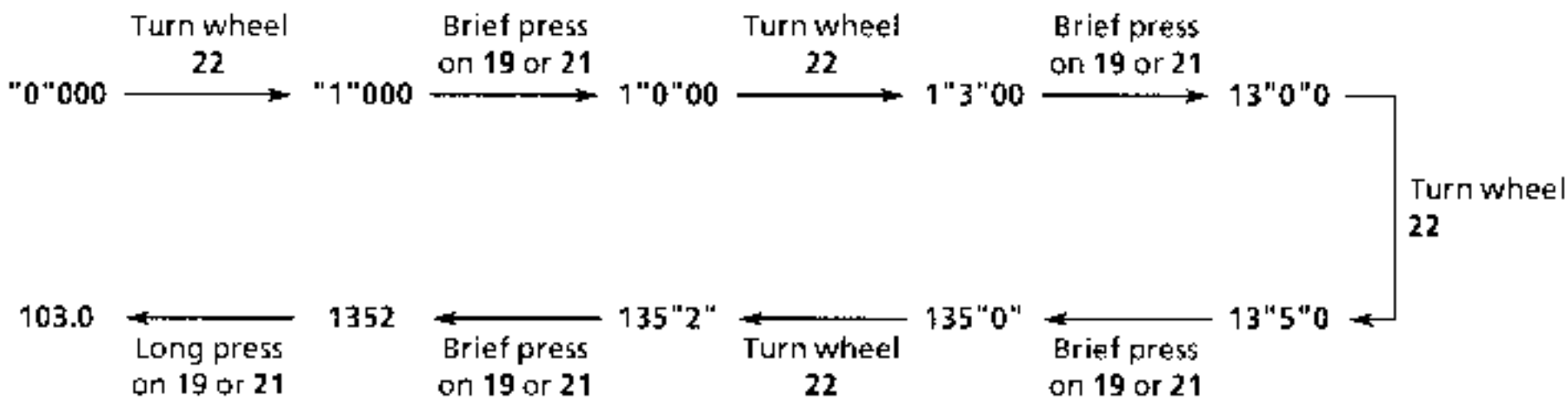
  b) To enter the four figures of the code:
  - adjust the first figure of the code which is flashing using the satellite tumblewheel 22,
  - briefly press button 19 on the satellite to validate the figure and allow the next figure to flash,
  - repeat these two operations until all four code figures are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

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

NOTE: on a satellite provided with button **21 "MUTE"**, this button may be used as button **19** for validating a figure in the code or the complete code

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

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



IMPORTANT :

If the code entered is incorrect, the set 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 set must be left turned on for one minute**.
If the second attempt is unsuccessful, new attempts may be made, keeping the set 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 set 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 set 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 **13 and 15** on the front panel or button **20** on the satellite.

Cutting the sound (MUTE)

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

The "**PAUSE**" message is displayed at A.

Pressing again for the same length of time will restore the volume to its previous level.

The sound is also cut automatically when a phone call* is received or when the voice synthesiser* emits a message.

The message "**SPEECH**" is displayed at A.

If this occurs during playback of a cassette, playback is suspended and the set is paused.

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

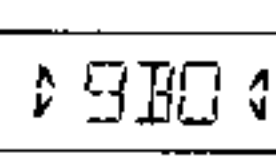
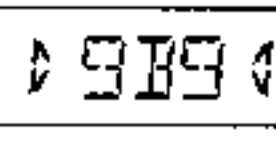
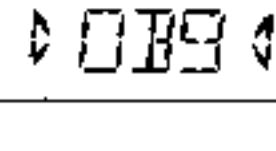
SPATIAL SOUND DISTRIBUTION

Left/right balance

Select the adjustment mode using button **14** then adjust using controls **13** and **15** on the front panel or buttons **20** on the satellite.

As soon as button **14** is pressed, the display indicates the function selected and its setting.

Adjustment scales

Left/right balance	
	**fully left**
	**centre**
	**fully right**

* Depending on vehicle.

TONALITY

Bass

Select the adjustment mode by pressing button **12** then make the adjustment using buttons **13** and **15** on the front panel or buttons **20** on the satellite.

Treble

When the bass adjustment mode is active, pressing button **12** again switches to treble adjustment mode ; adjustment is made as above.

As soon as button **12** is pressed, the display shows the function selected and its setting.

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 button **2**.

The display indicates the status of the function (active or not) by one of the messages "**LOUD OFF**" or "**LOUD ON**".

General information on the different settings

After **4** seconds without pressing the setting buttons the current setting mode is cancelled and the display returns to the previous message.

The volume and right/left balance settings are unique.

The bass and treble levels may vary according to the active source (radio, cassette reader).

These settings are restored each time they are switched on.

If + before ignition feed is cut:-

- the volume returns to a preset average level,
- the tonality and spatial sound distribution settings return to their "**centre**" value and the "**Loudness**" function is deactivated.

SELECTION OF THE WAVE BAND

Using the radio front panel

Press button **9** to select one of the wave bands **L (GO), M (PO), FM1 (U1), FM2 (U2)** or **Autoprogramming in FM (AST).**

Using the satellite

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

In fact the two wave bands **GO** and **PO** 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.**

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.**

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.

MANUAL FREQUENCY SEARCH

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

Select the wave band as described above:

- Briefly pressing one of buttons **11** : the frequency changes one step (**100 kHz** for **FM, 1 kHz** for **PO** and **1 kHz for GO).**
- Press and hold one of buttons 11 : the frequencies change quickly for as long as the button is depressed.

Search sensitivity levels

For the first automatic search started after turning the set 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 set returns to the starting frequency.

For FM, the sensitivity level DX may be intentionally selected by pressing button 8.

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 8 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 10 .

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 10 or turn the tumblewheel 22 on the satellite, after selecting a wave band.

AUTOMATIC PROGRAMMING IN FM (Autostore)

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 frequency value "000.0".

But if **no station** is found, the old preselections will be retained.

Process

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

Initial conditions:

- in radio mode, regardless of the active FM wave band (an error beep is heard if one of the AM wave bands was selected),
- in cassette 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 cassette reader 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 (10-1) for AST,
- in cassette reader 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 preset 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 set 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 set 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 set 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 different stations are systematically monitored by the set which will tune to the one whose signal is received the clearest.

This process will not be 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 set 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 warning light J flashes..

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

Otherwise the set beeps after 30 seconds 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 when the set is switched on by pressing button 1.

  It is switched off (or on) by pressing and holding button 7 for more than 2 seconds. The set then beeps twice.

  It is switched on again when a new RDS station is selected.

  Warning light J illuminates on the display to indicate that the function has been activated.

  - It illuminates permanently when automatic monitoring is operating normally.
  - It flashes:
    - when the function is activated but the set 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 7, the procedures are the same as for non RDS stations. However, the RDS stations are not given priority.

Thus in automatic programming (AST), if the set 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 J will flash.

If an RDS station is stored in a preselection position 10 when the RDS mode is deactivated, the set will not search for other frequencies when this preselection is recalled.

- **Recall of preselections**

  - **"AF" mode activated**

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

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

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

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

If the set 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 preselection 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 programme name is displayed and the RDS mode is reactivated.

If the station to which the set 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 specific 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 set 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 7.

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 7. Warning light J illuminates on the display.

If a regional RDS station has been stored in one of the preselection buttons (buttons 10-1 to 10-6), the set 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 1) starts a search for another station on the list.

Broadcast of urgent messages

When the set receives the signal from a station broadcasting an urgent message, the broadcast of the radio programme or reading of the cassette 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 set to recognise stations which will broadcast traffic information. If the set 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.

- **Setting the "INFO" configuration**

  Activate the "INFO" mode by briefly pressing button 7, warning light L illuminates on the display.

  Two cases may arise:

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

  - The set is not tuned to a station which can broadcast traffic information (warning light K extinguished), warning light L flashes on the display, and the set emits an error beep.
    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 set will now broadcast messages concerning road traffic by interrupting the radio programme being heard, or cassette 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 preset minimum volume level, which can be altered during broadcast of the messages, but which is not memorised.

  Pressing button 7 during broadcast of a traffic information message stops the message and returns the set to the frequency active before the message began. The "INFO" mode is cancelled.

- **Broadcast of messages during cassette playback**

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

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

Under these conditions of use, when the "INFO"station signal weakens, the set 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 set tunes to the next "INFO" station in the 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 7.

- **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 **7** before starting an automatic search or automatic programming.

NOTE :

- The message "**LOC INFO**" is displayed during an automatic search. But if no station is received at a satisfactory level, the search continues for a "**non INFO**" station with the message "**LOC ▸**" displayed.

- For automatic programming, if the set 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.

