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# TRIAX DVB 75SI

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User's guide

**UK**



08.2002

## Getting started

You do not have to read this entire user's guide to be able to watch television from satellites orbiting 36,000 km in space.

However, we still recommend that you read the entire user's guide carefully in order to get a complete overview of the many features and possibilities offered by your new Triax DVB 75SI and to get the most out of your new satellite receiver and dish system.

The **TRIAX DVB 75SI** has been factory pre-programmed. To you this means easy and quick connection and installation of receiver and dish system. Before you connect the receiver, you should, however, read the chapter '**Installation and initial operation**'.

## Tips

- Place your satellite receiver on a plane, horizontal and stable surface.
- Make sure that the satellite receiver is positioned away from heat sources, e.g. radiators. Do not expose the receiver to more than 80% humidity and ambient temperatures below +15° and over +35°.
- Do not cover the vent holes. Make sure that there is minimum 10 cm clear space above the receiver.
- Do not connect the satellite receiver to the mains before all other connections have been established.
- The receiver should be disconnected from the mains and the dish during thunderstorms.
- Your receiver is covered by a statutory performance warranty. The warranty does not cover damage caused by disassembly of the unit by unauthorised personnel, and the warranty does not cover direct or indirect damage caused by lightning. Do not remove the top cover from the receiver.
- Used batteries and other waste harmful to the environment should be disposed of according to current legislation.
- Satellite operators are distributing an increasing number of channels in the high digital quality that your new DVB 75SI is designed to receive. Please note that it may be necessary to make regular satellite or transponder searches to get access to all the new channels.
- If you have any questions, please contact your local TRIAX dealer.

**Congratulations on your new TRIAX satellite receiver.**

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# TRIAX DVB 75SI

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## Introduction

The TRIAX DVB75SI is an advanced digital satellite receiver based on the latest technology.

In addition to support of DiSEqC functions for controlling switches and LNBS for reception from more than one satellite position, the DVB 75SI features OpenTV (version EN2) and an integrated Electronic Programme Guide (EPG).

All functions are easy to set via the remote control and supported by an extensive OSD (On-Screen-Display) screen-based menu system.

To be able to use the receiver you must have a suitable satellite dish mounted and correctly adjusted to receive the desired satellite positions.

The purpose of this User's guide is to ease the installation and use of your Triax DVB 75SI satellite receiver:

- The User's guide uses the term 'satellite receiver' or 'receiver' when referring to the Triax DVB 75SI.
- When preparing this User's guide, we particularly focused on 'Installation' and 'Adjustments'. A glossary is available at the end of this User's guide.
- Your new satellite receiver has already been pre-programmed from factory. This enables you to get quick access to your preferred programmes. However, new channels are constantly being made available from the satellites and you may have to make regular transponder searches to make sure that your programme list is up to date.
- The satellite receiver is set to display Danish screen menu texts as default. If you wish to change this or if you wish to change other settings, please follow the instructions in chapter 4.
- In this User's guide all references to buttons on the remote control are made with the printed number or symbol in square brackets [ ]. The remote control button with the text 'P+' will thus be referred to as the [P+] button, and the button with the text 'menu' will be referred to as the [menu] button, etc.

## Supplied accessories

- 1 RC75 remote control
- 2 batteries
- 1 user's guide
- 1 SCART cable (1 metre, fully connected)
- 1 telephone cable (10 metres)
- 1 mains cable

## The Triax DVB 75SI, an interactive satellite receiver

OpenTV is the name of the operating system of the receiver (also known as its API). Consequently, the DVB 75SI enables you to fully utilise all channels that broadcast interactive services based on the OpenTV system (e.g. ARD, ZDF, RTL and the Viasat channels - subscription dependant).



**Interactive** means that in addition to your normal role as a passive television viewer you'll be able to actually take part in the programme. When and if the transmission is prepared for it, you will be able to use your remote control to e.g. change camera view, participate in viewer polls, get more background information, browse through news, check the programme guide, etc.

The system works by sending 'invisible' data in parallel with the television transmission. This data is called the *interactive services*.

When your DVB 75SI receives an interactive service it will load it into the receiver and execute it. This is very much similar to loading and executing a program on a PC. When the service is started it will take over the control of the receiver and it may take over the screen as well (using pictures, graphics and texts). "APPL" will be displayed on the front panel. As normal, you may control the receiver with the remote control. You can abort a service using the **[exit]** button, just as a change of channel using the **[P+]** or **[P-]** buttons will abort a running interactive application and the receiver will return to normal television mode.

If the interactive application requires that information about your choices is sent back to the programme provider, your DVB 75SI automatically uses the built-in modem. The modem sends and receives the required information via your telephone connection. This way you may participate in direct television polls or order a movie. The modem is often referred to as the 'return channel' of the receiver.

To receive and execute interactive services is normally free of charge, but access to them may be subject to subscription status. Use of the return channel is normally charged for as a normal telephone conversation.

The DVB 75SI requires a normal telephone connection. If you have an ISDN connection, the DVB 75SI must be connected via an A/B output (normally available via an ISDN modem or a T/A adapter). If you do not have a normal telephone connection available, you cannot use the interactive services that require a return channel.

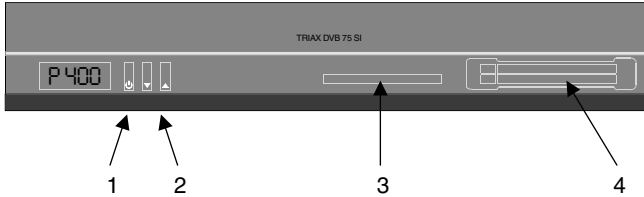
Your DVB 75SI can easily be set to ignore all interactive services in case you temporarily only wish to watch normal television.

NB: The above trademarks are registered trademarks of the respective companies.

