

User's Manual

*Personal Video Recorder
with Common Interface
HSC-880NA*



HYUNDAI DIGITAL TECHNOLOGY



NOTE :

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures :

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio / TV technician for help.

Modifications not expressly approved by the manufacturer could void the user's authority to operated the equipment under FCC rules.

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Introduction

1.1 Overview

This Dual tuner PVR(Personal Video Recorder) with Common Interface is your "Window to the World" giving you the opportunity to enjoy scrambled programs. Enjoy the rich choice of more than 4,000 different channels, broadcasting a large range of culture, sports, cinema, news, events, etc. This receiver is a technical masterpiece, assembled with the highest qualified electronic parts.

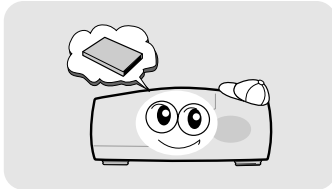
1.2 Main Features

- ▶ Fully compliant with MPEG-2 and DVB standards
- ▶ Dual Tuners for watch and record
- ▶ User friendly operating Menu and On-Screen Graphic Menu
- ▶ Easy to use EPG(Electronic Program Guide) on screen
- ▶ Age protection lock function
- ▶ Tele-text supported by VBI insertion and OSD
- ▶ Manual PID control
- ▶ Hard Disk extensible upto 160GB
- ▶ Picture in Picture(Dual Decoding)
- ▶ S/PDIF for digital audio and Dolby AC-3 bitstream output
- ▶ Dual Recording and Playback simultaneously
- ▶ Recording and Time Shifting simultaneously
- ▶ Playback of the selected region repeatedly
- ▶ Powerful trick mode supported
- ▶ Zoom function

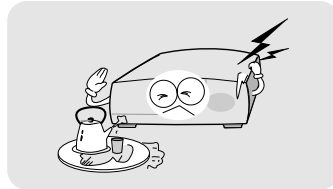
Safety/Precaution

2.1 Safety

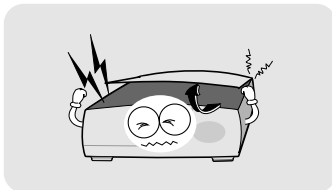
Be sure to read the user's manual before starting the operation of the unit.



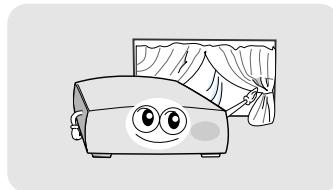
Do not touch the power cord with wet hands as it may cause electric shock.



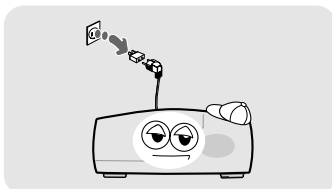
Never open the cover. It is very dangerous to touch the inside of the unit due to possible electric shock.



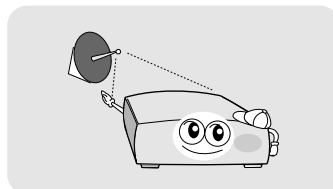
Place the unit in a well ventilated and no-heat environment.



When you do not use this unit for a long time, make sure that power cord is pulled out from the outlet. Also do not use a damaged power cord as it may cause fire or electric shock.



A professional installation is required. If reception is interrupted, contact your local service centre.

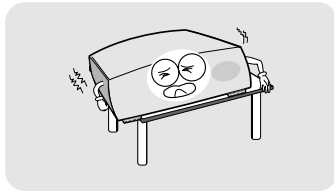


Safety Precautions

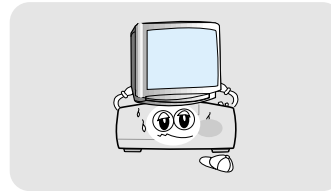
2.2 Precautions

When installing the unit

Install the unit horizontally. An uneven installation may cause the unit to be damaged.



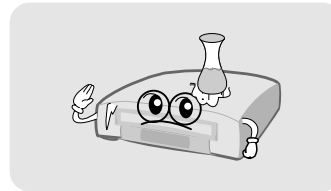
Do not put heavy items such as a TV on the unit. That may cause the unit to be damaged.



Do not leave the unit where the water drops or splashes.

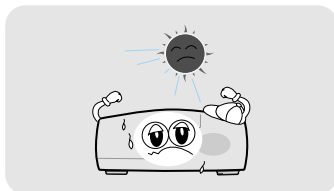


Do not put water holding items such as vase on the unit.

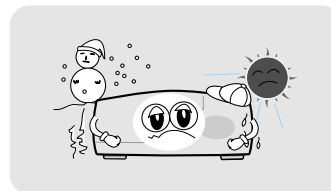


Do not install the unit:

- Where it is subject to vibrations
- Where it is exposed to direct sunlight
- Where there is humidity
- Where the temperature is too high or too low.
- Where there is no ventilation



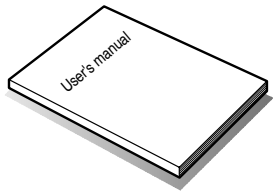
Moving the unit to a hot area from a cold one will cause condensation. Do not operate the unit for one or two hours or until it has dried completely.



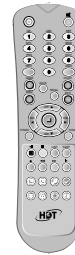
3.1 Accessories

Accessories of the Unit

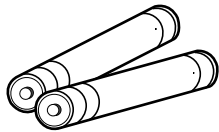
User's manual : 1



Remote control : 1



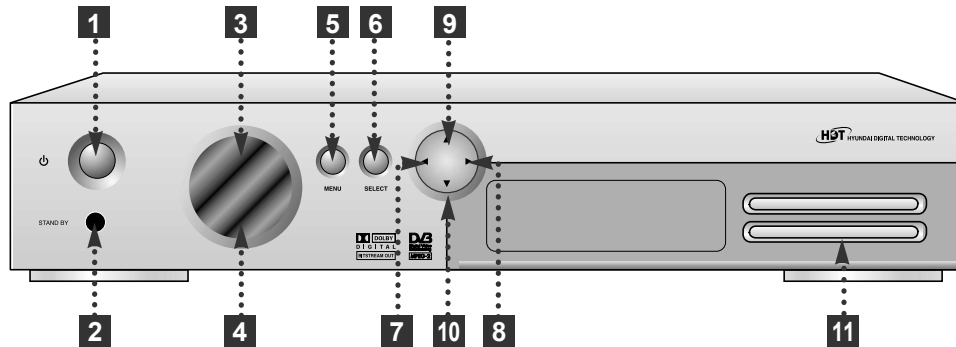
Batteries (AAA type) : 2



► If any accessories listed above are missing, contact the sales representative where you purchased this unit.

Controls/Functions

4.1 Front Panel



1 Power

To switch the receiver in "standby" mode or in power on mode.

2 Standby/Power on Indication light

Flashing red in "standby" and no light in power on mode.

3 Remote Sensor

Receives the infrared signal from remote control.

4 Channel Display(4 Digit)

- When you connect the power line of the receiver, the current time is displayed.
- After programming, the program number or name is displayed.

5 Menu

To launch or terminate the menu application.

6 Select

To activate a highlighted item or go to next level on hypertext menu or confirm the user's action.

7 - 8 Vol. (◀/▶)

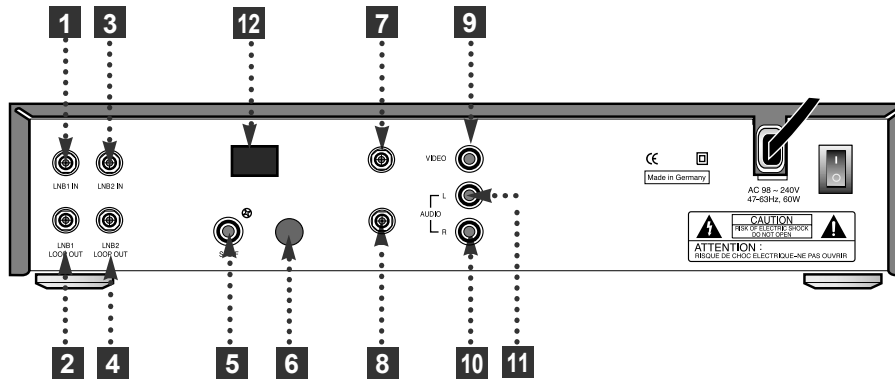
To adjust the volume level or change the value of an item with preprogrammed values. The Key Vol.◀ can be used as a backspace to cancel the numerical input.

9 - 10 CH. (▲/▼)

To change channel or cursor position on the application screen.

