

- Be sure to read this User's Manual before starting the operation of the receiver
- Never open the cover. It is dangerous to touch the inside of the receiver due to possible electric hazard.
- When the receiver is unused for a long time, unplug the power cord from the wall outlet.
- Do not use a damaged power cord that may cause a fire or an electric shock.
- Do not touch a power cord with wet hand. It may cause an electric shock.
- Place the receiver in well ventilated and no-heat environment.
- When connecting cables, the receiver must have been powered off.
- Do not stack the exposed firing device, such as candle, on top of the receiver.
- Do not expose the receiver to dripping or splashing and that no objects filled with liquids, such as vase, shall be placed on the apparatus.

How to Use This Manual

This manual provides complete instructions for installing and using this receiver.
The following symbols will serve as follow.



Indicates a warning information.



Indicates any other additional important or helpful information.

- MENU** Represents a button on the remote controller or the receiver.
- (Bold Character)*
- Move to*
- (Italic Character)* Represents a menu item within a window.

1.1 Features

Common Part

- Easy Graphic MENU Interface
- RS232C Port for Updating Control Software and Additional Service
- Supports DiSeqC1.0/1.2, 13/18V, 22KHz Tone
- 1-SCART(TV) Connectors & 3-RCA(CVBS VIDEO, AUDIO R/L) Connector
- Multi-language Function(Menu, Audio)
- Last Channel Memory
- OSD : Transparency & Blending, 256Palette Colors
- Front Panel Buttons & IR Remote Controller User Interface
- Editing Functions(TV or Radio Channel, Channel Name, Favorite Name, Satellite Name)
- EPG for On Screen Channel Information
- Channels Memory for Multi-satellite(up to 64)
- 3 Operation Modes(Digital TV, Digital Radio, Favorite)
- PLL RF Modulator UHF21-69 with PALB/G, D/K, I
- Digital Audio output(S/PDIF by Coaxial)

Digital Part

- Receives QPSK Satellite Broadcasting RF Signal and Decodes the Digitally Encoded Signal
- Digital Tuner with Loop-through out
- SCPC/MCPC Receivable from C/KU-band Satellite.
- MPEG-2 Main Profile at Main Level
- Teletext Supported Through VBI & OSD
- 4800 Channels Memory

SMART CARD

- SMART CARD Interface(VIACCESS)

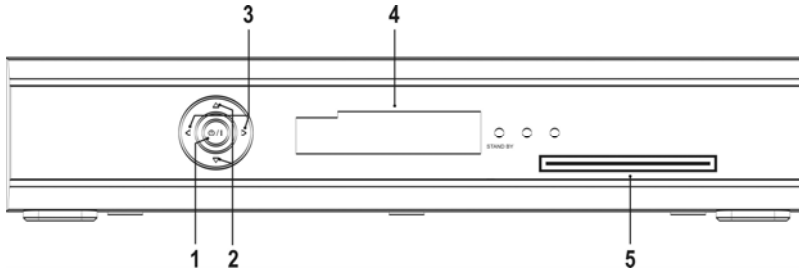
1.2 Accessories



Please don't recharge, disassemble, electric short, and mix with used or other battery types

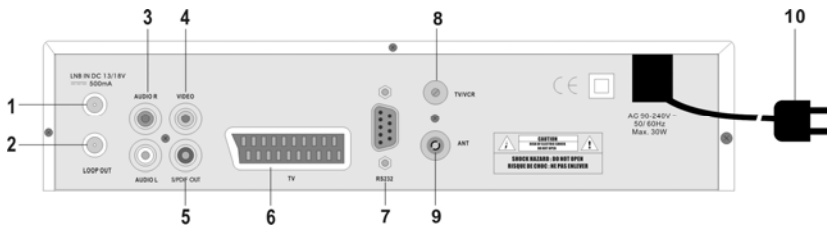


2.1 Front Panel



- 1. Power Button**
Turns the receiver On/Off.
- 2. Channel UP/DOWN Button**
Moves the cursor up/down in Menu state.
Changes the current program to the next/previous program in No-menu state.
- 3. Volume UP/DOWN Button**
Increases/decreases the volume levels in No-menu state.
Change the setting values in specific Menu item.
- 4. Display(4-digits 7-segments/1LED)**
The RED led is the stand by indicator.
- 5. SMART CARD SLOT**
Insert smart card into smart card slot for conditional access.

