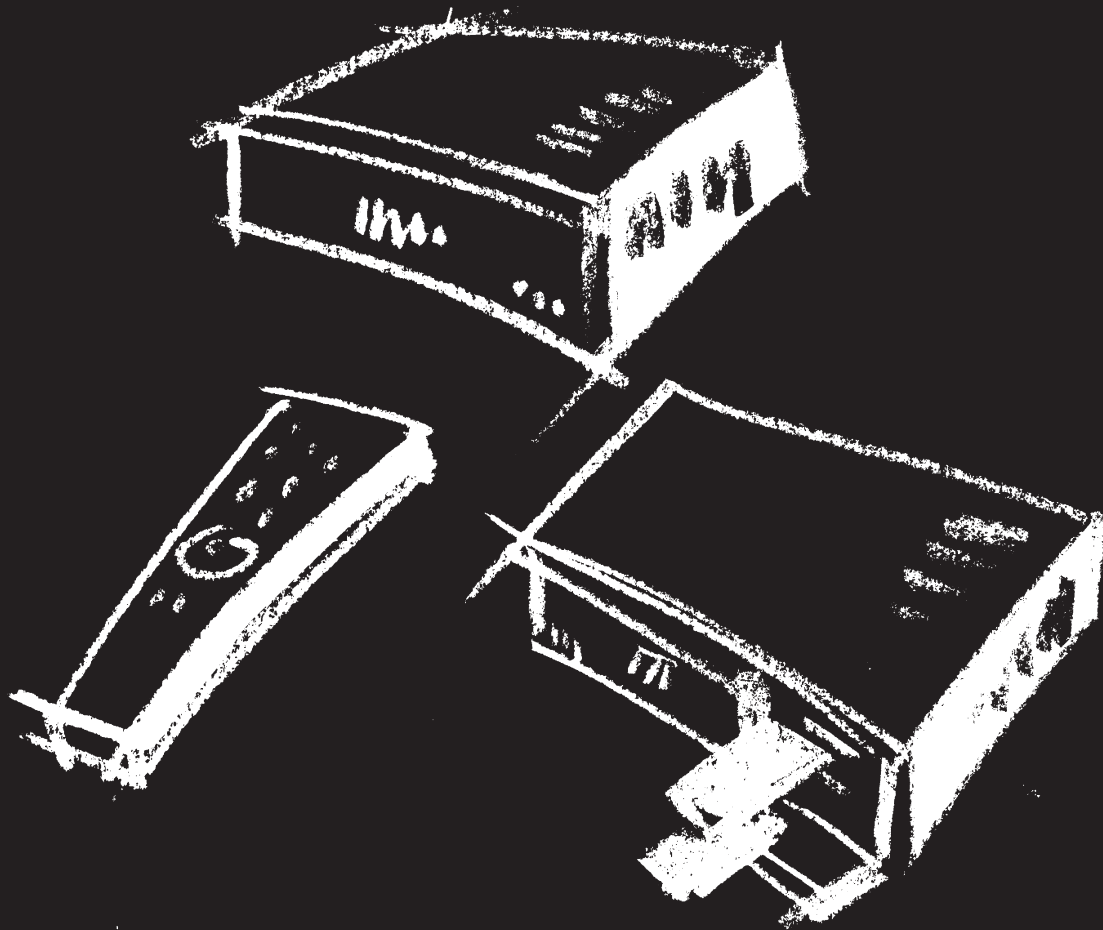


Instructions for Use

DIGITAL SATELLITE RECEIVER

- (A) FTA
- (B) Slimline FTA
- (C) CI (Common Interface)

Please read through the whole of the instructions for use first! • Do not throw it away!
The guarantee expires if the device is damaged due to faulty operation!



GB

1 Introduction

You should be able to watch your favourite programmes as quickly as possible, so we have designed the menu to meet all your needs. Please read these instructions thoroughly so that you can use your receiver safely and confidently and operate all the features offered.

We hope you get lots of pleasure from our product.

Impressum:

Instructions for FTA/Common Interface Satellite Receivers
We reserve the right to change or modify at any time.

Issued 10/2002, Version 1.0

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Important Safety Information

3 Important Safety Information

This device is solely for receiving satellite programmes and must only be used according to its intended purpose, as described in these instructions. Please ensure that the receiver is kept out of reach of children. The following additional instructions must also be adhered to in order to protect your health and to safeguard your device against damage.



WARNING:

**Never remove the housing or parts of it!
Prevent all moisture and foreign bodies from penetrating the device!**



CAUTION:

Do not cover up the ventilation openings on the device, risk of fire from overheating!



CAUTION:

Only use original spare parts or those recommended by your specialist dealer, otherwise there is a risk of injuries and damage to property! The guarantee expires if you fail to observe this!



ATTENTION:

**Switch off the device during thunderstorms and if it is not to be used for a long time!
Remove the antenna cable too during thunderstorms!**



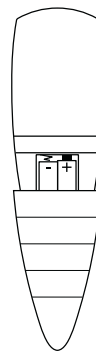
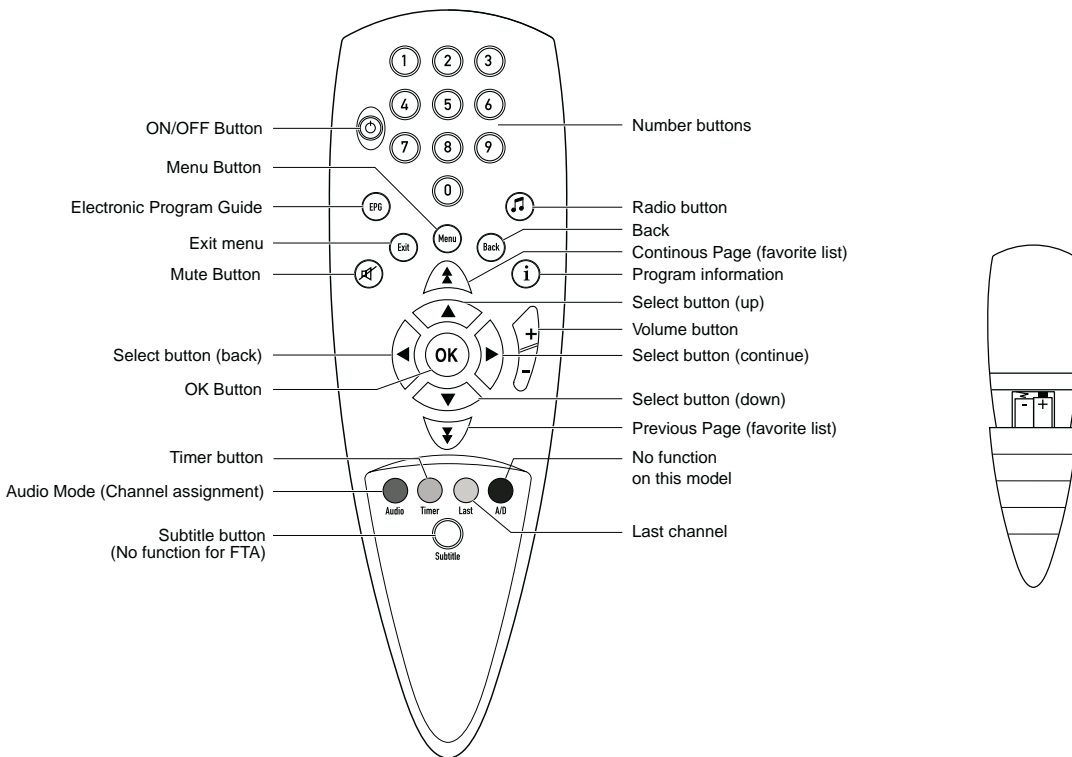
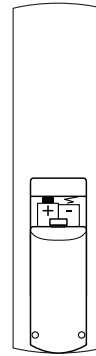
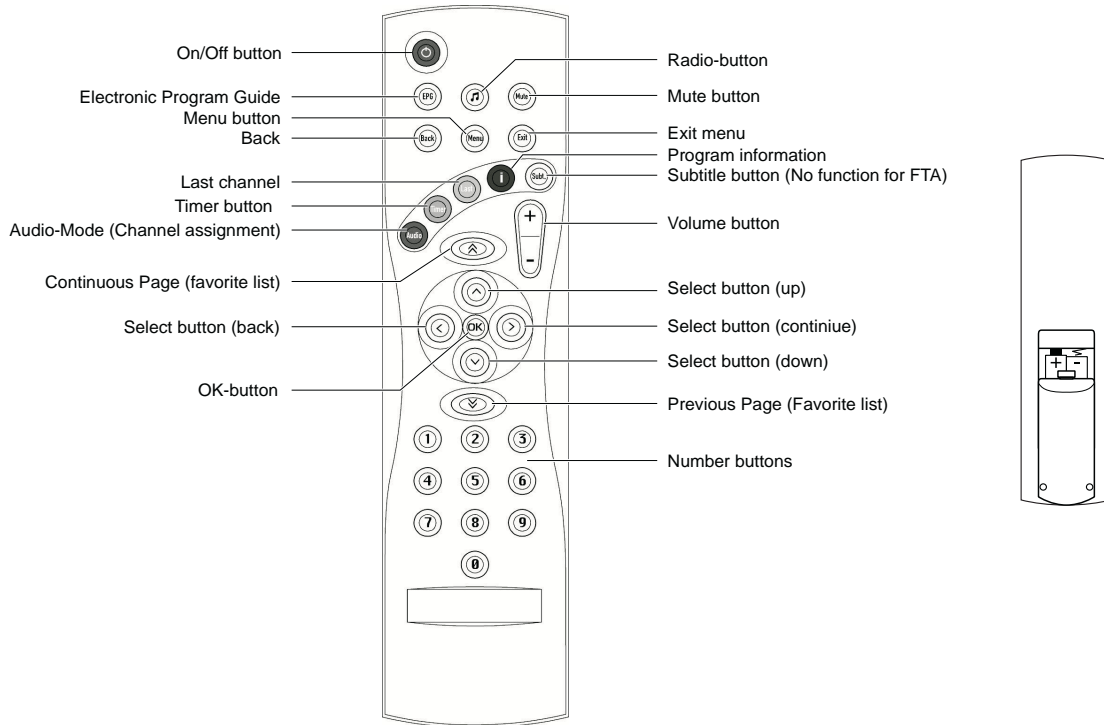
ATTENTION:

Only ever use a clean cloth, slightly moistened with clean water to clean the receiver, do not use any chemical additives!

The Device and its Functions

4 The device and its functions

4.1 Remote control (2 Versions)



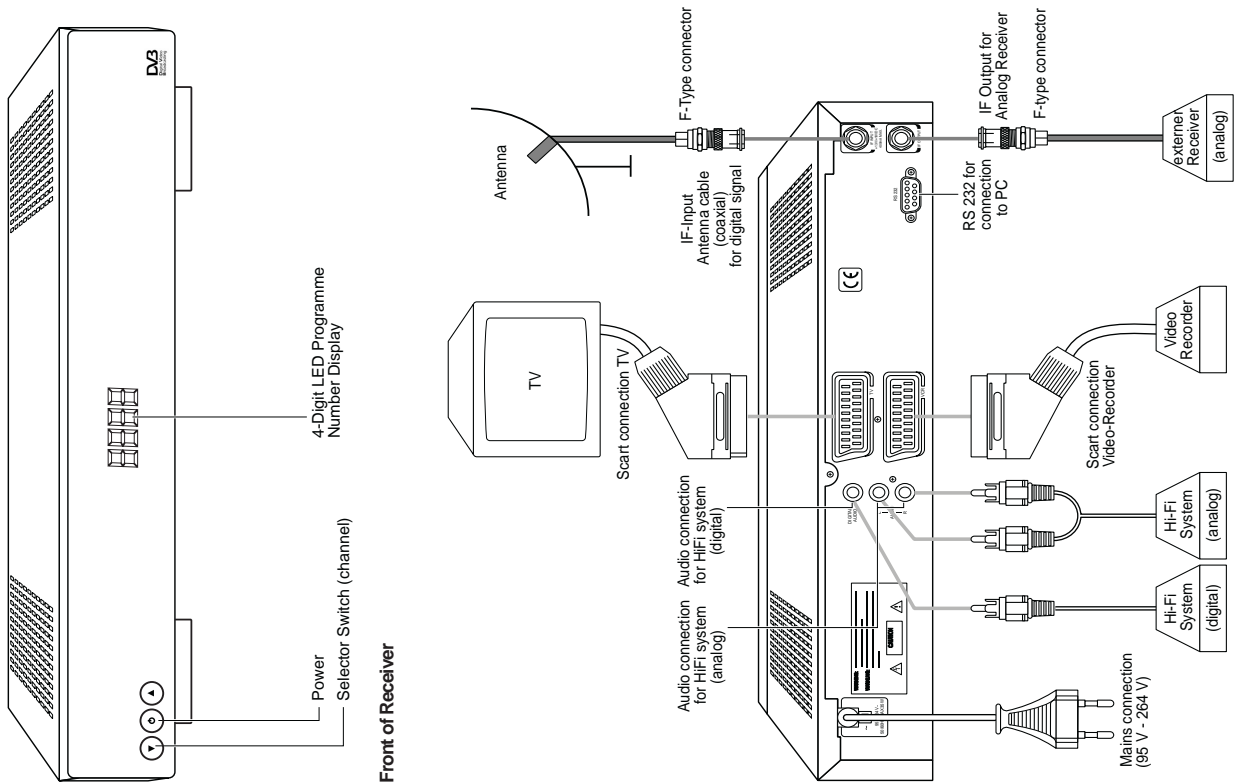
NOTE:

Ensure that you insert the batteries in the remote control with the correct polarity (+/-)!

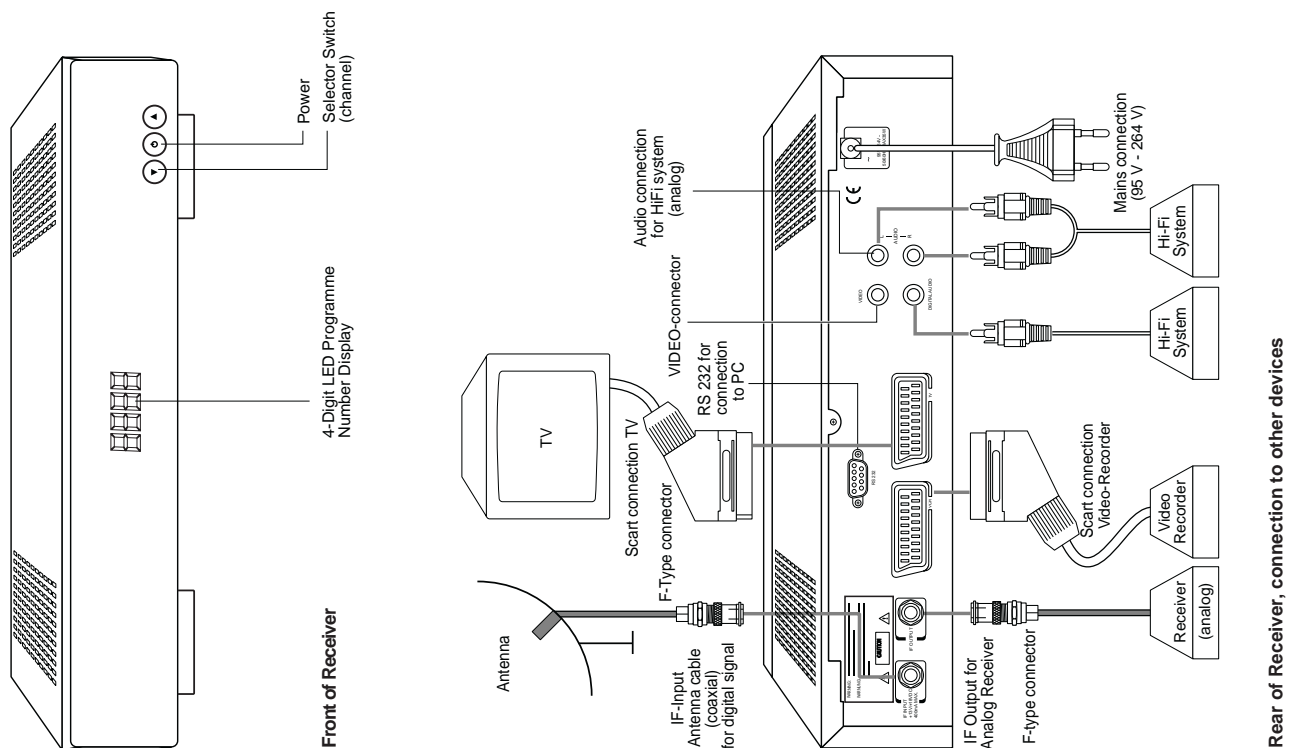
Receiver with Link to the Connected Devices