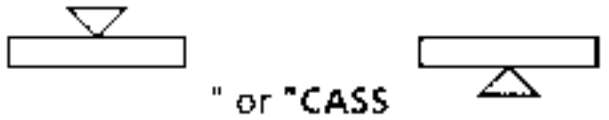
If the radio is tuned to a station which is linked to others in the **EON** system, it will broadcast traffic information messages from the current station together with those from the other stations.

NOTE: the **EON** system cannot be switched off.

The insertion of a cassette into compartment **5** causes:

- the radio to stop,

- the cassette to be played in the last used direction; the tape direction is shown on the display by one of the symbols:



"**CASS** " or "**CASS** "*

Access to cassette mode

If there is already a cassette in compartment **5**, button **3** selects the cassette mode and starts playback in the last-used direction.

This selection may also be made using button **17** on the satellite (or **18** depending on the type of remote control).

If compartment **5** is empty the cassette mode will not be accessible during a change of source.

Reading a cassette

To adjust the listening levels, refer to the section "**Radio operation**".

Changing the tape direction *

The system changes the tape direction:

- automatically at the end of the tape,

- by pressing buttons **6** simultaneously and gently.

The tape direction is shown on the display.

Fast winding

- Press button **6** on the right to start fast winding.
  Pressing the button again "**gently**" stops fast winding and starts cassette playback.
  At the end of the tape, the tape stops and playback begins on the other side*.

- Press button **6** on the left to start rewinding.
  Pressing the button again "**gently**" stops rewinding and starts cassette playback.
  At the start of the tape, the tape stops and playback begins on this same side.

During fast winding, the radio will be heard.

The radio mode is completely functional with corresponding messages on the display (see paragraph "**Radio operation**").

* Depending on vehicle

Stopping playback

- *Broadcast of messages from the voice synthesiser**

When the voice synthesiser broadcasts a message, playback is interrupted, the tape head is withdrawn; 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 and the tape head is withdrawn.
The message "**TRAFFIC**" is displayed at A.
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 cassette player operation is interrupted; "**ALARM**" is displayed at **A**.
At the end of the message, playback resumes.

- *Cutting sound*

Pressing button 21 (depending on the type of remote control) or pressing buttons **20** simultaneously on the satellite stops playback and the tape head is withdrawn; 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 cassette player pauses (tape head is withdrawn).
The message "**SPEECH**" is displayed at **A**.
At the end of the communication (handset put back on hook), playback resumes.

- *Changing source*

Pressing button **3** on the front panel or button **17** on the satellite (or **18** depending on the type of remote control) activates the radio mode without ejecting the cassette.
Playback and fast winding are interrupted and the tape head is withdrawn.

- *Ejection*

The cassette is ejected by pressing button **4** or by pressing the two buttons **6** fully.
The set returns to radio mode, broadcasting the last heard programme.

Notes:

When the power is turned off, the tape head is automatically withdrawn.

The cassette may be ejected from compartment **5** even when the power is turned off.

* Depending on vehicle and equipment.

AUDIO UNIT

Special notes on MEGANE vehicle

Release the audio unit from its location in the dashboard using the tool **M.S. 1373**.

It should be noted that an intermediate plastic part remains clipped in the dashboard.

To replace the audio unit correctly:

- the intermediate part is removed by releasing the four clips,
- this part should be replaced on the audio unit, ensuring the foolproofing is observed,
- the electrical connections at the back of the audio unit should be reconnected,
- the whole unit should be pushed back into the location provided in the dashboard.

Only by proceeding in this way will it be possible to hear that the set is clipped correctly in position.

AERIAL AMPLIFIER (depending on vehicle)

The new SAFRANES 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**").

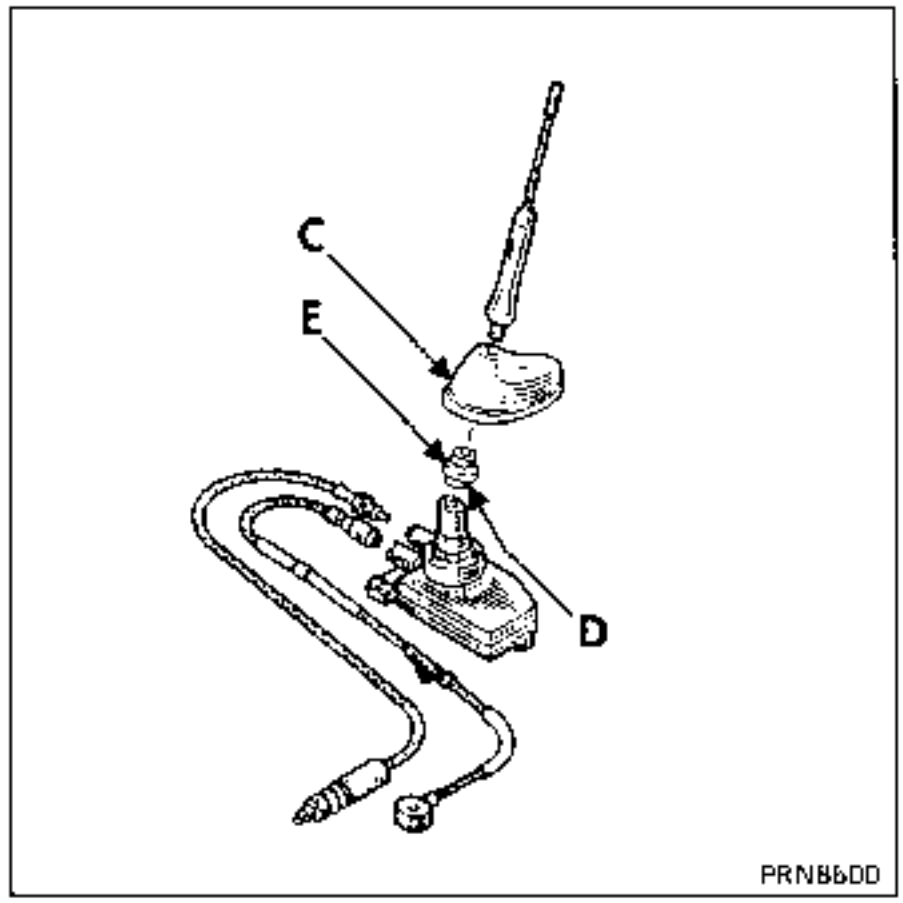
It is not required for the radio telephone to operate correctly.

Removal

Inside the vehicle, unclip the plastic cover at the rear of the headlining.

From the outside:

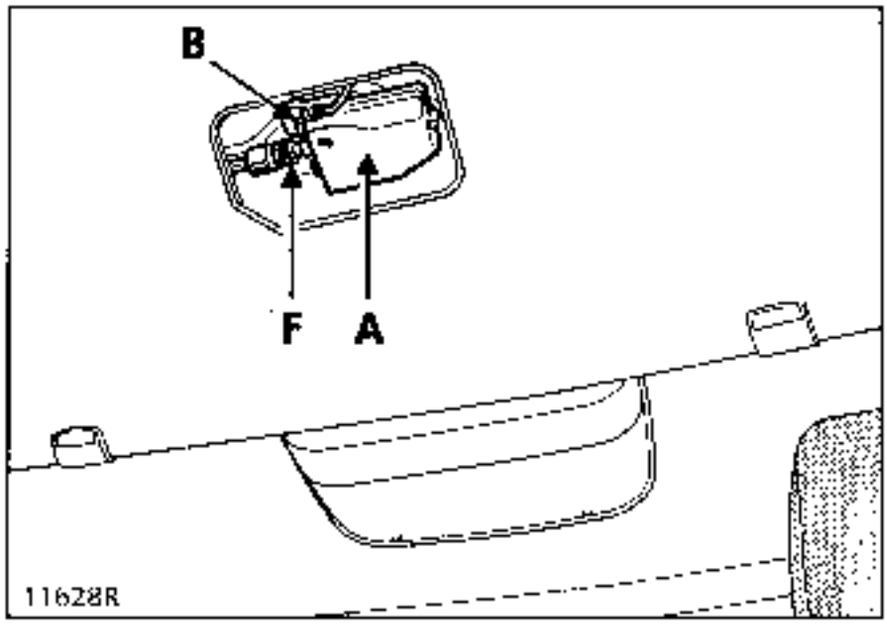
- unscrew the aerial from its mounting,



- 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.



