

# ARIVA

HIGH DEFINITION MULTIMEDIA

*Ariva* EN  User manual

*HDcombo  
high definition  
satellite and  
terrestrial  
receiver*



**DVB-S2**  
SATELLITE

**DVB-T**  
TERRESTRIAL



**PVR**

**TIME  
SHIFT** 



**HD  
OSD**

**HDMI**  
HIGH-DEFINITION MULTIMEDIA INTERFACE



 **FERGUSON**



**EN** 

This equipment is marked with the above recycling symbol. It means that at the end of the life of the equipment you must dispose of it separately at an appropriate collection point and not place it in the normal domestic unsorted waste stream. This will benefit the environment for all.

**PL** 

To urządzenie oznakowane jest specjalnym symbolem odzysku. Po okresie użytkowania trzeba je zwrócić do odpowiedniego punktu zbiórki i nie wolno umieszczać go razem z nieposortowanymi odpadami domowymi. Takie działanie przynosi korzyść dla środowiska.

**DE**  **AT** 

Dieses Produkt trägt das Recycling-Symbol gemäß der EU-Richtlinie 2002/96/EC. Das bedeutet, dass das Gerät am Ende der Nutzungszeit bei einer kommunalen Sammelstelle zum Recycling abgegeben werden muss (kostenlos). Eine Entsorgung über den Haus-/Restmüll ist nicht gestattet. Dies ist ein aktiver Beitrag zur Umweltschutz.

**CZ** 

Toto zařízení je označeno výše uvedeným recyklačním symbolem. To znamená, že na konci doby života zařízení musíte zajistit, aby bylo uloženo odděleně na sběrném místě, zřízeném pro tento účel, a ne na místech určených pro ukládání běžného netříděného odpadu. Přispěje to ke zlepšené stavu životního prostředí nás všech.

**HU** 

A készülék a fenti újrafelhasználási szimbólummal van megjelölve. Ez azt jelenti, hogy a készüléket használati időtartama után egy külön gyűjtőhelyen kell leadni. A normál háztartási hulladékkal és egyéb szeméttel együtt a készüléket kidobni nem szabad. Ezáltal hozzájárulunk környezetünk védelméhez.

**ES** 

Este equipo está etiquetado con el símbolo de reciclado que puede verse arriba. Esto quiere decir que al final de la vida del equipo, éste debe ser llevado a un punto de recogida específico para equipos electrónicos, y no a los contenedores normales de residuos domésticos. Esto beneficiará al medio ambiente para todos.

**RU** 

Это устройство обозначено специальным символом утилизации. После истечения эксплуатационного срока следует его вернуть в соответствующий пункт сборки, и запрещено его размещать с не отсортированными домашними отходами. Этим Вы не наносите вреда для окружающей среды.

**NL** 

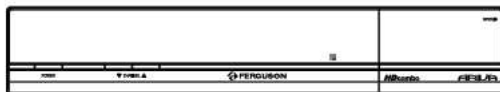
Dit Produkt draagt het Recycling-Symbool volgens de EU-norm 2002/96/EC en kan worden gerecycled. Deponeer hem bij een recycle-punt .

ENGLISH 

ENGLISH



## 1. What's in the box?



Ariva HDcombo high definition satellite and terrestrial receiver



User manual



Remote Control Unit



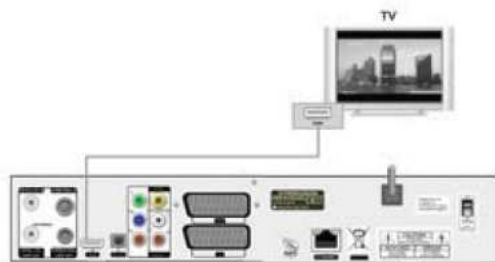
2x AAA batteries



HDMI cable

## 2. Connect - basic audio/video and dish connection

**HDMI (Best quality, cable supplied)**



and

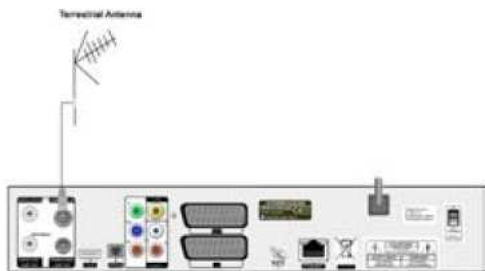
**Sattelite Dish (LNB, cable not supplied)**



# Quick Start Guide

and

**Aerial antenna** (terrestrial antenna not supplied, cable not supplied)



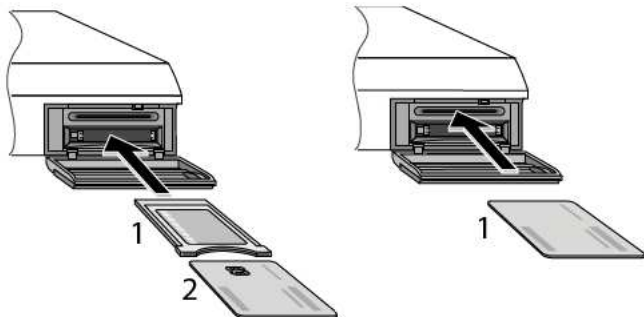
## 3. Setup

- 1 Press **⏻** to turn on.
- 2 Use **◀▶** keys to select a language option in the menu and press **OK** to confirm.
- 3 The receiver is delivered with pre-programmed TV channels and can be used immediately. You can search more channels by using **Installation > Satellite Start Search** or **Installation > Satellite TP Setup** menu or **Installation > Terrestrial Search** menu.

and

**CAM and smartcard** (optional, not supplied)

- 1 Insert CAM module, if required.
- 2 Insert smartcard to CAM module or smart card interface, if required.



### CAUTION!

Refer to the user manual for more information.

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## Glossary





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## Safety Information

- Please observe all warnings and instructions on the equipment and contained in these operating instructions. You must install the dish with correct direction and angle.
- Please carefully read this user's manual before using the receiver.
- To avoid electric-shock hazards, do not open the cabinet, refer servicing to qualified personnel only. If cabinet is opened warranty will be invalid.
- Please switch off completely the receiver during thunder, during abnormal phenomenon, before cleaning it and in case it remains out of service for a long period.
- Do not expose the receiver under the sunlight. And keep it away from the heat source or humid environments. Do not block ventilation holes of the receiver so that air can circulate freely.
- Please place the receiver in horizontal and stable conditions, keeping it away from vibrating.
- If device is moved from warmer place to a colder one some problem might occur. Please switch off the receiver and turn it on after 1 or 2 hours.
- Keep the receiver away from flower vases, tubs, sinks, etc., in order to avoid damaging the equipment. Do not touch power supply with wet hands.
- Don't put any objects on the device.
- Be sure to turn the receiver off and disconnect the AC power cord before cleaning the receiver surface. If the surface is dirty, wipe clean with a cloth which has been dipped in a weak soap/and/water solution and wrung out thoroughly, and then wipe again with a dry cloth.

- Do not connect cables while power is plugged.
- Do not use damaged cables for connections: you could cause fires.
- Please switch off completely the receiver while making all connections.
- The product purchased is a sophisticated electronic device which is not suitable for children under 18 years.
- We do not assume responsibility for damages caused to people or object, deriving from use of the device made by people under 18 years.

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## User manual

Ferguson has used all the available means to ensure the latest information regarding its products. Ferguson does not give a warranty regarding the contents of this User Manual and waives any implied warranties regarding market value or fitness for specific purposes. The information contained herein provide guidelines allowing the operation and maintenance of the receiver.

Ferguson reserves the right to make changes, corrections or to translate the User Manual without giving prior notice of such changes. Therefore, it is recommended that users visit our website regularly to receive the latest information.

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## Symbols used on the receiver

### **The Digital Video Broadcasting logo**

This logo tells you that this receiver is compliant with the DVB standards.

### **The caution risk of electrical shock - do not open symbol**

This symbol tells you that you are not allowed to open the receiver. Only authorized (service) technicians are allowed to open the box.

### **The CE mark**

This mark tells you that the receiver is following the provisions of Council Directive 89/336/EEC on the approximation of the laws of the Member States relating to the electromagnetic compatibility and the provisions of Council Directive 73/23/EEC and 93/68/EEC on the approximation of the laws of the Member States relating to low voltage and electrical safety.

### **The double insulation symbol**

This symbol tells you that the receiver is electrically safe within the normal use of the receiver as stated in the safety chapter.

### **The RoHS mark**

This mark tells you that the receiver is following The Directive on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment 2002/95/EC (commonly referred to as the Restriction of Hazardous Substances Directive or RoHS)

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## Software upgrade

Ferguson has used all the available means to deliver to its users software updates guaranteeing the best possible parameters of the satellite television receivers. Ferguson reserves the right to make corrections, changes or modifications of the software used in the receiver on any basis whatsoever and without prior notice. The current version of the software is available on the following website <http://www.ferguson-digital.eu>

## General information

This digital satellite and terrestrial HD receiver is a highly cost-effective digital satellite and terrestrial receiver integrated. It provides 8000 channels storage with fast searching and inter-channel switching capability. The receiver is definitely one of the best choices to deliver your digital life.

### 1. Main Features

- For high definition TV (up to 1920x1080)
- High Definition OSD
- USB PVR function (manual recording, scheduled recording, recording from EPG, TimeShift function)
- internal scaler - upscaling standard definition channels up to 1920x1080
- Up to 8000 Channels TV & Radio Programmable
- 2 Common Interface slots in order to support CAM modules
- Smart card interface for pay TV
- Receive satellite and terrestrial channels
- Up to 100 Satellites Programmable
- Digital Audio Stream through optical S/PDIF
- Component (YPbPr) output
- HDMI - 1080i, 720p, 576p and 576i resolution
- USB 2.0 port
- Advanced Electronic Program Guide (EPG)
- Supports Timers
- Supports Teletext and Subtitles
- Multi Language OSD Menu
- Quick search function
- Separate TV/Radio List & Favourite Group List
- Channel search in automatic and manual way
- DiSEqC1.0 and 1.2, USALS Control Compatible

- Channel list and software update through USB port.
- Audio files playback
- Photo viewer

### 2. Unpacking

Unpack the receiver and check to make sure that all of the following items are included in the packaging.

- 1x Digital Receiver
- 1x HDMI cable
- 1x Remote Control Unit (RCU)
- 2x AAA batteries
- 1x User's Guide

### 3. General Operation of STB

Throughout this manual you will notice that the everyday operation of your STB is based on a series of user friendly on screen display and menus. These menus will help you get the most from your STB, guiding you through installation, channel organizing, viewing and many other functions.

All functions can be carried out using the buttons on the RCU, and some of the functions can also be carried out using the buttons on the front panel.

Please be aware that new software may change the functionality of the receiver.

Should you experience any difficulties with the operation of your unit, please consult the relevant section of this manual, including the Problem Shooting, or alternatively call your dealer or a customer service adviser.

#### NOTE:





Please be aware that new software may change the functionality of the receiver. The photo and the function explanation involved in this specification is for reference only. If there is any mistake, please refer to the entity.

