

ad notam®



DESIGNED IN GERMANY

EN

DIGITAL SET TOP BOX, DVB-T/S2

USER MANUAL

subject to modification * 06-2013 * V1

SUMMARY

General Information	04
Installation Wet Rooms	10
Product Information	11
Getting Started	13
Troubleshooting	23
Technical Specification	24



GENERAL INFORMATION - SAFETY

CAUTION

- Only qualified specialist staff may carry out service tasks. Service work is necessary, if the unit has been damaged, e.g. if the mains plug or mains cable have been damaged, if liquid or items are present inside the device, if it has been exposed to water or moisture, if it does not work properly or if it has fallen down.
- Never remove the casing covers or modify the product in any way. This can cause an electric shock or burn you.
- Immediately pull the plug, if you notice that your product emits smoke, smells burnt or emits unusual noises and ask your specialist dealer for advice.
- Do not allow the product to come into contact with liquids. Liquid in the casing can cause a fire, electric shock or damage the device. Immediately pull the mains plug out, if an item or liquid gets into the casing. Notice that the apparatus shall not be exposed to splashing or dripping liquids and no objects filled with liquids, such as vases, shall be placed on the apparatus.
- Keep small items away from the product. These can fall into the casing and cause a fire, an electric shock or damage the device. Don't try to reach into the housing or plugs with wires or the like.
- Never touch not-isolated parts of the plug, if the device is connected to the power adapter!
- Where the mains plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.
- Avoid any impact and do not allow the product to fall!

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4

GENERAL INFORMATION - INSTALLATION

Operation and Storage Requirements

The ambient temperature for operating the device is between +5 and +50 degrees Celsius. Do not install the device in the proximity of heat sources, such as heating pipes, heaters, furnaces or other devices, which radiate heat. Mount the device in such a way that it is protected against moisture. Trouble free operation is ensured up to 75% air humidity. To prevent fire or electric shock, never allow liquids to enter the unit. The product must be stored in dry and well-ventilated rooms, without extreme temperature fluctuations. Heat sources and aggressive active substances may not be stored in the proximity of the device. The required storage temperature is 0°C - +60°C at an air humidity of 5 - 85% RH. The device must be stored in the complete packaging, as delivered.

Installation

Have this product installed by qualified staff only. Use the mounting systems which are specified or recommended by ad notam. Install the product in a way that it is fixed properly and take care that children are not exposed to danger. Please take extra care during installation, avoid impacts. Before cabling your device, check that the power is off. To avoid any possibility of electric shock, always connect your equipment to properly earthed outlets. Use of power cords or adapters other than those provided may cause fire or malfunction. Place this product as close to the power socket as possible. Leave enough space to insert and remove the power plug on demand. Even if you switch off the product with your remote control, power is not cut off unless the power cord is unplugged.

Installation Environment

Avoid direct light or sun exposure, direct proximity to heat sources, outdoor installation. The product is specifically designed for indoor use only. There is the danger of fire and of electric shocks and damage to the device, if it is operated outdoors. Do not place any heat sources such as radiators and heat registers, etc. near the device.



Installation of Power Adapters

The device may only be operated with the provided power adapter. The rated voltage is indicated on the product label. The device is factory-set to the optimal operating voltage (see Technical Specification). Use only power cords and plugs that are suitable for your local electrical outlets. Install the power cords in such a way that it does not obstruct anyone. Ensure furthermore that the cable is not clamped and that it cannot be pulled out accidentally from the power adapter. Do not install the power cords in the proximity of heating elements and never place heavy items on the cable or power adapter. Do not modify or arbitrary repair the power cords.

CAUTION

Do not use any power cords or adapters other than those provided with this product! Use of power cords or adapters other than those provided with this product may cause fire, electric shock or malfunction. If several kinds of power cords are provided with this product, use the one that fits your power socket. Do not let the adapter hang down while using. Do not cover or wrap the adapter. Leave space around the adapter to prevent overheating. The individual components can be destroyed, if the polarity is reversed or an incorrect connection is used.

