



# ***SRT 4304***

**Digital Satellite Receiver**

**USER'S MANUAL**



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## Safety Instructions

This STB has been manufactured to satisfy the international safety standards. Please read the following safety precautions carefully.

### **MAIN SUPPLY**

:AC 100/240V, 50/60Hz, 30W.

### **OVERLOADING**

:Do not overload a wall outlet, extension cord or adapter as this may result in fire or electric shock.  
Ensure that the power source (socket) is easily accessible.

### **LIQUIDS**

:This STB shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the STB.

### **CLEANING**

:Disconnect the STB from the main supply before cleaning. Do not use any kind of solvents to clean the STB, only use a soft-dry cloth.

### **VENTILATION**

:The slots on top of the STB must be left uncovered to allow proper airflow to the unit.  
Ensure a minimum distance of 5cm around the apparatus for sufficient ventilation.  
Ensure that the ventilation is not impeded by covering the ventilation openings with items such as newspapers, table-cloths, curtains, etc.  
Do not stand the STB on soft furnishings or carpets.  
Do not expose the STB to direct sunlight or do not place it near a heater.  
Do not stack electronic equipments on top of the STB.  
Do not place naked flame sources, such as lighted candles on the apparatus.

### **ATTACHMENTS**

:Do not use any non recommended attachments as these may cause hazard or damage to the STB.

## Safety Instructions

### **CONNECTION TO THE SATELLITE DISH LNB**

:Disconnect the STB from the main supply before connecting or disconnecting the cable from the satellite dish.  
FAILURE TO DO SO CAN DAMAGE THE LNB.

### **CONNECTION TO THE TV**

:Disconnect the STB from the main supply before connecting or disconnecting the cable from TV.  
FAILURE TO DO SO CAN DAMAGE THE TV.

### **EARTHING**

:The LNB cable MUST BE EARTHED to the system earth for the satellite dish.

### **LOCATION**

:Place the STB indoor in order not to expose to lightening , rain or sunlight.  
Use the apparatus only in moderate climates (not in tropical climates).

### **Battery handling**

:Batteries may contain toxic agents that are hazardous to the environment.  
Therefore, dispose of the batteries immediately according to the prevailing statutory regulations. Never throw the batteries in normal household waste.

## General Introduction

### **INTRODUCTION**

This manual will help you learn basic functions such as installation, selecting channels and many other functions of the STB. All functions can be operated by the remote control. You can easily install it by selecting "**Installation**" function and upgrade its software through communication cable.

The remote control is designed for easy access to all the functions at once and for comfortable fit in your hand. It is programmed to control all functions and to easily watch TV and Radio programs via the STB.

### **WARNING**

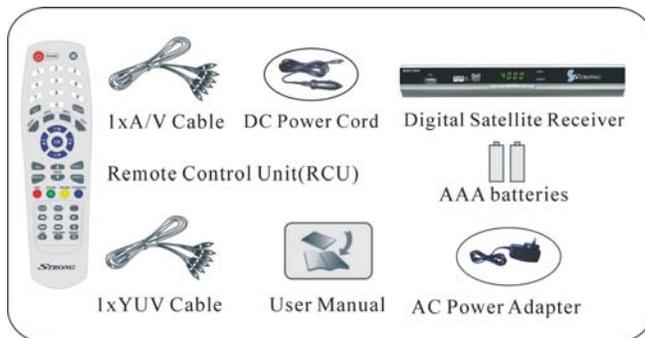
Problems can be caused by the use of unofficial software. The use of software versions other than dealers or distributors official software will void the manufacturer's warranty. It is advised that only the formal software released from dealers or distributors should be used.

## General Introduction

### UNPACKING

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

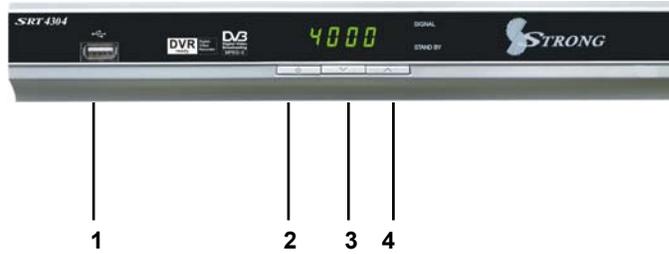
- 1 x Remote Control Unit (RCU)
- 1 x User Manual
- 2 x AAA batteries
- 1 x Digital Satellite Receiver
- 1 x A/V Cable
- 1 XYUV Cable
- 1 XAC Power Adapter
- 1 XDC Power Cord



We hope you enjoy using your digital satellite receiver!

