

Operating Manual

TechniSat®

DigiCorder S1

Digital receiver
with
integrated hard disk drive



Operating Manual

**With integrated Premiere decoding system and
PCMCIA interface for installing a CI module.**

For the reception of free-to-air and encrypted programmes broadcast via satellite,
(e.g.. VIACCESS, IRDETO, SECA ,etc.)

DVB

Digital Video
Broadcasting

*Integrated
video recorder*

PVR



DD DOLBY
DIGITAL
Streaming



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Your unit carries the CE logo, and complies with all relevant EU standards.
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at 11/03

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TechniSat Digital GmbH
P.O. Box 560
D-54541 Daun
Germany
www.technisat.de

Technische Hotline (in Germany)
0180/5005-911*

*Cost 0,12 EUR/Min. via the Deutsche Telekom AG network

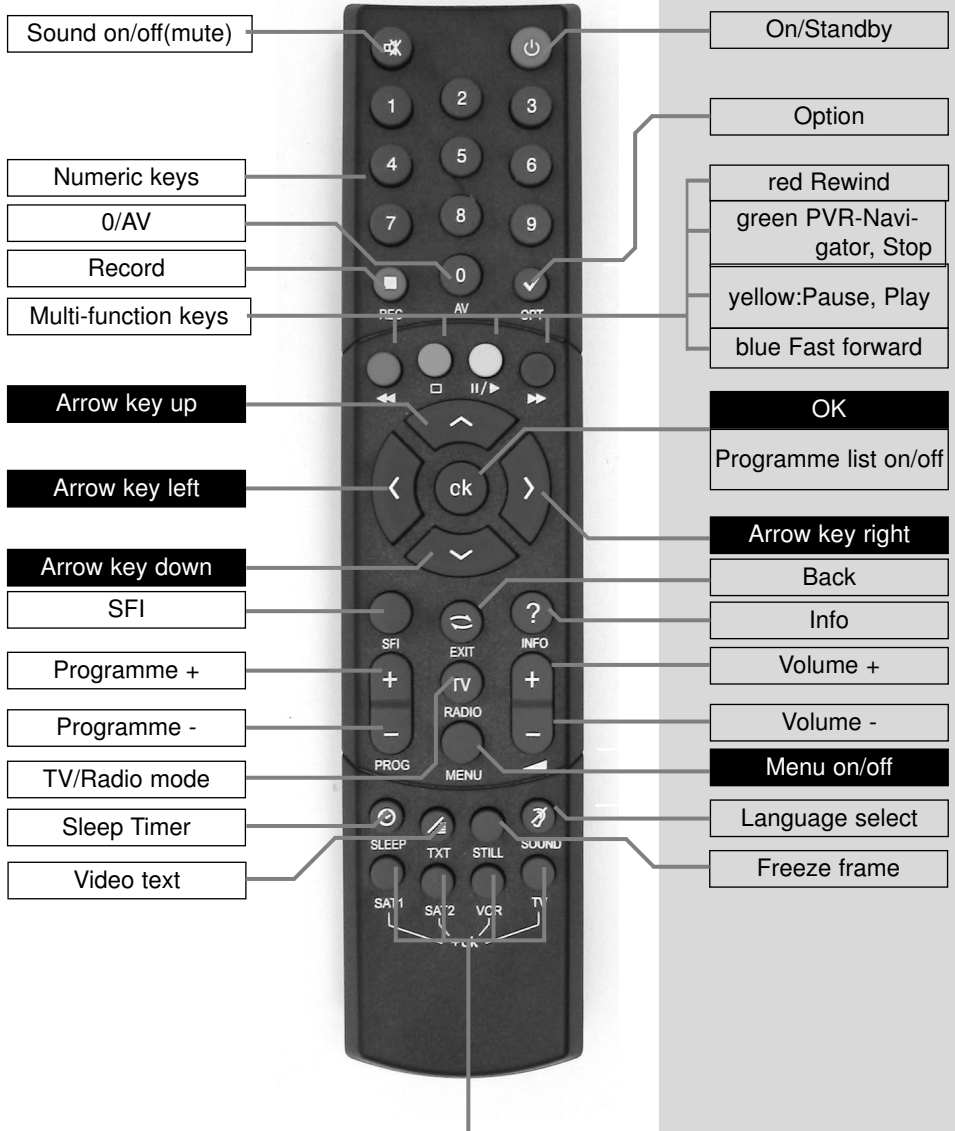
Note !

If it should become necessary to return your unit to the manufacturer, please
use only the address below:

TechniSat Teledigital AG
Service-Center
Löderburger Str. 94
D-39418 Staßfurt
Germany

2 Illustrations

Remote control unit

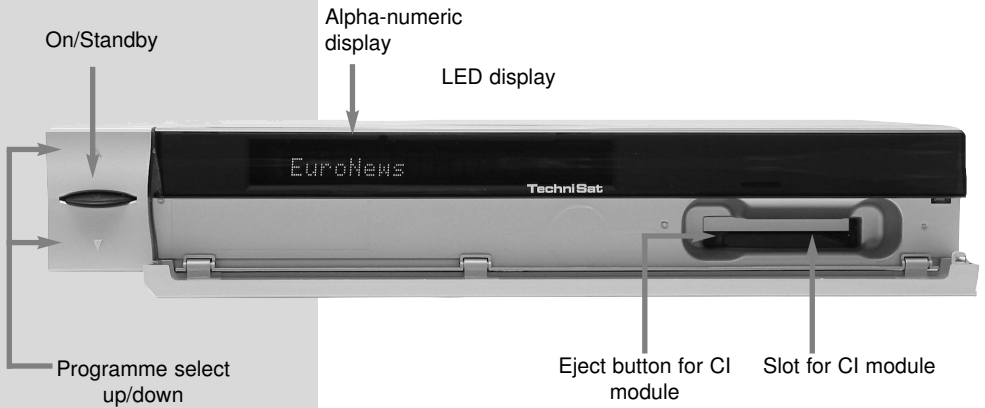


Remote control option:

In order to operate 2 TechniSat receivers with identical coding, television sets as well as an additional future option, (e.g. VCR).

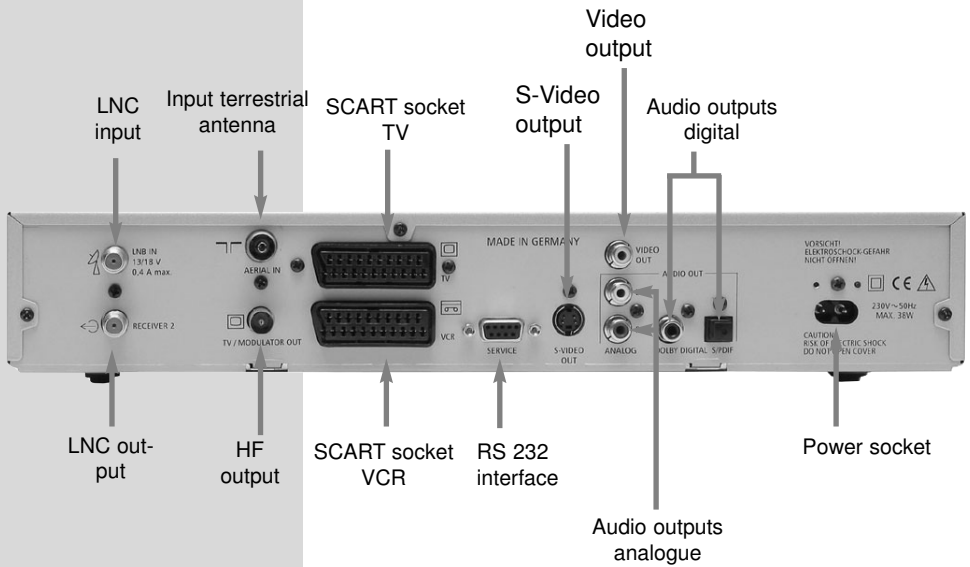
Use these keys to select the remote control option **Sat 1** and use this to operate your digital receiver, if you have not set this differently as described in Point 6.2.3:

> Press the **SAT1** and **OK** keys simultaneously!



Inserting the CI module:

- > Please note the manufacturer's instructions for both the CI module and card.
- > Insert the appropriate smart card into the corresponding CI module.
- > Now insert the CI module carefully in the slot provided.



Sehr geehrte Kundin, sehr geehrter Kunde,

herzlichen Glückwunsch, dass Sie sich für den Digital-Receiver DIGITAL CIP entschieden haben.

Die vorliegende Betriebsanleitung soll Ihnen helfen, die umfangreichen Funktionen Ihres neuen Digital-Receivers optimal zu nutzen.

Wir haben die Bedienungshinweise so verständlich wie möglich verfasst und so knapp wie nötig gehalten.

Der Funktionsumfang Ihres Gerätes wird durch Software-Updates ständig erweitert. Dadurch kommen gegebenenfalls einige Bedienschritte hinzu, die in dieser Bedienungsanleitung nicht erklärt sind, bzw. es kann sich die Bedienung schon vorhandener Funktionen verändern. Aus diesem Grund sollten Sie von Zeit zu Zeit die techniSat Homepage besuchen, um sich die jeweils aktuelle Bedienungsanleitung herunterzuladen.

Wir wünschen Ihnen viel Freude mit Ihrem TechniSat DigiCorder S1!

Ihr

TechniSat Team

3 Please read this first

- > Before operating your unit for the first time, please check that you have received all the components. The package should contain:
1 digital receiver, 1 mains power cable, 1 remote control, 1 operating manual, 1 guarantee card, 2 batteries (1,5V microcell).
- > Insert the batteries supplied in the battery compartment of the remote control unit, taking care to observe the correct polarity.
- > Before connecting you digital receiver, please first read the safety notes in Chapter 3.
- > **Chapters 4, 5 and 6** describe how you should connect and adjust the digital receiver to the external unit (antenna dish, LNC, ...), to the television set, VCR, etc. These settings need only be made once, and would only have to be updated if there is any change in your external unit, or if additional pieces of equipment are to be connected.
- > **Chapter 7** describes all the functions important in everyday use, e.g. programme selection or operating the hard drive.
- > In **Chapter 8** you will find information on how to set new programmes, or how to change the order of programmes in the list.
- > **Chapter 9** describes the settings to be made when operating a rotating antenna.
- > Technical terms used in the operating manual are explained in **Chapter 10**.
- > Technical data is set out in **Chapter 11**.
- > A brief troubleshooting guide can be found in **Chapter 12**.

Important notes on operating the unit

The implementation of an "On Screen Display" (text shown on screen) helps to simplify the operation of the digital receiver, and also helps to reduce the number of keys required on the remote control unit. All functions are indicated on the screen, and can be implemented with a few keys. Related functions are combined in a "MENU". The function selected will be marked and highlighted in a different colour. The bottom line of the display shows colour bars in green, red, yellow and blue, corresponding to the function keys in these colours. In the various menus these colour bars represent different functions which can be accessed by pressing the multi-function key of the appropriate colour on the remote control unit. The function keys are only active if a brief description appears in the appropriate field. Key descriptions and other terms appearing in the OSD menu are shown in emphasized letters in this operating manual.

Help:

Where available, press the **blue** function key to display help texts, press again to disable the text display.

Disposal information

The packaging of this product consists entirely of recyclable materials. Please separate the components accordingly, and dispose of them via the "Dual System" or other local recycling programmes.

Please ensure that discarded batteries from the remote control, as well as any other discarded electronic components, are not disposed of in your regular household waste, but are disposed of through the appropriate channels, either through your specialist retailer, or via the appropriate system of your local authority).

Safety notes

For your own protection you should read the safety notes carefully before operating your new unit for the first time.

The manufacturer accepts no responsibility for damage caused by inappropriate handling, or by ignoring the safety precautions in this manual.

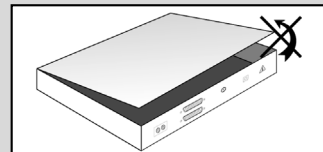
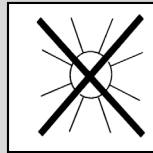
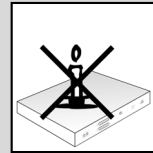
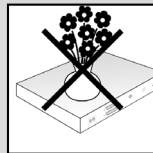
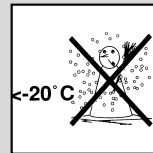
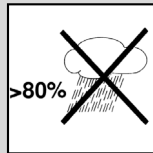
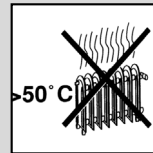
- > To ensure adequate ventilation, place the unit on a smooth, even surface, and do not place any objects on top of the unit. Ventilation slots located in the housing are essential to conduct heat from the interior of the unit.
- > Do not place any burning objects, such as burning candles, on the unit.
- > Do not expose the unit to water (spray, drops), and do not place any objects filled with liquid, e.g. vases, on top of the unit.
- > The unit should be operated only in a temperate climate.
- > Do not open the unit! You are in danger of experiencing an electrical shock. If it becomes necessary to open the unit, this should be done only by trained personnel.

Disconnect the unit from the mains power supply and call an authorised repair specialist if:

- > the mains plug or the mains power cable are damaged
- > the unit has been exposed to humidity, or liquid has entered the unit
- > in case of significant malfunction
- > in case of significant external damage

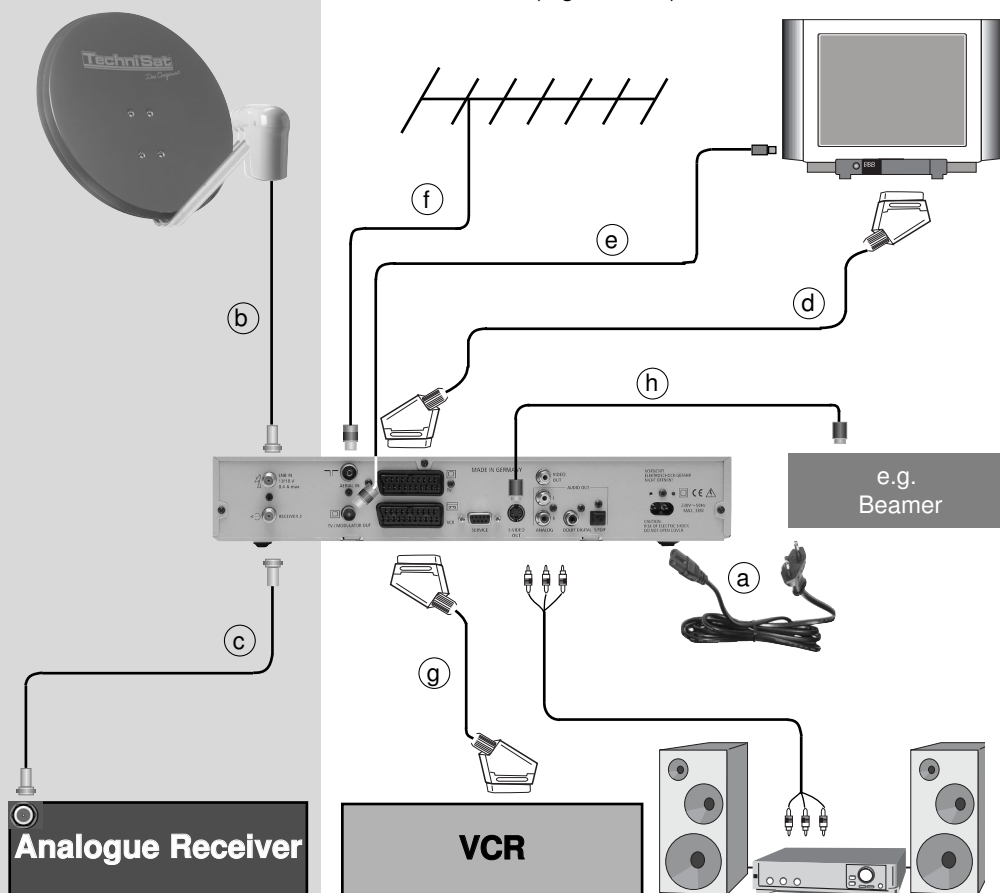
Temporary disconnection

In case of an electrical storm, or when you are away for an extended period of time, e.g. while on holiday, you should disconnect the unit from the mains power supply.



Connecting the DVB receiver to a satellite installation

- a. Mains power connection
- b. Connection from the LNC to the **LNC input (LNB IN)** of the DVB receiver.
- c. Connection from the **LNC output** to the LNC input of an analogue receiver.
- d. Scart connection of the DVB receiver with the television set.
- e. Connection from the **HF output** into the antenna input socket of the television set.
- f. Connection from a terrestrial antenna to the **terrest. antenna input** of the DVB receiver.
- g. Scart connection from a video recorder to the **VCR Scart socket** of the DVB receiver.
- h. Connection from the **S-Video output** to the S-Video input of another unit (e.g. beamer).



4 Connections

The items a b c etc. mentioned below refer to the illustration on page 10.