# Functional Overview

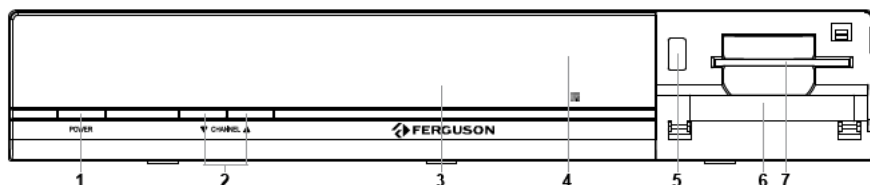
## Remote Control Unit (RCU640)

Due to standardization fact most of Ferguson units is using the same remote control unit RCU640. That is why NOT all keys are being used by this STB model!! RCU640 4 in 1 universal remote control is suitable for all TV sets (TV), Ferguson digital satellite receivers (STB), Ferguson amplituner AV-770 (AMP), Ferguson DVD players (DVD). The universal remote control can execute almost all basic TV device functions. The "TV" key is used to program the TV level and to select it after programming. Per default, the TV level is not programmed. The levels for STB, AMP and DVD are not programmable and can be selected by a short press of the corresponding key. Red symbols on RCU applies to DVD or AMP functions.

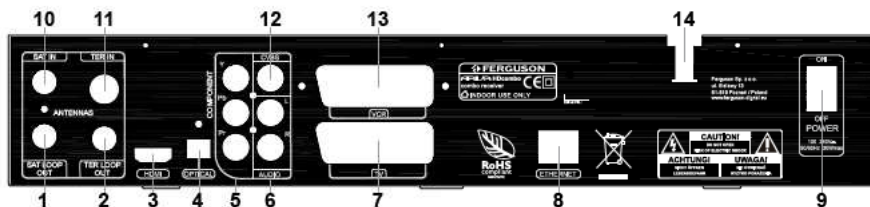


- POWER**  - Turns the device on or switches it to standby mode
- MUTE** - Turn on/off sound
- STB** - Selects Ferguson satellite receiver (STB)
- TV** - Selects or program TV
- AMP** - Selects Ferguson amplituner
- DVD** - Selects Ferguson DVD or Blu-ray player
- Alphanumeric keypad 0-9** - Selects numbered items in a menu
- BACK** - Returns to the previously viewed channel
- EPG** - Displays EPG (Electronic Program Guide)
- MENU** - Displays the menu on the screen
- ▲ PG UP** - To move up faster on any list
- OPT** - Used in submenus (E.g. in EPG for setting up timer events)
- ◀ ▶ ▲ ▼** - Cursor buttons for moving left, right, up, down.
- OK** - Shows the channel list or selects an item on the menu
- USB/PVR** - Shows USB menu
- ▼ PG DOWN** - To move down faster on any list
- FAV** - Displays the favorite channel list
- VOL + -** - Increase / decrease the volume
- EXIT** - Returns to the previous menu and the screen
- INFO** - Displays the program information bar (InfoBar)
- CH + -** - Turns to the next or previous channel
- TEXT (RED)** - Shows the TELETEXT on the screen if the TV can be available
- AUDIO (GREEN)** - Selects the audio track for the current channel if applicable.
- SUBTITLE (YELLOW)** - Selects the subtitle language for the current channel if applicable.
- FIND (BLUE)** - Quick Find channel function
- EDIT (WHITE)** - You can edit the current channel information
- TV/STB** - Change SCART loop functionality.
- FORMAT** - Selects various video resolution
- PIP** - Not used in this model
- REW**  - Starts reverse playback. Subsequent presses increase the rewind speed.
- PLAY** - Starts playback
- PAUSE** - Pauses live television or playback of a recorded program
- FF**  - Starts fast motion playback. Subsequent presses increase the playback speed.
- STOP**  - Stops playback or recording
- SAT** - Changes the satellite/terrestrial on the channel list
- TV/RADIO** - Switches between TV and Radio mode
- REC** - Activates manual recording

## Front and Rear panels



- ❶ **POWER** - Turns the receiver on or switches it to standby mode
- ❷ **▲CHANNEL ▼** - Turns to the next or previous channel; Cursor buttons for moving up, down
- ❸ **VFD display**
- ❹ **IR Sensor**
- ❺ **USB port** - for firmware update, data transfer and PVR function
- ❻ **2 Common Interface slots**
- ❼ **Smart card interface for payTV**



- ❶ **Satellite Loop Out** - connect to another satellite receiver if required
- ❷ **Terrestrial Loop Out** - connect to another terrestrial receiver if required
- ❸ **HDMI** - Audio and video output socket for the high definition television set
- ❹ **OPTICAL (Digital Audio Out)** - connect to optical audio input of an amplifier
- ❺ **Y Pb Pr (Component Video Out)** - connect to Y, Pb and Pr input of a TV
- ❻ **Stereo Audio Out** - connect to audio left and right input of a stereo system
- ❼ **SCART TV** - Audio and video output socket for the legacy standard definition television set
- ❽ **Ethernet** - RJ-45 connector for future use (data transfer)
- ❾ **Power** - power switch
- ❿ **Satellite In** - connect the coaxial cable from the LNB
- ⓫ **Terrestrial In** - connect the coaxial cable from the aerial antenna
- ⓫ **CVBS** - provides a composite video output to standard definition TV or other equipments.
- ⓫ **SCART VCR** - Audio and video output socket for the standard definition recorder
- ⓫ **Main (AC Power Cord)** - connect to a standard AC outlet

## Connection Diagram

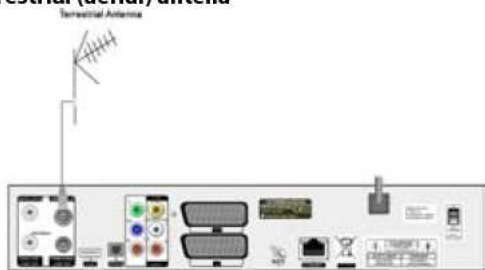
This section explains the installation of the receiver. Refer to the manuals supplied with the equipment for the installation of outdoor equipment such as the dish antenna. When adding new equipment, be sure to refer to the related parts of the manual for the installation.

### 1. Connecting to Satellite Dish



Connect satellite antenna cable directly to the SATELLITE IN socket of the receiver.

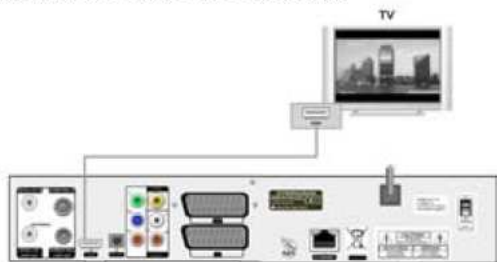
### 2. Connecting to Terrestrial (aerial) antenna



Connect terrestrial (aerial) antenna cable directly to the TERRESTRIAL IN socket of the receiver.

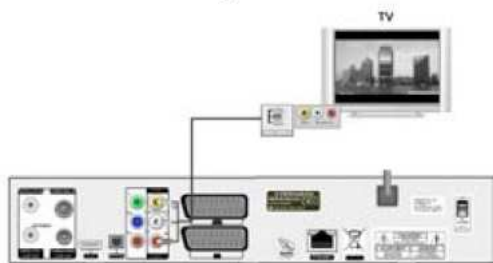
### 3. Connecting to TV

According to your TV type, please connect Receiver with:



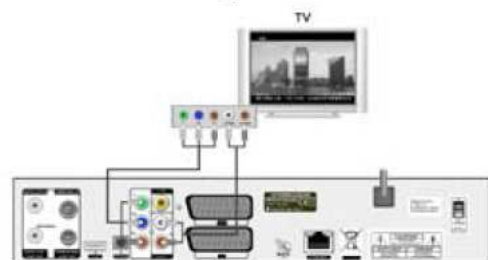
- **HDMI** If you have a high definition television set you should use a HDMI cable for best results. Plug one end of the cable into the HDMI socket on the digital receiver, and plug the other end into the matching socket on your television. In this case, you do not have to make audio connection because the HDMI connector can output stereo audio or Dolby digital audio.

or



- **CVBS** RCA cable. You need to obtain a composite video cable (RCA cable) to use the composite video connector. Plug one end of the cable into the VIDEO (yellow) socket on the digital receiver, and plug the other end into the matching socket on your television.

or



- **Component Y Pb Pr** RCA cables. You need to obtain a component video cable (3x RCA cable) to use the component video connector.

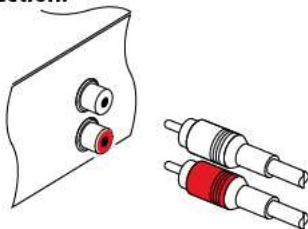
or



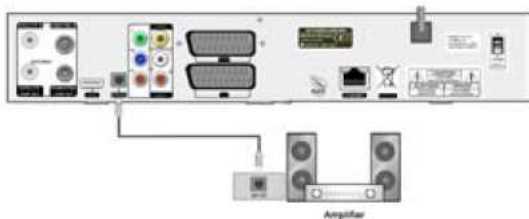
- **SCART** cable. You need to obtain a SCART (Euro connector) video and audio cable to use the component video connector. In this case, you do not have to make audio connection because the SCART connector can output stereo audio.

# Connections

## 4. To make the audio connection:

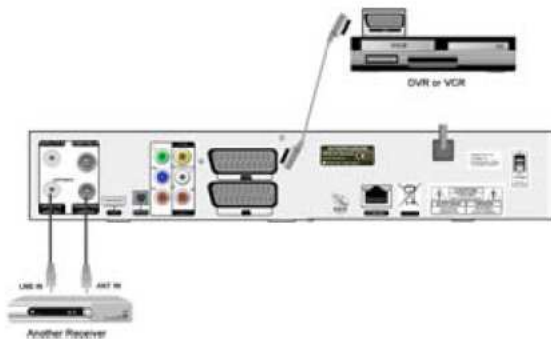


You need to obtain an audio cable (2x RCA cable) to connect the audio connectors. Plug one end of the cable into the AUDIO L (white) and AUDIO R (red) sockets on the digital receiver, and plug the other end into the matching sockets on your television or audio system.



To enjoy Dolby digital audio, your television or audio system must be able to decode Dolby Digital audio, and you need to obtain a S/PDIF cable. Plug one end of the cable into the OPTICAL socket on the digital receiver, and plug the other end into the matching socket on your audio system.

## 5. To make connection to another STB or VCR/DVR recorder:





## 6. Connecting to dishes using DiSEqC Mode

In order to connect external equipment including a satellite dish and converter, use the installation instructions or assistance from expert - installer!



The precise setting antenna is the basis for good reception. Even the best antenna, which is ill-adjusted will cause problems with quality. Even small mistakes can prevent the receipt or very worsen its quality. Before the installation, make sure whether the place lends itself to that. The competent direction can be pre-determined by comparing with other antennas. Immediately before the antenna can not be any obstacles cover seeking to signal the dish! When you are choosing the best place for the antenna, to attach and it initially set, it still must

be carefully adjusted. Each antenna is enabling regulatory adjustment screws in vertical position and level.