## Front Panel/ Rear Panel

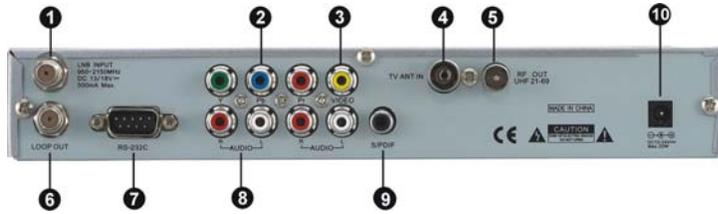
### Front Panel



- 1 USB port, for connecting a USB storage device.
- 2 To switch the receiver between stand-by mode and power-on mode.
- 3 To select the next channel, or next option in a menu.
- 4 To select the previous channel, or previous option in a menu.

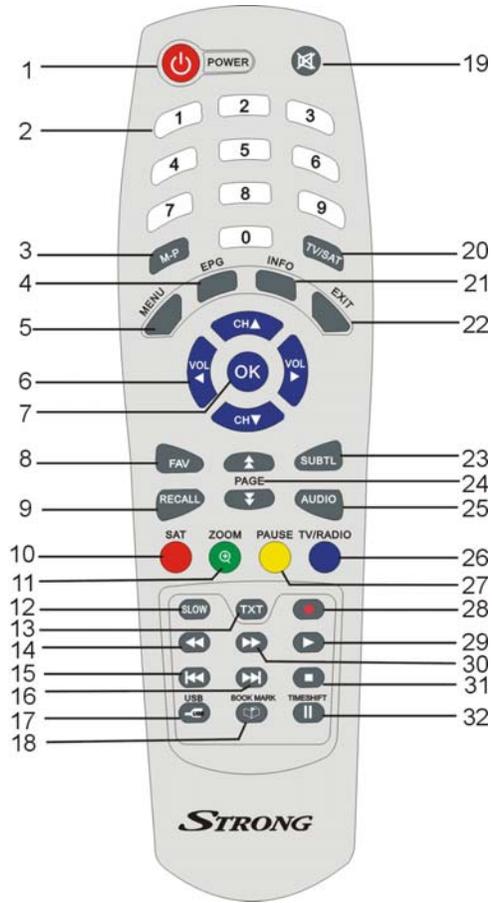
## Front Panel/ Rear Panel

### Rear Panel



No.	Symbol	Function
1	LNB INPUT	Use to connect a satellite dish.
2	Y/Pb/Pr RCA Component	Component connection (Y/Pb/Pr)
3	Video RCA	Composite video connection
4	ANT IN	Connect to Terrestrial Antenna through Modulator.
5	AV RCA	To connect the Audio/Video RCA output to TV.
6	LOOP OUT	Loop-through output to VCR, etc.
7	RS-232	Use it when connecting to your PC.
8	AV RCA	To connect the Audio/Video RCA output to TV.
9	S/PDIF	Digital audio output.
10	DC power socket	To turn unit on or off

# Remote Control Unit



## Remote Control Unit

1		To switch between power-on and stand-by modes.
2	<b>0-9</b>	To choose a channel directly, or to select numeric information in a menu
3	<b>MULTI PICTURES</b>	MULTI -PICTURE
4	<b>EPG</b>	To show the TV and radio program guide
5	<b>MENU</b>	To display the main menu, or return to a previous menu.
6	<b>VOL(◀/▶)</b>	To change the volume in viewing mode, or to change an option or setting in a menu.
7	<b>OK</b>	To show the channel list in viewing mode, and to select an item (or confirm a choice) in a menu.
8	<b>FAV</b>	To display the favourites list in viewing mode, and to select a favourite
9	<b>RECALL</b>	To return to the previous channel or station
10	<b>SAT</b>	To display SAT list.
11	<b>ZOOM</b>	Press to Zoom-in and Zoom-out picture.
12	<b>SLOW</b>	To show the playback of a movie
13	<b>TXT</b>	To show Teletext
14		To fast rewind a movie or music track
15		To go to the start of a movie or music track, or show the previous photo
16		To go to the end of a movie or music track, or to show the next photo.
17	<b>USB</b>	To display the USB list