4.1 Mains power connection

The digital receiver should be connected to the mains power supply only once all the other connections with other items of equipment have been made. This will prevent damage to the digital receiver or to other components.

- a When you have made all the other connections, use the mains power cable supplied to connect the receiver to a mains power supply providing 230 V/50-60 Hz.

4.2 External unit

4.2.1 Single unit operation

- b Using a suitable co-axial cable, connect the LNC input of the digital receiver with the LNC of your external unit. Please also note Point 6 under "Settings".

4.2.2 Operating an additional receiver in a single-receiver installation

- c If you wish to operate an additional unit in a single-receiver installation (e.g. an analogue receiver or an ADR receiver), you can connect the LNC input of the additional receiver with the LNC output of the DVB receiver by means of a suitable co-axial cable. In order for the satellite signal to be provided to the additional receiver, your DVB receiver must be operated in Standby mode. If your DVB receiver is switched on, it will take over priority in controlling the LNC.

4.3 Connection to a television set

When you have connected your digital receiver with the television set as described in this chapter, it may be necessary to adjust the digital receiver to the television standard of your television set.

To do this, please note Point 6.3.5 (**Video system**).

4.3.1 Via SCART cable

To ensure the best possible picture quality, use a SCART cable to connect the digital receiver with the television set. Proceed as follows:

- d Connect the receiver (**SCART socket TV**) and the television set (SCART socket) by means of a SCART cable. If your television set is appropriately equipped, it will switch automatically to AV when the digital receiver is switched on, and will provide satellite reception.

4.3.2 Via HF cable

If your television set is not equipped with a SCART socket, the digital receiver will have to be connected to the antenna input socket of the television set. If this connection is used, only mono sound reproduction is possible.

To make the connection, proceed as follows:

- e Use a suitable TV connection cable to connect the receiver (**HF output**) to the antenna input socket of the television set.
- f Connect the cable coming from the terrestrial antenna to the **Terrestrial antenna input** of the digital receiver.

You must now set your television set to the transmission (output) channel of the digital receiver. Select a free programme slot on your television set, and tune it to Channel 38 (if necessary, consult the operating manual of your television set).

If you do not receive a clear picture on Channel 38, either this channel or a neighbouring channel may already be tuned to a programme being received via the antenna. You can check on this by temporarily removing the antenna cable from the Input terrestrial antenna socket of the digital receiver. If you then temporarily receive a clear picture, you should select a different channel on the digital receiver, in the range 21 to 69.

Setting the UHF output channel

To set an optimum UHF output channel, please proceed as described in 6.3, and go to the menu Audio/Video Settings and mark the field UHF output channel. Then proceed as described in 6.3.7.

4.4 Video cassette recorder (VCR)

- g Connect the video recorder to the **SCART socket marked VCR**. In Playback mode, the video recorder will supply a switching signal to the digital receiver. The video recorder signal will be sent automatically to the TV set.
If your video recorder does not supply the required switching current, use the **0/AV** key to switch your digital receiver to the external input **AV**. Press this key again to return to normal operation.

4.5 HiFi Amplifier

4.5.1 Analogue

To achieve the best possible sound quality, you may connect the digital receiver to a HiFi amplifier. To do this, use a suitable cable to connect the cinch sockets **Audio R** and **Audio L** of the digital receiver with an input on your HiFi amplifier (e.g. CD or AUX; please note that the Phono input is not suitable!).

4.5.2 Digital

Should your amplifier be equipped with an appropriate electrical or optical input, you may connect the sockets AUDIO OUT DIGITAL electrical resp.. AUDIO OUT DIGITAL optical with the electrical resp. the optical input of your amplifier. Depending on the channel selected, sampling rates of 32, 44,1 and 48 kHz are available.

Where broadcast, the Dolby Digital-Signal (AC3) is also available at this output.

4.6 Unit with S-Video input (Hosiden)

h To connect the **S-Video output** with a unit equipped with an S-Video input (e.g. beamer etc.).

4.7 Serial Interface (RS 232)

The RS 232 interface serves to carry out pre-programming via a PC, and to update the operating software.

5 Initial installation

Once you have read the safety notes, and have connected the unit as described in Chapter 4, you may switch on the unit as described in Chapter 7. When the unit is switched on for the first time, the start window of the installation assistant is displayed: **AutoInstall**. (Fig. 5-1) The installation assistant will help you to make the most important settings on your digital receivers quickly and simply.

You can exit from the initial installation procedure at any time by pressing the red function key. Press the green function key to return to the previous step of the installation. You can thus correct any mistakes made at any time.

If the initial installation is not carried out, or is aborted before completion, the unit will commence operation with a standard pre-programmed configuration.

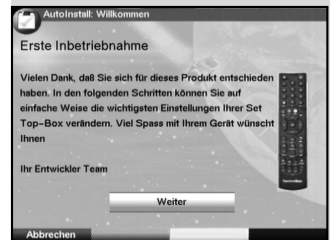
The initial installation described here serves only as an example. The exact procedure of the initial installation will depend on the settings you choose to make. Please follow closely the instructions given on the screen.

Operating language:

- > Press **OK** to move to the selection window for the operating (menu) language (Fig. 5-2)
- > Use the **up/down arrow keys** to select the desired operating language.
- > Confirm by pressing **OK**.

Audio language

- > Use the **up/down arrow keys** to select the preferred



(Fig. 5-1)



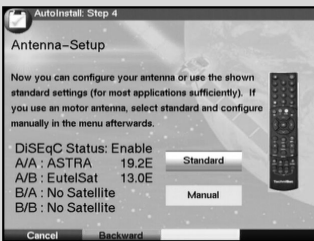
(Fig. 5-2)



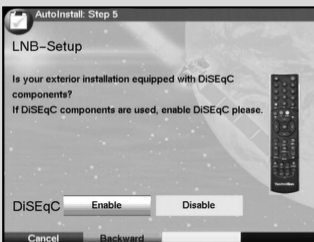
(Fig. 5-3)



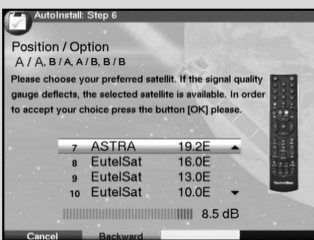
(Fig. 5-4)



(Fig. 5-5)



(Fig. 5-6)



(Fig. 5-7)

audio language. (Fig. 5-3)

When the installation assistant has been completed, the programmes in the Favourites list will be sorted accordingly.

- > Confirm by pressing **OK**, to accept this selection into memory.

Country setting

- > Use the **up/down arrow keys** to select the time zone corresponding to your location. (Fig. 5-4)
- The automatic clock setting will be made in accordance with your selection.
- > Confirm by pressing **OK**, to accept the setting into memory, and to move on to the antenna configuration.

Antenna configuration

This step of the installation procedure serves to adjust the setting of your digital receiver to the configuration of your antenna.

- > If you wish to accept the standard antenna setting, use the **up/down arrow keys** to mark the entry **Standard** and confirm by pressing **OK**. (Fig. 5-5)
- In this case you can proceed to the Point "Software Updates".
- > If the configuration of your reception installation does not correspond to the standard setting, mark the entry **Manual** and confirm by pressing **OK**.

DiSEqC

- > If your reception installation is equipped with DiSEqC components, mark the field Activate and confirm by pressing **OK** (Fig. 5-6).
- (Additional information on DiSEqC can be found in Chapter10, Technical Terms.)

Position A/Option A

- > Use the **arrow up/down keys** to mark the satellite you wish to receive at the DiSEqC setting Position **A/Option A**, and confirm by pressing **OK**. (Fig. 5-7)

Position B/Option A

- > Use the **arrow up/down keys** to mark the satellite you wish to receive at the DiSEqC setting Position **B/Option A**, and confirm by pressing **OK**. (Fig. 5-8)

Position A/Option B

- > Use the arrow up/down keys to mark the satellite you wish to receive at the DiSEqC setting Position **A/Option B**, and confirm by pressing **OK**. (Fig. 5-9)

Position B/Option B

- > Use the **arrow up/down** keys to mark the satellite you wish to receive at the DiSEqC setting Position **B/Option B**, and confirm by pressing **OK**. (Fig. 5-10)

As your next step, check again on the configuration of your antenna.

- > If you wish to accept this setting, use the **arrow up/down keys** to mark the field **Yes**, and confirm by pressing **OK**. (Fig. 5-11)

Updating software

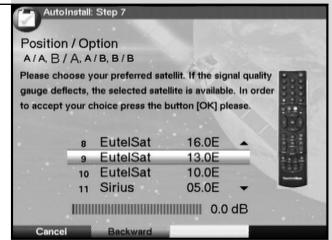
When you have confirmed the antenna settings, the digital receiver will automatically check whether a more up-to-date version of the software for your unit is available via satellite. If a new version of the software is available, you can perform an automatic software update.

- > Use the **right/left arrow keys** to select the field Update, and confirm by pressing **OK**. (Fig. 5-12) The new software for your unit will now be downloaded. This procedure may take several minutes.

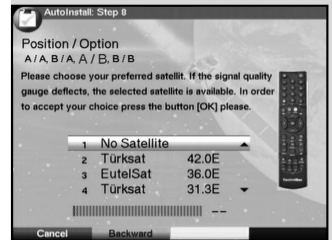
Scanning for programmes

Once you have checked on the software version, and possibly downloaded an updated version, you can proceed to searching for programmes.

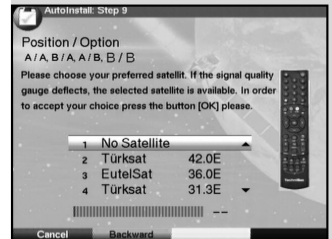
- > Use the **up/down arrow keys** to mark the field **All Channels**, if you wish to scan for both encrypted and free-to-air programmes, or select **All Free-to-air Channels** if you wish to scan for only this type of programme. (Fig. 5-13)
- > Confirm your selection by pressing **OK**, the unit will perform an automatic programme search. All the satellites selected during the antenna configuration procedure will be scanned for programmes. This procedure may take several minutes. Please note any messages displayed on screen.



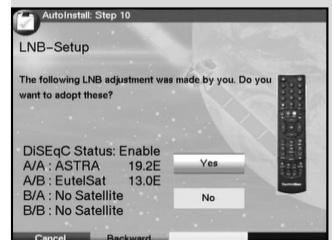
(Fig. 5-8)



(Fig. 5-9)



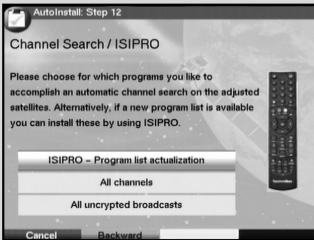
(Fig. 5-10)



(Fig. 5-11)



(Fig. 5-12)



(Fig. 5-13)



(Fig. 5-14)



(Fig. 5-15)



(Fig. 6-1)

When the scan is completed

When the scan has been completed, the number of transponders found, the number of programmes as well as the number of new programmes found will be displayed. In addition, you will be prompted (Fig. 5-14) to decide whether you want to automatically include the programmes found in the TV or Radio lists. If you decide to include the programmes automatically, you can then decide whether they should be included in the Favourites list in sorted or unsorted form.

If the programmes found are accepted in sorted form, these are sorted into the Favourites list in accordance with a pre-programmed system. This means that the order in which the programmes are included is primarily based on the audio language, as selected in the installation step Audio language. If German has been selected as the audio language, the sorting order can be further differentiated in terms of the country selected in the installation step Country (Germany, Austria or Switzerland).

If the new programmes are accepted in unsorted form, then the newly found programmes are simply added in unsorted order at the end of the Favourites list.

- > Use the **right/left arrow** to select the type of sorting you prefer, and confirm by pressing **OK**.

Exiting from the installation assistant

- > The installation assistant will display a final message (Fig. 5-15) Confirm this by pressing **OK**, to return to normal operation.

6 Settings

You have now connected your digital receiver, and commenced operating it. You can, if you wish, still optimize the settings of the digital receiver in accordance with your preferences.

6.1 Operating language

This menu item allows you to set the menu language in accordance with your preferences.

To change the operating language, proceed as follows:

- > Press the **Menu** key to display the **Main Menu**. (Fig. 6-1)
- > Now use the **up/down arrow keys** to mark the menu line **Operating language**.
- > Confirm by pressing **OK**.
- > The sub-menu **Operating language** will be displayed.
- > Use the **up/down arrow keys** to mark the preferred language.
- > Press **OK** to store this selection in memory.
- > Press **Back** to return to the **Main Menu**.

6.2 Basic settings

To gain optimum enjoyment from your DVB receiver, you should still make some settings related to your individual preferences.

- > Press the **Menu key** to call up the **Main Menu**.
- > Use the **up/down arrow keys** to mark the entry **Settings**.
- > Confirm by pressing **OK**. The sub-menu Settings will be displayed. (Fig. 6-2)
- > Now use the **up/down arrow keys** to mark the entry **Basic Settings**.
- > Confirm by pressing **OK**. The menu Basic Settings will be displayed. (Fig. 6-3)
- > Use the **up/down arrow keys** to move the marker around within the menu, and to change any of the individual positions. When selecting a menu item, please note any additional messages displayed on screen.

The following settings may be made:

6.2.1 Time difference GMT (hours)

Your unit is equipped with a clock. This is synchronized via satellite with Greenwich Mean Time.

If you have selected the entry None under the heading Country (Point 6.2.3), you can simply set the unit clock to the correct local time by means of the right/left arrow keys. For Germany, this difference is +1 hour on standard time, and +2 hours during daylight savings time.

6.2.2 Country

This function provides for an automatic switch-over from standard to daylight savings time.

- > Go to the entry Country and use the **left/right arrow keys** to select your country of residence.

6.2.3 Remote control code

In this line you must decide whether your receiver should be allocated the remote control option SAT1 or SAT2.

- > To make the selection, press the **SAT1** resp. **SAT2** key and the **OK** key simultaneously. Press the **Back** key to return to the menu **Settings**, or press Menu to return to normal operation. The settings will be automatically stored in memory.

6.2.4 Standby clock

In this line you must decide whether the clock time should be displayed when the unit is in standby mode.

- > In this line, you can use the **left/right arrow keys** to set the standby clock mode to on or off.



(Fig. 6-2)



(Fig. 6-3)

- > Press **Back** to return to the menu **Settings**, or press **Menu** to return to normal operation. The settings will be automatically stored in memory.

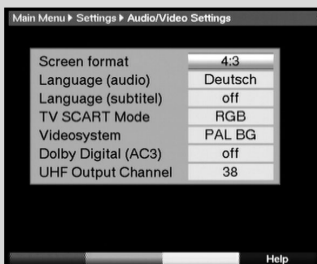
6.3 Audio/Video settings

To optimize your digital receiver in conjunction with your television set, you can make further settings in the menu **Audio /Video settings**.

- > Press the **Menu key** to display the **Main Menu**.
 - > Use the **up/down arrow keys** to mark the line **Settings**.
 - > Confirm by pressing **OK**. The sub-menu **Settings** will be displayed. (Fig. 6-4)
 - > Now use the **up/down arrow keys** to mark the line **Audio/Video settings**.
 - > Confirm by pressing **OK**. The menu **Audio/Video settings** will be displayed. (Fig. 6-5)
 - > Use the **up/down arrow keys** to move the marker around within the menu, in order to change the settings as indicated. Please also note the messages displayed on screen in some cases.
- The following adjustments may be made:



(Fig. 6-4)



(Fig. 6-5)

6.3.1 Picture format TV set


- > Use the **left/right arrow keys** to select the picture format appropriate for your TV set, 4:3 or 16:9. This function automatically adjusts the picture format for your television set.

6.3.2 Language (Audio signal)

- > In this line, use the **left/right arrow keys** to select your preferred language. This function will automatically select the preferred language, where available, after a programme scan.

6.3.3 Language (Sub-titles)

The DVB receiver is equipped to display sub-titles on screen. These will be displayed automatically if the function **Sub-titles** has been activated, and if the sub-titles are being broadcast in the language selected.

If the function has not been activated, sub-titles can be activated manually. Sub-titles are indicated by the symbol  in the information box. Please also note Point 7.13 of the operating manual.


6.3.4 TV SCART mode

In this line, use the **left/right arrow keys** to select the appropriate mode for your TV set, either **CVBS** or **RGB**. The setting for standard sets is **FBAS**.

6.3.5 Video system

In this line you must set the appropriate television broadcast standard for your television set. Use the **left/right arrow keys** to select **PAL BG, PAL I, PAL DK, SECAM BG or SECAM DK**.

6.3.6 Dolby Digital (AC3)

A number of movie films are broadcast in the Dolby Digital format. This will be indicated by the dolby symbol () in the information window once you have saelected the programme.

If you have a Dolby Digital 5.1 channel amplifier, you can enjoy the appropriate films in 5.1 channel Dolby-Digital sound, where broadcast. The only pre-requisite is that the Audio Out Digital output of your DVB receiver (see Point 4.5.2) must be connected to the digital input of your Dolby Digital 5.1 channel amplifier.