11 Smart Card

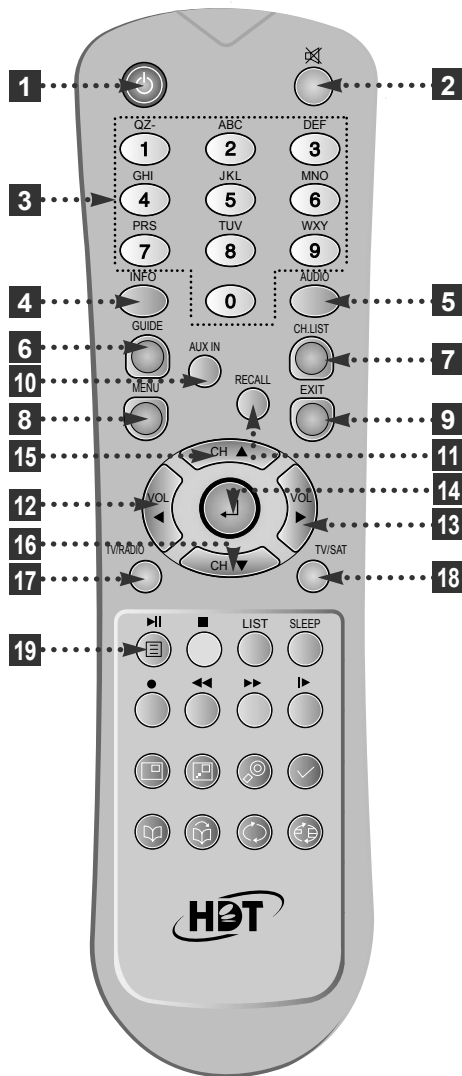
4.2 Rear Panel



No.	Name	Connector	Function
1	LNB1 INPUT	IEC 169-23 Female	IF input from LNB to Digital Tuner 1
2	LOOP1 OUT	IEC 169-23 Female	IF Loop-through output from Digital Tuner 1
3	LNB2 INPUT	IEC 169-23 Female	IF input from LNB to Digital Tuner 2
4	LOOP2 OUT	IEC 169-23 Female	IF Loop-through output from Digital Tuner 2
5	Digital Audio	RCA Cinch	Digital Audio Output (S/PDIF)
6	S-VHS	S-VHS	Super Video Output
7	RF IN	IEC 169-23 Female	Input from Terrestrial Antenna
8	RF OUT	IEC 169-23 Female	Output to TV
9	VIDEO	RCA Cinch	Composite Video Output
10	AUDIO L	RCA Cinch	Left Audio Output
11	AUDIO R	RCA Cinch	Right Audio Output
12	MODEM	RJ11	Line In (Telephone)

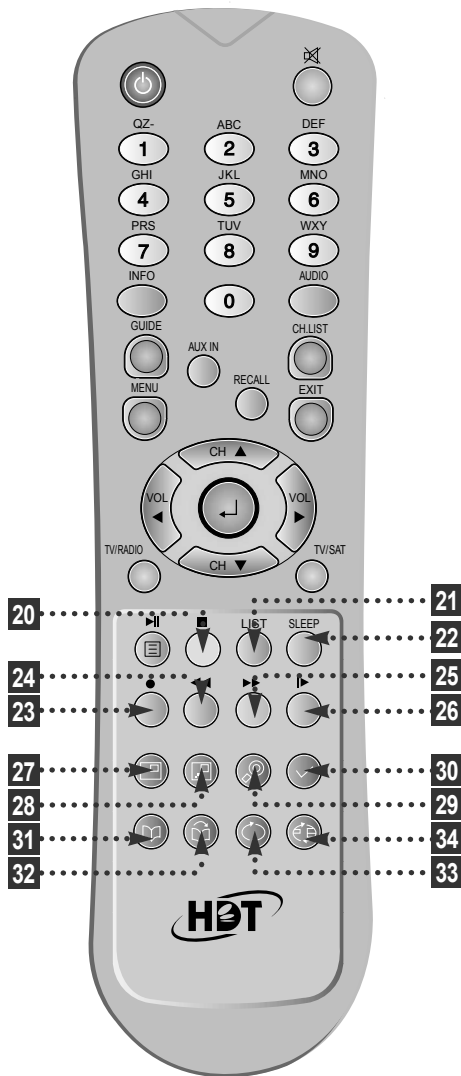
Controls/Functions

4.3 Remote Control



- 1** **POWER** : To switch into 'standby' or 'power on' mode.
- 2** **MUTE** : To turn the sound on/off.
- 3** **Numeric Keys(0-9)** : To input numeric value, channel number or characters.
- 4** **INFO.** : To display the information of the current channel.
- 5** **AUDIO** : To change the audio track, stereo-mono mode.
- 6** **GUIDE** : (EPG : Electronic Program Guide)
To watch program information. Press once more to return to normal mode.
- 7** **CH LIST** : To watch the channel list. Press to confirm or press EXIT to return to previous chosen channel.
- 8** **MENU** : To enter/exit the main menu.
- 9** **EXIT** : To return to previous status or menu.
- 10** **AUX IN** : To select in/out mode of scart connector. SAT, AUX, AUX2 and TV mode are toggled in turn.
- 11** **RECALL** : To return to the previous chosen channel.
- 12** - **13** **Left** & **Right** : To change the value of a selected item with preprogrammed value in menu. can be used as a backspace to cancel the numerical input.
- 14** (**ENTER**) : To select an item or to confirm a menu.
- 15** - **16** **Up** & **Down** : To move the cursor up and down in menu.
- 17** **TV/RADIO** : To switch between the TV and radio channels.
- 18** **TV/SAT** : To toggle the TV output source between the satellite input and UHF/VHF antenna input.(Option)
- 19** **BLUE** : To delete a channel from the Channel List menu. To show extended program information in the EPG menu. To see Teletext Service Data. To play or pause the stored programs on HD.