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6

A goodwill replacement is not possible in such cases, since each device is submitted to meticulous quality inspections prior to shipping. The connecting plugs must be attached in such a way that the connector is held firmly. Have trained technical personnel install the electrical facilities necessary for mounting. The power adapter has to be installed in ventilated areas due to the heat emission! Connect the power cord to a grounding outlet! Never cut or damage the power cord!

Please disconnect the device from the power adapter in the following cases:

- The device is out of use for a lengthy period.
- The device malfunctions or displays other unusual features, necessitating maintenance work.
- During a thunderstorm.

Please plan the positioning of the power adapter and the source cables before proceeding with the structural measures and positioning of the device. Observe the protection zones when placing the power adapter! For in-wall applications please bear in mind that the power adapter has to be placed beyond the inset due to heat emission!

⚠ NOTE

The power adapter should be adequately secured to prevent it from becoming unstable and/or falling. Make sure the power source circuits are properly grounded. Use the supplied power cord in order to connect it to the power source. If your installation requires a different power cord, be sure to use an officially approved power cord displaying the mark of the safety agency that defines the regulations for power cords in your country. Please consider that the AC outlet for the power adapter is placed within reach and should be easily accessible in case it needs to be powered off.

Do install the product in a dry environment where the operating ambient temperature might **not** exceed 40°C / 104°F. Also **don't** position the power adapter on top or on the back of the device in order to prevent thermal overload. Ensure that your installation complies with your national safety rules. Any servicing, adjustment, maintenance or repair must be performed only by service-trained personnel.

Ensure that the power adapter is installed in a serviceable location, to access it easily in case of a defect. If you choose to place the power adapter in a separate space, take care that the ventilation is present, because the power adapters need convection cooling for stable working conditions.

When placing the power adapter in a fully enclosed space, make sure the air flow around the sides and top of the power adapter is not restricted. According to a common rule of thumb the minimum dimensions for a niche for the power adapter may be defined as follows: please calculate the length of the power adapter plus an additional gap of at least 100mm all around for DC 12V power adapters.



GENERAL INFORMATION - TRADEMARK

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8

GENERAL INFORMATION - DISPOSAL OF OLD EQUIPMENT AND BATTERIES

European Union

The following symbol indicates that electrical resp. electronic equipment and batteries signed with this symbol should not be disposed of as general household waste at its end of life. Instead, the products should be handed over to the applicable collection points for the recycling of electrical and electronic equipment as well as batteries for proper treatment, recovery and recycling in accordance with your national legislation and the Directive 2002/96/EC and 2006/66/EC.



NOTICE: An appendix "Pb" below this symbol indicates that the battery contains lead.

By disposing of the products correctly, you will help to conserve natural resources and will help to prevent potential negative effects on the environment and human health which could otherwise be caused by inappropriate waste handling of these products. For more information about collection points and recycling of these products, please contact your local municipal office or your household waste disposal service. Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.

Other Countries outside the European Union

These symbols are only valid within the European Union. If you wish to dispose of these items outside the European Union, please do so in accordance with the applicable national legislation or other rules of your country for the treatment of old electrical and electronic equipment and batteries.

INSTALLATION IN WET ROOMS

For installations in wet rooms specific installation guidelines apply, which are to be seen in the context of placing the power adapter outside of certain protection zones. These regulations differ by region. Please contact a specialist for this. In Germany electrical installations are to be performed by a skilled technician, while observing the regulations of the standard DIN VDE 0100 T.701.

According to this standard, ad notam monitor systems with DC 12V (Limited Power Source Class II, SELV) can be installed at each position (incl. Zones "0" and "1") in harsh environments, also in showers and above a bath tub as long as the low voltage product is shielded from a sealed glass surface and the (external) power adapter is installed beyond these protection zones.