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

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

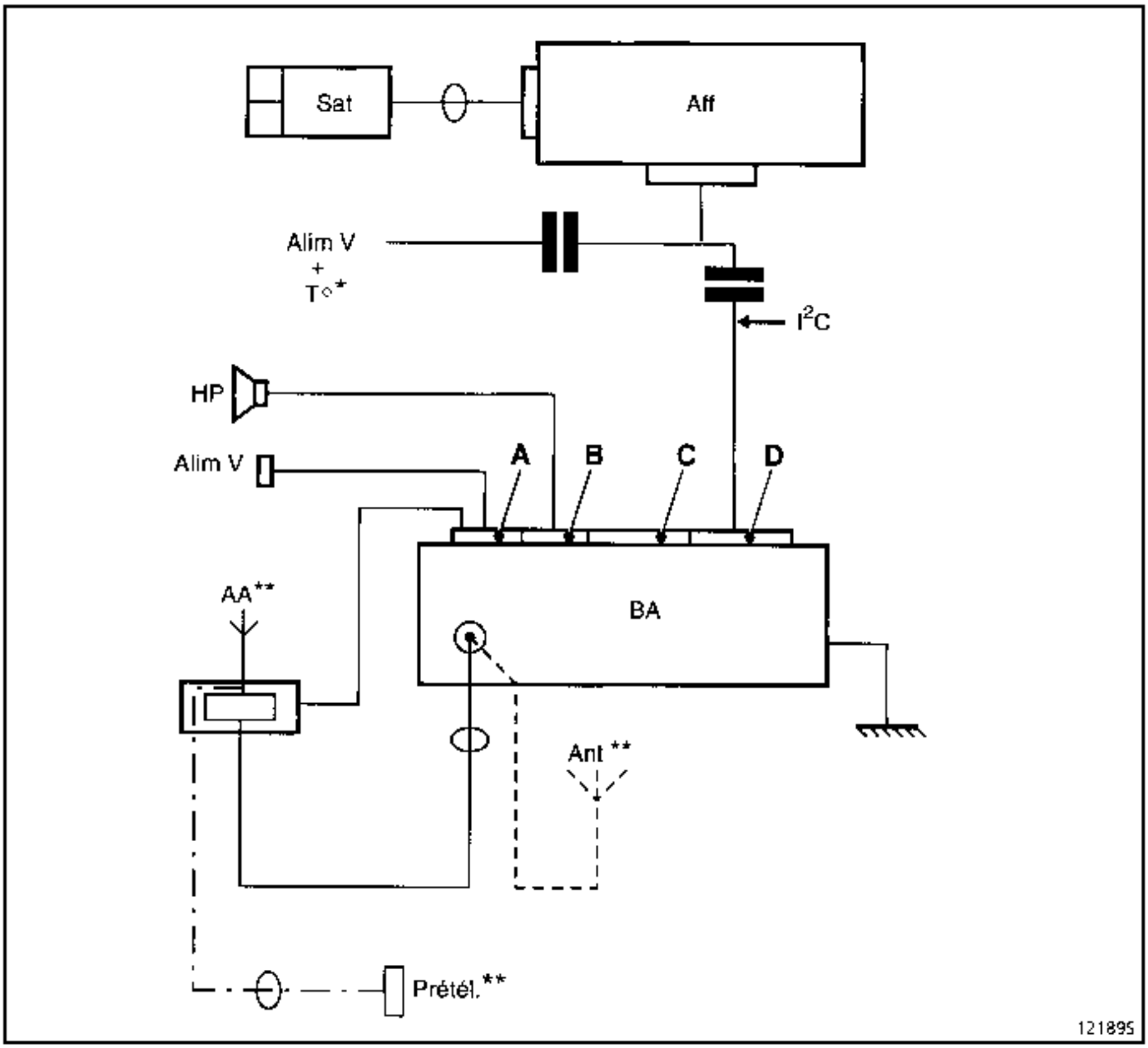
Special note for connecting plugs for coaxial cable on the amplifier unit

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),

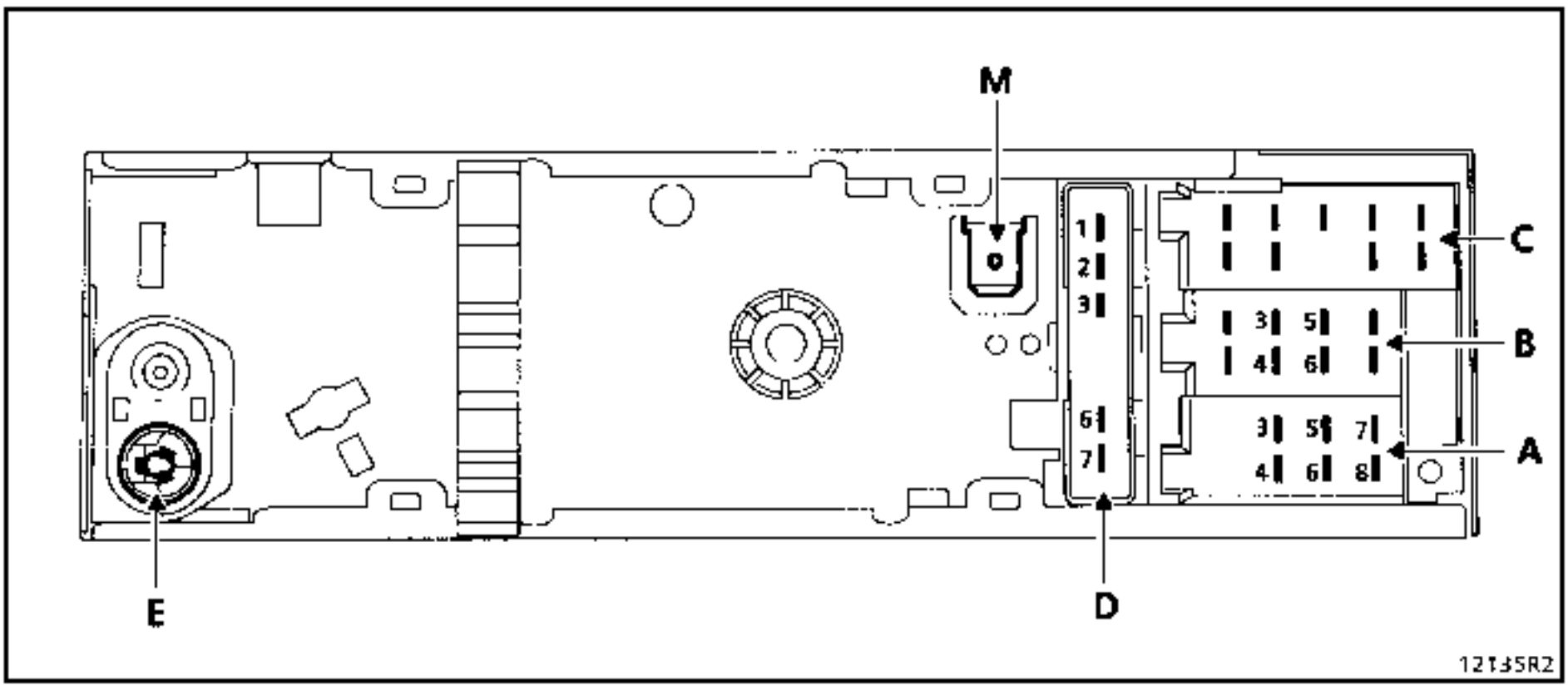
- towards the cable in the case of the radio telephone coaxial cable(red plug).



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*
I²B	:	Communication connection between remote display and audio unit

* Depending on vehicle
** Depending on vehicle and equipment

AUDIO UNIT



Connector (A) : feed

Track	Allocation
1	Not used
2	Earth illumination by rheostat or strap*
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	Not connected
2	Not connected
3	+ Front right speaker
4	- Front right speaker
5	+ Front left speaker
6	- Front left speaker
7	Not connected
8	Not connected

Connector (C)

