TechniSat®

Quality Made in Germany

Car Radio TechniSat

WERRA 1

Operating Instructions

Made by TechniSat

R·D·S EON
RADIO DATA SYSTEM

STEREO

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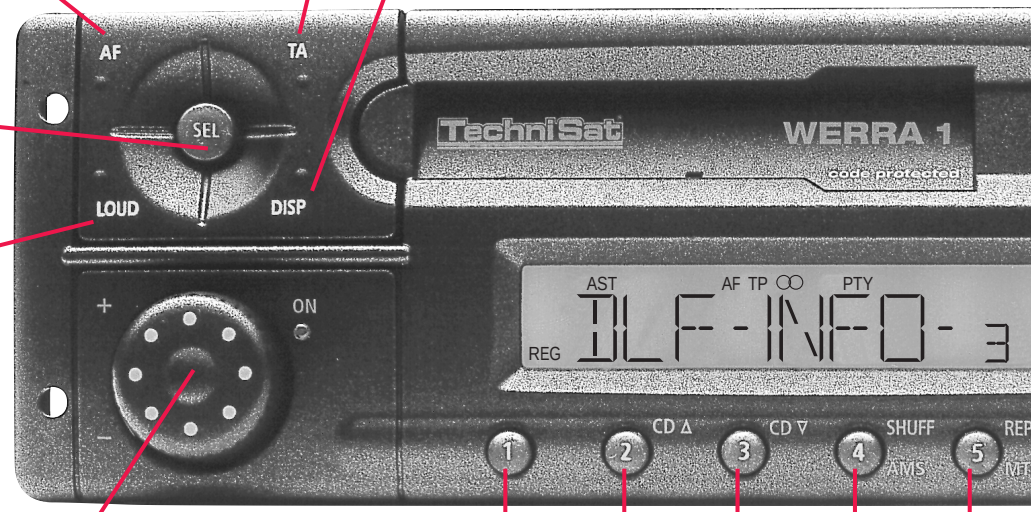

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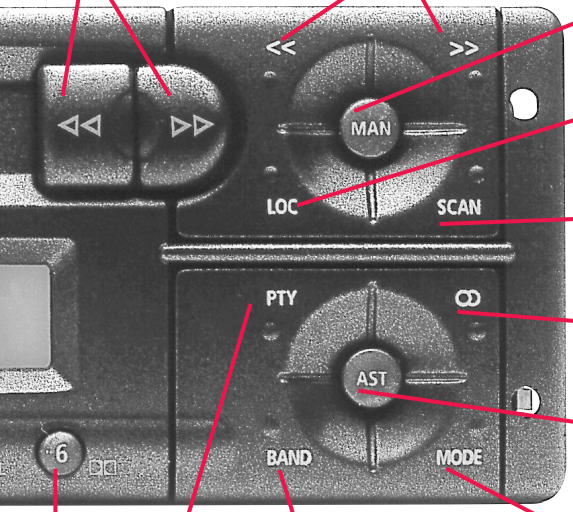

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Contents

1 Introduction

Congratulations! You have made a very good choice with buying this TechniSat WERRA 1 car radio.

This high-quality car radio has been developed and produced in Germany. It has a first-class FM unit with full RDS functions. Additionally, a high-quality reception unit for MW, LW German band and SW Europe band (49 m) has been integrated. There is an AST function to simplify FM and MW station search. Wherever you drive, this function automatically stores the six strongest stations each. Thus the annoying and also (during the ride) dangerous search for the single stations is superfluous. A total of 42 memories is available (18 FM/12 MW/6 LW/6 SW).

The TechniSat WERRA 1 is also equipped with a connection for the TechniSat 6-CD changer WerraDisc and a telephone mute input which is rather important in connection with a car telephone. It will immediately put the radio into mute function when a call is coming in.

To simplify operation, volume control is effected via an electronic turn-knob.

Radio reception/preprogramming comments

In addition to the standard FM stations, the TechniSat WERRA 1 is also able to receive MW, LW German band and SW Europe band (49 m). When receiving these frequency bands, the following peculiarities (of physical nature) have to be respected:

Introduction/radio reception/preprogramming comments

Medium wave:

During the day the reception quality of medium wave stations in the lower frequency range is better than that of stations in the upper frequency range. In the dark, however, the higher medium wave frequencies are reflected by the ionosphere and thus can generally be received in a better quality. However, the reception of weak stations can then be interfered with the higher range of neighbouring stations. It is considerably important to shield the antenna cable and all further lines connected to the radio against "car-made noise" (interferences of the board electronics of the car) when receiving medium wave stations, particularly weaker ones. In order to have the best possible reception quality it is recommended to use a high-quality AM car antenna.

Your TechniSat WERRA 1 is factory-preprogrammed to the following MW stations:

1	549 kHz	Deutschlandfunk
2	783 kHz	MDR Info
3	801 kHz	Bayerischer Rundfunk 1
4	1017 kHz	Südwestfunk
5	1422 kHz	Deutschlandfunk
6	1440 kHz	RTL Radio

Long wave:

Generally, long wave reception is comparable to short wave reception. However, the reception of weak long wave stations can also be interfered with high-voltage transmission lines. The following long wave stations are factory-preprogrammed:

1	153 kHz	Deutschlandfunk
2	207 kHz	Deutschlandfunk
3	177 kHz	DeutschlandRadio Berlin
4	261 kHz	RADIOROPA
5	198 kHz	BBC RADIO 4
6	234 kHz	RTL France

Short wave - Europe band:

The reception of short wave stations (Europe band 49 m) strongly depends on the time of day and the season. The following stations are factory-preprogrammed:

1	6075 kHz	Deutsche Welle
2	6140 kHz	Deutsche Welle
3	6005 kHz	DeutschlandRadio
4	6085 kHz	Bayerischer Rundfunk 1
5	6155 kHz	Radio Österreich International
6	6165 kHz	Schweizer Radio International

A Europe-wide reception of Deutsche Welle is possible on frequency 6075 kHz. Due to its reception range, the short wave Europe band (49 m) particularly offers advantages when you are on holiday or on a business trip within Europe.

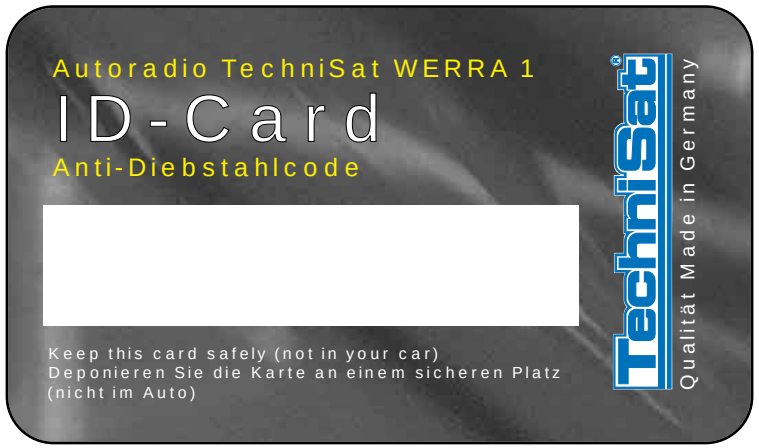
2 For your own protection, carefully read the safety precautions before starting to use your new device:

Attention! According to safety regulations you may only operate your car radio if you are able to follow the current traffic situation.

Adjust the volume only to a level that still enables you to hear acoustic signals from the outside.

Never keep the security code number together with the car radio! In case of a theft the device code would have no effect.

The ID card (with antitheft code) which is enclosed to this manual contains the safety code. Please do not keep it in the car but in a safe place.



When installing the device, take care that all electric lines are laid and insulated properly. In case of an improper installation the car may be damaged.

3 Operation

3.1.1 Switching on/off

Switching on:

- To switch on the unit push the turning knob of the car radio once. The display is not illuminated.

  If now "C*" is shown on the display, the security code is activated. Chapter 3.1.7 explains how to remove the security code.

Push once

Switching off:

- When the unit is switched on push the turning knob once more to switch it off. The display is turned off.

Push once

3 Detailed instructions

3.1.2 Volume control

higher:

- Turn the turning knob clockwise. The volume will be increased.