2.3 Rear Panel



- 1. LNB IN**
Connect the digital signal from your LNB of your satellite dish to this connector.
- 2. LOOP OUT**
Gives you the possibility to connect an extra receiver(analogue or digital).
- 3. AUDIO Right(Red RCA) and Left(White RCA)**
These connectors give you the possibility to connect the audio signal to an external amplifier, or the audio input of your TV.
- 4. VIDEO(Yellow RCA)**
This connector has a constant video signal for additional VCR-connections.
- 5. S/PDIF**
Output for connection to a digital audio amplifier.
- 6. TV Scart Connector**
Use this connector to connect your receiver to your TV using a scart cable.
- 7. RS232 Serial Port**
This serial port can be used to connect your PC to your receiver, and enables you to download new versions of software into your receiver.
- 8. TV/VCR**
RF Modulator(male part). If you do not use a scart cable to connect your receiver to your TV, you will have to use this connector to connect the receiver to your TV, using a coax cable. If you connect your receiver to your TV like this, be sure that you set your TV to the Video channel.
- 9. ANT**
RF Modulator(female part). If you have an additional antenna(cable or terrestrial) as well, and you do not use a scart cable to connect the receiver to the TV, then your additional antenna has to be connected here. If you do use a scart cable to connect the receiver to your TV, the additional antenna can be put directly into your TV.
- 10. Power Cord**
Your receiver requires a current of 90~240V AC(Auto-selectable), 50~60Hz+/-5%. Make sure to check the power specification before connecting your receiver to the wall outlet.

2.2 Remote Control Unit

All features of the set-top box can be controlled with the remote

Buttons	Watching TV status (Live mode)	OSD operating status (OSD mode)
POWER	Turns the receiver on/off.	
1~0	Access specific channel directly.	Control numeric, alphabetic operations.
MUTE	Mutes audio output.	-
TV	Shows TV channel.	-
RADIO	Shows Radio channel.	-
QUICK FIND	Find channel from alphabet input.	
FAV	Shows favorite programs list.	-
EPG	Shows program guide.	-
TTX	Shows the list of teletext languages the current channel supports.	
ZOOM	Jumps forward/backward to the required location (5/10/20/30/60 min) (PVR mode)	
P +/-	-	Scrolls up/down a page in drop down list.
I◀ ▶I	Directly go to next selection area.	
INFO	Shows current channel's information.	-
AUDIO	Shows list of the audio language available in current channel.	Uses as a hotkey.
PAUSE	Pauses video/audio output.	Uses as a hotkey.
SAT	Changes channel listing order.	
TV/STB	Switches between TV mode and STB mode.	
OK	Displays channel list.	Activates selected menu item
▲ ▼	Change current channel.	Move cursor up/down.
□ □	Change volume strength.	Change parameters.
MENU	Shows system setup software.	Quits system setup software.
EXIT	-	Exits from menu or sub-menu. Cancels the progressing function.
MULTI VIEW	Toggle Multi-Picture(Mosaic) ◊ Normal Live.	
RECALL	Shows previous channel.	
SLEEP	Shows sleep timer in 10 minute increments.	
SUBTITLE	Shows Subtitle.	

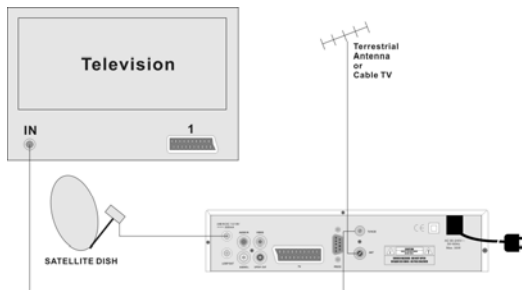
MULTI VIEW : **MULTI TERA**:Change 9 Multi channel View mode.



