

# ProTUNE HD / S

Digital HD / SD  
Satellite TV Tuner

## User Manual

Version 1.2



## Disposal



The packaging of your device is composed exclusively of recyclable materials. Please run this again sorted according to the "dual system". This product may not be disposed with the normal household waste, but should be brought to a collection point for recycling electrical and electronic equipment.

The  - Symbol on the Product, user's manual or packing refers to disposal.

The materials are as marked recyclable. By recycling, material recycling or other forms of recovery from old devices, you make an important contribution to protect our environment. Ask your city or local authorities about ways to properly dispose e-waste in keeping with current environmental standards and regulations.

Return spent batteries to a designated collection point. Never dispose of batteries along with your normal household waste. Batteries probably could contain toxic substances. Therefore, always dispose of batteries in accordance with current laws governing mandatory return schemes for e-waste.

## Safety Precaution



- The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to "dangerous voltage" and to prevent from a risk of electric shock.



- WARNING:** To reduce the risk of electric shock, don't open the housing. Refer servicing to qualified personnel only.



- The exclamation point within an equilateral triangle is intended to alert the user to important operating and maintenance (servicing).
- WARNING:** Do not use the ProTUNE HD where contact with or immersion in water is a possibility. Do not use near flower vase, washbowls, kitchen sinks, laundry tubs, swimming pools, etc.
- WARNING:** Do not put the candle or lamp stand on the housing
- WARNING:** The unit should be connected to a power supply only of the type described in the operating instructions or as marked on the unit. If you are not sure of the type of power supply (for example, 120 or 230 V) to your home, consult your local dealer or local power company.
- WARNING:** This product installs diodes. Do not open the housing or touch any parts in the inner mechanism. Consult your local dealer for technical service if the opening is required.
- Note:** To ensure proper use of this product, please read this User manual carefully and retain for further reference.
- Unit Cleaning:** After the unit power is turned off, you can clean the housing, panel and remote control with a soft cloth lightly moistened with a mild detergent solution.
- Accessories/Attachments:** Never add any attachments and/or equipment without the manufacturer consent; as such additions may result in the risk of fire, electric shock, or other personal injury.
- Locating:** Slots and openings in the housing are provided for ventilation to protect it from overheating. Do not block these openings or allow them to be blocked by placing the ProTUNE HD on a bed, sofa, or other similar surface, nor should it be placed over a radiator or heat register.
- Power Cord Protection:** Place the power cord out of the way, where it will not be walked on. Please take special attentions to cords at plugs, convenience receptacles, and the point where they exit from the unit.
- Object and Liquid Entry:** Never put objects of any kind into ProTUNE HD through openings, as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill any liquid on the ProTUNE HD.
- Note:** Moisture may be formed inside the unit when it is suddenly moved from a cold environment or an air-condition room to a warm place, immediately after a heater has been turned on, and in a steamy or very humid room. If the moisture forms inside the unit, it may not operate properly. To correct this problem, turn on the power and wait about two hours for the moisture to evaporate.
- Parts Replacements:** When the unit parts need to be replaced, user should make sure the service technician use the replacement parts specified by the manufacturer or having the same characteristics as the original part. Unauthorized replacement may put the unit in the risk of fire, electric shock or other hazards.
- Safety Check** After all the maintenances and repairs are done, user is required to request the service technician to conduct the overall safety check to ensure the machine is in the proper condition.

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## 1. Scope of Delivery

- IR Remote Control
- Power Cord
- Product-/Software-CD

## 2. Instruction

The ProTUNE HD / is a HDTV-Tuner, to receive digital TV (DVB-S2) and digital radio over satellite.

The bi-directional RS-232 and Ethernet port allows you to control the ProTUNE HD by external control systems such as AVIT®, RTI®, AMX®, Crestron® or others.

Setup can be done by the included IR Remote Control or by the easy to use front panel.

The Tuner is designed for the use in presentation rooms, training and seminar facilities, schools, universities, hotels or in a home cinema.

### 2.1 Description Front Panel / Remote Control

#### 2.1.1 Front Panel



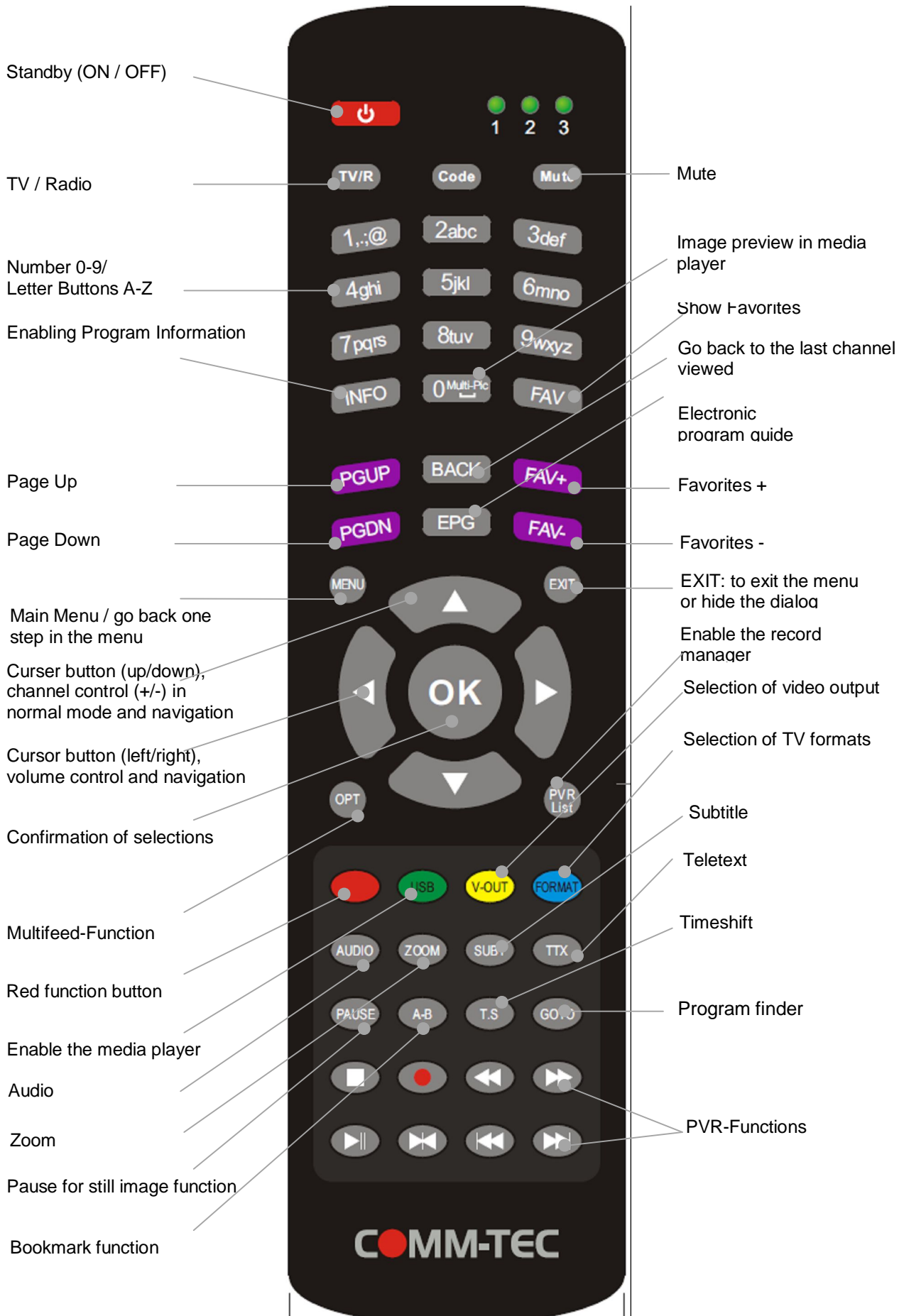
1. ON: Switch to Power On or standby mode.
2. Display: Shows current channel and program information when in operation, and current time in standby mode.
3. OK / SETUP: To open the main menu, or to close the current menu level, and to confirm a selection.
4. MENU / EXIT: To Exit the main menu and current menu level
5. Up / Down: To switch between channels or navigation and adjustment of values in the menu (up or down).
6. Left / Right: Adjustment of volume and changes to values in the menu (left or right).

## 2.1.2 Back Panel



1. IF OUT: Satellite output for daisy-chaining with other devices.
2. IF IN: Satellite Input
3. AUDIO SYM.: Balanced audio output
4. USB: Interface for firmware updates, for the connection to a external data carrier, to be used for recording or time shift functions.
5. HDMI: Digital output for the transmission of audio and video data.
6. OPTICAL S/PDIF: Optical, digital audio output for the connection to an external AV-Receiver.
7. S/PDIF: Electrical, digital audio output for the connection to an external AV-Receiver.
8. AUDIO R / AUDIO L: Analog audio output for the connection to stereo equipment or monitors.
9. Y/C Out: Analog video output for the connection to a monitor
10. YPbPr: Component outputs, that can also be used as composite output if desired.
11. LAN: For the connection to a network or compatible hardware, for external control, and for firmware update.
12. RS232: For the connection to compatible hardware, for external control, and for firmware update.
13. Power Switch: Power ON or OFF.
14. Power Input (100-240VAC): IEC-Socket for the connection to current supply by a power cord.

### 2.1.3 Description of Remote Control



## 2.2 Basic Functions

- **Turning on the ProTUNE HD**  
Turn on the [Device mainstream] switch. If you turn on the ProTUNE HD for the first time, the first channel from the default channel list is displayed. With further commissioning shows the ProTUNE HD to the channel that was displayed before the last turn.
- **Power**
  1. Press [Power] Key to enter the Standby state.
  2. In Standby state, press [Power] Key again to call back the unit and play the previous channel..
  3. Use the device's main power switch on the back to turn off the unit completely.
- **CH 5 6**  
Press [CH5 6] to switch channels in TV mode.
- **VOL3 4**  
Press [VOL3 4] to increase/decrease volume in TV mode.
- **Channel Number**  
In TV mode, you can enter the channel number directly with your remote control to switch to the desired channel.
- **Mute X**
  1. In TV mode, press [Mute X] to turn off sound. Activated Mute is indicated on the display by an icon.
  2. Press [Mute X] again to turn on sound.

### **PAUSE**

1. In TV mode, press [Pause] to stop the image. The sound of the channel continues to run.
2. Press [Pause] again to continue the TV image from the current time.

### **RECALL**

Press [Recall] to switch between the current and the last channel viewed.

### **FAV**

1. In TV mode, press [FAV] to display the favorites list on the monitor. Each favorites list is being created by pressing the EDIT button, calling up the channel list, and selecting the desired channels by [FAV].
2. In the Favorite group window please navigate with [CH5 6] and press [OK] to confirm selection. In larger favorites groups, [PGUP/PGDN] can be used to navigate.
3. Press [VOL3 4] to select between the different favorite groups.