4.2 Receiver with link to the connected devices (3 Versions)

(A) FTA



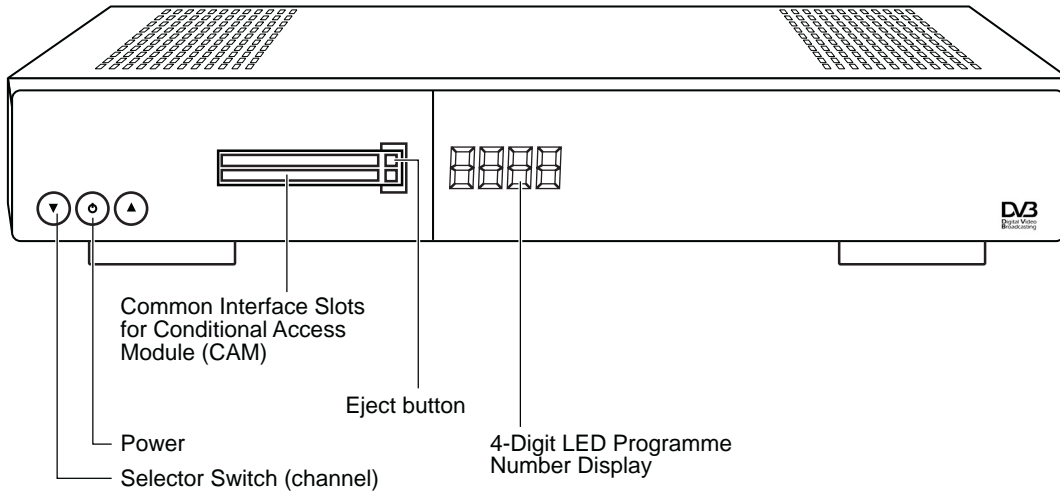
(B) Slimline FTA



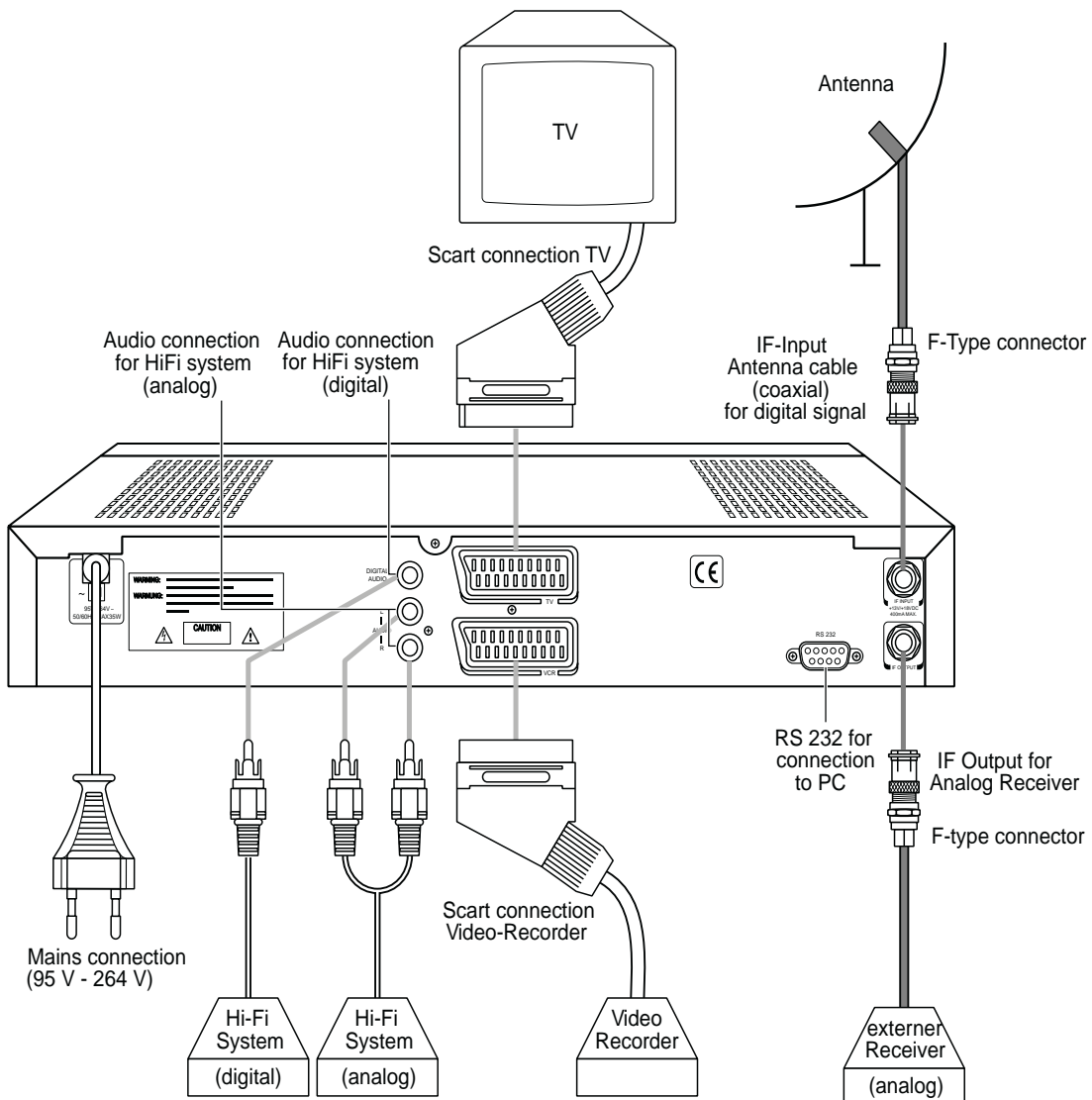
GB

Receiver with Link to the Connected Devices

(C) CI Common Interface



Front of Receiver



Rear of Receiver, connection to other devices

5 Installing the Receiver



ATTENTION:

Never place the device close to heat sources or in a place where there is strong radiation from the sun.

Lay all the cables so that they cannot be damaged, e.g. on sharp edges.

Only connect the device to a mains with 95 V – 264 V~, 50/60 Hz supply.



ATTENTION:

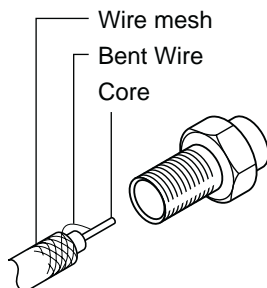
Only connect the device to the mains after correctly linking it to the video recorder, television and any other additional receiver (analogue).

- Use a double-shielded coaxial cable for the coaxial connection cable from the LNB to the receiver.



ATTENTION:

When fitting the F-connector ensure that no protruding wires from the metal braiding come into contact with the inner conductor (see Fig.). There is a risk of a short cut and damage to the receiver on contact!



- Tighten the lock nut of the F-connector by hand. Ensure that the lock nut is not over-tightened.

The receiver has already been pre-programmed in the factory; this means that you can receive hundreds of programmes immediately. You can of course alter this programming or replace it completely. In order to use all the benefits of the user menu (e.g. channel & programme information), you must make several adjustments which are described in detail in the following chapters.

Starting the Receiver

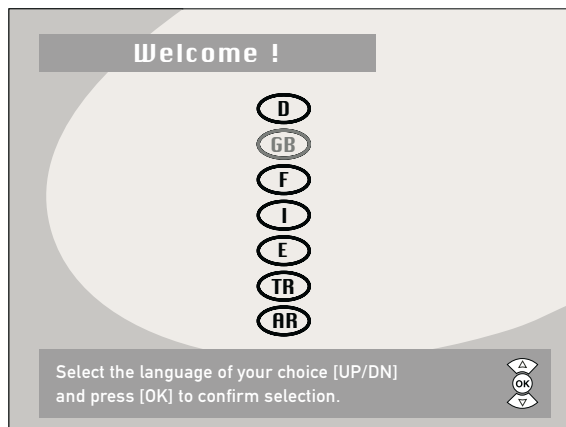
6 Starting the Receiver

- Switch on your television and set it to receiver reception (AV or SCART input).