3.1 Connecting to TV & VCR

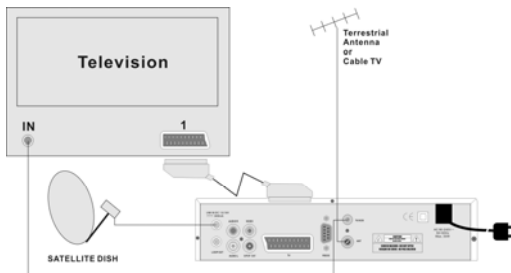
Basic connection with a coax cable

1. Connect the satellite signal from the LNB to the LNB IN connector.
2. Connect the TV/VCR connector at the back of the receiver to the coax IN connector on your TV set.
3. Optional : connect an extra terrestrial or cable antenna to the ANT connector at the back of the receiver.



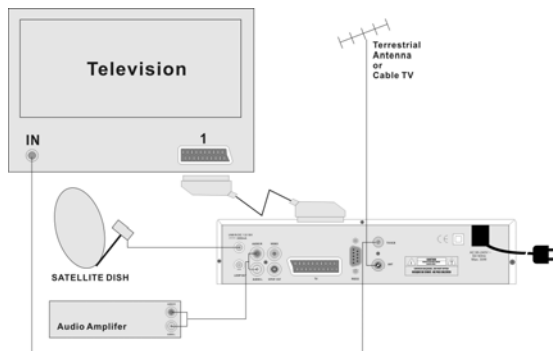
Basic connection with a Scart cable

1. Connect the satellite signal from the LNB to the LNB IN connector.
2. Connect the TV scart connector at the back of the receiver to the scart-in connector on your TV set.
3. Optional: connect an extra terrestrial or cable antenna to the ANT connect at the back of the receiver.



Advanced connection of the receiver to the TV set, VCR and Audio amplifier

1. Connect the satellite signal from the LNB to the LNB IN connector.
2. Connect the TV scart connector at the back of the receiver to the scart-in connector on your TV set.
3. Connect an extra terrestrial or cable antenna to the ANT connector at the back of the receiver.
4. Connect a coax cable to the TV/VCR connector at the back of the receiver.
Connect the other end of this coax cable to the coax-in connector of your VCR.
5. Connect the coax-out connector of your VCR to the video-in connector of your TV set with a coax cable.
6. Optional: Connect the audio left and right RCA-plugs(Red and White) on the back of your receiver to the left and right input of an Audio amplifier, so you can enjoy the digital quality of the sound that is produced by your receiver.



3.2 Connecting to Dish

Aiming a satellite dish and LNB to the correct longitude and Azimuth(angle of elevation) of a satellite is a specialist job, and can best be done by an official dealer.

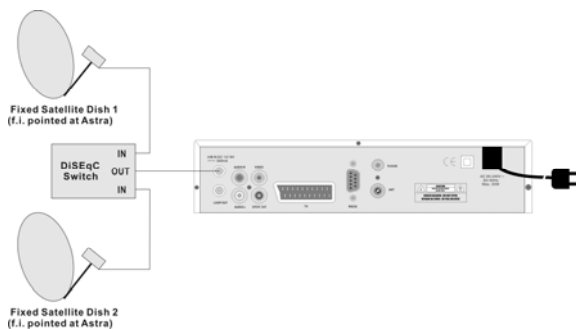
Connecting a fixed satellite dish to your receiver

Make your choice of which satellite you want to receive your signals from, and have your dealer aim your dish at the requested satellite. Connect a coax cable to your LNB and the other end directly to the LNB IN connector of your receiver.



Connecting multiple fixed dishes to your receiver using a DiSEqC 1.0 switch

If you want to watch program from more than satellites(For in instance from Astra and from Hot Bird) it is advisable to use fixed dishes and a DiSEqC 1.0 switch. Have your Dealer aim the dishes at the requested satellites and connect the LNB's with coax cables to the IN connectors of the DiSEqC 1.0 switch. Connect the OUT connector of the DiSEqC 1.0 switch to the LNB IN connector at the back of your receiver.



Connecting a dish on a motorized positioner to your receiver

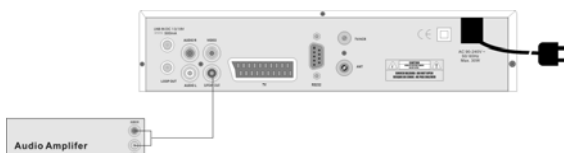
Another possibility to watch program from multiple satellites is by mounting a dish to a motorized DiSEqC 1.2 positioner. Have your dealer mount the dish to the positioner, set the correct azimuth(angle of elevation) and let him set the center point for your positioner.