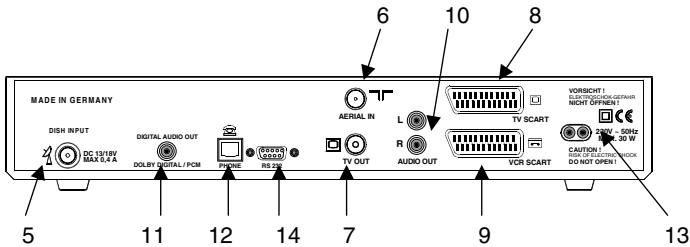
# TRIAX DVB 75SI

## 1. Control buttons and connections

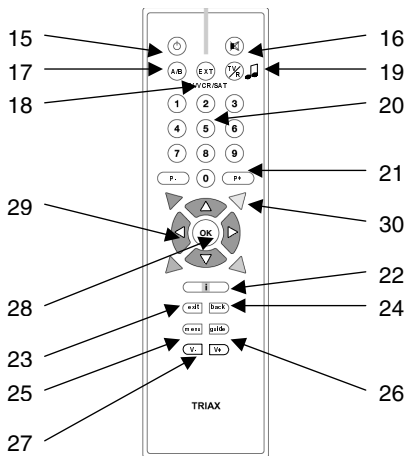
### 1.1 Front view



### 1.2 Rear view



### 1.3 Remote control



## 1.4 The front of the satellite receiver

- 1) Standby (on/off) button
- 2) Step-by-step change of programme/channel.
- 3) Embedded Viaccess smart card reader.
- 4) Common Interface slot (For PCMCIA CA modules. For decoding via different Common Access standards)

## 1.5 The rear of the satellite receiver

- 5) **LNB INPUT:** For connection of the aerial cable from the LNB unit.
- 6) **AERIAL IN:** For connection of the cable from a VHF/UHF antenna or a cable system.
- 7) **TV OUT:** For connection to a television set via an RF aerial cable.
- 8) **TV:** SCART connector for connecting the satellite receiver to a television set. Cable included.
- 9) **VCR:** SCART connector for connecting the satellite receiver to a VCR.
- 10) **L/R AUDIO:** Phono connector with stereo audio signal for connecting the satellite receiver to a HI-FI stereo set.
- 11) **Digital audio:** Phono connector with a digital audio signal.
- 12) **Phone:** Telephone connector for connection to an analog telephone connection
- 13) **Mains connection:** The satellite receiver is ready for operation when connected to the mains (230V, 50Hz)
- 14) **RS232:** For connection of a PC.

## 1.6 The remote control

- 15) **Standby (On/Off).** Sets the receiver in standby mode. It will start from the favourite list and the channel last used.
- 16) **Muting:** Temporary sound switch-off.
- 17) **A/B:** Activates the audio menu on the screen in case of channels with several audio tracks.
- 18) **TV/SAT:** Switches between TV, VCR and SAT signals to the television set.
- 19) **TV/R:** Switches between digital television and radio reception.
- 20) **0-9:** Numeric buttons from 0 to 9 for direct entry of programme place numbers and other numeric entries. When using interactive services, the buttons are taken over by the application.
- 21) **P+ and P-:** Step-by-step change of programme.
- 22) **Info:** Activates information banner
- 23) **exit:** Exits running application or menu.
- 24) **back:** Goes back to the previous level of the interactive application or the main menu.
- 25) **menu:** Activates and displays the receiver main menu for system settings.
- 26) **guide:** On Viasat channels the Viasat OpenTV portal application is activated, and on other channels the Triax EPG is activated.
- 27) **V+ and V-:** Step-by-step volume ctrl.
- 28) **OK:** Opens and displays the current programme list and confirms entries.
- 29) **Cursor buttons:** Active during interactive applications and in the main menu for change of function and line on the screen.  
Outside applications: Up/Down functions as channel switch and left/right as volume control.
- 30) **Red, Green, Blue, Yellow:** Function buttons the function of which depends on the interactive application active at any time.  
  
Function at normal television reception:  
**yellow** = Triax EPG  
**blue** = Subtitle language on pay-TV channels  
**green** = Channel/signal information  
  
When in standby mode the receiver may also be started by means of these buttons and thus your respective favourite programme lists will be activated:  
**red** = Danish programme list  
**yellow** = Swedish programme list  
**blue** = Norwegian programme list  
**green** = Viasat/General programme list

## **New digital technology**

A few years ago satellite reception was based entirely on analog technology, but today more and more channels use the new digital technology, and your new DVB 75SI is designed to receive digital signals.

Digital technology has made it possible to transmit 6-8 television channels using only one bandwidth. In the past one single analog channel would take up the entire bandwidth. Today, it is possible to transmit television channels with audio features and subtitles in several languages. And often at the same time. The user is free to select the mix that suits him/her best. Additionally, the picture quality has been improved significantly. The quality difference can be compared to the quality difference between normal VHS video recorders and DVD video players.

Thus there are many good reasons for changing over to digital technology, and by choosing the DVB 75SI you have enabled yourself to take part in the digital development in many years to come.

A lot of very exciting interactive services are already being offered, which the DVB 75SI will give you access to. And you will no doubt see a lot more in future.

It is easy to predict that more and more satellite broadcasters will offer their own interactive EPG in future. This will of course make it very easy for you, the user, to get an overview of all the present and following programmes. Using the EPG you can easily plan what you want to watch and when. To a large extent, the EPG will take over the task of providing television guides and other information previously solved by television magazines and newspapers.



## 2. Installation and initial operation

Follow the installation instructions supplied with your satellite dish.



### 2.1 Pay-TV card readers

Your Triax DVB 75SI satellite receiver can receive Pay-TV channels encoded in many different access systems. It is capable of handling two different common access systems simultaneously.

DVB 75SI has an embedded Viaccess Common Access System and a dedicated card reader (to the left/in the middle of the front panel).

Whenever you wish to receive programs encoded with this access system (e.g. channels from the Sirius satellite: TV3, TV1000, Cinema, etc.), you simply insert the smart card from Viasat into the integrated Viaccess card reader.

Additionally, the DVB 75SI is equipped with a Common Interface slot (to the right on the front panel), where you may insert one of the many different Conditional Access Modules (CAM) and a corresponding smart card. CAM modules are available for many different Common Access systems e.g. CONAX (used by Canal Digital), Irdeleto, Viaccess, Nagravision, Cryptoworks, etc.

Consult your programme supplier or your dealer concerning correct smart cards, subscriptions and CAM modules.

You do not have to have a subscription and a smart card to use your DVB 75SI. But without a subscription you will only be able to receive channels that are free of charge (free-to-air).

### 2.2 Connection of the satellite receiver

When the satellite dish has been mounted, connect cables to all the connectors and sockets of the satellite receiver required.

