













Operation Manual

Mutant 200S

Connecting People To Digital Home Entertainment

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0. INTRODUCTION

Welcome to the world of new digital satellite receiver that will make your life richer and closer to your dream. Before using your new receiver, we recommend to read this manual carefully for your own safety and correct operation. This product is fully compliant with the DVB standards and transmits digital broadcasting service directly to your TV through the various satellites.

The STB is easy to use and adaptable for future upgrade. The software is to be upgraded continuously to improve the functionality.

1. SAFETY INFORMATION

Please read the following recommended safety cautions carefully for your safety

“DANGER! HIGH VOLTAGE! RISK OF ELECTRIC SHOCK!”

- Main Supply: AC220, 50Hz/ or AC110V, 60Hz
- Allow clear space around the STB for sufficient ventilation.
- Never place the STB on soft furnishing or carpet.
- Do not stack other electronic equipment on top of the STB.
- Use a soft/dry cloth and a mild solution to clean the exterior of the STB.
- Never allow liquids. The inside of the STB shall not be exposed to dripping, spray or other objects filled with liquids.
- Do not use any attachments that are not recommended.
- Do not allow the unit to be exposed hot, cold or humid conditions.
- Service should be carried out only at a qualified service agent.
- Do not connect or modify cables when the STB is plugged in.
- Do not remove the cover.


2.HOW TO USE THIS MANUAL

This manual provides complete instructions for installing and using the STB. The following symbols will serve as follows.

Symbol	Explanation
1. MENU (Capital & Bold)	Represents Main Menu category.
1.1. Menu(Bold)	Represents a sub-category of the main menu
1.1.1. Menu	Indicates a selectable option in a sub-category.

Press the MENU key on the RCU (Remote Control Unit) to make the main menu appeared.
In some menus, you are asked to put the PIN (Personal Identification Number) code as a password.
Factory default password is '0000'.

2.1 How to move the cursor


Use  the Navigation Button.

UP and Down Direction button: Navigate the cursor Upwards and Downwards.

Left and Right Direction button: Navigate the cursor Left and Right

2.2 How to select an option

OSD(On Screen Display)- menus are supported to navigate the functions or options with these

 buttons. Use these buttons to reach the targeted option or function. To select desired option or function, press OK button.

2.3 How to use the virtual keyboard

In some menus, you are asked to put the alphabetical characters by the virtual keyboard. Select each alphabet character you want type by pressing OK button. Once it is complete, move the cursor on the Enter key on the virtual keyboard, press the Enter key to save it.



3. BEFORE YOU BEGIN

3.1 Advanced Features

- Application and Expansion.
LINUX O/S enables ultimate applications and expansions to fulfill the customer's need.
- Almost Unlimited Channel Memory up to 4,000 channels
- Enhanced Search Channel Option
Search by all satellites

- Search by satellite/ network
- Search by all TP scanning
- Smart EPG
 - Automatically updates Program Info. EPG shows all Satellites' Program Guide
 - Search programs by Genre in the EPG
- Enhanced Recording Plan by timer setting/ EPG
- USB 1.1 Supported for PC connection/ enhanced program utility
- Ethernet Port Supported
- OSD Teletext Supported
- Capable of Dolby Digital Bit streaming out
- Quick and easy installation
- Embedded Linux(kernel 2.6.9)
- Multilanguage User Interface

4. THE CONTENTS OF THE BOX

Please make sure that the following items are included in the Package.

- STB main unit
- Remote Control Unit
- 2 Batteries (size AAA)
- Operation Manual

5. REMOTE CONTROL UNIT



Switches the STB On or Standby. Press the Power-Button once shortly to switch the STB into Standby-Mode.



For Mute



To toggle between TV and Radio mode



To recall previous channel



To go to Electronic Program Guide (EPG)



To manage the Favorite channel list and channels.



To go to the Main menu and move back to previous page.



Navigation-Buttons enable to make channel Up & Down on the live channels and move the cursor Up & Down in the OSD-menu. Also to make volume increased & decreased on the channels watching mode and move the cursor left & right in the OSD-Menu.



To exit from the OSD-menu or to go back to previous menu in the OSD-Menu.



To display program information Bar



To select options /To bring up the Channel List.



To select alternative audio options



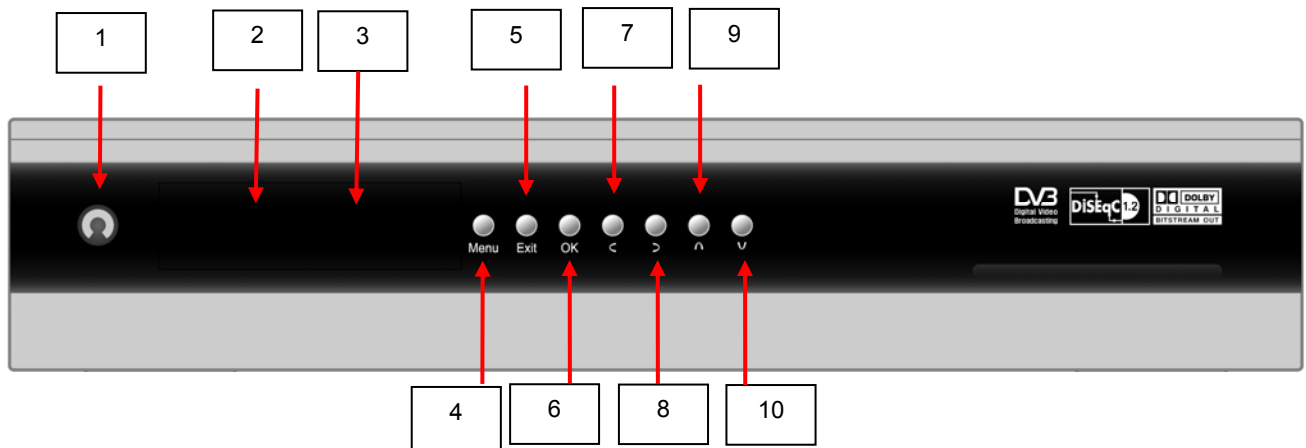
To display subtitle



To display teletext



6. FRONT PANEL CONTROL



CONTROLS AND DEFINITIONS

1. STANDBY/ON

After connecting the mains power, press this button to switch ON the receiver or to switch into STANDBY. During the standby mode, it displays current time.

2. REMOTE CONTROL SENSOR

Ensure that this is not obstructed when using the remote control.

3. DIGIT LED DISPLAY

This will display the current channel or certain programming functions when it is turned on.

4. MENU

Press this button to display the Main Menu page and to go to previous menu with saving changed values.

5. EXIT

Press this button to exit from menu pages.

6. OK

This button is to confirm setup or menu options.

7. VOL (Left)

In program mode this button will move the cursor (highlighted) to the left to facilitate selection. In normal operation mode it will decrease the volume of sound.

8. VOL (Right)

In program mode this button will move the cursor (highlighted) to the right to facilitate selection. In normal operation mode it will increase the sound volume.

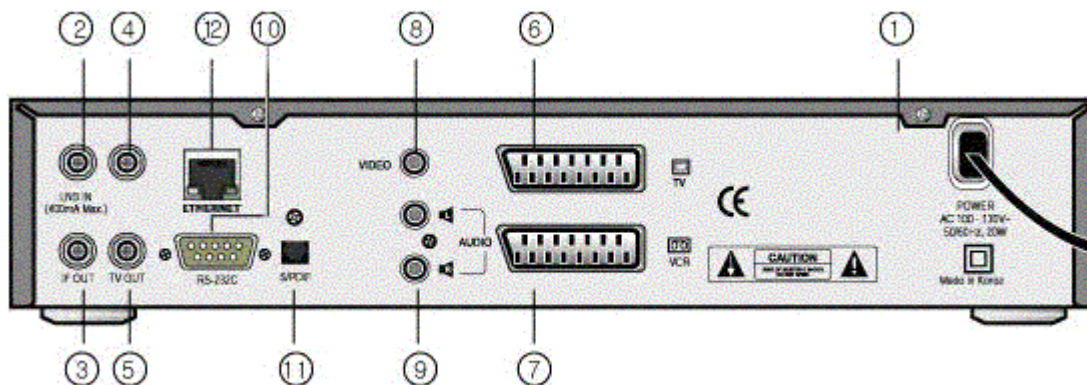
9. CH (Up)

In program mode this button will move the cursor (highlighted) upwards to facilitate selection. In normal operation mode it is used to step up channels sequentially.

10. CH (Down)

In program mode this button will move the cursor (highlighted) downwards to facilitate selection. In normal operation mode it is used to step down channels sequentially.

7. REAR PANEL CONNECTIONS



CONNECTORS AND DEFINITIONS

1. AC IN (Power Cord)

Connect this lead to the mains outlet (150-240 V AC 50/60 Hz) after all other connections have been made.

2. IF INPUT

Connect the IF cable from your LNB on your dish to this connector.