  If the letters "CLIP" appear on the display the "Anti-Clipping" function is activated to protect your loudspeakers. You should now reduce the volume slightly to enable the amplifiers to work in their normal range again.

  If the message "ERROR" is displayed the temperature protection of the output stage is activated. Check the impedance of the loudspeakers and the installation position of the unit (see also chapter 4).

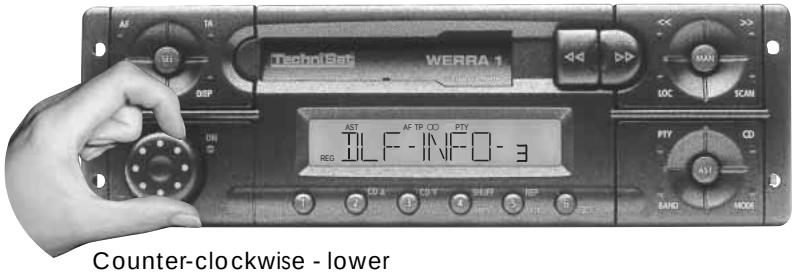
Clockwise - louder

lower:

- Turn the turning knob counter-clockwise.

  The volume will be reduced.

  When the unit is turned off the last volume selected is maintained.



Counter-clockwise - lower

3.1.3 Sound control

Proceed as follows:

- Push the SEL button, possibly several times, until the setting you want to change appears.

  The abbreviations used in the display have the following meanings:

  "BAS" = setting of bass

  "TRE" = setting of treble

  "BAL" = balance right/left

  "FDR" = fader (only when four loudspeakers are switched on, see 3.1.8)

  Behind the abbreviations a numerical value showing the present setting is indicated.

- Turn the turning knob to alter the indicated setting (clockwise: higher; counter-clockwise: lower).

- After approx. 6 seconds the device switches to normal operation again. The modifications which have been made are now stored.

Selection of adjustment, possibly several times

Change adjustment, higher/lower

Wait for 6 seconds

3 Detailed instructions

3.1.4 Loudness function

When the volume is low the human ear perceives bass notes worse than middle or high notes. In order to neutralize this effect the unit is equipped with a loudness function increasing the loudness of the bass notes electronically.

This function can be switched on resp. off as follows:

- Push the LOUD button once to switch on.
- To switch off, push the LOUD button once more

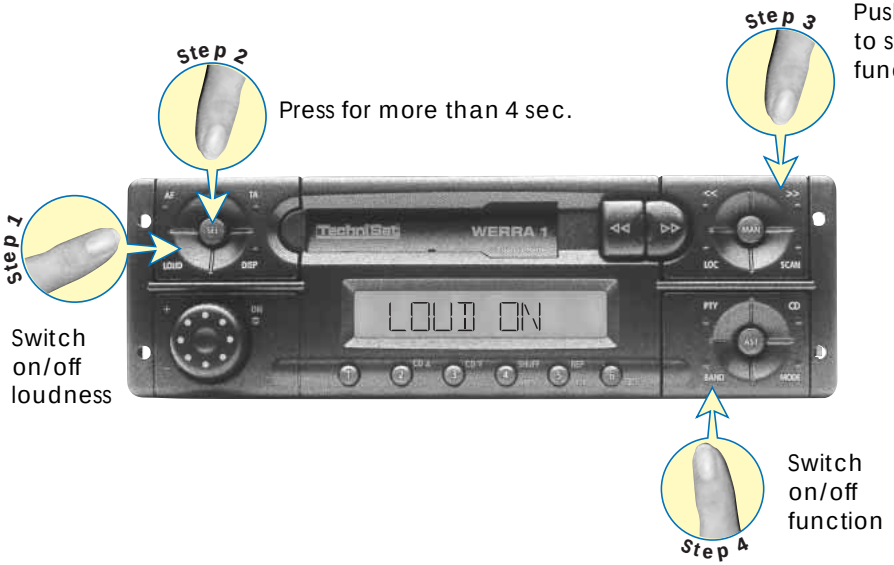
When loudness is switched on the letters "LOUD" are shown on the display.

The loudness function can also be switched on/off permanently if you proceed as follows:

- Push the SEL button for more than 4 seconds.
  The letters "2 SPKRS" or "4 SPKRS" are indicated on the display.
- Push the >> button once.
  The message "LOUD ON" or "LOUD OFF" is displayed, depending if the function is switched on or off.
- Push the BAND button to switch the function on or off.

The selected state is shown on the display.

After approx. 6 seconds the device changes to normal operation again. The modification is now stored.



3.1.5 Calling the basic settings

By using the reset function the modifications according to chapter 3.1.3 can be removed with one single push. The settings are then set to a mean value. Furthermore, a loudness which may have been switched on is now being switched off.

To carry out the reset proceed as follows:

- Push the LOUD button for approx. 4 seconds until "RESET" appears on the display.

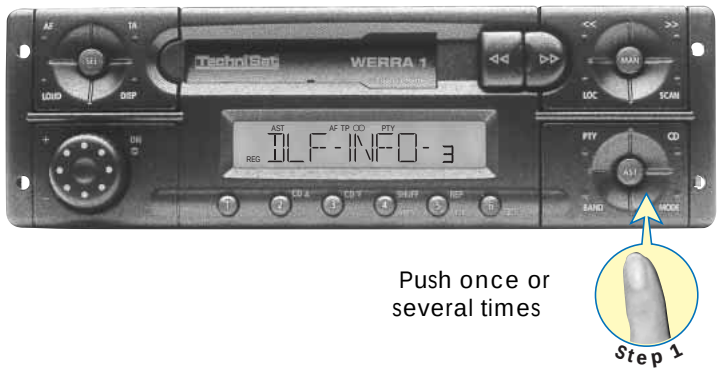
The function described above is thus effected.

3.1.6 Mode switching

When a cassette is inserted the mode automatically changes to cassette operation. As described below you can change between radio and cassette. Consequently, when you want to listen to the radio the cassette may stay in the cassette slot. If a CD changer is connected you can also select this one.

To change the operating mode carry out the following step:

- Push the MODE button, probably several times, until the desired operation mode is set.



3 Detailed instructions

3.1.7 Security code

Your TechniSat WERRA 1 is equipped with a security code to prevent operation by unauthorized persons after the radio has been removed or disconnected from the power supply.

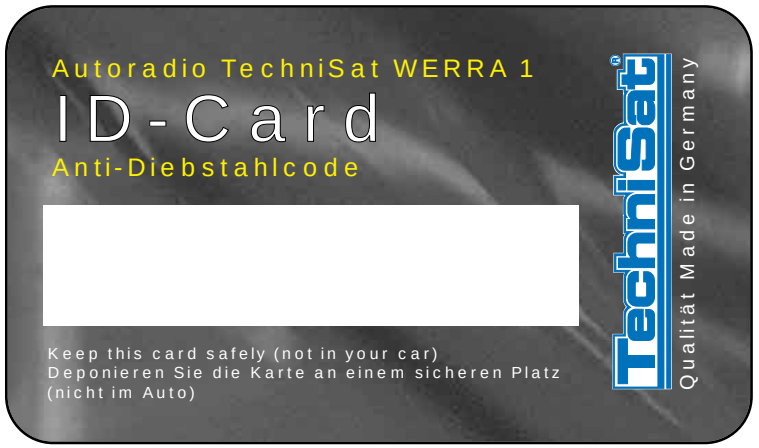
The device may be operated again when the code number has been entered.

Attention: The security code is not activated when the device is supplied!

Adhere the attached sticker to the side window of your car to scare off potential thieves.