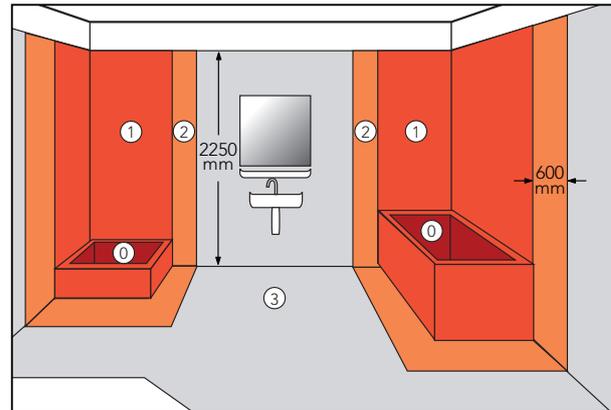
⚠ NOTE

The safety current source has to be arranged outside the zones 0 - 2 and needs to be protected against direct impact. The assessment of the protection zones on site of the installation must be performed in accordance with the valid national guidelines by a skilled local electrician. ad notam will not be held liable for improper installation!

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10

Zone	Class	Requirements
0	IP x6-8	waterproof, max. 12V, only SELV qualified electronic devices
1	IP x5	hose waterproof, max. 50V, only stationary electronic devices (IP x5 or qualified SELV)
2	IP x4	splashproof, only stationary electronic devices (IP x4 or qualified SELV)
3	IP x0-3	devices with at least protection against dripping water recommended



PRODUCT INFORMATION - SCOPE OF DELIVERY

ad notam introduces the DSTB-T/S2, a set top box with an inbuilt digital TV tuner that covers all main Satellite and Terrestrial Digital TV standards (DVB-T / DVB-S / DVB-S2). It is ready to interact with all models of the ad notam Display Frame Unit (DFU) line and any monitor system that features an HDMI™ input port. Before using the device please check the following contents of the box for completeness:

- Digital set top box incl. glass mounting system.....



- Low voltage power adapter incl. power cord and glass mounting system.....
12V DC, 12W



- IR pass through cable.....



- HDMI™ cable.....



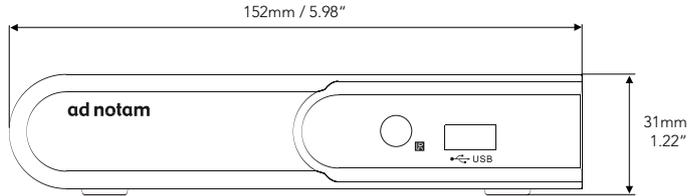
RELEVANT OPTIONAL ACCESSORIES

- IR remote control.....
A WATERPROOF, Art.No. ET_555
B SLIMLINE, Art.No. ET_556
- Y-cable 12V DC, Art.No. ET_551.....

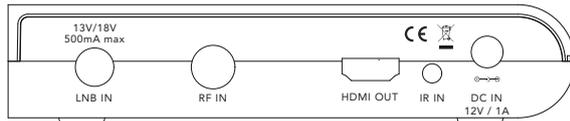


PRODUCT INFORMATION - INPUT / OUTPUT OVERVIEW

FRONTVIEW



BACKVIEW



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12

- USB input, 1 x USB terminal
- LNB input, 1 x 75Ohm F-TYPE connector (DVB-S / DVB-S2)
- RF input, 1 x IEC-TYPE connector (DVB-T)
- HDMI™ output, 1 x HDMI terminal
- IR input (infrared), 1 x mini jack 3.5mm
- Power input, 1 x Switchcraft L722 (12V DC / 1A)

GETTING STARTED - HOW TO CONNECT

ad notam DFU monitor system

Connect an HDMI cable to the HDMI output terminal of the digital set top box and one of the three HDMI inputs of the DFU.

IR pass through cable

In order to use the integrated IR receiver of a combined DFU monitor system connect an IR pass through cable (ET_545) to the IR output port of the DFU monitor system and the IR input port of the digital set top box.