Where a programme is being broadcast in Dolby Digital sound, the Dolby logo will appear in the information window when the programme is selected. If the function Dolby Digital (AC3) has been activated (on), therse broadcasts will automatically be presented in Dolby Digital format.

If the function has not been activated (off), Dolby Digital sound can also be selected manually. Please also note Point 7.5.1 of the operating manual.

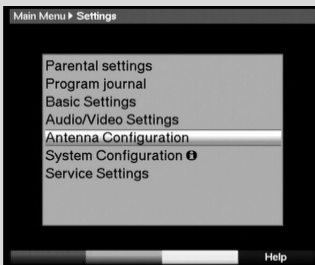
6.3.7 UHF output channel

To set a suitable UHF channel, proceed as follows:

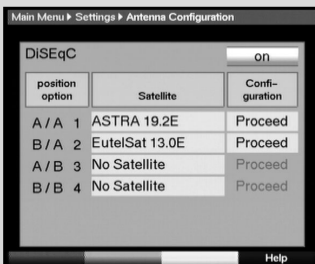
- > On your television set, select a free (unallocated) UHF channel in the range of **21 to 69**.
- > Now use the **left/right arrow keys** to set the new output channel of your digital receiver. The digital receiver is now sending data on the UHF channel shown in the display. Should reception not be satisfactory on this channel, repeat the procedure until you find a satisfactory channel.
- > When you have found an optimal UHF channel, please remember to store this in the memory of your television set.
- > If your television set is equipped only with an automatic scan function, simply set any UHF channel on your digital receiver, then start the automatic scan of your television set. You may have to repeat this procedure until you find a suitable output channel, which you should then store in the memory of your television set.
- > It may then be necessary to perform fine tuning on your television set.



(Fig. 6-6)



(Fig. 6-7)



(Fig. 6-8)

6.4 Antenna settings

When you have completed adjusting the settings of your digital receiver to your individual preferences, you can then, if you like, adjust the antenna settings of your digital receiver. The satellites selected by means of the installation assistant will be displayed in the menu Antenna settings. If the installation assistant was prematurely aborted, the satellite positions ASTRA and EUTELSAT are pre-programmed ex factory. If you would also like to receive other satellites, or if you are using a different type of LNC, you can make the appropriate settings on your digital receiver as follows:

- > Press **Menu** to call up the **Main Menu**. (Fig. 6-6)
- > Use the **up/down arrow keys** to mark the item **Settings**.
- > Confirm by pressing **OK**.
The menu Settings will be displayed. (Fig. 6-7)
- > Now use the **up/down arrow keys** to mark the item Antenna settings.
- > Confirm by pressing **OK**. The menu **Antenna settings** will be displayed. (Fig. 6-8)

The following settings may be made in this sub-menu:

6.4.1 Switching DiSEqC on and off

DiSEqC (Digital Satelliten Equipment Control) is a digital switching system used to control DiSEqC-compatible components via the antenna connection. If your external unit is equipped with DiSEqC components, you must activate the DiSEqC control function:

- > In this line, use the **OK** key to switch **DiSEqC on** or **off**.
As only a single LNC can be controlled when the DiSEqC control function is switched off, the menu is limited to the configuration of a single LNC.

6.4.2 Setting the switching matrix

The menu lists the four switching criteria of the DiSEqC control function. Your unit has been pre-programmed at the factory to receive ASTRA at the switching position A/A and Eutelsat at the position B/A of a multi-switch. If the switching matrix of your reception installation be set up differently, or if it is set up to receive other satellites, you can adjust the settings of your digital receiver in accordance with the requirements of your reception installation as follows.

- > Use the **arrow keys** to select the DiSEqC switch position (1-4) to which you wish to allocate a satellite (e.g.. A/B 3 No Satellite), by marking this line.
- > Confirm by pressing **OK**.
A table showing a number of different satellites will be displayed.

- > Use the **up/down arrow keys** to mark the satellite required.
Use the **up/down arrow keys** to move the marker up or down one line at a time. Use the **left/right arrow keys** to move forward or back one page at a time.

If the satellite you are looking for is not shown in the list, please select one of the reserve slots, marked **User 1 to User 14**.

- > Confirm by pressing **OK**. The selected satellite will now be inserted at the previously selected position in the menu **Antenna settings**.

Continue to work in the menu Antenna settings in this manner until the settings in this menu correspond fully with those of your reception installation. Select the option No Satellite for any switching criteria not required.

6.4.3 Additional settings/LNC characteristics

When you have completed adjusting the switching matrix of your DVB receiver to match the reception installation, you should check the additional settings for your reception installation, and adjust them where necessary.

- > Use the **left/right arrow keys** to move the marker to the column **Configuration**.
- > Now use the **up/down arrow keys** in the line in which you want to check or adjust the settings, and press Next.
- > Confirm by pressing **OK**.
A sub-menu will be displayed in which you can adjust LNC settings, and set up a test transponder.

(Fig. 6-9)

The following adjustments may be made:

LNC type

- > In this line use the **left/right arrow keys** to enter the type of LNC you are using. You can choose from **Single LNC, Quatro LNC, DisiCon 1 LNC, DisiCon 2 LNC, DisiCon 4 LNC, C-Band LNC** and a **User LNC** for manual entry of LNC data.
- > Press **OK** to accept the setting into memory.

Test Transponder

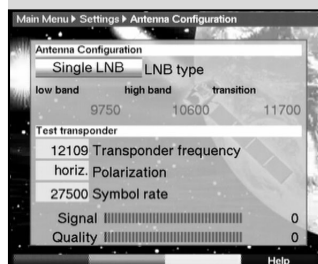
The following points of this menu need only be entered if you wish to check the satellite signal of a particular satellite.

Transponder frequency

In this line, use the **numeric keys** to enter a frequency on which digital programmes are broadcast.

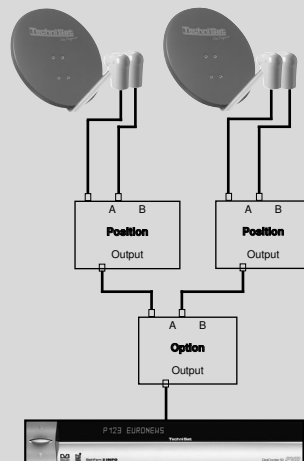
Polarisation

Use the up/down arrow keys to select the appropriate polarisation plane (**horizontal** or **vertical**).



(Fig. 6-9)

Example:



Symbol rate

The symbol rate indicates the volume of data transmitted per second. This could be, for instance, 27500 (27500 symbols per second). Use the **numeric keys** to enter the appropriate symbol rate.

User LNC

If you have entered **User LNC** as the DiSEqC type, you can make additional settings:

LOF low band

LOF (Local oscillator frequency) is the frequency at which the LNC converts the frequency received into the so-called 1. interim frequency, which can then be received by the digital receiver. So-called Universal LNCs employ 2 LOFs to cover the entire reception range from 10,7 to 11,8 GHz (low-band) and 11,7 to 12,75 GHz (high-band).

> In this line, use the **numeric keys** to enter the LOF of the low band of your LNC.

LOF high band

> In this line, use the **numeric keys** to enter the LOF of the high band of your LNC.

Transition LOF low/high

> In this line, use the **numeric keys** to enter the frequency at which your LNC switches from the low band to the high band.

> Press **OK** to accept the settings into memory.

Signal/Quality

If you have entered the parameters of the test transponder correctly, you will see in these lines indicators showing signal strength and signal quality.

6.4.4 Rotary antenna

When operating the digital receiver in conjunction with a rotary antenna equipped with a **DiSEqC compatible motor** (Level 1.2), activate the DiSEqC control (Point 6.4.1) by setting it to on and please note **Point 9** of the operating manual.

7 Operation

7.1 Switching on and off

- > Switch the digital receiver on by pressing the **On/Standby key** either on the unit or on the remote control.
- > Press the same key again, either on the unit or on the remote control, to switch the receiver off.
- > The receiver is now in standby mode. If this feature has been activated (as described in Point 6.2.4) the current time will be shown in the display. If the current time is not shown, this must still be

downloaded to the receiver. To do this, switch the unit on and switch to reception of a major channel, such as ZDF, that broadcasts a time signal, for about 30 seconds, to acquire the current time automatically.

7.2 Programme selection

7.2.1 Using the programme up/down keys

- > Use the **programme up/down keys** either on the unit or on the remote control to move up or down by one programme slot at a time.

7.2.2 Using the numeric keys

- > Use the **numeric keys** to enter the desired programme number.

For example:

- 1 for programme slot 1
- 1, then 4 for programme slot 14
- 2, then 3, then 4 for programme slot 234

When entering programme numbers of more than one digit, you have approx. 3 seconds time after pressing a key to complete the entry.

If you wish to enter a number consisting of only one or two digits, you can speed up the switching procedure by holding down the key a little longer on the last digit.

7.2.3 Using the Navigator (Programme list)

- > Press **OK**.
The programme list navigator will be displayed. In TV mode, only TV programmes will be shown, while only radio programmes will be shown while in Radio mode. The currently selected programme will be highlighted. (Fig. 7-1)
- > Now, use the **up/down arrow keys** to mark the selected programme.
- > Press **OK** to switch reception to the desired programme.
- > Use the **up/down arrow keys** to move around the list one programme slot at a time.
- > Use the **left/right arrow keys** to move around the list one page at a time.

7.2.3.1 Selecting a list

To facilitate the finding of programmes, your receiver is equipped with several programme lists. You have the choice of selecting your Favourites list (see Point 8.1), or you can use the alphabetically sorted Total list, or you can view a list sorted by Providers.



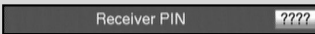
(Fig. 7-1)



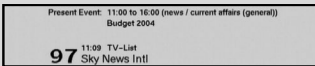
(Fig. 7-2)



(Fig. 7-3)



(Fig. 7-4)



(Fig. 7-5)

- > Press **OK**. The active programme list will be displayed.
- > Now use the **red** function key **Category** to open a window displaying the programme list types (**Favourites list, Providers list and Total list**). The active type of programme list will be highlighted. (Fig. 7-2)
- In addition, the entry Hard drive recordings will be shown, allowing you to access the hard drive navigator (Point 7.15.2).
- > Use the **up/down arrow keys** to select a programme list type, e.g. Total list.
- > Confirm by pressing **OK**.
- The alphabetically sorted total list will be displayed, containing all programmes. (Fig. 7-3)
- > Use the **up/down arrow keys** to select the programme you wish to view or listen to.
- > Confirm by pressing **OK**.
- or
- > Press the **green** function key **PVR** to go directly to the hard drive navigator.

7.2.4 Accessing blocked programmes

If a programme is selected that is blocked by the parental control function, the message Unit PIN will be displayed on screen. (Fig. 7-4)

- > Use the **numeric keys** to enter your PIN code. The selected programme can now be viewed.

or

- > Switch to a programme whose access is not blocked. If you have selected the option **on** under Point 8.3.2, you will always be prompted to enter the PIN code when switching to a blocked programme. However, in order to make matters more convenient for you, you need enter the PIN code only once in each operating phase.

7.2.5 Information box

Each time you switch programmes, an information box (Fig. 7-5) will be displayed briefly, showing the programme number and name of the selected programme. In addition, some programme characteristics will be indicated, for example **txt** for teletext, **16/9** for a 16/9 broadcast, **sub** for sub-titles, **enc** for encrypted programmes. Also, where provided, the EPG category and the FSK age restriction in Germany (Freiwillige Selbstkontrolle der Filmwirtschaft) will be indicated.

7.3 Reception of encrypted programmes

Your receiver is equipped with a "Common Interface". This enables you to receive encrypted programmes. To do this, you must first insert a CI module together with a valid smart card into the slot provided:

- > Insert the CI module into the slot.
- > Insert the smart card into the card slot of the CI module. Note that the gold-coloured chip of the smart card should be on the upper surface of the card, and pointing in the direction of insertion.
- > If an encrypted programme is now selected, your digital receiver will automatically check the card slot, and will display the programme in unencrypted form, provided a corresponding CI module and a valid smart card for this programme have been inserted.

Special functions

Some programme slots, e.g. Premiere (can only be viewed with a valid subscription!) offer certain special functions. For instance, multifeed channels allow you to view sports events transmitted from various locations (e.g. National League soccer), or you can select various sound channels (stadium/commentary), or you can select different camera perspectives at a particular event (e.g. Formula 1 racing).

Also, some channels allow you to select a starting time for particular films you may wish to view.

7.3.1 Multifeed options

Some programmes provide a multifeed option. This function allows you to select from among several camera viewpoints in the case of sports coverage (e.g. Formula 1), or of choosing one of several sports locations (e.g. National League soccer).

Where a programme provides multifeed options, this is indicated on screen (Fig. 7-6).

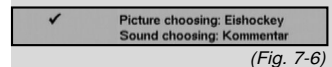
- > To select one of the options available, press the key **Option**.
A window will be displayed, indicating the options available. (Fig. 7-7)
- > Use the **up/down arrow keys** to select the preferred option.
- > Confirm by pressing **OK**.
Your digital receiver will now display the selected option.

7.3.2 Selecting a starting time

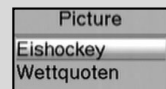
Some channels provide the option of viewing movies at different starting times. These movies can thus be viewed around the clock at different starting times, according to your preference.

Where a channel provides a choice of starting times, this will be indicated on screen (Fig. 7-8).

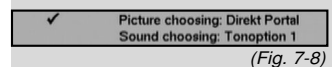
- > To select one of the starting times available, press the key **Option**.
A window will be displayed, indicating the starting



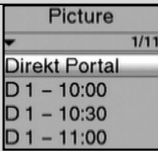
(Fig. 7-6)



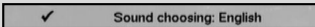
(Fig. 7-7)



(Fig. 7-8)



(Fig. 7-9)



(Fig. 7-10)



(Fig. 7-11)

times available (Fig. 7-9)

- > Use the **up/down arrow keys** to select the preferred starting time.
- > Confirm by pressing **OK**.
Provided the movie has been authorised for the selected starting time, you can enjoy the programme at the desired time.

7.4 Volume control

You have the option of adjusting the volume of your digital receiver. This makes using your receiver even more convenient, since all important functions are combined on the receiver remote control, and you will only rarely need to use the remote control of your television set. When you switch on the digital receiver, the volume will be set to the level last selected.




- > Adjust the volume of your receiver by using the **keys Volume +** to increase the volume and **Volume -** to reduce the volume.
- > Press the key **Sound on/off** to switch off the sound (mute), press the same key again to switch the sound on again.

7.5 Selecting another language

Where a programme is broadcast in several languages, or with several sound channels, this will be indicated on screen (Fig. 7-10). You can then proceed as follows to select another language or another sound channel:

- > Press the key **Language select**. A list of the languages currently being broadcast will be displayed on screen (Fig. 7-11).
- > Use the **up/down arrow keys** to select the preferred language, and confirm by pressing **OK**.

You can now listen to the programme in the desired language. Your digital receiver is also equipped to receive mono broadcasts.

- > Use the **left/right arrow keys** to select from Mono channel 1 () , Mono channel 2 () and Stereo () .

7.5.1 Dolby Digital (AC3 mode)

Where a programme is broadcast in Dolby Digital sound, this will be indicated by the Dolby logo in the information box when you switch to the appropriate programme. If the function Dolby Digital (AC3) has been activated in accordance with Point 6.3.6, the programme will automatically be presented in this format.

If you have not activated the function **Dolby Digital (AC3)**, you can set the unit to AC3 mode manually as follows:

- > Press the **Language Select key**. Where available, a list will now appear on screen showing the currently available languages as well as **Dolby Digital (AC 3)**.
- > Use the **up/down arrow keys** to select the line Dolby Digital.
- > Confirm by pressing **OK**.

You can now enjoy the programme in Dolby Digital sound. If you would like your receiver to present programmes in Dolby Digital automatically, set the unit to automatic AC3 reproduction as described in Point 6.3.6.

7.6 TV/Radio switching

The pre-programming includes radio as well as TV programmes.

- > Use the **TV/Radio key** to switch the digital receiver to Radio mode. The receiver will switch to the radio programme last selected.
- > Press the **TV/Radio key** again to revert to the TV programme last selected.

7.7 Revert to last programme selected

- > Press the **Back key** on the remote control to view the last programme viewed previously.
- > Press the key again to revert to the programme selected before that, i.e. originally selected.

7.8 Display time and programme information

This function allows you to view programme information related to the programme currently being viewed.

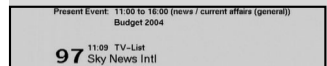
- > Press the **Info key** to display information related to the current programme (Fig. 7-12).

The lower half of the screen will now show the current time, the name of the channel selected, the name of the current programme including the starting and ending time, where provided by the programme provider.

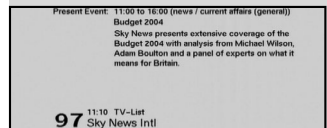
7.9 Additional programme information

Where broadcast, the function Programme Information allows you to receive additional information related to the programme selected.