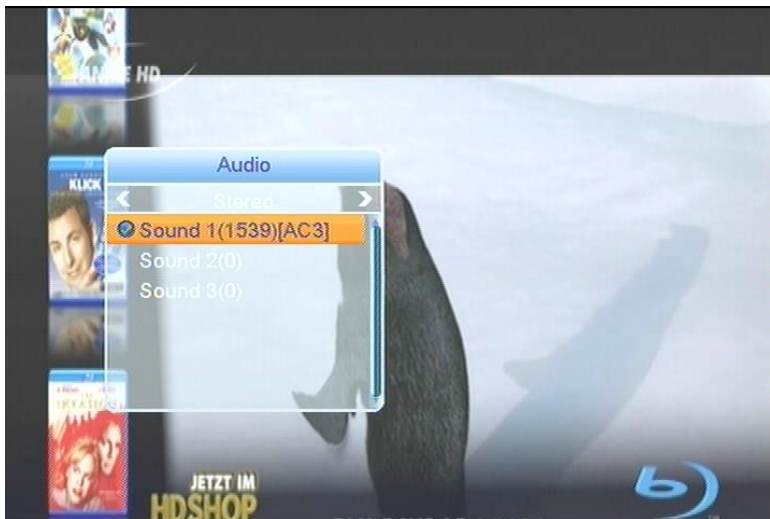
### **FAV +/-**

1. In TV mode, press [FAV +/-] to switch between Favorites and actual Favorite Groups.
2. The ordering of the favorites is in accordance to the respective Favorite Group List.
3. Press [Exit], to leave the favorites window.

### **AUDIO**

1. In TV mode, press [Audio] to open the Audio options.





2. Select "Audio Track" with [CH56], to change the "Audio Modes" press [VOL34] for Stereo, Mono, Right/Left.

## **INFO**

In TV mode, press [INFO] to open the information screen, where the parameters of the current channel are being displayed. The availability of so-called Service Information (SI-Data) depends on the respective program/service provider.



Channel  
number

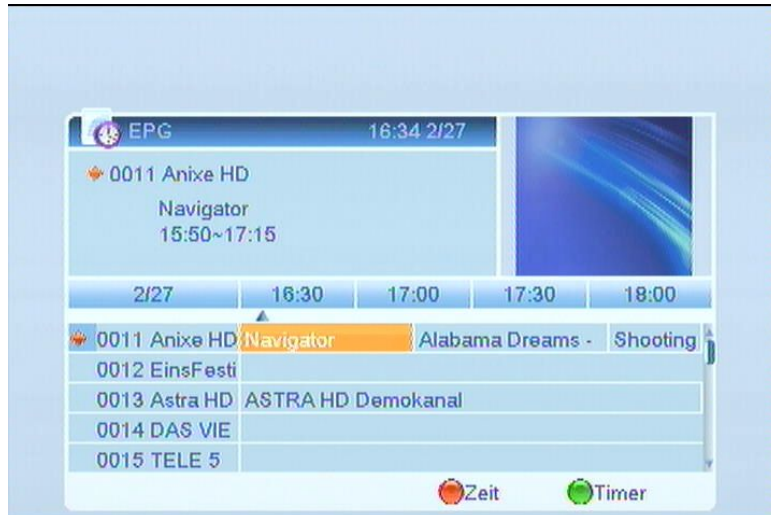
Service  
Information

Channel name

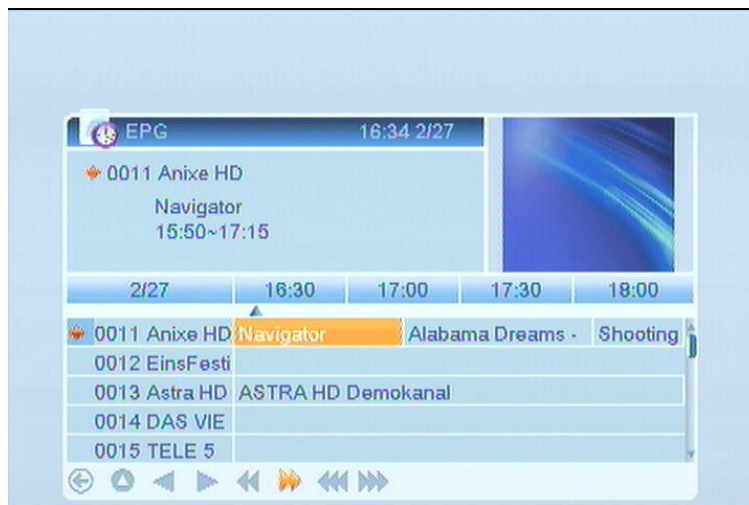


## **EPG (ELECTRONIC PROGRAM GUIDE)**

The ProTUNE HD includes a electronic program guide (EPG). The EPG provides program information in table format (if provided by the broadcast station). The EPG includes information about the broadcast times and program contents. Press [EPG] to open the EPG window.








1. Press the "Time" function key [RED], to obtain information about the program for the upcoming days:



Navigation icons for  
EPG

2. Use [VOL3 4] to navigate, by pressing [OK] the desired time will be displayed. [EXIT] closes this dialogue.

-  Back to previous menu
-  Back to current time
-  Scroll in a ½ hour intervall (back/forth)
-  Scroll in a 2 hour intervall (back/forth)
-  Scroll in a 1 day intervall (back/forth)

3. By pressing the “Timer” function key [GREEN], you can add the selected show directly to the Timer.



To navigate, press [CH5 6 VOL3 4] and set the desired date, on and off time using the number keys. To confirm, select “Save”.

## TV/RADIO

The [TV/R] button allows you to toggle between television and radio services. When transmitting a radio station, the receiver displays a background picture.

To switch from radio back to television, press the TV/Radio button [TV/R] on the remote control..

## OK

In TV mode, press [OK] to enable the channel list. In menu/applications, press [OK] to confirm your selection.



## SAT

1. In TV mode, press [SAT] to enable the satellite list and to select accordingly..
2. Press [VOL3 4], to toggle between the different satellites.

## **MULTI**

In TV mode, press the [MULTI] button to enter the multi picture mode.

1. In Multi Picture Mode, nine channel preview windows are being displayed (static display), starting with the current channel. Only the marked preview channel is played continuously.
2. Press [CH5 6 VOL3 4] to move the selected channel between the preview programs.
3. Use the number buttons [1] ~ [9] to move the marker directly on the corresponding channel. With [OK] you can get the selected channel in full screen mode.

## **LNB SHORT CIRCUIT**

If there's a short circuit in the LNB, you will see "LNB short circuit!" on the screen. Please check your cables and connections for short circuits. If the short circuit is removed, the warning disappears.

## **SLEEP**

1. Press [Sleep] in TV mode to set the Sleep Timer. You will see: "Sleep Timer OFF / Sleep Timer 10 / Sleep Timer 30 / Sleep Timer 60 / Sleep Timer 90 / Sleep Timer 120".2.
2. If you set one off time, the system will be set to standby at the selected time.



## **TXT**

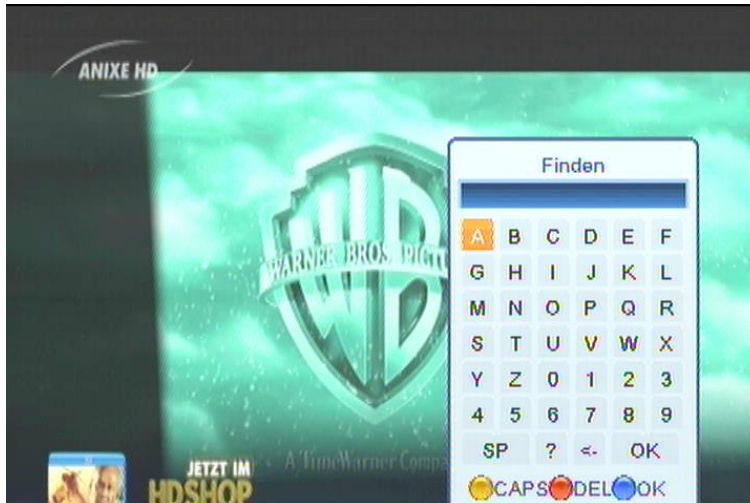
1. Press [TXT] in TV mode to open teletext. The support of this service depends on the channel provider.
2. If there is no teletext provided, you will see "No teletext" on the screen.

## **SUBTITLE**

Press [SUB] in TV Mode to enable subtitles. The support of this service depends on the channel provider.

### **GOTO (SEARCH FUNCTION)**

Press [Goto] or the yellow button when in channel list, to enable the search function. You can navigate with the [CH5 6 VOL3 4] buttons, confirm with the blue button, and delete with the red button.



### **ZOOM**

1. Press [ZOOM] to activate the image enlargement function.



3. Press [ZOOM] again, and the video image will be enlarged x1, x2, x4, x6, x8, x12, x16, depending on number of strokes.
4. Press [EXIT] to leave the ZOOM function.

### **TV/STB**

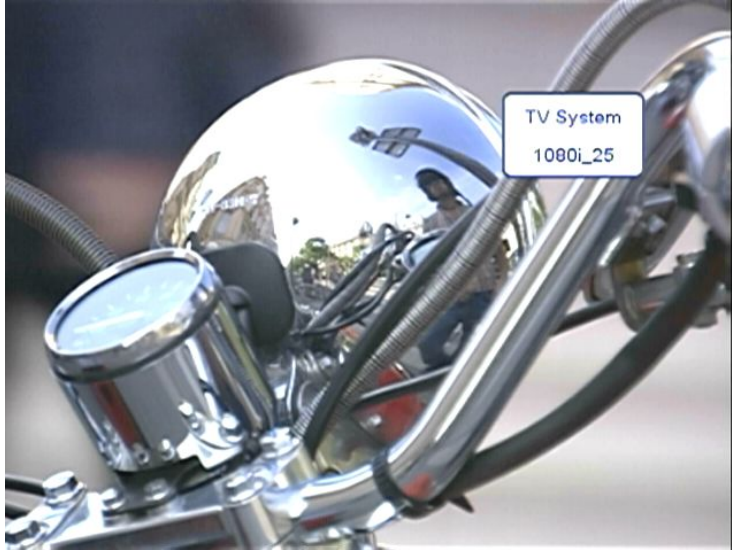
Press [TV/STB], to toggle between TV and STB mode.

### **MENU**

Press [MENU] to enter the main menu. Another press of [MENU] will exit the main menu.

## **FORMAT**

Press [Format] in the full-screen mode, to select between the different resolutions: 576i -> 480i -> 576P -> 480P -> 720P\_50 -> 720P\_60 -> 1080i\_25 -> 1080i\_30.



## **EXIT**

Press [EXIT] to exit menus and applications..



### 3. Menu

#### 3.1 Installation

When entering the menu, the first item is "Installation". The window is indicated as follows:



1. Press [CH5 6 VOL3 4] to select between LNB Settings, Satellite List, TP List, and Channel Search.
2. Press [OK] to get to the respective setting/function.