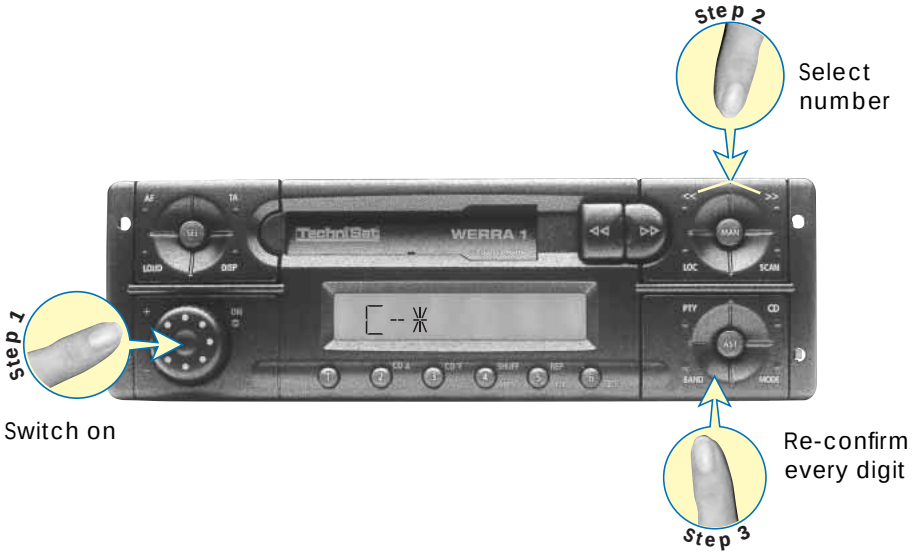
Entering the code:

The specific code of your TechniSat WERRA 1 is shown on the enclosed code card. Never keep this card together with your car radio as the security code will have no effect in case of a theft.



- Turn on the radio as described in 3.1.1.
  If the device is locked "C*" will appear on the display.
- Enter the first digit of the code number by pushing the << or >> button
- Confirm this by pushing the . BAND button.
- Now enter the remaining three digits of the code as described above and store each of them by pushing the BAND button.

Do not forget to also push the BAND button after having entered the last digit. After approx. 25 seconds a signal tone sounds to finally confirm the input. If the device is switched off before this confirmation is received it is necessary to enter the number again when the unit is switched on.



Switching on/off the security code:

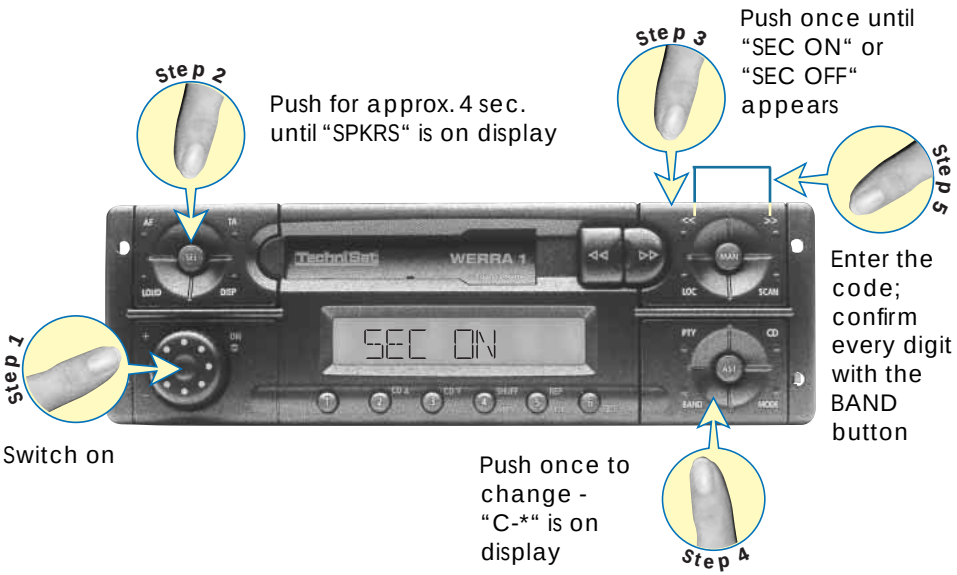
Proceed as follows:

Turn on the radio (see also 3.1.1).

- Push the SEL button for approx. 4 seconds.
  The display shows “SPKRS“.
- Push the << button once.
  The displays now shows “SEC ON“ or “SEC OFF“.

  These indications show if the security code function is switched on or switched off.
- In order to change push the BAND button once.
  Now “C*“ is shown on the display.
- Enter the code number of the device by means of the buttons << , >> and BAND as described under “Entering the code“.

After the last figure has been stored by pushing the BAND button the letters “SPKRS“ are displayed again and a few seconds later the device changes to normal operation.



If you have entered a wrong code the device will switch off after a few seconds. The message “SEC ERR“ is now shown on the display. Afterwards the code has to be re-entered.

- After approx. 40 seconds the TechniSat WERRA 1 has accepted the modification and signalizes this with a tone. During this time it is not possible to make any further modification of the security code.

The display shows “SEC ON“ or “SEC OFF“ (depending on the function being switched on or off) for a few seconds.

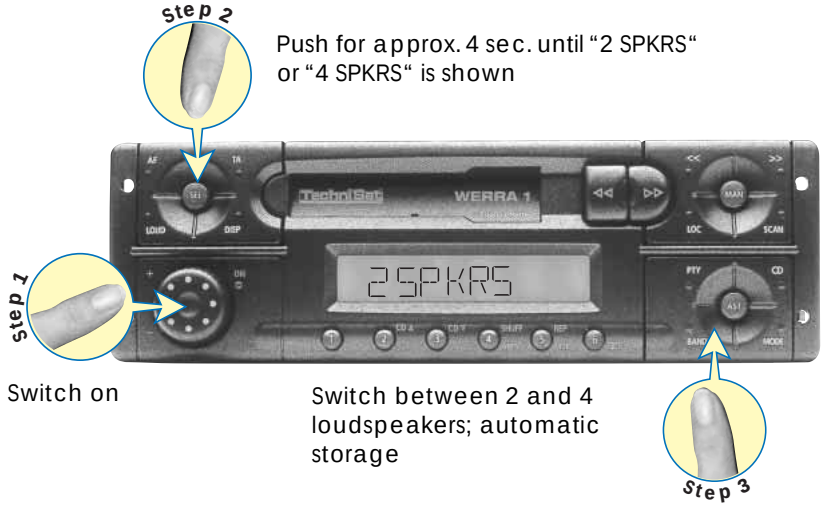
3.1.8 Adjusting the number of connected loudspeakers

The TechniSat WERRA 1 can be operated with two or four loudspeakers. To adapt the device to the number of loudspeakers proceed as follows:

- Switch on the car radio (see also 3.1.1).
- Push the SEL button for approx. 4 seconds until the message “2 SPKRS“ or “4 SPKRS“ is shown on the display.
- By pushing the BAND button you can switch between 2 and 4 loudspeakers.

The setting will be stored automatically after a few seconds. The device then returns to normal operation.

Only if four loudspeakers are connected the FADER function will be activated.



3 Detailed instructions

3.2 Radio unit

The TechniSat WERRA 1 is equipped with a high-quality radio reception unit for the reception bands FM, MW, SW and LW. The following chapter describes how to use these bands and the functions which are connected with them.

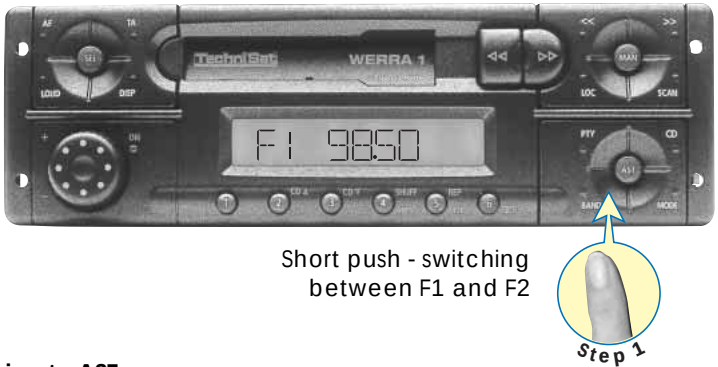
3.2.1 Adjusting the reception range

With your TechniSat WERRA 1 you are able to switch between three memory ranges for FM programmes **(F1, F2 and AST-FM)**. Furthermore, you can select between the reception ranges AST-AM, MW, SW and LW (AM bands). It is possible to store a maximum of six radio stations in each memory resp. reception range.

To select the reception range proceed as follows:

Switching between F1 and F2:

- By shortly pushing the BAND button you can switch between the FM memory ranges F1 and F2.



Short push - switching between F1 and F2

Switching to AST memory:

- See 3.2.2 “AST function“

Switching between FM and AM band (MW, SW, LW):

- With a longer push (approx. 2 seconds) on the BAND button you can switch between the FM and the AM band.