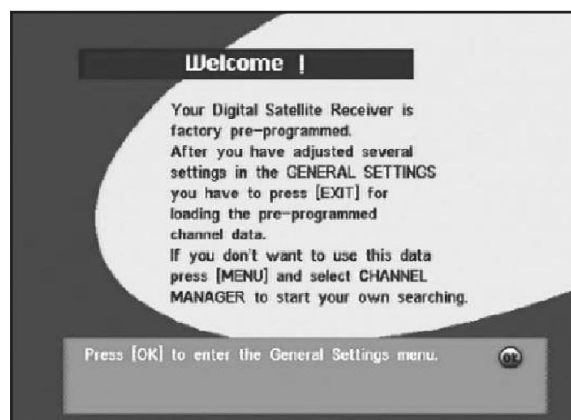
- Press the On/Off button on the receiver or on the remote control.

The receiver display indicates with ON that it is ready for use. You will see the following image on the screen:

- Set your language. The orange dialogue field shows you how to do this and which remote control buttons you require.



The following display shows you what to do next.



General settings

If you have pressed the OK button, you will see the "General Settings" menu. The screen menu shows you the buttons which you can use - and which function they have.

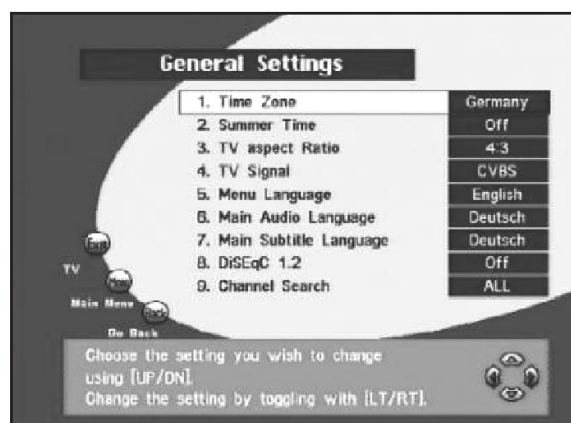
Example:

"BACK" – return to the previous screen menu.

"Exit" – return to the TV display.

"Menu" – go to the main menu.

- Set your time zone by selecting a country in your time zone under 1.
- Select "On" under 2 for summer time and "OFF" for wintertime.
- Under 3: enter the screen format of your television.
- Under 4 select the optimal video format for your television.
- Specify the required language under 5,6 and 7.
- Set 8 "DiSEqC 1.2" ON, if your parabolic antenna has a control motor, which can receive and implement the receiver's control signals (more details under Item 9.5: Antenna Positioner).



ATTENTION:

- If DiSEqC is set to 1.2, the function of DiSEqC 1.0 (A, B, C, D) is no longer guaranteed
- Subtitle function is only for CI model
- Regarding the Video format, the slim-line FTA model only supports CVBS format.

After completing these settings, you can already view the broadcaster's pre-programmed channels. To do this you must activate the factory pre-programming, i.e.:

- Press the Exit button, to download the channel data. After a short waiting period, you will receive and be able to see the television channels.

If you do not want to use the factory pre-programming, you can enter the main menu (see Item 9) and enter all the settings yourself by pressing the Menu button.

7 Using the Receiver

7.1 Switch On / Off

By pressing the ON / OFF button on the receiver or on the remote control, the device switches to Operation ("ON" or channel number on display) or Standby (dot on the display).

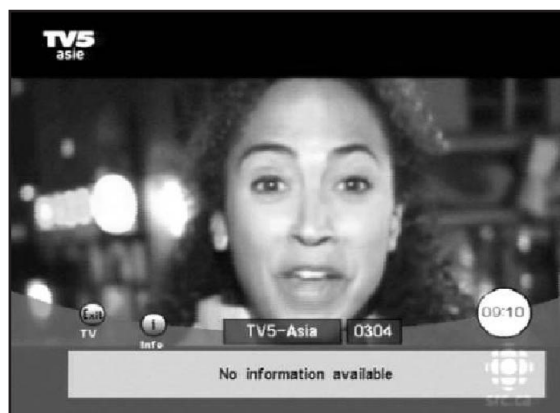
7.2 Channel selection

- Use the number buttons to enter the number of the required channel or select it from a channel list.

NOTE:

The channel number has four digits.
You can also enter from one to three-digit number (e.g. 1, 13, 203), and press the OK button to confirm.

- Press the UP or DOWN button, to get to the next highest or next lowest channel.
- Press the LAST button, to return to the last viewed channel/programme.



Each time you change the channel, the screen shows you the channel name and number, the time and the time at which the current and following programmes start. You can call up this information yourself by pressing the INFO button.

7.3 Volume control / Mute

- Use the volume buttons on the remote control to adjust the volume.

If you do not make any changes for several seconds, the display disappears.

- Press the Mute button (see 4.1), to switch off the sound:
- Press this button again, to cancel the mute setting (switch on sound).



Using the Receiver

7.4 Radio mode

In addition to the TV channels, many broadcasters also transmit their radio programmes in digital Hi-Fi quality.

- Press the Radio button (see 4.1), to switch from TV mode to radio mode.
- Press the Radio button again to switch back from radio mode to TV mode.

7.5 Selecting the audio mode (incl. Dolby digital)

- Press the AUDIO button. Use the > button to select one of the languages offered by the broadcaster (BL).
- Press the UP / DOWN button and set one of the following options:

Stereo – sound from left and right

Mono (L) – sound only from the left

Mono (R)– sound only from the right

AC3 – Dolby Digital

- Press the AUDIO button again or the EXIT button, to quit this menu.

NOTE:

The real purpose of this function is to transmit various language channels to the TV image. However, several channel operators use this facility to transmit various radio programmes. Limited reception can result from this.

7.6 Timer function

You can use the timer function so that your receiver automatically switches on or off or changes the channel at a preset time so that you can record a programme using a connected video recorder. You can also use this function to automatically change channels if you don't want to miss the start of a programme, but want to watch another channel until then.

The timer function enables you to set up a list with all the required timer settings, in which you can set the date and time for the receiver to be switched on and off, the channel and if necessary the daily or weekly repeat of each switching operation.

If you are currently watching a channel and a timer switching operation is pending, the receiver reminds you by overlaying a message that the timer switching operation will take place in one minute. When this time is reached, the receiver switches over to the required channel and "Rec" is displayed on the screen. After the preset time has expired, the receiver switches back to the original channel.

NOTE:

- When you record an AC3 channel, audio mode should be set up to "stereo" before starting to record. (Also you will see the warning message to change to stereo mode 1 minute before the recording begins.)
- If the channel is recorded in AC3 mode, the audio will not be recorded because the audio signal will be transmitted through to Digital Audio Output only.

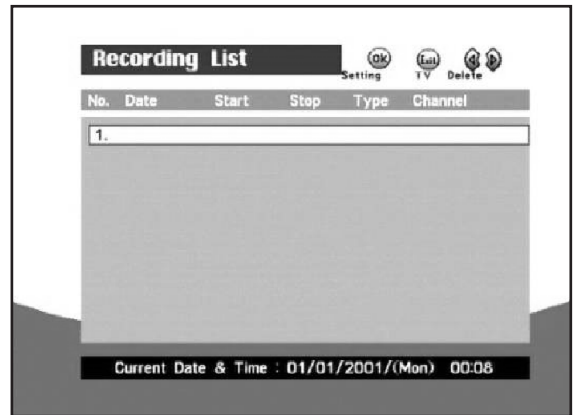
Using the Receiver

Proceed as follows to program the timer:

- Press the "Timer" button on the remote control.

If you have not entered the current date or time, you will now be asked to do so. Use the number buttons. Once you have set this information you will see the following display:

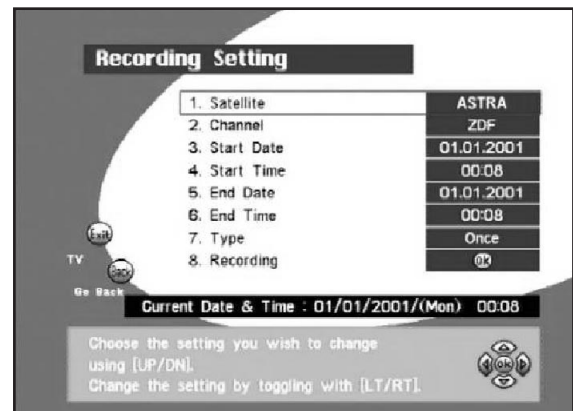
In this list you can see all the timer settings already entered and can enter new timer settings and delete existing entries. Under "Type" you can see whether a switching operation is carried out as a one-off, daily or weekly.