In digital receivers regulation is difficult. Settings can no be done base on picture, because it appears with delay. Also available indicators in the menu settings receiver typically operate with a delay, so the regulation can take a long time and be very inaccurate. For the antenna setting is necessary some meter antenna signal. Meter turns on a cable television converter between a receiver. We will confirm the presence of switch voltage converter with a tuner, and will show the size of the signal to satellites encountered. We invite you to benefit from expert assistance - installer!



If you want to use a DiSEqC switch for more than one satellite, connect DiSEqC switch OUT to LNB IN connector of the receiver.

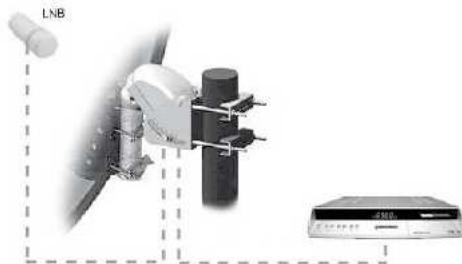
You can use Toneburst switch or DiSEqC 1.0 / 1.1 / 1.2 switch.

## 7. Connecting to Dish using USALS Mode

Proper work of Ferguson receiver ensures motorized system by USALS company Stab. To connect the installation of the dish with motorized system USALS, connect the output of USALS to LNB IN on rear panel of Ferguson receiver. The motor is what actually moves the antenna between the various satellite positions and is installed in between the antenna mast and the antenna mount. It is designed such that the axis of rotation is aligned with the North Star. This type of mount is often referred to as a Polar Mount. As a result, azimuth and elevation do not have to be adjusted individually. Instead, the antenna rotates on only one axis. The antenna motor is installed on the already existing vertical mast. The local latitude position of the location is then setup on the motor's scale thus aligning the axis of rotation in the correct position. Similar to a fixed antenna installation, the elevation scale on the antenna mount must be set for a satellite as close to south as possible. In the southern hemisphere you would be looking for a northern-most satellite. The selected satellite should lie within  $5^\circ$  of your southern-most position; the southern-most position being equal to your local longitude. For example, if your local longitude is  $73^\circ$  west, then the satellite you select should be located within  $\pm 5^\circ$  of  $73^\circ$  west, or within the range  $68^\circ$  to  $78^\circ$  west.

USALS greatly simplifies the antenna setup. Ferguson receiver simply asks you for your local geographical coordinates and calculates the satellite positions on its own using a complex mathematical formula. The receiver then drives the motor directly to the selected satellite position. Once you have a signal, you need only finely adjust the antenna mount and horizontal position (on the mast itself) for maximum signal. If the initial southern setting was slightly off, it would now be corrected. Once the first satellite is perfectly set, all the other satellites in the arc would also be automatically set as soon as the orbital position of these additional satellites is entered into the receiver.

Without USALS, the alignment of the antenna system is somewhat more difficult. DiSEqC 1.2 drives the antenna to the selected satellite position in almost the same way. But since the local geographical data is missing, the motor drives to a satellite position based on the prime meridian and the equator. Therefore, when aligning the motor for the first time – and then again later on with all the other satellite positions – alignment with the actual satellite position has to be achieved with the motor commands "move east/west". Because of these difficulties, manufacturers of these motors make available helpful software on their web sites that enable you to easily calculate the true position of a satellite.



If you want to use a USALS motorized antenna, connect antenna OUT connector to LNB IN connector of the receiver.

The user interface has various ways to navigate through the menus and functions. Some of the keys on the remote control unit give direct access to functions. The most important keys are identified as EPG, colored keys, MENU and OK. Other keys are multi-functional which means that their function changes dependent of the mode that you are in.

Unless otherwise specified; this note explains the way you can navigate through the pages of the user menu.

1. Use the ▲▼ keys to move the cursor up or down from one line to another line.
2. Use the ◀▶ keys to move the cursor left or right from one line to another line.
3. Use the **OK** key to enter the sub-menu.
4. Use the **EXIT** key to leave the menu and return to the view mode.
5. In a sub-menu:
  - use the ◀▶ keys to select one from the preprogrammed options in the sub-menu.
  - use the **OK** key to confirm the selection;
  - the orange cursor indicates the active selection

---

## Main menu

This receiver setup is carried out via the TV, enabling you to customise the receiver to suit your particular requirement.

Press **MENU** key on the RCU to display the following menu on the non-menu mode.

The menu consists of 5 sub-menus such as the following:



- Edit Channel
- Installation
- Settings
- Interfaces
- PVR

# Menu Options

## Edit Channel menu



- Channel Edit
- Favorite Edit

### 1. Channel Edit

If you want to edit your channel list press **OK** button on this menu. You will be prompted for password (Default password is "0000").

#### 1.1 Rename Channel



To rename a channel:

1. Select the desired channel.
2. Press **RED** key.
3. In the keypad dialog window type new name  
**GREEN** key can be used to cancel a letter on the caption bar at a time.  
**RED** key is used to cancel all letters  
**BLUE** key is used to place a blank  
**◀▶▲▼** keys are used to move the cursor.
4. Press **EXIT** to exit.

#### 1.2 Delete Channel



To delete a service:

1. Firstly press **GREEN** key on the RCU
2. Secondly select the channel you want to delete and press **OK** to confirm.
3. After pressing **OK**, a "X" mark appears on the right side of the selected service name. That means this service is going to be deleted.  
Press **GREEN** key again to cancel the deleting mark.
4. Press **EXIT** to exit.

### Warning:

If you delete a service from the current activated list, it is also deleted from all lists.

## 1.3 Move Channel



To move the channel:

1. Firstly select the desired channel you want to move.
2. Secondly press **YELLOW** key on the RCU and move the selected channel to the position you want to place
4. Finally press **OK** key to confirm.

## 1.4 Lock Channel



To lock a channel, please follow the instructions shown as below.

1. Select the desired channel you want to lock.
2. After pressing **BLUE** key, a lock mark appears in the selected channel name. It means that this service is locked.

If somebody want to play this channel, the correct password is required.

## 2. Favorite Edit



If you want to add several TV programs to Favorite. When you enter the Favorite Edit menu, default favorite list will be shown on the screen as Movies. By pressing **BLUE** key on the RCU, you can access the next favorite list.

In left program list, select the program that you want to add and press **OK** key. The selected program is shown in the right FAV list. In the same way, you can add more programs to right FAV list.

If you want to cancel one program in FAV list: move cursor to right column and select desired one, and you will delete this item from FAV list by pressing **GREEN** key on it.

**RED** key is used to rename the favorite group.

## Installation menu



- Satellite start search
- Satellite TP setup
- Terrestrial search

When you enter this menu you will be prompted for password (Default password is "0000").

### 1. Satellite start search

#### 1.1 Sattelite



Select the desired satellite by using ◀▶ keys.

You can also press **OK** key to display a draw-down list, the pre-programmed satellites is list here.

You can select one or more satellites by using ▲▼ keys, and press **OK** to confirm.

The selected satellites will be marked with the checkmark symbol.

#### 1.2 Antenna Config



**Satellite:** Select the desired satellite.

**LNB Type:** Select the desired option among WideBand, User, Standard and Universal1.

**High Frequency:** The settings can be altered using the numeric buttons.

**Low Frequency:** The settings can be altered using the numeric keys.

**LNB Power:** If your receiver is connected to the LNB, select YES. But if your STB is connected to another receiver through Loop Through support, you should check which receiver is connected directly to the LNB. In case the other receiver is directly connected to the LNB, then select OFF.

**22kHz :** Select the switch with which you want to configure the antenna.

#### 1.3 DiSeqC

The individual satellite can be allocated directly to a DiSeqC position. Please select the proper protocol version (none, DiSeqC 1.0, DiSeqC 1.1 or Unicable) and corresponding settings (port number).

## 1.4 Positioner

The settings are for the motor control of the satellite antenna. These only apply to an antenna with corresponding function.

### Caution:

Leave the setting-up of the motor control to properly-trained personnel. Otherwise the satellite equipment may not function correctly.

### 1.4.1 DiSEqC1.2



**Satellite:** Make a choice from the pre-programmed satellites by using ◀▶ keys.

**TP:** Select the desired TP under the current satellite.

**Limit Setup:** Use this item to set the East and West limits of the motor. This should be used to prevent your dish from hitting anything that may be obstructing the path of the dish. Highlight this item and press ◀▶ keys to move your motor east or west until the motor is at the position you wish to use as your East Limit.

**Warning:** If this item is disabled, your motor will be able to move beyond any limits. Please take care in case there is anything obstructing the path of your dish.

**Movement :** Please select this item and then keep pressing ◀ or ▶ key on the RCU to move your antenna east or west. Use the signal strength and signal quality bars at the bottom of the screen to judge the best position of the antenna.

**Nudge:** Press ▶ to nudge the antenna until it is turned into the desired direction.

**Recalculation:** It is used to shift the position for all the satellites. Recalculation by using OK key makes above movement function.

**Go to Reference :** A starting point for the satellite search function can be selected by pressing the OK key.

### 1.4.2 USALS



**Satellite:** Make a choice from the pre-programmed satellites by using ◀▶ keys.

**TP:** Select the desired TP under the current satellite.

**Local Longitude:** Enter here the longitude of the local satellite antenna.

**Local Latitude:** Enter here the latitude of the local satellite antenna.

**Dish Position:** Set the position of satellite antenna.

**Go to Reference:** Select YES or NO.

**Go to :** Press OK to toward the satellite.

# Menu Options

## 1.5 Satellite Search

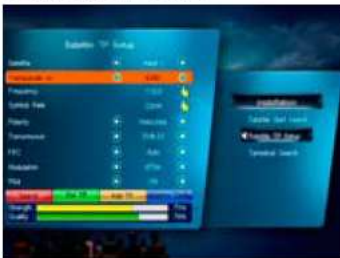


**current satellite:** The function is used to search channels in one satellite, which has been selected.

**all satellite:** The function is used to search channels in all satellites, which has been selected.

Press **OK** key to enter the Search window. First select search mode by using arrow keys, and press **OK** to search channels for TV and Radio.

## 2. Satellite TP setup



In the menu, firstly select a desired satellite and TP, then you can set the frequency, symbol rate and polarity for the current TP.

**Transmission:** DVB-S, DVB-S2

**FEC:** Auto, 1/2, 2/3, 3/4, 5/6, 7/8, 8/9, 3/5, 4/5, 9/10, 6/7.

If you want to delete the current TP, press **Green** key and select YES.

Press **Yellow** key to add a new TP.

After setting finished, press **Red** key to search channel under the current TP.

## 3. Terrestrial search



**Auto search:** The function is used to search channels on all multiplexes

**Manual search:** The function is used to search channels on selected multiplex

**MUX number:** Select the desired multiplex for manual search option

**Frequency MHz:** Frequency of currently selected multiplex

**Bandwidth:** Bandwidth of currently selected multiplex

Press **OK** key (on Auto Search or Manual Search menu item) to enter the Search window. First select search mode by using arrow keys, and press **OK** to search channels for TV and Radio.

**Terrestrial Setting:** Advanced settings



## Settings menu



- Language
- Parental Control
- Local Time Setting
- Timer Setting
- A/V Setting
- Advance Settings
- System Information
- Factory Default

### 1 Language



Select the desired language for menu.

### 2 Parental Control

You will be prompted for password (Default password is "0000").