Connect the LNB with a coax cable to the LNB connector of the positioner, and connect the REC connector of the positioner to the LNB connector at the back of your receiver.



Receiver to AMP with S/PDIF OUT

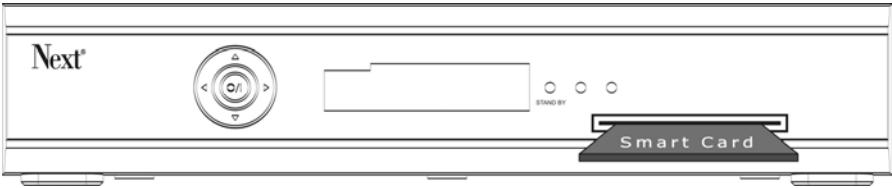
Connect the AMP to S/PDIF OUT.





3.2 Connecting to SMART CARD

Insert Smart Card into Smart Card slot for watching TV programmes from Service Provider.



4.1 Before Settings

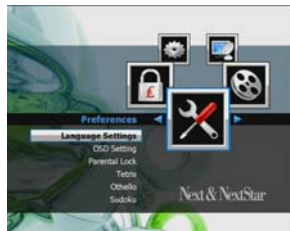
Starting up for the First Time

1. Turn on your TV and receiver.
2. If it is first time using a receiver, you should set parameters for system configuration.
If it is first time or has No channel, The **<Screen1>** will be appeared.

Menu Information

The menu consists of main-menu and sub-menu, as you see in the **<Screen 1>**
Main-menu has 5 items and each main-item has its sub-menu items.

screen 1



4.2 Basic Settings

Installation

This menu **<Screen2>** is used to check the initial setting status and to adjust the channel. Move "Installation" Menu using Left/Right button and submenu automatically display as **<Screen2>**.

1. **Satellite List** : press **"OK"** button to show satellite list which allows the user to Edit/Add/Delete the satellite information.
2. **Antenna Connection** : press **"OK"** button to show Antenna Type/LNB Power setting items.
3. **Antenna Setup** : press **"OK"** button to show antenna setting items.
4. **Auto Scan** : press **"OK"** button to show items which searching condition for all satellite. Press **Red** button is searching channels in selected single satellite and press **Green** button is searching channels in multi-selected satellites.
5. **TP List** : press **"OK"** button to show each satellite's TP list which allows the user to Edit/Add/Delete/Search.
6. **Timer Setting** : press **"OK"** button to show timer list and select timer which allows the user to set wakeup timer.

screen 2



Satellite List

This menu **<Screen3>** is used to Add/Modify/Delete the satellite information which is set to default.

screen 3

Press the **Red** button to show **<Screen4>** where selected item name can be modified and select **OK** button to show **<Screen5>** where selected item longitude can be input.
After input is completed, press **Blue** button to save the set satellite modified.



screen 4

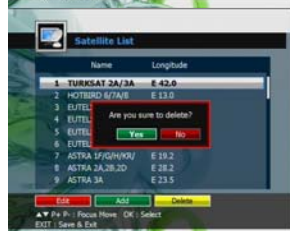
Press the **Green** button to show **<Screen4>** where added item can be input and select **OK** button to show **<Screen5>** where added item longitude can be input.
After input is completed, press **Blue** button to save the set satellite modified.



screen 5



screen 6



Antenna Connection

This menu <Screen7> is used to set the antenna connection which is antenna type/LNB Power.

screen 7



Antenna Setup

This menu <Screen8> is used to set the antenna setup of selected antenna type for each satellite which is LNB type/Polarity/22K/DiSEqC.

screen 8



Auto Scan

This menu <Screen9> is used to Single/Multi Search for using the satellite information and set searching way setting which is FTA/Scan Channel/Scan Mode.

Scan mode

- Auto Scan : It is working blind scan.
- Preset Scan : It is working 2 mode(Network enable/disable).

Press the **Red** button where current satellite can be searched.