Push for approx. 2 sec. - switching from FM to AM

Selecting the MW, SW or LW band:

- Switch to the AM band as described under “Switching between FM and AM band“.
- By shortly pushing the BAND button you can switch between MW, LW and SW. In the display the selected band is now indicated.

Step 1: Push for approx. 2 sec.; select the AM band; switch between MW, LW and SW by shortly pushing this button

3 Detailed instructions

3.2.2 Station search/station memory

The TechniSat WERRA 1 offers four different possibilities to search for the radio station: manual station search, automatic station search, AST function and search for the type of programme.

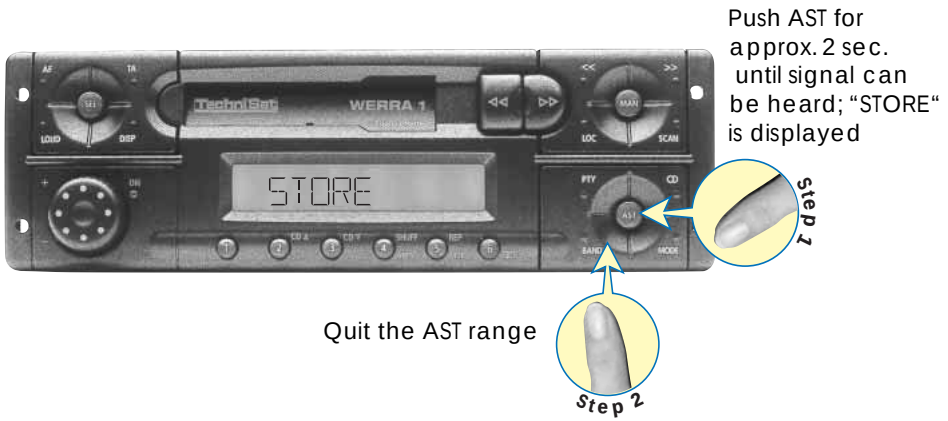
The stations which have been found can then be stored separately for each band selected under 3.2.1. For each band a maximum of six stations can be stored.

AST function:

With the AST function you have the possibility to find and to store the six strongest stations of the FM or the MW band by means of one simple push on the button. This function can be called up as follows:

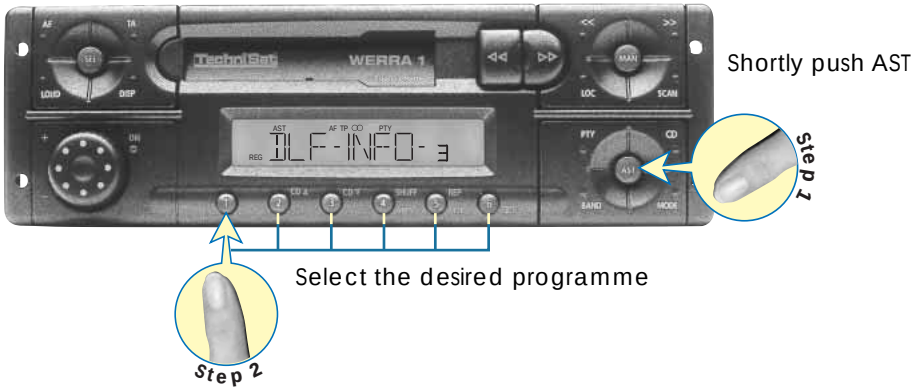
- Select the FM or the MW band as described under 3.2.1.
- Push and hold the AST button for approx. 2 seconds until a signal tone can be heard. Now the AST function starts to work. During the station search the message "STORE" is displayed.

After a few seconds the station search and memory is finished. The stations which have been found are stored under "AST" separately for the selected frequency range. This has no influence on the stations which are stored under "F1", "F2" or "MW". After completion you can quit the AST range by pushing the BAND button.



Calling up the stations memorized as above:

- Activate the memory positions on which the programmes of the selected frequency range have been stored by means of a short push on the AST button.
- The six programmes stored can be called up by pushing the buttons 1 - 6



Automatic station search:

The TechniSat WERRA 1 is equipped with an automatic station search system which stops on the first station received after starting. The reception range which has just been selected is searched through.

The searching sensitivity can be switched by the LOC button.

Adjusting the searching sensitivity:

- By a short push on the LOC button you can switch the searching sensitivity between "local" (display on device: "LOC") and "normal".

When set to "local" the automatic station search stops only at stations which can strongly be received. If no station can be found the function will automatically switch to normal searching sensitivity.

3 Detailed instructions

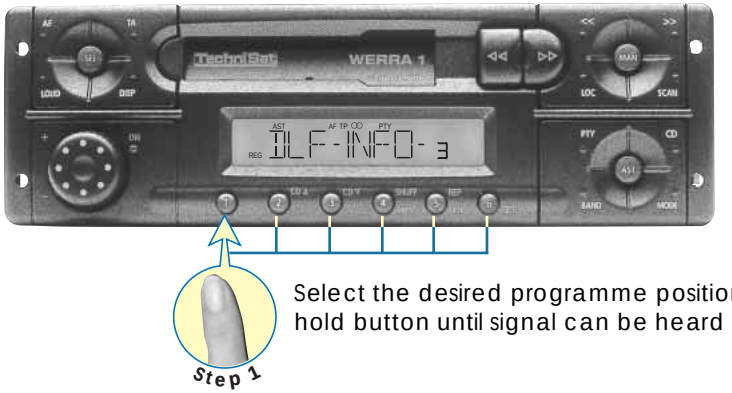
Automatic Tuning System:

- Shortly push the buttons << or >>
  Depending on the button pushed the frequency range will be searched through downwards or upwards. As soon as a station has been found the Automatic Tuning System will be stopped.

Storing the station:

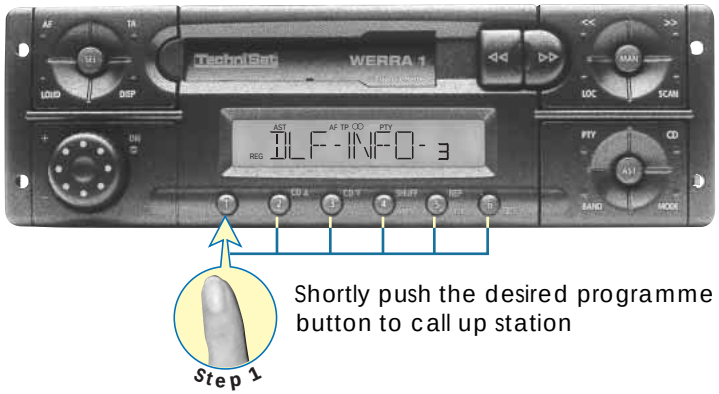
- Select a programme memory position (1 - 6) where you want to store the programme.
- Push the respective numerical key on the device and hold it until a signal tone can be heard.

The station is now stored on this programme position for the selected frequency range. The number of the programme position is indicated on the display.



Calling up the station stored as above:

- Push the respective programme memory button(1 - 6). The programme which is stored under this number in the selected reception range is called up.

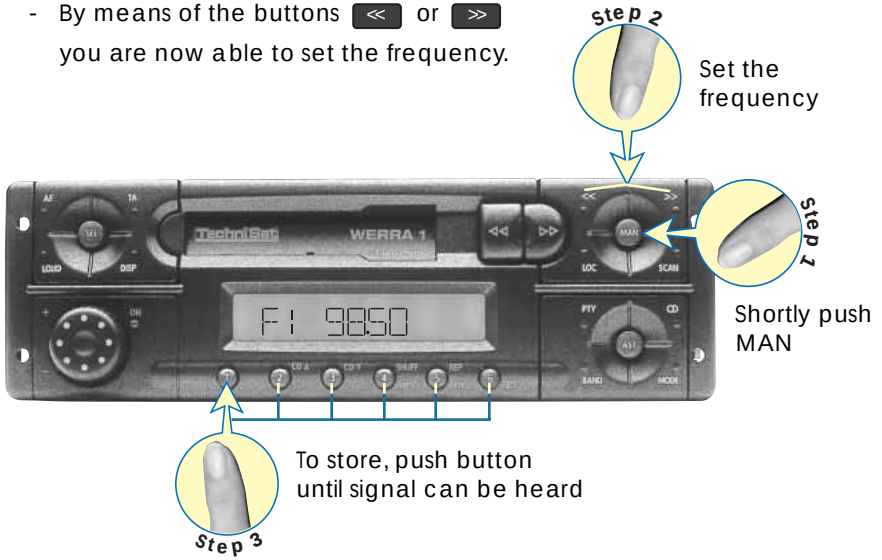


Manual station search:

When you are searching for stations which can only be received very weakly it might be advantageous to enter the reception frequency manually. Proceed as follows:

Frequency setting:

- Set the frequency range as described under 3.2.1..
- Shortly push the MAN button to switch to manual station search.
- By means of the buttons << or >> you are now able to set the frequency.