**Channel Lock:** Select YES or NO. If "YES" is selected, you must input the correct password before playing the locked channel.

**Menu Lock:** Select YES or NO. If "YES" is selected, you must input the correct password before entering the menu.

**Change Password:** The password can be changed and any four-digit number can be set as a personal password. Select the menu item "Change Password" and press **OK** button. Enter the new password using the numeric buttons, then press the new password again to confirm. The new password has now been accepted.

### 3 Local Time Setting



**GMT Usage:** Press ◀▶ key to select YES or NO.

**GMT Offset:** You can set the time zone in where you live.

**Summer Time:** "YES" sets summer time, "NO" sets standard mean time.

# Menu Options

## 4 Timer Setting

The receiver can be programmed so that at a set time it switches over to a specified channel. Up to ten timer functions are possible. This function can be used, for example, to record a programmed on a DVD recorder.



**Timer Number:** Select the number of the timer from 1 to 10.

**Enable:** Select Yes or No. If "No" is selected, the following items can not be used.

**Execute:** Select the desired timer type between one time and daily.

**Event Type:** Select the desired type between turn ON and turn OFF.

**Channel Number:** Input the number of the channel.

**Channel Name:** It is changed according on the channel number.

**Date:** Enter the value using the numeric keys.

**Hour:** Enter the value using the numeric keys.

## 5 A/V Setting



**Resolution:** 576p/720p 50Hz/720p 60Hz/1080i 50Hz/1080i 60Hz

**Match method:** 4:3 Ignore, 16:9 LetterBox, 16:9 PanScan, 16:9 Combined, 16:9 Ignore, 4:3 LetterBox, 4:3 PanScan, 4:3 Combined.

**TV mode:** Select the one that fits your television.

**TV aspect ratio:** Select the one that fits your television.

## 6 Advance Settings



**VFD text display mode:** Select preferred mode: Channel name/ChannelNum + Name.

**VFD Scroll Mode:** Select preferred mode: Always/One Time/No Scroll

**VFD Brightness Set:** Select preferred brightness level.

**InfoBar Time Out Set:** Select delay time to hide InfoBar.

**Teletext background:** turn on or off background under teletext pages and teletext subtitles.

**CAM messages:** turn on or off displaying CAM popup messages.

## 7 System Information

You can check the information about model name, firmware version, hardware version.

## 8 Factory Default

In this menu, you can make all data and configurations as factory default status.

You will be prompted for password (Default password is "0000").

**Warning:** All stored data, channel list, settings will be erased and returned to factory default.

## Interfaces menu



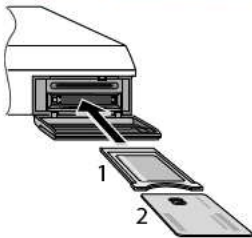
- Common Interface
- USB device
- Smart Card

### 1 Common Interface

The Digital Receiver makes you enjoy various scrambled channels encrypted by smartcard.



To be able to receive scrambled digital satellite channels you need a Smartcard and a Common Interface CA (Conditional Access) module from the Service Provider of your choice. The Smartcard and the CA module may also provide access to special menus not described in this manual. If so, please follow the instructions from the Service Provider. Only free to air channels are available without the Smartcard and CA Module.



Insert the CA Module in the slot of the receiver and insert the Smartcard to the CA module. This will give you access to scrambled channels.

### 2 Smart Card

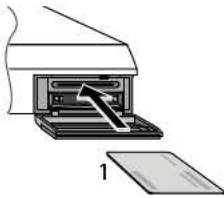
The Digital Receiver makes you enjoy various scrambled channels encrypted by smartcard.



To be able to receive scrambled digital satellite channels you need a Smartcard from the Service Provider of your choice. Smart Card menu item may provide information about smart card and your subscription (not described in this manual, depends on smart card type). If so, please follow the instructions from the Service Provider. Only free to air channels are available without the Smartcard.

**Note:** Not all smart card types are supported by receiver. If your smart card does not work in smart card interface please use proper CA Module.

# Menu Options



Insert the supported smart card chip side down) to the smart card interface. This will give you access to scrambled channels.

## 3 USB device



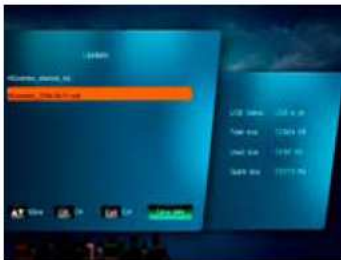
**Note:** Make sure that the USB-disc is plugged in the USB port of STB before your operation. In this menu, move cursor to the desired item and press **OK** to enjoy.

You can enjoy music or audio books with the Ferguson receiver. To play supported files enter Audio files menu item, select desired file and press **OK** button.

You can view photos with the Ferguson receiver. To view supported files enter Photos menu item, select desired file and press **OK** button.

## 3.1 Firmware Upgrade

**Warning:** Do not turn off the power during the update. This risks lasting damage to equipment.



**Note:** It is not possible to load lower version firmware onto higher firmware version.

- 1 Format your USB disk to FAT32 file system.
- 2 Download firmware from DOWNLOAD section of <http://www.ferguson-digital.eu/>.
- 3 Extract \*.usb file from .zip archive and copy it to USB disk.
- 4 Power on receiver.
- 5 Insert USB disk to receiver's USB port.
- 6 Press USB button on RCU.
- 7 Select "Update" menu item.
- 8 Select proper firmware file and press OK.
- 9 Press RED button to confirm firmware upgrade.
- 10 Receiver will upgrade firmware by itself. The software upgrading takes a few minutes to be complete. Receiver will display the progress of updating. When the software is successfully upgraded, the receiver restart by itself.





**Note:** Remember that after upgrade receiver can be automatically set to factory default settings.

**Note:** The software version can be checked on TV screen.

- 1 On remote control, press "MENU" button.
- 2 Go to "Settings" menu.
- 3 Select "System information" menu item.
- 4 Check "SW Version" (second line).

### 3.2 Save and restore user channel list

**Note:** Only this kind of channel list are available on Ferguson website. Channel list file has 512KiB.

#### Save channel list



- 1 Power on Ferguson receiver.
- 2 Insert USB disk to receiver's USB port.
3. Press **USB** button on RCU, select "UPDATE" submenu
4. Press **GREEN** button
5. Press **OK** button to confirm
6. Channel list will be saved to "channel\_list\_data\_YYYY-MM-DD.usb" file

**Note:** This kind of channel list has 512KiB.

#### Restore user channel list



- 1 Power on Ferguson receiver.
- 2 Insert USB disk to receiver's USB port.
3. Press **USB** button on RCU, select "UPDATE" submenu
4. Select channel list file
5. Press **OK** button to confirm
6. Press **RED** button
7. Wait until Ferguson reboot itself

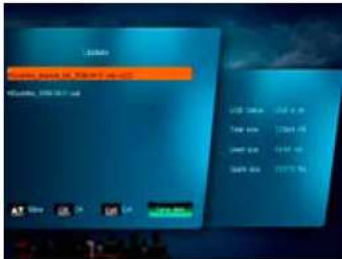
**Note:** Remember that your current channel list will be replaced with loaded one.

# Menu Options

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## 3.3 Update embeded channel list

**Note:** Channel list file has 64KiB.



1. Power on Ferguson receiver.
2. Insert USB disk to receiver's USB port.
3. Press **USB** button on RCU, select "UPDATE" submenu
4. select channel list file
5. press **OK** button
6. press **RED** button (now embeded channel list is replaced by new one)
7. wait until Ferguson reboot itself
8. after reboot language selection window will appear – select proper language
9. restore factory defaults (now user channel list is replaced by new one)
10. wait until Ferguson reboot itself
11. after reboot language selection window will appear – select proper language

**Note:** Remember that your current channel list will be replaced with loaded one.

## PVR menu



- PVR File List
- Recording info
- Schedule List
- PVR Setting
- USB Uninstallation
- USB disc format

### 1 PVR File List

You can also get directly to this menu by pressing **USB/PVR** button and selecting PVR File List menu item.



**Note:** When a program is recorded, no additional contents such as multiple audio tracks or teletext are available.

The instructions on how to play a recording are as follows:

1. Put the highlight bar on a desired recording.
2. Press the **OK** button to start playback.
3. To stop playback, press the **STOP** button.

Press **RED** button to delete the selected file. The system will ask your confirmation when return the menu.

Press **YELLOW** button to rename the selected file.

### 2 Recording info

When there is recording, you can enter the Recording Info directly by pressing **REC** button on the RCU.



Recording Info displays current recording information such as: Mode, Valid Record Time, Past Time and Duration. There are two modes quick and schedule. Quick means manual recording (activated by REC button on RCU), and Schedule means scheduled earlier recording. If Quick is selected, the default duration is set to three hours.

Press **RED** button to stop recording, **GREEN** button is used to resume recording.

If duration is changed, press **YELLOW** key to save the new time.

# Menu Options

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## 3 Schedule list

You can set a channel to be recorded at a specific time. Even if the Ferguson receiver is in standby mode, it will switch into operation mode and start recording at a specified time.



To input a timer recording, select the Schedule List menu; then the timer list will be displayed.

To add a new timer event, press the **GREEN** button, and a box like the left figure appears. Take the following steps:

1. Set the Schedule Type option to Record to make a recording
2. Set the Schedule Start Time and Schedule End Time options to a desired date and time
3. Select Schedule Mode. There are three timer modes:

- Once means literally 'one time'.
- Daily means literally 'every day'.
- Weekly means 'one day every week'.

4. Set the channel which provides the program you want. Pressing the **OK** button displays a channels list, from which you can select your desired channel.



### NOTE:

1. The time when channel recording start-up and finished can not be the same. The maximal recording time can be 24 hours.
2. Can not record more than one channel simultaneously.

For a selected item, press **RED** key to delete the item and you can also press **BLUE** key to delete all the items. The system will ask your confirmation when exit the menu.

To modify a schedule item press **YELLOW** button.

## 4 PVR setting



**TimeShift mode:** You can enable or disable TimeShift function.

**Default record time:** default duration of manual recording Default 3 hours.



## 5 USB Uninstallation



Before pull out the USB device from Ferguson receiver, please uninstall.

Select USB Uninstall item in PVR menu and press **OK**, a message will be display on the screen for your confirmation. After successful uninstallation, you could remove USB device from Ferguson receiver.



**NOTE:** USB device removed without uninstallation will be checked as soon as you connect device again. Disc checking may take up to couple of minutes.



# Menu Options

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## 6 USB disc format



You can delete all contents stored in the hard disk drive by formatting it.

Select HDD Format item in the PVR menu. This operation will format your USB device (external hard disk, pendrive) to FAT32. Before format, the system will ask your confirmation. If you select Yes, formatting will start.

**CAUTION:** Formatting the hard disk will delete all files permanently.

**NOTE:** If a new hard disk drive is installed, it must be formatted because the file system of the Ferguson receiver (FAT32) is different from the personal computer (usually NTFS). You can neither record nor use TimeShift with an unformatted hard disk.