Press the **Green** button where all selected satellite can be searched.

screen 9



TP List

This menu <Screen10> is used to Edit/Add/Delete/Search the TP information at selected satellite information which is set to default.

screen 10



Press the **Red** button to show <Screen11> where selected item can be modified/input. After input is completed, press Save button to save the set Transponder modified.

screen 11



Press the **Green** button to show <Screen12> where selected item can be added/ input. After input is completed, press **Save** button to save the set Transponder added.

screen 12



Press the **Yellow** button to show <Screen13> where the present Transponder can be deleted with **Yes** button pressed.

screen 13

Press the **Blue** or **OK** button to show <Screen14> where the present Transponder can be searched with **OK** button pressed.

screen 14

Timer Setting

You can set the time to make the receiver perform the designated actions including timer based recording(VCR), wake up/sleep the set-top-box.

1. If you press **OK** in Timer Setting of Installation Menu, the <screen 15> will be appeared.

You can see the current setting state of all timers.

screen 15

2. Use the **Up/Down** button to select the timer, and press **OK** button to setup selected timer information.

Following screen will be displayed.

Use the Up/Down button to select the item, and change the parameters using **Left/Right** button. If you completed timer settings, use **Save** or **Cancel** button to save timer setting.

Timer Mode : You can make this state Enabled to use the timer function.

Wakeup Channel : You can select the program channel viewed when receiver is powered on by the wake up timer function.

Wakeup Date : You can set the starting date of the timer action.

On Time(wakeup time) : You can set the starting time of the timer action.

Duration : You can set the duration time of the timer start to sleep action.

screen 16

4.3 TV menu at the normal mode(No menu state)

At normal mode, various menus are displayed on the screen with remote control action. You can change the current status and mode with various buttons including the **Up/Down**, **INFO** and **EPG** button. <Screen 10> shows the banner displayed when you press the **INFO** button.

If you press the button again before the banner disappear, detail banner is displayed.

The detail banner shows detailed information on the current channel.

- **MUTE** : Mutes the current channel audio.
- **POWER** : Turns the receiver power on/off.
- **MULTI VIEW(GREEN KEY)** : Change 9 Multi channel View mode.
- **TV OR RADIO** : Changes the current mode. If you press the **Radio** button at TV mode, the system changes into the Radio mode, and if you press the **TV** button at Radio mode, the system changes into the TV mode. And if you press the **TV** button at the TV mode, or the **Radio** button at the Radio mode, the channel **FIND** menus are displayed. And you can find channel what you want.

- **SAT** : The current TV/Radio list is for the channels searched in a satellite. If you change the satellite with the **SAT** button, the list is updated with the channels searched in the satellite. (The channel list is configured with the channels searched in a satellite. If you set up the digital positioner to change the satellite, a message wait moving dish is displayed. The **SAT** button is disabled in the favorite channel mode because there can be a number of different satellites.)

- **Numeric Key(0-9)** : You can change channel by inputting channel number directly.

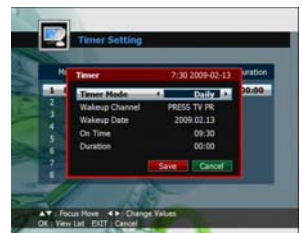
- **Up/Down** : Moves to the previous/next channel.

- **Left/Right or +/- (VOL)** : Adjusts volume.

- **LANG** : Shows the list of the audio language available in the current channel. (The selected audio language information is saved and applied when you watch the channel.)

- **FAV** : The Favorite List is displayed.

- **MENU** : You can enter the Main Menu.



screen 17



- **OK** : You can select an item in the SAT, SUBTITLE or LANG list. Program list is displayed according to TV/Radio Mode.
- **EXIT** : The button makes a banner or other lists including SAT, SUBTITLE and LANG disappeared.
- **EPG** : The EPG menu of the current TP is displayed.
- **TEXT** : Shows the list of subtitle languages the current channel supports.
- **PAUSE** : Pause the video/audio output of receiver. To clear pause press **PAUSE** button again.
- **INFO** : Press the **INFO** button once to display short and extended information. If you press the button again before the banner disappears, a new banner will be displayed showing the details of the current channel.
- **RECALL** : Shows previous channel.