- Press "OK" if you want to enter a new timer setting. You will then see the following display:

In this menu you can enter all the settings for the timed switching operation. Then select menu item 8 and confirm with "OK" to return to the list.

- To delete an entry from the list, select it using the UP or DOWN button and then press the < or the > button. Then confirm with "OK".
- Press "Exit", to return to TV mode.



GB

Channel Lists and Information

8 Channel Lists and Information

8.1 Channel lists and sorting manager

Digital television offers hundreds of channels. Your receiver enables you to select channels using your own personal channel lists so that you do not lose track and above all can quickly change to the channel you want. The manufacturer has already pre-set several hundred broadcasters, which are listed in the "Overall Video List" and in the "Overall Radio List". Apart from the overall lists, you can prepare five "personal lists" and name them as you wish. You can easily program the "Personal Lists"; the instructions are in Chapter 9.2. Proceed as follows to change from one list to another even when a channel is running:

- Press the OK button, while you are watching a channel.
- Press the green button (Timer), if you want to change the user list.

One of the channel lists is overlaid on the screen and the current channel is marked. Use the UP/ DOWN buttons or the < > buttons to select another channel. If you press the OK button, the television switches to the selected channel.

Press the red button (audio) on the remote control, to call up the sorting manager.

You can now sort the channels in the list using the sorting manager as follows:

Alphabetically (A – Z)

Sorts the channels in the list alphabetically from A to Z.

Alphabetically (Z – A)

Sorts the channels in the list alphabetically from Z to A.

FTA/Scrambled Program

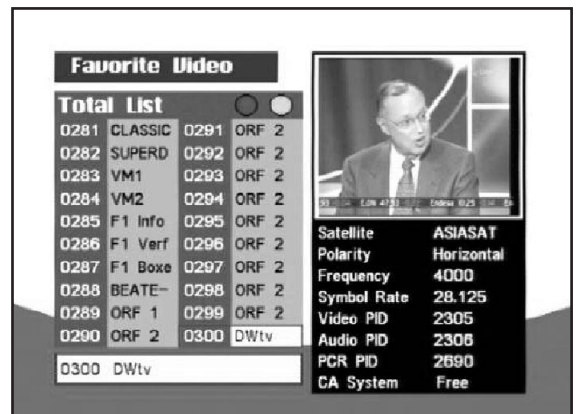
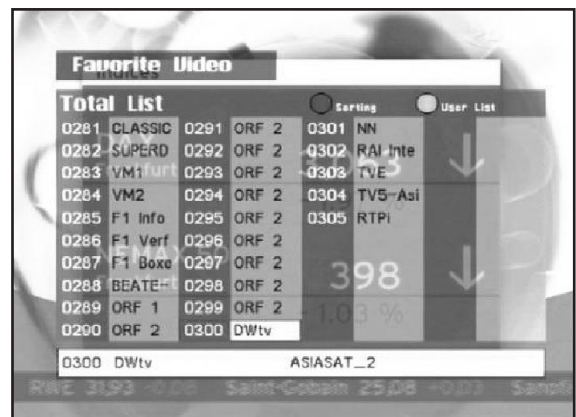
Sorts the channels in the list according to free and scramble channels (FTA = Free-to-air).

Satellite

Sorts the channels in the list according to satellite. You can select four satellites (e.g. Satellite 1: Astra, Satellite 2: Hotbird ...). After sorting, all the Astra channels are at the beginning of the list, followed by all the Hotbird channels, etc.).

Service Providers

Sorts the channels in the list according to service provider. You can select four providers (c.f. "Satellite").



Channel Lists and Information

Theme

Sorts the channels in the list according to channel content (topics). You can choose four theme (c.f. "Satellite"), to which you can assign the following topics:

- Movie / Drama
- News / Current affair
- Show / Game Show
- Sports
- Children's / Youth
- Music / Ballet / Dance
- Arts / Culture
- Soc. / Pol. / Econ.
- Education / Science
- Leisure / Hobbies
- Special

- Press the INFO button, while you are viewing the channel and channel list.

In addition, technical information about the selected channel is now displayed and the television display changes to mini display mode.

Press the EPG button, to display detailed channel information about the current channel instead of the technical information.

- Press the INFO button again to return to the channel list.

8.2 Channel guide and channel content information

NOTE:

Not all the TV broadcaster transmit the channel &/or programme content information!

8.2.1 Detailed information about the channel content

- Press the EPG button, while you are watching a channel (EPG = Electronic Programme Guide).

The channel guide now shows the channel in mini image mode on the television.

Next to this you will see a list with all today's programmes just like in a television magazine.

- Use UP / DOWN to select the programme for which you would like to read the detailed programme information.
- Press the INFO button, to display detailed programme channel information.
- Press the > button, if you want to view the list of programmes on the next or following days.



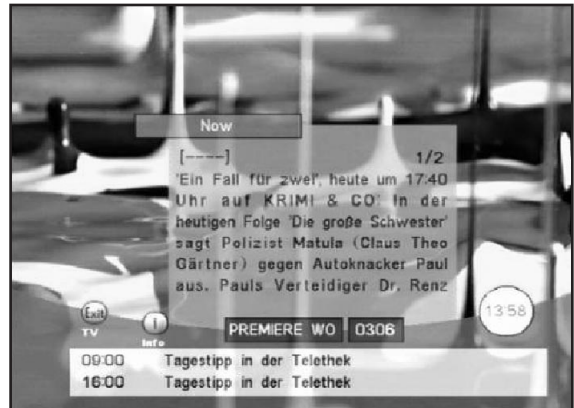
Programming the Receiver

8.2.2 Information about the current channel content

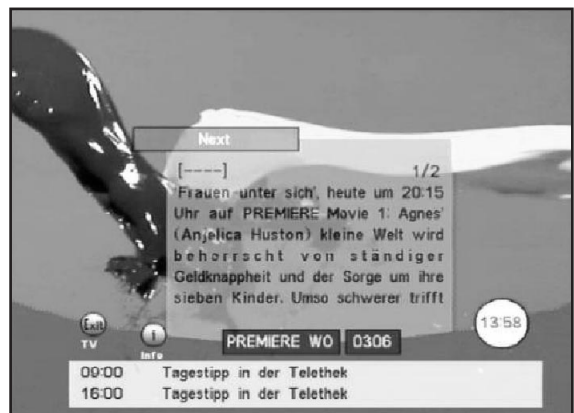
- Press the INFO button, while you are watching a programme.

Your screen displays your channel name and number, the time and the current and following programme with the starting time (as shown in the Figure under 7.2).

- Press the INFO button again to display detailed information about the current programme.



- Now press the > button, to receive this information for the programme which follows.
- Press the INFO or EXIT button to quit this menu.



9 Programming the Receivers in the Main Menu

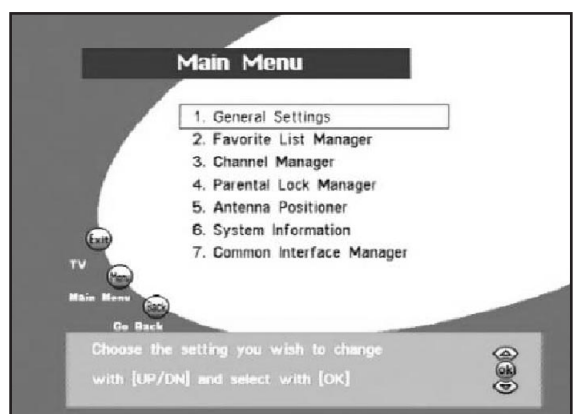
In order to receive additional or other channels than those of the pre-programmed broadcasters, you can install the broadcasters yourself. In addition, you can also use a large number of service functions, from antenna positioning to programme lists through to access authorisation.

9.1 General settings

You already used this menu item when starting up the receiver (Chapter 5). Of course, you can change the settings at any time to e.g. adjust to a new device location.

NOTE:

When changing from summer to wintertime and vice versa, you must enter the change under menu item 1.



9.2 Favorite List Manager

It is necessary to programme a "Personal list", in order to be able to use all receiver's service functions offered.

5 lists are already installed under the names List A to List E.

Enter a name under "1. Edit List Name". Name it according to content, for example "News" or "Sport", or according to the user the list – your imagination is set no limits.

Menu item 1 allows you to change the name chosen at any time.

Use "2. Add / Remove channels" to build up your lists.

- Use UP/DOWN to move the required channel in the overall video list (right-hand side) and confirm your selection with "OK".

The channels have been copied into your personal list. Here it has the current list number (four digits).