## General Viewing Function

### 1 Watching television

To change channels, press the ▲, ▼ or CH+/CH- button. Pressing the **BACK** button switches to the previously viewed channel. In addition, you can switch to your desired channel by entering its channel number with the numeric buttons. You can also select a channel to watch in the channel list



To view the channel list, press the **OK** button. A dollar sign (\$) may be marked on some entries, indicating pay channel. To watch pay channels, you need the subscription card.

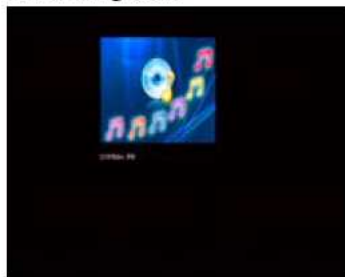


You can select a channel to watch on a favourite list as well as on the channels list. To display the favourite lists, press the **FAV** button.



By pressing **Find** button, you can activate Quick Find function. Type whole channel name or starting characters to quickly find desired channel.

### 2 Listening radio



To switch between TV and radio channel lists press **TV/RADIO** button.

# Daily Usage

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## 3 Viewing program information



Pressing the **INFO** button displays the InfoBar box.

Pressing the **INFO** button once more displays detailed information about the current program. You can use **RIGHT** button to check detailed information about next program. To hide the InfoBar box, press the **EXIT** button.

## 4 Selecting audio tracks



Some programs are provided with audio tracks in one or more languages. Pressing the **AUDIO (GREEN)** button displays available audio tracks. Once you select an audio track, it will be sounded.

## 5 Selecting subtitle tracks



Some programs are provided with subtitle tracks in one or more languages. Pressing the **SUB.T (YELLOW)** button displays available subtitle tracks. Once you select a subtitle track, it will be displayed. To turn off subtitle, press the **EXIT** button.

## 6 Viewing teletext



On some services, such information as weather reports, news or stock quotations is provided by means of teletext. Press the **TEXT (RED)** button to view teletext pages. Select a page to view by entering its page number with the numeric buttons. To clear the teletext screen, press the **EXIT** button.

## 7 Viewing EPG (Electronic Program Guide)



The Electronic Program Guide shows the current and scheduled programs that are or will be available on each channel with a short summary for each program.

Pressing the **EPG** button displays the electronic program.

## 8 Watching multifeed program



Some broadcasts such as sports channels can provide a variety of perspectives on a program at a same time or provide NVOD (Near Video On Demand) service for movies. It is called a multifeed service. You can select and watch a perspective you prefer.

If a multifeed service is provided on the current channel, press the **OPT** button, then available video tracks will be listed. Once you select one, it will be presented.

# Daily Usage

## 9 Pausing live television (Using TimeShift function)

**Note:** USB disk should support USB 2.0 with writing speed over 8 MiB/s for stable time shift function.



You can pause and resume a live television program, and even rewind and replay it. When you are watching a program and you miss something, you can rewind and replay it. Or when your attention is needed elsewhere, you can pause it and resume it a short time later without losing any of it.

When you do this, you are no longer watching the live program, instead you are watching a delayed presentation of it. This is called time shifted function. Then, you can skip commercials until you catch up to the live broadcast.

In order to use the time shift function, the TimeShift Mode (menu PVR > PVR Settings) must be set to ON.

When enabled, the Ferguson receiver will keep as much as 1.8GiB recording buffer of current service by utilizing the connected USB storage. The buffer will reset each time you change to another service.

When TimeShift mode is enabled, the following operations are possible:

- To pause current program press **PAUSE** button.
- To resume paused program press **PLAY** button.
- To go back in time, press the **REW** button; to go forward, press the **FF** button. To change play speed press again **REW** or **FF** button.
- In PAUSE, FF, REW mode, press **PLAY** key to resume to normal play speed.
- To end time shift, press the **STOP** button. The live program will be presented.



## 10 Manual recording

**Note:** USB disk should support USB 2.0 with writing speed over 8 MiB/s for stable recording.



To manually record the program you are watching at present, press the **REC** button.

Pressing the **PAUSE** button will pause the live show and begin time shifting within the current recording even with the Time Shifting Mode disabled.

To stop recording, press the **STOP** button, Ferguson will ask you for confirmation.



It is possible to pause a recording. After a recording is started, pressing the **REC** button displays a menu like the left figure, in which you can set the recording duration, pause and resume.

**Note:** The default duration of manual recording is set to three hours.

While a recording is going on, you can watch another FTA service from the same transponder (frequency).

### 11 Scheduling recordings using the EPG (program guide)

**Note:** USB disk should support USB 2.0 with writing speed over 8 MiB/s for stable recording.



If the EPG (electronic program guide) is properly provided, you can make timer events on it. The instructions on how to make timer recordings using the EPG guide are as follows:

1. Press the **EPG** button to display the EPG.
2. Select a channel you want to record
3. Select a program you want to record
4. To make a timer event with recording, press **OPT**.
5. EPG Schedule menu will appear.
6. Adjust settings if needed and press OK.

### 12 Playing recordings

**Note:** USB disk should support USB 2.0 with writing speed over 8 MiB/s for stable playback.



Press **USB/PVR** button and select PVR File List menu item.

Press **PLAY** to start playback

Press the **REW** key to fast rewind, **FF** key to fast forward. The system support 2X, 4X, 8X, 16X and 32X.

Press **PAUSE** key to stop playback.

When in Pause, FF and REW mode, press **PLAY** to resume to normal mode

Press **STOP** to stop playing and exit to PVR File List menu.

During playback mode, press **PLAY** to display the playback process bar. It shows current playing file information including process, pass time, etc.

## Setup TV via brand name code

1. Switch on the TV for which you wish to use the remote control.
2. Find the code number of your TV brand in the code list (e.g. LG 0075; 0082; 0083; ...).
3. Press TV button for three seconds The POWER button on your remote control lights up, i.e. RCU640 is in set-up mode.
4. You now have to enter the 4-digit device code (e.g. 0075 for LG TV set). If an entry does not occur within 15 seconds, the set-up mode is automatically terminated.
5. The POWER button LED goes out if the remote control accepts the code.

If the POWER button LED flashes twice the code is incorrect; and you need to start from step 2.

If this occurs, re-enter the correct code from the list.

6. Check the function of the buttons on your remote control. If the majority of the buttons on your new remote control do not function correctly, enter another 4-digit device code (e.g. 0082...) from the list under the same brand name. Repeat steps 3 to 6 until all the basic functions operate correctly. The TV is set up correctly as soon as you enter the correct code.

**NOTE:** Exit the set-up mode by pressing the TV button or OK button. The set-up mode is automatically terminated if a button is not pressed during a 15 second period.

**NOTE:** After entering the state of setup, ONLY the numeric keyboard, OK, POWER and TV button can work accordingly, the other buttons do not have response when you press them.

## Setup TV via auto search

If the set up via brand name and code was not successful or you were unable to find your brand name in the list, you can use the auto search function to find the correct TV code for your remote control.

1. Switch on the TV for which you wish to use the remote control.
2. Point the remote control at the TV. Press and hold down the the TV button for 3 seconds, (or just press TV button for three seconds). The POWER button should start to flash, i.e. the RCU640 is in Auto Search mode.
3. Press MUTE button and then release, the OFF signal is automatically transmitted from the remote control to the TV (code scan). As soon as the TV switches off, immediately press OK button or TV button to terminate Auto Search, now the POWER button LED light goes out.
4. Switch on the TV via the POWER button. Check whether the other buttons on your remote control function correctly. If none of the buttons function (i.e. the search was not be stopped at the correct time) or the majority of the buttons do not function correctly, restart the search (see steps 3 to 4) to find a suitable code. If the majority of the buttons function correctly, set up has been successful. Re-press the TV button to save the code and to terminate the set-up mode.

**NOTE:** After entering the state of setup, ONLY the MUTE, OK, LEFT, RIGHT and TV button can work accordingly, the other buttons did not have response when you press them.

**NOTE:** Entering the auto searching mode, it will search backward from the current code backwards ,but you can press LEFT (forward) or RIGHT (backward) to change Search direction.

**NOTE:** After all codes have been gone through, The POWER button will flash three times and go off. The RCU640 exit from auto search automatically.



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## Setup TV via manual search

1. Switch on the TV for which you wish to use the remote control.
2. Point the remote control at the TV. Press and hold down the TV button. (or just press TV button for three seconds). Then release the button.
3. The POWER button lights up and the remote control is in set-up mode.
4. Press the POWER button approx. every 1.5 seconds. The device should start to flash, i.e. the device is in Manual Search mode.
5. As soon as the TV switches off (or is reactive), press OK or TV button to save the codes and exit from Manual Search mode, now the POWER button light goes off.
6. Check whether the other buttons on the remote control function correctly. If the majority of the buttons do not function correctly, press the POWER button approx. every 1.5 seconds to initiate the reactive code (manual search is continued, see steps 4 to 5).

**NOTE:** The Manual Search is automatically terminated if no entry occurs during a 15 second period.

**NOTE:** After entering the state of setup, ONLY the POWER, OK, LEFT and RIGHT button, and TV button can work accordingly, the other buttons did not have response when you press them.

**NOTE:** Entering the manual searching mode, it will search backward from the current code backwards, but you can press LEFT (forward) or RIGHT (backward) to change Search direction

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## Display TV Code

You can call up the TV code which you have set in your new remote control as follows:

1. Press and hold down the TV button simultaneously press number button 1 to display the thousands of the 4-digit code. Count how often the POWER button flashes. If the POWER button does not flash, the number is ZERO.
2. Press and hold down the TV button simultaneously press number button 2 to display the hundreds of the 4-digit code.
3. Press and hold down the TV button simultaneously press number button 3 to display the tens of the 4-digit code.
4. Press and hold down the TV button simultaneously press number button 4 to display the ones of the 4-digit code.

Example for code 0075:

1. Press TV and 1 LED flashes Zero times.
2. Press TV and 2 LED flashes Zero times.
3. Press TV and 3 LED flashes Seven times.
4. Press TV and 4 LED flashes Five times.

---

## Reset / delete function

1. Press TV button for three seconds the POWER button on your remote control lights up.
2. You now have to enter the 4-digit device code 9990.

All the set-up data and commands for TV in the remote control are deleted and the POWER button light goes off.