TV/Radio/Favorite List is classified into the Simple mode and the Edit mode. If you press TV/Radio/Fav at Normal, the Simple mode menu is displayed. The simple mode provides fast channel move and fast display of basic information, but does not provide the Edit function. If you want to edit, select Channels Manager and Favorites Manager of Main Menu at Normal status. The TV/Radio/Favorite menu displayed in this section is the Simple mode. To use edit function, see 4.5 Channel Manager and 4.7 Favorites Manager.

TV/Radio List in Simple mode

If you press **OK** on the remote controller, at No menu state, the screen is displayed as follows. You can preview the channel and move the channel fast with the **+/- (PG)** button.



screen 18

Favorite List in Simple mode

If you press **FAV** on the remote controller at No menu state, the screen is displayed as follows. You can preview the channel and move the channel fast with the **+/- (PG)** button.



screen 19

4.4 EPG

EPG shows the event information on the current TP channel by time zone. The event is displayed only at the channel that have **EPG** information.



screen 20

Timer

Move the cursor to an event in the required time zone, and press **YELLOW**(Timer). Then the timer is set to the designated time. See the Timer Settings for details.



screen 21

4.5 Channel Manager(Edit Mode)

You can change channel information in the "Channel Manager" of Main Menu.
Use **TV** or **Radio** button to view TV/Radio channel list.

screen 22

LOCK

If channel lock status is enabled, you must enter PIN code to view channel.

screen 23

SKIP

If channel skip status is enabled, channel cannot be viewed on a channel view operation.

screen 24

MOVE

You can multi move a channel position. First use the 'Move' button.

Then you can check the move channels to press OK button.

After check the channels, Highlight color select where you want move channels.

Use the 'Move' button again then checked channels are moved below the Highlight position.

screen 25

EDIT

You can change a channel name, sort and delete on the current channel list.

Be aware that the function can completely delete the saved channels.

When you delete a channel in Channel Manager, the channel is also deleted from the Favorite List.

Sort

You can sort channel orders of channel list. Use the 'Sort' button.

Name(A-Z): Sort channel order by channel name. Use the 'Name(A-Z)' button.

Name(Z-A): Sort channel order by channel name. Use the 'Name(Z-A)' button.

Free/Scramble: Sort channel order by channel status. Free and Scrambled.

Lock: Sort channel orders by channel status. Lock/Unlock.

Edit

You can edit current channel name.

Delete

You can delete current selected channel only. Use 'Del One' button.

screen 26

4.6 Add Favorites

You can designate the channels of the current TV/Radio list as the favorite channels.

Move to the required channel with **Up/Down** or **P+/P-** button, and then press color button on the remote controller to set channel as favorites. For example, if you press **Red**(Fav 1) button the channel is designated as favorite 1 channel. If **Red** button is pressed again the selected channel is un-selected from favorite 1 list. One channel can be selected into more than one favorite list. You can change default favorite list name from Favorite Manager menu.

To select Radio channel list in the TV list use **Radio** button, and use **TV** button in the Radio channel list. You can toggle Fav 1~4/Fav 5~8 by Fav Key. You can see the favorite list if you



press the 'Fav' button while you are watching TV(or listening Radio channel) in Normal State. screen 27



4.7 Favorite (Name Edit)

The function is Favorite Group Name Edit.



screen 28

4.8 Other Settings

The Preference menu has following 6 sub-menu.

- Language Setting
- OSD Setting
- Parental Lock
- Tetris
- Othello
- Sudoku

Language Setting

You can select OSD menu language, Audio language and teletext language. Use the **Right** or **OK** button to view language list.

And The Configuration menu has following 5 sub-menu.

- TV System
- Local Time Setting
- Clear Data
- Information



screen 29

OSD Setting

- **OSD Time-Out** : Select the time how long the banner will be visible when banner is displayed.
- **OSD Transparency** : You can control OSD transparency level.



screen 30

Parental Lock

Changes the Personal Identification Number (PIN), which is used to control the access to the receiver and individual channel.