## Remote Control Unit

18	<b>BOOK MARK</b>	Set bookmark for recorded channels
19	<b>MUTE</b>	To turn sound on or off.
20	<b>TV/SAT</b>	Switch between TV and SAT mode. ( This function only valid to Terrestrial TV program that is connected and deliver by Modulator of this STB )
21	<b>INFO</b>	To show information about the current program.
22	<b>EXIT</b>	To close the current menu and return to normal viewing.
23	<b>SUBTL</b>	To turn subtitles on or off.
24	<b>PAGE (▲/▼)</b>	To move to the next page or previous page ( if there is more than one page), or to zoom in or out
25	<b>AUDIO</b>	To choose speakers (left, right of stereo), audio format and audio language.
26	<b>TV/RADIO</b>	To switches between TV and Radio (and vice versa)
27	<b>PAUSE</b>	To freeze the screen
28	<b>RECORD●</b>	To start recording a movie
29	▶	To start or pause a movie or music track
30	▶▶	To fast forward in a movie or music track
31	■	To stop a movie or music track ,or to stop recording a movie
32	<b>TIMESHIFT II</b>	To Stop playing the USB Media

## S.T.B Connection

### Step 1: Connect to the antenna

Connect the satellite dish lead coming from the wall plate to the LNB INPUT socket on the SRT 4304(socket1).

### Step 2: Choose your Connection

There are a number of methods for connecting the SRT4304, depending on your preference and the connection types on your TV. These methods are labeled A, B below.

#### **A: Y / Pb / Pr (Component) using the supplied RCA blue–red–green lead**

For Component video, connect with the supplied Y / Pb / Pr Component cable (green, blue and red leads). Connect the leads to the Y, Pb and Pr sockets on the SRT4304, and then to the corresponding Component sockets on your TV. Please pay attention to the color-coding. You will also need to establish a connection for left and right audio via the audio sockets. This can be done using the supplied RCA cable.

For right audio, connect the red RCA lead and for left audio, connect the white RCA lead.

#### **B: CVBS (Composite) using the supplied RCA red–white–yellow lead**

Using the appropriate color-coding, you can connect to your TV with the supplied RCA cable.

For video, connect the yellow RCA lead to the yellow video socket on the SRT4304 and the corresponding socket on your TV.

For right audio, connect the red RCA lead to the red audio socket on the SRT4304 and the corresponding socket on your TV.

For left audio, connect the white RCA lead on the SRT4304 and the corresponding socket on your TV.

Various equipment and TV/VCR can be connected to STB.  
This manual will explain common ways to connect to the equipment.  
If you experience any problem, please contact your sales agency.

## User Settings

Plug in the STB. Then press the “**power**” button on the remote control or the “**Standby**” button on the STB Front Panel. The Main Menu screen, the beginning of the OSD screen, will appear as shown in the following picture. The Main Menu displays various functions of the STB or you can select with “**CH**” buttons and the numeric buttons on the remote control. To proceed to the next stage, press the “**OK**” button on the remote control.

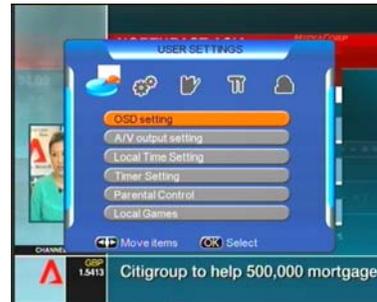
Plug in the STB, and power on, there are foreign languages for your choice, choose the one you prefer. Then please press “**Menu**” on the remote control to get started, (default lock code: 0000).will appear as shown in the following picture.

### .1.1. OSD setting

Select the preferred languages and OSD transparency.

### 1.2. A/V output setting

To set the basic specifications of your STB



### 1.3. Local Time Setting

To set the local time and date to your STB, then save it.

#### Time Zone

Choose the time zone of your country.

#### Local Date

Set the Local Date.

#### Local Time

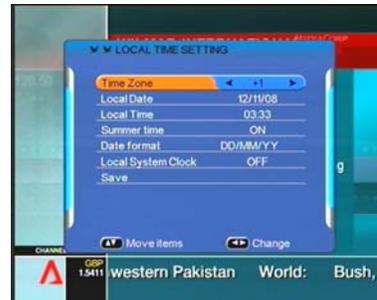
Set the Local Time.