## TV brand codes

@DIKON	1551;1525	AOC	1540	BEKNETTEKNIK	0337;0207;1657
A.R. SYSTEM	0237;0544;0322;0513;0540;0246	AQP	0096;0103;0157;0295;0327;0335;0549;1450;1491;1649;1652;1692;0351;1702	BEKO	0141;0207;0227;0230;0336;0496;0540;0513;1435;0557
ACCENT	0322;0359;1637;0540;0131	ARC EN CIEL	0051;0055;0052;0090;0092;0094;0095;0096;0119;0136;0164;0181;0229;0230;0242;0455;0549;1045;1435;1478;1445;2026	BENNET	0540;0513
ACCPHASE	0540	ARCAM	0067	BENSTEN	1511;0550;0145;1491
ACEC	0024;0042;0067;0111;0119;0133;0153;0157;0302;0391;0536;0586;1317;1364;1380;1383;1557;1607;1617;1618;1630;0540;0513;0409;1672;1705	ARCELJK	0141;0230;0557	BEON	0540;0513
ACER	1363	ARDEM	0141;0513;0336;0557	BEST	0596
ACTION	0359	ARGENTINA	0572;1711;0569	BESTAR	1657;0114;0415;0359;0540;0336;0513;0435
ADMIRAL	0024;0080;0359;0428;0429;0222	ARISTONA	0024;0042;0067;0111;0119;0133;0153;0157;0302;0391;0536;0586;1317;1364;1380;1383;1557;1607;1617;1618;1630;0540;0513;0409;1672;1705	BIAZET	0513;0052
ADYSON	0359;0329;0067;0505	ARTHUR MARTIN	0075;0080;0082;0083;0137;0540;0178;0162;0513;0390;0431;0539;0556;1016;0230;1702;0222	BIFONIC	0067;0359
AEA	0540;0513	AS-BERG	0131;0077;0302;0374;0513	BIGSTON	0354;0359;0322
AEG	0540;1423;0513	ASA	0136;0066;0222;0390;0282;0513	BINATONE	0067
AG	0557	ASORA	0322	BLACK DIAMOND	0513;0540
AGASHI	0359;0322;0111;0513	ASTHON	1638;0415;0114;0490;0131;1639;0136;1657;1658;0230;1363;0125;0097;0513;0077;0230;0322;0111;0327;0547;0196;0067;1317;0336	BLACK STRIP	1608
AGB	0242;0095;0119;0229;0094;0090;0092;0051;0052;0513;0181;0055;0025;0024	ASUKA	0067;0322;0262;0230	BLACKSTAR	0262
AGEF	0262;0540;0242;0359;0336;0363;1611;0024;0077;0311	ATAKI	0424	BLACKTRON	0262
AIKO	0262;0359;0067;1608;0513	ATLANTIC	0025;0067;0083;0111;0114;0115;0136;0540;0227;0230;0322;0354;0359;0435;0542;0513;1637;1639;1654	BLACKWAY	0351;0262
AIM	0540;0329;0539;0354;0237;0513;1302	ASTRA	0415;0329;0296;0302;0359;0067;0354;1485	BLAUPUNKT	0039;0069;0096;0103;0148;0149;0157;0266;0276;0540;0544;0351
AIOSTAY	0136	ASTRO SOUND	0237;0230	BLAUSONIC	0067
AIWA	1038;0581;0513	ASUKA	0067;0322;0262;0230	BLOOM	0540;0513;0556;1399;1433;1390;1386
AKAI	0067;0070;0374;0103;0111;0143;0162;0262;0290;0296;0298;0337;0345;0354;0359;0361;0375;0415;0431;0222;0515;0549;0556;0558;1243;1311;1314;1396;1423;0540;0513;1652;0230;1684	ATAKI	0424	BLUE SKY	0556;0557;1423;0051;0097;0513;0540;0549;0065;0141;0262;0467
AKI	1638;0513	ATLANTIC	0025;0067;0083;0111;0114;0115;0136;0540;0227;0230;0322;0354;0359;0435;0542;0513;1637;1639;1654	BLUE STAR	0230
AKIBA	0540;0513;0262	ATORI	0359	BOCA	0143;0196;0222;0262;0322;0359;0415;0513;1343;1410;1423;0540;1440;1469;1559;1578;1587;1588;1638;1639;1666;1711
AKIO	1139;1318	AUDIOLA	1432	BONDSTEC	0125
AKIRA	1485;1637;0141;0374;0513	AUDIOSONIC	0359;0141;0262;0125;0149;0111;1638;0067;0025;1227;0077;0230;0162;0322;0060;0490;0424;0336;0354;0545;0540;0513;0557;1657	BOOTS	0067
AKITA	0065;0127;0195;0196;0262;0300;0322;0329;0359;0407;0409;0415;0418;0447;0472;0544;0556;0557;0513;1009;0141;1368;1422;0540	AUDIOTON	0114;0359;0067;0125	BOSCH/BAUER	0069
AKITO	0540;0513	AUDIOVOX	0572	BOSTON	1621;0067
AKTRON	0513;0197;0207;0296;0337;0557;1423;1608;0467;0351	AURORA	0024;0067;0354	BOSUN	0001
AKURA	0143;0231;0190;0359;0322;1637;0513;0540	AUSIND	0131;0136;1126	BPL	0540;0513
ALBA	0415;0300;0262;0230;0513;0359	AUTОВОX	1423;0067;0136;0131;1124;0391;1126;1653;0108;1367;0556;1395;0513;0111	BRANDT	1435;0051
ALBATRON	1378	AUVISAT	0513	BRANDT ELEC-TRONIQUE	0051;0055;0052;0090;0092;0094;0095;0096;0119;0136;0164;0181;0229;0230;0242;0455;0549;1045;1435;1478;1445;2026
ALBIRAL	0025;0237;0513;0262;0322;0125;0230;1174;1639	AVIOUS	1550	BRAUN	0067
ALBRECHT	1586	AWA	0149;0359;0067;0354;0540;0513	BRENDSTAR	0359
ALHORI	0067	AWATRON	0359	BRIGMTON	0067;0111;0237
ALKOS	0513;0197;0207;0296;0337;0557;1423;1608;0467;0351	AXXWNT	0513	BRINKMANN	0540;0513
ALL TEL	0550;0513;0145;1383	BAIRD	0375;0378;0539	BRIONVEGA	1622;0295;0247;1367;1124;0024;0111;0428;0223;0222;1181
ALLOGAN	0391;0108;0067	BANG & OLDFSEN	0024	BRITANNIA	0067;0162
ALTEK	1494;1399;1526;1401;1395;1546	BARCO	0146;0024;0090	BROKLINE	1319
ALTUS	0557	BARCOM	0329	BROKSONIC	0513;1323
AMBRSSADOR	0196	BASIC LINE	0203;0262;1423;0424;0097;0513;0354;0539;0557;0230;0359;0141	BROTHER	0322;0513
AMPLIVISION	0067;0237	BASTIDE	0067	BROWN	1317
AMSTRAD	0143;0196;0222;0262;0322;0359;0415;0513;1343;1410;1423;0540;1440;1469;1559;1578;1587;1588;1638;1639;1666;1711	BAUER	0561;1302;0513;0069;0275;0114	BRUNS	0262;0540;0242;0359;0336;1611;0024;0363;0077;0311
ANAM	0540;0513	BAUJATIC	0322	BSR	0300;0052;0329;0230
ANEX	1639;0513	BAUR	0111;0083;0103;0133;0157;0162;0178;0290;0337;0351;0540;0359;0391;0434;0467;0528;0174;0513;1637;1652;0495	BTC	0262
ANGLO	0322;0359	BAZIN	0067;0441	BUSH	0097;0052;0083;0513
ANIS	0322;0336	BEAUMARK	0547	CADMOS	0513;0246;0114;0025;0230;0359;1319
ANITECH	0111;0513;0077;0359;0505;0322;0424;0329;0114;0540			CALIFORNIA	0025;0067;0083;0111;0114;0115;0136;0540;0227;0230;0322;0354;0359;0435;0542;0513;1637;1639;1654
ANSONIC	0322;1657;0336;0057;0359;0077;0141;0513			CAMPER	0230;0336;0513;0141
ANTECNO	0262			CANAIS	0042
				CANALERA	1363
				CANALSANTE	0230