- **Menu Lock/Un Lock** : If menu is set to Unlock, the receiver doesn't ask to input your PIN in the menu operation. Use the **Left/Right** button to change menu lock status. If the lock key message is inconvenient, set the key to un Lock.
- **Change Password** : To change the current Password, First you can input the current Password and then input new Password you want to use and then confirm this new Password. After changing, you must save the Password configuration using the Save button.



screen 31

Tetris

If you want to play game, Select the Preference item and use the Tetris button.



screen 32

Setting and Operations

Othello

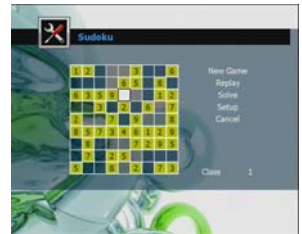
If you want to play game, Select the Preference item and use the Othello button.



screen 33

Sudoku

If you want to play game, Select the Preference item and use the Sudoku button.



screen 34

TV System

- Display Mode

You can select OSD & video display mode to one of Multi, PAL, NTSC. When PAL mode is selected, for example all screen is displayed as the PAL mode in spite of the current Programs transmission mode.

- Aspect Mode

When program transmission is in 16:9 and you have a TV set with the 4:3 picture format you can select Full screen or Letter Box picture format.

- Video Output

You can change the SCART output signal into Composite (CVBS) or RGB color composition.

- RF System

If TV is connected by RF cable, you can select the RF modulator type.

Therefore modulator type affects a programs audio.

- RF Channel

When TV is connected by RF cable, you must select RF channel number to the same value on the TV.

If other number is selected the picture will not be viewed.



screen 35

Local Time Setting

If a broadcaster provides GMT, you can set the time using GMT, or set your own time by yourself. If the GMT usage is on, Current time is automatically set and you can only set the time zone. If you set GMT Usage to OFF, "Date" and "Time" item are displayed.



screen 36

Clear Data

- **Erase All Channel** : Deletes only the saved channel datas other setting values are not deleted.

- **Factory Default** : Deletes all the data currently saved and set and returns the system to the initial status.



screen 37

Information

Shows the system information including the Firmware version and model name.



screen 38

Upgrade By RS-232

You can define one STB as a master which will have the latest firmware and same model slave STB can be upgraded by master. Connect two STBs using a RS-232 cable (twisted cable pin2-> pin3-> and pin3 → pin-> pin2) Slave will be power off. Power on the master STB and enter Upgrade By RS-232 menu layer. Select what code you want to download to slave STB and press RED Start button. Then Re-boot slave STB. Do not power off both STB as long as upgrade continues.

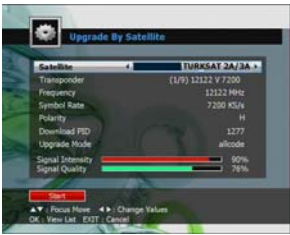
screen 39



S/W Upgrade By OTA

This feature will update your firmware through Turksat 3A, 42.deg East satellite. Open the menu and you will see default parameters. Press Start button by using RED hot key. You will see connecting status and If there is newer firmware on satellite upgrading starts automatically. Do not power off until STB reboots itself. In case of having same firmware with STB and OTA service, then you will see a window reminds that matter before start upgrading same firmware.

screen 40



Smart Card

You can navigate the menu, which is provided by Smart Card module. This information varies a lot depending on the service provider.



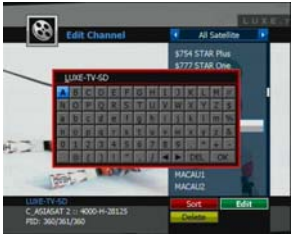
screen 41

4.9. Name Edit

The name editing is the same for each menu. You can change the following names; Channel name, Favorite Group name.

Use the **Left/Right/Up/Down** button to move keypad cursor to the character you wish to input. After you select a character on keypad press **OK**, then the character in the name box is replaced (or inputted) with the character.

To move character input position of the name box, select **◀** or **▶** character on the keypad. If you completed editing move keypad cursor 'Save' key and press **OK** button.



screen 42

A.1 Trouble Shooting

There may be various reasons for the abnormal operation of the receiver.

Check the receiver according to the procedures shown below.

If the receiver does not work properly after checking it, please contact the dealer.

Don't open the receiver cover. It may cause a dangerous situation.