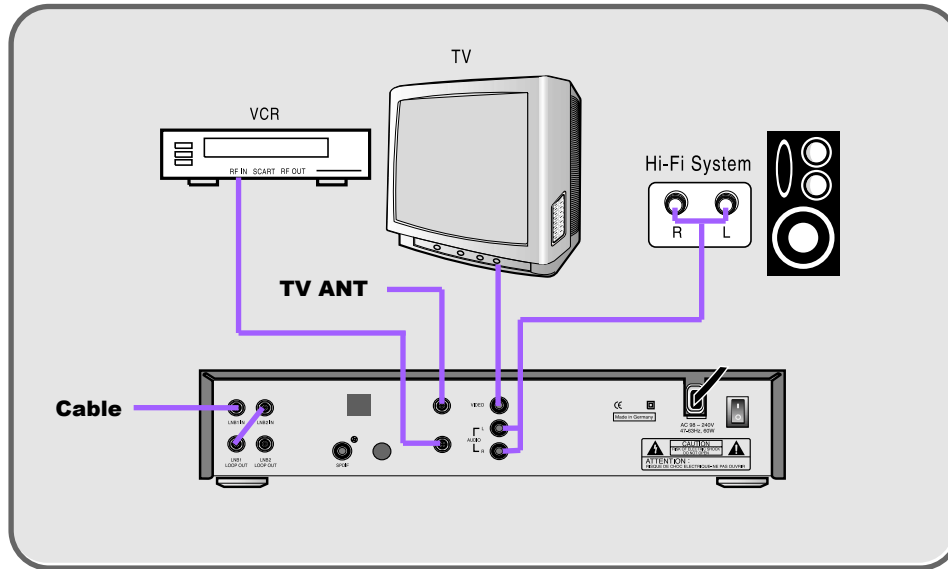
4.3 Remote Control



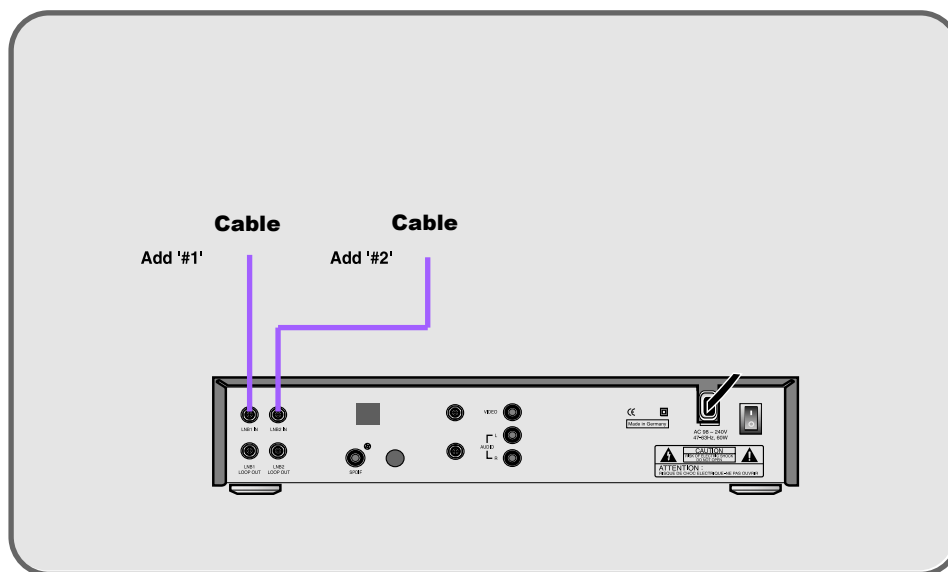
- 20** **IVORY** ■ : To add a new channel to the Channel List menu. To stop the played programs on HD.
- 21** **ORANGE (LIST)** : To see variant channel lists for user's convenience in the Channel List menu. To watch the list of stored programs on HD.
- 22** **SLEEP** : To switch off the receiver automatically after 30 upto 150 minutes.
- 23** **RED** ● : To setup favorite channel lists in the Channel List menu. To record the program on to HD. To delete the stored programs on HD or set skip points.
- 24** **GREEN** ◀◀ : To lock channel in the Channel List menu. To show current/next program information in the EPG menu. To play the stored programs on HD with fast reverse mode.
- 25** **YELLOW** ▶▶ : To move a channel to other position in the Channel List menu. To show program schedule information in the EPG menu. To play the stored programs on HD with fast forward mode.
- 26** **Slow Motion** ▶ : To play the stored program on HD with slow motion mode.
- 27** **PIP** (PIP icon) : To Set PIP Window. Live, HDD and Diasble the Sub-picture.
- 28** **PIP SWAP** (PIP icon) : To Switch between Main-Picture and Sub-Picture.
- 29** **ZOOM** (Zoom icon) : To set zoom function. Control zoom function beginning and magnification.
- 30** **Time-Shift** (Time-Shift icon) : To start the time-shift function for the current channel.
- 31** **Bookmark** (Bookmark icon) : To set the bookmark position while playback.
- 32** **Go to Bookmark** (Bookmark icon) : To jump to the bookmark position while playing.
- 33** **REPEAT** (Repeat icon) : To repeat playback of the stored program on HD. Repeat 1, Repeat All and Normal are toggled in turn.
- 34** **PEPEAT A-B** (Repeat A-B icon) : To repeat playback of the selected section of the stored program on HD.

How to Connect

5.1 Connecting IRD to Hi-Fi system and TV, VCR

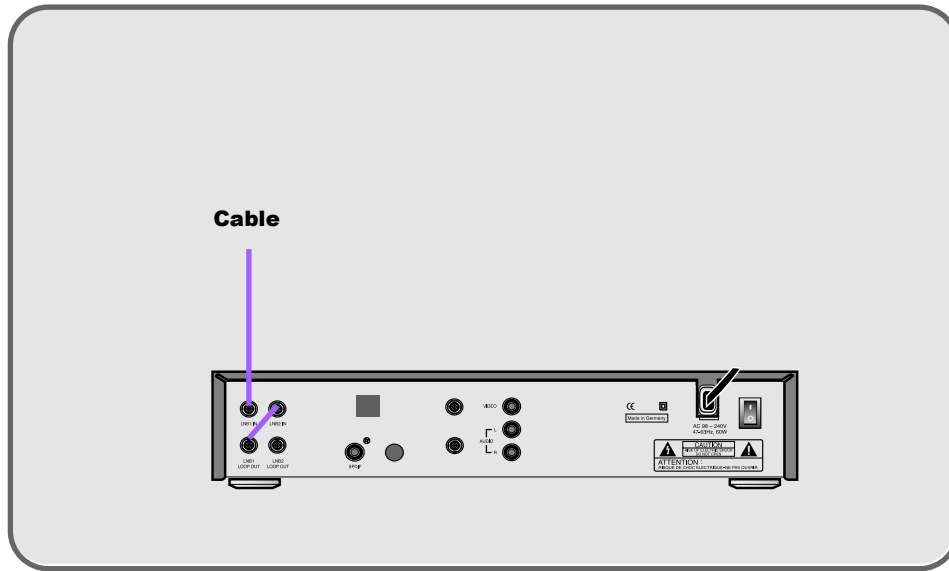


5.2 Connecting Tuner to two separated Cable



* Note : At tuner select in LNB Configuration menu, #1 or #2 mode should be selected

5.3 Connecting Tuner to one Cable



* Note : Tuner select in LNB Configuration menu, Loop mode should be selected.

MEMO

After your receiver is powered up, proceed with installation as follows:

6.1 Getting Started



1. Menu Language Setting



① When you plug in AC power, the following will be displayed on the front.

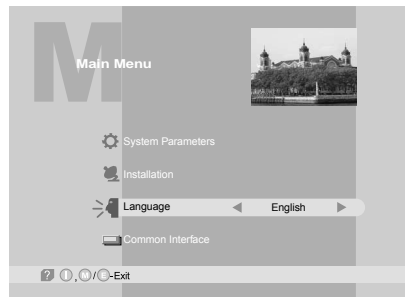


② Press **POWER** on remote, the LED number will be displayed as follows;



③ Press **MENU** key and position cursor on 'Language' column with  or .

④ Select language you want with  or .



* *Note : Languages displayed in 'Language' column are supported by your receiver.*

2. Help

If you want to know how to use current part in the menu, use '**help**' function.

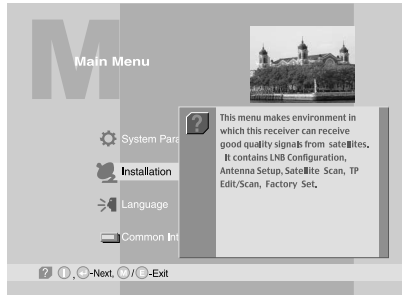
① Select a content in the menu.

For example, if you want to know about the installation menu, select installation.

Operation

6.1 Getting Started

② Press **INFO**. Then you can see the help window of the selected content.



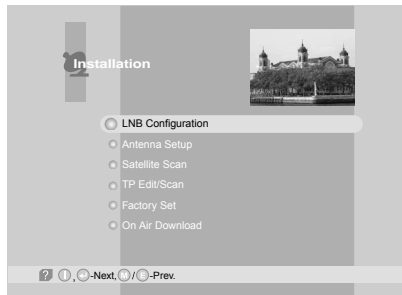
3. Cable Setting

Since your receiver has the basic data of most satellites and channels, you can receive programs just by plugging in. But, according to the status of your antenna setup, you may have to modify the basic data of satellites and / or channels.

When you need to modify the data, proceed as follows ;

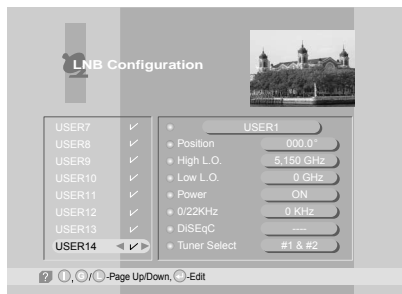
① Press **MENU** key and position the cursor on Installation column with or and press .

② By using or , select '**LNB Configuration**' and press .





* **Note** : Enter 4-Digit password if need arise. The default password is '0000'.

③ Select the **Satellite** you want to add with or and press or .











6.1 Getting Started

④ If you press , the selected **Satellite** will be added and the cursor will move to right window for detailed installation.

* *Note : If you just want to edit the data of the satellite which is already contained in the receiver, press  after you select the satellite.*

⑤ Select item you want to edit with  or  and change each parameter.

- **Position** : You can input the longitude of the satellite with numeric keys.
 - **High L.O. / Low L.O.** : Enter LNB oscillator frequency with numeric keys.
 - **Power** : Set LNB power ON or OFF with  or .
 - **0/22KHz** : Set the path of 0/22KHz switch box with  or .
 - **DiSeqC** : Set the path of DiSeqC box with  or .
 - **Tuner Select** : Set the tuner #1, #2, #1 & #2 and Loop with  or .
- If you do not use the switch box, set as "---".

* *Note : When you change each parameter, you need to know exact parameter of LNB to modify L.O.(local oscillator) frequency.*

* *Note : When you change each parameter, you need to understand environment of connecting the receiver and antenna in order for you to set 22KHz and DiSeqC properly.*

* *Note : For more information, refer to Chapter.6 How to Connect*

⑥ When necessary, you can change a **satellite name** as you wish.

You can enter alphabetic characters with the numeric keys.

For example, if you want to enter 'SAT-1',

Press                .