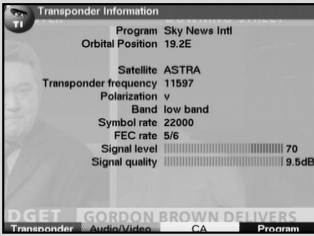
- > Press the **Info key** twice to open an additional information window (Fig. 7-13). More detailed information related to the current programme will be displayed.
- > You can scroll through lengthy texts by using the **left/right arrow keys** to move the text one line at a time.
- > Where provided, pressing the **Info key** again will display information related to the following programme.
- > Press the Info key again to close the additional window.



(Fig. 7-12)



(Fig. 7-13)



(Fig. 7-14)

7.10 Transponder information

- > Press **OK** to call up the navigator.
- > Use the **arrow keys** to mark the programme for which you wish to view the data.
- > Press the **Option key** to display the data of the transponder selected (Fig. 7-14).
- > Use the coloured function keys to also display **Audio/Video information, Programme information,** and, where appropriate, information on the **encryption system** used (CA).
- > Press Menu to exit from this display.

7.11 Freeze frame

- > Press the **Freeze frame key** to freeze the current television picture.
- > Press the same key again to revert to normal operation.

7.12 Teletext

7.12.1 Using the teletext decoder of your television set

Where broadcast, the teletext is transmitted to your television set. To operate video text functions, use the remote control of your television set. If you experience problems on your television set, e.g. an overlay of video text over the picture content, you should change the setting of your digital receiver to FBAS mode (Point 6.3.4).

7.12.2 Using the internal video text decoder

Alternatively, you may use the integrated TOP teletext decoder to display the information. The TOP teletext system groups all text pages thematically in groups and blocks, making use of the function more easy and convenient.

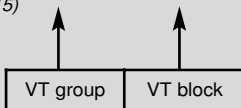
- > Switch to the programme on which you wish to view video text information.
- > Display the **teletext** by pressing the teletext key (Fig. 7-15).
- > Use the **numeric keys** to enter the desired teletext page. Your selection will be displayed in the upper left-hand corner of the screen. When you have entered the desired teletext page number, your receiver will search for this page.

As not all teletext pages can be transmitted simultaneously, it may take a few seconds for the receiver to find the page and display it on the screen.

All teletext providers use page 100 to show their index of contents.



(Fig. 7-15)



- > Use the **red** and **green function keys** respectively to page forward or back one page at a time.
- > Press the **yellow function key** to display the teletext group indicated in the yellow field.
- > Press the **blue function key** to display the teletext group indicated in the blue field.


Mixed mode

- > Press the **teletext** key again to switch to mixed mode (simultaneous display of teletext information and TV picture).
- > Press this key again to revert to normal operation.

Stop mode

- > Press the **Freeze frame key**, and the message "Stop" will appear in the upper left-hand corner of the video text window. This stops the automatic paging function of the teletext sub-pages. Press the **Freeze frame key** again to remove the stop function.
- > Press **Back** to revert to normal operation.

7.13 Sub-titles

Where sub-titles are broadcast, this will be indicated by the symbol  in the information window. If you have activated the function **Sub-titles** (in accordance with Point 6.3), and if they are being broadcast in the language selected, the sub-titles will be displayed automatically.

If sub-titles are only being broadcast in other languages, or if they are being broadcast only via video text, you can activate the function manually as follows.

- > Press the **Option key** (this may require repeated pressing), until the heading **Sub-titles** shows a table with the sub-title languages broadcast, and/or the video text pages carrying sub-titles.
- > Use the **up/down arrow keys** to mark the desired language/video text page.
- > Confirm by pressing **OK**. The sub-titles will now be displayed.

Please note that these functions are only available when sub-titles are actually being broadcast. This setting is not stored in memory when programmes are switched.

7.14 Electronic Programme Guide SFI (SiehFern Info)

Your digital receiver is equipped with an electronic programme guide. This allows you to access the programme information of one or more programmes and view them on screen. You can very quickly obtain an overview of the programmes currently available, the programmes of the day, or the programmes of the following days.

The SFI functions allow you to:

- display information on programme contents on screen
- mark selected programmes which will be switched on automatically at the starting time
- programme timers
- search for programmes according to type (genre), and to select them for viewing.

7.14.1 Downloading SFI data

The programme information is updated at the time set on your receiver in accordance with Point 8.2 (SFI channel). This can only take place when your unit is in standby mode. The downloading procedure is indicated by the message **Load SFI** in the display. If your receiver is in operating mode at this time, the download function will not be carried out. You may also start the download procedure manually. First switch off the receiver (display shows "Standby"), then press the **SFI key**. During the download procedure, the display will show **Load SFI**, followed by an indicator of the SFI data downloaded so far (e.g. 38%).

The duration of the download procedure depends on the number of programmes available. Programmes can be shown for up to seven days in advance. However, because of the volume of data, this period is reduced the more programmes are included in the electronic programme guide.

You can decide for yourself, which programmes should be included in the electronic programme guide. These can be included as described under Point 8.1.5.

7.14.2 Interrupting download procedure

You can interrupt the download procedure by switching on the digital receiver (**On/Standby key**). The data from the previous SFI update will continue to be available.

7.14.3 Accessing electronic programme guide

- > Switch on both the digital receiver and your television set.
- > Press the **SFI key** on the remote control of the digital receiver.

The electronic programme guide will be displayed on screen (Fig. 7-16). The display will show either the current programmes of the channels selected by you, or those included in the ex factory pre-programming (see also **Point 8.2**). You can now use the SFI function to obtain information on the contents of various programmes.

You can also use the SFI functions to select a programme for viewing, to mark a programme for later viewing, or to include it in timer programming.



(Fig. 7-16)

7.14.4 Now (table with current programme contents)

Initially, the SFI table **"Now"** (Fig. 7-16) will be displayed, showing programmes currently being broadcast. The yellow bar to the right of the programme name indicates the elapsed broadcast time of the current programme. The programme currently selected is highlighted.

- > Use the **up/down arrow keys** to move the marker one line at a time. Use the **left/right arrow keys** to move the marker one page at a time (paging).
 - > You can now utilise the SFI functions (Point 7.14.3).
 - > Press the **yellow function key** to move to the SFI table **"Next"** (See Point 7.14.5)
- or
- > press the **TV/Radio key** to revert to normal operation.

7.14.5 Next

- > Use the **yellow function key** to display the table **"Next"** (following programmes) (Fig. 7-17).
 - > All the SFI functions are available (Point 7.14.3).
 - > Press the **yellow function key** to move to the SFI table **"More"** (Point 7.14.6)
- or
- > Press either the **green function key** or the Back key to revert to the previous SFI table **"Now"**
- or
- > Press the **TV/Radio key** to revert to normal operation.

7.14.6 More

- > By pressing the **yellow function key** again while the SFI table **"Next"** is displayed you can move to the SFI table **"More"**. (Fig. 7-18)
This table displays an additional time window in the title line. This time window shows the current time of the SFI table displayed.
- > Press the **yellow function key** to page further through the programme in the time steps indicated in the **yellow colour bar**.
- > Keep the **yellow function key** pressed down to continue paging. A clock will be displayed to facilitate the search.
Press the **green function key** to page backwards through the tables.
The individual days of the week are shown along the bottom of the screen. If information relating to the following days is available, the appropriate fields will be highlighted.
- > To display a preview for a particular day, press the appropriate **numeric key**.



(Fig. 7-17)




(Fig. 7-18)

- or
- > Press the numeric key “0” to go to the PVR navigator. Press **Back** to return to the table “Next”.

7.14.7 SFI functions

To utilise the following SFI functions, call up the **SFI** as described in Point 7.14.3.

7.14.7.1 SFI Info

The function **SFI Info** allows you to display a biref information on the programme or channel selected. Where SFI information is available, this will be indicated by the symbol  next to the appropriate programme.

- > Use the **arrow keys** or the **function keys** to mark the desired programme.
- > Press **SFI** to display the information. You can scroll or page through lengthy texts by means of the **arrow keys**.
- > Press **Back** to revert to the previous table.

7.14.7.2 SFI timer programming

The electronic programme guide SFI can be utilised to facilitate easy programming of timer events.

- > Use the **arrow** or the **function keys** to mark the desired programme.
- > Press the **Record key** to programme a **Hard drive timer** (see Point 7.15.1.2) for the selected programme.

or

- > Press the **red function key Timer** to open a selection window.
- > Use the **up/down arrow keys** to select the desired **Timer type** (see Point 7.15.1.2).
- > Confirm by pressing **OK**.
For monitoring purposes, the menu **Timer management** will be displayed, showing the data related to the programme selected. Here you can enter any changes, if required (see 7.15.1.2).
- > Press **Back** to revert to the previous table.

The appropriate line has been marked. Depending on the timer type, your receiver will now be switched on at the starting time of the selected programme. If the unit has been switched on by the PVR timer, this will be indicated by

“● PVR Timer” shown in the display. Most of the remote control functions are disabled to prevent an accidental premature interruption of the recording.

When the unit is in standby mode, an active timer will be indicated by a clock symbol shown next to the time on the display.

Deleting an SFI timer event

- > If you wish to delete a timer event programmed via SFI, proceed as described above to mark the selected programme.
- > Press the **red function key** Timer to open a selection window.
- > Use the **up/down arrow keys** to mark the line **Timer delete**.
- > Confirm by pressing **OK**.
- > To delete an active timer, switch the digital receiver off by pressing the **On/Standby key**.
- > Press this key again to switch the receiver on, and revert to normal operation.

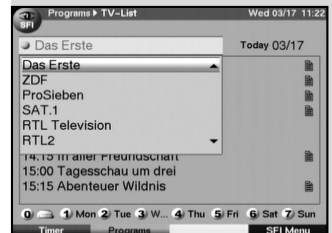
7.14.7.3 SFI programme overview

Use the SFI programme overview to display a table showing the current day's programme for a single channel. Proceed as follows:

- > Press the **SFI key**.
The SFI table "**Now**" will be displayed.
- > Press the **blue function key SFI Menu** to open a selection window.
- > Use the **up/down arrow keys** to mark the line Programmes.
- > Confirm by pressing **OK**. The current day's overview of the selected programme will be displayed. (Fig. 7-19)
- > Now use the **arrow keys** to move the marker to the desired time or programme.
The individual days of the week are shown at the bottom of the screen.
If information is available for the following days, the corresponding fields will be highlighted.
- > To display the programme content of a particular day, use the **numeric keys** to select the corresponding day.



(Fig. 7-19)



(Fig. 7-20)

Display SFI overview of other programmes

- > Press the **green function key Programmes**.
A list of SFI programmes will be displayed. (Fig. 7-20)
- > Now use the **arrow keys** to mark the desired programme.
- > Press **OK** to display the SFI overview of the marked programme.

7.14.7.4 SFI overview by programme type (genre)

If you are interested in particular types of programmes, you can have the programme information displayed in certain programme categories (genres), such as news, movies, etc..

- > Press the **SFI key** to display the SFI table "**Now**".



(Fig. 7-21)



(Fig. 7-22)

- > Press the **blue function key SFI Menu** to open a selection window.
- > Use the **up/down arrow keys** to mark the line Genres.
- > Confirm by pressing **OK**.
- > Use the **green function key Genres** to open a window showing the available programme categories. (Fig. 7-21)
- > Use the **arrow keys** to select the desired programme category, and confirm by pressing **OK**. An overview of the day's programmes will now be displayed, showing only programmes of the selected category. (Fig. 7-22)
- > Use the **up/down arrow keys** to move the marker to the desired programme.
- > Use the **left/right arrow keys** to move the marker one page at a time. The individual days of the week are displayed along the bottom of the screen. If information is available for the following days, the appropriate fields will be highlighted.
- > To display the programme content of a specific day, press the appropriate **numeric key**.

7.14.8 Exiting from SFI

- > Press either the **Menu key** or **TV/Radio** o revert to normal operation.

7.15 Hard drive operation

Your PVR receiver (**PVR=Personal Video Recorder**) is equipped with an integrated hard disk drive, so that you no longer require an external medium (e.g. video recorder) to make recordings. The recording capacity is dependent on the size of the hard drive, as well as on the volume of data of the broadcast material.

7.15.1 Recording

Several recording modes are available to record broadcasts on the hard drive.

1. Instant recording

Use this type of recording to immediately record the currently selected programme at the touch of a key.

2. Timer-controlled recording

If this function is selected, the digital receiver will be switched on resp. off for the selected programme, to record this on the hard drive in your absence. You can programme the timer manually, or you can do this automatically using the SFI function.

7.15.1.1 Instant recording

Start and end recording manually

Option 1:

- > Switch to the channel that carried the programme you wish to record.
- > Press the **Record key** to record the currently broadcast programme. You can continue to watch the programme on screen while the recording is in progress.
- > To interrupt the viewing of the current programme at a specific point, press the **yellow function key Play/Pause**. The picture on the screen will be frozen, while the recording will continue in the background.
- > To resume viewing the programme from this point onwards, again press the **yellow function key Play/Pause**. You will now view the remainder of the programme in a time-shifted mode compared to the live broadcast, while the recording will continue in the background (**Timeshift**).
- > To stop recording, press the **green function key Stop**.
The following prompt will be displayed on screen: "Do you wish to save the recording ?".
- > Use the **left/right arrow keys** to select Yes if you wish to save the recording on the hard drive, or **No** if you do not wish to save the programme.

Option 2:

- > If you have to interrupt viewing a programme, e.g. because of a phone call or the like, you can press the **yellow function key Play/Pause** to stop the playing of this programme, and start recording the programme at the same time. While the recording commences in the background, a frozen picture will appear on the screen.
- > To continue playing the programme from this point onwards, again press the **yellow function key Play/Pause**. You will now view the programme with a time shift relative to the live broadcast, while the current programme will continue to be recorded in the background (**Timeshift**).
- > To stop recording, press the **green function key Stop**.
A prompt will appear on screen "Do you wish to save the recording ?".
- > Use the **left/right arrow keys** to select either Yes, in order to save the recording on the hard drive, or **No** if you do not wish to save the recording.

Starting a recording manually and ending it automatically

- > Switch to the channel that will broadcast the programme you wish to record.
- > Press the **Record key** to record the current programme. The programme will continue to be displayed on the screen while the recording is running.
- > Press the **On/Standby key**
A prompt will appear on screen, asking you whether you wish to record the current programme to the end.
- > Use the **left/right arrow keys** to select Yes in order to record the current programme to the end.
- > Confirm by pressing **OK**.
The receiver will record the entire programme, and will then remain in standby mode.
- > If you switch on the receiver before the end of the recording procedure, please note the messages displayed on screen.

7.15.1.2 Timer recordings

You can use the hard drive timer to make recordings on the integrated hard drive in your absence. In addition, your digital receiver is equipped with a video recorder timer and a programme change timer. As far as the programming is concerned, the timer types differ only in their names.

You may programme the timers manually as described in this chapter, or with the help of the SFI function as described in Point 7.14.7.2.

1. Hard drive timer

This function will switch the digital receiver on and off for the selected programme, so that this can be recorded on the hard drive in your absence.

If the receiver was switched on by means of the hard drive timer, this will be indicated by “● PVR Timer” being shown on the display. Most of the remote control functions are disabled in order to prevent an accidental premature interruption of the recording. When the receiver is in standby mode, an active timer will be indicated by a clock symbol shown on the display.

2. Video recorder timer

Use the video recorder timer to switch the digital receiver on and off for a particular programme, so that this can be recorded on an external recorder, such as a video recorder, in your absence. Please note that you must programme your video recorder to record the programme.

If the receiver was switched on by the video recorder timer, this will be indicated by “● VCR Timer” being shown on the display. Most of the remote control functions are disabled in

order to prevent an accidental premature interruption of the recording. When the receiver is in standby mode, an active timer will be indicated by a clock symbol shown on the display.

3. Programme change timer

If your receiver is in normal operating mode, it will switch to the pre-selected programme slot at the designated starting time. In contrast to the hard drive or video recorder timers, the full functionality of the unit is not restricted, and the unit will not be switched off at the end of the programme.

Manual timer programming

- > Press the **Menu** key to call up the **Main Menu**.
- > Use the **up/down arrow keys** to mark the line **Timer organizing**.
- > Confirm by pressing **OK**.
The sub-menu **Timer organizing** will be displayed. (Fig. 7-23)
- > Use the **up/down arrow keys** to select the type of timer you wish to programme.
- > Press **OK**. A new window will be displayed, allowing you to enter the programming data for a new timer event. (Fig. 7-24)

To programme an event proceed as follows:

Source

- > Use the **arrow keys** to mark the column **Source**.
- > Press **OK**.
- > A selection window will be displayed. Use the **up/down arrow keys** to select the desired source (TV or Radio).
- > Confirm by pressing **OK**.
Depending on the previous setting, either the TV or the radio programme list will now be displayed.
- > Use the **arrow keys** to mark the desired programme.
- > Use the **up/down arrow keys** to move the marker around the list one line at a time.
- > Use the **left/right arrow keys** to move back-ward or forward in the list one page at a time.
- > Press **OK** to accept the selected programme into the timer.