##### 3.1.1 LNB Settings

Press [VOL3 4] to get to "LNB Settings". A window will be displayed as indicated below:

1. LNB Frequency: Press [VOL3 4] to select between "Universal", „Twin“, „User“ and C-Band.

For Example: If you use a SingleLNB, you should select "Universal".



22K: Use [VOL3 4] to select "ON" or "OFF". The 22kHz signal is used at KU Universal LNB to switch between low and high frequency band.

**! NOTE:** If you set the LNB type to Universal, you cannot change 22K.

DiSEqC1.0: Press [VOL3 4] to switch DiSEqC switch options: disable / LNB1 / LNB2 / LNB3 / LNB4

2. Polarization: Press [VOL3 4] to select between: Auto / H / V / OFF.

3. Transponder: Press [VOL3 4] to select the desired transponder.

With the help of signal strength and quality display, you can check if your settings were successful. The respective changes are being saved by [YES]

### 3.1.2 Satellite List

If you select "Satellite List", you will see the following window:



1. Press the red key to edit the satellite. You can edit the name of the satellite and its longitude with the respective color, and [CH5 6 VOL3 4] buttons.

In this dialog, use the [Red] key for case-sensitive, [Green] to delete, [Yellow] to confirm and [Blue] to exit the menu.





2. Press the [GREEN] button to open "Add Satellite".



3. If you press [Yellow], you will be asked „Delete it?“. Select „Yes“ to delete the marked satellite, or „No“ to cancel the process.

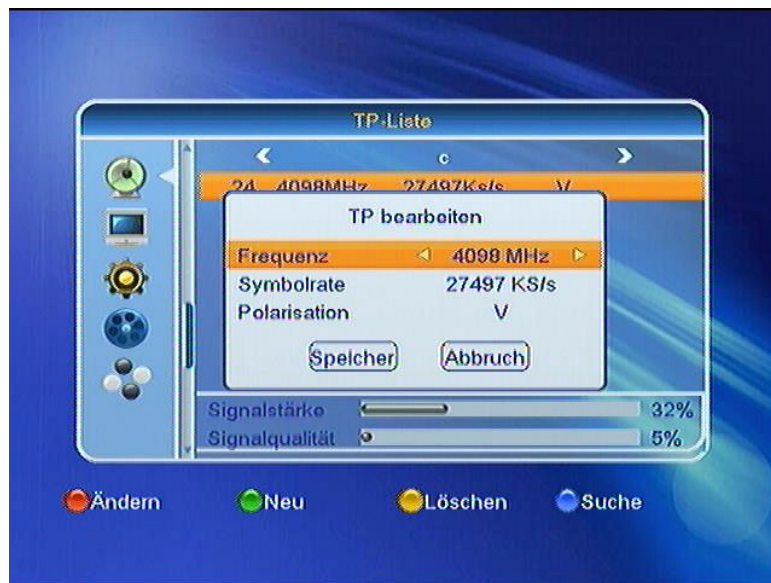


### 3.1.3 TP List

If you select "TP List", the following dialog will be indicated:



1. Press [VOL3 4] to change the marked satellite.
2. Press the [Red] key to open "Edit TP", where the data of the transponder can be edited.



3. Press [Green] to open "Add TP", where you can add a new TP and adjust its parameters.



4. Press [Yellow] to delete the transponder. Select "Yes" for confirmation or "No" to exit..



5. Press [Blue] to open a dialog box with the option to do a transponder scan. Select "Yes" to confirm, "No" exit the process.





### 3.1.4 Channel Search

If you select „Channel Search“ from the menu, the following dialog will be indicated:



1. In „Satellite“ select with [VOL3 4] the required satellite
2. In „Only FTA“, press [VOL3 4] to select if to scan only free to air or encrypted channels as well. When you choose "Yes", only free to air channels will be searched.
3. In „Channel Search“, press [VOL3 4] to search „TV + radio channels“, „TV channels“ or „radio channels“.
4. In the "Search Mode" you can select between "Automatic Search" for a general search or "Default Search" for all default transponders.
5. Select "Default Search" to enable a network scan.
6. Choose whether you want to delete the previous search or not.
7. Switch to „Search“ by [VOL4] to start the scan. The progress bar on the channel search is displayed and lists the channels found.



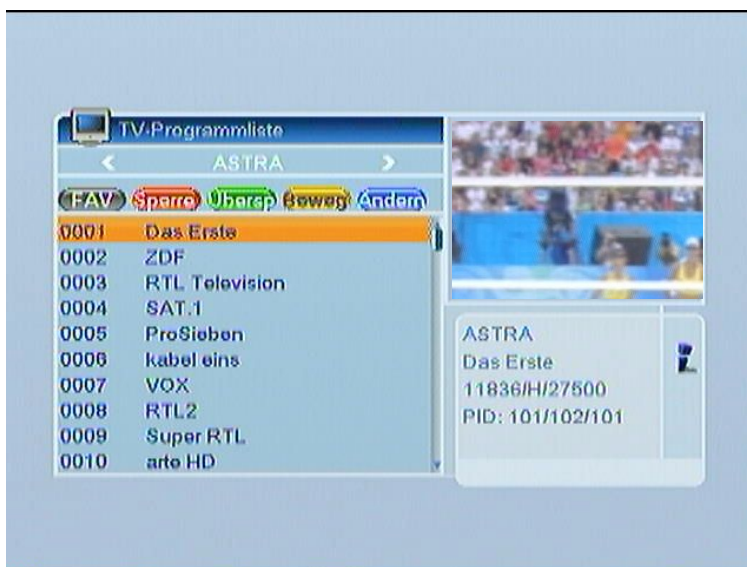
8. You can stop the search with [Exit] and save the channels found until then.

## 3.2 Channels



### 3.2.1 TV Channel List

The TV Channel List allows editing your services.



You can move the "highlighted" services by pressing [CH56] and press [OK] to preview the current highlighted program in the right scaled video

## **FAVORITES**

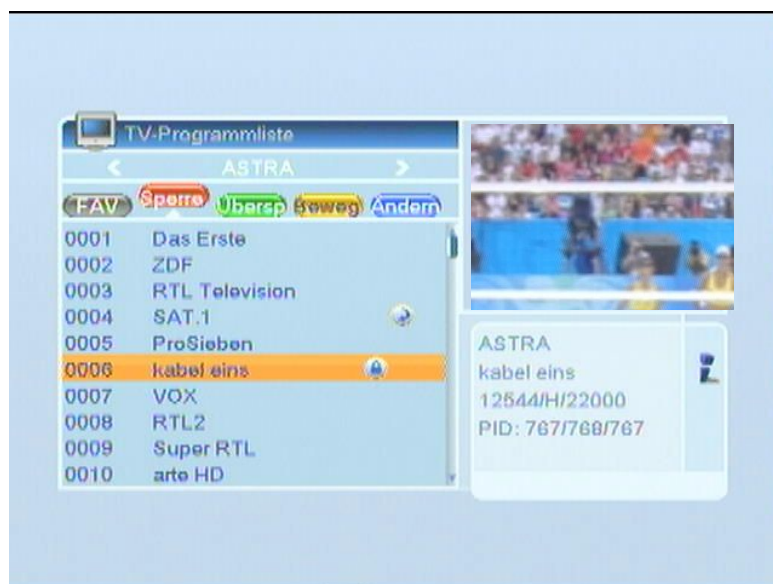
If you want to add services to your favorite list, press [FAV] and confirm with [OK]. A small icon will be visible behind the selected service



1. In TV mode, press [FAV] to display the favorites group window on the screen.
2. You can your favorite channels in the favorites group window by [CH5 6] and confirm with [OK] in order to go to this channel.
3. In larger groups, you can navigate with [PGUP/PGDN].
4. You can also select the different favorite groups in the channel list by [VOL3 4].
5. Press [Exit] to close the favorites group window.

## **LOCK**

Press [RED] to enable the lock mode, select a service and confirm with [OK]. Enter the PIN code and a small icon will be visible behind the selected service.





## SKIP

Press [GREEN] key to enter into skip mode.

Press [CH56] key to move the highlighted service and press [OK] to add a “skip mark”.



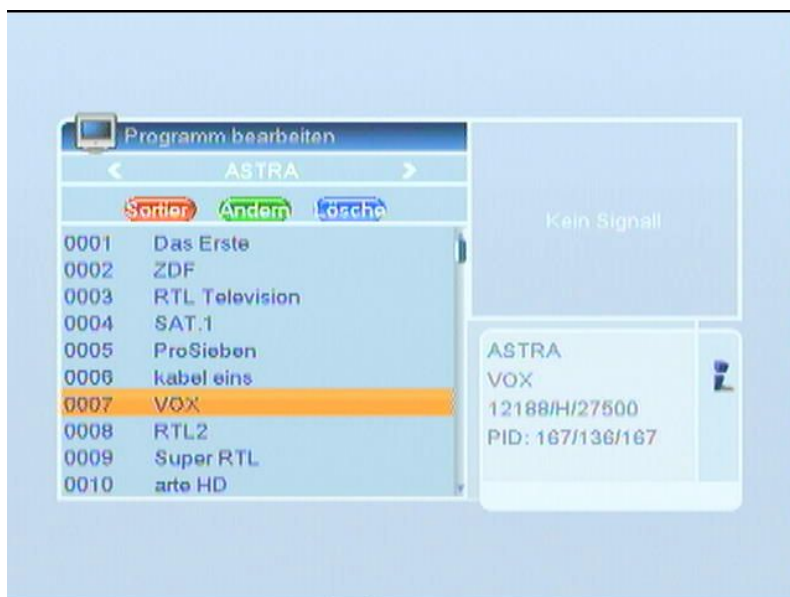
## MOVE

Press [YELLOW], then press [CH56] to move the highlighted service and press [OK] to mark. A small icon will be visible behind the selected service.



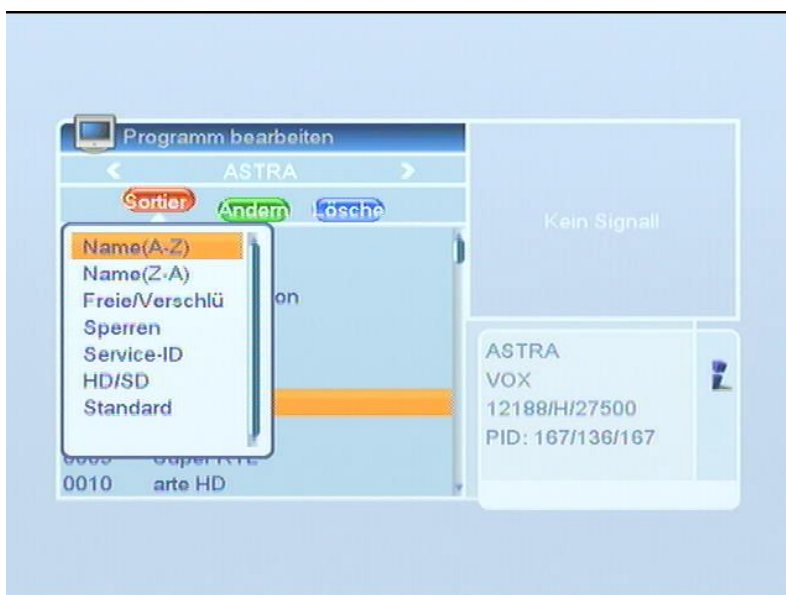
## EDIT

Press [BLUE] to "Edit". You can select between "Sort", "Edit" and "Delete":



## SORT

Press [RED] to "Sort". There are four types to sort. Press [CH56] to move the highlighted service and press [OK] to confirm.