Not connected

Connector (D) for remote display connection

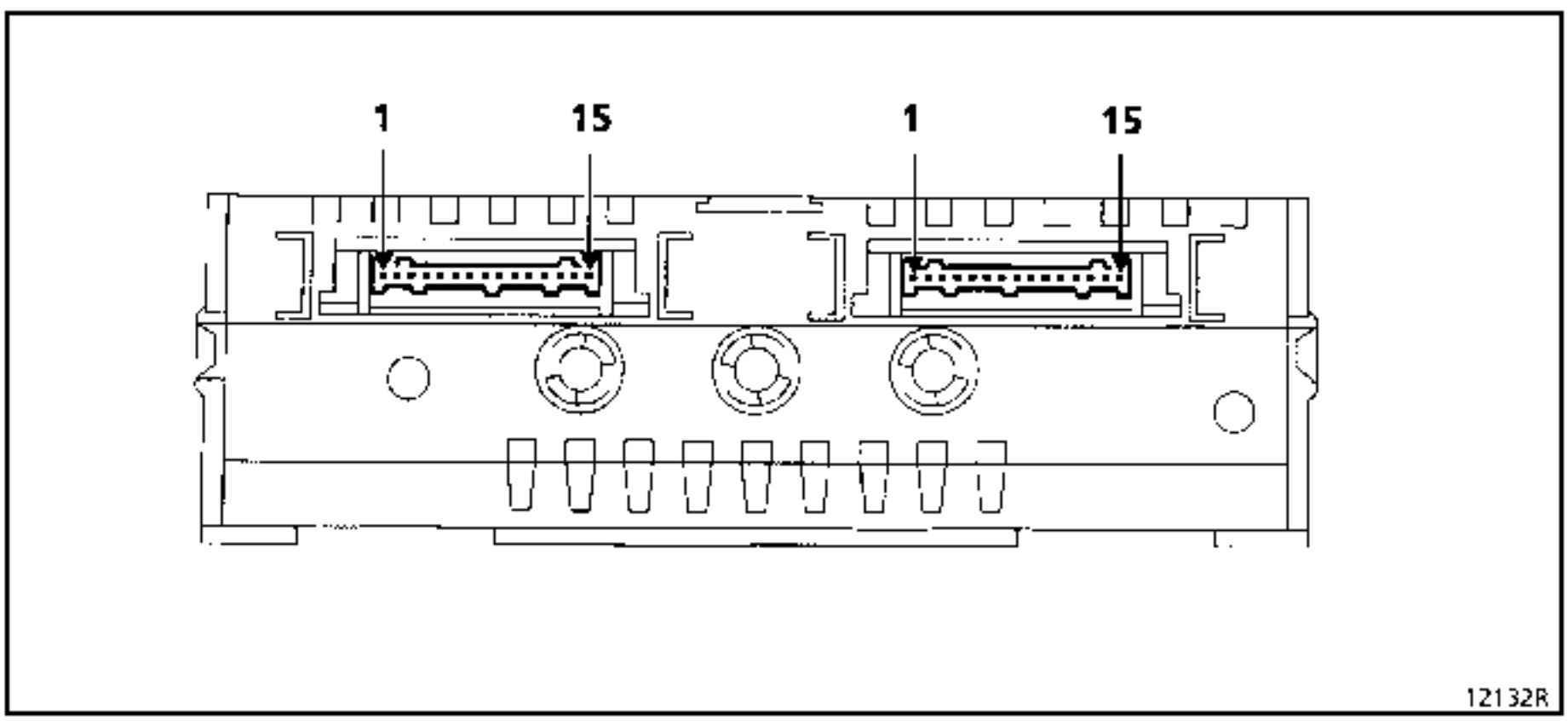
Track	Allocation
1	Communication connection data I^2C
2	Clock signal I^2C
3	MRQ signal I^2C
4	Not connected
5	Not connected
6	"Radio on" information by means of connection I^2C
7	Screening earth I^2C

E : Aerial

M : Earth clip

* Depending on vehicle

REMOTE DISPLAY (depending on vehicle)



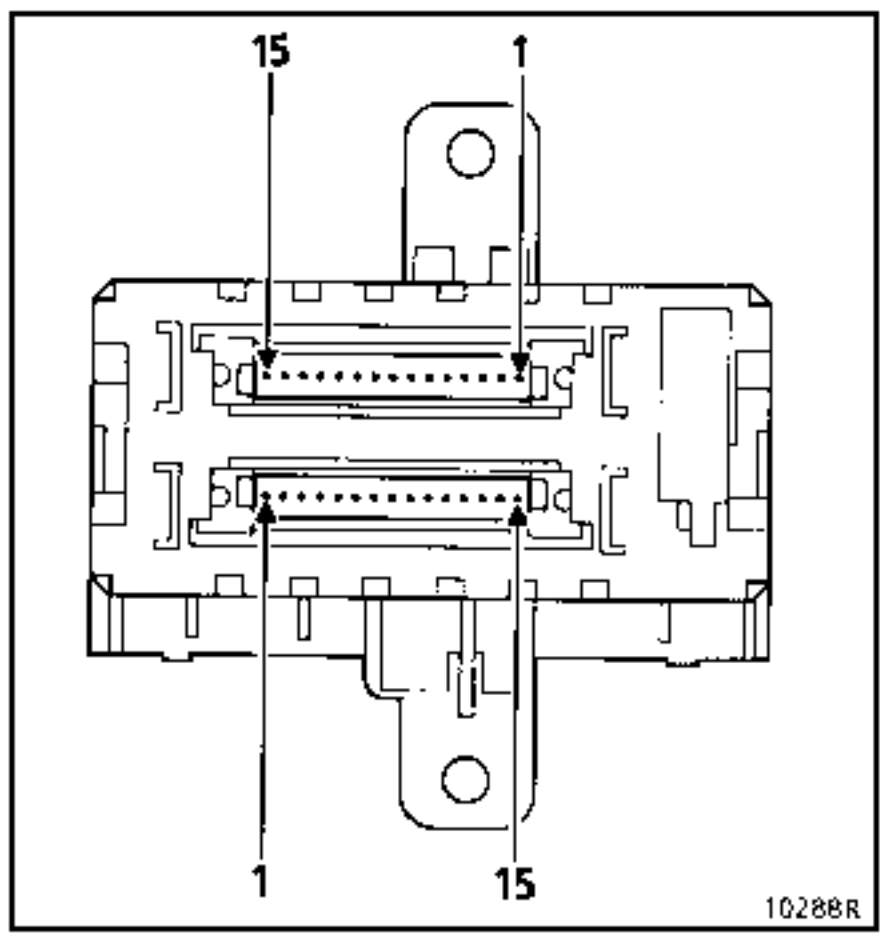
15 track blue connector

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	Screening earth I²C
12	"Radio on" information by means of connection I²C
13	Communication connection data I²C
14	Clock signal I²C
15	MRQ signal I²C

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)



15 track blue connector

Track	Allocation
1	External temperature sensor information
2	0 V External temperature sensor
3	Signal clock I²C
4	MRQ signal I²C
5	Earth
6	+ side lights
7	+ rheostat lighting
8	+ accessories
9	+ before ignition
10	Secondary speed information
11	Screening earth I²C
12	+ aerial control
13	Communication connection data I²C
14	Clock signal I²C
15	MRQ signal I²C

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 is blank.
  When the connection is re-established, the system becomes completely operational.

- If the I²C connection is earthed (short-circuit), the entire system is extinguished (audio unit and display).

- If the I²C is cut, then depending on the vehicle:

  - either the display remains illuminated but none of the segments or specific radio warning lights are illuminated,
  - or the date is displayed instead of the radio message and none of the warning lights is illuminated.

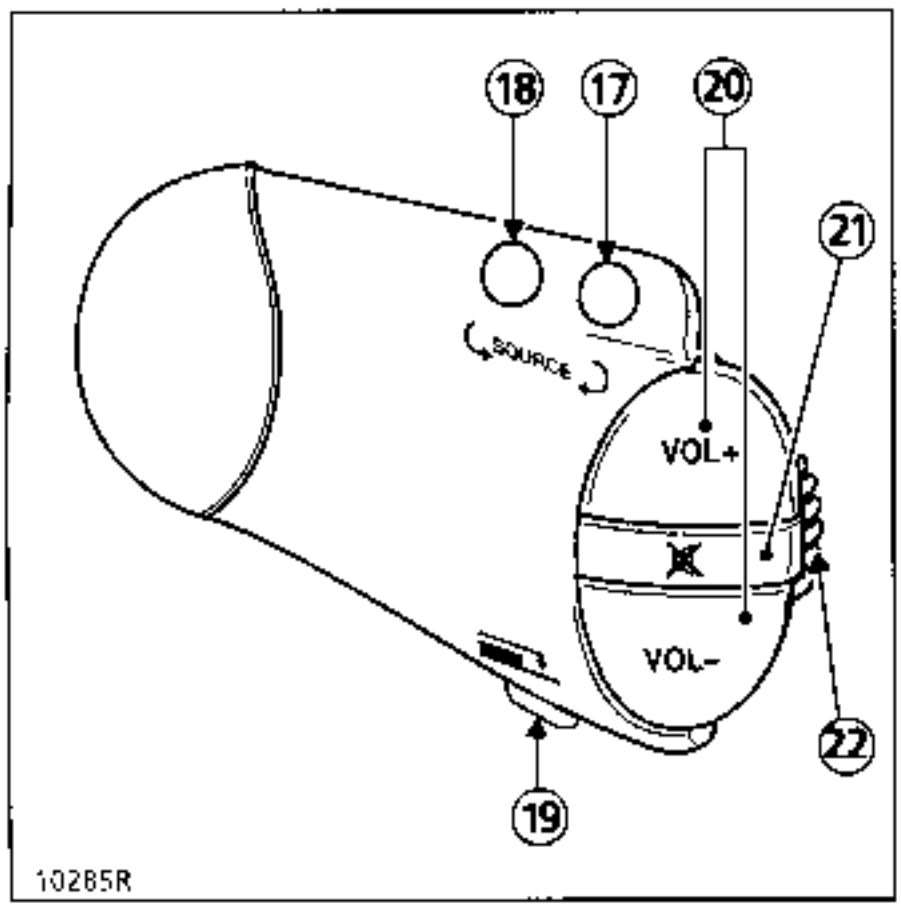
  The audio unit remains functional.