Date

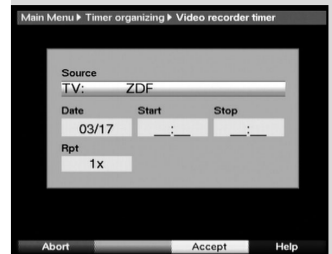
- > Use the **arrow keys** to mark the column **Date**.
- > Use the **numeric keys** to enter the date (4 digit form) of the timer event.

Start

- > Use the **arrow keys** to mark the column **Start**.
- > In this line, use the **numeric keys** to enter the starting time for the timer.



(Fig. 7-23)



(Fig. 7-24)

Stop

- > Repeat the steps as set out under “Start” to enter the stop, or ending time (except for programme change timer).

Repeat

- > Use the **arrow keys** to mark the column **Rpt.**
- > Press **OK**.
A selection window will be opened, showing various suggestions for repeats.
 - 1x** Timer on once
 - T** Daily repeat
 - 1 W** Repeat once a week
 - 1-5** Repeat only on workdays
 - 6-7** Repeat only on weekends
- > Use the **up/down arrow keys** to select the desired function.
- > Press **OK** to accept the setting into memory.

Accepting data into memory

- > When you have completed the programming, press the **yellow function key Accept**, to accept the data into memory.
If under the heading **Programme** you have selected a programme that is blocked in terms of Point 8.3, you will first have to enter the PIN code before the data will be accepted into memory.
- > Press the **TV/Radio key** to revert to normal operation.

Timer overview

The timer overview allows you to see at a glance all the timer events already programmed.

- > First call up the menu **Timer management** as described above to go to the menu Timer overview.
- > Use the **up/down arrow keys** to mark the line **Timer overview**.
- > Confirm by pressing **OK**.

If there are overlaps between timer events, these overlaps will be highlighted in red.

Changing timer programming

- > To change an existing timer setting, use the **up/down arrow keys** to mark the timer event you wish to change.
- > Press the **yellow function key Change** to go to the settings of the marked timer. Proceed to make the changes as set out in Point 7.15.1.2.
- > When you have completed the programming, press the **yellow function key Accept** to accept the data into memory.

Deleting timer programming

- > To delete an existing timer setting, use the **up/down arrow keys** to mark the setting.
- > Press the **green function key Delete**.
A prompt will be displayed: "Do you really want to delete this timer?"
- > Use the **left/right arrow keys** to select Yes.
- > To delete the timer entry confirm by pressing **OK**.

Programming a new timer event

- > To programme a new timer event, use the **up/down arrow keys** to mark a free line in the menu **Timer overview**.
- > Press the **yellow function key New** to open a window for the programming of the new timer event. Now enter the data as described in **Point 7.15.1.2**.
- > Use the **up/down arrow keys** to mark the additional field **Type**.
- > Confirm by pressing **OK**. A window will be displayed, showing the available timer types.
- > Use the up/down arrow keys to select the desired timer type.
- > To accept the timer type into memory, confirm by pressing **OK**.
- > When you have completed the programming, press the **yellow function key Accept** to accept the data into memory.

Note!!!

Please ensure that the receiver has stored the current time in memory. This will be shown on the display when the unit is in standby mode. If this is not the case, switch your receiver on, and leave it tuned to a major channel such as ZDF that carries a time signal for approx. 30 seconds, so that the current time can be stored in memory.

If you have activated this function in terms of Point 6.2.4, the receiver should now show the current time on the display while in standby mode.

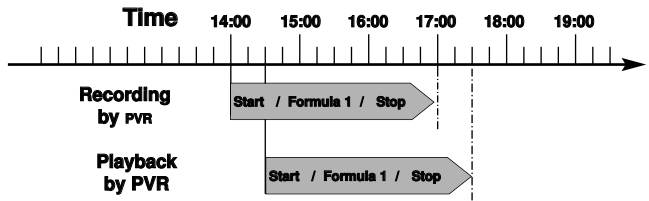
Timeshift function

The timeshift function provides the opportunity of simultaneous recording and playback. This means that you can now enjoy **timeshift television**. Thus, you can view the beginning of a recording, and decide to skip certain parts, such as advertising. At the same time the recording of the live signal continues (see examples below)

Example: Timeshift playback

You have missed the start of the Formula 1 race - no problem!

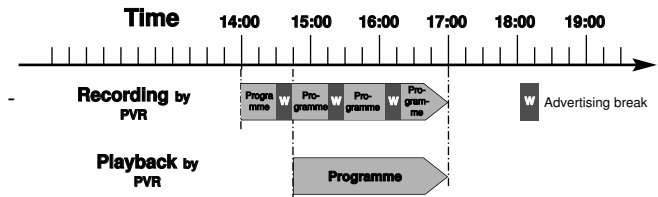
The PVR will show you the race at a later time (timeshift), while continuing to record the event.



Example: Skipping advertising blocks

You would like to view a programme without any irritating interruptions by advertising?

The PVR allows you to simply skip any advertising blocks recorded.



- > To facilitate going to a specific point of a **recording in progress**, you can use the functions **Play**, **Pause** as well as **Fast Search**, as described under Point 7.15.2.
- > Press the Info key to display the information box, showing a progress bar indicating the recording and playing time.

7.15.2 Play

You can access your hard drive recordings via either the hard drive or the PVR navigator.

7.15.2.1 Playing hard drive recordings

- > While the receiver is in normal operating mode, press the **green function key** to open the PVR navigator. Depending on whether you are in TV or Radio mode, a list will appear, showing either all the TV or all the Radio recordings available on the hard drive (Fig. 7-25). The marked recording will be played in the preview window.
- > Use the up/down arrow keys to select the recording you wish to play.
- > Confirm by pressing OK to start the playback. The message "Play ►" will appear briefly.



(Fig. 7-25)

7.15.2.2 Pause/Freeze frame

- > To pause during the playback of a recording (freeze frame), press the **yellow function key** while the unit is in Play mode. The message "Pause ▶II" will appear.
- > Press the **yellow function key** again to continue playing the recording from the same position.

7.15.2.3 Fast forward and Reverse

To locate a specific point in a recording, your PVR is equipped with functions for fast forward and reverse play.

- > While in Play mode, press the **blue function key Forward** or the **red function key Reverse**. The message will be displayed, either "Spool forward ▶▶" or "Spool reverse ◀◀". The recording will now be played at **4x speed** in the direction indicated.
- > If you press the **red resp. blue function keys** again, the speed will be increased to **16x**. The following messages will be displayed, either "Spool forward ▶▶▶" or "Spool reverse ◀◀◀".
- > If you press the **red resp. blue function keys** yet again, the speed will be increased to **64x**. The following messages will be displayed, either "Spool forward ▶▶▶▶" or "Spool reverse ◀◀◀◀".
- > Pressing the **red resp. blue function keys** yet again will allow you to spool forward or back in **10 minute steps**.
- > Once you have found the desired place in the recording, press the **yellow function key** to revert to normal Play operation.

7.15.2.4 Ending Play

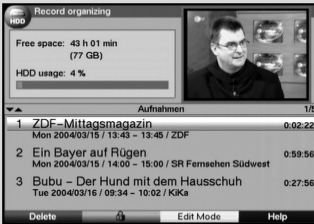
- > If you wish to stop playing a recording, press the **green function key**. The playback function is terminated and your receiver reverts to normal operation.

7.15.3 Managing the hard drive

- > Press the **Menu** key to display the **Main Menu**.
- > Use the **up/down arrow keys** to mark the line **Hard drive organizing**.
- > Confirm by pressing **OK**. The menu Hard drive organizing will be displayed. (Fig. 7-26)
- > Use the **up/down arrow keys** to move the markers around within the menu, and to change the various positions.



(Fig. 7-26)



(Fig. 7-27)

7.15.3.1 Managing recordings

In this menu (Fig. 7-27) you have the opportunity to manage your recordings.

- > Press **OK** to go to the sub-menu **Manage recordings**. A list will be displayed showing all the recordings on the hard drive.
- > Use the **up/down arrow keys** to mark the desired programme.

Delete

- > To delete the selected recording, press the **red function key Delete**.
- > Confirm the following message by pressing **OK**, to actually delete the recording.

Parental control

You can block access to recordings that are not suitable for children or adolescents. These recordings can then be played back only after entry of the 4-digit unit PIN code. For the parental control function to be active, it must be switched on as described in Point 8.3.

- > To block access to the marked recording, press the **green function key**. The selected recording will then be marked as blocked, indicated by the parental control symbol.

Editing

- > Press the **yellow function key Editing** to go to the menu related to editing of the marked hard drive recording.
- > Use the **coloured keys** to go directly to specific sections of the recording.
- > Press the **green function key** to open a window showing the available functions.
- > Use the up/down arrow keys to select the desired function, and confirm by pressing **OK**.

At the time of going to press for this manual, the complete range of functions in this menu was not yet finalised, it is therefore not possible to go into more detail in this regard. An updated version of this manual, reflecting the current functions, can be downloaded at a later stage from the Internet, at www.technisat.de.

7.15.3.2 Hard drive information

- > Press **OK** to display a window showing information on the integrated hard drive.

7.15.3.3 Hard drive management

- > Press **OK** to display an overview of the number of recordings made, and of the free space available. (Fig. 7-28)



(Fig. 7-28)

Monitoring the hard drive

- > To monitor the hard drive, use the **left/right arrow keys** to mark the field **Check**.
- > Press **OK**, then confirm the screen prompt displayed by pressing **OK** again to start the checking procedure. The status of the hard drive will now be checked, the result will be displayed on screen.

Formatting the hard drive

When the hard drive is formatted, the data system is replaced. This may become necessary if checking the hard drive reveals faults or problems.

Note!

The hard drive contents are deleted completely during formatting, all existing recordings will be lost.

- > To format the hard drive, use the **left/right arrow keys** to mark the field **Format**.
- > Press **OK** and confirm the following screen prompt by pressing **OK** again in order to start the formatting procedure.

Please note !

The receiver may be operated only with the built-in hard drive. Any other drive may damage the unit.

You should therefore not open the unit case, and replacement of the hard drive would invalidate all terms of the guarantee.

7.16 Sleep timer

- > Press the **Sleep timer key** repeatedly to set the switch-off time of the receiver from 30 minutes to 2 hours in 30 minute steps.
When the set time has elapsed the receiver will automatically switch to standby mode.

8 Changing basic programming

8.1 Configuring the Favourites list

This chapter describes how you can change the pre-programming of your digital receiver, as well as the Favourites list in line with your preferences. This function is also required to sort newly found programmes into the list after a programme scan.

You should note that your receiver is equipped with two programme lists, the Favourites list and the Total list. The Favourites programme list includes all programmes you have included in the list, following the procedure described below.

The Total list includes all programmes.

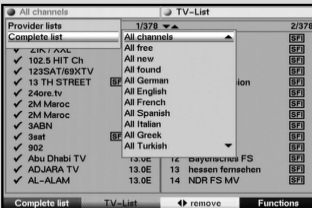
This chapter also describes how programmes can be deleted, how access can be blocked by means of the parental control



(Fig. 8-1)



(Fig. 8-2)



(Fig. 8-3)

function, and how programmes can be included in the EPG. When calling up the programme list by means of the **OK** key the Favourites programme list will be displayed.

8.1.1 Calling up programme list management

Proceed as follows to manage the Favourites list:

- > Press the **Menu** key to call up the **Main Menu**. (Fig. 8-1)
- > Use the **up/down arrow keys** to mark the line Manage TV lists, if you wish to work on the TV list, or Manage Radio lists, if you wish to work on the Radio list.
- > Confirm by pressing **OK**.

The programme list management will be displayed, allowing you to work on either the TV or Radio Favourites list. (Fig. 8-2)

The Favourites list will be displayed on the right half of the screen. This is active now that the currently selected programme has been marked. On the left side of the screen you can see the alphabetically sorted Total list.

This Total list includes all available programmes.

- > Press the red function key to move the marker to the Total list. This is now active.
- > Press the **red function key** again to open a selection window. Here you have the choice of sorting the Total list according to various selection criteria (e.g. all programmes, only free-to-air, all found, all new, all English-language, etc.) or you can sort it according to **Providers**.
- > Use the **up/down arrow keys** to select the desired programme listing (e.g. Total list).
- > Confirm by pressing **OK**.

An additional selection window will now be shown. (Fig. 8-3)

- > Now use the **up/down arrow keys** to select the selection criterion according to which the Total list is to be sorted. For instance, choose **All Programmes**, to display all available programmes in the Total list, or All new, to display only **the new programmes** found during the last scan, or **All English**, to display only English-language programmes.
- > Confirm by pressing **OK**.

Now, depending on your selection, a programme list will be displayed showing, for example, all programmes, all new or all English-language programmes. Programmes that are already included in the Favourites list are indicated by a tick sign.

- > Press either the **red function key Programmes** resp. the **green function key TV list** to switch between the Favourites list and the Total list. The currently active list is indicated by the blue highlighting.

8.1.2 Adding programmes to the Favourites list

To include programmes shown on the Total list in the Favourites list, proceed as described in Point 8.1.1 to call up the programme list management, and move to the Total list.

- > Press the **blue function key Functions**.
A selection window will be displayed, showing the available functions. (Fig. 8-4)
- > Use the **up/down arrow keys** to mark the line Add.
- > Confirm by pressing **OK**.
- > Use the **up/down arrow keys** to mark a programme that you wish to include in the list.
- > Press the **yellow function key Add** to add the marked programme to the Favourites list.

Marking blocks of programmes

To mark several programmes at a time, proceed as follows:

- > Press **OK** to go to selection mode.
The marked programme will be indicated by a cross on the left-hand side.
- > Use the **up/down arrow keys** to mark the following or previous programmes as well.
- > When you have completed marking the desired programmes, press the **yellow function key Add** to add the marked programmes to the Favourites list.

8.1.3 Deleting programmes

8.1.3.1 Removing (deleting) from the Favourites list

To remove programmes from the Favourites list, call up the programme list management as described in Point 8.1.1. The Favourites list will be active.

- > Press the **blue function key Functions**.
A selection window will be displayed, showing the available functions. (Fig. 8-5)
- > Use the **up/down arrow keys** to mark the line Remove.
- > Confirm by pressing **OK**.
- > Use the **up/down arrow keys** to mark a programme that you wish to remove from the list.
- > Press the **yellow function key Remove**.
The following prompt will be displayed on screen: "Remove programme(s) from list?".
- > Use the **left/right arrow keys** to select **Yes** or **No**.
- > Confirm by pressing **OK**.
- > To remove several programmes simultaneously, proceed as described in 8.1.2 (Marking blocks of programmes).
- > When you have completed marking the desired programmes, press the **yellow function key Remove**.



(Fig. 8-4)



(Fig. 8-5)

The following prompt will be displayed on screen: "Remove programme(s) from list?".

- > Use the **left/right arrow keys** to select **Yes** or **No**.
- > Confirm by pressing **OK**.

The programmes removed in this manner remain in the Total list, and can be included in the Favourites list again at any time.

8.1.3.2 Deleting from the Total list

To remove programmes from the Total list, proceed as described in Point 8.1.3.1. However, after calling up the programme list management, press the **red function key Programmes** first to go to the Total list, then select the function **Delete**.

8.1.4 Sorting programmes

To sort the order of programmes in the Favourites list according to your preferences, call up the programme list management as described in Point 8.1.1. You will find yourself in the Favourites list.

- > Press the **blue function key Functions**. A window will be displayed showing the functions available.

(Fig. 8-6)

- > Use the **up/down arrow keys** to mark the line **Sort**.
- > Confirm by pressing **OK**.
- > Now use the **up/down arrow keys** to mark the programme you would like to move to a different position in the list.
- > Now press the **yellow function key Sort**. A double arrow will be displayed next to the programme selected.
- > Now use the **up/down arrow keys** and/or the **numeric keys** to move the selected programme to the position in the programme list at which you would like to place it.
- > Press the **yellow function key Sort** to save the programme at the new position.
- > To sort several programmes simultaneously, mark these as described in 8.1.2 (Marking blocks of programmes).
- > Now press the **yellow function key Sort**. A double arrow will be shown next to the programme block selected.
- > You can now use either the **up/down arrow keys** or the **numeric keys** to move the marked block to the desired position in the programme list at which you wish to place it.
- > Press the **yellow function key Sort** to move the programme block to the new position, and store the position in memory.
- > When you have completed configuring the programme list according to your preferences, press the **Menu** key to revert to normal operation.



(Fig. 8-6)

8.2 Programming the electronic programme guide

To obtain a better overview, you can programme the electronic programme guide SFI in such a way that it contains only your favourite programmes.