External USB media source

Connect an external USB media source to the USB socket to to install a software update, to import channel list settings from or export channel list settings to a USB device. **In order to have access to the USB port also after installation, we recommend installing a USB extension cable.**

Satellite antenna cable

Connect an RF cable to the LNB input port of the digital set top box in order to receive DVB-S and/or DVB-S2 signal standard.

External TV aerial

Connect an RF cable to the RF input port of the digital set top box in order to receive DVB-T signal standard.



GETTING STARTED - REMOTE CONTROL

IR remote control WATERPROOF

NOTE

Observe that the contact clip (+) is connected correctly to the plus pole of the battery. If the contact clip is positioned under the battery, the remote control will not work.

LED indicator

- Power (toggle power on / off)
- Source, signal input

Select program directly (0-9)
Electronic program guide (EPG)
Teletext / Videotext (TXT)

- Cursor up
- Cursor down
- Cursor left (decrease values)
- Cursor right (increase values)
- OK, confirm selection
- Open / close OSD menu of STB (MENU)
- GOTO
- EXIT
- Previous channel (BACK)

Open / close OSD menu of DFU (SETUP)
Switch between TV and radio (TV/R)
Favorite list (FAV)
Sleeptimer (SLEEP)
Aspect ratio (ASPECT)
Select audio mode / audio track (AUDIO)

- Channel up / down (CH+, CH-)
- Volume up / down (V+, V-)
- Mute (sound on / off)
- Channel info / Operation guide (INFO)
- Learn individual commands (LEARN)

- Submenu function
- Dimmer on / off
- Dimmer scene 1 recall

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- functions used for ad notam DFU monitor systems
- functions used for ad notam lighting solutions

It is possible to program every single key (except for the  key itself) of the learnable IR remote control WATERPROOF with an individual IR command from a teaching remote control of another IR controlled device.

Programming procedure:

1. Place the IR remote control WATERPROOF (learning) and your external device remote control (teaching) "head to head", approximately 30cm apart, as shown below:



2. To enter the "learn mode" press and hold the  key until the LED indicator lights constantly. Please note: **With no action for more than 30 seconds the remote control will exit "learn mode" automatically!**
3. Press and release a key you wish to program on the learning remote. The LED indicator still lights constantly.
4. Press and release a key you want to capture on the teaching remote. The LED indicator starts to blink slowly indicating the IR command has been captured.
5. To save this IR code press and release again the key you wish to program on the learning remote. The LED indicator blinks fast and then lights constantly to indicate this IR code has been saved.
6. To program more keys please repeat steps 3 - 5 while in "learn mode".
7. To exit "learn mode" please press and release the  key again. The LED indicator is off.

In order to reset all keys to ad notam "factory default" IR commands, please follow the next steps:

1. Press and hold the  and  keys simultaneously until the LED indicator lights constantly.
2. Press and release the  key three times in sequence to enter the code "999".
3. The LED indicator will turn off and the remote control has been reset to the initial IR codes.

Adress change procedure:

1. Please note: **DFU IR address should be changed previously!**
2. Press and hold the  and  keys simultaneously until the LED indicator lights constantly.
3. Press and release a sequence of tree numeric keys (address codes "000" to "255" are available).

GETTING STARTED - REMOTE CONTROL

IR remote control SLIMLINE

0 - 9 Select program directly

EPG Electronic program guide

TXT Teletext / Videotext

TV/R Switch between TV and radio

FAV Favorite list

GOTO Previous channel

Cursor up

Cursor down

Cursor left (decrease values)

Cursor right (increase values)

OK OK, confirm selection

MENU Open / close OSD menu of STB

EXIT

TV/R Switch between TV and radio

FAV Favorite list

GOTO

BACK Previous channel

Power (toggle power on / off)

Source, signal input

Submenu function buttons

V+ **V-** Volume up / down

INFO Channel info / Operation guide

MUTE Mute (sound on / off)

CH+ **CH-** Channel up / down

Media Player

MENU Open / close OSD menu of DFU

SLEEP Sleptimer

ASPECT Aspect ratio

AUDIO Select audio mode and audio track

DIMMER Dimmer on / off

PRESET Dimmer scene 1 recall

Legend:

- functions used for ad notam DFU monitor systems
- functions used for ad notam lighting solutions

GETTING STARTED - INSTALLATION GUIDE

If you use the digital set top box for the first time the **Installation Guide** will be displayed automatically.