#### Summer Time

If you set summer time to “ON”, then your local time should add one hour more.

#### Date format

Choose the format to display the Date.



## User Settings

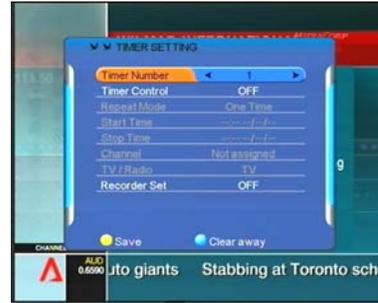
### 1.4. Timer Setting

#### Timer Number

From 1 to 8, you can set total 8 different Timers

#### Timer Set

To open or close each Timer, if the Timer Set is off, then you can not continue to set Timer.



#### Timer Control

There are total 3 types of Timer type: Start time only; Stop time only; Both on.

#### Repeat Mode

There are 3 types of Repeat Mode: one time, week (1-5), week (6-7).

#### Start time :

To set STB power on time.

#### Stop time :

To set STB power off time.

#### Channel

To select the channel you want .

#### TV/RADIO

To shift between TV or radio.

#### RECORDER SET

Press the "VOL+" and "VOL-" button to select which modes you want. When you need to record TV or Radio, you must select "ON" modes and vice versa.

### 1.5. Parental Control

To prevent the unauthorized Accessing of your STB, you can set the Parental control password to you receiver. (Default password: 0000)

Channel Manager Lock: To lock the Channel Edit menu to prevent unauthorized adjusting of Channel.

Installation Lock: To lock the installation menu to prevent unauthorized adjusting of Installation.



## User Settings

System Setting Lock: To lock the System Setting menu to prevent unauthorized adjusting of System Setting.

Channel Lock: To lock channels that are not suitable for Children.

Receiver Lock: To lock the receiver to prevent unauthorized viewing.

Factory Default Lock: To lock the Factory Default menu to prevent unauthorized operation.

You can also change the password by input numeric key for NEW Password, and then repeat again to VERIFY Password.

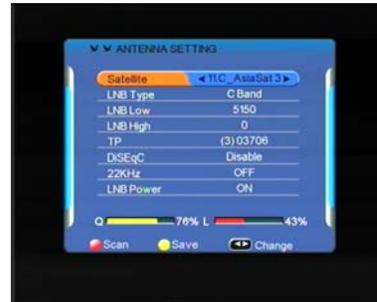
# Installation

## 2. Installation

Your STB can be easily installed by using “Installation” Menu. Press the VOL move to installation.

### 2.1. Antenna setting

Selecting your installed Satellite on the right side, and press “Vol+” button to enter into left side, then set all the other figures such as LNB type; LNB low, LNB high, TP, DiSEqC; 22KHz; DiSEqC control; LNB Power and so on, using the “Vol” buttons on the remote control then press yellow button to save the settings.



ALL + NIT: To Search out all the Free Channels + Scrambled Channels available in particular Satellite or Transponders including the new transponders that are not preprogrammed in your STB but broadcasting by Satellite Provider.

Then press “OK” button to start searching, while the related menu shows a details info of the scanning status.



### 2.2 Satellite list

#### Add satellite

Press the yellow button to add the new Satellite to this STB.

#### Edit satellite

In this menu, you can view the satellite information, and edit the satellite by Renaming and Modifying Using the “Vol” or



# Installation

numeric buttons.

## **Rename**

To change the name of the Satellite

## **Modify**

To modify the longitude and direction of the Satellite

## **Delete satellite**

Press the yellow button to delete the Satellite from this STB forever.

## **Multi satellite search**

Press the yellow button to select the satellite name then scan button to select the scan mode "ALL,FTA,CAS"and Free OK button ,the scanning will beginning.



## **Blind scan**

### **2.3.Transponder list**

You can edit with various option choices of transponder specifications and settings, also you can easily manually search a single transponder by selecting SCAN.

## **Add TP**

Press yellow button to add a TP. Input the frequency value and symbol rate value by numeric key, choose the correct Polarization, Horizontal or Vertical, then save it.

## **Edit TP**

Press the yellow button you can edit the current TP. Input the frequency value



## Installation

and symbol rate value by numeric key, choose the correct Polarization, Horizontal or Vertical, then save it.

### Delete TP

Press yellow button you can delete the channel you do want to view.