3 Detailed instructions

A short push on the respective button will change the frequency by 0.05 MHz; when the button is pushed and held for a longer time the frequency runs until the button is released.

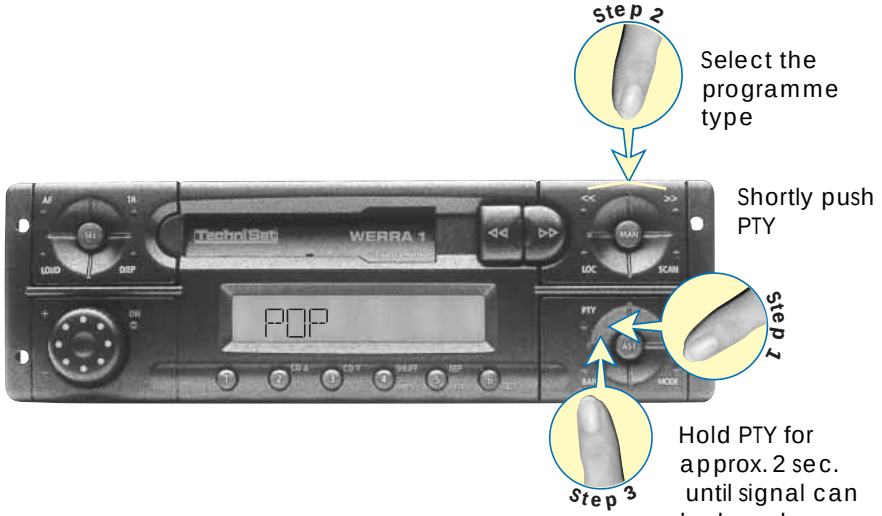
Storing the station:

- Store the station as described in the chapter "Automatic station search".

Station search by programme type

Some stations with RDS also broadcast an identification of the programme type (e.g. CLASSIC, POP, ...). Thanks to this function it is possible to search for stations of a special programme type:

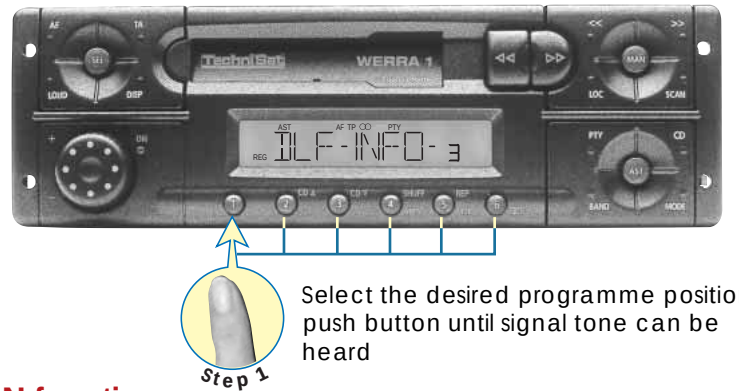
- Shortly push the PTY button.
  The programme type of the adjusted station is displayed. The indication "NO PTY" means that this programme does not broadcast any programme type identification.
- Push the buttons << or >> possibly several times, to set the desired programme type.
- Push the PTY button for approx. 2 seconds until a signal tone can be heard.



The TechniSat WERRA 1 is now searching for a station with the same programme type. It stops on the first station which corresponds to the selected programme type.

If no station can be found within the selected programme type the station which has been selected before will be adjusted.

- The station which has been found can then be stored for the selected frequency range as described under "Automatic station search".



SCAN function:

Thanks to the SCAN function it is possible to get a general idea of the stations which can be received at that time. After activating this function the adjusted reception range (see 3.2.1) will be searched through. The frequency run stops on every station which can be found and reproduces each station for 6 seconds.

Activation:

- Shortly push the SCAN button.
  "SCAN" is shown on the display and the function starts to work.

Finishing:

- Shortly push the SCAN button again.
  The device is now tuned to the station which has been received before. This one can then be stored as described under "Automatic Tuning System".

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Shortly push SCAN for activating and also for finishing

3.2.3 Automatic Traffic Announcement System

Many FM stations broadcast regional traffic announcements at fixed times. The TechniSat WERRA 1 offers some functions which simplify the use of these announcements:

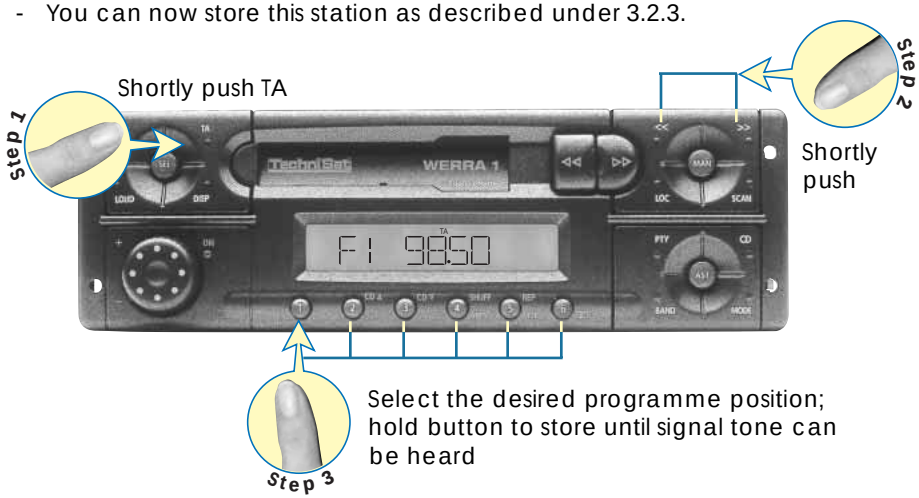
Discerning a station with Automatic Traffic Announcement System:

- "TP" is indicated on the display.

When the automatic traffic announcement is broadcast with the respective identification the TA symbol on the display is flashing.

Searching for a station

- Shortly push the TA button.
  The traffic announcement functions are now turned on. "TA" is indicated on the display.
- Shortly push the buttons << or >>
  The TechniSat WERRA 1 is now only searching for stations which broadcast automatic traffic announcements.
- You can now store this station as described under 3.2.3.



Giving priority to automatic traffic announcements

By activating this function the operation of the cassette or the CD is interrupted every time an automatic traffic announcement is coming in. Furthermore, the EON function is switched on, offering you a bigger variety in selecting a station with Automatic Traffic Announcement System. This means that you can, for example, select a programme of a larger station chain which does not broadcast automatic traffic announcements. If a traffic announcement is coming in, the EON function automatically switches to the programme of the chain which broadcasts traffic announcements. Stations which offer this function are indicated on the display by the letters "EON".

When the traffic announcement is finished the former operation will be continued, for example, an interrupted cassette operation will be restarted.

- Shortly push the TA button to switch on.
- In order to switch off push the TA button again.