**Important! Do not connect the receiver to the mains before all other connections have been made.**

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## 2.3 Connection of the "LNB INPUT" satellite signal

Connect the aerial cable (double-shielded 75 Ohm SAT coaxial cable) from the LNB unit of the dish to the F-connector of the receiver.

If the F-connector has not yet been mounted on the cable:

- Strip the cable as illustrated on the drawing, and



- Position the F-connector correctly on the cable and firmly secure it. Make sure that the cable shield contacts the F-connector sheath without the shield contacting the inner conductor because that would lead to a short circuit.

### Note!

- Your DVB 75SI has a pre-programmed channel list as it has been prepared to receive channels from satellites which especially service the Scandinavian countries: Thor/Intelsat (1 deg. West) and Sirius (5 deg. East) in the order mentioned.

If your satellite dish has also been set up to receive these two positions we recommend that you connect them via a 2x1 DiSEqC switch, in the same order (viz.: Thor/Intelsat as position 1 (DiSEqC A/A) and Sirius as position 2 (DiSEqC B/A)). The DVB 75SI has been pre-programmed for this, and you do not have to take any further action. If you can receive other positions, you should use a 4x1 DiSEqC switch. The preprogramming also includes ASTRA (19 degrees East) and Eutelsat/HotBird (13 degrees East).

If you want another set-up, you must alter the settings under 'LNB Settings' in the main menu correspondingly. For further details, please see chapter 4.3.

Please note that a later resetting of the receiver to the factory setting will also reset this setting to the basic setting.

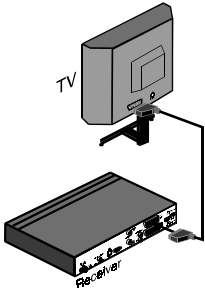
- We recommend that you record how you have set up your satellite dish and the LNBs in order for you to have this information on hand if you want to reset or change the system settings later.

- You can change the factory pre-programming of the channel list, and even generate favourite lists via the main menu and search for new channels. Please note that resetting to the factory setting always resets the receiver to the basic setting and removes any changes you might have made yourself. The pre-programming and favourite lists can also be changed in connection with an upgrade of the satellite receiver software, if you accept this (see chapter 4.3).

## 2.4 Connection to your TV

### 2.4.1 Connection via SCART cable:

You will get the optimum picture quality by connecting the SCART connector of the satellite receiver to the SCART connector of your TV by means of the SCART cable (supplied accessories). If your TV is so set up, it will now automatically switch over to satellite reception when the satellite receiver is activated. If you use this type of connector, you can proceed to chapter 2.5.

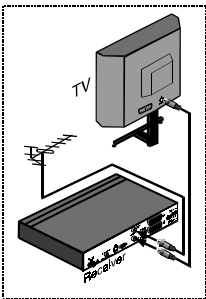


SCART connection

### 2.4.2 Connection via RF cable:

If your TV is not provided with a SCART connector, the satellite receiver can be connected to the antenna input on the TV. With this type of connection it is only possible to reproduce the sound from the satellite receiver in mono, and the picture quality does not live up to the high digital quality that your satellite receiver can otherwise deliver via the SCART connector.

First remove the aerial cable coming from your normal terrestrial antenna (outdoor, indoor or cable system) from the TV antenna input and connect it to the antenna/modulator input (**ANT IN**) of the satellite receiver. Subsequently, connect the antenna/modulator output (**ANT OUT**) of the satellite receiver with a suitable TV connecting cable to the antenna input of your TV.



RF connection

In order to be able to make the subsequent adjustment of the UHF output channel, you must connect your satellite receiver to the mains and switch it on by means of the **[standby]** button on the remote control. This is required in order to be able to see the picture of the satellite receiver on your TV so that you can select channels and fine tune the UHF channel on your TV. Now set your TV to the transmitter channel of the satellite receiver which has been factory-set at channel 38.

Select a free programme place on your TV and set it to channel 38 (see the TV user's guide). If you do not get a clear picture on channel 38, the reason may be that channel 38 or an adjacent channel is already occupied by a programme that you receive via the antenna.

You can ascertain this by removing the aerial cable from the connector (**ANT IN**) on the satellite receiver.

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If you get a clear picture from the satellite receiver, you must then set your satellite receiver to use another transmitter channel in the range from channel 21 to channel 69 (see below).

## 2.4.2.1 Setting of the UHF output channel

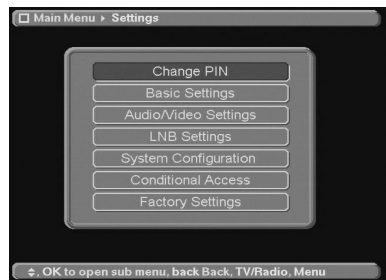
NOTE: A change of the UHF output channel of the satellite receiver requires a change of setting via the main menu of the receiver. The UHF output channel can only be seen when the TV is set to channel 38 as described above.

If the setting above results in an unsatisfactory picture, you must temporarily remove the aerial cable from the antenna/modulator input (ANT IN) of the satellite receiver. This is the only way to make sure that you can use the UHF channel 38 set to temporarily display the main menu of the satellite receiver on the screen to enable you to make the necessary changes.

- Activate the main menu of the receiver by pressing the **[menu]** button on the remote control.

The main menu now appears on the screen, and the top menu line with the text 'TV programmes' is clearly marked to appear different from the lines below. (See chapter 4.2, page 20)

- In the main menu you must now mark up the menu line '**Settings**' by moving the marking on the screen downwards by means of the cursor/arrow buttons **[arrow down]** of the remote control until the line 'Settings' is marked and highlighted.
- Confirm the choice by pressing the **[OK]** button of the remote control. Now the submenu '**Settings**' will appear on the screen.
- Mark up the menu line '**Audio/Video Settings**' in the same way.
- Confirm the choice by pressing the **[OK]** button of the remote control. Now the submenu '**Audio/Video Settings**' will appear on the screen.
- Now select the menu line '**UHF output channel**' by marking up this line by means of the **[arrow buttons]** of the remote control.
- Now you can enter the new UHF output channel that you want to use on your TV by entering the number of the channel directly via the numerical buttons **[0-9]** (channel 21 to channel 69) on the remote control.