* *Note : Press   for space.*

⑦ After the installation procedure, press **EXIT** key or **MENU** key to store your entered data.

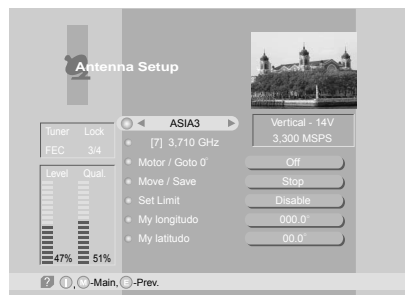
4. Antenna Setup

You need to position your antenna correctly for reception of the best signal.

① Press **MENU** key.

② Select 'Installation' with  or , and press .






③ Select 'Antenna Setup' with  or  and press .



Operation

6.1 Getting Started

Level	Indicating selected satellite signal strength level
Quality	Indicating signal to noise ratio

- ④ Select the **satellite** you want with  or .
- ⑤ Press  to move to TP section and select the TP you want with  or .
- ⑥ When the satellite and the TP are selected, you can check the reception status of the satellite signal. If the reception signal status is bad, adjust antenna to get the following result.


Tuner	Lock	FEC	1/2, 2/3, 3/4, 5/6 or 7/8
Level	over 30%	Quality	over 10%

⑦ DiSEqC 1.2 Positioner Setting

- Motor / Goto 0

Determine the kind of Motor & whether or not controlling it by using  or .

On	Using DiSEqC Motor.
Off	Not using DiSEqC Motor.
STAB	Using the specific Motor supplied by Stab company. Determine the longitude of the satellite on LNB Configuration Menu. If the longitude of the satellite on LNB Configuration Menu is setted, user must input the longitude about your position at present.

If you press , DiSEqC Motor will move toward Zero Equator.

- Move / Save

Motor moves to West & East direction.

- Set Limit



Determine the value of Limit of Motor.

If you select , the value of Limit will be changed.

- My longitude / My latitude

You can use this item when STAB is setted on 'Motor/Goto 0'.

Determine your longitude & latitude at present.













'East/West' is changed by using  or .

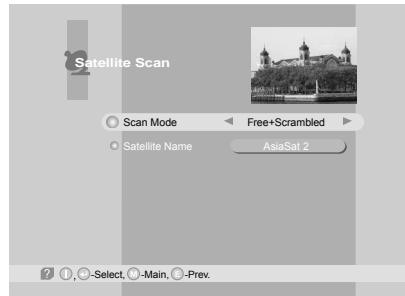
6.1 Getting Started

5. Satellite Scan

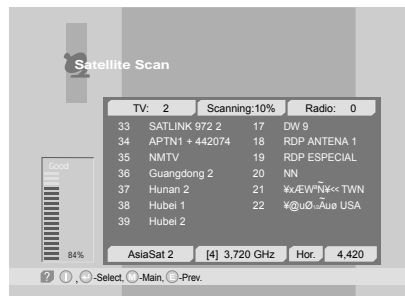
After finishing 'Antenna Setup', execute a 'Satellite Scan'.

Then you can get all channels in the pre-programmed TPs. This function can also be used to get the latest channel data while receiver is in use. Through this function, the receiver searches for all the available channels and saves them in the memory.

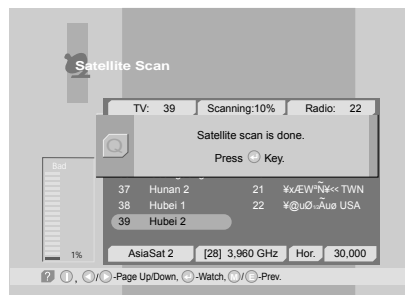
- ① Press **MENU** key.
- ② Select 'Installation' with  or , and press .
- ③ Select 'Satellite Scan' with  or , and press .
- ④ Select 'Scan Mode' with  or .
- ⑤ Select the scan mode you want with  or .
- ⑥ Select the satellite name you want with  or .



- ⑦ If you press , the selected satellites will be scanned.





- ⑧ While scanning, you can see the following menu on the screen.



Operation

6.1 Getting Started



⑨ After the scanning process, the first channel of the last scanned TP will be displayed on the back screen.

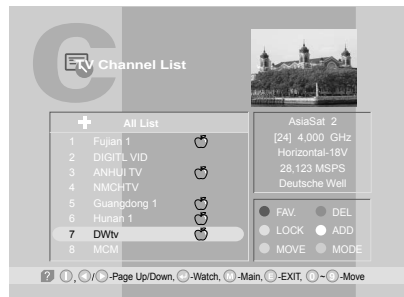
⑩ Press  to finish the process. Then select a channel and press  to watch a program or press **MENU** key or **EXIT** key.

* *Note : Now you have completed all steps needed for watching programs. If you could not see the program after finishing these procedures, please contact your engineer or representative.*

6. Select Channel


You can change the current channel to any other channel you want.

- ▶ If you do not know the channel name, or you want to select a channel at random, you can navigate between channels with  or  (**CH. Up/Down**) till you find the channel you want.
- ▶ If you know the channel number, enter the number and wait 5 seconds for the channel to change.
- ▶ If you know the channel name, press **CH LIST** key then channel list will pop-up.



① In the right section, detailed information of the selected channel will be displayed. (Name of satellite, frequency, symbol rate, etc.)

② Select the channel you want with  /  (scroll up/down) or  /  (page up/down).

③ When the scroll bar is positioned on the channel you want to see, press .

6.2 Channel Editing

1. Favorite Channel

You can set up favorite channel lists as you want.

For example, if you want to set favorite channel lists as following.

Favorite1 : 7 DWtv, 6 Hunan1

Favorite2 : 1 Fujian1

Favorite3 : 3 ANHUI TV, 5 Guangdong1

Firstly, set favorite1 channels.

❶ Press **CH.LIST**.

❷ Select 'DWtv' channel with / or / .



❸ Press **RED**.

❹ Select favorite1 with or and Press .



Favorite1 ~ Favorite5 are default name. Users can rename them for their convenience. If you want to rename 'Favorite1' (for example 'Drama').

❺ Press **RED**.

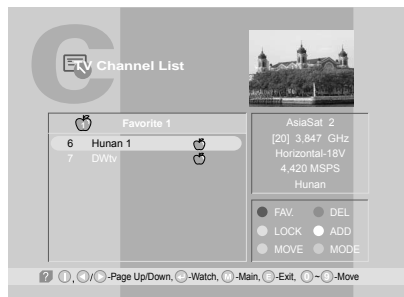


6.2 Channel Editing

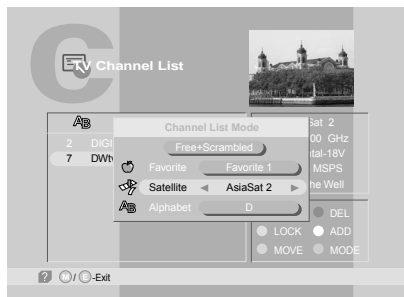
- ③ You can see 'Channel List Mode' window. Select 'Favorite' with or and select 'Favorite1' with or .



- ④ Press .



- ⑤ You can see only favorite1 channels are listed. With similar way, you can see favorite2 ~ favorite5 channel list.
- ⑥ If you want to return to all channel list (all channels of the selected satellite), press **ORANGE** and select 'Satellite' with or and press .



Alphabet Mode

Using this function, you can see the channel list which have same initial. This function is useful when you search specific channel among the list of thousands channels.

For example, if you want to see the channel lists which start with 'D'.

- ① Press **ORANGE** in the channel list and select 'Alphabet' with or .

Operation

6.2 Channel Editing

2 Select 'D' with or .



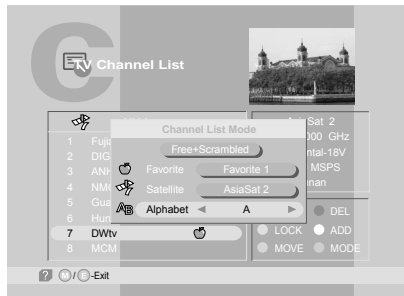
3 Press .



4 You can see the channel list where all channels have initial 'D'.

Free only Mode





1 Press ORANGE in the channel list and select first line with or . Select 'Free only' with or .




2 Select 'Favorite' or 'Satellite' or 'Alphabet' and press . You can see only the selected 'free' channel list.

6.2 Channel Editing

Free + Scrambled Mode

- 1 Press **ORANGE** in the channel list and select first line with  or .
Select 'Free+ Scrambled' with  or .





- 2 Select 'Favorite' or 'Satellite' or 'Alphabet' and press . You can see the selected free and scrambled channel list.