Shortly push TA to switch on and off

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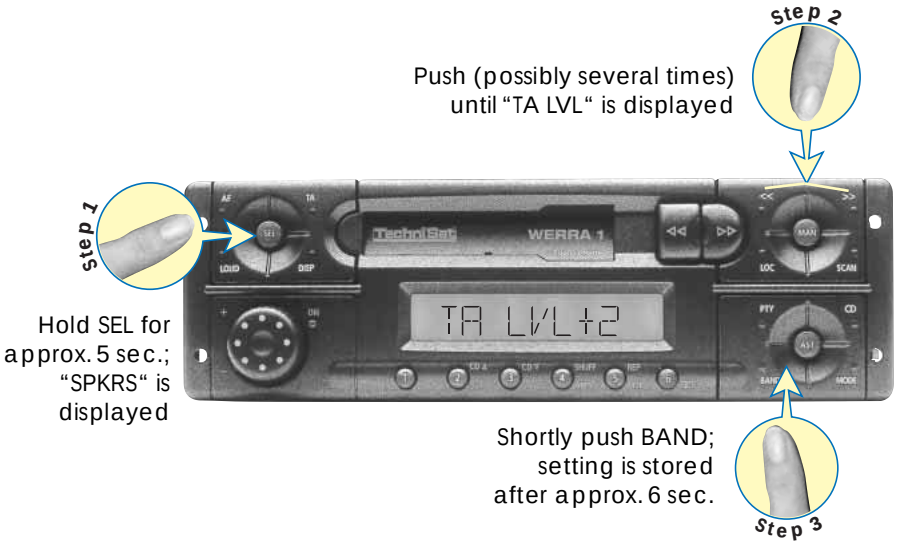
Setting the volume of traffic announcements

The volume of the traffic announcement can be set independently of the normal volume.

- Push the SEL button for approx. 5 seconds.
  "SPKRS" is indicated on the display.
- Push the buttons << or >> , possibly several times, until "TA LVL" is displayed.
- By pushing the BAND button the volume can be set between -1, -2, 0, +1 and +2.
- Approx. 6 seconds after the last input has been made the device switches to normal operation. The setting is stored.



3.2.4 RDS functions

RDS (Radio Data System) displays, among other things, the following additional information broadcast by the station:

- **Programme name:**
  The name is displayed upon reception.

- **Programme type:**
  The type of the received programme can be called up by shortly pushing the buttons PTY or DISP.

- **Identification of Automatic Traffic Announcement System programmes (TP):**
  This function indicates if the programme broadcasts traffic announcements. If this is the case the letters "TP" are displayed.

- **Identification of Traffic Announcement (TA):** Traffic announcements are marked with "TA" (see 3.2.3).

- **Alternative frequencies (AF):** The data of alternative frequencies are transmitted as well. This enables the TechniSat WERRA 1 to always select the station of the programme with the best reception quality.
  If alternative frequencies are available the letters "AF" will be displayed. If no AF information is available the "AF" display will flash. **To ensure best reception quality, this function should always be activated.**

3 Detailed instructions

- Shortly push the AF button.
- The function can be switched off by pushing the AF button again.

- **EON:** This includes data of other programmes of one station chain (see also 3.2.3).
- **REG:** Some stations have regional programmes which are marked with a respective identification.
  If, when searching for alternative frequencies, only the regional programme shall be considered you can turn on the REG function as follows:
- Push the AF button for more than three seconds.
  The letters "REG" are shown on the display.
  This function can be turned off by pushing the AF button again for a longer period.

Push AF for approx. 3 sec. to switch on, again push for a longer period to switch off

3.2.5 Stereo/mono switching

When receiving weak FM stations it can be advantageous to switch the reception to "mono" as follows:

- Shortly push the ◯◯ button.
  The present setting is indicated on the display ("MONO" or "STEREO").
- A further push on the button switches the setting.
- After some seconds the display returns to normal operation.

The modification is now stored.

Shortly push STEREO/MONO; pushing again switches the setting - automatic storage is made after some seconds

3.2.6 Display switching

By pushing the DISP button you can switch the display of RDS programmes between the RDS identifications frequency and programme type.

Shortly push DISP

3 Detailed instructions

3.3 Cassette unit

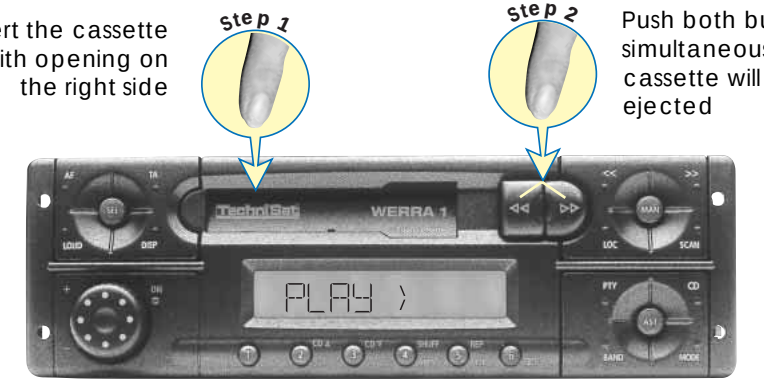
The TechniSat WERRA 1 is equipped with a high-quality stereo auto reverse cassette drive mechanism. This is operated as follows:

3.3.1 Inserting/ejecting a cassette

Before you insert the cassette in the slot take care that the tape in the cassette is winded tightly. If this is not the case you can wind it with a pen or something similar and then insert it as follows:

- Insert the cassette in the slot. Take care that the opening through which the tape can be seen is on the right side. The cassette will now be played.
- The cassette ejector can be activated by pushing both buttons  completely and simultaneously.

Insert the cassette with opening on the right side



Push both buttons simultaneously; cassette will be ejected

3.3.2 Changing the track/auto reverse

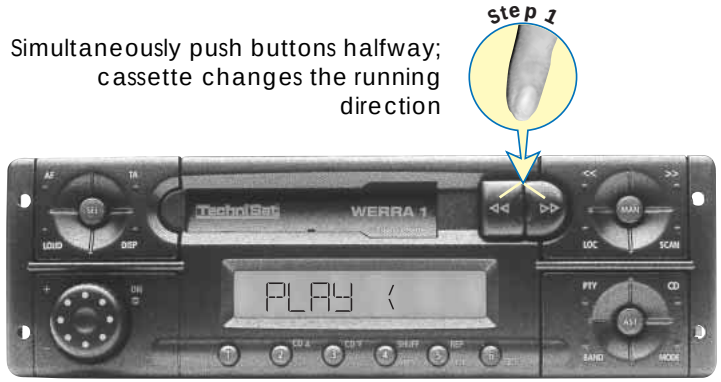
The TechniSat WERRA 1 is equipped with an auto reverse drive mechanism which, at the end of the cassette, automatically changes the running direction and plays the other side.

This function (changing of the track) can also be activated before the end of the cassette.

- Push both buttons  simultaneously, however, only halfway.

The running direction changes and the other side of the cassette is played

Simultaneously push buttons halfway; cassette changes the running direction

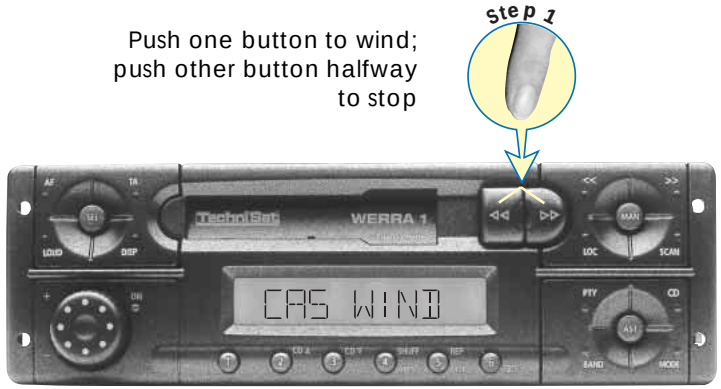


3.3.3 Fast Forward/Rewind

- Push the buttons  or  completely, depending on the direction in which the cassette shall be winded.
- If you want to interrupt the winding push the button which is not activated halfway.

The winding stops and the cassette will be played from this position.

Push one button to wind; push other button halfway to stop

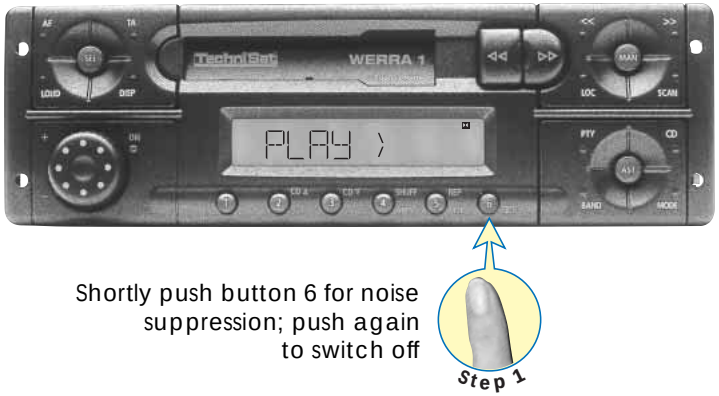


3 Detailed instructions

3.3.4 Dolby B noise suppression

The TechniSat WERRA 1 is equipped with the Dolby B noise suppression system which clearly improves the reproduction of cassettes recorded with this system.