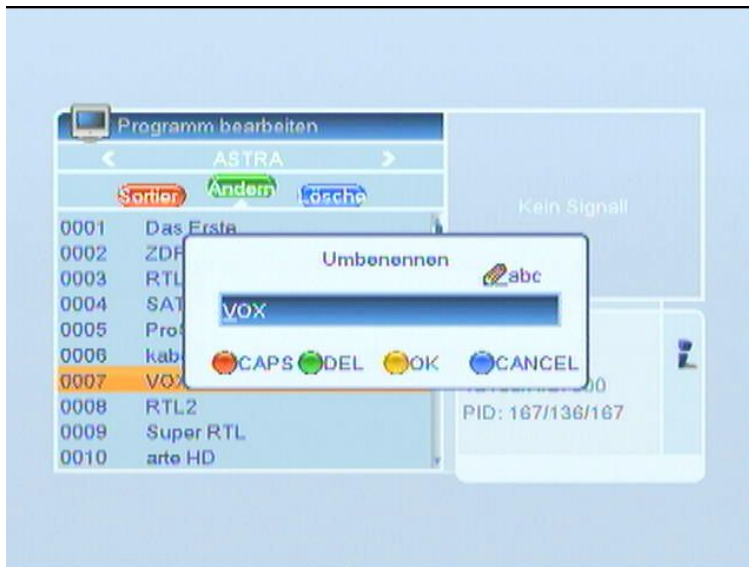


The following options can be selected:

- Name (A-Z): Sorting in Alphabetical order.
- Name (Z-A): Sorting in Alphabetical order.
- FTA: Sort channel through free and scramble sequence. Free channel will in the front of channel list and scramble channel will at the rear of channel list
- Lock: All locked channels.

2. Edit

In "Edit Channel" menu, press [GREEN], then press [CH56] to move the highlighted service and press [OK] key to open the "Rename" window as follows.



- Press [RED] key to select "CAPS".
- Press [GREEN] key to delete the char on the cursor.
- Press [YELLOW] key to save the modification
- Press [BLUE] key to cancel the operation

3. Cancel

Press [BLUE], then press [CH56] to move the highlighted service and press [OK] to mark as deleted.

Exit the menu to delete the services.

### 3.2.2 Radio Channel List

Operation is identical to the TV Channel List.

### 3.2.3 Rename Favorites

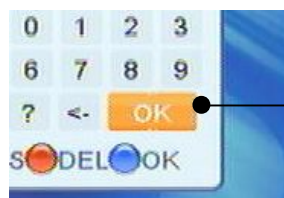
In this dialog you can specify the title of your favorite list. Select the following using the [VOL]:



Delete with [Red] "DEL" step by step, use [yellow] "CAPS" to choose between upper-and lowercase letters, confirm with [Blue] "OK".

*Note:*

Please make sure that the name change of a favorite is confirmed by [OK] and that it's also activated in the dialog, before leaving the menu:



OK to accept the changes

Otherwise, the changes will not be accepted.

### 3.2.4 Delete All

If you press [OK] you can delete all services:



To activate this function, press [VOL4].

Confirm with „Yes“, or „No“ to abort.



### 3.3 System Setup

#### 3.3.1 Language

Please select the language menu as follows::



1. Language: press [VOL<sub>34</sub>] to select from the following languages: English, French, German, Russian, Arabic, Portuguese, Turkish, Spanish, Polish and Italian.
2. First Audio: Some channels have more than one audio language available; with this function, you can set the first audio for this channel. If the playing channel has the same audio as the "First Audio" you set, the system will play this audio language as default. If the channel hasn't the suited audio language, then the system will compare automatically with second audio language. The selections of audio languages include: English, French, German, Russian, Arabic, Portuguese, Turkish, Spanish, Polish and Italian.
3. Second Audio: If the channel has no corresponding audio with "First Audio", but corresponding audio with "Second Audio", the system will play the second audio language as default. If no audio language corresponds to the "Second Audio", then the default language of the current channel will be played automatically. The selections of audio languages include: English, French, German, Russian, Arabic, Portuguese, Turkish, Spanish, Polish and Italian.
4. Teletext: You can set the teletext language if the operator provides such service. Otherwise, a pop-up message indicates: "No Teletext".
5. Press [Exit] to leave the menu.

### 3.3.2 Local Time Setting



1. GMT-Usage: Refers to the time provided by the satellite stream. Press [VOL<sub>3 4</sub>] to change the settings.
2. GMT-Offset: This option is available if you set GMT-Offset to „ON“. Press [VOL<sub>3 4</sub>], to set “GMT Offset”. Every selection increase/decrease the GMT Offset for 30 minutes.
3. Summertime: You can set the summertime.
4. Date and Time: These options are only available if you set GMT-Offset to “OFF”. Press [VOL<sub>3 4</sub>], to navigate and use the number buttons to set the date and time.

NOTE: In case the selected services do not provide date and time information, please set these data manually. But the most of the satellite services do provide date and time information.

5. Press [Exit] to leave the menu.



### 3.3.3 TV System

In the Sub menu „TV Format“, the following screen is indicated:



1. You have the option between various modes dependent on your TV Set: Auto -> PAL -> PAL-N -> PAL-M -> PAL-BG -> NTSC -> 576i -> 480i -> 576P -> 480P -> 720P\_50 -> 720P\_60 -> 1080i\_25 -> 1080i\_30. Press [VOL<sub>3 4</sub>], to select the required TV Mode.
2. Format function is used to switch between screen formats. You have the choice between: 4:3 PS / 4:3 LB / 16:9. Press [VOL<sub>3 4</sub>], to select the required TV Mode.
3. RF channel (optional: only in devices with modulator): If your TV is too old for CVBS / YPbPr and HDMI, you can set the RF modulator of the STB to the respective UHF / VHF channel and connect the STB with a cable from the RF Modulator to TV antenna input.
4. HDMI output is the HDMI video output mode. Choose between RGB-Normal, RGB-Expand, YCbCr4:4:4 and YCbYr4:2:2. Press [VOL<sub>3 4</sub>], to select the required TV Mode.
5. Digital Audio Out serves Settings for S/PDIF and the digital audio output for HDMI. Choose between LPCM Out, BS Out and Auto. Press [VOL<sub>3 4</sub>] to select the desired mode. LPCM Out means that the ProTUNE HD decodes the digital sound, e.g. the AC3 audio track, and outputs it as stereo audio over HDMI, S/PDIF, or the analog audio outputs (downmix). If you select BS Out, the audio will be distributed over S/PDIF or HDMI undecoded. Auto means that the ProTUNE HD detects automatically if the connected TV Monitor is able to decode digital audio over HDMI or not. If the TV Monitor is able to decode AC3, the ProTUNE HD will output the undecoded audio; if the TV Monitor is unable, the audio will be decoded first.

### 3.3.4 OSD Settings

If you select “OSD Settings”, the following window will be displayed:



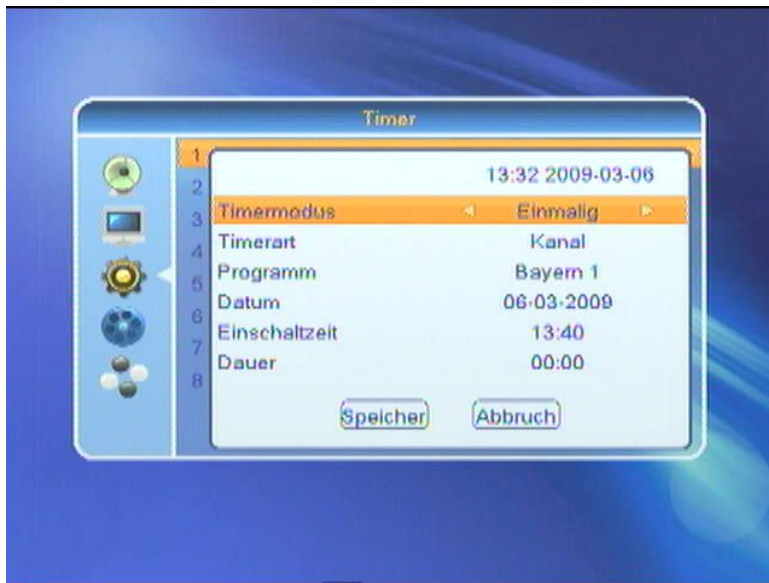
1. OSD Timeout: If you switch channels in full screen, information about the current channel will be indicated on the bottom of the screen. Press [VOL<sub>3 4</sub>] to set the duration of how long the information will be displayed on the screen. The range of the duration is “1 second ~ 10 seconds”.
2. OSD Transparency: You can press [VOL<sub>3 4</sub>] to select the values. There are 5 levels of transparency, 10%, 20%, 30%, and 40% and “NO” (means no transparency function).
3. OSD Screen Saver: With this parameter you can set the start time for the launching of the screen saver.

### 3.3.5 Timer

When you select “Timer Settings” you will see the following screen:



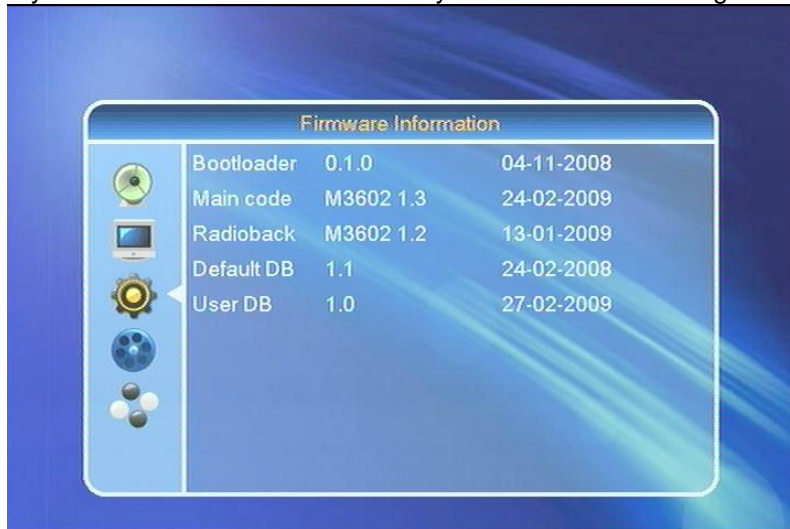
1. Timer Settings: Select „Timer“ and choose up to 8 Timer. Press [VOL4] to enter into the following menu.