* *Note* : 'Scrambled' channel can be shown only with CI (Common Interface) model and CAS (Conditional Access System) model. 'Free' channel can be shown with all (FTA(Free To Air) and CI and CAS) models.

Satellite Mode

By using this function, you can see all channel list of the selected satellite.

- 1 Press **ORANGE** and select 'Satellite' item with  or .



- 2 Press  or  to select a satellite and press .

Operation

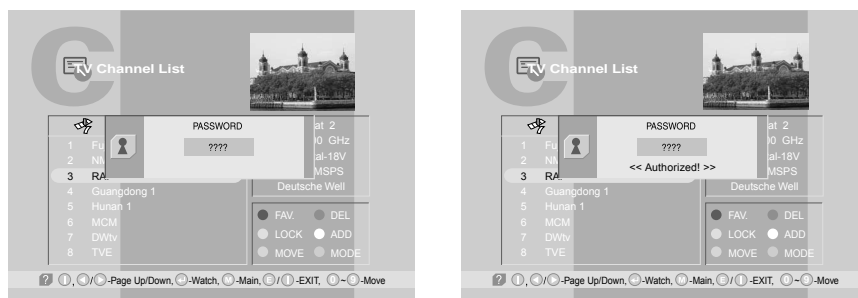
6.2 Channel Editing

3. Lock Channel

This menu enables you to prevent children from viewing programs unsuitable for their age.

- 1 Press CH.LIST and select the channel you want to lock with / or / and press GREEN. Then the selected channel is locked.

* Note : If 'password' window is risen as following picture, enter password with numeric keys (default password is '0000'). Then you can lock the channel. If you don't want this window, change 'Parental Control' set up in the 'System Parameters' menu. Refer to the 'Parental control' in 'System parameters' in this manual for detail.

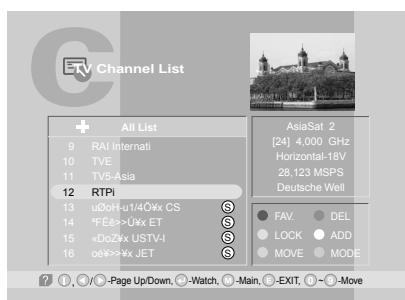


- 2 Press MENU, EXIT or to finish the process.
- 3 Without entering your password, you cannot watch a locked channel's program.
- 4 If you want to cancel the channel lock, go to the channel list and select the channel and press GREEN.

4. Channel Order Setting

You can organize the number or sequence of the channels.

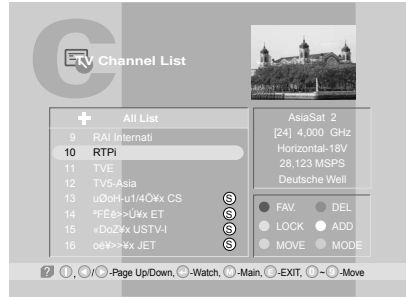
- 1 Press CH.LIST.
- 2 Select the channel you want to move with / or / and press YELLOW.



- 3 Move the selected channel with / or / to the position you want.

6.2 Channel Editing

④ Press YELLOW.



⑤ Press MENU, EXIT or to finish the process.

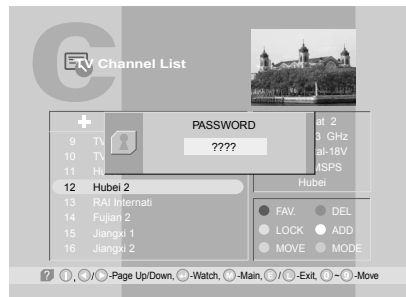
5. Delete Channel

You can delete channels from the channel list.

① Press CH.LIST and select the channel you want to remove with / or / .

② Press BLUE.

* Note : If 'password' window is risen as following picture, enter password with numeric keys (default password is '0000'). Then you can delete the channel. If you don't want this window, change 'Parental Control' set up in the 'System Parameters' menu. Refer to the 'Parental control' in System parameters' in this manual for detail.



③ Then, you need to confirm the deletion. If you definitely want to delete, press . If not, press EXIT.



* Note : Please be careful when you delete channel(s).

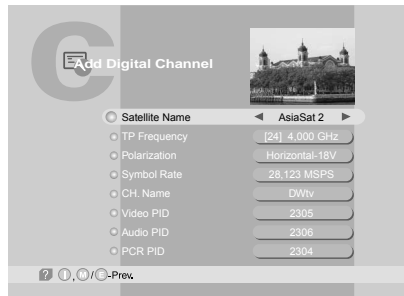
④ Press MENU, EXIT or to finish the process.

Operation

6.2 Channel Editing

6. Add Channel

- 1 Press CH.LIST.
- 2 Press Ivory.









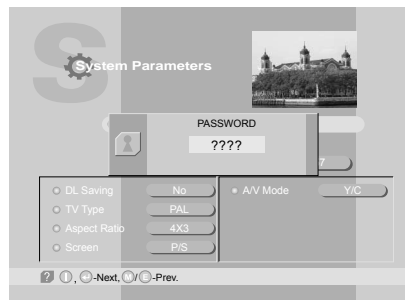
- 3 Select a satellite into which you want to add your new channel.
** Note : You can only select satellites which you set in 'Installation' menu.*
- 4 Move to 'TP Frequency' section (column) by pressing and change frequency with / or enter frequency with numeric keys.
** Note : TP frequency consists of 5 digits ending with GHz.*
** For example : TP Frequency 4.000GHz is*
- 5 Move to 'Polarization' by pressing and select Horizontal or Vertical with or .
- 6 Move to 'Symbol Rate' by pressing and enter the Symbol Rate value with numeric keys.
- 7 Move to 'CH. Name' by pressing and enter the alphabetic characters with numeric keys.
** For example : if you want to enter SAT-1,*
** Note : Press for space.*
- 8 Move to 'VIDEO PID' by pressing key and enter the proper value with numeric keys.
- 9 Move to 'AUDIO PID' by pressing key and enter the proper value with numeric keys.
- 10 Move to 'PCR PID' by pressing key and enter the value between 0000 ~ 8192 with numeric keys.
** Note : The above mentioned TP Frequency, Symbol Rate, VIDEO PID, AUDIO PID, PCR PID are very important for optimal satellite signal reception. We recommend you get professional advice where available. You cannot setup 'VIDEO PID' for RADIO channels.*

6.3 System Parameters

1. Setting Age Restrictions

This sub-menu allows you to set the age for parental locking and protect children from viewing programs unsuitable for their age.

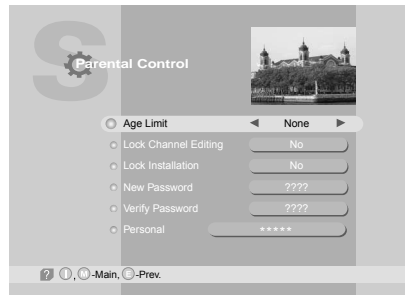
- ① Press **MENU** key.
- ② Press  or  to select 'System Parameters' and press .
- ③ Press  or  to select 'Parental Control' and press .




- ④ Enter 4-digit password.

* *Note : The default password is '0000'.*

- ⑤ Press  or  to select 'Age Limit'.



- ⑥ Press  or  to select age you want.

None	No age limit
8	Without entering password, programs are restricted to those who are over 8 years old.
12	over 12 years old.
15	over 15 years old.
18	over 18 years old.











* *Note : 'Age limit' can be applicable only for the signal which carries age limit information.*

Operation

6.3 System Parameters

2. Security Check

You can set **SECURITY CHECK** to protect your current installation from being changed (location shift, deletion, adding etc.) or modifying of installed data.













- ① Press MENU key.
 - ② Press  or  to select 'System Parameters' and press .
 - ③ Press  or  to select 'Parental Control' and press .
 - ④ Enter 4-digit password.
- * Note : The default password is '0000'.*
- ⑤ Press  or  to select 'Lock channel Editing', or 'Lock Installation'.
 - ⑥ Press  or  to select 'Yes', or 'No'.

Yes	When you process with 'Channel Editing' or 'Installation' of Main Menu, your receiver will ask for password. If you enter wrong password, you cannot proceed further.
No	You do not enter password during your processing.

** Note : Your receiver is pre-set as 'No'.*

3. Password Changing









You can change your password.

- ① Press MENU key.
 - ② Press  or  to select 'System Parameters' and press .
 - ③ Press  or  to select 'Parental Control' and press .
 - ④ Enter 4-digit password.
- * Note : The default password is '0000'.*
- ⑤ Press  or  to select 'New Password'.
 - ⑥ Press  ~  numeric numbers to enter new password.
 - ⑦ Press  ~  numeric numbers again to verify the new password.
- * Note : When you forget your new password, please consult the shop where you bought the receiver or the nearest dealer.*

6.3 System Parameters

4. Personal Information Setting

You can enter your personal information, such as your name and address, etc.