In order to include a radio broadcaster in your personal list you have to first change form the "Overall Video List" to the "Overall Radio List" using the Radio button. The rest of the steps are identical to those above.

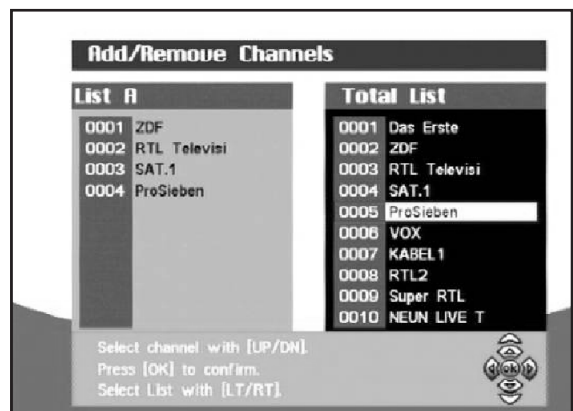
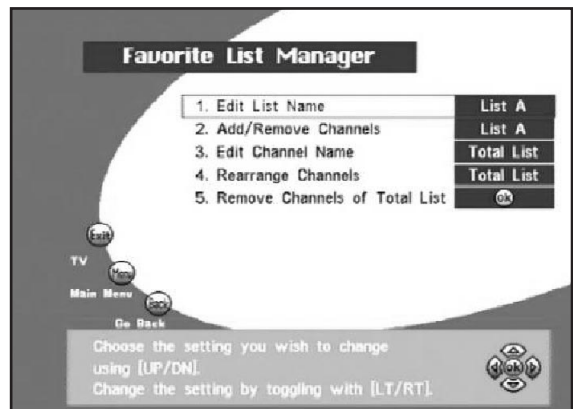
If you want to delete a channel from your list:

- Use the Timer button to enter the personal list and then use the UP/DOWN buttons to move to the required channel. Confirm the deletion of this channel with "OK".

If a broadcaster's name is not as you wish, you can change it as often as you want under the menu item 3.

If you want to change broadcaster's position within the list to that of your television magazine, you can do this using the menu item 4. To do this, mark a broadcaster, shift it to the new position and confirm with "OK".

In order to create space in the overall list to search for new broadcasters, individual broadcasters which are not needed can be moved from the overall list into the "Recycled". Use "5. Remove channels of Total list".

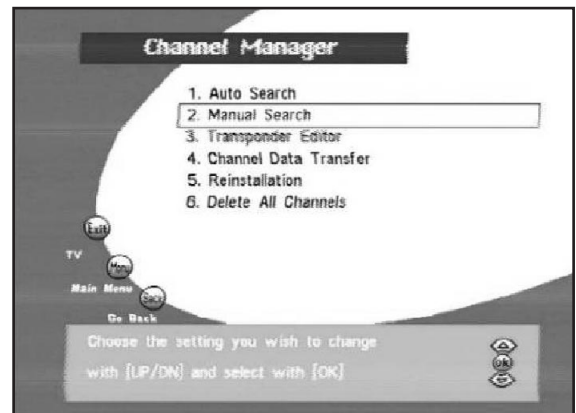


Programming the Receiver

9.3 Channel manager

You can use the channel manager to load new broadcasters into your receiver's memory.

To make these adjustments you require data which you can obtain from your specialist dealer for example or from trade magazines.



DiSEqC Control and 22 kHz switching signal

DiSEqC-Settings:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	SAT A				SAT B				SAT C				SAT D			
Polarisation: Vertical/Horizontal	14 V	14 V	18 V	18 V	14 V	14 V	18 V	18 V	14 V	14 V	18 V	18 V	14 V	14 V	18 V	18 V
LNB-Band: 9,75/10,6 GHz	9,75	10,6	9,75	10,6	9,75	10,6	9,75	10,6	9,75	10,6	9,75	10,6	9,75	10,6	9,75	10,6
DiSEqC Sound:	A	A	A	A	B	B	B	B	A	A	A	A	B	B	B	B
OPTION:	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2

If you do not have DiSEqC controlled satellite equipment, the “upper / lower band” must be entered manually. Do this by switching “22 kHz” on or off.

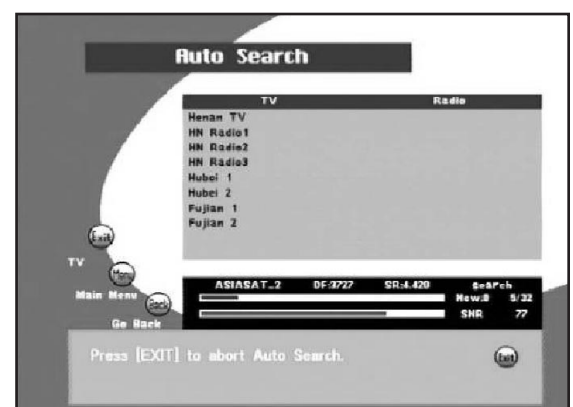
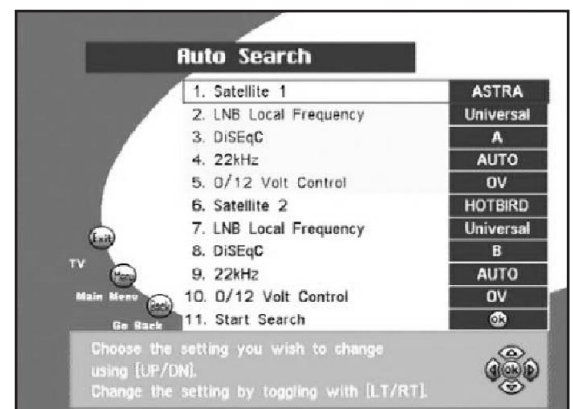
9.3.1 Auto search

Quite a lot of data is already pre-programmed for the automatic search. Standard satellite equipment uses so-called universal LNBs with a local oscillator frequency of 9750 MHz for the lower band and 10600 MHz for the upper band. The receiver's basic settings contain this data, as well as the ASTRA and HOTBIRD satellites. You only have to adjust this data in the menu if your satellite equipment deviates from this or you want to enter other settings.

During the search you will see a bar on which you can follow the search through the frequency. The other information shown has the following meaning:

- DF: Satellite frequency
- SR: Symbol rate
- .../...: Number of transponders found / possible
- New: number of stored channels.

If the search fails, check and correct all the settings one after the other. The items 5 and 10 “0/12-Volt Output” do not have any function in this model.



Programming the Receiver

9.3.2 Manual search

(This menu was divided into two sections on the real screen, move from one part to the other using "BACK".)

You should leave the settings for this menu to a professional, unless you yourself are almost a professional.

Network search:

Each individual transponder provides the information for the complete satellite system (Prerequisite: The provider always keeps the list up to date). When entering a transponder and with network search "ON" it automatically searches for all transponders, which belong to this network.

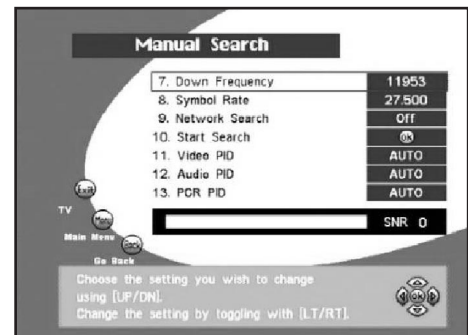
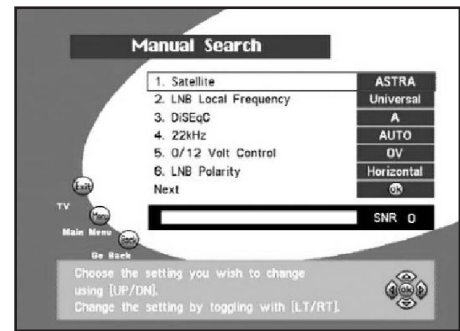
However, the network definition varies among the different satellite operators so that all the channels of a satellite or only selected channel clusters are taken into consideration.

PID (Packed Identifier):

The PID number is the identifier for video and audio signals in the digital data stream of the DVB MPEG-2 signals.

Due to poor labelling, some channels cannot be identified, either during automatic, nor during manual search. In this case, you can enter the PID numbers so that you can receive these channels too.

The Item 5 "0/12-Volt Output" does not have any function in this model.



GB

9.3.3 Transponder editor

Here satellite data can be changed, added to or deleted. This function is only intended for service purposes and absolutely no influence on the operation of your receiver.