- Confirm the choice of channel by pressing **[OK]**, then a dialogue box will appear which you will have to acknowledge by pressing **[OK]** or **[back]**. Now the UHF transmitter channel of the satellite receiver will be changed correspondingly, and the picture will therefore disappear from you TV which is still set on channel 38.
- Now set your TV to receive on the new UHF transmitter channel of the satellite receiver. If you still do not receive a good picture without interference on the channel just set, you must repeat the procedure described until you find a channel.
- When you have found a UHF channel without interference, do not forget to store it on your TV. The satellite receiver automatically stores the new setting when you press the **[menu]** button on the remote control.
- Disconnect the satellite receiver from the mains.

**REMEMBER:** Please note that a later resetting to factory settings always resets the satellite receiver to the original UHF channel setting on channel 38. We therefore recommend that you make a note of the UHF channel that you change your satellite receiver to use here to your left to enable you to make the same setting again after a resetting without having to experiment first.

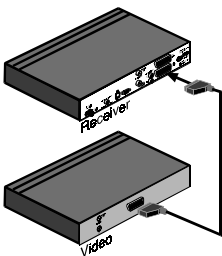
UHF  
transmitter  
channel  
chosen:

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## 2.5 Connection of a VCR

Connect your VCR via a SCART cable to the SCART connector marked **VCR** on the satellite receiver. At playback VCRs normally send a switch signal to the satellite receiver via the SCART cable. Thus the VCR signal is automatically transmitted to the TV where it is displayed on the screen.

If your VCR does not send this switch signal, you can switch by means of the **[EXT]** button of the remote control.



VCR connection

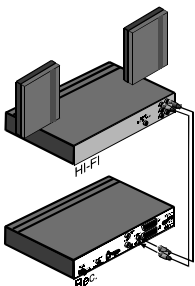
### 2.5.1 Connection of a Super VHS video recorder

If you have a Super VHS VCR, you can make Super VHS quality recordings from your digital satellite receiver. See sections 4.3.2 and 4.3.3 for information on how to set the signal type of the two SCART connectors (RGB, Composite video and S-VHS)

## 2.6 Connection to a Hi-fi amplifier

### 2.6.1 Analog audio connection

To get the optimum sound quality you can connect the satellite receiver to a Hi-fi amplifier. To do this you must connect the Audio R and Audio L connectors at the back of the satellite receiver with a suitable cable to the corresponding input on your Hi-fi amplifier (e.g. AUX, TAPE1 or TAPE2).



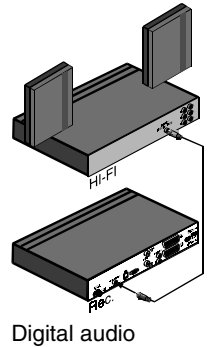
Analog audio

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## 2.6.2 Digital audio connection (AC3)

If your Hi-fi amplifier has a digital audio input, you can connect the AUDIO OUT DIGITAL connector to the digital audio input on your amplifier. Available sample frequencies: 16, 22.05, 24, 32, 44.1 and 48 KHz.

**NOTE:** If you receive a satellite channel transmitting full AC3 digital sound, you must choose the AC3 audio channel via the **[A/B]** button on the remote control and the corresponding screen menu. When the AC3 audio channel has been selected, the sound is exclusively transmitted from the digital audio output of the satellite receiver (See also chapter 4.4.4).



## 2.7 PC connection via serial RS 232 connector

The RS232 connector can be used for linking the satellite receiver with the serial COM port of a PC. A so-called 'straight through' serial cable must be used (pin-1-to-pin-1, pin-2-to-pin-2, etc.).

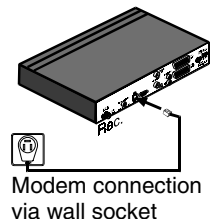
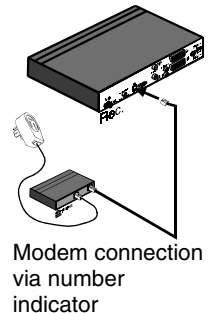
From Triax' home page (<http://www.triax.dk>) you can download e.g. new software for updating the satellite receiver system software via a PC programme (e.g. HyperTerm). For this purpose you have to use the serial number of your receiver. The system software can also be updated via satellite without use of a PC.

## 2.8 Connection of a modem to your telephone line

The DVB 75SI has an integrated telephone modem. You must connect the satellite receiver modem connector via the supplied telephone cable (10 m) to the nearest telephone socket in your house. If the cable is too short, extension cables and connection boxes are available from your teleshop.

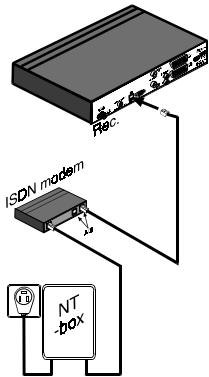
Often the connection can be made via the small RJ-11 connector in the supplied cable which fits into the 'phone' connection of a number indicator, answer phone or fax. Alternatively, you can go to the teleshop to buy an adapter which fits into the wall socket of your telephone connection.

The modem connection of the satellite receiver requires connection to a normal telephone line. If you have an ISDN installation, you can only connect the model to the telephone line if you have an A/B or TA adapter which gives a normal analog telephone signal. An ISDN modem usually features such an adapter or it can be bought separately in your teleshop.



The modem is automatically used by the satellite receiver when you receive interactive services requiring a return channel. It is also used when you want to buy services such as IPPV (Impulse-Pay-Per-View, e.g. KIOSK and pay movies). When you have accepted to by the programme in question, the modem automatically dials up the telephone number stored on the smart card, contacts the administration computer of the programme provider and debits your account.

**NOTE:** This function will only work if the modem connection of your satellite receiver is connected to a telephone line, and only if the line is free (not busy). Moreover, a modem call in progress will automatically be interrupted if you lift the receiver of your telephone to make a normal telephone call. In that case you will have to repeat the order or try again later.



Modem connection via ISDN modem or other A/B adapter.

## 2.9 Switching on the satellite receiver

If you have followed the above instructions carefully, you simply connect the satellite receiver mains plug to the wall socket and switch the receiver on by means of the red On/Standby button on the remote control. With your Triax DVB 75SI satellite receiver you can now enjoy the many digital channels and interactive services at your disposal.