3. IF LOOP OUT

If you have a second satellite receiver, the receivers LNB input to this connector.

4. ANT IN

Connect your UHF TV antenna to this connector.

5. TV OUT (UHF Modulator Output)

Connect your TV or VCR into this connector.

6. TV SCART

Connect your TV via a SCART cable to this connector.

7. VCR SCART

Connect your VCR via a SCART cable to this connector.

8. VIDEO

Composite video output for connecting to an AV monitor etc.

9. AUDIO LEFT / RIGHT

Audio outputs for connecting to a stereo amplifier.

10. RS-232

Connect your PC via this connector using a NUL female to female RS232 cable when you wish to upgrade the system software.

11. SPDIF

Digital audio output for optical cable.

12. ETHERNET PORT

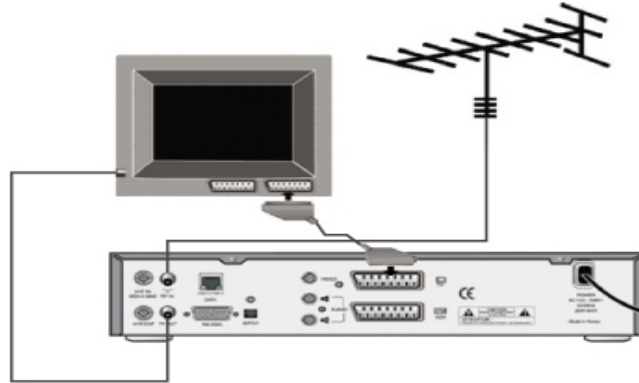
8. INSTALLATION

Most effective and common setting methods are suggested below. Please follow the instructions carefully.

8.1 Connection to TV, VCR and Hi-Fi

8.1.1 Connection to TV with SCART cable

Connect the TV to the STB with a SCART cable. One end of SCART cable goes into the TV SCART socket and the other end goes into to the SCART socket on the STB.



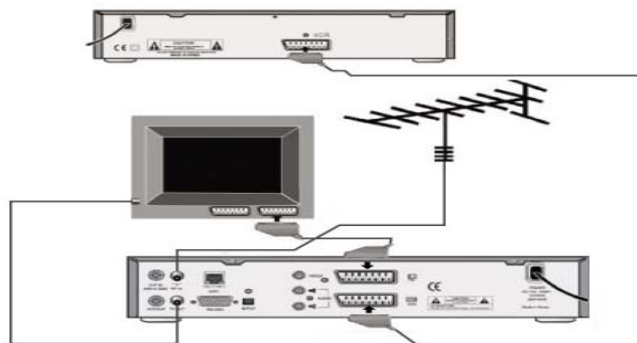
8.1.2 Connection to VCR with RCA and SCART cable

A. Connect the VCR with a SCART CABLE

After connecting the STB to TV with a SCART cable, connect VCR to the STB same way that the TV and the STB connected with SCART cable.

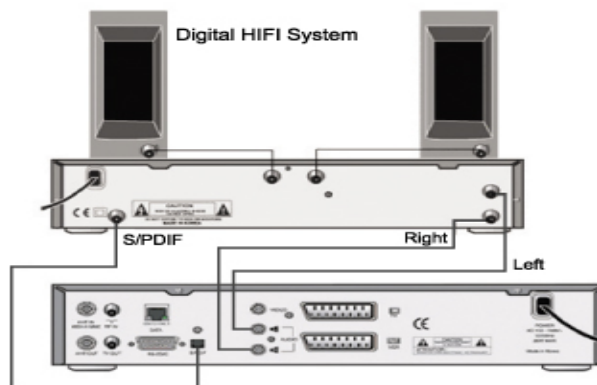
B. Connect the TV to the VCR with RCA cable

Connect one end of RCA (RED: Audio right, White: Audio left, and Yellow: Video) to STB and the other end of RCA to the TV.



8.1.3 Additional audio connection with Hi-Fi system

Connect one end of RCA stereo cable to the 'AUDIO L/ R' outputs on the STB and the other end of RCA cable to the Audio L/R inputs on the Hi-Fi system.



8.2 Dish Connection

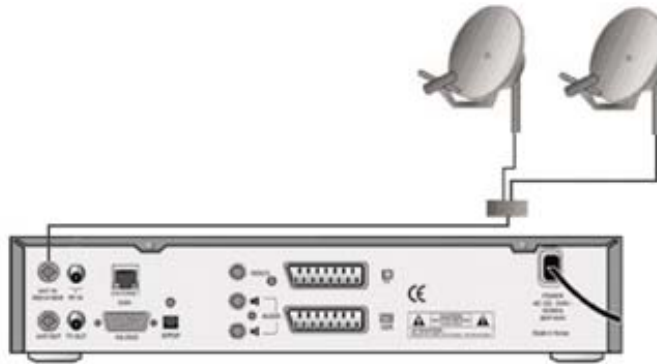
Most effective and common setting methods are suggested below. Please choose one of these ways to connect the dish-antennas and follow the instructions. Please carefully review the instructions before you install.

8.2.1 Installing the STB with one antenna.

Satellite Antenna has to be connected to the first LNB IN .



8.2.2 Installing the STB with two separated antennas with twin LNB.



9. BEFORE SETTING

9.1 Menu Information

Selectable lines are generally activated (highlighted). No-activated lines are not selectable. Most of OSD- menus show short information at the bottom of the screen.

9.2 Basic Key Control

With the UP/DOWN direction button you can move the cursor upwards and downwards in the OSD (On Screen Display)- menu. In most of menus, you can search channels with these buttons. When you have reached the desired option or function, press the OK button to confirm your choice. In case of changing TV channel you can only press UP/DOWN direction button. In most of menus, you can select menu items with LEFT/RIGHT direction button. When you want to return to the previous menu with saving the change, press the MENU Button. When you want to exit from the current menu, press the EXIT button.

10. GET STARTED FOR THE FIRST TIME

If it is the first time using the STB, you should set parameters for system configuration and scan the satellites. Follow setup procedure for scanning the satellite. When you have finished the procedure, you can start watching TV or listening to the Radio.

10.1 Switch your TV and STB On.

The Local Time setting menu will appear automatically.

10.2. Adjusting the local time.

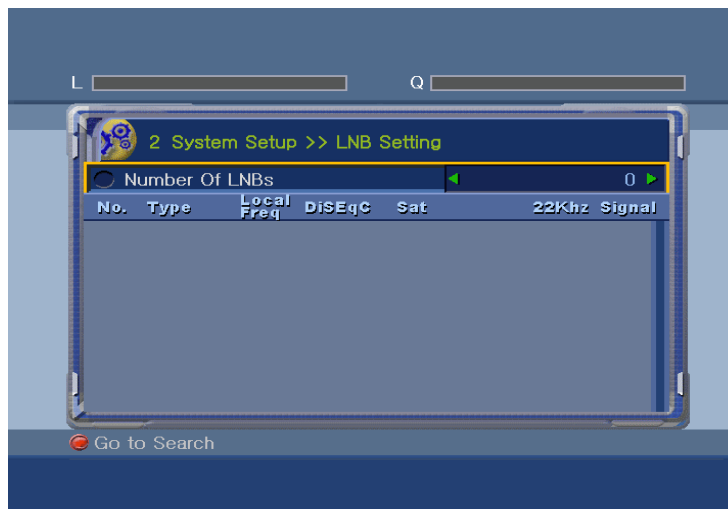
Press LEFT/RIGHT buttons to find your area on Time Zone and select Daylight-saving (summer

time) ON or OFF .Since the Date and time are not selectable, leave them as they are. When the channel search is complete, the date & time info will be set automatically with the data brought from the Satellites. To save the settings you made, press MENU/ EXIT button on RCU.



10.3. LNB setting.

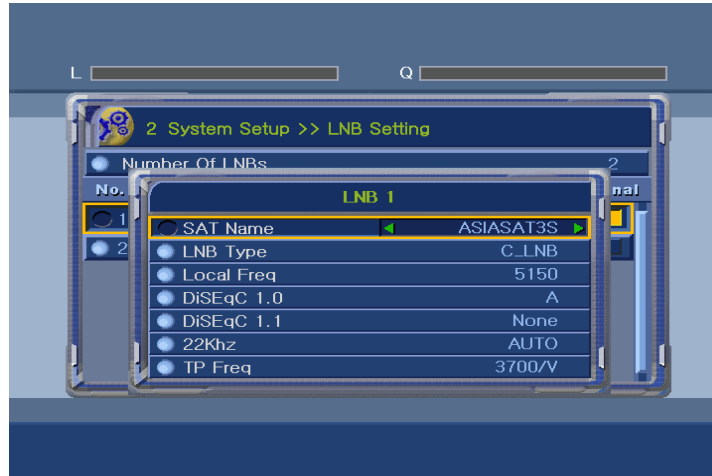
The LNB Setting menu will appear automatically right after adjusting the Local Time. Select the Number of LNBs(number of satellites that you wish to search) by pressing right direction button on the RCU, then press OK button to setup each LNB.