Press the cursor buttons to setup the **OSD Language** and the **Country** location.

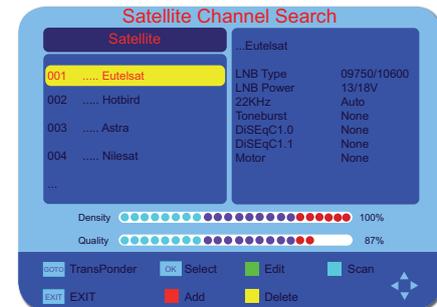
Navigate to **Channel Search** and use the cursor keys  to switch between DVB-S/S2 and DVB-T. Then press the  key to start the channel scan.

The terrestrial **Channel Search** menu offers options to tune to digital TV and radio channels in DVB-T standard, when you have connected an external TV aerial to the RF input port of the digital set top box.

Choose from **Auto Search**, **Manual Search**.

The **Satellite Channel Search** menu offers options to tune to digital TV and radio channels in DVB-S and/or DVB-S2 standard, when you have connected a satellite antenna to the LNB input port of the digital set top box.

Choose from **Satellite**, **TransPonder Dish Setup**.



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17

GETTING STARTED - OSD MENU

In the on screen display menu (OSD) you can adapt the characteristics of the digital set top box based on personal preferences.

The OSD menu includes **Program**, **Picture**, **Channel Search**, **Time**, **Option** and **System** settings.

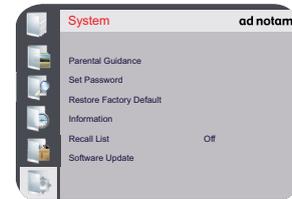
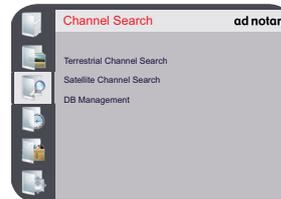
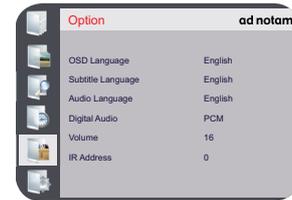
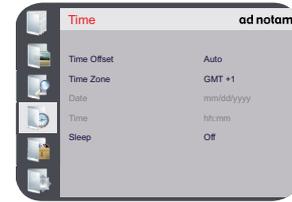
OSD navigation

Press the  key on your remote control to open the **OSD** menu of the digital set top box.

- Navigate within the **OSD** menu with the according cursor keys .
- Change settings with the  keys.
- Go back one step with the  key.
- Confirm selection with the  key.
- Press the  key to close the OSD menu.

NOTE

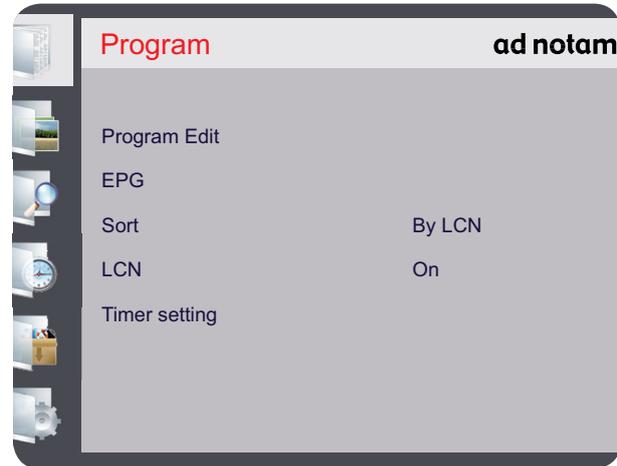
The default password is "000000", but may be modified within the **System** menu.