## 3. Daily operation

This section describes the satellite receiver functions which you will need every day, and which can be operated via your remote control.

### 3.1 On/Off (standby)

When your satellite receiver has been connected to the wall socket (and the electric current has been switched on), you may switch the satellite receiver on and off by pressing the **[standby]** button of the satellite receiver. The **[standby]** button on the front panel has the same function.

You can also switch on the receiver by pressing one of the four coloured buttons which will switch on the receiver and the corresponding favourite list (programme list). As a starting point, the four favourite lists of the receiver are as follows: **[red]** button = Danish programme list, **[yellow]** button = Swedish programme list, **[blue]** button = Norwegian programme list and **[green]** button = Basic list.

When the receiver has been switched on once via a coloured button, it will remember the setting and the programme list which will be then active until another coloured button is used to switch on the receiver.

You should only switch off the satellite receiver entirely (and/or remove the plug from the wall socket) if you are not going to use the satellite receiver for a long time (e.g. during holidays). However, smart card updating will only take place when the receiver is switched on.

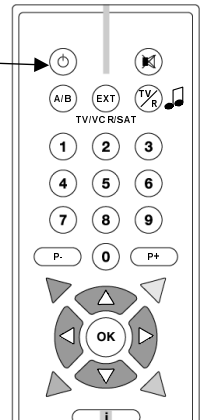
**NOTE:** The automatic update functions of the satellite receiver are only active when the satellite receiver is in standby mode. Therefore the satellite receiver will automatically go into standby mode after 12 hours if no remote control button has been pressed during that period. You can change or delete the period of this "floating sleep-timer" in the main menu (See chapter 4 'Settings').

### 3.2 Change of channels

In the following description of methods for change of channels we anticipate that only a normal TV picture from a chosen channel is displayed, and that no system or submenus are displayed on the screen. The satellite receiver stores the channel chosen last and automatically starts on this channel when switched on again after having been switched off (or put in stand-by mode).

#### 3.2.1 Quick change of channels via the remote control

Your satellite receiver contains a pre-programmed programme list. In chapter 4 "Settings" you can read how to change this or another one of the programme lists at your own option.



Section of a remote control with standby button and four arrow/coloured buttons.





You can use the **[P+]** and **[P-]** buttons of the remote control to go to the previous or next channel of the programme list.

You can use the numeric buttons of the remote control **[0-9]** to select any channel number from the active programme list. The numbers entered are displayed in a small box at the bottom left-hand corner of your TV screen.



If you hesitate more than 3 seconds after entering a number of the channel number, the satellite receiver assumes that you have completed your entries and switches to the channel number entered.

The satellite receiver will switch more rapidly if you press the **[OK]** button when you have entered the last number.

The **[arrow up]** and **[arrow down]** buttons of the remote control can be used for changing channels just as **[P+]** and **[P-]**. Note that these two buttons may have another function during execution of an OpenTV application, which may take over both buttons.

### 3.2.2 Quick change of channels from the front panel

In addition to the **[standby]** button on the satellite receiver front panel, there are two buttons that have the same functions as the **[P+]** and **[P-]** buttons of the remote control, as described above.

### 3.2.3 Quick change of channels via a screen list

As an alternative to the methods for change of channel described above a screen picture can display the active programme list.



The programme list will be displayed on the screen when the **[OK]** button is pressed during ordinary TV watching.

You can scroll through this programme list using the **[arrow buttons]** of the remote control and switch to any channel by marking it in the list and pressing the **[OK]** button of the remote control.

At the top of the screen you can see which programme list is currently active (the picture shows a red list, the Danish programme list). You may change to one of the other lists by setting the receiver in standby mode (press the **[standby]** button), and switching it on again by pressing one of the other **[coloured buttons]**.

When the **[back]** button is pressed, the screen list will disappear without any change of channel.

# TRIAx DVB 75SI

## 3.3 Change of volume, [V+] and [V-]

The volume (audio level) of the satellite receiver can be adjusted to higher or lower audio levels by means of the [V+] and [V-] buttons on the remote control. This setting only applies to the audio signal to the TV via a SCART or an antenna connection, NOT to the audio signal for a VCR via a SCART connection.

During normal operation the [arrow right] and [arrow left] buttons have the same function as the [V+] and [V-] buttons but these two buttons may have another function during the execution of an OpenTV application, which may take over both buttons.

If no other screen menus are displayed on the screen, graphics indicating the relative volume will be displayed in the top right-hand corner, and the DVB 75SI will commit this setting to memory.

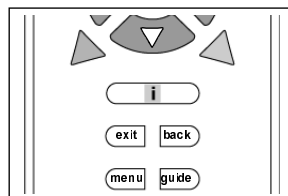
## 3.4 Display channel and programme information, [info]

With the [i] button of the remote control you can get information on the present channel name and number in the programme list, and other programme-related details. You can also see at what hour a broadcast begins or ends and icons (small figures) for the language, coding, teletext, etc. of the audio channels.

Most channels first display a banner containing the same information which is usually displayed at each change of channel. If more detailed programme information is sent to the channel, the information banner will increase in size after 2-4 seconds, and the extended information will be displayed.

By pressing the [i] button again you can switch from information about the present broadcast to information about the next broadcast.

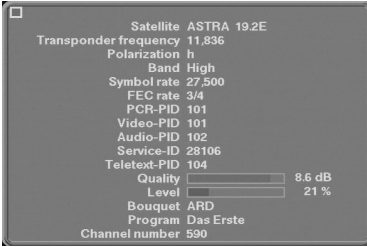
The information banner will disappear when the [i] button (or [exit] or [back] buttons) is pressed again.



## 3.5 Change of subtitle language, [blue]

You can change the language of the subtitles by pressing the [blue] button of the remote control. This is only possible on the channels which broadcast separate subtitles (TV1000, Cinema, Canal Digital, etc.), and thus it does not affect the subtitles which is usually transmitted as part of the broadcast picture (as for Danmarks Radio and TV3).



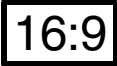


### 3.6 Display channel and satellite information, [green]

When the [green] button of the remote control is pressed, a window containing information about the basic data of the selected channel will be displayed.

These data include e.g. the name of the satellite, transponder data, various PID numbers, signal strength and quality.

The window will disappear when the [green] button is pressed again.