10.3.1. Set each LNB parameter.

SAT Name, LNB Type, Local Freq, DiSEqC Ver, DiSEqC No, 22 KHz, and TP Freq by

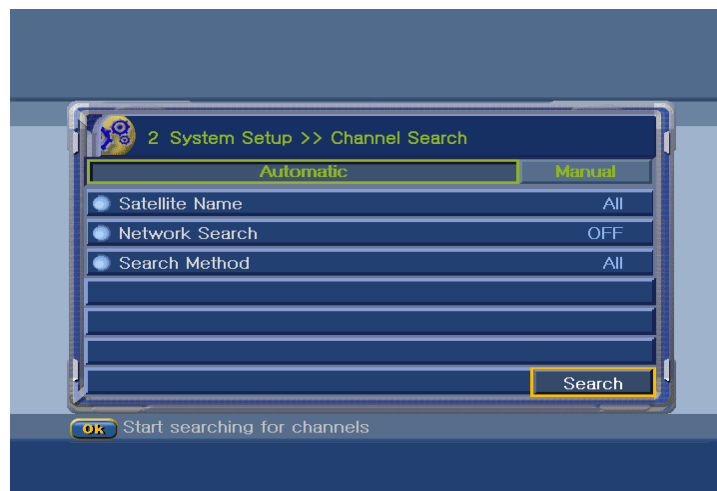
pressing LEFT/ RIGHT button as your LNB and dish aimed. You can see whole selectable values of each item by pressing OK button. You will see the Signal indicator as yellow if all values are set correctly.

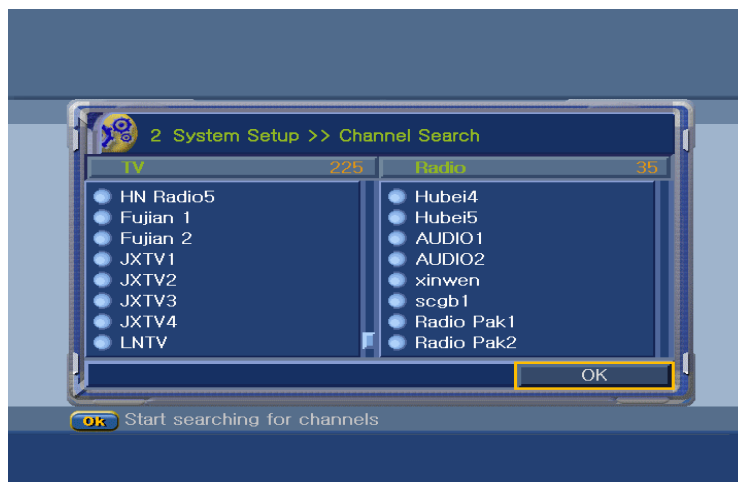


10.4. Scanning the satellites.

10.4.1. Automatic

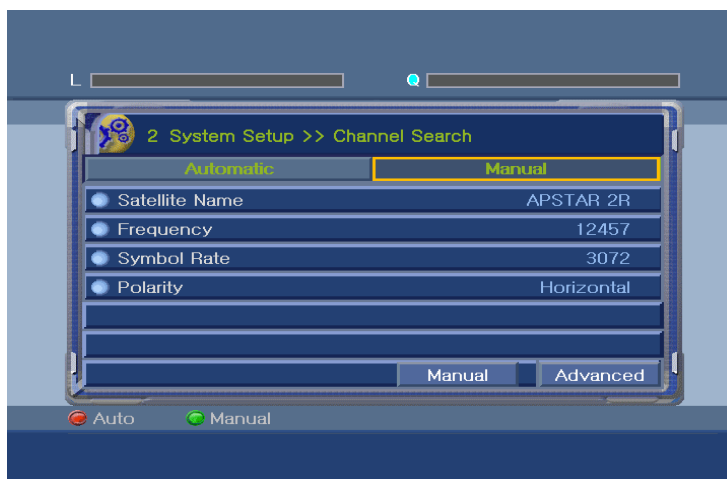
This is to scan all the channels of the satellites you setup in LNB Setting menu. Set Satellite Name, Network Search option and Search Method option by pressing LEFT/RIGHT button and press OK on SEARCH to start scanning.





10.4.2. Manual .

This is to scan channels on specific TP. Set Satellite Name, Frequency, Symbol Rate, Polarity values. You can press OK to check the values on Frequency and Symbol Rate menu or press NUMERIC buttons to input values directly. Press OK on Manual Search to start scanning. If you input new TP data in this menu, the new data will be saved in the satellite's data base automatically.



Once channel search is done, searched channel shows up automatically.

11. HOT BUTTONS

This section explains various hot button's function while watching TV or listening to Radio. These buttons enable to reach the desired function or menu directly by pressing them.

11.1 TV or Radio Channel List



While watching TV or listening to Radio, you can get the 'TV or Radio a Channel List by pressing



OK button on the remote controller. Use the navigation-buttons to move the highlights up/down and left /right. When you reach a channel that you want to check, press OK button for a view. To move to a channel that you have chosen, press OK button again.



11.1.1 Mode



Sort the channels by TV or Radio.



11.1.2 Channel



Three options are available; 'All' 'Favorite' 'Satellite'. The channels also can be sorted by All,

Favorite, Satellite



11.1.3. Sort



It allows you to sort the channels by Default, A to Z, Z to A, FTA to CAS, CAS to FTA and Satellite.



11.1.4. Sort Move



Highlighted cursor jumps accordingly as sorted (Mode, Channel, Sort), press up/down buttons on the RCU.

11.2. Edit in the Channel List

To Switch into Channel Edit mode, press *i* button on the RCU.



11.2.1. To Favorite

Move to Favorite by pressing the right direction button and then press OK button to bring the favorite add list. The highlighted channel will be added to the one of categories on favorite group where you wish to save.



Switch to TV or Radio list



Change favorite Group category backward order (such as Sport, Drama, News, Movie and Music)



Change favorite Group category forward order (such as Sport, Drama, News, Movie and Music)




You can create a new favorite category (make Fav. Group) if needed, also rename the existing

favorite group. When the rename procedure is completed, press Enter key.

11.2.2. Hide

Select the channel that you wish to hide by moving high-lights and move to “Hide” by pressing the right direction button. You will be asked to put a password, by putting correct password the channel will be hidden. If you wish to bring the hidden channel back, Move

to Main menu  and select Lock control under User's option and Switch Hide Channels OFF mode.

After switching into Hide Channels OFF mode, move back to Channel list, then you can see the channel which was hidden before with “H” beside channel name. To get rid of “H” mark, select UNHIDE, then press OK button to confirm. It requires PIN number to complete.



11.2.3. Lock

Select the channel you wish to lock by moving the high-lights and then move to “Lock” by pressing the right direction button. Press OK button to bring the PIN box. A “lock image” will appear right next to channel name. The channel with lock image can be un-locked by entering PIN Number again.



11.2.4. Rename

Change the selected channel's name by using virtual key board.

Move to "Rename" option and press OK button then the virtual keyboard will appear.

In the virtual keyboard the Capital letter and the small letter can be alternatively appear by pressing lock image key(Next to DEL key). When renaming is done, to save the changed name select ENTER KEY in the virtual key board.

To exit from virtual keyboard without saving settings, press OK button.



11.2.5. Delete

Select the channel you wish to delete and move to Delete option and press OK button then enter your password.



11.2.6. Reorder channels.

Move a channel where you want to replace by using up/ down direction buttons. "Reorder ch" function is available when Sort mode and Channel mode are set as default in the channel list.

Reorder→ Select a channel → OK button→ Up/Down button → Ok button



11.3. Favorite Channel List



While watching TV or listening to Radio, the favorite channel list is available anytime by pressing the FAV button on the remote controller. The default favorite groups are Sports, Drama, News, Movie and Music.



11.3.1. Make Fav. List

Move to Make Fav. List and OK button to bring virtual key board and create new favorite group by using the virtual keyboard.

To save created favorite group, select the enter key in the virtual keyboard.

11.3.2. Delete

To delete the high-lighted channel in the favorite group, move to Delete and press OK button again.

11.3.3. Rename

To rename a channel or favorite group, move to Rename and press OK button to bring virtual keyboard and rename the selected channel & fav group, then select ENTER to save changed name and exit from virtual keyboard.

11.3.4. Add Channels

To add channels to a favorite group, move to Add Channels and press OK button, then all channel list appears.

The high-lighted channel will be added by Pressing OK button, then you can see check-sign image next to channel added.



11.3.5. Reorder Fav. List

Reorder the selected Fav. List.


To reorder Fav. Group, select a group or channel that you wish to reorder by high-lightening it and Move to Reorder Fav. List and press OK button, then move the Fav group. When it is at the position where you want to replace it then press OK button. The Fav List successfully will be replaced at right position as wanted.