- 1 Press MENU key.
 - 2 Press  or  to select 'System Parameters' and press .
 - 3 Press  or  to select 'Parental Control' and press .
 - 4 Enter 4-digit password.
- * Note : The default password is '0000'.
- 5 Press  or  to select 'Personal'.
 - 6 Press 0 ~ 9 numeric numbers to enter new personal information.







* For example : If you want to enter 'WELCOME',

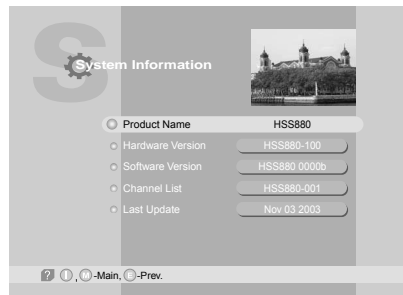


- * Note :
1. Maximum 32 letters can be entered.
 2. Your entered personal information will be displayed on the TV screen as Welcome Window when you power on your receiver.
 3. Initial information is ' * * * * '.
 4. After purchasing the receiver, if information other than that which you entered is displayed, please consult the shop where you bought it.
 5. Personal Information does not affect your viewing in any way.

5. System Information

You can check the current information about your receiver such as receiver's software and hardware version or manufacturing date.

- 1 Press MENU key.
- 2 Press  or  to select 'System Parameters' and press .
- 3 Press  or  to select 'System Information' and press .



* Note : This information is necessary when you download new software or you need to repair the receiver.







Operation

6.3 System Parameters

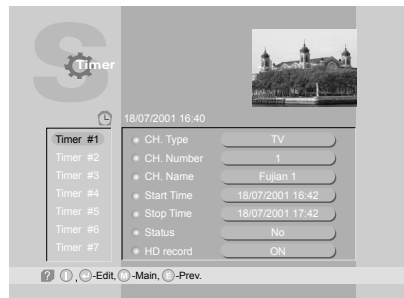
6. Setting Timer (Automatic power On/Off)



























You can pre-set the on/off time of your receiver.

During your absence, you can record programs on your VCR.

- 1 Press MENU key.
- 2 Press  or  to select 'System Parameters', and press .
- 3 Press  or  to select 'Local Time/Timer', and press .

* Note : Without the local time setting, this 'TIMER' function does not work.










- 4 Press  or  to select 'Timer #(number)' you want to set and press .
 - 5 determine 'CH. Type' by selecting 'TV' or 'RADIO' with  or .
 - 6 Select 'CH. Number' with  or  and enter channel number with numeric keys or with  or .
 - 7 Select 'Start Time' for your receiver power-on.
- * For example : For 1st of February in the year of 2000, 7:30 P.M.,
Enter             in sequence
- 8 Select 'Stop Time' by pressing .
 - 9 Enter power off time in the same way as you entered 'Start Time'.
 - 10 Select 'Status' and set 'Once/Daily/Weekly/No' with  or .
 - 11 Select 'HD record' and set 'ON' with  or  if you want to record auto matically.

- * Note : 1. Without 'STATUS' being activated (ON), Timer does not work.
2. If Prior time than current is entered, Timer does not work.
3. You can pre-set 14 TIMERS simultaneously. Regardless of number of TIMER, Timer will work in sequence of time sequence.
4. Remocon Key doesn't work while VCR recording.(While HDD recording, remocon key works)

6.3 System Parameters

7. Setting Day Light Saving Time (Summer Time)

You can adjust current local time when summer time is applicable.








- ① Press MENU key.
- ② Press  or  to select 'System Parameters', and press .
- ③ Press  or  to select 'DL Saving'.
- ④ Press  or  to select 'Yes' or 'No'.

Yes	Set for daylight saving function activated. The current time automatically moves one hour ahead.
No	Set for daylight saving function deactivated. The current time automatically moves on hour behind.

* Note : Without current local time setting, this menu cannot be processed.

8. Setting TV Type

You can set your TV display mode with this sub-menu.








- ① Press MENU key.
- ② Press  or  to select 'System Parameters', and press .
- ③ Press  or  to select 'TV Type'.
- ④ Press  or  to select 'Multi', 'PAL', or 'NTSC'.

Multi	When your TV is compatible with NTSC/PAL dual mode.
PAL	When your TV is only for PAL reception. Regardless of satellite signal, the display will be done in PAL format.
NTSC	When your TV is only for NTSC reception. Regardless of satellite signal, the display will be done in NTSC format.

* Note : If the satellite signal and your TV type are mismatched, the TV picture may be distorted. Even in this case, MENU will be displayed as normal. (e.g. When you receive PAL satellite signal with NTSC TV type setting or vice versa)

9. Setting Aspect Ratio

This sub-menu allows you to select your TV aspect ratio to 4:3 or 16:9 according to your wishes.

- ① Press MENU key.
- ② Press  or  to select 'System Parameters', and press .
- ③ Press  or  to select 'Aspect Ratio'.
- ④ Press  or  to select '4x3' or '16x9' or 'Auto'.

Operation








6.3 System Parameters

4x3	When your TV is 4:3.
16x9	When your TV is 16:9.
Auto	When setting suitable aspect ratio automatically.

* Note : If you set 4 x 3 when the Satellite input signal is 16 x 9, the right and the left parts of the original picture may not be seen.

10. Setting Screen

You can select the satellite input signal display mode.

- 1 Press MENU key.
- 2 Press  or  to select 'System Parameters' , and press .
- 3 Press  or  to select 'Screen'.
- 4 Press  or  to select 'P/S' or 'L. Box'.







P/S	When you set screen display boundary from Pan/Scan data of Satellite input signal. (For signal for 16x9 program)
L.Box	You can watch 16 x 9 ratio screen by reducing original size vertically and horizontally.

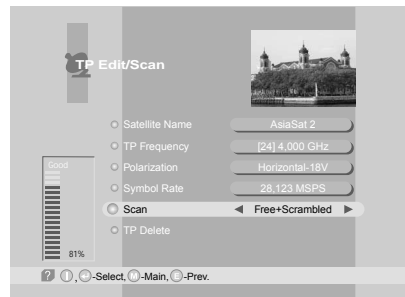
- * Note : 1. If you select 'L.Box', the screen might be distorted. Upper and lower part of the screen will be blocked with black stripes.
2. 'Screen' function is helpful when receiving 16x9 signal with TV of 4x3 format.












6.4 Transponder

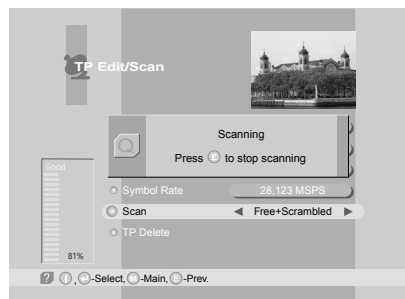
1. TP Edit / Scan

After 'LNB Configuration' and 'Antenna Setup' procedure, when necessary, you can edit and/or add certain TPs (transponders)

- 1 Press MENU key.
- 2 Select 'Installation' with  or , and press .
- 3 Select 'TP Edit/Scan' with  or , and press .



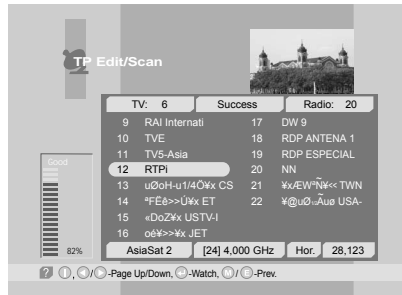
- 4 Select the 'Satellite Name' which includes the TP you want to add/edit with  or .
- 5 Move to 'TP Frequency' with  and select the TP you want to edit with  or .
- 6 If you want to add the new TP, enter the TP frequency with numeric keys.
- 7 Select 'Polarization' by pressing  and set the proper value for selected TP with  or .
- 8 Select 'Symbol rate' by pressing  and enter the symbol rate value for the selected TP with numeric keys.
- 9 After entering all values of the TP parameters, move to 'SCAN' section (column) with  and press  for storing all the entered TP data.
- 10 As a result, you can get the following menu showing the scanning process.



Operation

6.4 Transponder

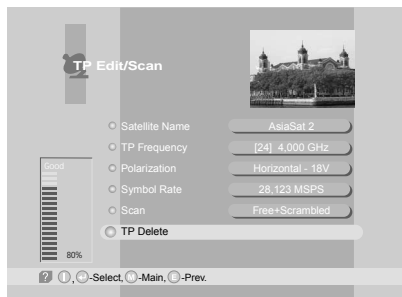
- After scanning process, the first channel of scanned TP will be displayed.