### 2.4 Setup Motor

To set up the auto Satellite Dish (DiSEqC1.2 system) and generate the positioner system.

#### Continuously Move

Using the "Vol" buttons to adjust West and East to move the dish, the signal and quality bars at the bottom of the screen judge the best position of the dish.

#### Step Size

Adjust the Move Step from 1 to 10.

#### Move steps

Dish move step by step, adjust the dish to the best position.



#### Limit set

Using the "Vol" buttons to fix East or West limit or disable limit status.

### 2.5 USALS Setup

To set up the USALS system onto your STB.

If you have a USALS motorized system, you must set your position (latitude and longitude) in order to calculate all motor positions for viewable satellites. You should refer to the motor's manual .

Set the correct value of Longitude and Latitude of your position, press OK key, then you can see the moving direction and angle to your selected satellite from Motor menu.

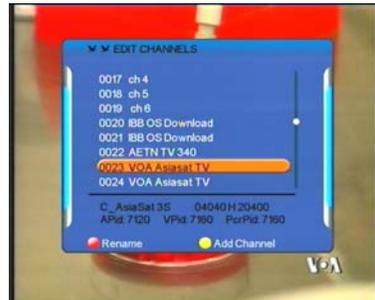
## Channel Manager

### 3.1 TV Channel edit

You can easily access to any TV and Radio programs by the variable functions available from this STB, and enjoy your digital entertainment TV fun.

#### 3.1.1 Edit channel

Press Red button, then you can use the color buttons to Rename, Modify and Lock the channels.



**Rename:** Press Red button, you can change the name of selected channel.

**Modify:** Press yellow button, you can re-set PID settings of selected channel by numeric key.

**Lock:** Press OK button to select the channel you wish to Lock, then press blue button, you can lock the selected channel from authorized watching.

**Return:** Press red button, you can return to previous menu.

#### 3.1.2 Delete channel

Press red button to select the channel you wish to delete, then press yellow button to delete the selected channel from STB.

#### 3.1.3 Move channel

Press red button to select the channel you wish to move, then press yellow button to pop-up Move-To menu and input channel numbers you wish to move, and press OK button again to insert.



## Channel Manager

### **3.1.4 Skip channel**

Press red button to select the channel you wish to skip, then press yellow button to skip the channel that you do not wish to view.

### **3.1.5 Lock channel**

Press red button to select the channel you wish to lock, then press yellow button to lock the channel that you do not wish to view.

### **3.1.6 Set favorite**

The easy to use functions of Set Favorite enhance the flexibility of operation with large amounts of TV and Radio Channels in your STB. Personalize it your own way like interests can increase the joy of Digital Entertainment.

There are total 8 groups of Favorite Sorting:

Movie accord to Fav 1

Teleplay accord to Fav 2

Sports accord to Fav 3

Music accord to Fav 4

Law accord to Fav 5

Cartoon accord to Fav 6

News accord to Fav 7

Amusement accord to Fav 8

Example to make Channel 1 to News group -- FAV 1:

Move "CH" to Channel 1, then move "Vol" to select the group of FAV 1, press Red button then you will see a logo displayed at the left beside channel 1, then press Yellow button to save, now channel 1 is already within FAV 1 group.

### **3.2 Radio Channel Edit**

Press the TV/RADIO button on remote control to change the TV mode to Radio mode, and then get into the "Channel Manager" menu, the same procedure as TV Channel Edit.

#### **3.2.1 Channel List**

Press OK button on the remote control, the channel list will be displayed, there are total 10 channels as well as brief information of channel in one page, and

## Channel Manager

press "CH" buttons to move in the list, and press "OK" button to select current channel, press "OK" button again, to exit Channel List Menu to enjoy watching.

With colored buttons (Red; Blue; Yellow; Green) presented at the top of menu, you can easily select the different sorting facilities, operating the related color buttons on remote control to select the desired functions.

### SAT - Red

Press Red button to display ALL channels by original scanning order. If you search more than one satellite, also the satellite sorts the channels.

### Alphabet - Green

Press Green button to highlight Alphabet to choose from A-Z to sort the channels by Alphabetic order, you can also choose "A", "B", ..... "Z" to sort the channels.

### TP - Yellow

Press yellow button to display all of the TP, and the channels are sorted by the TP,

### CAS - Blue

Press Blue button to highlights CAS to choose FTA or CAS System, and FTA Only or CAS Sorting to sort the channels.