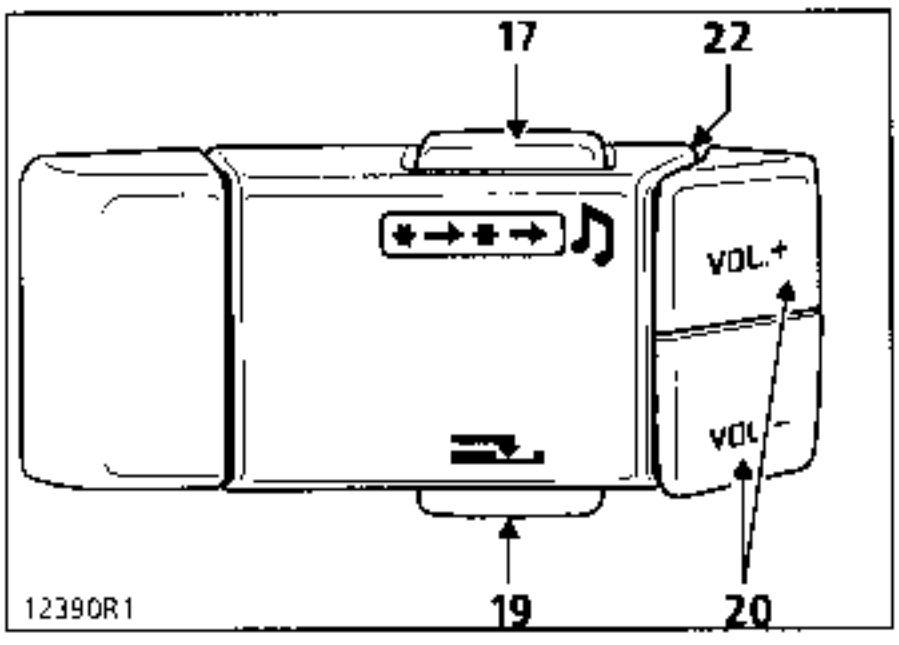
- If there is no satellite, the system remains completely operational but the code cannot be entered.

- Depending on 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.





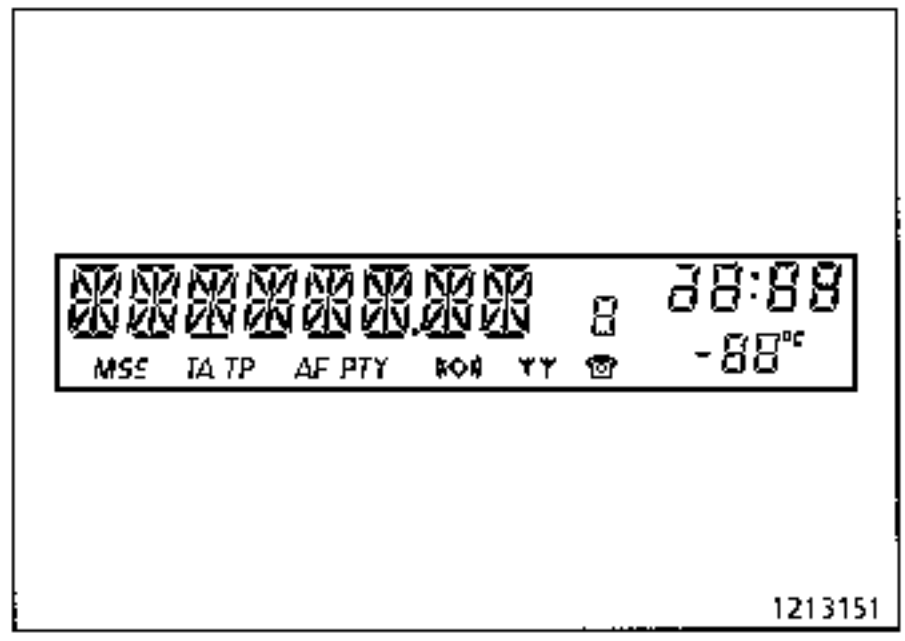
One of two cases will arise:

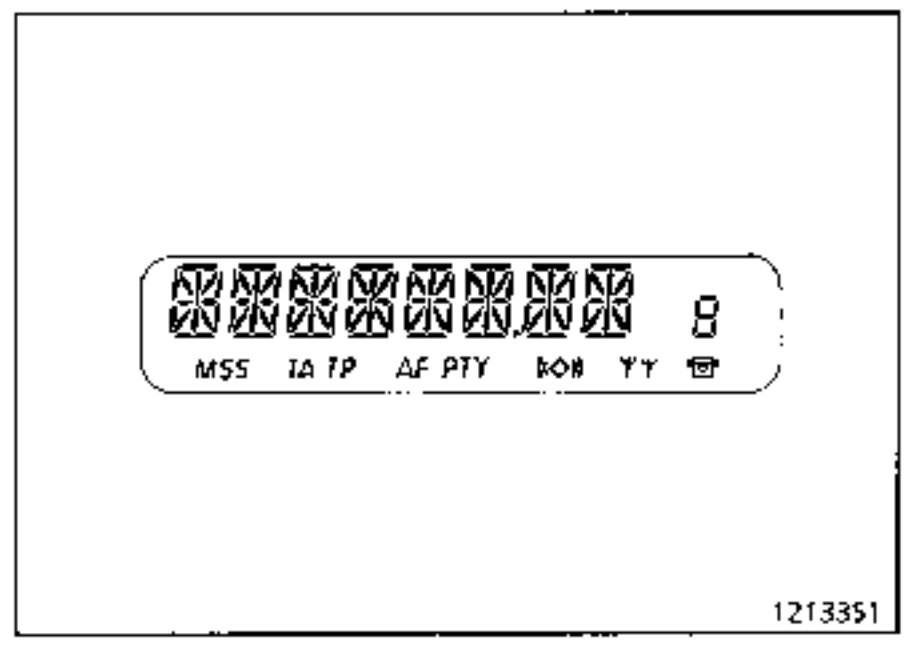
1) **Ignition key in " + accessories" position and radio off**

   On entry into the test mode the display indicates briefly 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.

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





To exit the test mode the vehicle ignition must then be turned off or the radio set turned on by pressing button **1**.

2) **Radio operating**

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

On vehicles equipped with a global display, 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, cassette).

TESTS ON THE AUDIO UNIT (depending on vehicle)

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

Press the third preselection button **10-3**, then whilst keeping it pressed switch on the audio unit by means of button **1**.

If an error has been detected on initialisation, the message "**FALSE**" will appear at **A**.

Otherwise the brief display of four zeroes "**0000**" will be observed, followed by the message "**T--**" , which indicates that the system is waiting for one of the buttons on the front panel to be pressed.

Each press of these buttons causes the message "**KEY##** " to be displayed at **A**, ## representing the number of the key pressed.

Table of correspondences between the button pressed and the number assigned to it by the manufacturer

Button pressed on front panel	Reference	Number ##
Loudness	2	1
Bal	14	2
Volume (+)	15	3
Volume (-)	13	4
Bass/Treb	12	5
Preselection 1	10-1	6
Preselection 2	10-2	7
Preselection 3	10-3	8
Preselection 4	10-4	9
Preselection 5	10-5	10
Preselection 6	10-6	11
ULM	9	12
TA/RDS	7	13
DX	8	14
SRC	3	15
Search in decreasing direction (<)	11 (left)	16
Search in increasing direction (>)	11 (right)	17

If several buttons are pressed simultaneously, or if there is a short-circuit, the message "**FALSE**" appears on the display.

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

To exit the test mode, switch off the set by pressing button **1** "**On/Off**", then switch 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 sets where button 1 does not illuminate, with the ignition off or the 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 set 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)

- Everything is operational before turning the side lights on, but as soon as they are turned on, the remote display extinguishes.
  - For vehicles equipped with separate unit displaying the time and external temperature.
  - For vehicles equipped with a global display unit.