2. Select the required Timer mode with [VOL3 4]. Select between “OFF”, “once” or “daily”.
3. Wakeup Channel: press [OK] key to enter channel list and select the related channel you want to set.
4. Wakeup Date: use the number keys to input your wakeup date
5. On Time: use number keys to set the wakeup time
6. Duration: Please set the duration (start – and end time) of the selected service

### 3.3.6 Firmware Informationen

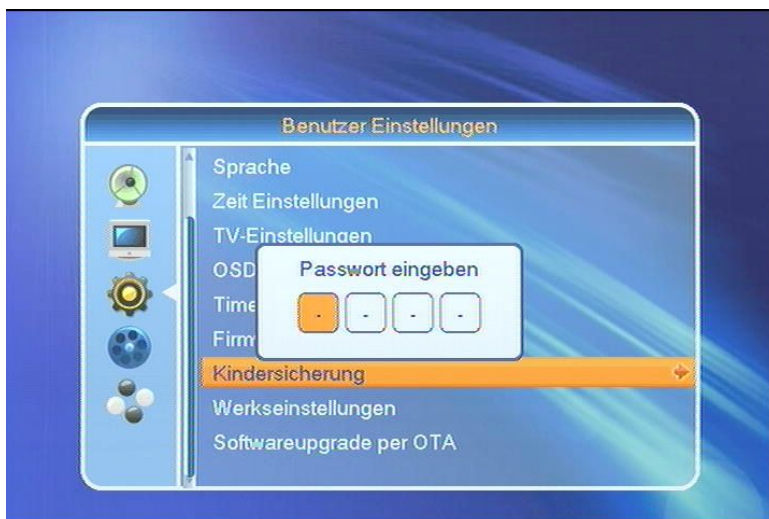
If you select "Firmware Information" you will see the following screen:



This is for service purposes only.

### 3.3.7 Parental Lock

"Parental Lock" allows protecting the main menu and the channels (which are previously marked as "lock" in the Edit menu) with a PIN code. The default password is "0000":



1. **Parental Lock:** Press [VOL4 ] to set "ON" to force a password entry for every menu you like to enter. If you set "OFF" no password is required.

Sobald Sie das richtige Paßwort eingegeben haben, sieht der Bildschirm wie folgt aus:



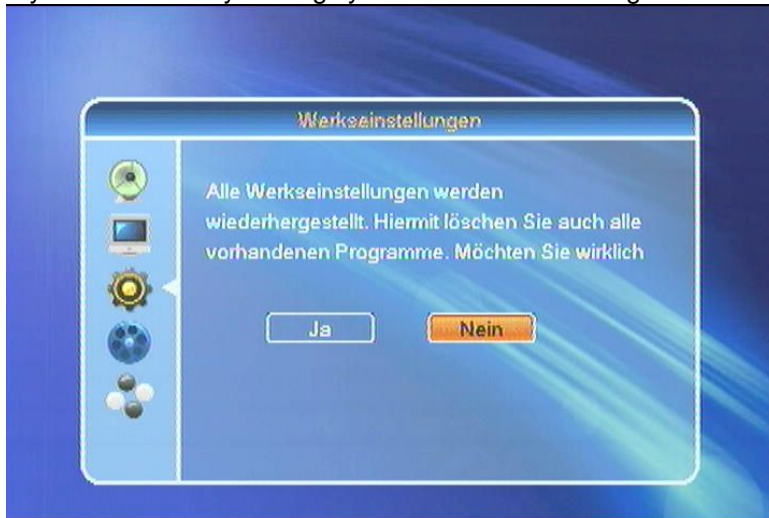
2. **Menu Lock:** If the menu lock is set to "Yes", then you have every time you want to open the menu, enter the password. When set to "No" to open the menu without previous password entry.
3. **Program Lock:** When set to "Yes" you must enter a password to view the channels you have not selected in the "channel" as blocked channels. When set to "No", these channels can be selected without first entering the password.
4. **New Password:** You can change the existing password. You should do this after the initial establishment of the receiver and each time it do if you think you know your password-authorized persons. To change the password, enter the new password in the section "New Password" and again to confirm it at the point "password". If the passwords do not match, you have to enter it again. If you enter the same new password in both fields, the message "Password changed successfully." Press "OK" to exit.

NOTE: The default password is 0000.

5. Press [EXIT] to leave the menu.

### 3.3.8 Factory Setting

If you enter Factory Settings you will see the following screen:



1. If you select „YES“ the Receiver will be set to standard value as originally delivered. Please make sure that you really want to do this!
2. Press [EXIT] to leave the menu or select „NO“.



### 3.3.9 Common Interface

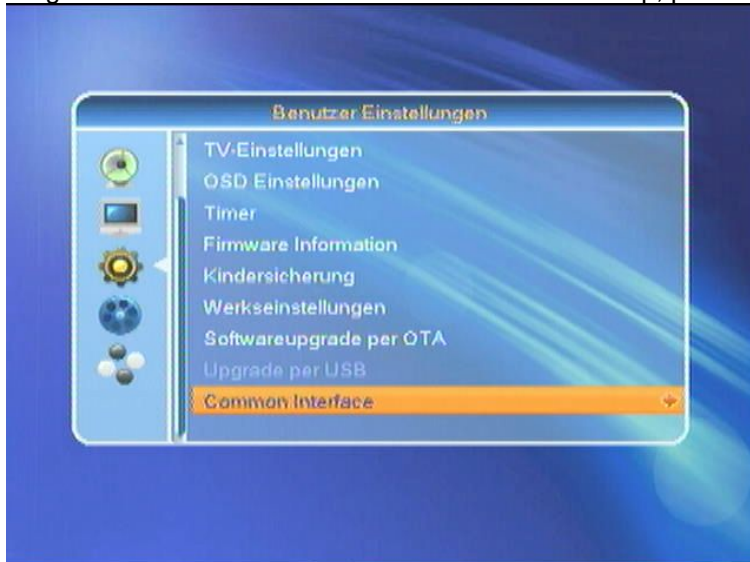
#### Receiving encrypted programs

Your unit is equipped with a "Common Interface" for the inclusion of a CI module. To receive encrypted channels you must first insert a CI module with a valid smart card into slot provided.

**Important:** Since the Common Interface has been placed inside the unit in order to prevent thievery, and therefore is not accessible in closed condition from the outside, the installation should only be done by trained service staff.

Now if an encrypted program is being set, your ProTUNE HD automatically checks the CI slot and provides the encrypted program, if this program is part of an appropriate CI module with a valid smart card.

To get more information on the CI module and the map, please select the following menu:





Please use [VOL4 ] to select the following menu:



Here you will get information about the Common Interface module and the Smart Card.  
In order to move deeper into the menu level, select the button [VOL<sub>3 4</sub>] to exit, press [EXIT]



### 3.4 DVR Option

If you select "DVR Option" you will see following screen:



#### **DISK MODE**

Your ProTUNE HD is a PVR Ready Receiver (PVR = Personal Video Recorder), and therefore is equipped with USB 2.0 for an external hard drive. The recording capacity is dependent on the size of the connected hard disk or the USB drive and the data volume of the broadcast material.

During the recording, in addition to the regular audio and video data, additional audio channels, teletext data, and subtitles are being recorded, given that they are available on the certain channel, and that they are activated.

##### 1. Record

Select this to record the current program immediately, with just one keystroke.

##### 2. Timer Record

Through this function, your ProTUNE HD will be turned on and off to record the selected program in your absence on the hard disk or USB drive. The timer can be programmed either manually or automatically.

##### 3. Timeshift

With the time shift recording time-shifted television is possible. So you can, while the recording is still running, already reflect this time lag.

##### NOTE!

For technical reasons it is not possible to receive two different channels at the same time.

### 3.4.1 DVR Manager

If you select "Record Manager" you will see following screen:



Here are the recordings made so far.

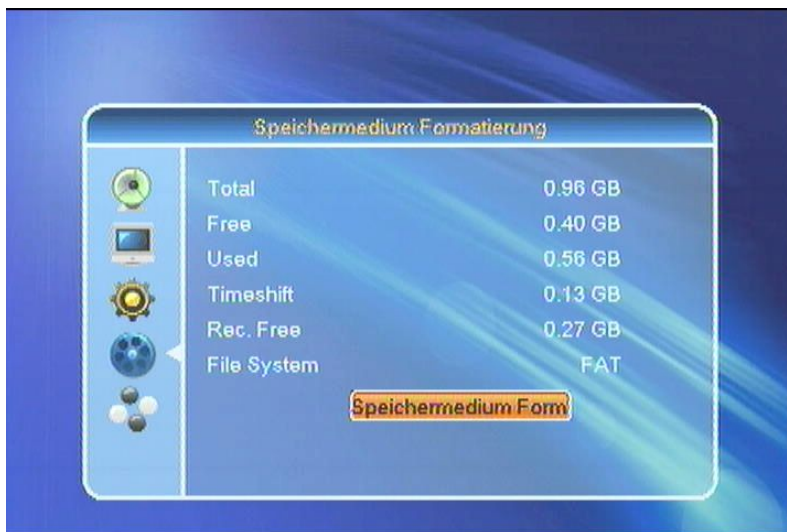
These can be locked with [Green] and by entering the four-digit PIN number, deleted using the [Blue] button, or renamed by the [Red] button.

To play the recording, press the [OK]. The reproduction is successful, following display appears.



### 3.4.2 Storage Format

Select "Storage Format" and the following screen appears:



By formatting the hard drive, the file system is renewed. This might be required if an error on the hard disk was detected.

#### Warning!

Formatting will cause complete erasure of the hard drive, which means that all recordings and multimedia files (e.g. MP3's) will be lost.

### 3.4.3 DVR Settings

If you select "DVR Settings", the following screen appears:



With the time shift recording, time-shifted television is possible. So you can, while the recording is still running, already reflect this time lag.

At the time shift function, simultaneous playback and recording can be utilized. You can see the beginning of the file, while pre-recorded passages (e.g. commercials) can be skipped. At the same time the live signal of the recording continues.

1. Set „time shift“ to „On“ by pressing [VOL4], which means that the possibility of time shift function is generally given.
2. In addition, if you set the option „Time Shift Recording“ to „On“ using [VOL4], it will enable a permanent recording of the current channel.
3. Toggle between the different host types by pressing [VOL4].

#### 3.4.4 Diashow Settings

When you select “Diashow Settings” you will see the following screen:



You have the ability to reproduce images in a slideshow. Through this feature, the images will automatically be played in sequence on the screen.

Press the button [VOL4] to select between "full" for full screen mode, or "real" for the original size.

The slide show time determines the duration of each JPG or BMP file. These can be varied with [VOL4].

If the slide show should start again from the beginning, press [VOL4] for "On", otherwise "Off"

Navigate within the menu with [CH5 6]. Select „Save“ by [OK] or „Cancel“. [Exit] to exit the menu.