* Note : If the scan fails, please check whether your entered values are correct or not and the signal reception sensitivity is good or bad.

2. TP Delete








- Press MENU key.
- Select 'Installation' with or , and press .
- Select 'TP Edit/Scan' with or , and press .



- Move to TP section (column) with and select the TP you want to delete with or .
- Move to 'TP Delete' section (column) by pressing and press .
- When the menu asks you to confirm the deletion, press if you want to delete it or press EXIT key if you want to void the deletion.

6.5 Factory Set


The status of the receiver will return to factory default parameters by using this function.

- 1 Press **MENU** key.
- 2 Select 'Installation' with  or , and press .
- 3 Select 'Factory Set' with  or , and press .
- 4 When the menu asks you to confirm the reset, press  if you want to reset or press **EXIT** key if you want to void the reset.

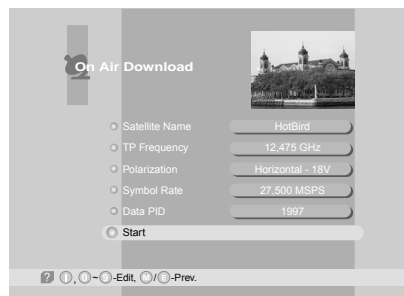
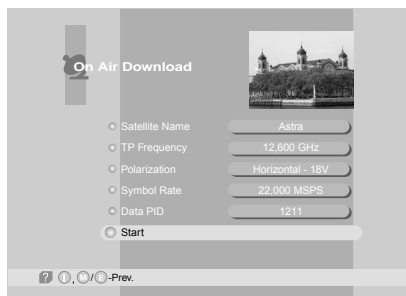


6.6 On Air Download

To upgrade firmware of the receiver via satellite.

- 1 Press Menu Key, and select Select 'Installation'.
- 2 Press  at 'On Air Download'.
Set Satellite, TP frequency, Symbol rate and data PID like as picture.

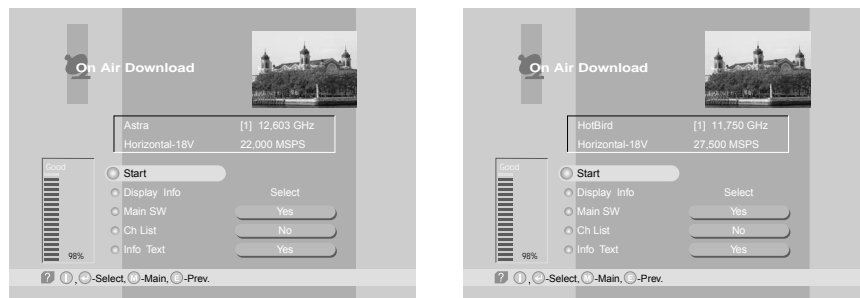
*** Note : Don't edit each section carelessly.**



Operation

6.6 On Air Download

- Press **Start**.
- It takes a few minutes to search the group of program & download channel. If there is problem in searching the necessary information, then other window is open.



- If you select 'Start' again, upgrade will start. On finishing upgrade, if necessary, Receiver is restarted.
- * Note : Do not turn off the power, while upgrading Receiver.*

6.7 Other Function on Remote Control

1. TV / RADIO switching

You can use this menu when you change a TV channel to a Radio channel or vice versa.

- Press 'TV/RADIO'.
- When listening a radio channel, 'r001' will be displayed on the front panel.

2. GUIDE(EPG:Electronic Program Guide)

You can check the channel information on the channels of the transponder you are watching.

- Press GUIDE key, then the following menu will be displayed.

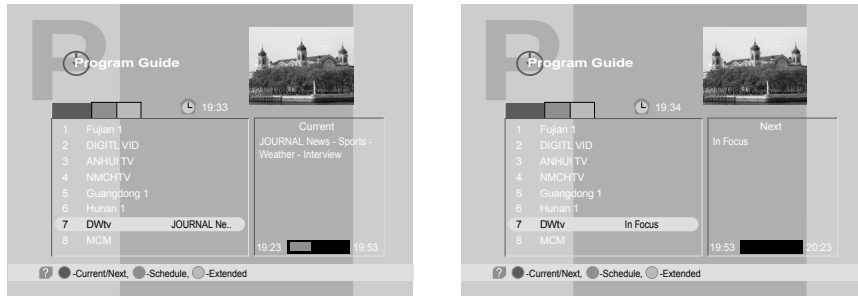
- * Note :*
- You can check local time, channel name, and other brief information on the current program.
 - If you didn't set local time under 'System Parameters' section, the GUIDE function may not work properly.
 - EPG information is delivered by satellite from service providers. If the channel does not carry any signal on the guide data, this function may not work properly.

6.7 Other Function on Remote Control



- ② Select Channel with  or .

Then you can see current or next program information of the selected channel.

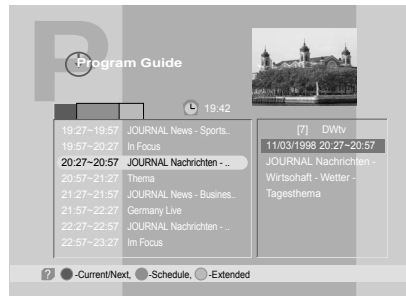
- ③ If you press **GREEN**, current or next program information would be converted to next or current program information respectively.



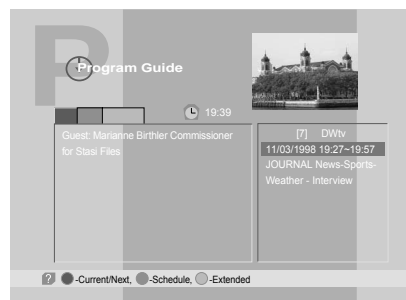
- ④ If you press **YELLOW**, you can see program schedule list of the selected channel.

- ⑤ If you want to see program information of a program in the program schedule list, select the program with  or .

Then you can see the program information in the right window.



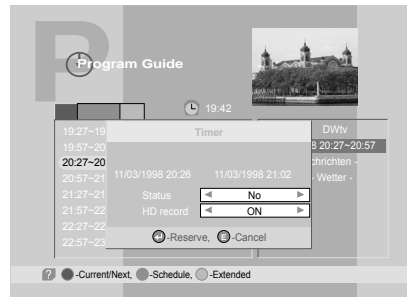
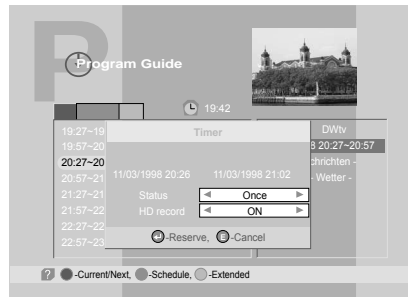
- ⑥ If you press **BLUE**, you can see extended program information of the selected program.



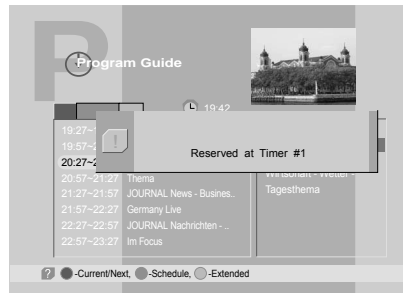
Operation

6.7 Other Function on Remote Control

- ⑦ You can set up automatic power on-off (Timer) or automatic recording on the program schedule list. After pressing **YELLOW** in the Guide(EPG) menu, select a program with / or / and press .
- ⑧ Select 'Once/Daily/Weekly/No' of 'Status' with or .
- ⑨ Select 'HD record' and set 'ON' with if you want to record automatically.



- ⑩ Press to save the new 'Timer' setting.



- ⑪ Press **MENU**, **EXIT** or to finish **GUIDE** menu.

- * **Note** : 1. Without 'STATUS' being actuated (Yes), 'Timer' does not work.
- 2. If a program of prior time than current time ('Local Time' in 'System Parameters' menu) is selected, Timer does not work.
- 3. Refer to 'Setting Timer' in 'System Parameters' in this manual.

6.7 Other Function on Remote Control

3. Subtitle/Audio

You can adjust the subtitle and audio condition/status of the current channel.

- Press 'AUDIO' and subtitle and audio related window will be displayed on the screen.



- In this example, program spoken language is 'English' and user's selected subtitle language is 'Swedish'.