Program

Press the  key to open the **OSD** menu. Navigate to **Program** with the  or  keys.

- **Program Edit:** move, skip, lock, delete, favor and/or rename channels according to your preferences.
- **EPG:** (electronic program guide) provides you with continuously updated menus displaying broadcast programming or scheduling information.
- **Sort:** sort the channel list according to specific defaults, choose from options By LCN, By ONID, By Service Name, By Service ID.
- **LCN:** (de-)activate the logical channel numbering.
- **Timer setting:** set the program timer for current and upcoming TV or radio broadcasting.



Picture

Press the  key to open the **OSD** menu. Navigate to **Picture** with the  or  keys.

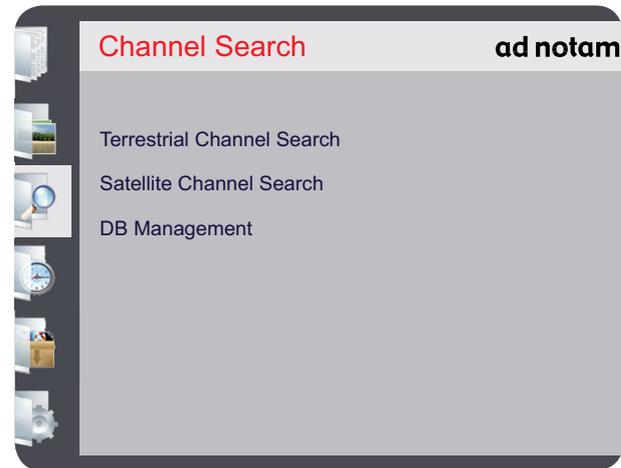
- **Aspect Ratio:** define the aspect ratio, choose from Auto, 16:9 Wide Screen, 16:9 Pillar Box, 16:9 Pan & Scan, 4:3 Full, 4:3 Letter Box, 4:3 Pan & Scan.
- **Resolution:** set the pixel structure of the image according to your preferences, choose from 576i, 576p, 720p, 1080i, 1080p (50Hz).
- **TV Format:** define the TV standard according to country specific conditions, choose from PAL, NTSC.



Channel Search *(see also section installation guide)*

Press the  key to open the **OSD** menu. Navigate to **Channel Search** with the  or  keys.

- **Terrestrial Channel Search:** tune to digital TV and radio channels in DVB-T standard, choose from Auto Search, Manual Search, Country, Antenna Power.
- **Satellite Channel Search:** tune to digital TV and radio channels in DVB-S and/or DVB-S2 standard, choose from Satellite, TransPonder Dish Setup.
- **DB Management:** load a channel list from a USB source or backup channel list settings to a USB drive.



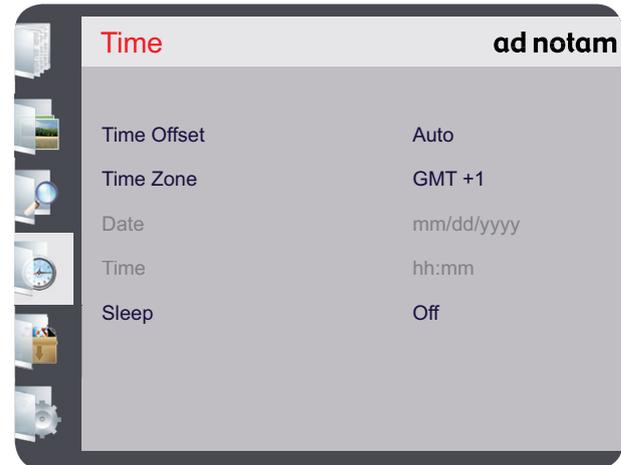
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Time

20

Press the  key to open the **OSD** menu. Navigate to **Time** with the  or  keys.