16:9 format



Several audio tracks



Right mono



Left mono



Digital Audio



Coded channel



Subtitles



Teletext

### 3.7 Change to previous channel, [back]

You can change between the last two channels watched by pressing the [back] button.

### 3.8 Temporary interruption of sound, [mute]

By pressing the [mute] button of the remote control you can temporarily switch off (mute) the sound. It is a useful function when the telephone rings in the middle of the most ear-splitting action movie.

A crossed-out loudspeaker symbol is displayed during muting.

You can switch the sound back on by pressing the same button again.

### 3.9 Change between TV and radio programmes [TV/R]

With the [TV/R] button of the remote control you can change between the TV and radio programme lists of the DVB 75SI. At the same time you will change between TV and radio reception.

The operation is the same of the two programme lists but during reception of radio programmes a black TV picture is shown. Only the channel selection bar is displayed at the bottom of the screen.

Banner icons and meaning.

# TRIAX DVB 75SI

## 4. Settings (advanced use)

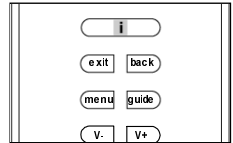
If you find that the basic settings of the satellite receiver meet your demands, you do not have to change any of them.

When you have connected your new Triax DVB 75SI satellite receiver and started using it, you can optimise it for your own use if you wish.

This section contains an outline of the functions that you can use to change the "behaviour" and/or mode of operation of the satellite receiver.

Please note that if you make a change, this will be effective until the satellite receiver is reset to factory setting. You can activate the resetting yourself, and resetting can take place when updating the system software.

You should therefore make notes when you change the settings of the satellite receiver to ensure that you do not forget them and have to start all over again after a factory setting.



### 4.1 The main menu

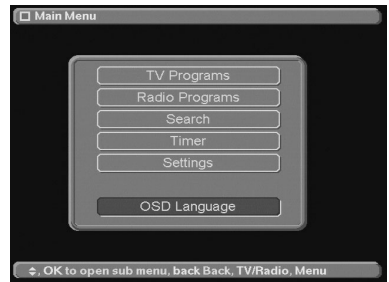
All settings and changes must be made via the menu system of the satellite receiver. The main menu is activated by pressing the **[menu]** button of the remote control, and thus the first level of the menu system will be displayed, which is also called the main menu.

As illustrated one of the main menu lines is highlighted to indicate that pressing the **[OK]** button will bring you to the submenu marked. Instead you can select other lines in the main menu and thus get access to other submenus by pressing the **[arrow buttons]** of the remote control.

If by mistake you press **[OK]**, and thus get access to a wrong submenu, or if you simply want to go back one level, you must press **[back]**.

With the buttons **[exit]** and **[menu]** you exit the main menu and return to normal TV or radio reception.

The entire main menu and all its submenus are outlined on page 25.



### 4.2 Menu language

In this menu you can select the language of the OSD (On-Screen-Display) menu texts of your choice. You can choose between the languages Danish, Norwegian, Swedish, Finnish, German, English, French, Italian, Turkish, Portuguese and Spanish. The DVB 75SI supports the Latin alphabet (character set), but not Greek, Arabian and Cyrillic (Russian).



The menu language is changed as follows:

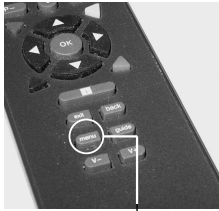
- Activate the main menu by pressing the **[menu]** button of the remote control. The system main menu will be displayed on the screen.
- Press the **[arrow up]** button of the remote control once, or the **[arrow down]** button five times to mark the 'Menu language' line.
- Press the **[OK]** button of the remote control to inform the system that you want to proceed to the selected submenu. A menu with a list of selectable languages will be displayed. You can scroll up and down between the 11 languages by pressing the **[arrow up]** or **[arrow down]** buttons of the remote control.
- Now you can store the selected language by exiting the main menu by pressing the **[menu]** button of the remote control, or by going back to the main menu using the **[back]** button if you want to change other system settings.

**NOTE:** As described in section 3.1, your DVB 75SI receiver has four programme lists, which can be activated through the four coloured buttons when the receiver is switched on from standby mode. As a starting point, the pre-programmed programme lists are designed for different countries (see 3.1). When the coloured buttons are used to switch to another programme list, the system also changes the language of the screen texts (OSD texts) to the language of the country concerned and the corresponding language of subtitles and sound.

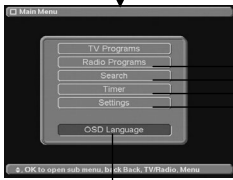
To ease the work concerned with "customising" your receiver for you, selection of another language in the main menu as described above will automatically lead to a change of subtitles and sound to the same language. This means for instance that if you wish to use the yellow favourite list for a list of news or film channels, you simply have to switch to the yellow programme list, change the OSD language from Swedish to English, and that's it.

You may subsequently carry out individual searches, deletions or rearrange the contents of the programme list, or make individual language settings in the submenus provided for that purpose.

## 4.3 An outline of the DVB 75SI system menus



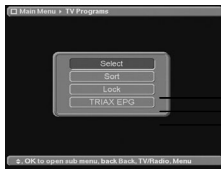
Press the [menu] button of the remote control to open



Main menu



Menu language



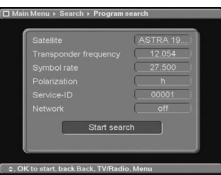
TV programmes



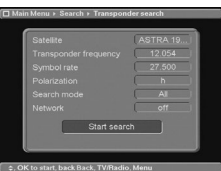
Radio programmes



Search



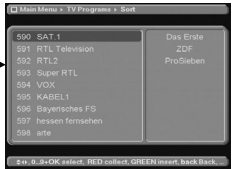
Search programme



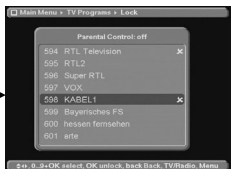
Search transponder



Select channel for list



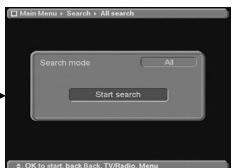
Move channel in list



Lock channel



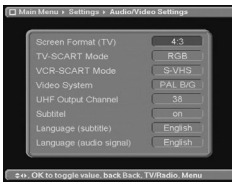
EPG (active after update)