NOTE:

If all the data for a satellite is deleted, the satellite itself is also deleted.

9.3.4 Channel data transfer

This menu item has been included to assist the specialist trade. It is used to transfer self-selected preferential programming from a master device to several slave devices. This preferential programming takes into consideration the uniform interests of a group of customers, e.g. special regional or ethnic characteristics.

Master and slave receivers are linked to each other via RS 232 interfaces for transmission of the program data.

NOTE:

During the data transfer, all other receiver functions are blocked. The transmission can only be interrupted by removing the mains plug.

9.3.5 Reinstallation

If you have changed or deleted the pre-programmed data you can reset the device back to the factory settings. To do this, you will need the password (Chapter 9.4).

Programming the Receiver

9.3.6 Delete all Channels

ATTENTION:

After carrying out this function (password required) all the settings are deleted and the receiver has to be reprogrammed!

If you want to renew the whole programming, first delete all the channels and programs. Your receiver then greets you again with the "Welcome!" menu as in Chapter 6.

9.4 Parental Lock Manager

Various functions of the receiver require a password to be entered, this was set to 0 0 0 0 in the factory.

You can protect the device with an access block to prevent unauthorised use of your receiver.

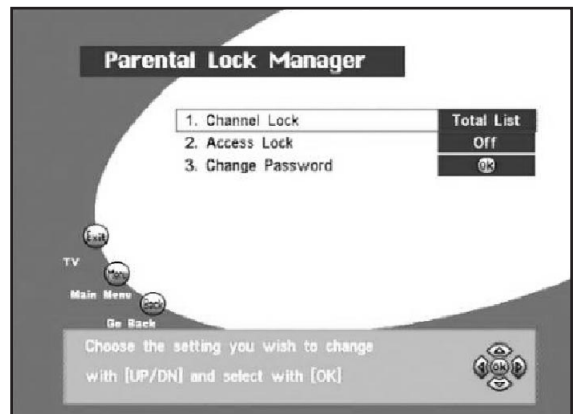
- Enter the password in menu item 4 of the main menu and then switch the "Access Block ON".

The password then has to be entered each time the receiver is switched on. You can activate the channel or programme block analogous to the program block under Item 1 to prevent uncontrolled viewing of certain channels or programmes. The password then has to be entered to remove the block each time a channel is selected.

The password can be changed if necessary using menu item 3.

NOTE:

In case of emergencies: If you have forgotten your password, your trade dealer can ask the manufacturer for a general password for you.



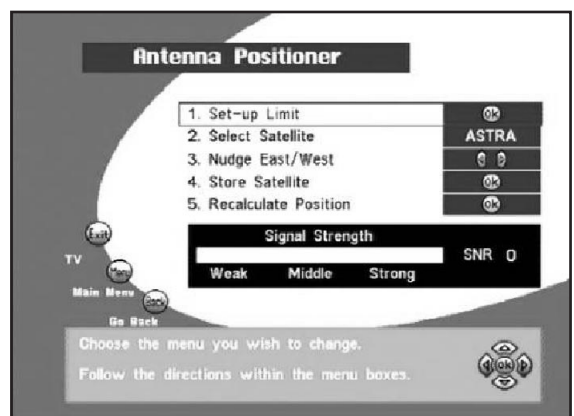
9.5 Antenna Positioner

The settings described in the following require very specialist knowledge and skills. Therefore, please contact an experienced professional.

Prerequisites:

Parabolic antennae have a control motor, which can receive and implement the receiver's control signals. The antenna is correctly adjusted mechanically so that it can precisely follow the satellites' orbits. This is necessary to receive the strongest possible signal.

"7. DiSEqC " has been set to "1.2" in the "General Settings" menu.



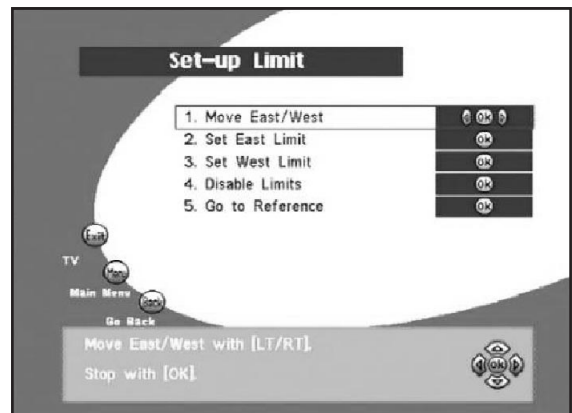
The satellite receiver "knows" the positions of the individual satellites relative to each other. Therefore in order to select a certain satellite in the "Antenna Positioner" menu it is sufficient to select and find a certain satellite, and to set it to maximum signal strength and save the settings. All the other known satellites are set and stored with the "recalculate position" command.

Programming the Receiver

Of course, you can also search for newly created satellites, however you may then only use the menu items 1 - 4.

The spatial limits within which the parabolic antenna can move without touching a hindrance are specified in the "1. Set-Up Limits" sub-menu.

To do this, the antenna is first moved as far as possible in the eastern direction and this position then fixed with "Set East Limit". Then, again using menu item 1, it is moved and the western direction and fixed with "Set West Limit". If the structural circumstances change the set positions can be deleted using "Disable Limits" and then reset later.



The menu item "5. Go to Reference" resets the antenna's control motor to the delivered condition (zero position – middle).

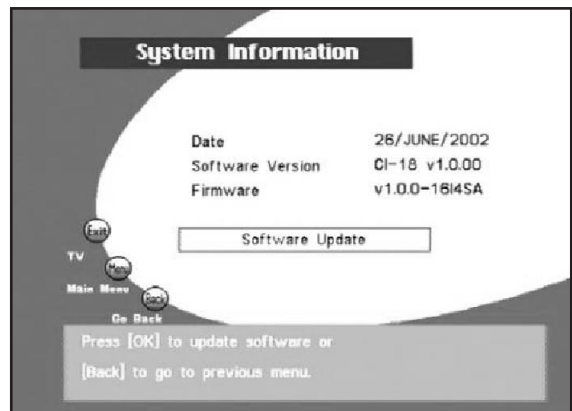
NOTE:

If your antenna does not have a motor control, you can use the "Antenna Control" menu to check the signal strength.

9.6 System information and software update

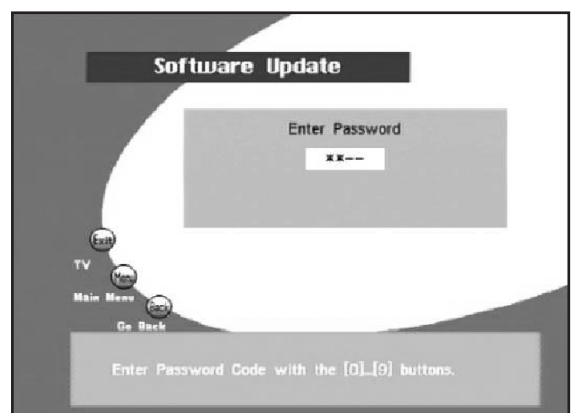
Under this menu item you will find information about the software version of your receiver and can update the software version.

The software version is updated by downloading the new software via the satellites. Prerequisite for this is that a more up to date version is available.



If you confirm the "software update" with "OK" you are first asked to enter the password.

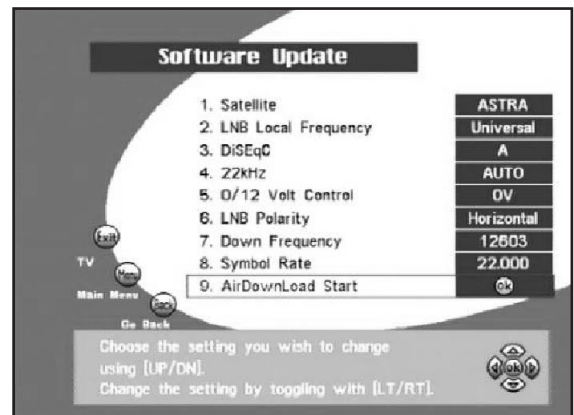
Either enter the four characters you chose under "Access Authorisation" as your password, or enter 0 0 0 0, if you haven't yet set a password.