11.4. Electronic Program Guide



Press the EPG button on the remote control, the TV electronic program guide (EPG) will appear.

Search channels schedules by using  the navigation-buttons up/down and left/right to move the highlights.



To get more detailed EPG on specific channel, move high-lights to the channel then press OK button.

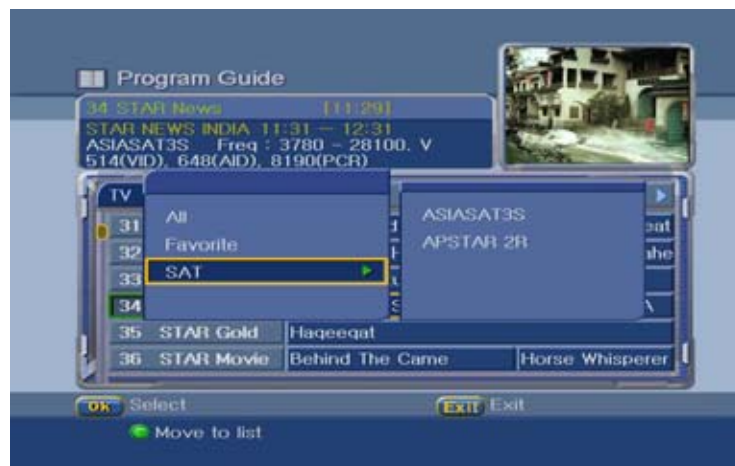


11.4.1. Mode

Press the Red button, to switch into TV or Radio channel mode.

11.4.2. Channel

Press the Green button at the button on the RCU, and select one of options from All, Favorite and SAT. It displays EPG information on your selection.



11.4.3. Search

To search channel's EPG under specific category/genre that you like, press yellow button at the bottom of the RCU.

EPG data will show up depends on EPG availability of providers of satellite.

Category: Select genre of a programs.

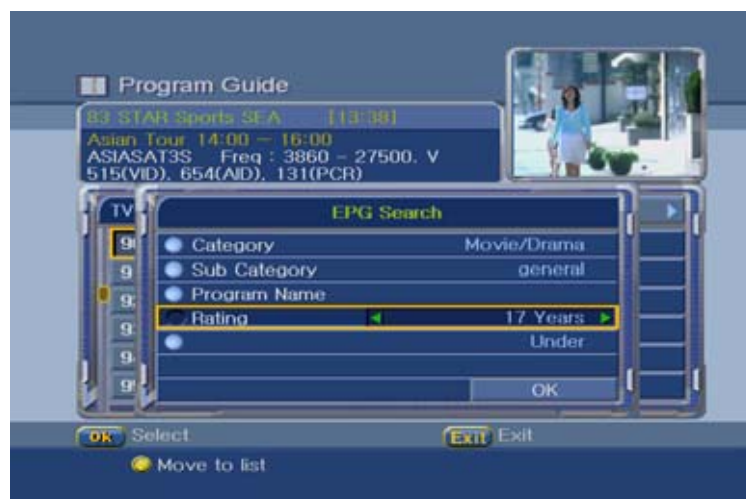
(Movie/News/ Sports etc)

Sub Category: Select sub-category of programs

(Adult movie / Romance / Comedy etc)

Program name: Put in a specific program name by using virtual key board.

Rating: Select Age limits on the programs.




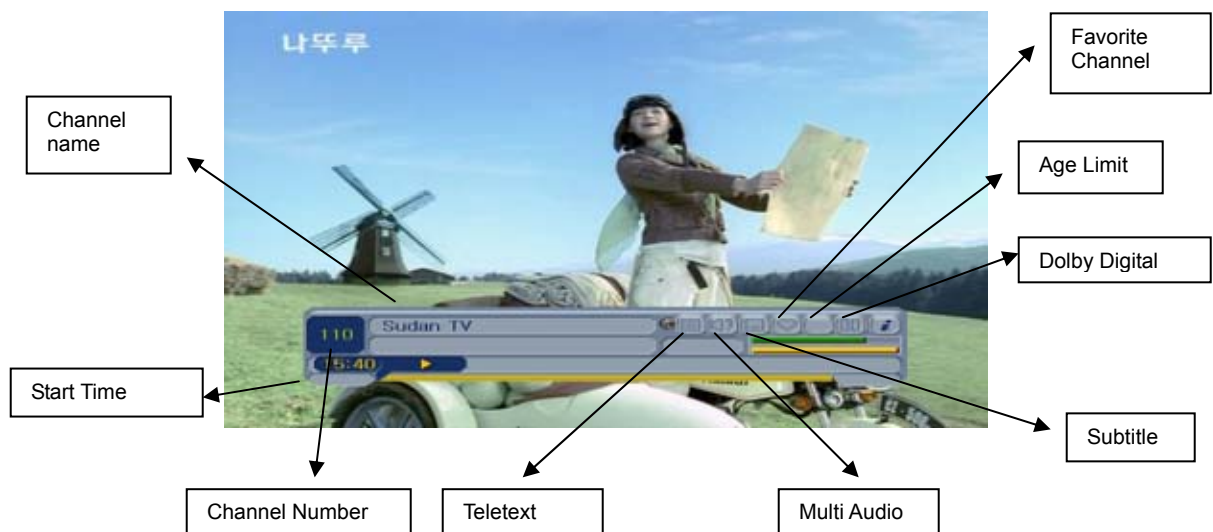
11.4.4. Zoom

Press The Blue button at the bottom of the RCU, select the time-grid of EPG display by 30 Min, 1 hour, 2 hours, or specific date is selectable up to maximum 7days.



11.5. Channel Information

Info bar appears by pressing the  button. If you press twice, channel details are also available. The infobar shows all necessary information about the selected channel. Any highlighted image in yellow on the infobar indicates the availability of the services.



11.6 RCL



To move back to the previous channel, press this button.

11.7 Subtitle



If a channel is available for the subtitle service, press the subtitle image button. If it services more than two languages, it is selectable in the user's Option.



11.8 Audio Setting



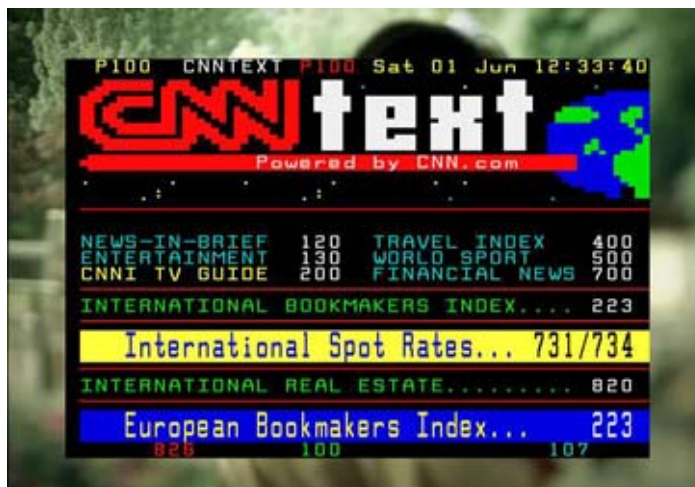
Press the AUDIO button on the remote controller; to select an audio language and sound mode.

Mix / Mono Left / Mono Right, Audio languages are selectable by pressing Left/Right direction button. Press AUDIO or EXIT key to exit.



11.9. OSD teletext.

OSD teletext is available upon service availability. If the teletext image on Info Bar is high-lighted in yellow, press this button to see the teletext information.



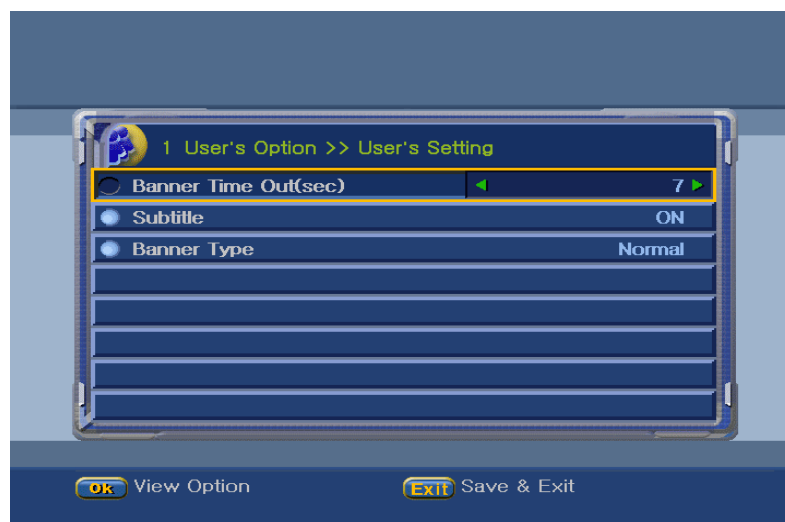
12. USER'S OPTION

12.1 User's setting



12.1.1. Banner Time Out

Select the time-out length for information banner from 2 to 10seconds.