Please note:

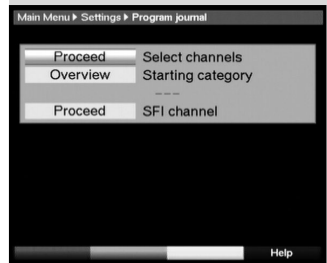
The more programmes are included in the electronic programme guide, the longer it will take to download the SFI data!

Also, the maximum possible programme preview of 7 days can often not be covered by the electronic programme guide if too many programmes are included.

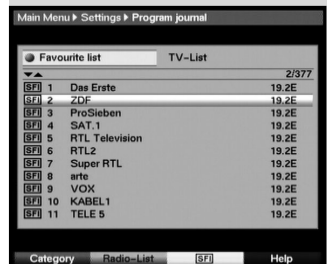
- > Press the **Menu** key to call up the **Main Menu**.
- > Use the **up/down arrow keys** to mark the line **Settings**.
- > Confirm by pressing **OK**.
The sub-menu **Settings** will be displayed.
- > Use the **up/down arrow keys** to mark the line **Programme guide**.
- > Confirm by pressing **OK**.
The menu Programme guide will be displayed. (Fig. 8-7)
- > Use the **up/down arrow keys** to move the marker around the menu, and to change the individual positions as indicated. Please note any on-screen messages that may appear when certain menu items are selected.

8.2.1 Selecting a programme

- > Press **OK**. The Favourites list of the currently selected mode (Radio or TV) will be displayed. The currently selected programme is marked. (Fig. 8-8)
- > Press the **green function key** to switch between the TV and Radio lists.
- > Press the **red function key** to open a selection window. Here you have the option of selecting the desired programme list type.
- > Use the **up/down arrow keys** to select the desired programme list type (e.g. Favourites list).
- > Confirm by pressing **OK**. The programme list selected will be displayed.
- > Use the **arrow keys** to mark a programme that you wish to include in the electronic programme guide.
- > Press the **yellow function key SFI** to include the marked programme in the electronic programme guide.
- > To include several programmes in the electronic programme guide simultaneously, mark these as described in 8.1.2 (Marking blocks of programmes).
- > When you have marked the desired programmes in



(Fig. 8-7)



(Fig. 8-8)

this manner, press the **yellow function key SFI** to include the marked programmes in the electronic programme guide.

- > Press the **Menu** key to revert to normal operation. You can now start the download procedure manually:
- > Switch off the receiver, using the **On/Standby key** (Standby).
- > Now, while "Standby" appears in the display, press the **SFI** key.
The receiver will now perform the download procedure. This will be indicated on the display by the message **Load SFI** followed by an indication of the SFI data downloaded so far.
- > The downloading procedure can be interrupted by switching on the digital receiver (**On/Standby** key).

8.2.2 Start category

The electronic programme guide features several display modes (categories).

Overview

This display mode provides a quick overview of all programmes included in the electronic programme guide.

Programmes

In this display mode, a table shows the current day's programme of a single channel.

Genres

If you are interested in particular types or categories of programmes, you can have the programme information displayed according to various genres, e.g. news, movies, etc..

Last used

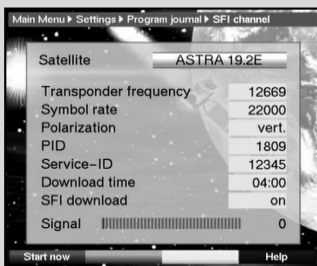
With this setting, when the SFI is called up it will always be shown in the display mode last selected.

- > In this line, use the **left/right arrow keys** to set the display mode you prefer when the electronic programme guide is called up.
- > If you select **Genres**, you can use the **arrow keys** to additionally select your preferred genre (e.g.. movies, news, shows, etc.).

8.2.3 SFI channel

Your receiver is equipped to receive a data channel with additional SFI data via the ASTRA satellite Systems (19° East). These allow an SFI preview up to one week ahead.

- > Press OK to call up the sub-menu SFI channel (Fig. 8-9).
- > To receive the data channel, mark the line **SFI update**.



(Fig. 8-9)

- > Press **OK** to select **On**.
- > In the line **Update time** use the **numeric keys** to set the time at which the automatic download of SFI data is to be carried out.
- > To start the download of updated SFI data manually, press the **red function key Start now**.

If you do not wish to receive the additional data, or if you cannot receive it because of your location, you can switch off the data receiving function:

- > Switch the item SFI update to off, to disable the data reception. Only the programme information provided by the programme providers themselves will now be available.

If the parameters of the data channel for downloading of the SFI data should be altered, you can correct them in this menu. The current transponder data can be obtained from specialist retailers. In the normal course of events you would not make any changes to this menu.

8.3 Parental control

Your unit is equipped with an access control function. This allows you to block key functions (e.g. calling up the main menu) from unauthorized access. In addition, programmes and recordings that you have blocked can only be accessed by means of a four-digit PIN code (unit PIN).

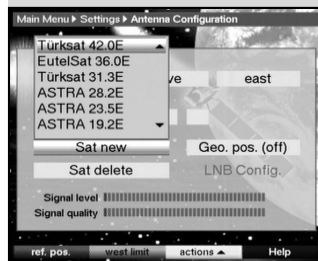
To configure the menu **Parental control** proceed as follows:

- > Press **Menu** to display the **Main Menu**.
- > Use the **up/down arrow keys** to mark the line **Settings**.
- > Confirm by pressing **OK**.
The sub-menu **Settings** will be displayed.
- > Use the **up/down arrow keys** to mark the line **Parental control**.
- > Confirm by pressing **OK**.
The menu **Parental control** will be displayed.
(Fig. 8-10)
- > Use the up/down arrow keys to move the marker around within the menu, and change the individual positions. When selecting a menu item please note any additional messages displayed on screen.

8.3.1 Changing the unit PIN

The unit PIN code is set at the factory to **0000**.

- > Press **OK** to display the menu used to change the unit PIN code. (Fig. 8-11)
- > Now use the **numeric keys** to enter the current unit PIN code (**Default setting 0000**).
- > Using the **numeric keys**, enter the desired new unit PIN code.



(Fig. 8-10)



(Fig. 8-11)

- > Repeat the code entry.
- > When you have completed changing the unit PIN code in this manner you will automatically be taken back to the Parental Control menu.


Note!

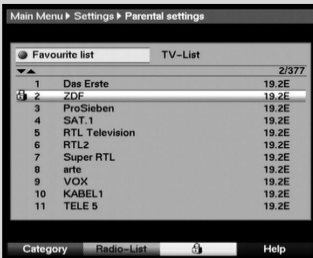
Do not forget your unit PIN code. If you should forget it, please consult your specialist retailer!

8.3.2 Mode

- > In this line, use the **left/right arrow keys** to select parental control **on** or **off**.

8.3.3 Selecting a programme

- > Press **OK**. The Favourites list of the current mode (TV or Radio) will be displayed. The currently selected programme is marked. (Fig. 8-12)
- > Press the **green function key** to switch between the TV and Radio lists.
- > Press the **red function key** to open a selection window. Here you have the choice of selecting the desired programme list type.
- > Use the **up/down arrow keys** to select the desired programme type (e.g. Favourites list).
- > Confirm by pressing **OK**. The programme list selected will be displayed.
- > Now use the **arrow keys** to mark the programme to which you wish to block the access.
- > Block the programme by pressing the **yellow function key**. The parental control symbol  will appear next to the programme selected.
- > To block several programmes simultaneously, mark these as described in Point 8.1.2 (Marking blocks of programmes) and block them by pressing the **yellow function key**.
- > When you have completed configuring the programme list according to your preferences, press the **Menu** key to revert to normal operation.
- > To reverse the blockage of individual programmes, proceed as described above. Mark the appropriate programme, and remove the parental lock symbol by pressing the **yellow function key**.



(Fig. 8-12)

8.4 Programme scan

As mentioned, your digital receiver has been pre-programmed for reception of the ASTRA and EUTELSAT satellites. To receive new programmes, or those of other satellites, various options are provided to preform a programme scan (search).

1. Automatic scan

Select this type of search mode to scan all satellites selected in the menu LNC Settings (Point 6.4 and 8.4) for programmes.

2. Satellite scan

Select this search mode to scan a selected satellite for programmes.

3. Transponder scan

Select this search mode to scan a specific transponder of a satellite for programmes.

4. Manual scan

Select this search mode to scan specifically for a particular programme, using the programme-specific PID numbers.

When the scan has been completed, a message will appear on screen indicating how many programmes your digital receiver has found, how many of these are new, and how many are encrypted. New programmes will be stored in the Total list, from where they can be included in the Favourites list, as per **Point 8.1**.

- > To perform a programme scan, first call up the **Main Menu**. (Fig. 8-13)
- > Use the **up/down arrow keys** to mark the line Scan.
- > Confirm by pressing **OK**.
The sub-menu **Scan** will be displayed. (Fig. 8-14)
- > Use the **up/down arrow keys** to select a search mode, and confirm by pressing **OK**.

8.4.1 Automatic scan

When this search mode is used, all the available satellites included in the menu LNC settings (Points 6.4 and 9.4) will be automatically scanned for programmes. You can select whether you wish to scan for all programmes (encrypted and free-to-air), or only free-to-air programmes. (Fig. 8-15)

- > Using the **OK** key, decide whether you wish to scan only for free-to-air programmes (**Free programmes**) or whether you want to include encrypted programmes (**All programmes**).
- > Confirm by pressing the **red function key Start scan**. The scan may take more than 15 minutes. Please note any on-screen messages displayed.



(Fig. 8-13)



(Fig. 8-14)



(Fig. 8-15)



(Fig. 8-16)

8.4.2 Satellite scan

UTo scan a specific satellite for programmes, select the option **Satellite scan** (Fig. 8-16). You can select whether you wish to scan for all programmes (free-to-air and encrypted) or only for free-to-air programmes.

- > Press the **OK** key again to open the selection table of active satellites.
- > Use the **up/down arrow keys** to mark the line All satellites to scan **all active satellites** for programmes, or mark the desired satellite to scan only this for programmes.
- > Confirm by pressing **OK**.
- > Use the **up/down arrow keys** to mark the field Scan mode.
- > Use the **OK** key to select whether you wish to scan only for free-to-air programmes (**Free programmes**) or whether you wish to include encrypted programmes (**All programmes**).
- > Press the **red function key Start scan**. The scan will be started. Please note any messages displayed on screen.
- > You can stop the scan at any time by pressing the **red function key**.

8.4.3 Transponder scan

You may scan a specific transponder (see Point 10 Technical terms) for programmes. To do this, you will have to enter the transponder data (Fig. 8-17).



(Fig. 8-17)

Satellite

In this line, select the satellite on which the desired transponder is located.

- > Use the **up/down arrow keys** to mark the line **Satellite**.
- > Press **OK** to display a table showing the active satellites.
- > Now use the **up/down arrow keys** to mark the desired satellite.
- > Confirm by pressing **OK**. The selected satellite will now be indicated in the line Satellite.

Transponder frequency

- > Use the **up/down arrow keys** to mark the line **Transponder frequency**.
- > In this line, use the **numeric keys** to enter the appropriate frequency.

Symbol rate

The symbol rate indicates the volume of data transmitted per second. A typical figure might be, for example, 27500 (27500

symbols per second).

- > Use the **up/down arrow keys** to mark the line **Symbol rate**.
- > Use the **numeric keys** to enter the appropriate symbol rate.

Polarisation

- > Use the **up/down arrow keys** to mark the line **Polarisation**.
- > In this line, use the **OK** key to enter the polarisation plane (**horizontal** or **vertical**) on which the desired programme is broadcast.

Scan mode

- > Use the **up/down arrow keys** to mark the line **Scan mode**.
- > Use the **OK** key to decide whether you wish to scan only for free-to-air programmes (**Free programmes**) or whether you wish to include encrypted programmes (**All programmes**).
- > Confirm by pressing the **red function key Start scan**. The scan will be started. Please note all messages displayed on screen.
- > You can terminate the scan by pressing the **red function key** again.

8.4.4 Manual scan

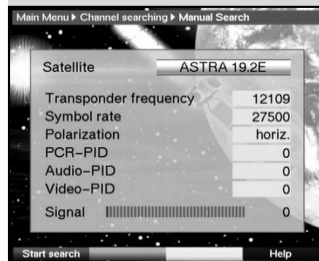
Should a programme not be found by an automatic scan or a transponder scan, it may be necessary to enter additional, programme-specific PID numbers for this programme. It may be necessary to look up these numbers on the Internet, or to obtain them directly from the appropriate programme provider.

The menu (Fig. 8-18) differs from the menu **Transponder scan** only with regard to the menu items **PCR-PID**, **Audio-PID** and **Video-PID**. There is no need to enter the scan mode.

- > Proceed as described for a transponder scan.
- > Then, using the **up/down arrow keys**, mark the lines **PCR-PID**, **Audio-PID** and **Video-PID**, and use the **numeric keys** to enter the appropriate numbers.

8.4.5 After the scan

While the scan is in progress, you can follow this on screen as the various transponders are scanned. When the scan has been completed, the number of transponders found, the number of programmes found as well as the number of new programmes found will be shown on screen. In addition, a prompt will appear (Fig. 8-19), asking whether you wish to include the programmes found automatically in the TV or Radio list. If you want to include the programmes automati-



(Fig. 8-18)



(Fig. 8-19)

cally, you can select whether to include them in the Favourites list in **sorted** or **unsorted** order.

Sorted

The programmes found will be sorted into the Favourites list in accordance with a pre-programmed list order. The order in which programmes are sorted will depend on the audio language was selected in Point 6.3.2 resp. on the country selected in Point 6.2.2 and 6.2.3.

Unsorted

The newly found programmes are added to the end of the Favourites list in unsorted order.

No

The newly found programmes will not be included in the Favourites list, and will be added only to the Total list.

- > Use the **left/right arrow keys** to select whether you wish to include the programmes in **sorted** or **unsorted** order.
- > Confirm by pressing **OK**. Please note any further messages displayed on screen.
- > Press the **Menu** key to revert to normal operation.
- > Independently of whether you have chosen to include the programmes found into the Favourites list, you can also still include these in the Favourites list manually, as described in Chapter 8.1.



(Fig. 8-20)



(Fig. 8-21)



(Fig. 8-22)

8.5 Service settings

You can at all times revert to the default settings pre-programmed at the factory. Also, should the programme list be outdated by virtue of the many changes effected by programme providers, you can delete the programme list completely, to be followed by a new programme scan. Please note that, if you have performed the delete function, you must then start a programme scan, and must copy the desired programmes from the Total list to the Favourites list.

- > Use the **Menu** key to call up the **Main Menu**. (Fig. 8-20)
- > Now use the **up/down arrow keys** to mark the menu line **Settings**.
- > Confirm by pressing **OK**. The sub-menu Settings will be displayed. (Fig. 8-21)
- > Use the **up/down arrow keys** to mark the menu line **Service settings**.
- > Confirm by pressing **OK**. The sub-menu **Service settings** will be displayed. (Fig. 8-22)

8.5.1 Activate default setting

When this function is selected, the default settings pre-programmed at the factory are activated again, your own settings are deleted, and the installation assistant AutoInstall will be started.

- > Use the **up/down arrow keys** to mark the line **Activate default setting**.
- > Press **OK**.
The following prompt will appear: "Do you really want to activate the default setting?".
- > Use the **left/right arrow keys** to select **Yes** or **Abort**.
- > Confirm your selection by pressing **OK**.

8.5.2 Delete all programmes

This function will delete all programme memory.

- > Use the **up/down arrow keys** to mark the line **Delete all programmes**.
- > Press **OK**.
The following prompt will appear: "Do you really want to delete all programmes?".
- > Use the **left/right arrow keys** to select **Yes** or **Abort**.
- > Confirm your selection by pressing **OK**.

8.5.3 Updating software

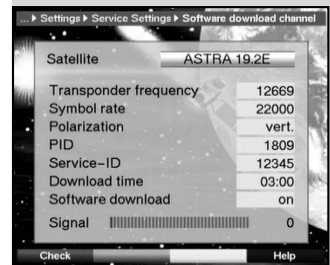
In addition, you have the option of updating the operating system software of your digital receiver via satellite (ASTRA 19° East).

- > Press **OK** to go to the sub-menu **Software update** (Fig. 8-23).
To perform a software update, mark the line **Software update**.
- > Press the **OK** key to switch the software update function to **On**.
- > In the line **Update time** use the **numeric keys** to select the time at which the software update is to be carried out.
- > To start the updating of the operating software manually, press the **red function key Test**.
- > Press the **Menu** key to revert to normal operation.

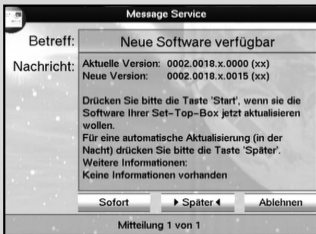
Should the parameters of the data channel used for downloading the software updates have changed, these may be corrected as described under Point 8.3.4 (manual programme scan). The current transponder data may be obtained from your specialist retailer. In the normal course of events you should not make any changes to this menu.