GB

Programming the Receiver

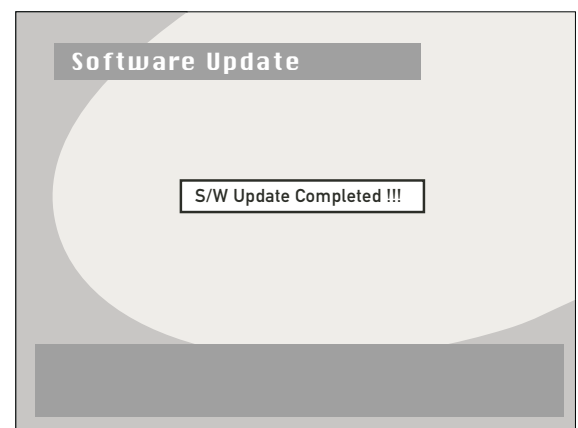
In the following menu you can see the receiver settings for downloading the new software version and can make changes too if required.



If you confirm "9. Air Down Load Start" with "OK", the receiver first checks whether a more up-to-date software version is available.

If this is not the case, "No available software found! Please try again later on" is displayed.

After successfully downloading a new software version "Software update completed!!!" is displayed and the receiver automatically restarts.



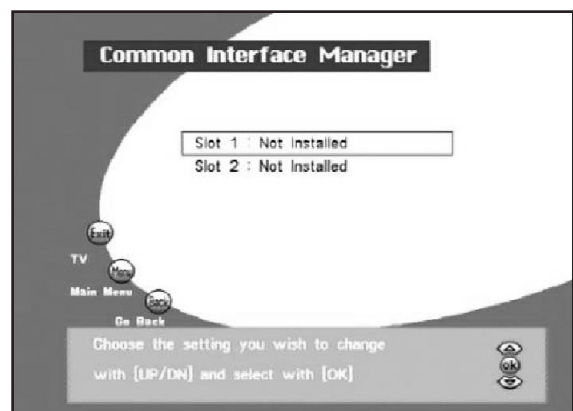
9.7 Common interface (optional)

Your receiver is fitted with two PCMCIA slots, which enable the use of two CI-CA modules. You can use these modules to view the pay by view, not free encoded channels, which are transmitted by satellite in the same way as the uncoded channels.

In addition to the CI-CA module, in order to be able to view an encoded channel you also require a multi access module with a CI slot and the channel provider's relevant smart card.

When you have then paid the subscription or a one-off charge for the channel provider's smart card, the CI-CA module in your receiver can compare the transmitted code with the smart card in the multi access module. If they match the channel is deciphered and you can view the channel.

Please ask your specialist dealer about multi-access modules and smart cards on offer and the charges. If you want to see which CI-CA modules are installed in your receiver, or if you want to make adjustments to the CI_CA modules, press "Menu" and then select Item 7 "Common Interface Manager". You will then see the following display:



If a CI_CA module has been installed, the receiver automatically determines the type of module and displays it in this menu.

When selecting a module you have access to the various options available to this type of module. These include permits, advance booking, details of channel packages, etc.

10 Troubleshooting

NOTE:

Large quantities of data are transmitted and processed simultaneously in digital receiver technology. Switching from one channel to another therefore takes a bit longer than you are used to with an analogue device.

A sand timer or the message "please wait" appears during the waiting time.

Malfunction	Possible cause	Corrective measures
Noise, but screen menu visible	Satellite equipment defective or incorrectly set, LNB defective	Check the cable and the connector, Reorientate the antenna, check the LNB
	High signal losses at the cable	Replace the satellite cable or use a signal amplifier
	Defective LNB	Replace LNB
	Plug-in connector faulty (water, corrosion)	Repair link
No stereo sound	Wrong cable between the TV and the receiver	Check the scart cable
Remote control doesn't react	Batteries empty	Replace the batteries
	Remote control not pointed in the direction of the device when used	Correct the position of the remote control

11 Disposal

The device, the packaging (e.g. polystyrene) and the batteries must not be disposed on in the normal domestic waste. Dispose of all the materials separately according to the regulations at the specially allocated locations. Please find out about the applicable regulations (environmental agency, etc.).

Technische Daten • Technical Data • Caractéristiques Techniques Datos Técnicos • Dati Tecnici • Teknik Özellikler

Version (A) FTA + (B) Slimline FTA + (C) CI Common Interface

Tuner/Front-End Demodulator

· IF Input Frequency	950 ~ 2150MHz
· IF Loop through output	950 ~ 2150MHz
· Input Impedance	75ohms
· Input Signal Level	-65dbm ~ -25dbm
· LNB Polarization	13/18Vdc@Max 400mA,
Switching Voltage	Short Circuit Protection
· Band Switching	22Khz Tone, DISEQC1.2
· I/Q Output	Unbalanced Output, Controlled by AGC Input
· Demodulation according	DVB-S
· Type	QPSK
· Symbol Rate	1 ~ 45 Msps
· Viterbi Decoding Rate	1/2, 2/3, 3/4, 4/5, 5/6, 7/8
· Reed Solomon Decoding	FEC: 204,188, t=8

Baseband Video/Audio Output

· Video Output Impedance	75 ohms
· Video Output Level	1Vp_p
· Audio Output Impedance	600 ohms Unbalanced
· Audio Output Level	3.0 Vp_p With Volume Control
· Digital audio output Level	0.5 Vp-p with 75 ohm terms

Transport Demultiplexer

· Demultiplex	According to ISO/IEC 13818-1
· PID Handling Capability	32 PID
· SI Filtering	According to DVB-SI spec (ETS 300 468)

Video Decoding Parameters

· Video Decoding	ISO/IEC 13818-2 MP@ML
· Aspect Ratio	4:3, 16:9
· Resolution	Max. 720 x 576

Audio Decoding Parameters

· Audio Decoding	ISO/IEC 13818-3 Layer I & II
· Operating Mode	Mono, Stereo
· Sampling Frequency	32, 44.1, 48 KHz

Data Service Port

· Connector	9 Pin D-Female Type
· Protocol	RS-232 Asynch
· Data Rate	Max 115200 bps

Front Panel

· 4 Digits LED Display
· 3 Buttons
· IR Sensor
· 2 Slots (only for CI Model)

Version (A) FTA + (C) CI Common Interface

Microprocessor and Main Memories

· Microprocessor Type	ST20-C2 (STI5518)
· Flash ROM (for program memory)	1M x 16 bit
· SDRAM (for decoding)	4M x 16 bit

Rear Panel

· IF Input	F-Female Type
· IF Loop through output	F-Female Type
· Audio Output	2 RCA (Left, Right)
· Digital Audio output	1 RCA, Optical jack (option)
· Video Output	S-VIDEO (option)
· 2 SCART Output	1TV (CVBS,RGB),1VCR (CVBS)
· RS232 Serial Port	9 Pin D-Female Type
· Power Cord	Europe Flexible Cord
· Remodulator Input, output	IEC male/female (option)

Remote Control Unit

· Type	IR (Carrier Freq. 38KHz)
· Battery	2 x 1.5V AA or 2 x 1.5V AAA
· 32 Keys	Power, 0~9, Mute, Info, Up, Down, Left, Right, Back, Radio, Menu, Exit, Epg, OK, Volume up/down, Last, Page up/down, Timer, Audio, A/D
· 1 Key for CI Model	Subtitle

General Data

· Input Power Voltage	AC95 ~ 260V, 50/60Hz
· Power Consumption	Max 30 Watts
· Dimension (W x D x H)	337 x 240 x 69mm

Version (B) Slimline FTA

Microprocessor and Main Memories

· Microprocessor Type	ST20-C2 (STI5518)
· Flash ROM (for program memory)	1M x 16 bit
· SDRAM (for decoding)	4M x 16 bit

Rear Panel

· IF Input	F-Female Type
· IF Loop through output	F-Female Type
· Cinch Output	AUDIO (Left, Right), VIDEO, Digital Out (SPDIF)
· 2 SCART Output	1TV, 1VCR
· RS232 Serial Port	9 Pin D-Female Type
· Power Cord	Europe Flexible Cord

Remote Control Unit

· Type	IR (Carrier Freq. 38KHz)
· Battery	2 x 1.5V AA or 2 x 1.5V AAA
· 32 Keys	Power, 0~9, Mute, Info, Up, Down, Left, Right, Back, Radio, OK, Menu, Exit, EPG, AD, Timer Last, Page up/down, Subtitle, Audio, Volume up/down

General Data

· Input Power Voltage	AC95 ~ 250V, 50/60Hz
· Power Consumption	Max 30 Watts
· Dimension (W x D x H)	275 x 156 x 56 mm
· Weight	1.1Kg
· Operation Temperature	0 ~ 40 Deg.