12.1.2. Subtitle

Select subtitle display ON/ OFF. Default setting is ON.

12.1.3. Banner type

Select a preferable banner type for channel info. There are two types banners are available (normal and simple type). Simple type banner will show up after switching channels.



Simple Type Banner



Normal Type Banner

12.2 Lock Control

To access the Lock control, a password is required. The factory default password is "0000"



12.2.1. Maturity Control

Select the age limit form OFF, 5, 8, 10, 13, 15 to 18 for programs.

If the contents have parental guide information, channels will be locked automatically according to the option.

12.2.2. System Lock

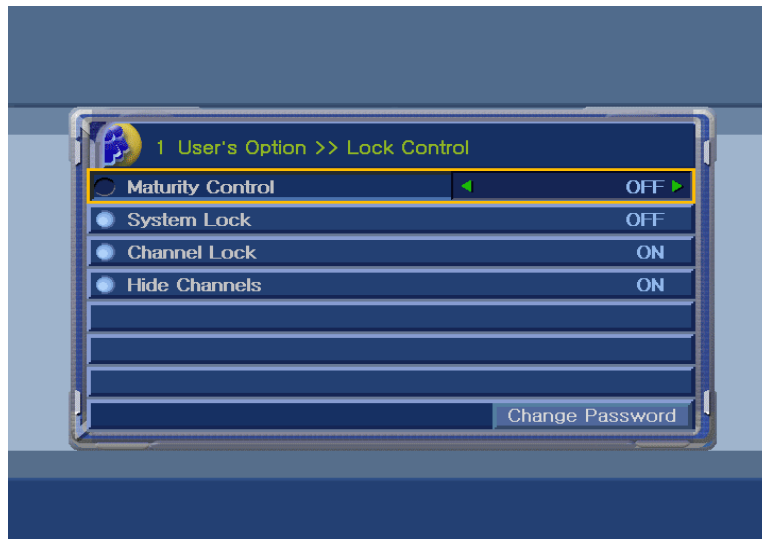
Switch System Lock ON or OFF. If you select ON, it requires a password to access the main menu.

12.2.3. Channel Lock

Switch Channel Lock ON or OFF. Each channel can be locked on the channel list under channel edit mode. Refer to Channel List to lock specific channels.

12.2.4. Hide Channels

Switch Hide Channels ON or OFF. The hidden channels will be excluded from the Channel List. Refer to Channel List to hide specific channels.



12.3. Language

12.3.1. Menu Language

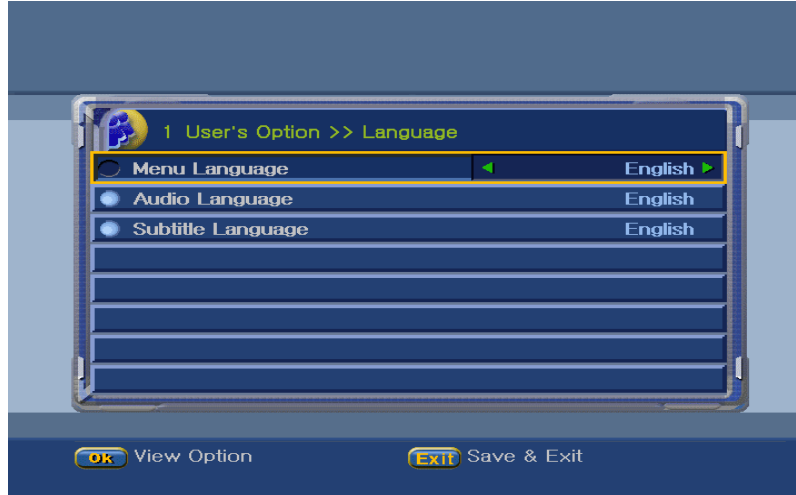
Select a language for Menus, dialog boxes, and help messages.

12.3.2. Audio Language

Select an audio language for the program with multilingual audio.

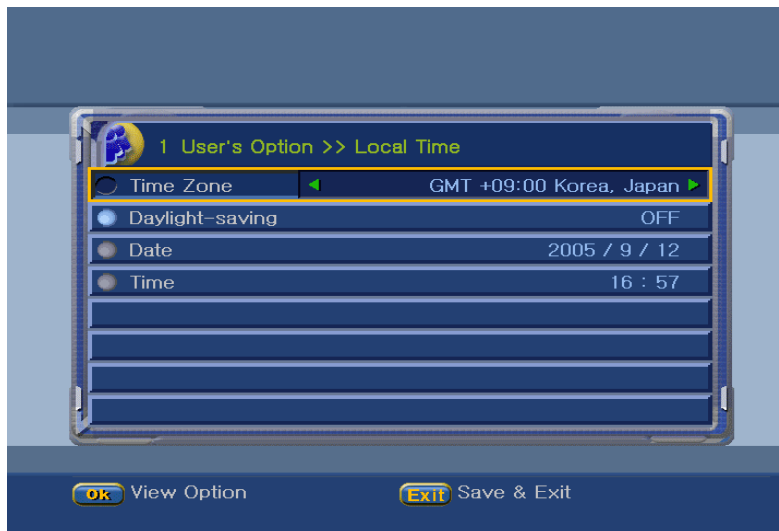
12.3.3. Subtitle Language

Select a subtitle language for the program with multilingual subtitle.



12.4. Local Time

Select or change your Time Zone, Year, Month, Date, Hour, Minute and Daylight-saving time.
To save changed settings, press EXIT button.



13. SYSTEM SETUP

13.1 TV Output

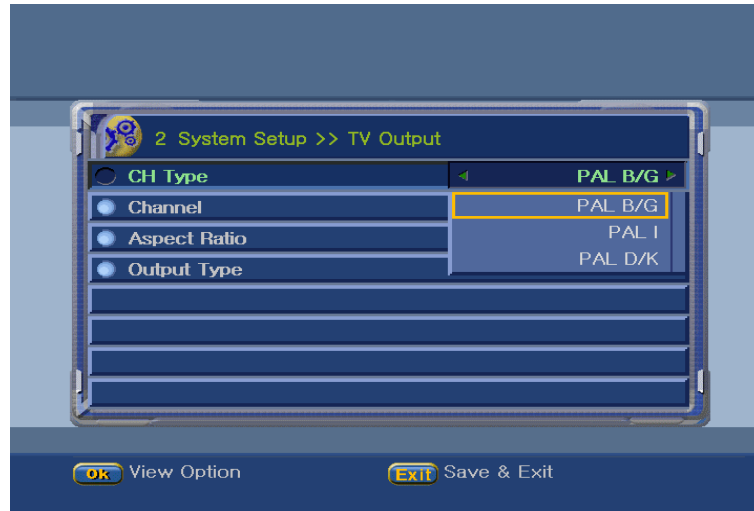
13.1.1. CH type

Select a proper TV broadcasting system among the PAL B/G, PAL I and PAL D/K.

13.1.2. Channel

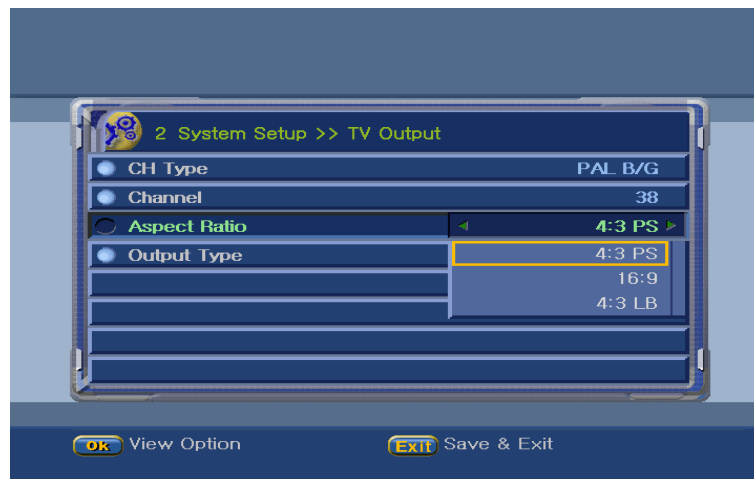
Select a UHF TV channel for the TV connected to RF modulator output. The default

channel is 38.