FTA: The channels are free to watch.

CAS: The channels are Scrambled coded.



## Channel Manager

### FAV Group

Press FAV button to highlights FAV group, and the channels are sorted by the FAV group.

### Set Radio Favorite

Operation procedure is same as Set TV Favorite.



## 4. System

With system menu, you can set whatever you want the features and specifications of your STB to be most suitable for your watching.

### 4.1 System Information

To show the detailed system information for the STB.

### 4.2 Factory Default

To default the factory settings, by choosing ALL or CHANNELS, and press "OK" button to proceed.

#### All

To default software settings and channels to factory settings.

#### Channel

To default channels only to factory settings.



## USB

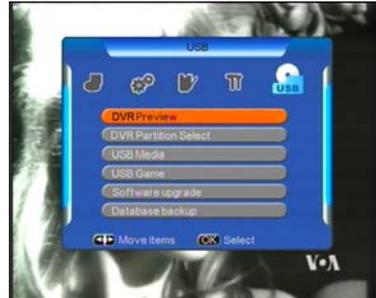
To play multimedia files, games, record program, update software through USB port.

Go to USB music menu, choose path to music files, select one and press “USB Play” or “OK” button to start play. Press “Exit” or “USB Stop” to stop and back to music menu.

### 5.1 DVR Preview

In DVR preview menu, select recorded file, and press “OK” to preview. Press OK button turn to full screen.

In preview menu, the operations of skip, pause, forward, backward, previous, next etc, are not available.



#### Format supported

MP3

#### Backward and forward

Press “Backward”/“Forward” to play backward/forward at max x20 speed.

#### Skip

Press “Former or “Next” button, when playing, to skip to play previous or next music file.

#### Pause

Press “USB Pause” to freeze music playing, and “USB Play” to resume.



### 5.2 DVR Partition Select

Before to record TV program, connect hard disk to receiver, and go to DVR partition select menu, choose disk partition, where the recorded file is supposed to be saved. Only root directory is available, can't set path to folders.

## USB

### Start and stop

Press “USB Play” to start recording, “USB STOP” to finish.

### Information

Press “Info” button to check details information when recording, such as recorded time, available free memory size etc.

### Format of recorded file

Recorded file will be saved in format of MPG.

## 5.3 USB Media

### Music

Go to USB music menu, choose path to music files, select one and press “USB Play” or “OK” button to start playing. Press “Exit” or USB Stop” to stop and go back to music menu.

### Format supported

MP3

### Backward and forward

Press “Backward”/“Forward” to play backward/forward at max x20 speed.

### Skip

Press the “Former” or “Next” button, when playing, to skip to play previous or next music file.

### Pause

Press “USB Pause” to freeze music playing, and “USB Play” to resume.

### Picture

Go to USB pictures menu, choose path to photo files, for the picture selected, there is preview in right side, and use “OK” button to full screen display. Press “Exit” or “USB Stop” to stop and back to picture menu.

### Format supported

JPG



## USB

### Skip

When display the picture in full screen, use “Former” /“next” buttons to skip to display previous/next picture.

### Slide play

When in full screen display, use “USB play” to start slide play. Use “USB pause” to stop, “USB stop” or “Exit” to quit full screen and back to picture menu.

### Movie

Go to USB movie menu, choose path to video files, select one and press “USB Play” or “OK” button to start full screen play. Press “Exit” or “USB Stop” to stop and back to movie menu.



### Format supported

AVI, VOB, MPG, DAT

### Backward and forward

Press “Backward”/“Forward” to play backward/forward at max x20 speed.

### Skip

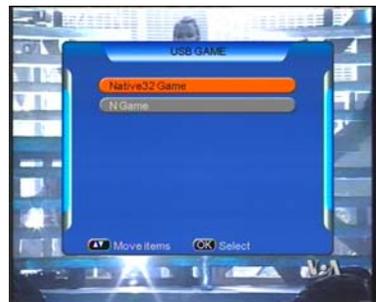
Press “Former”/“Next” button, when playing, to skip to play previous/next video file.

### Pause

Press “USB Pause” to freeze playing, and “USB Play” to resume.

## 5.4 USB Game

Go to USB game menu, choose path to Native32 game files, select one and press “OK” to play. Press “Exit” or “USB Stop” to stop and back to USB Game menu.