CANDLE	0075; 0082; 0083; 0111; 0067; 0125; 0141; 0145; 0153; 0052; 0227; 0277; 0275; 0329; 0540; 0359; 0384; 0557; 0561; 0925; 0547; 1459; 1498; 1476; 0513; 1607; 0542; 1614; 0230; 3044; 4206; 4207	CROWN	0540; 0374; 1639; 1657; 0336; 0359; 0262; 0057; 0513; 0131; 0077; 0097; 0141; 1420	DOMOH	1639; 0513
CANTON	0252	CRYSTAL	0111; 0513	DORIC	0052
CAPSONIC	0322; 0513	CS ELECTRONICS	0125; 0067; 0262	DTS	0359; 0513; 0153
CARAD	0540; 0513	CTC CLATRONIC	0057; 0322; 0114; 0374; 1423; 0067; 0230; 0262; 0415; 0359; 0513; 0077; 0557; 0540; 0227; 0131; 0424	DUAL-TEC	0047; 0057; 0097; 0111; 0067; 0125; 0133; 0141; 0153; 0052; 0162; 0196; 0540; 0222; 0298; 0312; 0329; 0354; 0359; 0391; 0409; 0434; 0513; 0230; 2315
CARENA	0544; 0513; 0540	CXC	1638; 0415; 0114; 0490; 0131; 1639; 0136; 1657; 1658; 0230; 1363; 0125; 0097; 0513; 0077; 0024; 1277; 0111; 0327; 0547; 0196; 0067; 1317; 0336	DUMONT	0390; 0066; 0374; 0131; 0282; 0077; 0115; 1639; 0513; 0136; 0024
CARREFOUR	0540; 0513	CYBERTRON	0262	DUNAI	0230
CARYONSE	0024; 0042; 0067; 0111; 0119; 0133; 0153; 0157; 0302; 0391; 0536; 0586; 1317; 1364; 1380; 1383; 1557; 1607; 1617; 1618; 1630; 0540; 0513; 0409; 1672; 1705	CYMATIC	0067; 0025; 0230	DURABRAND	0557; 0513
CASCADE	0540; 0513	CVY	0513	DUX	0111; 0540
CASIO	1611; 0540; 0409	D-VISION	0554; 0513; 0540	DYNAMTC	0359; 0374
CASONIO	0062; 0083; 0162; 0178; 0203; 0204; 0251; 0252; 0431; 0539; 0052; 1654; 0222; 2356; 4340; 4341	DAEWOO	0060; 0067; 0111; 0354; 0359; 0361; 0375; 0502; 0513; 0545; 0554; 0557; 1390; 1412; 1450; 1453; 1574; 1601; 1613; 0540	DYNATRON	0024; 0042; 0067; 0111; 0119; 0133; 0153; 0157; 0302; 0391; 0536; 0586; 1317; 1364; 1380; 1383; 1557; 1607; 1617; 1618; 1630; 0540; 0513; 0409; 1672; 1705
CAT	4575; 1410	DAICHI	0540; 0359	EASY LICING	1525; 1394; 1398; 1399
CATHAT	0540; 0513	DAIMOND	1637	ECCO	1346
CCE	0540; 0513	DAINICHI	0067; 0262	ECHO	0561
CDV	1410	DALMAN	1453	EHOSTAR	0359; 0513; 0067
CELINT	0052	DANSAI	0329; 1608; 0513; 0067	ECO LINE	0513
CENTURION	0540; 0513	DANTAX	1423; 0513	EDAN LINE	0513
CENTURY	0057; 0024; 1227	DATRONIC	0060; 0067; 0111; 0354; 0359; 0361; 0375; 0502; 0513; 0545; 0554; 0557; 1390; 1412; 1450; 1453; 1574; 1601; 1613; 0540	EDISON	0549
CGE	0057; 0131; 0227; 0298; 1711; 0374; 0513; 1638; 0230	DAWA	0513	EI	0230; 0162; 0513; 1423; 1657; 0227
CGM	0097; 0227; 0322; 0336; 0359; 0424; 0513; 0064; 1657; 0230	DAYMATER	0024; 0025; 0060; 0077; 0115; 0359; 1009; 1639; 0230	EL	1525
CIE	0060; 0196; 0262; 0354; 0359; 0513	DAYTEK	1121; 0572; 0513	ELBE	0428; 0295; 0528; 0073; 0067; 0429; 0237; 0233; 0025; 0230; 0513; 0222; 0255; 1595; 1594; 1410; 1453; 0540; 1450
CIHAN	0230; 0115	DAYTRON	0359; 0540; 0513; 1318	ELCIT	0024; 0025; 0060; 0077; 0115; 0359; 1009; 1639; 0230
CIMLINE	0359	DAYTRONIC	0060; 0067; 0111; 0354; 0359; 0361; 0375; 0502; 0513; 0545; 0554; 0557; 1390; 1412; 1450; 1453; 1574; 1601; 1613; 0540	ELECTRO TECH	0359
CINEMA	0513	DCE	0557	ELEKTA	0359; 0424; 0322; 0354; 0111; 0513
CITIZEN	1324	DE GRAAF	0513	ELEKTRONIKA	1657; 0516
CITY	0359	DECCA	0065; 0067; 0111; 1637; 0246; 0254; 0302; 0375; 0540; 0513	ELEKTRONSKA IND.	0025; 0230
CLARITRONIC	1657	DEITRON	0540; 0513	ELEMIS	0230; 0513; 0336
CLARIVOX	0024; 0025; 0096; 0111; 0204; 0237; 0490; 0540; 0230; 1611	DELTON	0557	ELG	0540; 0513
CLATRONIC	0540	DEMACOLOR	0513	ELIN	0111; 0359; 0513; 0067; 0153; 0162; 0282; 0083; 0066; 0431
CLAYTON	0230; 0513	DENKO	0322	ELITE	0262; 0322; 0114; 0513
COFANDEL	0051; 0055; 0052; 0090; 0092; 0094; 0095; 0096; 0119; 0136; 0164; 0181; 0229; 0230; 0242; 0455; 0549; 1045; 1435; 1478; 1445; 2026	DENTAL	0025; 0067; 0083; 0111; 0114; 0115; 0136; 0540; 0227; 0230; 0322; 0354; 0359; 0435; 0542; 0513; 1637; 1639; 1654	ELLEVISION	0322; 0527
COLOR MAT	0024	DENVER	1546; 0359; 1638; 0513; 1522	ELMAN	0025; 0230; 0077; 0196; 0067; 1700
COLUMBIA	0111	DESMET	0246; 0114; 0025; 0230; 0359; 0513	ELSAY	0513
COMBITECH	0065; 0127; 0195; 0196; 0262; 0300; 0322; 0329; 0359; 0407; 0409; 0415; 0418; 0447; 0472; 0544; 0556; 0557; 0513; 1009; 0141; 1368; 1422; 0540	DEWO	1085	ELTA	0359; 0435; 0057; 0067; 0322; 0513
COMET	0540; 0556; 0536; 0262; 0513	DHS	0415; 0329; 0296; 0302; 0359; 0067; 0354; 1485	EMATEC	0062; 0083; 0162; 0178; 0203; 0204; 0251; 0252; 0431; 0539; 0052; 1654; 0222; 2356; 4340; 4341
COMPLUTRON	0431; 0415; 0359; 0513	DIADDEM	0222	EMCO	0057; 0060; 0131; 0227; 0298; 0374; 0435; 0540; 1227; 0467; 0513; 0230
CONCERTO	0075; 0082; 0083; 0111; 0067; 0125; 0141; 0145; 0153; 0052; 0227; 0277; 0275; 0329; 0540; 0359; 0384; 0557; 0561; 0925; 0547; 1459; 1498; 1476; 0513; 1607; 0542; 1614; 0230; 3044; 4206; 4207	DIAMANT	0540; 0513	EMERSON	1638; 0415; 0114; 0490; 0131; 1639; 0136; 1657; 1658; 0230; 1363; 0125; 0097; 0513; 0077; 0024; 1277; 0111; 0327; 0547; 0196; 0067; 1317; 0336
CONCORDE	0359	DIAMOND	0359; 0354; 1264; 1112; 1121; 1241; 0513; 0540; 1338; 0047	ENERGY SYSTEM	0016; 0017
CONDOR	0114; 0131; 0227; 0337; 0322; 0359; 0374; 0424; 0513; 0540	DIPOSS	0513	ENGEL	1563; 0230; 1611
CONFORAMA	0431	DIFFE	1514	ENIE	0513
CONIC	0002; 0329; 0296	DIGATRON	0540; 0513	ENZER	0579; 0513; 0561; 1485
CONRAC	1435	DIGIHOME	1435; 0557	EROICA	0329
CONRAD	0513	DIGILINE	0513	ERRES	0024; 0042; 0067; 0111; 0119; 0133; 0153; 0157; 0302; 0391; 0536; 0586; 1317; 1364; 1380; 1383; 1557; 1607; 1617; 1618; 1630; 0540; 0513; 0409; 1672; 1705
CONTEC	0322; 0359; 0197; 0067; 0540; 0424	DIGITOR	0513; 0540	ESC	0067; 0539; 0336; 0513; 0540
CONTI.M.	0513	DIK	0540; 0513; 0359	ESTEL	0230
CONTIN. EDIS.	0051; 0055; 0052; 0090; 0092; 0094; 0095; 0096; 0119; 0136; 0164; 0181; 0229; 0230; 0242; 0455; 0549; 1045; 1435; 1478; 1445; 2026	DIKON	1551	ETRON	0230; 0384; 1082; 0359; 0513; 0415; 1063
CONTINENTAL	0549; 1639; 0513; 0114	DINASTY	0359; 0354; 0513	EULANDER	0428; 0295; 0528; 0073; 0067; 0429; 0237; 0233; 0025; 0230; 0513; 0222; 0255; 1595; 1594; 1410; 1453; 0540; 1450
COSMEL	0359; 0490; 0513; 0540	DIPSTAR	1085; 0513	EUMIG	0114
COSMOS	0513; 0359; 0262	DIXI	0513; 0540; 1611; 0359	EUROCOM	0230
CRC	0111	DMTECH	1489		
CROSLEY	0115; 0057; 0024; 0131	DOMEOS	0513; 0434		
		DOMLAND	0047; 0057; 0097; 0111; 0067; 0125; 0133; 0141; 0153; 0052; 0162; 0196; 0540; 0222; 0298; 0312; 0329; 0354; 0359; 0391; 0409; 0434; 0513; 0230; 2315		

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ENGLISH

EUROLINE	0513;0540	GALAXY - GALAXIS	0409;0057;0227;0374;0513;0067	HAIER	0540
EUROMAN	0111;0322;0513;0067;0336	GALERIA	0359	HALIFAX	0322
EUROPA	0540;0513	GBC	0262;0230;0359;0513;0375;0354;1489;0125;0197;0415;0060;0424;0115	HAMMER-STEIN	0322;0067;0384;0422;1082;0359
EUROPHON	0067;0025;0077;1227;0114;0127;0238;0230	GE	0242;0547;0051	HAMPTON	0067;0115
EUROSTATUS	0513	GEANT CA-SONTO	0062;0083;0162;0178;0203;0204;0251;0252;0431;0539;0052;1654;0222;2356;4340;4341	HANIMEX	0262
EUROVISION	1423	GEBER	0162	HANNOVER	1139;1420
EVELUX	0513	GEC	0052;0067;1076;0083;0246;0375;1714;0189;0513;1372	HANSEATIC	0359;1639;0114;0424;0162;0195;0230;0554;0540;0435;0513;1638;0262;0351;0557;1601;0391;0296;0336;0067;0025
EXCEL	0540;0513	GELOSO	0359;0262;0230;0115;0025;0080;0060;0354	HANTAREX	0513;1436;1383;0077;0238;0359;0025
EXPERT	0153;0204;1654	GEMSOUND	0359;0262	HARROW	0513
EXQUISIT	0540;0513	GENERAL	0359;0067;0354;0111;0513;0540;0197	HARWOOD	0540;0513
FAGOR	0513;0435	GENERAL CORPORATION	0067;0108;0153;0513	HAUPPAGE	0540;0513
FAIRMOST	0359	GENERAL TECHNIC	0354;0359	HB	0557;0513;1489;1459
FALCON	0359	GENESIS	0540;0513	HCM	0322;0359;0424;0513;0543;0540;0067;0230
FAMILY LIFE	0540;0513	GENEXXA	0390;0162;0540;0262	HEDZON	0540;0513
FELIX	0262;0322;0415;0513	GERICOM	1383	HEIRU	0322
FENNER	0359;0424;0513;0540;0544;0354;0111;0516	GIANT	0067;0527;0111;0561;0359	HELECTRONIC	0025;0067;0083;0111;0114;0115;0136;0540;0227;0230;0322;0354;0359;0435;0542;0513;1637;1639;1654
FERGUSON	0051;0217;0229;0237;0242;0254;0302;0378;0455;0513;1616;0322;1700	GITEM	0242;0513;0351;0111	HEMMER-MANN	0391;0127;1009;0077
FIDELIS	0067;0296;0359;0513	GM - GMC	0359;0513;0322	HENA	0513
FIDELITY	0391;0067;0329;1713;0359;0415;1637;0513;0262	GOLD	1526	HEXA	0230;0204
FILSAI	0359;0067	GOLD TOP	0424	HIFVOX	0051;0055;0052;0090;0092;0094;0095;0096;0119;0136;0164;0181;0229;0230;0242;0455;0549;1045;1435;1478;1445;2026
FINLANDIA	0083	GOLD FUNK	0094	HIGASHI	0067
FINLUX	0066;0077;0115;0127;0131;0136;0137;0230;0246;0282;0295;0359;0374;0375;0390;0431;0513;0556;0558;1126;0557;0540;0222	GOLDHAND	0359;0067	HIGHIWA	0556;0544;0424;0262;0067;0513;0359;0415;0073;1420
FIRST LINE	0237;0359;0354;1453;0391;0111;0302;0375;0067;0057;0097;1654;0540;0298;0114;0539;0222;0513;0557;0230;1435;0203;1637;1009;1420	GOLDLINE	0073	HIGHLINE	0540;0513
FISHER	0363;0133;0066;0067;0314;0115;0197;0149;0290;0024;1657;0391;0539;1658;0572	GOLDSTAR	0075;0082;0083;0111;0067;0125;0141;0145;0153;0052;0227;0277;0275;0329;0540;0359;0384;0557;0561;0925;0547;1459;1498;1476;0513;1607;0542;1614;0230;3044;4206;4207	HIKONA	0556;0544;0424;0262;0067;0513;0359;0415;0073;1420
FLINT	0513;0073;0344	GOLDTECH	0097;0513	HILINE	0322;0513;0329;0262;0327;0065;0359;0080;0363
FLORIDA	0067	GOLDVISION	0322;0359;0067;0513;0505;0424;0111;0557	HINARI	0322;0513;0329;0262;0327;0065;0359;0080;0363
FNR	0077	GOODMANS	0067;0359;0415;0051;0545;0557;0540;0262;0354;0111;0554;0327;0322;0230;0242;1608;0141;0513;1423;0057	HISAWA	0513;0262;0073;0544;0557
FORESEE	0001	GORENJE	0539;1657;0516;1658;1296;0513;1423;0051	HISENSE	0004;0083;0145;0539;0540
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THES	1440	VEXA	0424; 0359; 0067; 0513	YAMISHI	0424; 0359; 0540; 0544
THOMAS	0544	VICEROY	0329; 1082; 0067; 0322	YAMO	0262
THOMSON	0051; 0055; 0052; 0090; 0092; 0094; 0095; 0096; 0119; 0136; 0164; 0181; 0229; 0230; 0242; 0455; 0549; 1045; 1435; 1478; 1445; 2026	VIDECON	0111	YOCAN	0540
Thomson 3004	5013	VIDEOLÓGIC	0262; 0067; 0322	YOKO	0359; 0207; 0322; 0067; 0092; 0540; 0354; 0125; 0329; 0435; 0262; 0290; 0513; 0230; 0516
Thomson 2100	5023	VIDEOMAC	0067; 0322	YORK	0262
THORN	0051; 0217; 0229; 0237; 0242; 0254; 0302; 0378; 0455; 0513; 1616; 0322; 1700	VIDEON	0513	YOSHITA	0513
TIME	1537; 1489; 0513	VIDEOSAT	0057; 0125	YOTAKA	0513
TMK	0196; 0547	VIDEOSYSTEM	0513; 0540	YUMATU	0322; 0359; 0111; 0374; 0415
TOBISHI	0262; 0359; 0384; 0195; 0067; 0322	VIDEOTON	0513; 0060; 0067; 0097; 0111; 0119; 0178; 0290; 0302; 0374; 0391; 0435; 0441; 1423; 0540; 0230	ZAMPA	0052
TOBO	0322; 0359	VIDESON	0230	ZANELA	0311; 0445; 0321
TOKAI	0359; 0322; 0435; 0540; 0513	VIDIKRON	0359; 1661; 0114; 0077	ZANUSSI	0062; 0080; 0108; 0153; 0052; 0197; 0242; 0295; 0390; 0428; 0429; 0435; 0222; 0513; 1149; 1181; 0540; 1653
TOKIWA	0359; 0322; 0435; 0540; 0513	VIDION	0359	ZENOR	0539
TOKO	0513	VIDITAL	0322	ZIRWATEL	0495
TOKYO	1608; 0424; 0384	VISIOLA	0025; 0067; 0114; 0204; 0237; 0435; 0230	ZOPPAS	0062; 0080; 0108; 0153; 0052; 0197; 0242; 0295; 0390; 0428; 0429; 0435; 0222; 0513; 1149; 1181; 0540; 1653
TOMASHI	0556; 0544; 0424; 0262; 0067; 0513; 0359; 0415; 0073; 1420	VISION 2000	0513; 0359; 0540; 0322		
TOMITA	0067	VISION MAGIC	1412		
TOP VISION	0230; 0513; 0435; 0238	VISIONREX	0025		
TOPSHOW	0561; 0322	VISTA	0051; 0217; 0229; 0237; 0242; 0254; 0302; 0378; 0455; 0513; 1616; 0322; 1700		
TORRE	0051; 0055; 0052; 0090; 0092; 0094; 0095; 0096; 0119; 0136; 0164; 0181; 0229; 0230; 0242; 0455; 0549; 1045; 1435; 1478; 1445; 2026	VISTAR	0203; 0431		
TOSHIBA	0513; 0197; 0207; 0296; 0337; 0557; 1423; 1608; 0467; 0351	VORTEC	0145; 0540; 0513		
TOWADA	0230; 0077	VOXSON	0024; 0080; 0136; 0322; 1227; 0556		
TRANS CONT.	1437; 1434; 1453; 1569; 0097; 0540; 1383; 1564; 0513	VSM	0181		
TRANSONIC	1607; 0322; 0536; 0513; 0528	WAGNER	1654		
TREVI	0424; 1549; 0149; 0359; 0230; 1525; 1343	WALKIE	0295; 0153		
TRIAD	0540; 0237; 0513; 0111	WALKVISION	0513		
TRIDENT	0067	WALTHAM	0513; 0060; 0067; 0097; 0111; 0119; 0178; 0290; 0302; 0374; 0391; 0435; 0441; 1423; 0540; 0230		