Note:

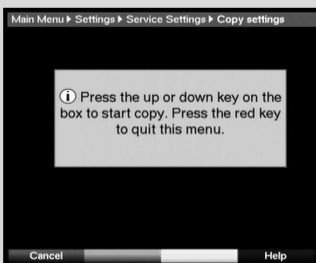
This function should not be implemented if you have made changes in the menus "Basic settings" or "LNC configuration", as these settings will revert to the factory



(Fig. 8-23)



(Fig. 8-24)



(Fig. 8-25)

default settings, and the desired changes will have to be entered again. For the new software to be downloaded automatically, the digital receiver must be in standby mode. The download procedure will be indicated on the display by “SATL”. Do not interrupt this procedure, e.g. by switching the receiver on or off.

Independently of whether you have set the automatic software update function to On of Off, each time you switch on the receiver the system will check whether a new version of the operating system software for your digital receiver is available. If a new version of the operating software is available, this will be indicated by a message shown on screen (Fig. 8-24).

To start the update of your software, follow the instructions displayed on your screen.

8.5.4 Copying the settings

You have the facility to copy all the settings of your digital receiver (transmitter), such as programme lists, antenna settings, etc. to another digital receiver (receiver) of the same type, and equipped with the same version of the operating system software. (Fig. 8-25)

- > To do this, connect the two units by means of a null modem cable.
- > Switch on the (receiving) receiver.
- > To copy the settings, press any key on the (transmitting) receiver.

The settings of the transmitting receiver will now be transmitted to the receiving receiver. Please not any messages displayed on screen.

8.6 System configuration

This menu item will show you the specific unit data, e.g. current software version.

- > Use the **up/down arrow keys** to mark this line in the sub-menu **Settings**.
- > Confirm by pressing **OK**.
- > Press the **Menu** key to revert to normal operation.

8.7 Encryption system

This menu item allows you to access the sub-menus of the CI module inserted. By confirming with **OK**, you can display information relating to the CI module inserted as well as to the smart card being used.

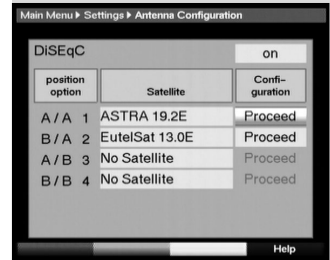
Manual initialising of the CI module

- > You can initialise the CI module manually by pressing the **red function key CI Reset**.

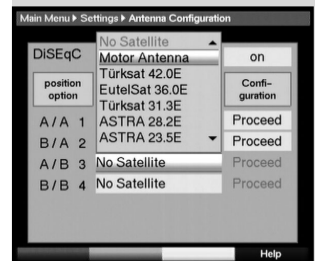
9 Operating a rotary antenna installation (DiSEqC 1.2)

Your digital receiver is ready to operate a motorised rotary antenna installation. The DiSEqC control function (DiSEqC level 1.2) allows you to control a suitable motor via the coaxial cable.

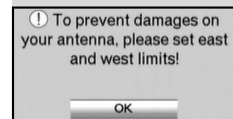
- > Call up the menu **Antenna settings** as described under Point 6.4 (Fig. 9-1) and switch the **DiSEqC control** (Point 6.4.1) to **on**.
- > Now use the **up/down arrow keys** to select the DiSEqC position (e.g. A/B 3) to which you wish to allocate the motorised antenna.
- > Press **OK** to open a window allowing you to select a **Satellite** resp. the option **Motor antenna**. (Fig. 9-2)
- > Use the up/down arrow keys to select the line **Motor antenna** and confirm by pressing **OK**.
- > Confirm the screen prompt (Fig. 9-3) regarding the setting or Eastern and Western limits by pressing **OK**.



(Fig. 9-1)



(Fig. 9-2)



(Fig. 9-3)

9.1 Eastern and Western limits

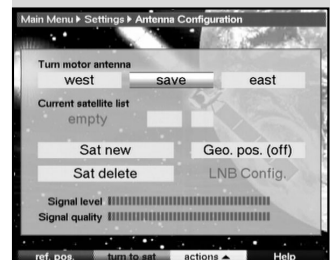
To avoid potential mechanical damage to the dish antenna or the LNC by any obstacles, you must first determine the maximum range of movement/rotation in both an easterly and westerly direction. If there are any obstacles within the rotating range of the antenna, such as walls or chimneys, these must definitely be considered when setting the easterly and westerly limits.

If there are no obstacles within the rotating range of the dish, then set the limits of the rotation in such a manner that the dish can move a little further than is strictly speaking required to receive signals from the most extremely positioned satellites.

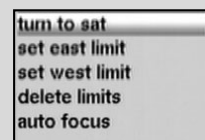
9.1.1 Deleting existing limits

You should first of all delete any existing limit settings.

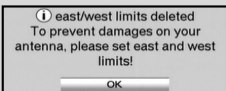
- > Use the **left/right arrow keys** to mark the column **LNC test**.
- > In the line **Motor antenna** use the **up/down arrow keys** to mark the field **Continue**.
- > Confirm by pressing **OK**.
The menu for setting the motorised antenna will now be displayed. (Fig. 9-4)
- > Press the **yellow function key Actions** to open an additional window. (Fig. 9-5)
- > Now use the **up/down arrow keys** to mark the line **Delete limits**.
- > Confirm by pressing **OK** to transfer the action selected to the green function key.



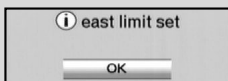
(Fig. 9-4)



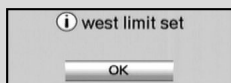
(Fig. 9-5)



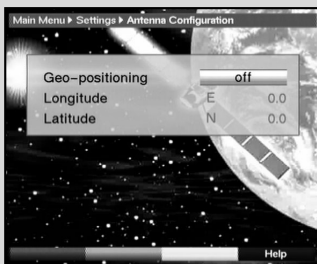
(Fig. 9-6)



(Fig. 9-7)



(Fig. 9-8)



(Fig. 9-9)

- > To delete the limits, press the **green function key Delete lim.**
- > Confirm the screen prompt by pressing **OK** (Fig. 9-6)

9.1.2 Set Eastern limit

- > To enter the Eastern limit, first use the **arrow keys** to mark the field **Save.**
- > Now press the **arrow key right** to turn the antenna to the maximum **Eastern position** possible or desirable
- > Press the **yellow function key Actions** to display the window listing the available actions.
- > Now use the **up/down arrow keys** to mark the line **Set Eastern limit.**
- > Confirm by pressing **OK.**
- > To set the Eastern limit, press the green key (Eastern limit), then confirm the following prompt by pressing **OK** (Fig. 9-7).

9.1.3 Setting Western limit

- > To enter the Western limit, first use the **arrow keys** to mark the field **Save.**
- > Now press the **arrow key left** to turn the antenna to the maximum **Western position** possible or desirable
- > Press the **yellow function key Actions** to display the window listing the available actions.
- > Now use the **up/down arrow keys** to mark the line **Set Western limit.**
- > Confirm by pressing **OK.**
- > To set the Western limit, press the **green key** (Western limit), then confirm the following prompt by pressing **OK** (Fig. 9-8).

9.2 Geo positioning

If you know the geographical co-ordinates of your location, and are equipped with a suitable motor, this function will facilitate the procedure of finding the various satellite positions. The co-ordinates of some German cities can be found in the Annexure (Point 13).

Note! You should only activate the geo-positioning function if your DiSEqC motor supports this function.

- > As described above, call up the menu for setting the motorised antenna.
- > Use the **arrow keys** to mark the field **Geo.Pos.**
- > Confirm by pressing **OK.** A menu will be displayed, allowing you to enter your location. (Fig. 9-9)
- > Use the **OK** key to select **On** or **Off** for the geo-positioning function.
- > Use the **arrow keys** to select the field for entering the **geographical longitude.**
- > Use the **numeric keys** to enter the geographical

longitude.

- > Now press the **arrow key left**.
- > In this field, use the **OK** key to indicate whether you are referring to longitude East (**E**ast) or west (**W**est).
- > Now use the **arrow keys** to mark the field for entering the **geographical latitude**.
- > Use the **numeric keys** to enter the geographical latitude.
- > Now press the **arrow key left**.
- > In this field, use the **OK** key to indicate whether you are referring to latitude North (**N**) or South (**S**).
- > Use the **Back key** to return to the LNC settings.

The data relating to your location must be entered as a decimal figure, correct to one decimal point. As the co-ordinates are frequently stated in terms of degrees, minutes and seconds, these must be converted to decimal values as follows:

The full degree figures remain unchanged by the calculation. The minutes are divided by 60, and rounded to one decimal point. The result of this division is added to the degree figure. The seconds are not considered at all, as they do not affect the first decimal point.

Example: co-ordinates of Daun/Germany

Latitude	50°	11'	(45")	N
Longitude	06°	50'	(10")	E

Conversion of the latitude (Lat):

Lat	=	50	+	11/60	
Lat	=	50	+	0,2	(rounded)
Lat	=	50,2			

In the menu you will enter the value, rounded to one decimal point, for geographical latitude (**50,2**).

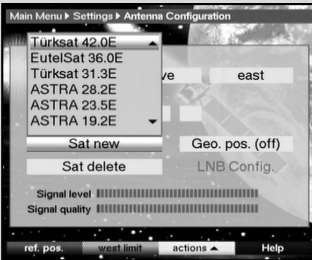
The decimal value for the longitude will be calculated in the same way.

9.3 Setting a satellite position

For each satellite position to be included, work through the procedures described in Points 9.3.1 to 9.3.3. When programming satellite positions, it is recommended that you begin with the most easterly satellite location. Then, continue by adding the other satellite positions, working in a westerly direction, until you have reached the most westerly satellite position. Your digital receiver has been pre-programmed at the factory for the most commonly used satellite positions. In addition, you may enter and configure user-defined (User) satellite positions (User 1 to User 14) for any orbital position.

9.3.1 Selecting a satellite position

9.3.1.1 Selecting a pre-programmed satellite position



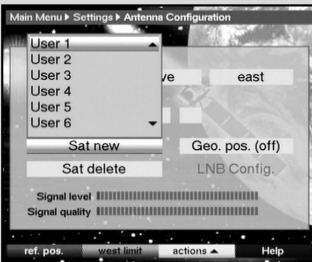
(Fig. 9-10)

- > To include a satellite position in the satellite list, use the **arrow keys** to mark the field **Sat new**.
- > Confirm by pressing **OK**.
A list showing the available satellite positions will be displayed. (Fig. 9-10)
- > Now use the **up/down arrow keys** to mark a satellite position that you wish to include in the satellite list.
- > Press **OK** to accept the selection into memory.

If the **geo-positioning function is active** (Point 9.2) the dish will now be rotated automatically to the programmed satellite position. While the rotation is in progress, the display **“turn”** will be shown, and will blink.

If the **geo-positioning function is not active** (Point 9.3.2.2) you must rotate the antenna manually to the desired position.

9.3.1.2 Setting user-defined satellite positions (User satellite)



(Fig. 9-11)

- > To include a user satellite position in the satellite list, use the **arrow keys** to mark the field **Sat new**.
- > Confirm by pressing **OK**.
The list of available satellite positions will be displayed. (Fig. 9-11)
- > Now use the **up/down arrow keys** to mark a user satellite position (User 1 to User 14).
- > Press the **OK** key to display the menu used to set a test transponder. In this menu, set the parameters of the test transponder and of the LNC used as described in **Point 6.4.3**.
- > When you have completed setting the test transponder, press **Back**, to return to the menu for setting the motorised antenna. The field for entering the orbital position is active.
- > Use the **numeric keys** to enter the orbital position of the user satellite, and confirm by pressing **OK**.
- > Now use the **OK** key to enter whether the orbital position is a western (W) or eastern (E) position.

If the **geo-positioning function is switched on** (Point 9.2) you can now turn the antenna to the programmed user satellite position using the function **turn to Sat** (Point 9.4.1).

If the **geo-positioning function is switched off** (Point 9.3.2.2) you must now turn the antenna manually to the desired satellite position.

9.3.2 Adjusting the satellite antenna

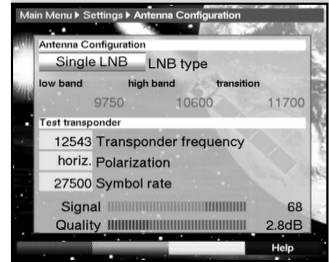
To adjust the antenna for the desired satellite, or to determine whether the desired satellite can be received at the set position, a test transponder has been programmed for each satellite.

The indicators for signal strength and signal quality provided by this test transponder facilitate the exact positioning of the antenna.

9.3.2.1 Test transponder/LNC configuration

To change the data of the respective test transponder, proceed as follows:

- > Use the **arrow keys** to mark the field **Current satellite list**.
- > Press **OK** to display the satellite list.
- > Use the **up/down arrow keys** to mark the satellite position for which you wish to change the data.
- > Confirm by pressing **OK**.
- > Now use the arrow keys to mark the field LNC config. and press **OK**.
The menu LNC settings will be displayed. (Fig. 9-12)
- > In this menu, enter the data relating to the test transponder as well as for the LNC used, as described in **Point 6.4.3**.
- > Press **Back** to return to the menu for adjusting the motorised antenna.



(Fig. 9-12)

9.3.2.2 Manual adjustment of antenna

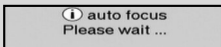
The optimum adjustment for the desired position can be made with the help of the displays for signal strength and signal quality. Adjust the antenna in such a way that both bars indicated a maximum value.

- > Use the **up/down arrow keys** to mark the field **Save**.
- > Now use the **arrow key right** (field East is marked) resp. **left** (field West is marked) to turn the antenna to the desired position. In each case, hold the key pressed down until the desired position has been reached.

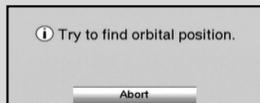
9.3.2.3 Automatic fine adjustment (Autofocus)

Before storing the satellite position in memory, you should perform the automatic focussing function. This provides a fine adjustment of the antenna to achieve optimum reception.

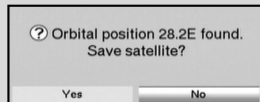
- > Press the **yellow function key Actions** to open a window displaying the actions available.
- > Now use the **up/down arrow keys** to mark the line **Autofocus**.
- > Confirm by pressing **OK**.
- > Press the **green key** (Autofocus) to start the autof-



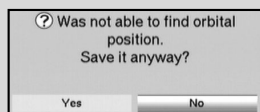
(Fig. 9-13)



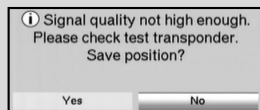
(Fig. 9-14)



(Fig. 9-15)



(Fig. 9-16)



(Fig. 9-17)

focus procedure.

While the automatic adjustment is in progress, the message **Autofocus** will be displayed. (Fig. 9-13)

9.3.3 Saving a satellite position

When the Autofocus function has been completed, you can proceed to save the satellite position in memory.

- > Use the **arrow keys** to mark the field **Save**.
- > Press **OK**.

Now the test transponder selected will check whether a signal is being received at this position. At the same time, the system will check whether the position to be saved is one that is already included in the pre-programming. (Fig. 9-14)

If this is the case, the message will be displayed: **Orbital position xx found. Save satellite ?** (Fig. 9-15)

- > To save the satellite position in memory, use the **left/right arrow keys** to mark the field **Yes**, and confirm by pressing **OK**.

If the check carried out by the test transponder does not recognise a position as being included in the pre-programming, or if the signal is too weak, an appropriate message will be displayed on screen. (Figs. 9-16 and 9-17)

- > To save the satellite position in memory, use the **left/right arrow keys** to mark the field **Yes**, and confirm by pressing **OK**.

9.4 Current satellite list

The satellite positions that have been saved in memory can be found in the satellite list. Positions that have not yet been saved are indicated in the list by an “*”.

- > To turn the antenna dish to a position in the satellite list, use the **arrow keys** to mark the field **Current satellite list**.
- > Confirm by pressing **OK**.
- > Use the **up/down arrow keys** to select the desired position.
- > Confirm by pressing **OK**.
The dish will now be turned to the selected position. While the positioning procedure is in progress, the blinking message “**turn**” will be displayed in the menu.

9.4.1 Selecting a satellite position

In order to turn the dish antenna to the position specified in the satellite list, your digital receiver is equipped with the function **turn to Sat**.

- > Press the **yellow function key Actions** to open the window displaying the actions available.
- > Use the **up/down arrow keys** to mark the line turn to Sat.
- > Confirm by pressing **OK**.
- > Press the **green key** (turn to Sat), the antenna will be turned toward the satellite position selected.