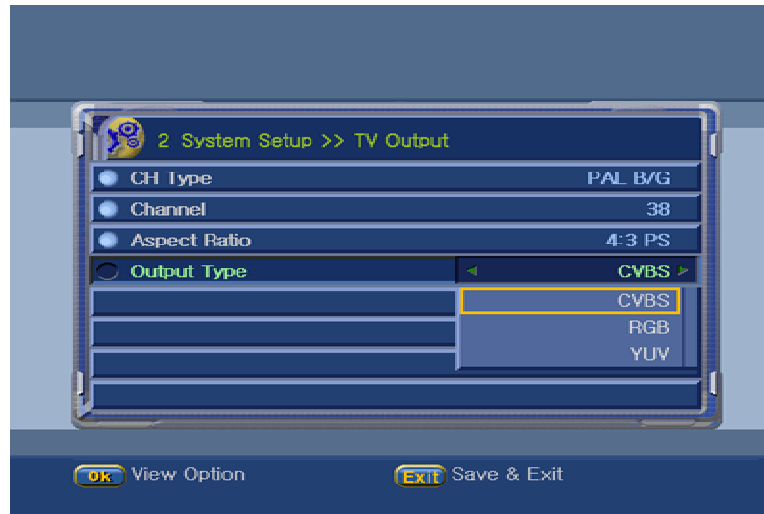
13.1.3. Aspect Ratio

Select 4:3 PS (Pan & Scan) or 4:3 LB (Letter Box) for Standard TV or 16:9 for wide screen TV.



13.1.4. Output type

Select a right output format for the TV set.(CVBS, RGB,YUV)



13.2. LNB Setting

13.2.1. Switch Type

Select your right LNB switch type(DiSEqC 1.0, 1.1, 1.2, USALS).

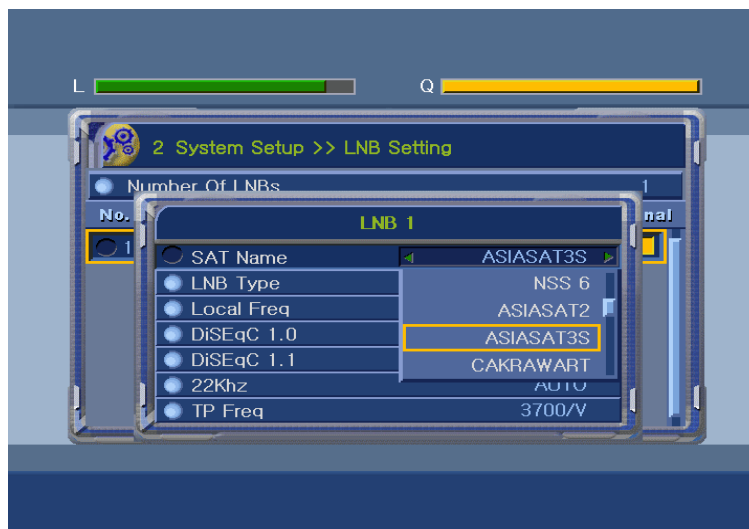
13.2.2. Number of LNBs

Select the number of LNBs you have installed.

13.2.3. LNB set up

Move the high-lights to each LNB, press OK button on the RCU. In the pop-up menu appeared, fill the required information LNB Type, Local Frequency, DiSEqC port No., Satellite Name and TP Frequency.

If you want to add a new satellite name in Diseqc 1.2 or USALS settig, add the satellite name in LNB setting first.



Once your setup is complete, press EXIT button to save the settings you made.

13.2.4. The Signal Indicator

It displays Signal Strength (Green) and Signal Quality (Yellow) on top of this menu.

When you see the Green and yellow bar on top, it means LNB Settings are correctly set.



Red button: To go to the Search channels

Once LNB setting is complete, press the red button on the RCU to move to the Channel Search menu.

13.3. Channel search

Auto search and Manual search are available.

To search one specific desired channel, manual search is recommended.

Please refer to website www.lyngSat.com to find out channel information (Frequency, Symbol Rate and Polarity)

13.3.1. Automatic

It searches channels automatically using the TP data that the STB already has.

By Satellite Name: Select each satellite name or All.

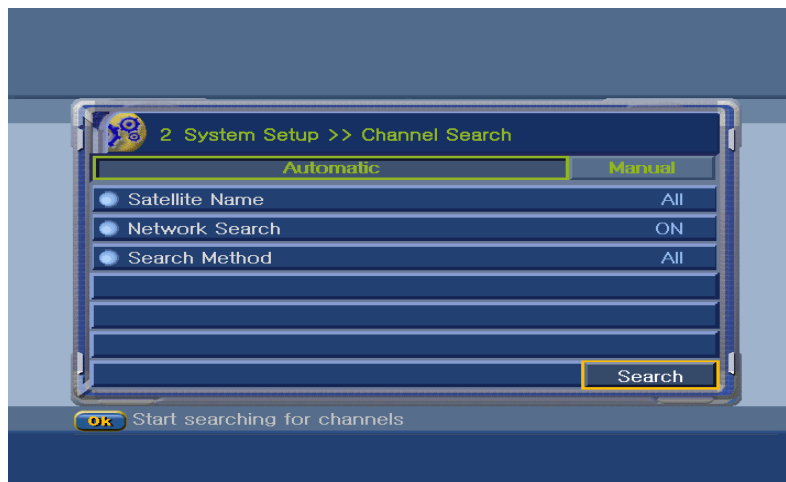
By Network Search: Select Network Search ON/OFF

By Search Method: Select ALL, FTA, or Scrambled.

All: It detects and searches both FTA and Scrambled channels.

FTA: It detects and searches only the Free-To-Air channels.

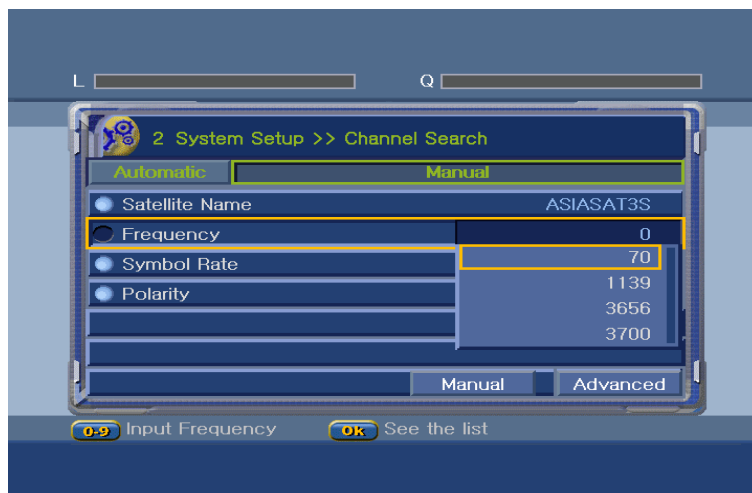
Scrambled: It detects and searches only the Scrambled channels.



13.3.2. Manual

Select specific Satellite Name, Frequency, and Symbol

Rate, and Polarity and press Manual button to start searching the particular channels.

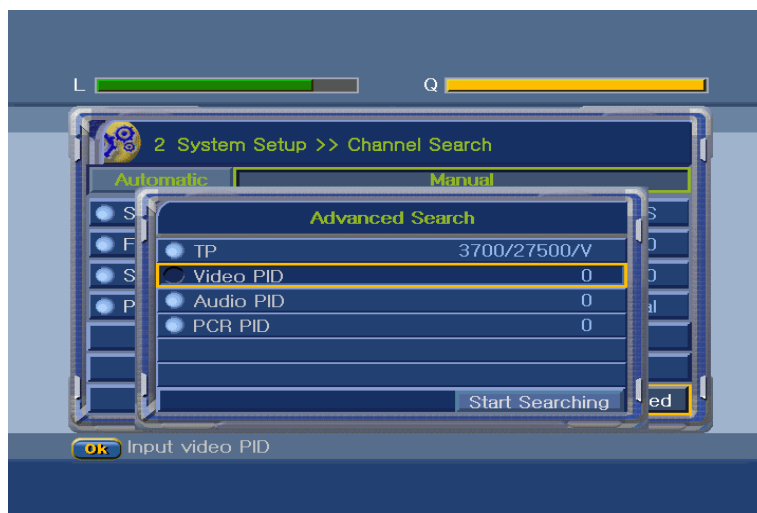


13.3.3. Advanced Search

Video PID: Enter the correct VIDEO PID value by using numeric buttons on the RCU.

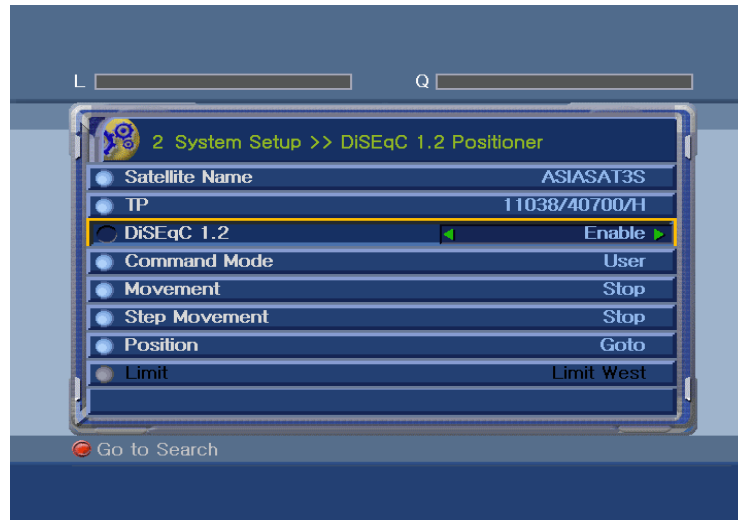
Audio PID: Enter the correct AUDIO PID value by using numeric buttons.