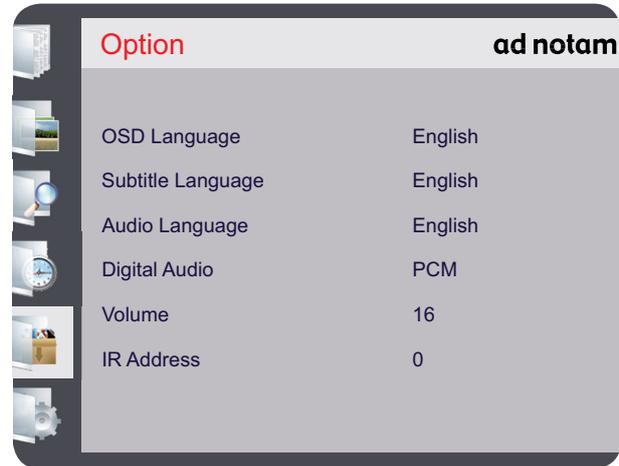
- **Time Offset:** determine the local valid time, choose from Auto, Manual. In manual mode the settings for Date and Time may be adjusted manually.
- **Time Zone:** determine the local valid time zone, choose from parameters GMT -12 up to GMT +12.
- **Sleep:** determine a time setting after that the digital set top box will change automatically to standby provided there is no timer event programmed and no command from the remote control in the meantime, choose from parameters 1 hour - 12 hours, Off. If Sleep is set to Off, the digital set top box is unable to enter standby mode automatically.



Option

Press the  key to open the **OSD** menu. Navigate to **Option** with the  or  keys.

- **OSD Language:** determine the desired language for the OSD menu, choose from Cesky, Dansk, Deutsch, English, Español, Français, Italiano, Português, Svensk.
- **Subtitle Language:** determine the desired language for the subtitle, choose from the parameters Off and a wide range of available languages.
- **Audio Language:** determine the desired language for the audio, choose from a wide range of available languages.
- **Digital Audio:** define a digital audio format, choose from parameters Off, PCM, RAW HDMI On, RAW.
- **Volume:** determine a default Volume, choose from parameters 0 up to 32.
- **IR Address:** determine an individual remote address code, choose from parameters 0 up to 254. The default IR address code is 0.

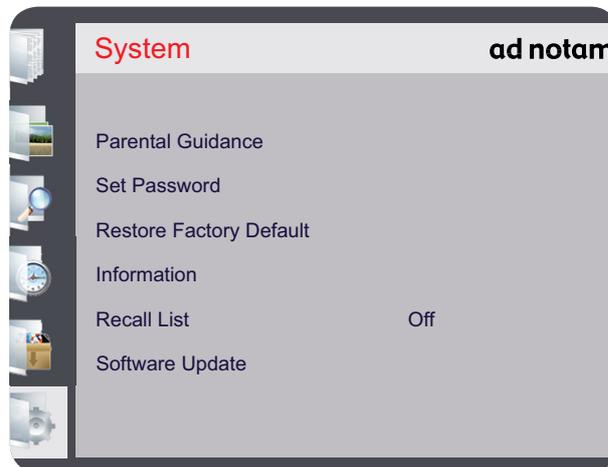


Option	ad notam
OSD Language	English
Subtitle Language	English
Audio Language	English
Digital Audio	PCM
Volume	16
IR Address	0

System

Press the  key to open the **OSD** menu. Navigate to **System** with the  or  keys.

- **Parental Guidance:** define a password protection for broadcasts that are categorized according to the legal protection for children and young persons. Enter a parameter between 4 and 18 according to the age of your children, choose from Off, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18.
- **Set Password:** (de-)activate the OSD menu password protection and determine an individual password. The default password is "000000".
- **Restore Factory Default:** restore to factory settings. Please notice that a restore to factory default will reject all personal settings and that the channels have to be tuned again afterwards.
- **Information:** indicates the model number as well as the hardware and software version of the digital set top box.
- **Recall List:** (de-)activate a recall list that shows the previous watched channels, when pressing the  key on the remote control.
- **Software Update:** accomplish a software upgrade via the USB port or (de-)activate an automatic update via OAD (over-air-download), choose from parameters USB Upgrade, OAD.