### 3.4.5 Storage

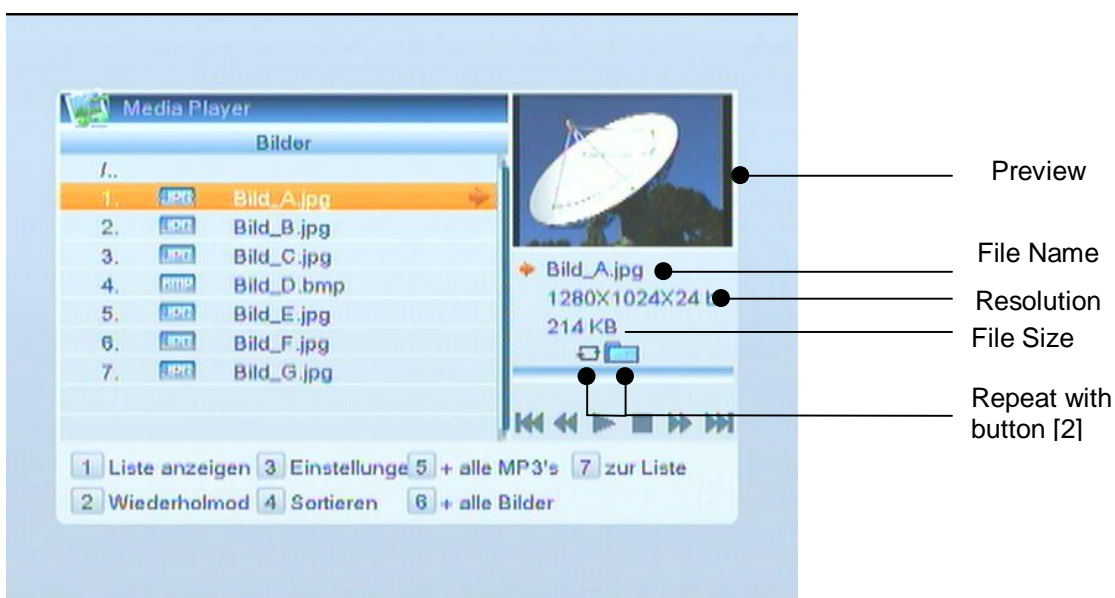
If you select "Storage" you will see the following screen:



You will receive a so-called root contained for the media stored on your external USB media. To get that folder, press [OK].

- Images

You can display images in JPG and BMP format on the ProTUNE HD. To view the files in the Media Player, you can connect a USB device on which the JPGs and BMPs are stored, to the USB socket on the receiver. The button [JPEG] will access the media player directly.





Select the desired image using the button [CH5 6], and then the image will be displayed in the preview window. By pressing [OK], the JPG or BMP file will be displayed either in full screen or in the original size, depending on the setting.

1. List View

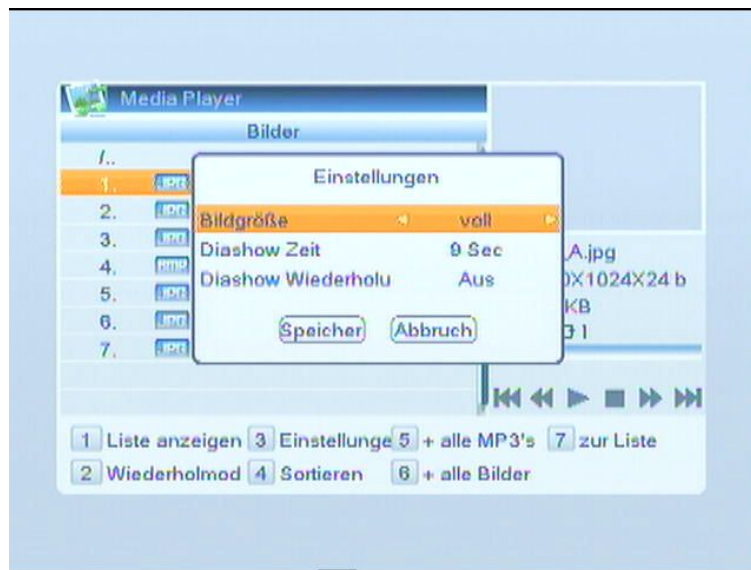
To select the list type within a folder. Select between music and pictures.

2. Repeat

To select the repeat mode.

3. Settings

Select default with the button [3], the following dialog appears:



4. Sort

To sort within the file, select with button [4], the following dialog appears:



5. All MP3  
Use to create a list of all mp3 files in the current directory.
  6. All Images  
Use to create a list of all jpg/bmp files in the current directory.
  7. All Files  
Use to create a list of all files in the current directory.
- Music  
You can use the ProTUNE HD to play music tracks in MP3 format. To play the files with Media Player, you can connect a USB device with MP3 content to the USB socket of the ProTUNE HD. You can use the button [MP3] to access the media player directly.



Select the desired file with the buttons [CH5 6], and then the file will be displayed in the preview window. By pressing [OK], the music file is played using the following dialogue.



Title

File Size

Duration

Repeat with  
button [2]

Trick Mode

### 3.4.6 Remove Storage Safely

When you select “Remove Storage Media Safely” you will see following screen:



This way you avoid a possible data loss during improper removal of the USB medium.

## 4. ASCII Remote Protocol

RS232 Protocol	19200 Baud 8 DataBit No Parity 1 Stopbit		
IP Protocol: IPV4	TCP/IP xxx.xxx.xxx.xxx	Defaultport	10001

Every CMD start with	ASCII-Escape	ESC = 0x1b = 27		
then the Tuner-ID	Is ASCII 0	0 = 0x30 = 48		
the CMD	....			
and stop with	ASCII – Carriage Return	CR = 0xd = 13		
For Example	Get Version:	,ESC'0FV? ,CR' ,ESC'0FV01.00'CR'	To ProTUNE HD From ProTUNE HD	Ask for Version Get Version 01.00

No.	Command	To ProTUNE HD	From ProTUNE HD
1	Get IsBusy	ESC,0,F,B,?,CR	ESC,0,F,B,State,CR State = 1 if Busy when: Initializing Upgrade host OTA Upgrade Search Program USB Upgrade
2	Get Time	ESC,0,F,T,?,CR	ESC,0,F,T,HZ,HE,MZ, HHMMSS ME,SZ,SE,CR
3	Set Time	ESC,0,F,T,HZ,HE,MZ,ME,SZ,SE,CR	ESC,0,F,T,CR
4	Get Date	ESC,0,F,D,?,CR	ESC,0,F,D,DZ,DE,MZ DDMMYY ,ME,YZ,YE,CR
5	Set Date	ESC,0,F,D,DZ,DE,MZ,ME,YZ,YE,CR	ESC,0,F,D,CR
6	Get DispLight	ESC,0,F,L,?,CR	ESC,0,F,L,VZ,VE,CR
7	Set DispLight	ESC,0,F,L,VZ,VE,CR	ESC,0,F,L,CR      0 - 31
8	Get DispContr	ESC,0,F,C,?,CR	ESC,0,F,C,VZ,VE,CR
9	Set DispContr	ESC,0,F,C,VZ,VE,CR	ESC,0,F,C,CR      0 - 7
10	Get Version	ESC,0,F,V,?,CR	ESC,0,F,V,MZ,ME,...M 01.00 Z,ME,CR
11	GetLastIrKey	ESC,0,F,I,?,CR	ESC,0,F,I,KEY,CR      See IrTable
12	Set IrKey	ESC,0,F,I,KEY,CR	ESC,0,F,I,CR
13	GetKeyLock	ESC,0,F,K,?,CR	ESC,0,F,K,STATE,CR      State 0 = UNLOCK
14	SetKeyLock	ESC,0,F,K,STATE,CR	ESC,0,F,K,CR      State 1 = LOCK
15	GetPowerOn	ESC,0,F,S,?,CR	ESC,0,F,S,STATE,CR      State 0 = Power Off
16	SetPowerOn	ESC,0,F,S,STATE,CR	ESC,0,F,S,CR      State 1 = Power On
16	SetSleepTimer	ESC,0,F,E,VALUE,CR	ESC,0,F,E,CR Value = 0 off, 1 10, 2 30, 3 60, 4 90, 5 120 Minutes
17	SetFactoryReset	ESC,0,F,F,9,CR	ESC,0,F,F,CR      FactoryReset
18	GetTunerType	ESC,0,F,G,?,CR	ESC,0,F,G,V,CR Value : 1 = Satellite, 2 = Cable, 3 = Terrestrial



No.	Command	To ProTUNE HD	From ProTUNE HD
19	GetStatus	ESC,0,F,A,?,CR	<div>ESC,0,F,A,H0 .. H11,CR</div> <div>Get Status Hex as ascii    0 - FF</div> <div>Byte 0 : Status</div> <div><div>Bit 7</div><div>Power On</div></div> <div><div>Bit 6</div><div>Teletext On</div></div> <div><div>Bit 5</div><div>Menü On</div></div> <div><div>Bit 4</div><div>Mute On</div></div> <div><div>Bit 3</div><div>Subtile On</div></div> <div><div>Bit 2</div><div>Record On</div></div> <div><div>Bit 1</div><div>USB Present</div></div> <div><div>Bit 0</div><div>PVR On</div></div> <div>Byte 1: Last IR-CMD</div> <div>Byte 2: IR-Count 0 - 255</div> <div>Byte 3: 0x03:</div> <div>Tuner Locked</div> <div><div>0x04:</div><div>No Signal</div></div> <div><div>0xFF:</div><div>NOINFO</div></div> <div>Byte 4: Video Resolution</div> <div><div>0x00:</div><div>By Source</div></div> <div><div>0x01:</div><div>By Native</div></div> <div><div>0x02:</div><div>480i</div></div> <div><div>0x03:</div><div>480p</div></div> <div><div>0x04:</div><div>576i</div></div> <div><div>0x05:</div><div>576p</div></div> <div><div>0x06:</div><div>720p_50</div></div> <div><div>0x07:</div><div>720p_60</div></div> <div><div>0x08:</div><div>1080i_50</div></div> <div><div>0x09:</div><div>1080i_60</div></div> <div><div>0xFF:</div><div>NOINFO</div></div> <div>Byte 5: TV Format</div> <div><div>0x00:</div><div>AUTO</div></div> <div><div>0x01:</div><div>16:9</div></div> <div><div>0x02:</div><div>4:3LB</div></div> <div><div>0x03:</div><div>4:3PS</div></div> <div><div>0xFF:</div><div>NOINFO</div></div> <div>Byte 6: Audio Out</div> <div><div>0x00:</div><div>LPCM</div></div> <div><div>0x01:</div><div>BS</div></div> <div><div>0xFF:</div><div>NOINFO</div></div> <div>Byte 7: Audio Channel</div> <div><div>0x00:</div><div>STEREO</div></div> <div><div>0x01:</div><div>MONO</div></div> <div><div>0x02:</div><div>LEFT</div></div> <div><div>0x03:</div><div>RIGHT</div></div> <div><div>0xFF:</div><div>NOINFO</div></div> <div>Byte 8: Signal</div> <div>0 - 100%</div> <div>Byte 9: Quality</div> <div>0 - 100 %</div> <div>Byte 10: HDMI Out</div> <div><div>0x00:</div><div>AUTO</div></div> <div><div>0x01:</div><div>RGBN</div></div> <div><div>0x02:</div><div>RGBE</div></div> <div><div>0x03:</div><div>YUV444</div></div> <div><div>0x04:</div><div>YUV442</div></div> <div><div>0xFF:</div><div>NOINFO</div></div> <div>Byte 11: Audio PID channel</div> <div>0 - 15</div> <div>Byte 12 ChanelNo</div> <div>1-9999</div> <div>- 13:</div> <div>Byte 14 FavGroup</div> <div>0 - 255</div> <div>:</div> <div>Byte 15: 1 = TV , 0 = Radio</div>