PCR PID: Enter the correct PCR PID value using numeric Buttons.



13.4. DiSEqC 1.2 positioner

If you have a DiSEqC1.2 motorized system, then you can use the DiSEqC function.
Select the satellite name first, and switch the DiSEqC Enable and put other required options.
Select the right TP to catch the strong Signal Strength.



13.5 USALS setting

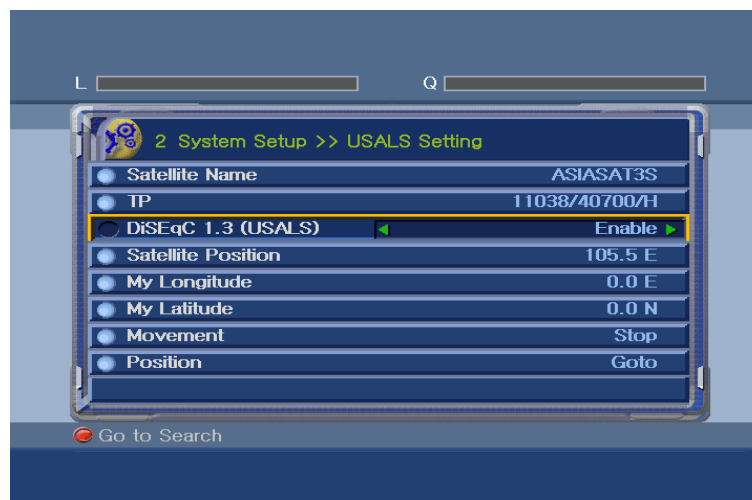
USALS is very convenient motorized DiSEqC system that support DiSEqC 1.3 command and also can get the satellite position automatically if you know your geographical location.

If you have USALS motorized system, then you can use the USALS as follows.

Select the tuner that is connected with USALS system.

Switch USALS Enable and Select the satellite name which will be used to identify a motor system.


Put your longitude and Latitude and press OK button to start search satellite.



13.6. IP setup

13.6.1. Manual

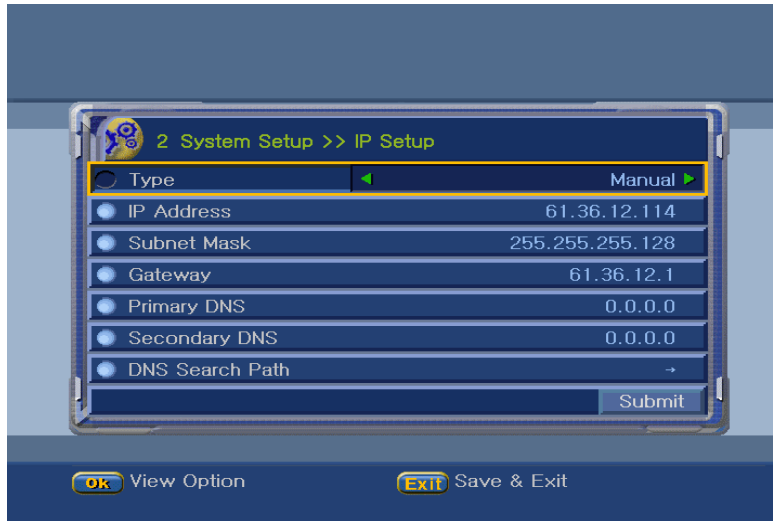
For the static IP address users.

Use the Navigation-Buttons  and numeric buttons to set the Values then press SUBMIT button.

IP: Enter your IP address to specify the host IP address.

Subnet mask: Enter the subnet mask here to find Host IP address in its Subnet.

Gateway: Enter the gateway values.



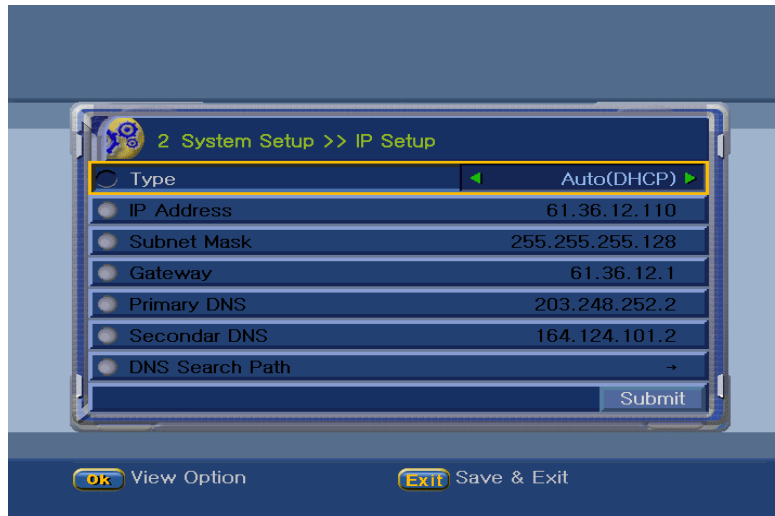
2 System Setup >> IP Setup	
Type	Manual
IP Address	61.36.12.114
Subnet Mask	255.255.255.128
Gateway	61.36.12.1
Primary DNS	0.0.0.0
Secondary DNS	0.0.0.0
DNS Search Path	→
Submit	

OK View Option Exit Save & Exit

13.6.2. AUTO (DHCP)

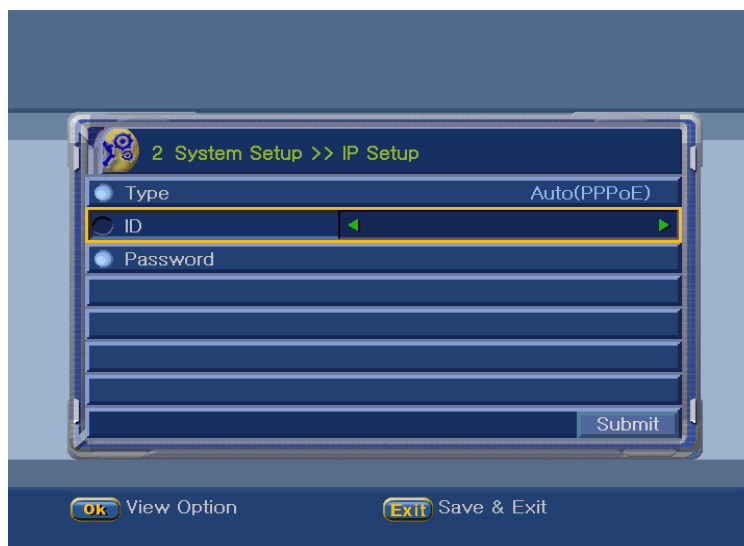
For the VDSL or ICS client users.

It detects values automatically. No need to enter any values here. After selecting Auto(DHCP), press submit button to have all settings show up automatically. If LAN cable is not properly connected, all settings might appear as "0.0.0.0." In this case, check the cable connection and retry it.



13.6.3. AUTO (PPPoE) For the ADSL users

ID and Password (which acquired from internet service provider) are required here; enter the values by using virtual Keyboard. Press OK button to bring the Virtual Key board.



13.7. Restore Factory Setting

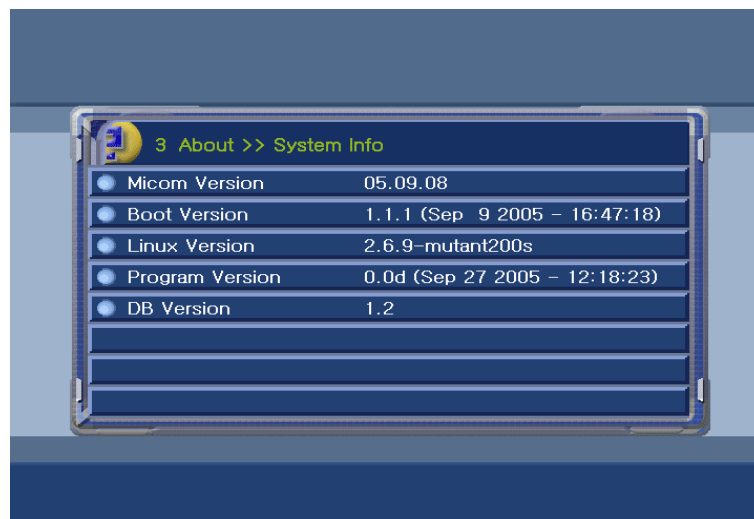
It requires your PIN to access the Factory reset.
It removes Channel List, FAV List, LNB Settings and it restores original factory settings.
To restore factory settings, press ok. All settings will be deleted.