- You can switch on the noise suppression during the reproduction by shortly pushing the 6 button.
  A ◧ symbol appears on the display.
- The noise suppression can be switched off by pushing the 6 button again.



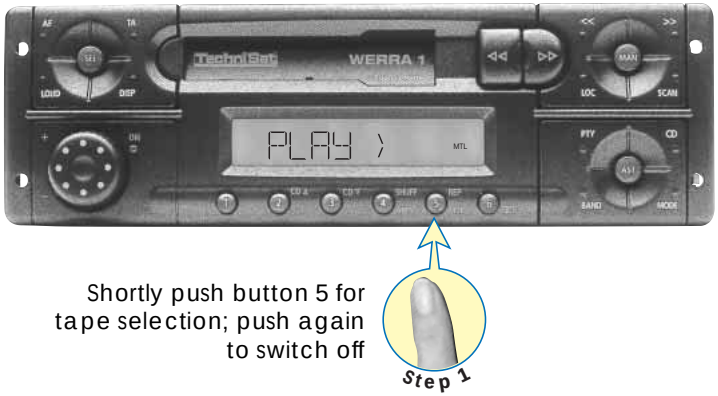
Shortly push button 6 for noise suppression; push again to switch off

3.3.5 Tape type adjustment

The cassette drive mechanism is suitable for normal and chromedioxide tapes as well as for metal tapes.

If a metal tape is inserted you only have to carry out the following switching (see right):

- You can **switch on** the adaptation during the reproduction by shortly pushing the 5 REP MTL button.
  The letters "MTL" are indicated on the display.
- This adaptation can be **switched off** by a further push on the 5 REP MTL button.

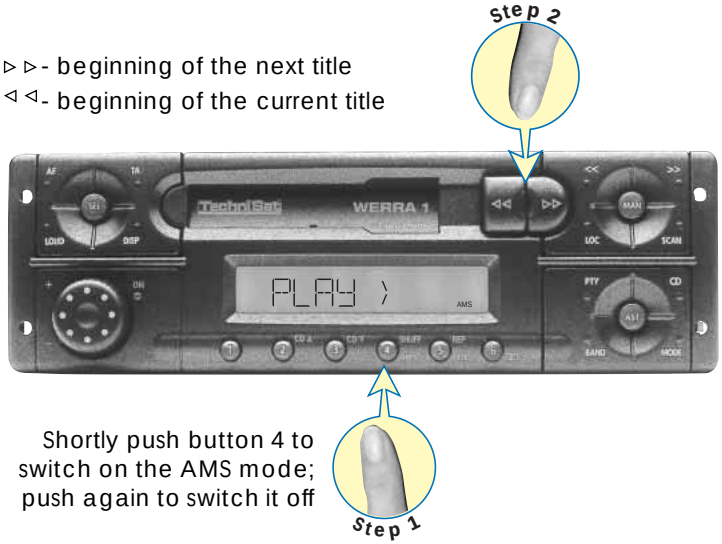


Shortly push button 5 for tape selection; push again to switch off

3.3.6 AMS (Automatic Music Search) function

When playing the cassette this function enables to wind to the beginning of the next title or to the beginning of the title which is currently running. However, the basic requirement for this is that there are recording intermissions of at least 3 seconds between the individual titles.

▷▷- beginning of the next title
◁◁- beginning of the current title



Shortly push button 4 to switch on the AMS mode; push again to switch it off

Switching on the AMS mode:

- Shortly push the 4 SHUFF AMS button during reproduction.
  The letters "AMS" are indicated on the display.

3 Detailed instructions

Searching for beginning of next title:

- Push the ▷▷ button.

The device winds the cassette to the beginning of the next title and switches to reproduction.

Searching for beginning of current title:

- Push the ◁◁ button.

The device rewinds the cassette to the beginning of the current title and switches to reproduction.

Switching off the AMS mode:

- Push the 4 SHUFF AMS button once more.
  The message “AMS“ disappears from the display.

3.4 CD changer

You can also connect the TechniSat WerraDisc CD changer to your TechniSat WERRA 1. The changer can be controlled via the buttons of the car radio. Please note that your car radio is only suitable for the connection of a TechniSat CD changer. The connection of another CD changer may damage the car radio and the CD changer!

3.4.1 Connection

Before connecting the CD changer to your car radio you should switch this off and disconnect it from the power supply.

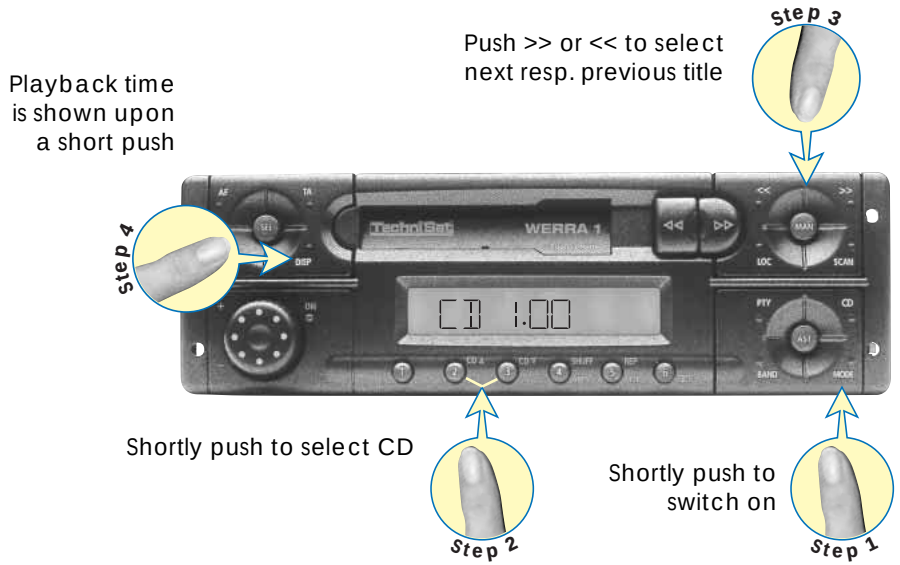
Plug the 8-pin plug of the CD changer in the respective socket on the rear of the car radio. The CD changer is now connected.

3.4.2 Operation

Before operating the unit it is of course necessary to load the magazine of the CD changer with CDs. If the magazine shall not be loaded completely it is necessary to fit in the CDs starting from position 1 downwards (rf. CD changer operating instructions).

Switching on the CD mode/reproducing a CD:

- Shortly push the MODE button.
  The message “CHANGER“ is displayed.



The changer automatically inserts the first CD and starts playing it from the beginning.

If there is no CD available on the first position of the magazine the message “NO DISC“ will be displayed.

Selecting the CD:

After activating the CD mode the individual CDs can be selected as follows:

- By pushing the buttons 2 CD△ resp. 3 CD▽ you can change between the individual CDs.

The number of the selected CD appears on the display.

3 Detailed instructions

Selecting the title:

Selecting next title:

- Push the ≫ button to play the next title.

Selecting previous title:

- Push the ≪ button to play the previous title.

The number of the current title appears on the display.

Displaying the running time:

The running time of the title can be displayed as follows:

- Shortly push the DISP button.

The running time is displayed for some seconds. Afterwards the display changes to the former indication.

SCAN function:

Upon activation of this function the titles of the present CD are played one after the other for approx. 10 seconds each.

This function can be called up as follows:

- Push the SCAN button to start the function.

The function can be stopped as follows:

- Push the SCAN button again.
  The device changes to normal reproduction.