# USB

## Format supported

Native32 games (SMF)

You can go to [www.native32.com](http://www.native32.com) to download more free USB games.

## *USB Game is Black and White ?*

Solution: Make sure the STB TV type is set to the same system ( PAL; NTSC; AUTO, etc.. ) of TV Color system.

## **5.5 Software upgrade**

Choose path to new software file, which is saved in USB device, select and press "OK" to proceed

After updating please perform a factory default.

## **5.6 Database backup**



## DVR Instruction

### Supported Device:

- 1) Most USB2.0 Hard Drive Disk are supported by the STB, however due to there being many types of HDD available in the market, if you find one particular HDD that does not work with the STB, please kindly provide us the details, and we will endeavor to solve it for you.
- 2) System required: FAT32
- 3) Speed required: 5400rpm

### Instructions to TV program

- 1) Any SD TV program (Standard Definition) with a bit rate lower than 6Mbps can be recorded by this STB.
- 2) During recording, EPG; TXT; Multi AUDIO functions can not be operated.
- 3) Recorded TV program will not support EPG; TXT; Multi AUDIO.

### Recording Capacity

- 1) Our STB can support up to 4 partition of one HDD, and theoretically each partition can allow up to 2TByte (2,000Gb), however, we suggest to use one HDD with each partition not bigger than 120Gb
- 2) Each recorded video file cannot be bigger than 3.8Gb (Approx 4 hours), the STB will automatically create a new video file to continue recording your TV program if the recorded video file is bigger than 3.8Gb.

### ***How to choose and set different partition from my HDD ?***

*Usually there are several partitions available in the HDD, and the STB can allow you to choose different partitions for recording purposes, choose from DVR partition menu, menu of Device List will pop-up, it lists all partitions your HDD has, choose the one you want, and press OK button to save. Then the recorded video file will be stored into this partition.*

### **WARNING**

#### USB1.1 or USB2.0 Key or Stick (Including MP3 player)

- 1) We strongly suggest not recording any TV program by USB Key or Stick, because a large amount of USB Keys and Sticks are available in the market with different quality levels, we do not guarantee that damage of your USB Key or Stick from attempting to record may not occur.
- 2) Do not remove your USB device from STB while it is in use of any USB multimedia function.

## TIMESHIFT

### TimeShift

Never miss a moment of your favorite LIVE Sports or Movie scene, now with the SRT 4304E, you can easily enjoy it with just one press of button.

#### TIMESHIFT MODE:

Make sure you have USB device plugged into the STB, and there is free storage.

Press TIMESHIFT to pause, the video screen will freeze, and recording will begin.

Press TIMESHIFT again, to continue watching TV show from the point at which it was paused.

Press EXIT to stop TIMESHIFT mode, and return to live program.

#### TIMESHIFT FUNCTION

During TIMESHIFT mode, you can pause; backward; forward; slow the TV content.

The bigger USB device free storage, the more TV content it can record.

#### USB Device Speed Checking

Press PAGEDOWN to pop up the Device List, where you can find the speed of your USB Device, RED means it can read, YELLOW means it can RECORD, GREEN means it can TIMESHIFT, it is suggest to use the match speed USB Device to operate each function, otherwise, the function may not performed normally.



## **6. Games**

This receiver contains two highly enjoyable games.

### **6.1 Tetris**

The classic game of all time, Tetris is one of the most highly playable games.

### **6.2 Snake**

The classic game of modern times.

## Troubleshooting

Should you experience any problems with this STB, please check the table below.

Fault Phenomenon	probably reasons	Resolve
Power on, but no display on screen	Please carefully check the power plug, to see it is plugged in correctly? Is power interrupted?	Ensure the power plug is inserted correctly into the socket on the wall.
Power on this STB, then that screen displays "No signal"	Is the aerial installed correctly?	Reinstall the aerial and calibrate it
	LNB input is not connected	Connect the LNB
	There is an error in transmission	Wait to see if error in transmission is resolved
	The sky wave disturbs the device	Attempt again later
	The parameters in the system setting may be incorrect	Set the proper parameters of received program in the system settings menu
STB plays a strange sound	The channel may contain more audio tracks or audio languages	User can use the "Audio" button on the RCU to select the correct audio track or audio languages
USB Game Become Black and White	The TV color system setting is not same as STB TV type	Make sure the STB TV system set to the same system ( PAL; NTSC; AUTO ) of TV system.