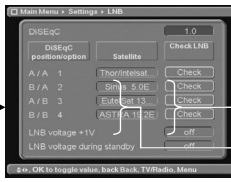
Search all



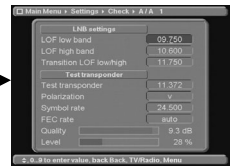
Search satellite



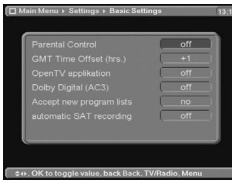
Audio/Video settings



LNB set-up



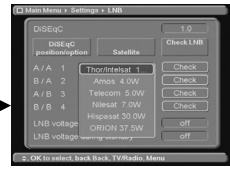
Data for LNB (position)



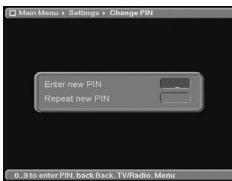
Basic settings



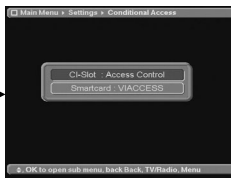
System Information



Set satellite position



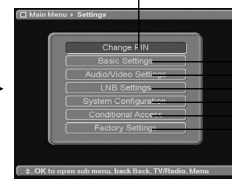
Change of PIN code (standard code = 0000)



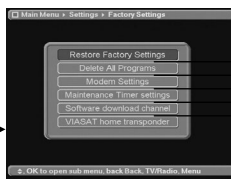
Access settings



Back to factory setting



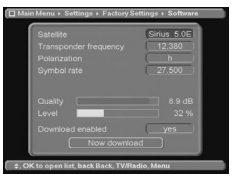
Settings



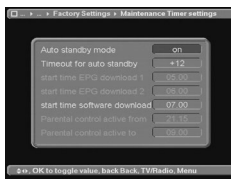
Factory/default setting



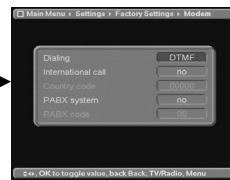
Delete all programmes from current programme list



Service channel for downloading of new software version.



Timer settings



Modem settings

## 5. Troubleshooting

Problem	Cause	Remedy
No picture, no sound, and front display not illuminated	No mains voltage	Check mains cable and socket
No picture, no sound, but front display illuminated	Short circuit in LNB supply, defective cable connection	Turn off DVB 75SI, remove short circuit and turn receiver on again.
	Defective or wrong cable connection	Check all cable connections
	Defective LNB	Replace LNB
Periodic squares in the picture (macro blocking)  Periodically frozen picture, no sound  Periodically black screen and the message 'No signal'	Wrong adjustment of LNB unit	Turn the dish so that LNB units point at satellite correctly.
	Strong rain or snow	Remove snow from the dish
	Wrong adjustment of dish	Adjust the dish correctly (within 1 degree)
Sound OK, no picture	Dish too small	Use bigger dish
	An obstruction between dish and satellite (e.g. a tree)	Make sure that there are no obstructions.
Poor picture and sound on channels that were previously OK	Radio reception has been selected	Switch to TV reception [TV/R]
	The dish has been turned or is defective	Check satellite dish and LNB.
	The programme is transmitted on another transponder	Carry out programme search
The remote control does not work	The programme is no longer transmitted	None
	Flat batteries	Replace batteries

## 6. Technical terms

### Aerial cable:

Connecting cable between the modulator of the satellite receiver and the TV antenna input, as an alternative if no SCART connector is available.

**AV:** see SCART

### Conax:

Digital coding method.

### Data compression/MPEG1/MPEG2:

Transmission of the present TV standard (625 lines and 50 Hz picture frequency) requires a digital data amount of 216 Mbit/s. This would require transmission



bandwidths that are not available either terrestrially or via satellite.

Therefore a reduction of the data amount is made through data reduction. In Europe MPEG-2 is the universal standard for data compression. MPEG2 is an extension of MPEG1.

### **DiSEqC:**

**Digital Satellite Equipment Control:** A digital control signal for controlling the DiSEqC-compatible units of the dish over the coaxial cable.

### **DVB:**

**Digital Video Broadcasting:** a digital, universal transmission technique for picture, graphics, sound and text as well as for data of any shape and quality.

### **Frequency:**

Physical quantity, indicates the number of cycles per second, measured in Hertz (Hz).

### **Frequency range:**

a) Satellite and LNB:

11 GHz range from 10.70 GHz to 11.70 GHz

12 GHz range from 11.70 GHz to 12.75 GHz

b) Receiver:

Intermediate frequency or 1 IF: 950 to 2150 MHz

### **Unit of frequency / Designation / Cycles per second:**

1 Hz	1 Hertz	1
1 kHz	1 Kilohertz	1,000
1 MHz	1 Megahertz	1,000,000
1 GHz	1 Gigahertz	1,000,000,000

### **Coaxial cable:**

Connecting cable between LNB and satellite receiver, for transmission of signals received and for supply of power to LNB unit.

### **LNB/LNC:**

(Low Noise Block Converter): Receiving unit in the dish focus, converts the satellite frequency range to the intermediate frequency of the receiver.

### **LOF:**

Local oscillator frequency, indicated in MHz or GHz, depending on LNB and frequency range received.

Received frequency of receiver = transmitter frequency of satellite - LOF.

### **Intermediate frequency:**

The frequency range from the satellite cannot be transmitted via a cable and is therefore converted to the intermediate frequency range from 950 to 2050 MHz by the LNB. This allows for transmission and processing in the receiver.

### **IF = Intermediate frequency**

### **Modulation with 22 KHz:**

For switching between 13/18 Volt and between 2 LNBs. When using universal LNB: For switching from lower to higher range (11.70 to 12.75 GHz).

### **Modulator:**

Output terminal on the satellite receiver or video tape recorder, for connection to the TV by means of aerial cable.

### **Multifeed:**

Outdoor unit consisting of a dish and several LNBs for reception of various satellites.

### **Satellite dish:**

A dish-shaped antenna (reflector) made of metal or metallised synthetic material for bunching of electromagnetic waves from the satellite in a focus.