Symptom	Cause	Remedy
The display on front panel does not light up.	The power cord is not plugged in.	Check that the power cord is plugged in to the wall outlet.
No picture or sound	Wrong connection of the Audio/Video output of the receiver to TV. Audio muting. TV power off.	Connect the Audio/Video output of the receiver to TV correctly. Press the MUTE button. Turn TV on.
No picture	The receiver can't receive the signal. Incorrect values of some tuner parameters. Wrong direction of the dish	Check the antenna cable, replace the cable, or connect the cable to the receiver tightly. Set the values of tuner parameters correctly in installation menu. Check the signal strength with a spectrum analyzer and adjust your dish correctly.
The remote controller does not working	The batteries of the remote controller are not inserted or exhausted	Check whether the batteries are inserted correctly in your remote controller. Check the batteries, an if exhausted replace the batteries of the remote controller

A.2 Glossary of Terms

PID

Package Identifier.

PIN Code

Personal Identification Number. A four-digit code that is used for locking/unlocking. e.g. with the parental control feature.

RS232

Serial data port.

Specifications

A.3 Specifications

1. Smart card

- 1 Smart card slot
- ISO 7816, GSM11.11 and EMV (payment systems) compatibility

2. Tuner & Channel <Digital Part>

Receiving system	DVB-S
Connector type	F-Type, IEC169-24, Female
Frequency Range	950MHz to 2150MHz
RF Impedance	75 Ohm unbalanced
Input Signal Level	-65dBm to -25 dBm
LNB Power	13.5/18.5Vdc +/- 5%, 0.5A max
22KHz Tone	22KHz +/- 2KHz, 0.6Vpp +/- 0.2V
DiSEqC Control	Version 1.0/1.2 and USALS compliant (2.0 compatible)
Demodulation	BPSK/QPSK
Input Symbol Rate	1~44.5 Mbaud/s, SCPC/MCPC
FEC Decoder	Convolution Code Rate 1/2, 2/3, 3/4, 5/6 and 7/8

3. System & Memory

Main Processor	M3329C
Flash Memory	2 Mbytes(serial type)
System Memory	8 Mbytes

4. MPEG Transport Stream & A/V Decoding <Digital Part>

Transport Stream	MPEG-2 ISO/IEC 13818 Transport Stream Specification
Profile Level	MPEG-2 MP@ML
Input Rate	Max 15Mbit/s
Aspect Ratio	4:3, 16:9, Letter Box
Frame Rate	25H for PAL, 30Hz for NTSC
Video Resolution	720 X 576(PAL), 720 X 480(NTSC)
Teletext	With VBI
Audio Decoding	MPEG-1/Musicam Layer I & II and liner PCM(LPCM)
Sampling Rate	32, 44.1, 48kHz

5. RF-Modulator

RF-Connector	75Ω IEC169-2, Male/Female
Output Channel	CH 21-69 for UHF
TV Standard	PALB/G, D/K, I Selectable by Menu Setting
Audio Output	Mono with Volume Control
Preset Channel	CH 40(or TBD), Software changeable by Menu screen

6. Rear summary

TV SCART Output	CVBS and L/R Output with Volume control
RCA Output	CVBS and L/R Output with Volume Control
Data Interface	RS-232, Bit Rate: 115200baud Connector: 9-pin D-sub Male type
S/PDIF	Coaxial(RCA)
Main power cable	Fixed type on the body

7. Front summary

Buttons	5 buttons(power on/off, channel up/down, volume up/down)
Indicators	1 LED(power off)
Display	7-segment 4digits
Remote control sensor	infrared type

8. Power Supply

Input Voltage	AC 90~240V, 50Hz~60Hz
Power Consumption	Max. 30W
Protection	Separate Internal Fuse The input shall have the lightning protection

9. Physical Specification

Size(WxHxD)	280 X 55 X 245mm Excluding the foot. Foot height is 6mm
Weight	2.0kg

10. Environmental Condition

Operating Temperature	0~40°C
Storage Temperature	-10°C ~ 50°C
Operating Humidity Range	10 ~ 85% RH, Non-condensing
Storage Humidity Range	5 ~ 90% RH, Non-condensing