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22

TROUBLESHOOTING

If the product is not working properly, please check the following troubleshooting hints before you contact customer service:

Problem	Possible Cause	Troubleshooting
No or bad signal of DVB-S and/or DVB-S2	<ul style="list-style-type: none">• Satellite dish is not accurately pointing at the selected satellite.• Signal is too weak.• Satellite dish is too small.• Wrong antenna setting.	<ul style="list-style-type: none">• Adjust satellite dish.• Increase the LNB voltage or connect a signal amplifier.• Change to a larger dish.• Correct antenna setting.
No or bad signal of DVB-T	<ul style="list-style-type: none">• Aerial is disconnected.• Aerial is damaged or misaligned.• Out of digital signal area.	<ul style="list-style-type: none">• Check aerial and RF cable.• Check aerial.• Check with an expert.
Channel Search does not work	<ul style="list-style-type: none">• Sat dish is not connected adequately.• Aerial is not connected adequately.• Wrong antenna setting.	<ul style="list-style-type: none">• Check RF cable connections and make sure that the antenna setting is correct.
Remote control does not operate	<ul style="list-style-type: none">• Batteries are discharged.• Batteries are not inserted correctly.• Something is blocking the signal path.	<ul style="list-style-type: none">• Replace batteries.• Check polarity of the batteries.• Check the way between the remote control and the IR receiver.
Not able to enter the OSD menu	<ul style="list-style-type: none">• Password protection is activated.	<ul style="list-style-type: none">• Default password is "000000".

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23

NOTE

If the above troubleshooting hints do not help you to find a solution for the problem, please contact an authorized ad notam service agent. If the product needs to be sent in for RMA service, please use the original package.

TECHNICAL SPECIFICATION - DSTB PORTS

Ports	DSTB-T/S2	
Input Ports	LNB Input	1 x 75Ohm F-TYPE connector (DVB-S / DVB-S2)
	RF Input	1 x IEC-TYPE connector (DVB-T)
	USB Input	1 x USB terminal
	IR Input (Infrared)	1 x mini jack 3.5mm
	DC Input	1 x Switchcraft L722 (12V DC / 1A)
Output Ports	HDMI Output	1 x HDMI terminal

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24

TECHNICAL SPECIFICATION - DSTB TUNER AND CHANNEL

Tuner and Channel	DSTB-T/S2
DVB-S2 Receiving Channel Range	950-2150MHz
DVB-S2 Modulation	QPSK/8PSK
DVB-S2 LNB Controlling	22KHz, 13/18V
DVB-T Receiving Channel Range	174-230MHz, 470-862MHz
DVB-T Modulation	QPSK/16, QAM/64, QAM
DVB-T OFDM Spectrum	2K and 8K
DVB-T Band Width	7MHz, 8MHz

DSTB-T/S2

TECHNICAL SPECIFICATION - DSTB GENERAL FEATURES

General Features	DSTB-T/S2	
Power Voltage	DC 12V	
Power Consumption	< 6W	Standby < 1W
Video Decoder	MPEG-4 / H.264 HP@L4, MPEG-2 MP@HL	
Video Output Ratio	4:3 / 16:9 / letter box / automatic	
Video Resolution	1920 x 1080p	
Audio Decoder	AAC/HE-AAC/AC3, DD+	
OSD Language	Multi-language	
Electronic Program Guide	7 days EPG	
Teletext	VBI / OSD	
Software Update / Database Update	Yes	
TV and Radio List Handling	Yes	
Favorite List Editing	Yes	
Timer Setting	Yes	
HDMI™ / HDCP	HDMI™ 1.3 / HDCP 1.1	

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25



TECHNICAL SPECIFICATION - DSTB POWER ADAPTER

Art.No.	Power	Voltage Input	Voltage Output	Operating Temperature	Humidity	Weight
ET_550	12W / 1A	100~240V AC	12V DC	0° - 40°C / 32° - 104°F	20 - 90%	140g



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