# Troubleshooting

## WARNING

Under no circumstances should you try to repair the system yourself, as this will invalidate the warranty. Do not open the system as there is a risk of electric shock.

If a fault occurs, first check the points listed below before taking the system for repair. If you are unable to remedy a problem by following these hints, consult your dealer for help.

Problem	Solution
The display on the front panel does not light up.	<ul style="list-style-type: none"><li>- Main cable is not connected. Check that the main cable is plugged into power socket.</li></ul>
No sound or picture, but the front panel red light is ON.	<ul style="list-style-type: none"><li>- The unit is in standby mode. Press the standby button.</li></ul>
No sound or picture.	<ul style="list-style-type: none"><li>- The satellite dish is not pointing at the satellite. Adjust the dish. Check the Signal Level in the Antenna Setup menu.</li><li>- No signal or weak signal. Check the cable connections, LNB and other equipment connected between the LNB and the receiver, and/or adjust the dish.</li></ul>
Bad picture / Blocking error	<ul style="list-style-type: none"><li>- The satellite dish is not pointing at the satellite. Adjust the dish.</li><li>- Signal is too strong. Connect a signal attenuator to the LNB input.</li><li>- Satellite dish is too small. Change to a larger dish.</li><li>- LNB noise factor too high. Change to an LNB with lower noise factor.</li><li>- The LNB is faulty. Change the LNB.</li></ul>
The RCU is not working.	<ul style="list-style-type: none"><li>- Battery exhausted. Change the battery.</li><li>- RCU is incorrectly aimed. Aim the RCU at the unit, or check that nothing blocks the front panel.</li></ul>
I'm not able to record on my external hard disc/pendrive.	<ul style="list-style-type: none"><li>- Disc is not formatted to FAT32. Format this disc.</li><li>- Your pendrive is too slow therefore PVR function has been disabled. USB flash memory should support USB 2.0 with writing speed over 8 MiB/s for stable recording and playing. Use another faster device.</li><li>- Device were not uninstalled. Disc checking is in progress. Please wait.</li><li>- Device is not supported. Use another supported device.</li></ul>

## Satellite Tuner

Input Frequency	950 to 2150 MHz
Input Level	-65 to -25 dBm
LNB Supply	13.5V / 18.5V / OFF, max 500 mA
Demodulation Type	QPSK, 8-PSK
Symbol Rate	2~45 MS/s (DVB-S), 10~30 MS/s (DVB-S2)

## Terrestrial Tuner

Input Frequency	174 to 860 MHz UHF & VHF
Input Level	-90 to -35 dBm
Band	6, 7, 8 MHz
Waveform	COFDM

## Audio/ Video Processing

Audio Standard	ISO/IEC 13818-3
Audio Decoding	MPEG-1 & MPEG-2 layer I and II
Audio Sampling Freq.	32, 44.1 48kHz
Video Standard	ISO/IEC 13818-2, MPEG-2 MP@ML, MPEG-4 AVC/H.264 HP@L4
Aspect Ratio	4:3, 16:9
Video Resolution	1920x1080i, 1280x720P, 720x576 (PAL), 720x480 (NTSC)

## Power Supply

Input voltage	AC100 – 240V, 50/60Hz
Power consumption	30W

## Physical Characteristics

Rear Panel Connectors	1x LNB IN 1x LNB LOOP through output 1x ANT IN 1x ANT LOOP through output LOOP through output 2x Audio L/R (RCA) 2x SCART 1x Video SIGNAL (RCA) 1x S/PDIF (Optical) 1x HDMI 1x Y Pb Pr 2x RJ45 (Ethernet)
Front Panel Connectors	1x USB 2.0
Dimensions (w x h x d)	370 x 60 x 262 mm
Weight	approximately 2,8 kg
Operation Temperature	0 to 40 °C
Storage Temperature	-40 to 60 °C
Storage Humidity	20 - 95%

*Specifications subject to change without prior notice*

# Glossary

**CA - Conditional Access** - Encryption system used to secure content and grant access only to subscribers.

**CAM - conditional access module** - is an electronic device, usually incorporating a slot for a smart card, which equips a set-top box with the appropriate hardware facility to view conditional access content that has been encrypted using a conditional access system.

**CI - Common Interface** - is the slot on a digital television receiver into which a conditional access module (CAM) may be inserted for satellite television. A receiver with a common interface allows the user to access encrypted television broadcasts as opposed to free-to-air (FTA) channels.

**DVB-S** is the original Digital Video Broadcasting forward error coding and modulation standard for satellite television. DVB-S is used in both MCPC and SCPC modes for broadcast network feeds, as well as for direct broadcast satellite services. The transport stream delivered by DVB-S is mandated as MPEG-2. Today the main use for this standard is the distribution of SDTV services.

**DVB-S2** is an enhanced specification to replace the DVB-S standard. Today the main use for this new standard is the distribution of HDTV. The development of DVB-S2 coincided with the introduction of HDTV and H.264 (MPEG-4 AVC) video codecs.

**DVB-T** is a standard for the broadcast transmission of digital terrestrial television. DVB-T use of source coding methods for MPEG-2 and, more recently, H.264/MPEG-4 AVC as well as audio encoding systems. Today the use for this standard is the distribution of SD and HDTV services.

**EPG - Electronic Program Guide**, also known as an Interactive Programme Guide or IPG, provides an on screen guide to channel listings, programme information or pay per view events.

**FTA - Free-to-air** - broadcasts that are sent unencrypted and may be received via any suitable receiver.

**JPEG**: A very common digital still picture format. A still-picture data compression system proposed by the Joint Photographic Expert Group, which features small decrease in image quality in spite of its high compression ratio.

**LNB - low-noise block converter** - is used in communications satellite (usually broadcast satellite) reception. The LNB is usually fixed on the satellite dish.

**MCPC - multiple channels per carrier** - several subcarriers are combined into a single bitstream before being modulated onto a carrier transmitted from a single location to one or more remote sites.

**Monoblock LNB** - is a unit consisting of two LNBs and is designed to receive satellites spaced close together.

**Pay-TV - Pay television or Premium Television** refers to subscription-based television services, provided digital cable or satellite, but also by digital terrestrial methods.

**SCPC - Single channel per carrier** - refers to using a single signal at a given frequency and bandwidth.

**STB - Set-top box** - Receiver device that processes an incoming signal from a satellite dish, aerial, cable, network or telephone line.

**TP - Transponder** - One of the transmitters on a satellite. A transponder transmits on a particular frequency to which a set-top box must tune to receive a signal. Typically each transponder can carry multiple compressed digital television channels.

**DiSEqC - (Digital Satellite Equipment Control)** is a communication protocol for use between a satellite receiver and a device such as a multi-dish switch or a small dish antenna rotor. It is compatible with the actuators used to rotate large C band dishes if used with a DiSEqC positioner.

**USALS - (Universal Satellites Automatic Location System)** - is a satellite motor protocol that automatically creates a list of available satellite positions in a motorised satellite dish setup. It is used in conjunction with the DiSEqC 1.2 protocol.



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