14. ABOUT

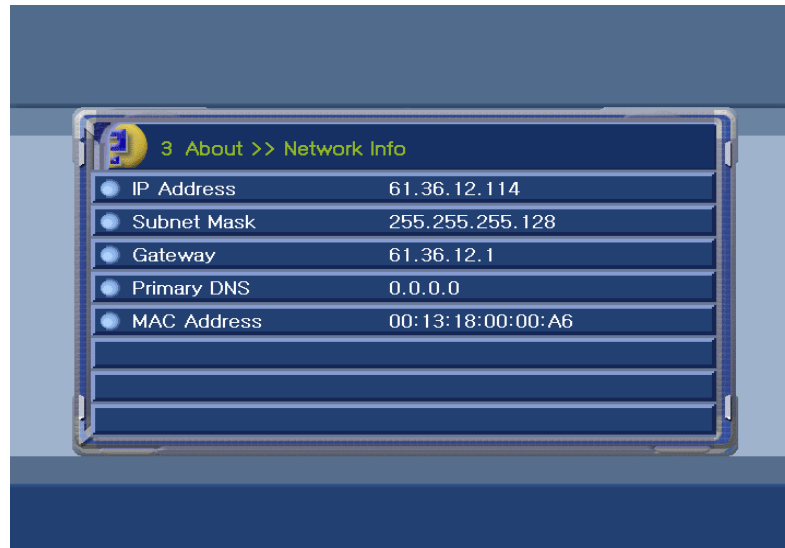
14.1. System Info

It displays Micom Version, Boot Version, Linux Version, Program Version and first date of operation.



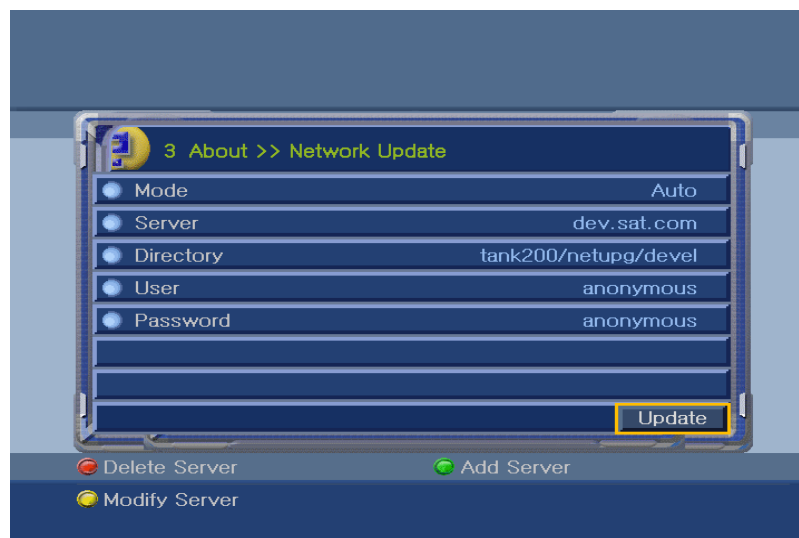
14.2.Network Info.

It displays network info such as IP address, Subnet mask, Gateway etc.



14.3. Network Update

Latest S/W can be updated via Ethernet port using network update system.



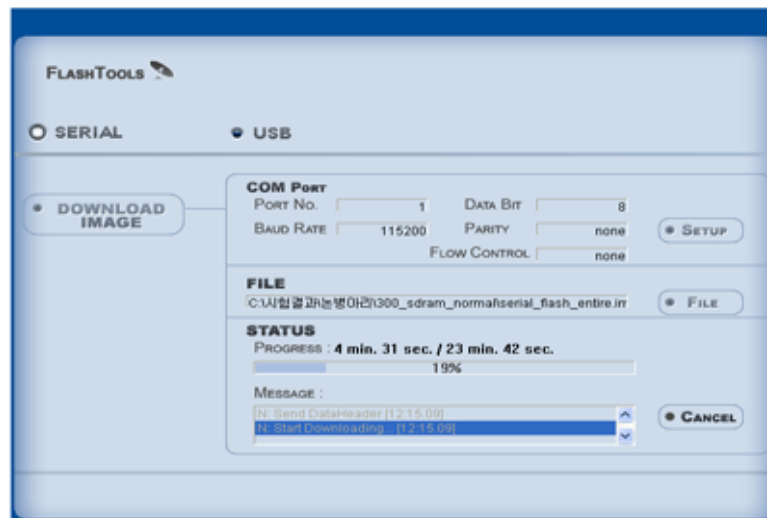
15. SOFTWARE UPGRADE

Downloading Flash Images via SERIAL cable.

How to Download New Flash Images by SERIAL

Make sure that all the S/W upgrade utilities (**Flash tools**) are completely installed on your PC.

1. Turn your STB off then connect Serial cable(Crossed) between STB and PC
2. Press and hold the power button on the RCU or front panel of STB until the 'SERI' sign appears on the front panel display.
3. Run the flash download utility program "Flash Tools" on your PC.
4. Select the connected COM Port(COM 1 or COM 2) and 115200 BAUD RATE.
5. Click the File and select latest Flash image and Press OK button on the front panel to start downloading.
6. Wait until the progress bar(Erasing and Writing) reaches 100%.
It takes about 25min approx.
7. After completing, the "FlashTools" displays "Complete" in its message window and the front displays "donE." Now press Power button on the front or the RCU to restart your STB.



16. GLOSSARY OF TERMS

CA Conditional Access. A system to control subscriber access to services/ programs.	RF Radio frequency (known as HF in some countries).
Polarization Polarization allows several programs to be fit into the same frequency band. The signals from a satellite are transmitted either with linear (vertical or horizontal) polarization or circular (right or left) polarization.	SCART A 21-pin connector used for connection of the relook, VCR and TV. Also known as Euro connector
DVB The Digital Video Broadcast group was created to establish a technical framework for the introduction of digital video broadcasting systems.	S/PDIF Sony/Philips Digital Interface Format digital audio output.
EPG Electronic Program Guide. The programming information provided By the service provider that enables a viewer to find the much Information of programs.	Symbol Rate Speed of the digital transmission
LNB (Low-Noise Block Converter) An electronic unit mounted on the satellite dish. It receives the signals reflected by the dish and coverts them to signals that can be used by satellite receiver	TS Transport stream.

17. TROUBLE SHOOTING

Problem	Possible Causes	What ToDo
No display appeared on front	Power cord is not plugged in.	Check the power cord
No Sound/ Picture	Wrong Audio/ Video output connection between the receiver and TV set. Mute Audio	Check Audio/ Video output connection between the receiver and TV set. Press Mute button to recover.
	TV Power off	Turn TV on
	No Signal	Check the cable connections, LNB and other equipment connected between the LNB and the receiver, or adjust the dish.
	Wrong direction of the dish	Adjust correctly the direction of the dish to the satellite
Remote controller does not respond	Batteries are not inserted correctly or low.	Check the batteries or replace with new batteries
Forgot PIN Code		Contact your local service provider/ dealer.
System Halt	System Halt or Error	Press & Hold OK and Power key on the front panel to return to stand by mode.

18. PRODUCT SPECIFITION

Part	Type	Specification
CPU	Type	IBM's PowerPC405
	Speed	350 MIPS
	Data/Instruction Cache	16KB/16KB
	Input Connector	IEC169-24 female(F-type)
Tuner & Channel	Loop through Connector	IEC169-24 female(F-type)
	Frequency Range	950MHz to 2150MHz
	Loop through Out Impedance	75 ohms nominal
	Band selection	22 KHz tone
LNB Control	Switch	DiSEqC 1.0, 1.1, 1.2, USALS
	Polarization	13/18V (400mA Max/per each)
	Transport Stream	ISO/IEC 13818-1 Specification
MPEG Transport Stream & A/V Decoding	Aspect Ratio	4:3, 16:9 with pan vector
	Video Resolution	720 x 576(PAL) or 720 x 480(NTSC)
	Audio Decoding	MPEG-1 Audio Layer 1,2
	Ethernet	RJ-45(10Base-T/100Base-TX)
Network Memory	Flash Memory	Up to 8MB

	SDRAM	32MB
Conditional Access System		
	Smartcard	1 slot
RF-Modulator	RF-Connect	750hm, IEC 169-2, Male/ Female
	Output Frequency	470MHz to 860MHz
	Output Channel	CH 21-69
	TV Standard	PAL D/K, PAL B/G, PAL I/or NTSC
	TV SCART	1 x SCART
A/V & Data In/Out	VCR SCART	1 x SCART
	RCA	Video x 1, Audio x 2
	Data Interface	9 Pin D-Sub, RS232C
Power Supply	Input Voltage	AC220V, 50Hz /or AC110V, 60Hz
	Power Consumption	15W max. (Under 7W max. at stand-by mode)
Physical Specification	Size (W x H x D)	300mm x 58mm x 235mm
	Weight	About 2 .0kg

NOTICE

Contents of this manual and features/ Specifications of the STB are subjected to change without notice.