On sets whose button **1 On/Off** illuminates:
- ignition off, button **1** does not illuminate when it is pressed,

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

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

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

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

The display is illuminated, ignition key in "accessories" position and after pressing the button **On/Off 1**, 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 ↓

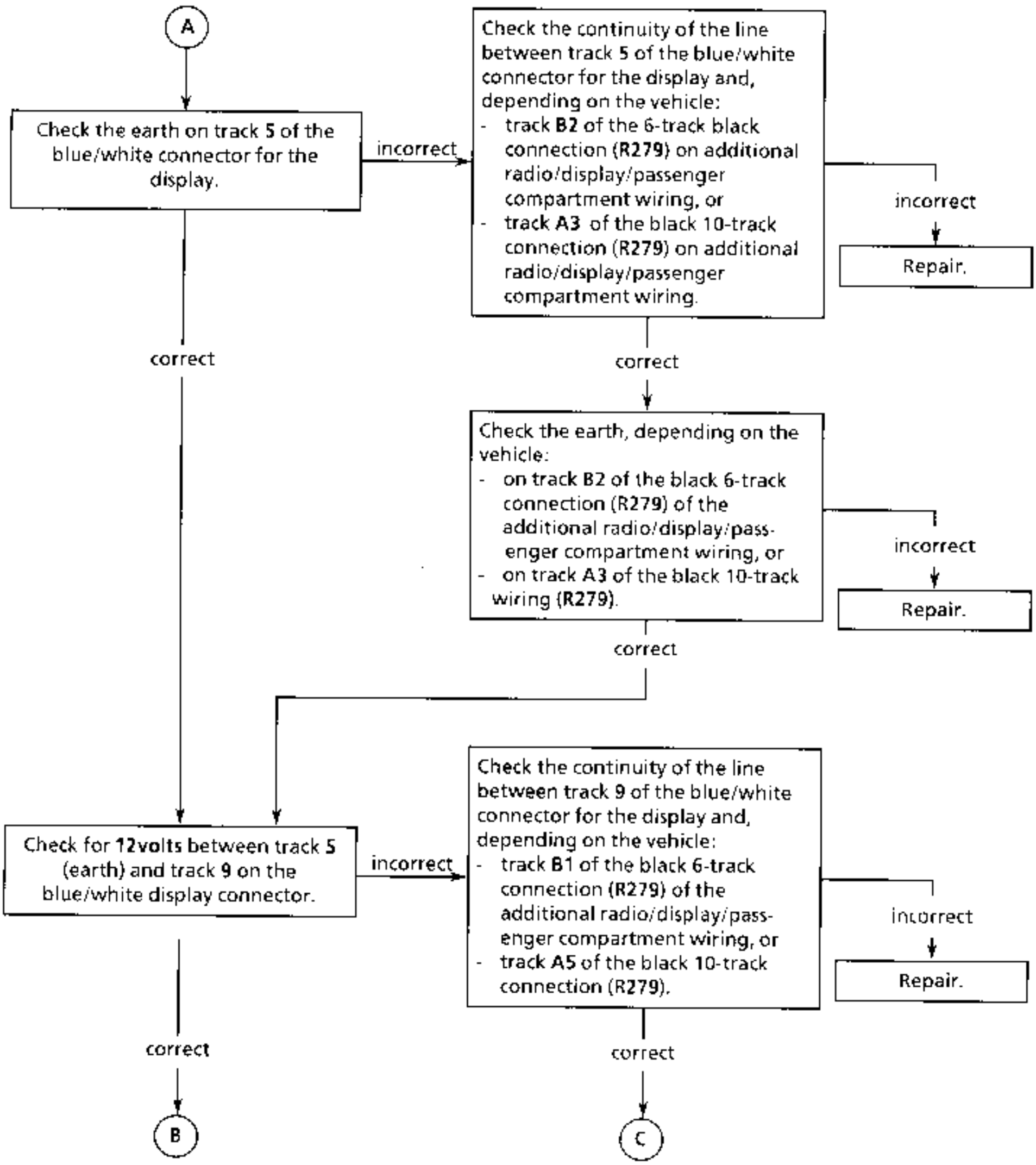
Check the connection of the blue/white connector at the rear of the display and the condition of the connections.
- incorrect → Repair.
- correct ↓

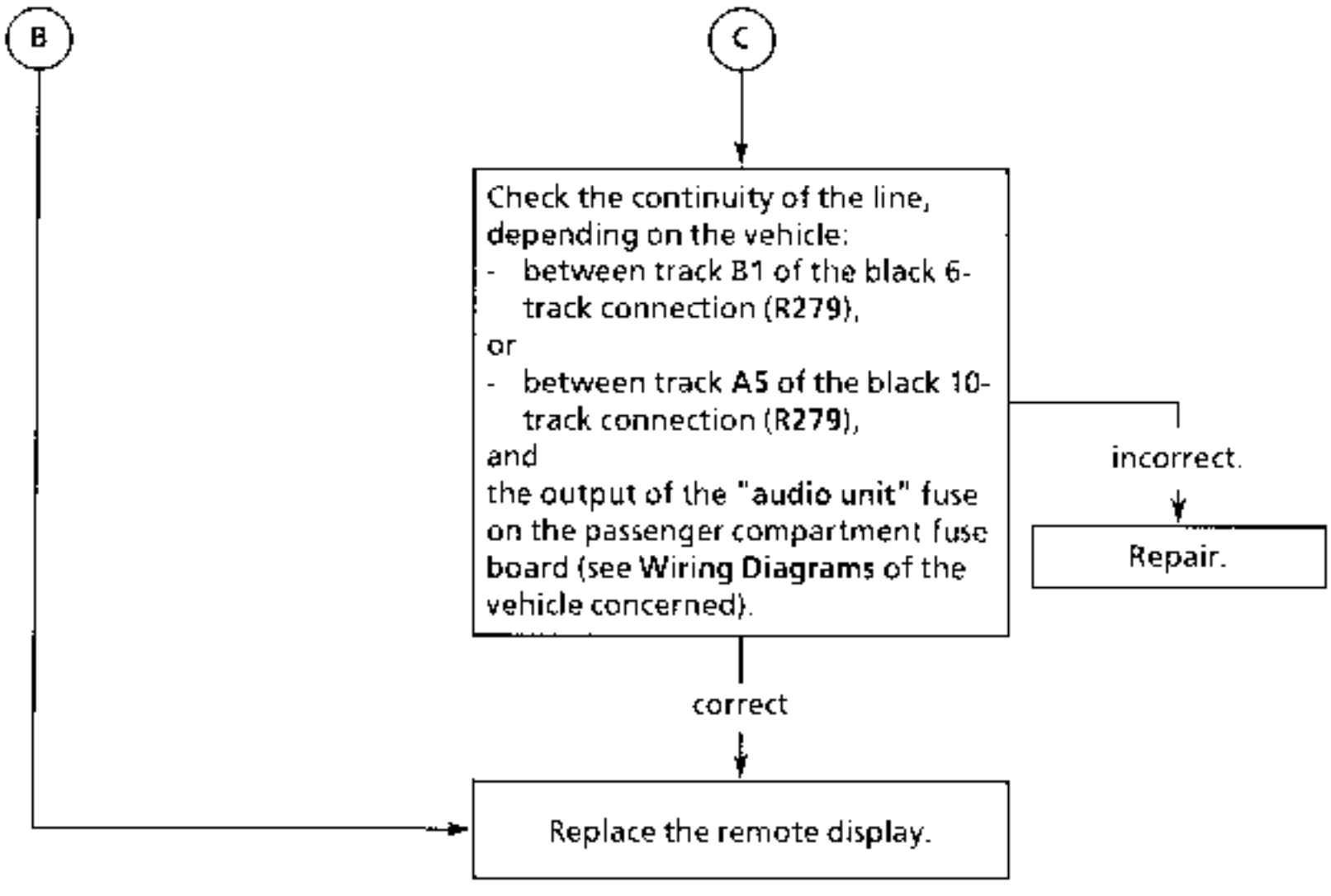
Check the continuity of the lines:
- between track **13** of the blue/white connector for the display and track **1** of connector **D** at the rear of the audio unit,
- between track **14** of the blue/white connector for the display and track **2** of connector **D** at the rear of the audio unit,
- between track **15** of the blue/white connector for 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 the vehicle:
- track B2 of the 6-track black connection (R279) on additional radio/display/passenger compartment wiring, or
- track A3 of the black 10-track connection (R279) on additional radio/display/passenger compartment wiring.
incorrect
Repair.
correct
correct
Check the earth, depending on the vehicle:
- on track B2 of the black 6-track connection (R279) of the additional radio/display/passenger compartment wiring, or
- on track A3 of the black 10-track wiring (R279).
incorrect
Repair.
correct
Check for 12volts between track 5 (earth) and track 9 on the blue/white display connector.
incorrect
Check the continuity of the line between track 9 of the blue/white connector for the display and, depending on the vehicle:
- track B1 of the black 6-track connection (R279) of 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 of the black 6-track connection (R279),
or
- between track A5 of the black 10-track connection (R279),
and
the output of the "audio unit" fuse on the passenger compartment fuse board (see Wiring Diagrams of the vehicle concerned).
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 set 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 set 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.