### **Polarisation:**

For better utilisation of the available frequency bands the satellites transmit adjacent programmes, with opposite polarisation (horizontal and vertical or

# TRIAx DVB 75SI

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circular left or circular right). Reception of both types of polarisation requires two single LNBS or a V/H-LNB (Universal LNB).

**Receiver:** see satellite receiver

## **Satellite:**

A designation for the transmitting unit in space. Most often referred to by name and position, e.g. ASTRA 19° East, EUTELSAT 13° East

## **Satellite receiver:**

The signals received and converted by the LNB cannot be processed by the TV. The satellite receiver processes them, and transmits audio and video signals (AV) to the TV through its outputs.

## **SCART:**

A connector on TV sets, VCRs, satellite receivers and other entertainment equipment for transmission of audio (sound) and video (picture) signals (AV).

## **Transponder:**

Carries out the processing of one or more programmes from a satellite, i.e.

## **7. Technical specifications**

### **Front end:**

Input frequency range: 950...2150 MHz  
Input level: -65 dBm ... -25 dBm  
Noise level: max. 12 dB  
Tuner input: F-connector  
Input impedance: 75 Ohm  
AFC-pull-in range: +/- 3 MHz  
Demodulation: Shaped QPSK  
Symbol rate: 2...32 Mbauds, SCPC comp.  
FEC: Viterbi and Reed-Solomon  
Viterbi rates: 1/2, 2/3, 3/4, 5/6, 7/8, auto (K=7)

### **Video:**

Video compression: MPEG-2 and MPEG-1 compatible  
Active picture surface: 720 Pixel x 576 lines  
Picture format: 4:3 / 16:9  
Pictorial material: 16:9 Automatic adjustment to 16:9 TV (via SCART)

reception of data from earth station, amplification and radiation/transmission to earth.

## **Universal LNB:**

A designation for a three-band LNB. For reception of the ranges FFS (10.70 - 11.70 GHz), BBS (11.70 - 12.50 GHz) and FFS High Band (12.50 - 12.75 GHz). The total range is divided into two bands:

Low Band: 10.70 - 11.80 GHz; LOF 9750 MHz

High Band: 11.70 - 12.75 GHz; LOF 10600 MHz

## **Power supply:**

LNBS are powered through the coaxial cable to which the receiver supplies a voltage of 14 or 18 Volt.

## **Outdoor unit:**

A designation for the equipment mounted outside, consisting of satellite dish/offset dish and one or more LNBS for reception of signals from one or more satellites, and DiSEqC converters, if any.

## **Viacces:**

Digital coding method.

Letterbox filtering for 4:3 TV

## **Audio:**

Audio compression: MPEG-1 & MPEG-2 I+II  
Audio mode: Dual (main/sub), stereo  
Sample frequencies: 32 kHz, 44.1 kHz, 48 kHz, 16 kHz, 22.05 kHz, 24 kHz  
Audio parameter: Analog output  
Output level: L/R 0.5 r.m.s. (nominal)  
Output impedance: 600 Ohm  
THD > 60 dB (1 kHz)  
Crosstalk < - 65 dB  
Dynamic range > 60 dB  
Audio parameter: Analog input  
Input level: L/R 0.5 V r.m.s. (nominal)  
Input impedance > 40 kOhm  
Audio parameter: Digital / electrical output (SP/DIF): Output level: 0.5 V ss at 75 Ohm  
Sample frequencies: 32 kHz, 44.1 kHz, 48 kHz over phono connector

**Video input:**

Input level: FBAS 1 Vs-s +/- 0.3 dB  
at 75 Ohm  
Input level: RED 0.7 Vs-s +/- 0.1Vp-p  
at 75 Ohm  
Input level: GREEN 0.7 Vs-s +/- 0.1Vp-p  
at 75 Ohm  
Input level: BLUE 0.7 Vs-s +/- 0.1Vp-p  
at 75 Ohm  
Teletext demultiplex according to the ETS  
300 472 standard  
Teletext in VBI according to ITU-R  
BT.653.2, in lines: 6-22 and 320-335

**TV SCART:**

Output: CVBS, RGB and S-VHS replaceable

**VCR SCART:**

Input: CVBS, RGB or S-VHS  
Output: CVBS or S-VHS

**Serial port RS 232:**

Type RS 232, bi-directional  
Bit rate: Max. 115 kBit/s  
Connector: D-SUB connector, 9-pin  
Function: Update of system software and  
pre-programming

**PLL modulator:**

Output channel range: UHF, channels 21-69  
Antenna input 47...862 MHz  
Input impedance: 75 Ohm  
Output impedance: 75 Ohm  
Standard: PAL B/G and PAL I

**LNB power supply:**

LNB power: Max. 400 mA; short-circuit  
protected  
Vertical LNB voltage: <14.0 V unloaded,  
>11.5 V at 400 mA  
Horizontal LNB voltage: <20 V unloaded,  
> 17.5 V at 400 mA  
LNB voltage in standby mode: on/off  
22 kHz modulation: 22 kHz +/- 2 kHz, ampli-  
tude 0.6 V +/- 0.2 V

**Programme storage/satellite positions:**

Programme number, favourite list, TV:  
999 TV programmes (P1 to P999)  
Programme number, favourite list, radio:  
999 radio programmes (R1 to R999)  
Programme memory:  
TV/radio: a total of 4000 programmes.

**Favourite lists:**

3 lists, assigned red, yellow and blue  
buttons on the remote control.  
Green button gives access to standard  
Viasat list (1-500), plus selectable channels  
501-999

**Number of active satellite positions:**

Max. 4 (DiSEqC 1.0, SAT POS/SAT OPT)  
Max. 32 (DiSEqC 1.2 - rotor control)  
Number of satellite positions: 32 in total  
A transponder (home-transponder) has  
been stored for each one of the 32 satellite  
positions, enabling the user to carry out  
automatic programme searches at the  
different satellite positions.

**Remote control:**

System: RC-5  
Sub-system address: 10 (SAT 1)  
Modulation frequency: 36 kHz  
Infrared wavelength: 950 nm

**Power supply:**

<30 W (in operation, horizontal polarisation /  
400 mA LNB power)  
<15 W (in operation, without LNB)  
< 7 W (standby)  
Input voltage: 180-250 VAC/(47...63) Hz

**In general:**

Dimensions: (wxdxh) 370 mm x 265 mm x  
65 mm  
Weight: 2.2 kg



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