No.	Command	To ProTUNE HD	From ProTUNE HD
20	GetVolume	ESC,0,A,V,?,CR	ESC,0,A,V,Z,E,CR 0 - 63
21	SetVolume	ESC,0,A,V,Z,E,CR	ESC,0,A,V,CR
22	GetSenderId	ESC,0,P,P,?,CR	ESC,0,P,P,T,H,Z,E,C 1 - 9999 R Programno
23	SetSenderId	ESC,0,P,P,T,H,Z,E,CR	ESC,0,P,P,CR
24	GetSenderName	ESC,0,P,N,?,CR	ESC,0,P,N,ASCIIINA ZDF ME,CR
25	GetStream	ESC,0,P,S,?,CR	ESC,0,P,S,ASCIIINA Die Zahnfee ME,CR
26	GetInTime	ESC,0,P,I,?,CR	ESC,0,P,I,HZ,HE,MZ, HHMMSS ME,SZ,SE,CR
27	GetOutTime	ESC,0,P,O,?,CR	ESC,0,P,O,HZ,HE,M HHMMSS Z,ME,SZ,SE,CR
28	GetInfoDetailFirstBlock	ESC,0,P,D,?,CR	ESC,0,P,D,T,H,Z,E,C Number of R Chars
29	GetInfoDetailNextBlock	ESC,0,P,B,?,CR	ESC,0,P,B,INFO,CR Info max 120 Bytes each block until "----"
30	GetNextStream	ESC,0,N,S,?,CR	ESC,0,N,S,ASCIIINA Die Zahnfee ME,CR
31	GetNextInTime	ESC,0,N,I,?,CR	ESC,0,N,I,HZ,HE,MZ, HHMMSS ME,SZ,SE,CR
32	GetNextOutTime	ESC,0,N,O,?,CR	ESC,0,N,O,HZ,HE,M HHMMSS Z,ME,SZ,SE,CR
33	GetNextInfoDetailFirstBlock	ESC,0,N,D,?,CR	ESC,0,N,D,T,H,Z,E,C Number of R Chars
34	GetNextInfoDetailNextBlock	ESC,0,N,B,?,CR	ESC,0,N,B,INFO,CR Info max 120 Bytes each block until "----"
35	GetPresetFirst	ESC,0,G,F,?,CR	ESC,0,G,F,T,H,Z,E,N T,H,Z,E = AME,CR Programmno 1 - 9999
36	GetPresetNext	ESC,0,G,N,?,CR	ESC,0,G,N,T,H,Z,E,N NAME = AME,CR Programmname
37	GetPresetPrev	ESC,0,G,P,?,CR	ESC,0,G,P,T,H,Z,E,N AME,CR
38	StartAutoSearch	ESC,0,P,A,M,S,CR	Start Mode > 0 = linear, 1 = NIT Autosearch Programs Speicher > 0 = neu, 1 anfügen
39	GetTXTPage	ESC,0,T,P,?,CR	ESC,0,T,P,H,Z,E,CR 100 - 899
40	SetTXTUp	ESC,0,T,P,+,CR	ESC,0,T,P,CR Next
41	SetTXTDwn	ESC,0,T,P,-,CR	ESC,0,T,P,CR Prev
42	SetTXTPage	ESC,0,T,P,H,Z,E,CR	ESC,0,T,P,CR 100 - 899

No.	Command	To ProTUNE HD	From ProTUNE HD
43	GetTXTState	ESC,0,T,S,?,CR	ESC,0,T,S,STATE,CR
44	SetTXTState	ESC,0,T,S,STATE,CR	ESC,0,T,S,CR STATE = 0 TXT Off, 1 On
45	GetMute	ESC 0,A,M,?,CR	ESC,0,A,M,CR State = 0 Mute Off, 1 Mute On
46	SetMute	ESC 0,A,M,STATE,CR	ESC,0,A,M,CR State = 0 Mute Off, 1 Mute On
47	SetAudioFormat	ESC,0,A,F,STATE,CR	ESC,0,A,F,CR State = 0 LPCM, 1 BS
48	SetAudioChannel	ESC,0,A,C,STATE,CR	ESC,0,A,C,CR State = 0 Links, 1 Rechts, 2 Stereo, 3 Mon
49	SetAudioPIDChange	ESC,0,A,P,Z,E,CR	ESC,0,A,P,CR Change AudioPID 0 - 10
50	SetHdmiOut	ESC,0,V,H,VALUE,CR	ESC,0,V,H,CR Value = 0 Auto, 1 RGB-N, 2 RGB-E, 3 YUV444, 4 VUV422
51	SetFreeze	ESC,0,V,F,0,CR toggle	ESC,0,V,F,CR Freeze
52	SetZoom	ESC,0,V,Z,VALUE,CR	ESC,0,V,Z,CR Value 0=1x, 1=2x, 2=4x, 3=6x, 4=8x, 5=12x, 6=16x
53	SetTvFormat	ESC,0,V,T,VALUE,CR	ESC,0,V,T,CR Value = 0 Auto, 1 16/9 PS, 2 4/3LB, 3 4/3PS
54	SetVideoResolution	ESC,0,V,R,VALUE,CR	ESC,0,V,R,CR Value = 0 BySource, 1 ByNativTV, 2 480i, 3 480p, 4 576i, 5 576p, 6 720p50, 7 720p60, 8 1080i50, 9 1080i60
55	SetSubtitle	ESC,0,V,S,VALUE,CR	ESC,0,V,S,CR STATE = 0 Off, 1 On
56	SetVideoformat	ESC,0,V,V,VALUE,CR	ESC,0,V,V,CR VideoFormat = 0 YPbPr, 1 RGB
57	GetVideoformat	ESC,0,V,V,?,CR	ESC,0,V,V,VIDEOFORMAT,CR VideoFormat = 0 YPbPr, 1 RGB

No.	Command	To ProTUNE HD	From ProTUNE HD
58	SetRecTimer	ESC,0,R,T,No,Mode,Art,CT,CH,CZ,CE,YZ,YE,MZ,ME,DZ,DE,HZ,HE,mZ,mE,DHZ,DHE,DmZ,DmE,CR	<p>ESC,0,R,T,CR</p> <p>No = TimerNo (0 - 7)  Modus = 0 off, 1 once, 2 daily, 3 weekly  Art = 0 Channel, 1 Record</p> <p>CT..CE = ChannelID 0 - 9999  YZ,YE = Year  MZ,ME = Moth  DZ,DE = Day  HZ,HE = Hour  mZ,mE = Minute</p> <p>DHZ,DHE = Duration Hours  DmZ,DmE = Duration Minutes</p>
59	GetRecTimer	ESC,0,R,T,No,?,C R	<p>No = TimerNo (1 - 8)</p> <p>ESC,0,R,T,No,Mode,Art,YZ,YE,MZ,ME,DZ,DE,HZ,HE,mZ,mE,DHZ,DHE,DmZ,DmE,StreamName,CR</p> <p>No = TimerNo (1 - 8)  Modus = 0 off, 1 once, 2 daily, 3 weekly  Art = 0 Channel, 1 Record</p> <p>YZ,YE = Year  MZ,ME = Moth  DZ,DE = Day  HZ,HE = Hour  mZ,mE = Minute</p> <p>DHZ,DHE = Duration Hours  DmZ,DmE = Duration Minutes</p> <p>Streamname (max 15 Byte)</p>
60	FormatUSBDevice	ESC,0,R,F,Mode,CR	ESC,0,R,F,CR Mode = 0 Formt Fat, 1 Format NTFS
61	SetTimeshiftEnable	ESC,0,R,S,Mode,CR	ESC,0,R,S,CR Mode = 0 Off, 1 On
62	GetTimeshiftEnable	ESC,0,R,S,?,CR	ESC,0,R,S,Mode,CR
63	SetTimeshiftToRecord	ESC,0,R,R,Mode,CR	ESC,0,R,R,CR Mode = 0 Off, 1 On
64	GetTimeshiftToRecord	ESC,0,R,R,?,CR	ESC,0,R,R,Mode,CR
65	SetRecordType	ESC,0,R,P,Mode,CR	ESC,0,R,P,CR Mode = 0 TS, 1 PS
66	GetRecordType	ESC,0,R,P,?,CR	ESC,0,R,P,Mode,CR
67	SetSlideShowPicSize	ESC,0,S,S,Mode,CR	ESC,0,S,S,CR Mode = 0 Full size, 1 Real size

## 5. IR Table

IR-Table	ASCII 0 - t		
IR_KEY_0	0	Remote Model 2	
IR_KEY_1	1	Remote Model 2	
IR_KEY_2	2	Remote Model 2	
IR_KEY_3	3	Remote Model 2	
IR_KEY_4	4	Remote Model 2	
IR_KEY_5	5	Remote Model 2	
IR_KEY_6	6	Remote Model 2	
IR_KEY_7	7	Remote Model 2	
IR_KEY_8	8	Remote Model 2	
IR_KEY_9	9	Remote Model 2	
IR_KEY_MENU	:	Remote Model 2	
IR_KEY_UP	;	Remote Model 2	
IR_KEY_DOWN	<	Remote Model 2	
IR_KEY_SELECT	=	Remote Model 1	No Function
IR_KEY_BACK	>	Remote Model 2	
IR_KEY_INFO	?	Remote Model 2	
IR_KEY_LEFT	@	Remote Model 2	
IR_KEY_RIGHT	A	Remote Model 2	
IR_KEY_GUIDE	B	Remote Model 1	No Function
IR_KEY_GREEN	C	Remote Model 2	
IR_KEY_RED	D	Remote Model 2	
IR_KEY_YELLOW	E	Remote Model 2	
DED_IR_KEY_BLUE	F	Remote Model 2	
IR_KEY_AV	G	Remote Model 1	No Function
IR_KEY_PLAY	H	Remote Model 2	
IR_KEY_STOP	I	Remote Model 2	
IR_KEY_FW	J	Remote Model 2	
IR_KEY_RW	K	Remote Model 2	
IR_KEY_CODE	L	Remote Model 1	No Function
IR_KEY_MUTE	M	Remote Model 2	
IR_KEY_ASTERIX	N	Remote Model 1	No Function
DED_IR_KEY_RAUTE	O	Remote Model 1	No Function
IR_KEY_CH_PLUS	P	Remote Model 1	Works
IR_KEY_CH_MINUS	Q	Remote Model 1	Works
IR_KEY_VOL_PLUS	R	Remote Model 1	Works
IR_KEY_VOL_MINUS	S	Remote Model 1	Works
IR_KEY_TXT	T	Remote Model 2	
IR_KEY_TV	U	Remote Model 1	Works <->