Tune to a GO (L) station which is well received in the area.

No reception.

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*).

Good reception ⇒ fault with FM.

Still no reception.

Test with a cassette.

Still no sound.

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

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

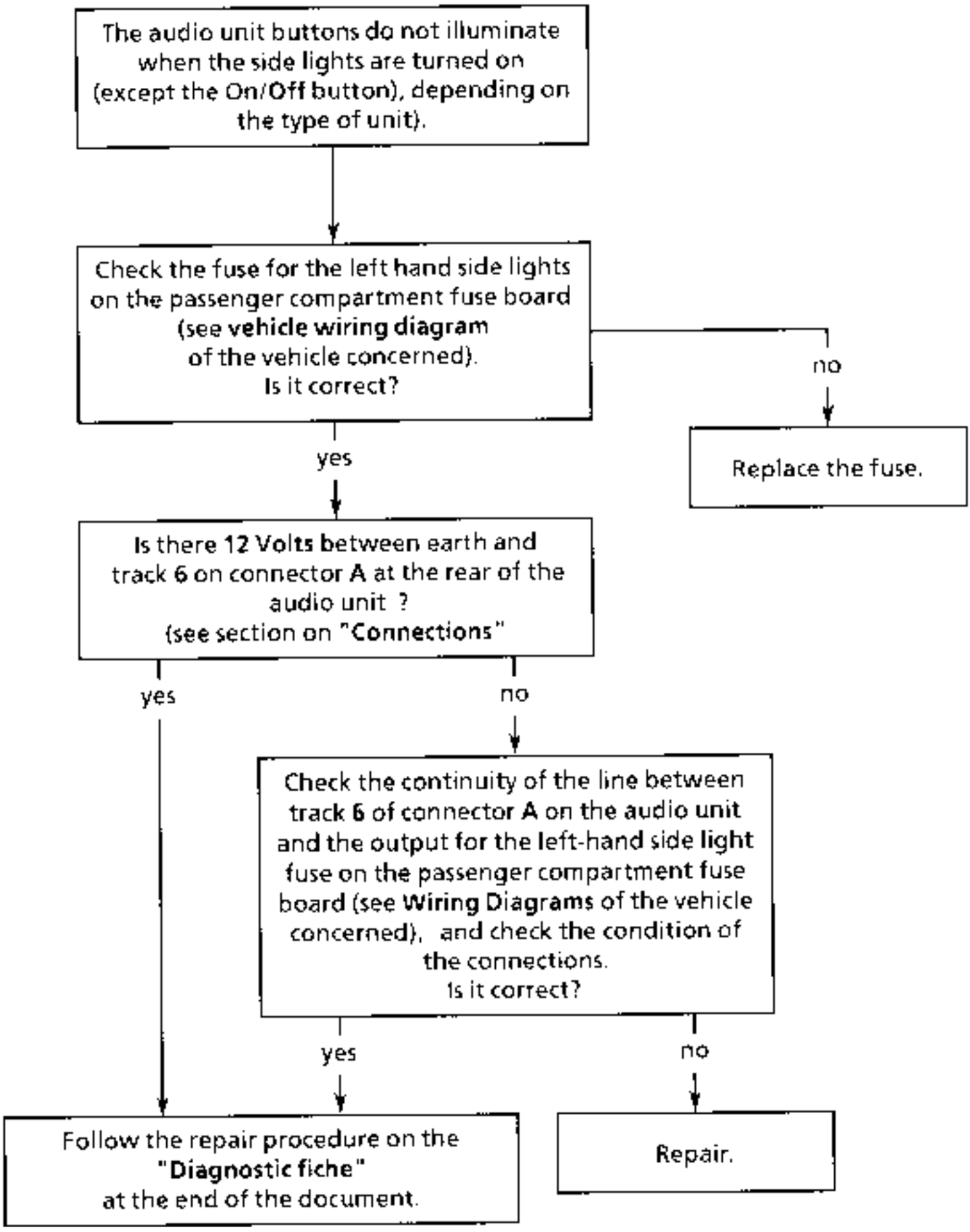
no

End

The fault persists

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

*Depending on vehicle and equipment.


The audio unit buttons do not illuminate when the side lights are turned on (except the On/Off button), depending on the type of unit).
Check the fuse for the left hand side lights on the passenger compartment fuse board (see vehicle wiring diagram of the vehicle concerned).
Is it correct?
no
Replace the fuse.
yes
Is there 12 Volts between earth and track 6 on connector A at the rear of the audio unit ?
(see section on "Connections"
yes
no
Check the continuity of the line between track 6 of connector A on the audio unit and the output for the left-hand side light fuse on the passenger compartment fuse board (see Wiring Diagrams of the vehicle concerned), and check the condition of the connections.
Is it correct?
yes
no
Follow the repair procedure on the "Diagnostic fiche" at the end of the document.
Repair.

For vehicles equipped with a separate unit displaying the time and temperature. Everything is operational before turning the side lights on, but as soon as they are turned on, the remote display extinguishes.

Does the combined clock and temperature display remain illuminated?

yes

Check for the presence of a voltage (side lights illuminated) at track 7 of the blue connector for the display, and check the condition of the connectors 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?

yes

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

Replace the lighting rheostat.

no

Repair. Does the fault persist?

yes

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

Replace the lighting rheostat.

no

Repair. Does the fault persist?

yes

Replace the lighting rheostat.

no

End

no

End

no

Repair. Does the fault persist?

yes

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

Replace the lighting rheostat.

no

Repair. Does the fault persist?

yes

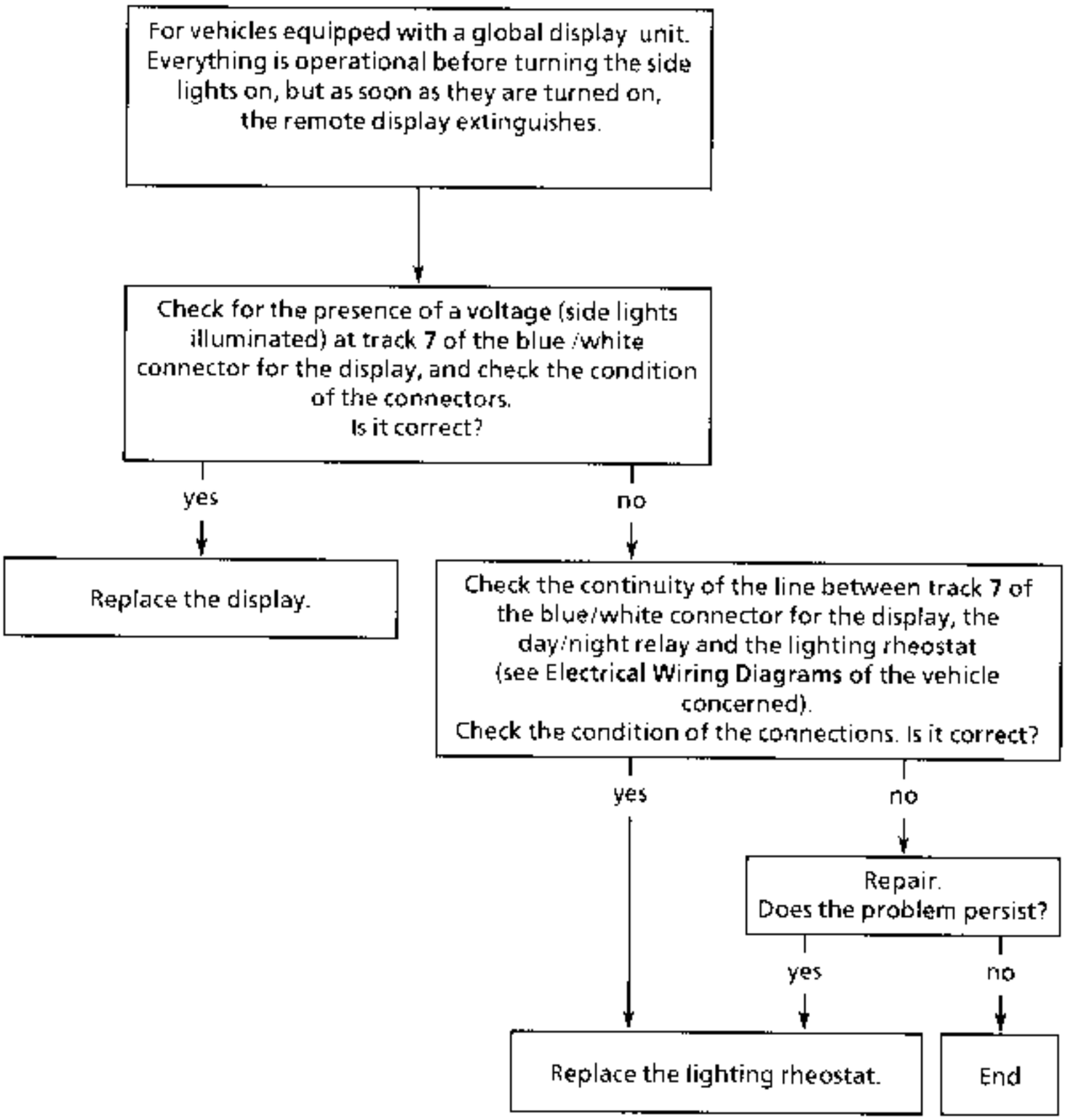
Replace the lighting rheostat.