9.5 Delete satellite position

To delete a satellite position from the satellite list, proceed as follows:

- > Use the **arrow keys** to mark the field **Current satellite list**.
- > Press **OK** to display the current satellite list.
- > Use the **up/down arrow keys** to select the satellite you wish to delete.
- > Confirm by pressing **OK**.
- > Use the **arrow keys** to mark the field **Sat delete**.
- > To delete the selected satellite, press **OK**, then confirm the screen prompt by pressing **OK** again.

9.6 Reference position

When installing the external installation, the rotary motor must be in the reference position (0°). This allows you to move the motor position back to this reference position (0°) at any time by means of the command “**Go to reference position**”..

- > Press the **red function key Ref.pos** to rotate the antenna automatically to the reference position.

10 Technical Terms

Antenna cable:

Connecting cable between the modulator of the satellite receiver and the antenna input of the television set. Used as an alternative where no SCART socket is available

External installation:

Term used to describe the whole system mounted externally, consisting of the parabolic or offset dish as well as one or more LNCs, to provide reception from one or more satellites

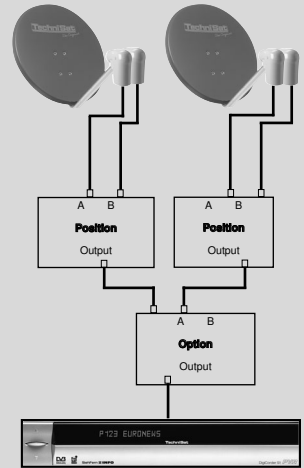
AV: see SCART

Data compression/MPEG1/MPEG2:

The current television standard (625 lines and 50 Hz picture repeat frequency) provides a digital data volume of 216 MBit/s.

This would require bandwidths simply not available either terrestrially or via satellite. The data volume is thus reduced by means of a data reduction system. For Europe, the internationally determined standard for data compression is MPEG-2. MPEG-2 is an expanded version of MPEG-1

Example:



(Fig. 10-1)

DiSEqC:

Digital Satellite Equipment Control: a digital control signal used to control and switch DiSEqC compatible components of the external installation via the antenna cable. An example of how an installation consisting of DiSEqC components can be configured is shown in (Fig. 10-1).

DVB:

Digital Video Broadcasting: A universal digital transmission technology used to transmit pictures, graphics, sound and text, as well as for data in every conceivable form and in every possible, appropriate quality.

Frequency:

A physical unit of measurement, indicates the number of oscillations per second, the unit of measurement is Hertz (Hz)

Frequency range:

a) Satellite respectively LNC:

11 GHz range from 10,70 GHz - 11,70 GHz, 12 GHz range from 11,70 GHz - 12,75 GHz

b) Receiver: interim frequency or 1. IF 950 tp 2150 MHz

Unit	Name	Oscillations per second
1 Hz	1 Hertz	1
1 kHz	1 Kilohertz	1.000
1 MHz	1 Megahertz	1.000.000
1 GHz	1 Gigahertz	1.000.000.000

Co-axial cable:

Connection cable between LNC and satellite receiver, used to transmit the signals received and to supply power to the LNC.

LNB/LNC (Low Noise block converter):

Reception unit located at the focal point of the parabolic dish antenna. Converts the frequency range of the satellite to that of the interim frequency of the digital receiver.

LOF:

Local oscillator frequency; stated in MHz or GHz; varies depending on the LNC and the frequency range

Reception frequency of the digital receiver = Broadcasting frequency of the satellite - LOF

22 KHz modulation:

This can be used to switch between 2 LNCs, in addition to 14/28 Volt switching. In Universal LNCs it serves to switch to the High range

Modulator:

Switch in the satellite receiver or video recorder used to connect the television set via antenna cable

Parabolic dish:

Dish, made of metal or coated synthetics, with parabolic shape, used to focus the electro-magnetic waves transmitted by the satellite at a focal point.

Polarisation plane:

To better utilise the available frequency range, satellites trans-

mit neighbouring programmes with opposite polarisation (horizontal and vertical or laevorotatory and dextrorotatory). In order to receive the two polarisation planes either two single LNCs or one V/H LNC are required.

Receiver: see satellite receiver

Satellite:

Description of the satellite, usually a combination of the name with the orbital position,

ASTRA 19° East

EUTELSAT 13° East

Satellite receiver:

The signals received and converted by the LNC cannot be processed by the television set. The signals are processed in the satellite receiver so that modified audio and video (AV) signals are available at the receiver outputs that can then be processed by the television set.

SCART:

A standard plug-in connection used in satellite receivers, video recorders, television sets and other home electronics equipment to transmit audio (sound) and video (picture) signals (AV).

Software update:

Digital television is a new medium that provides improved picture and sound quality as well as the option of providing interactive services. These services are continually being developed and improved by programme providers. To utilise these services it may be necessary to update the software of the digital receiver occasionally.

Transponder:

Located on the satellite, used to process one or more programmes. In other words, it receives the signal from the ground station, amplifies the signal and transmits it back to earth.

Universal LNC:

Used to receive the FFS range (10,70 - 11,70 GHz), BBS (11,70 - 12,50 GHz) and FFS High Band (12,50 - 12,75 GHz). This entire range is divided into two bands:
Low Band: 10,70 - 11,80 GHz; LOF 9750 MHz
High Band 11,70 - 12,75 GHz ; LOF 10600 MHz

Service voltage:

LNCs are supplied with power by means of the coaxial cable, to achieve this the receiver supplies either 14 or 18 volt power

Interim frequency:

The frequency range broadcast by the satellite cannot be transmitted via a cable. Therefore the LNC converts the signal to the interim frequency range of 950 to 2150 MHz. This makes it possible for the digital receiver to receive and process the signal.

1. IF = Interim frequency

11 Technical data

DBS tuner:

Input frequency range	950 2150 MHz
Input level range	- 65 dBm ... - 25 dBm
DBS tuner input	F - connector
Input/output impedance	75 Ohms
Output for 1. IF	950 ... 2150 MHz (loop through)
AFC capture range	+/- 3 MHz
Demodulation	Shaped QPSK
Symbol rate	1 ... 45 Mbaud/s, SCPC/ MCPC
FEC	Viterbi and Reed-Solomon
Viterbi rates	1/2, 2/3, 3/4, 5/6, 7/8, automatic adaptation
Roll-off Factor	35 %

Demultiplexing:

according to ISO 13818-1

Common Interface:

Type	1 Common Interface slot for CI module
Power requirement	max. 0,3A/5V

PLL modulator:

Antenna input	UHF, Channel 21 ... 69
Antenna output	47 ... 862 MHz

Video decoding:

Video compression	MPEG-2 and MPEG-1 compatible Up to MP@ML (main profile @ main level)
Video standard	PAL / 25 Hz
Active image	720 Pixel x 576 lines
Picture format	4 : 3 / 16 : 9
Picture material 16:9	Automatic adaptation for 16:9 TV sets (via SCART) Letterbox filtering for 4:3 TV sets

Audio decoding:

Audio compression	MPEG-1 & MPEG-2 Layer I and II
Audio Mode	Dual (main/sub), Stereo
Sampling frequencies	32 kHz, 44.1 kHz, 48 kHz

Audio parameters:

Output analogue:

Output level L/R	0,5 V r.m.s. (nominal)
Output impedance	600 Ohm
THD	> 60 dB (1 kHz)
S/N	> 60 dB
Crosstalk	< - 65 dB

Input analogue:

Input level l/r	0,5 V r.m.s. (nominal)
Input impedance	> 40 kOhm
Volume at switch-on	Automatic use of last volume setting

Output digital:

SP/DIF output electrical, cinch socket
 optical, Toslink
 Dolby Digital AC3

Video parameters:**Output:**

Output level FBAS 1 Vs-s +/- 0.3 dB into 75 Ohms
Output level Y 1 Vs-s +/- 0.3 dB into 75 Ohms
Output level C 1 Vs-s +/- 0.3 dB into 75 Ohm
Output level RED 0,7 Vs-s +/- 0.1Vp-p into 75 Ohms
Output level GREEN 0,7 Vs-s +/- 0.1Vp-p into 75 Ohms
Output level BLUE 0,7 Vs-s +/- 0.1Vp-p into 75 Ohms
S/N loaded > 60 dB

Teletext

Teletext filtering corresponding to ETS 300 472
 Standard
Download Teletext data (FBAS) corresponding to ITU-R
 BT.653-2 lines: 6-22 and 320-335
Soft teletext 800 pages memory

TV SCART:

Output: FBAS or RGB

VCR SCART:

Input: FBAS
Output: FBAS

Video Cinch:

Output FBAS

S-VHS Hosiden socket:

Output Y signal (luminance),
 C signal (chrominance)

Hard drive:

Hard drive type 3,5 inch
Capacity 40 GB (Standard)
Hard drive control provided for 20 to 120 GB
No. of recordings 1000 (max.)

Display:

Vacuum fluorescence 16 digit, 5x7 point matrix, 7 mm
 symbol height

Serial interface RS 232:

Type RS 232, bidirectional
Bit rate 115,2 kBit/s max.
Connection D-SUB socket, 9 pin
Function Update for operating software and
 pre-programming

LNC power supply:

LNC power 400 mA max.; double insula
 ted
LNC voltage vertical <14,0V no load, > 11,5 V at 400
 mA
LNC voltage horizontal < 20 V no load, > 17,2 V at 400
 mA

LNC switched off in standby mode

22 kHz modulation: 22 kHz, Amplitude 0.6 V +/- 0.2 V

Programme memory/satellite positions:

No. of programmes Favourites list TV:
999 TV programmes

No. of programmes Favourites list Radio:
999 Radio programmes

Number of programmes:

Total list TV/Radio: In total 6000 programmes can be stored in the Total list

DiSEqC:
DiSEqC 1.0 and DiSEqC 1.2

SFI data:

SFI preview: maximum 7 days in advance

Timer:

Events: maximum 124 events, one year in advance

Remote control system: RC-5

Subsystem address 8 (SAT 1), 10 (SAT 2)

Modulation frequency 36 kHz

Infrared wavelength 950 nm

Power supply:

Mains adapter:

Power requirement:

10 W in standby mode

16 W in operation, excl. LNC

23 W recording mode, excl. LNC

32 W recording mode / 400mA LNC current

Nominal voltage:
230 V / 50 Hz alternating current

Input voltage:
180 V.... 250 V / 50 Hz alternating current

General:

Dimensions (WxDxH): 370 mm x 220 mm x 65 mm

Weight: approx. 2,7 kg

12 Troubleshooting guide

Problem	Possible cause	Solution
Various programmes not shown in programme list	Wrong programme list selected	Select different programme list (see Point 7.2.3.1)
Sound OK, no TV picture	Reception set to Radio mode	Switch to TV mode
Programmes such as Pro 7, Sat 1, TM3, Kabel 1, DSF and HOT temporarily interrupted	Interference from DECT standard cordless telephones	Increase distance between phone base station and receiver
Unit controls cannot be operated	Defective data flow-->unit blocked	Disconnect mains plug for approx. 5 seconds, then switch unit on again
Remote control not working	Batteries empty	Change batteries
Temporary appearance of small square blocks in picture, unit temporarily freezes picture, no sound. Screen temporarily black with message "no signal".	Heavy rain or snow	Remove snow from dish
	Antenna not correctly adjusted	Adjust antenna position
	Dish too small for location	Fit larger antenna, adjust antenna
	Obstruction between dish and satellite, e.g. wall, tree	Mount antenna with free line of sight
No picture, no sound, display active	Short circuit in LNC cable	Switch off unit, fix short circuit, switch unit on again
	Defective or missing cable connection	Check all cable connections
	Faulty LNC	Replace LNC
	Incorrect reception unit set on receiver	Adjust setting (see Point 6.4)
	Antenna incorrectly adjusted	Adjust antenna
No picture, no sound, display not active	No mains power	Check mains power cord and plug
No reception of programmes previously received	Antenna maladjusted or faulty	Check antenna
	Programme now broadcast on another transponder	Perform scan (see Point 8.3)
	Programme no longer being broadcast	None
Antenna will not turn	Motor not DiSEqC 1.2 compatible	Use compatible motor

Problem	Possible cause	Solution
Current time not displayed while in standby mode	Current time not downloaded	Switch to major programme, e.g. ZDF, for approx. 30 seconds.
Unit cannot be switched on, or cannot be operated	Unit blocked	Perform flash reset: Note! All personal settings are lost in this process. <ul style="list-style-type: none"> > Disconnect mains power plug. > Press Standby and Programme Up keys on unit simultaneously, and keep them pressed down. > While Programme Up and Standby keys are still pressed, reconnect mains power plug. > Keep keys pressed down for approx. 5 secs. until Display "FLAS" appears
Recording on hard drive no longer possible	Hard drive is full	Delete existing recording(s)
Deleting hard drive recordings not possible	File system of hard drive is damaged	Check hard drive (Point 7.15.3.3)

13 Annexu

Co-ordinates of some German cities(1)

Town/city	Geogr. longitude (E)	Geogr. latitude (N)
A achen	6,1	50,8
Augsburg	10,9	48,4
B erlin	13,4	52,5
Beucha	12,7	51,3
Bielefeld	8,5	52,0
Bonn	7,1	50,7
Brandenburg	12,6	52,4
Braunschweig	10,5	52,3
Bremen	8,8	53,1
Bremerhaven	8,6	53,6
C hemnitz	12,9	50,8
Cottbus	14,3	51,8
D aun	6,8	50,2
Dippach	10,1	51,0
Dortmund	7,5	51,5
Dresden	13,7	51,1
Duisburg	6,8	51,4
Düsseldorf	6,8	51,2
E isenach	10,3	51,0
Emden	7,2	53,4
Erfurt	11,0	51,0
Essen	7,0	51,5
F lensburg	9,4	54,8
Frankfurt/M.	8,7	50,1
Frankfurt/O.	14,5	52,3
Freiburg/Br.	7,9	48,0
Fuerstenberg	14,7	52,1
Fuerth	11,0	49,5
G era	12,1	50,9
Goerlitz	15,0	51,2
Göttingen	9,9	51,5
Greifswald	13,4	54,1
H alle/Saale	12,0	51,5
Hamburg	10,0	53,6
Hannover	9,7	52,4
Heidelberg	8,7	49,4
Heilbronn	9,2	49,2
Hildesheim	10,0	52,2
Hof	11,9	50,3
K arlsruhe	8,4	49,0

Co-ordinates of some German cities (2)

Town/city	Geogr.longitude (E)	Geogr. latitude (N)
Kassel	9,5	51,3
Kiel	10,1	54,3
Koblenz	7,6	50,4
Köln	7,0	51,0
Krefeld	6,6	51,3
L andshut	12,2	48,5
Leipzig	12,4	51,3
Ludwigshafen	8,4	49,5
Lübeck	10,7	53,9
Lüneburg	10,4	53,3
M agdeburg	11,6	52,1
Mainz	8,3	50,0
Mannheim	8,5	49,5
München	11,6	48,1
N eubrandenburg	13,3	53,6
Neumünster	10,0	54,1
Nürnberg	11,1	49,5
O berhausen	6,9	51,5
Oldenburg/Holsn.	10,9	54,3
Oldenburg	8,2	53,2
Osnabrück	8,1	52,3
P assau	13,5	48,6
Potsdam	13,1	52,4
R egensburg	12,1	49,0
Rostock	12,1	54,1
S aarbrücken	7,0	49,2
Salzgitter	10,4	52,1
Salzwedel	11,2	52,9
Schwerin	11,4	53,6
Solingen	7,1	51,2
Stuttgart	9,2	48,8
T rier	6,7	49,8
U lm	10,0	48,4
W eimar	11,3	51,0
Wiesbaden	8,2	50,1
Wilhelmshaven	8,1	53,5
Wismar	11,5	53,9
Wuppertal	7,2	51,3
Würzburg	9,9	49,8
Z wickau	12,5	50,7

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Notes

For everyday operation

Switching on and off

- > Use the On/Standby key either on the unit or on the remote control to switch on the digital receiver.
- > Press the key again to switch the unit off.
- > The unit is now in standby mode, and the current time is shown on the display.

Programme selection

Using the programme up/down keys

- > Use the programme up/down keys either on the unit or on the remote control to move up or down the list by one programme slot at a time.

Using the numeric keys

- > Use the numeric keys to enter the required programme number.

For example

1				for programme slot 1
1,	then 4			for programme slot 14
2,	then 3,	then 4		for programme slot 234

When entering programme numbers with more than one digit, you have approx. 3 seconds time after pressing a key to complete the entry.

If you wish to enter a number with only one or two digits, you can speed up the switching process by keeping your finger pressed down a little longer on the last digit.

Using the programme list:

- > Press OK.
- > You can now use the up/down arrow keys to mark the programme you wish to view.
- > Press OK to select the marked programme.
- > Use the up/down arrow keys to move up or down the list one line at a time.
- > Use the left/right arrow keys to move back or forward in the list one page at a time.

Volume control

- > You can adjust the volume of your digital receiver by means of the keys Volume + for louder and Volume - for softer volume.
- > Press the key Sound on/off to switch the sound on or off (mute function).

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