IR-Table	ASCII 0 - t		
IR_KEY_WWW	V	Remote Model 1	No Function
IR_KEY_AB	W	Remote Model 2	
IR_KEY_PUP	X	Remote Model 2	
IR_KEY_PDN	Y	Remote Model 2	
IR_KEY_FAV_PLUS	Z	Remote Model 2	
IR_KEY_FAV_MINUS	[	Remote Model 2	
IR_KEY_HOME	\	Remote Model 1	No Function
IR_KEY_SUBT	]	Remote Model 2	
IR_KEY_APP1	^	Remote Model 1	No Function
IR_KEY_APP2	-	Remote Model 1	No Function
IR_KEY_APP3	'	Remote Model 1	No Function
IR_KEY_REC	a	Remote Model 2	
IR_KEY_POWER	b	Remote Model 2	
IR_KEY_TVR	c	Remote Model 2	
IR_KEY_EXIT	d	Remote Model 2	
IR_KEY_EPG	e	Remote Model 2	
IR_KEY_FAV	f	Remote Model 2	
IR_KEY_AUDIO	g	Remote Model 2	
IR_KEY_OK	h	Remote Model 2	
IR_KEY_ZOOM	i	Remote Model 2	
IR_KEY_PAUSE	j	Remote Model 2	
IR_KEY_PVRLIST	k	Remote Model 2	
IR_KEY_OPT	l	Remote Model 2	
IR_KEY_PREV	m	Remote Model 2	
IR_KEY_NEXT	n	Remote Model 2	
IR_KEY_GOTO	o	Remote Model 2	
IR_KEY_TS	p	Remote Model 2	
IR_KEY_STEP	q	Remote Model 2	







## 6. Network Settings



### 6.1 Setting the IP-Address


In order to get to the Setup Menu, please proceed as follows:

- Press the OK / SETUP  button, and keep pressed.
- Switch on the unit using the mains switch on the rear.
- The MAC-Address will now be indicated on the display.
- 

You can toggle through the menu using the < / >  +  buttons.

Displayed menu entries can be changed using the up / down  +  buttons.

The position of the cursor is changed using the OK and MENU  +  buttons.

After finishing the IP settings, go to the menu item „Save and Reboot“, and press the OK button .

**IMPORTANT:** If you enter the IP-Address of the ProTUNE HD in the webbrowser, you will get to the website of the used X-Port module. Please don't change anything here!! Proceed changes over the front panel only.

If you want to control using TCP/IP, the RS232-Interface should remain unoccupied. It is not possible to use both networks at the same time (parallelly).

The following menu entries can be found:

MAC	[00:20:4A:BA:70:E4]	MAC-Address of the ProTUNE HD	
DHCP	[ENABLE]/[DISABLE]		
DeviceName	[ProtuneHD007]	A name can be assigned	[Up]/[DWN] select characters. [Enter]/[Exit] Position within name
IPAddress	[192.168.001.100]	Device address, if not DHCP. Address assigned via DHCP is invisible. In this case 000.000.000.000 is indicated. The address can be gathered from DHCP-Server.	[Up]/[DWN] select number. [Enter]/[Exit] Position within address.
Subnetmask	[255.255.255.000]	Selection of Subnetmask	Selectable are: [255.255.255.248] [255.255.255.240] [255.255.255.224] [255.255.255.192] [255.255.255.128]

			<b>[255.255.255.000]</b> [255.255.254.000] [255.255.252.000] [255.255.248.000] [255.255.240.000] [255.255.224.000] [255.255.192.000] [255.255.128.000] <b>[255.255.000.000]</b> [255.254.000.000] [255.252.000.000] [255.248.000.000] [255.240.000.000] [255.224.000.000] [255.192.000.000] [255.128.000.000] <b>[255.000.000.000]</b>
Gateway	[130.000.000.014]	Gateway address	[Up]/[DWN] Select number. [Enter]/[Exit] Position within address. [000.000.000.000] = Disable
DNSServer	[192.168.001.001]	DNS-Server address	[Up]/[DWN] Ziffer auswählen. [Enter]/[Exit] Position in der Adresse. [000.000.000.000] = Disable
PortNo	[10001]	Used Port	10001 = Default
Save and reboote	[OK]	Button [Enter]	All settings are being saved.
Default and reboot	[OK]	Button [Enter]	Sets all settings to „Default“ and saves them
Reboot	[OK]	Button [Enter]	Rejects all settings.

## 7. Firmware Update

As soon as a updated firmware is available, it will be published on [www.comm-tec.de](http://www.comm-tec.de), from which it can be downloaded.

Please note that the ProTUNE HD requires two different firmwares (front panel and mainboard).

To execute a firmware update, proceed as follows:

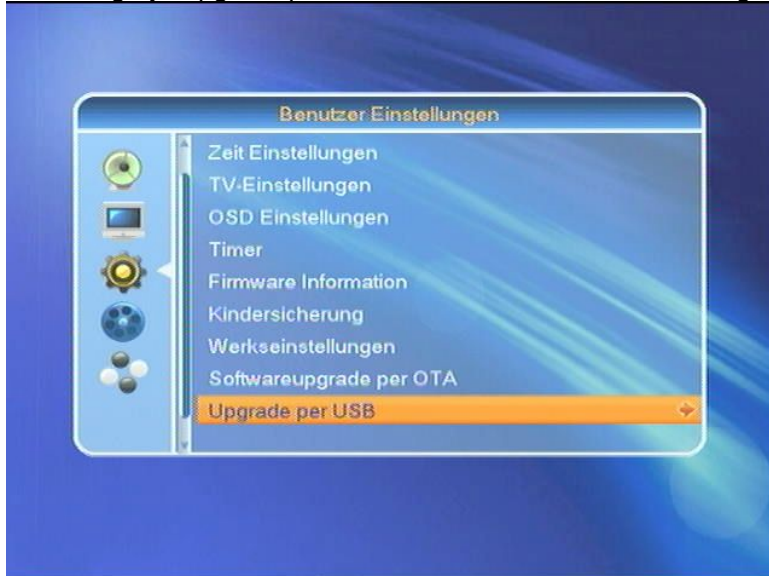
### 7.1 Front Panel

To update the firmware of the front panel, use the program „FWLoaderProTUNE“, which can be found on both our homepage as well as the product CD in scope of delivery. You'll also need a crossed, serial cable (RS-232).

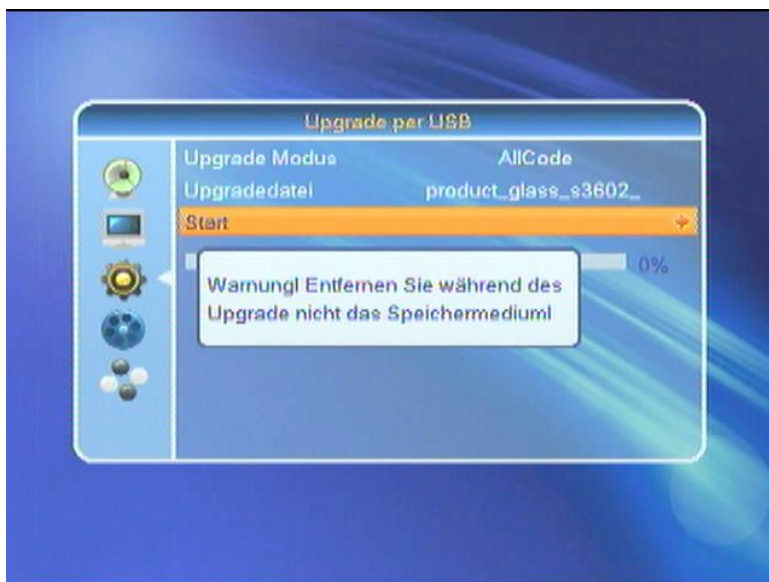
## 7.2 Mainboard

The firmware of the mainboard must be updated via USB (e.g. USB-Stick)

The category "Upgrade per USB" can be found in „User Settings“.



If you have a USB 2.0 compatible Stick, or your USB hard drive is equipped with the latest software, it can be selected with [VOL4], then select the upgrade file and confirm under „Start“ with [VOL4].



Note: Please follow the warning. Otherwise, data could be lost, and the ProTUNE HD might lose its functionality.

## 8. Technical Data

<b>Type</b>	ProTUNE HD / S
<b>Description</b>	Professional, digital DVB HD Tuner
<b>Cat.No.</b>	715011
<b>Tuner module</b>	Single DVB-S2 Tuner incl. Loop Through F-Type, 75Ohm 950MHz~2150MHz DVB-S and DVB-S2 Demodulation

### MPEG Transport Stream A/V Decoding

Transportstream	MPEG-2 ISO/IEC 13818
Profile Level	MPEG2 SD, MPEG2 HD, H.264/AVC SD, H.264/AVC HD
Aspect ratio	4:3/16:9 Letter Box
TV Format	PAL / NTSC
Audio Decoding	Dolby Downmix
Audio Mode	Single channel/Dual channel/Joint Stereo/Stereo

**Conditional Access System** Common Interface, 1 x CI Slot (inside unit)

### Personal Video Recorder (PVR)

Connection	USB 2.0 for external hard drive or stick
Functions	Recording/ Playback (Trick Mode, FFW, RW, PLAY, PAUSE) Timeshift

### Video output

Analog	Composite (BNC), YUV-HD (3x BNC), Y/C
Digital	HDMI (Standard 1.3, HDCP Support, 9x EDID)

### Audioausgang

Analog	unbalanced (2x Cinch) and balanced (1x 6-pol Phoenix plug)
Digital	S/P-DIF (optical / electrical), HDMI

### Front Panel

Buttons	OK/Setup, left, right, up, down, Menu/Exit, On/Stand By
Display	LCD-Display, 2 lines with 24 digits each, bi-color, dimable.

### Control

Frontpanel  
IR Remote Control  
RS-232 Interface, 9-pol Sub-D (male)  
Ethernet-Interface, RJ45 (TCP/IP)

### Power Supply

Universal Power Supply: 100-240 VAC / 50-60Hz  
Power input: ca. 25W (with Single LNB) / ca. 3W (Standby)

### Measures

431(483) mm x 44 mm x 270 mm (B x H x T), 19", 1HE

### Weight

3,5 kg

### Housing

Metal, black

### Scope of Delivery

Quick Start Guide, Power Cord, Infrared Remote Control

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