no

End

no

End


For vehicles equipped with a global display unit. Everything is operational before turning the side lights on, but as soon as they are turned on, the remote display extinguishes.
Check for the presence of a voltage (side lights illuminated) at track 7 of the blue /white connector for the display, and check the condition of the connectors.
Is it 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 Electrical Wiring Diagrams of the vehicle concerned).
Check the condition of the connections. Is it correct?
yes
no
Repair.
Does the problem 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 and 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 for FM.	
• S.D.S. system.	Automatic switching to mono when the signal received on the aerial is reduced.	
• S.D.R. system.	Automatic attenuation of the treble when the signal received on the aerial is reduced.	
• M.D.S. system.	Automatic switching of the S.D.S. circuits in the presence of multi-track distortions.	
• M.D.R. system.	Automatic attenuation of the treble in the presence of multi-track distortions.	

2. Cassette reader

• Tape speed	4.75 cm/s
• Wow and flutter	0.35 % WRMS (weighted average)
• Cross talk	> 24 dB
• Signal/noise ratio	> 43 dB

3. Low frequency amplifier

• Output (4 Ohms : 14.4 V)	2 x 6 W ± 1 dB for D ≤ 10 %
• Frequency response	30 Hz to 15 kHz
• Digital balance	Right/Left
• Bass correction	± 12 dB to 60 Hz (including automatic "Loudness" correction).
• Treble correction	∓ 10 dB to 10 kHz (including automatic "Loudness" correction).

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

CASSETTE
- ☐ 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 set work when the satellite is disconnected? ☐ Yes ☐ No

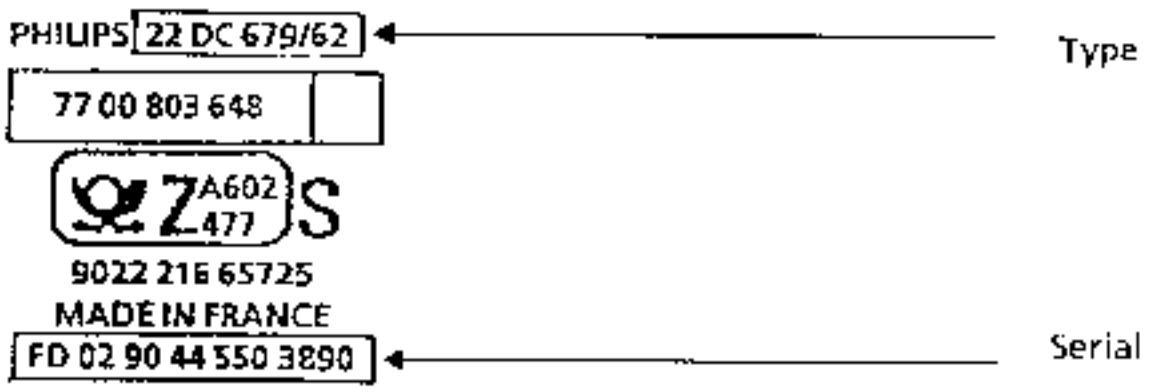
OTHER FAULTS - SPECIFY: .....

(*) Look for type and serial numbers: see page 86-47

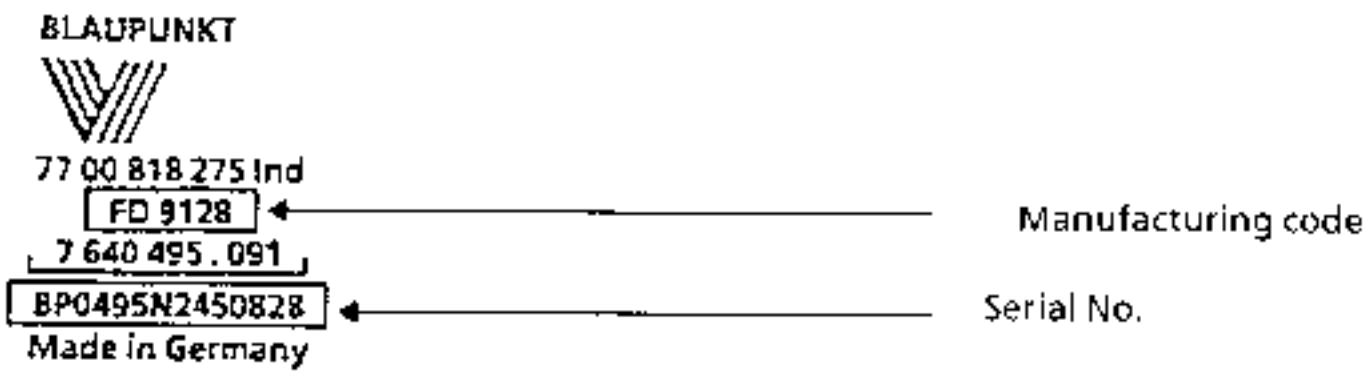
FAULT FINDING : Refer to the Workshop Repair Manual concerned

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

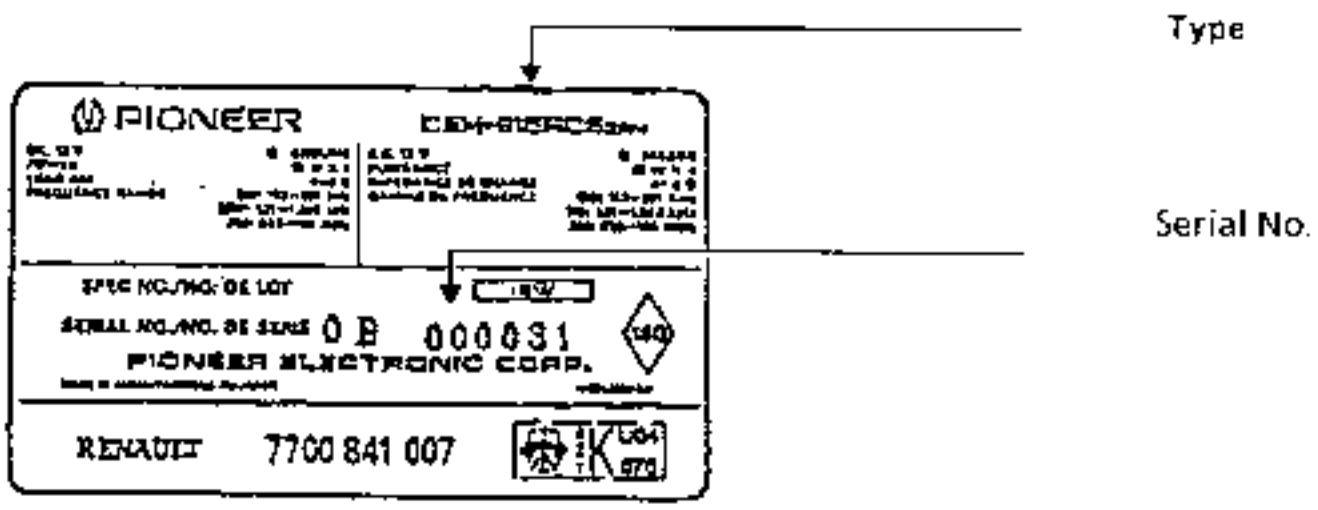
PHILIPS



BLAUPUNKT



PIONEER



ALPINE / LUXMAN