Tips: If this trouble shooting guide does not solve your problem please contact your local dealer for technical support, do not open the unit.

## Glossary

(1) 22KHz switch

A tone that can be sent via the LNB coax, this tone can control the LNB or switches on the coax cable. Do not interfere with the DC or 22KHz tone that the receiver sends to the dish.

(2) Antenna

A device that collects and radiates electromagnetic waves includes a satellite dish and a broadband antenna.

(3) CVBS

Composite Video Baseband Signal, Standard single-wire video, mixing luma and chroma signals together.

(4) DiSEqC

Digital Satellite Equipment Control, a protocol established by EUTELSAT organization [www.eutelsat.com](http://www.eutelsat.com), the most popular standard are DiSEqC 1.0 for Switching solution, DiSEqC 1.2 for Dish actuator solution, and DiSEqC 2.0 for Satellite Receiver solution.

(5) Forward Error Correction (FEC)

A system of error control for data transmission

(6) Frequency

The number of cycles or events per one second, which is expressed in the unit of Hertz (Hz)

(7) Intermediate Frequency (IF)

A frequency to which a carrier frequency is shifted as an intermediate step in transmission or reception

(8) Low Noise Block (LNB) Downconverter

A low noise microwave amplifier and converter which downconverts a range of frequencies to IF range

(9) NTSC

National Television Standards Committee, a video standard established by the United States (RCA/NBC) and adopted by numerous other countries.

(10) PAL

Phase Alternate Line, a video standard used in Europe and other parts of the world for composite color encoding.

## Glossary

(11) Packet Identifier (PID)

A set of numbers that identifies transport stream packets containing data from a single data stream

(12) Polarization

Satellite waves are polarized. They can be linear or circular. Linear polarity is Vertical or Horizontal, circular polarity is Right-hand and Left-hand circular polarity.

(13) Quaternary Phase Shift Keying (QPSK)

Phase-shift keying in which four different phase angles are used.

(14) RF

A frequency that is useful for radio transmission, usually between 10KHz and 300,000Mhz.

(15) RGB

Video information in the form of Red, Green and Blue tristimulus values, the combination of three values that represent the intensity of each of the three colors can represent the entire range of visible light.

(16) STB

Set Top Box, another common name of Digital Satellite Receiver, because it is usually placed on top of the TV in the household. This word is used now worldwide.

(17) Symbol Rate

The amount of data transmitted every second.

(18) Transponder (TP)

Equipment in a satellite which receives a single uplink channel from a satellite earth station, amplifies it, converts the frequency and changes the polarization, then broadcasts it back to earth.

(19) Transport Stream

The bit stream formed prior to transmission of signals by combining the video, audio and data streams of one service. It consists of fixed length packets of 188 bytes of data.

## Specification

### 1. Tuner & Demodulator

Input Frequency Range	950MHz ~ 2150 MHz
RF Input Signal Level	-65 ~ -25dBm
RF Impedance	75Ω
RF Bandwidth	55MHz/8MHz(Under 5 Msps)
LNB Power	13/18DC, +/-5%, 0.5Amax, 1.8Apeak overloaded protect
LNB Tone Switch	22KHz +/- 2KHz, 0.65Vp-p +/-0.15V
DiSEqC Control	V1.0, V1.2, Tone burst A/B
Demodulation	QPSK
Symbol Rate	1 ~ 45Msps/SCPC, MCPC

### 2.. MPEG

Transport Stream	MPEG-2 ISO/IEC 13818 Transport Stream Specification
Input Rate	Max.45Mbit/s
Video	MPEG-2 <u>MP@ML</u>
Audio	MPEG-1/2 Audio Layer1 or layer2
Aspect Ratio	4:3, 16:9, Auto
Video Resolution	720 x 576(PAL), 720 x 480(NTSC)
Audio Mode	Stereo, Dual channel, Joint stereo, Mono
Audio Sampling Frequency	32/44.1/48KHz

### 3. Connector

LNB IF input	F type, IEC 169-24 Female
LNB IF Loop-through	F type, IEC 169-24 Female
RCA	AUDIO L, R, CVBS, YUV

### 4 Power Supply

Input Voltage	100-240V~, 50/60Hz.
Power Consumption	Max.15W
Weight	Appr. 1.5KG
Operating Temperature	0°C - 40°C
StorageTemperature	-40°C - 65°C



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