SHUFFLE mode (see right):

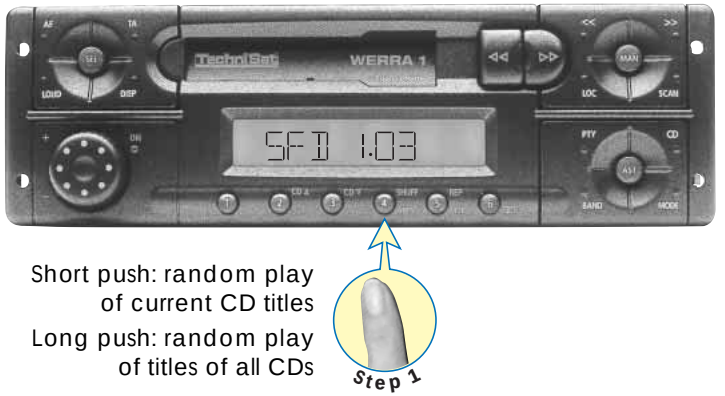
When the SHUFFLE mode is switched on the device plays the titles with a random selection. Here you can select between the titles of the present CD and the titles of all CDs.

- Shortly push the 4 SHUFF AMS button to activate the random selection of the titles on the present CD.
  "SFD" is indicated on the display.
- By pushing the 4 SHUFF AMS button for a longer time you can turn on the random selection of all titles on all CDs.
  "SFA" is shown on the display.

You can return to the normal reproduction mode as follows:

- Push the 4 SHUFF AMS button again.

SHUFFLE mode



Short push: random play of current CD titles
Long push: random play of titles of all CDs

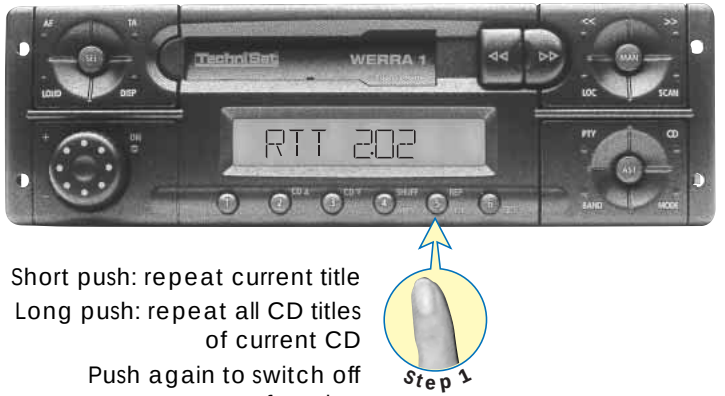
REPEAT function:

This function enables you to repeat the present title or the titles of one CD.

- Shortly push the 5 REP MTL button to repeat the present title.
- When you are pushing the 5 REP MTL button for a longer time the titles of the present CD will be repeated.

In order to turn to the normal reproduction mode proceed as follows:

- Push the 5 REP MTL button again.



Short push: repeat current title
Long push: repeat all CD titles of current CD
Push again to switch off repeat function

3.5 Additional functions

Telephone muting

The TechniSat WERRA 1 is equipped with a muting function which can be used in connection with a car telephone. When a call is received the radio changes to the muting mode. The message “PHONE“ is shown on the display. When the call is over the radio switches to normal reproduction.

In order to make use of this function it is necessary to connect the respective output of your telephone to the MUTE input of the radio via a suitable adapter (see chapter 4).

Motor antenna/amplifier antenna

The device is equipped with a switching voltage output to drive a motor antenna or to supply an antenna amplifier. When the radio is switched on a voltage of 12 Volt is lying on this output. When connecting the antenna (see chapter 4) follow its connection notes.

Supplementary audio amplifier (booster)

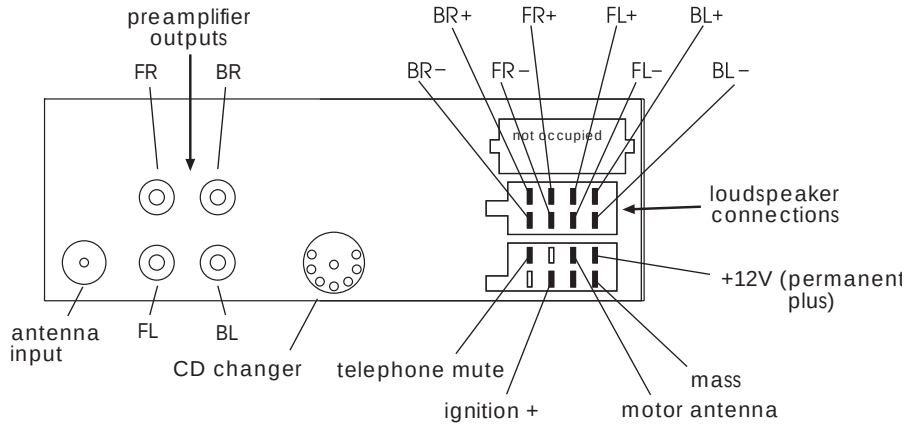
Via the cinch socket on the rear of the device you can tap the audio signals of the individual channels and transmit them to the supplementary amplifier (see chapter 4). If the amplifier used is equipped with a remote control input for switching on and switching off you can possibly use the switching voltage output of the motor antenna which is described above (follow to the connection notes).

4 Connection

The TechniSat WERRA 1 is equipped with connection sockets according to the ISO standard. In most of the cars with radio preparation the corresponding connectors are used. These are plugged into the radio together with the antenna connector, and your TechniSat WERRA 1 can be operated. When connecting take care that the power supply for the car radio is covered with at least 10 A. Please also note that it is only possible to connect loudspeakers with an impedance of at least 4 Ohm.

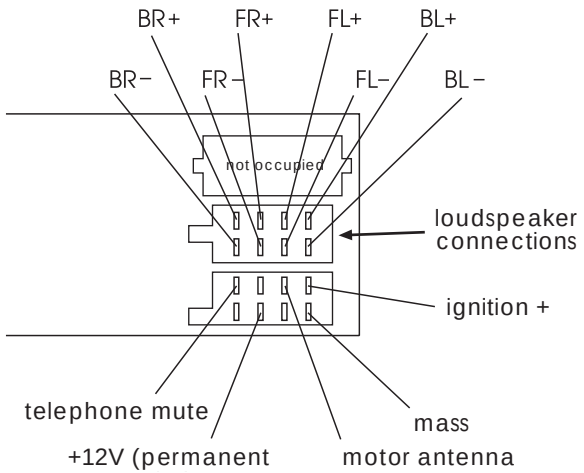
If your car is not equipped with the respective connectors you can connect the radio as shown in the following sketch, using the enclosed attaching plugs or special car adapters which can be obtained in specialist shops.

Do not install the device in a place where it is exposed to direct sunbeams or to direct stream of air from the heating.



If your car does not have these connection possibilities you can also connect the device as follows. **In that case, the ON/OFF switching function via the ignition lock is not activated. The same applies to the security LED.**

Therefore you should absolutely prefer the previous variant.



5 Technical data

Radio unit:

FM

Reception range	87.5-108 MHz
Tuning raster man./auto.	50/100 kHz
Audio transmission range	20-16000 Hz (-3dB)

MW

Reception range	531-1629 kHz
Tuning raster	9 kHz

LW

Reception range	144-288 kHz
Tuning raster	1 kHz

SW

Reception range	5900-6200 kHz
Tuning raster	1 kHz
Station memories	42 (6 x AST FM 6 x FM1 6 x FM2 6 x AST MW 6 x MW 6 x LW 6 x SW)

Cassette unit

Tape speed	4.76 cm/s
Fast rewinding time (C60)	105 s
Noise suppression	Dolby B
Distortion	normal and CrO2/metal

Audio amplifier unit

Output power	4 x 20 watts to 4 Ω loudspeaker impedance
Transmission range	20-20000 Hz (+/- 3 dB)

General

Connections 4 loudspeaker outputs (ISO plug, type B)

telephone mute, ignition, switched voltage (12V)/automatic antenna, permanent plus, mass (ISO plug, type A)

antenna input (75 Ω)

preamplifier outputs (cinch sockets (BR, FR, FL, BL)

CD changer (8-pin DIN socket)

TechniSat®

Quality Made in Germany

WERRA 1 is CE-approved and complies with all requested EU standards! E.&O.E. Issue 5/97

CE

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