The contents of each parameter are as follows ;

Subtitle Track	(Subtitle language #) of (all subtitle language available in this program) [Current selected subtitle language]
Audio Track	(Audio track #) of (all tracks available in this program) [spoken language in this program]
Audio Mode	Stereo -> Mono-Left -> Mono-Right
Dig. Output	Non-compressed / Compressed

- * Note : These subtitle and audio parameters are workable only when the receiving channel supports these functions.

Operation

6.7 Other Function on Remote Control

4. Teletext

Teletext Service is text data service from Service Provider.

It is available only when the satellite signal carries teletext service data.

① Press **BLUE** key and wait.

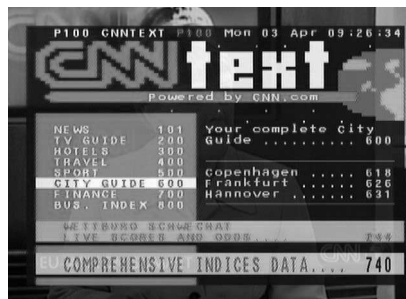
If '*' sign is pops up in the left upside of the screen as the following picture, wait until teletext service menu is displayed because '*' means 'This program provides teletext service. So wait a moment'.



② Teletext Service Data is displayed as following picture.



③ Select your interesting item with numeric keys. For example, if you want to see about 'CITY GUIDE', press **6 0 0**.



6.7 Other Function on Remote Control

5. Sleep Timer

Your receiver will automatically power-off when the time you set is passed.
Press 'SLEEP' key until the right time you want appears.

- * Note : 1. You can set SLEEP TIMER in 30 minute steps up to 150 minutes.
- 2. The SLEEP TIMER does not work while you are in 'MENU', 'GUIDE' or 'CHANNEL LIST'.

6. Aux in

You can set in/out mode of the two scart connectors (TV, AUX) on the rear panel. Press 'Aux in' key until the scart mode you want is displayed.



SAT	Input satellite signal will be output to TV Scart and AUX (VCR) Scart. (VCR is connected to AUX to connector for recording)
AUX	Input signal from AUX scart connector will be output to TV scart. If there is no input from AUX scart, your receiver will operate as if you chose SAT mode.
AUX 2	Input signal from AUX scart connector will be output to TV scart by force.
TV	This is special mode for hiding TV scart video output. AUX scart video out is not affected.

* Note : You cannot see picture when set to AUX2 mode if there is no input signal from AUX scart.

Operation

6.7 Other Function on Remote Control

7. Channel / Information

Brief information is displayed, such as current channel type, name, local start/end time, guide information, current time, fav/normal mode, Audio mode and Audio ID.


- 1 Press **INFO**, then the information bar will pop-up.



- * *Note : If you have no information :*
 - Check your local time setting is correct.
 - Information is not sent by the channel provider.




6.8 Picture in Picture

1. Start PIP

You can use PIP function by pressing **PIP** () key.

- 1 Press **PIP** () key to display sub-picture window.



- 2 Whenever press **PIP** (), the sub-picture window changes like as Live, HDD and Disable.
- 3 If sub-picture window pops up, you can select main-picture window or sub-picture window by pressing volume up/down key.
- 4 Press  or  to change channel (or HDD program) of selection window.

6.8 Picture in Picture

2. PIP swaping

You can swap main-picture window and sub-picture window by pressing **PIP swap** (Ⓜ) key.

- 1 If PIP function is running, press **PIP swap** (Ⓜ) key. Main-picture and sub-picture will be swapped

6.9 Zoom Function

1. Start ZOOM Function

You can magnify selected part of screen by pressing **ZOOM** (Ⓜ) key.

- 1 Press **ZOOM** (Ⓜ) key to magnify selected part of screen by pressing. And zoom position window is displayed.



- 2 If you want to magnify other position, press Ⓜ / Ⓜ or Ⓜ / Ⓜ key. Zoom window will move to the selected position.
- 3 You can adjust zoom ratio by pressing **ZOOM** (Ⓜ) key.

2. Stop ZOOM Function

To Stop zoom function, press **EXIT** key.

- * *Note : Maximum magnification is by four.*

Hard Disk Operation

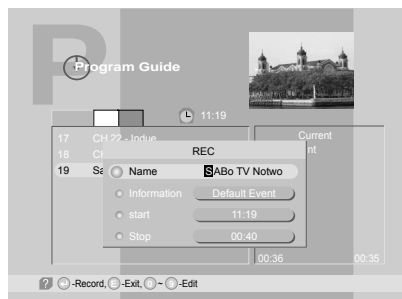
7.1 Recording

1. Start Recording

You can record the current channel by pressing **RED(●)** key.

If program Guide menu pops up, you can record any channel you want.

- 1 Press **RED(●)** key to record current channel.
- 2 In Program Guide menu, press **RED(●)** key to record after selecting a program you want. Then Record dialog menu will be displayed.



- 3 Some items can be edited in Record dialog menu.

* *Note : Direct recording is stopped only when user stops it or there is no HDD space.*

- 4 Press **⏪** to start recording.



* *Note : When a program is recorded, red R-icon is flickered on the upper-left corner. If you want to play during recording press **ORANGE(LIST)** key to enter HD-Program Guide Menu.*

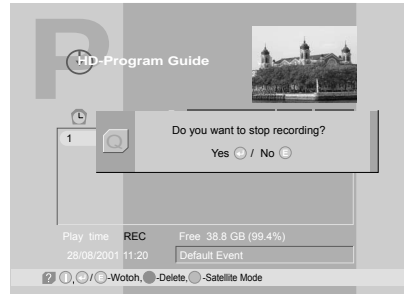
* *Note : If you insert or take out CAM module during recording or replaying scrambled contents, it may not work properly.*

2. Stop Recording

To stop recording manually, you must enter into HD-Program Guide menu by pressing **ORANGE(LIST)** key.

- 1 If any program has been played, press **ORANGE(LIST)** key to enter HD-Program Guide menu.
- 2 Press **ORANGE(LIST)** or **EXIT** key to display message of stop recording.

7.1 Recording



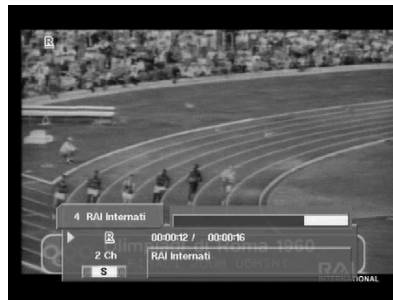
* Note : If there is no HDD access for 5-minutes, the receiver will go into sleep mode.

- ③ If one channel is recorded, press **STOP** key to stop recording.
- If two channels are recorded, press **STOP** key to stop First recording and press **YELLOW (▶▶)** Key to stop Second recording.

3. Time Shifting

You can use time-shift function for the current channel by pressing **TIME-SHIFT (Ⓢ)** key.

- ① Press **TIME-SHIFT (Ⓢ)** key to start time-shift of the current channel.
- HD-information Bar will pop-up and red R-icon is displayed.



- ② You can use trick play by pressing **BLUE (▶||)**, **GREEN (◀◀)**, **YELLOW (▶▶)**, or **SLOW-MOTION (Ⓢ)** key.
- ③ To stop time-shift function, press **WHITE (■)** or **ORANGE (LIST)** key.
- If HD-Program Guide menu is displayed, press **ORANGE (LIST)** or **EXIT** key to stop time-shift function.





* Note : Channel up/down will stop time shift.

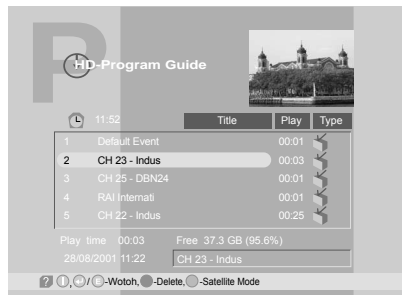
Hard Disk Operation


7.2 Playing

1. Start Playing

You must select a program to play stored programs.
For entering HD-Program Guide menu, press **ORANGE (LIST)** key.


- ① Press **ORANGE (LIST)** key.
- ② In HD-Program Guide, select a program by pressing  or .



- ③ Press  to start playing.







* Note : You can use , , ,  keys while playing.

2. Trick Play Controls

For trick play, press  or **INFO** key then HD-Information Bar will pop-up.





Trick Play Mode : Pause, Jump, Fast Forward, Fast Reverse, Resume.

	HD Playing	HD Paused		HD Playing	HD Paused
YELLOW 	Fast Forward	Jump Forward	GREEN 	Fast Reverse	Jump Backward
BLUE 	Pause	Resume	IVORY 	Stop	Stop
SLOW-MOTION 	Slow-Motion	Slow-Motion	INFO or 	Info On/Off	Info On/Off


* Note : In case of rewinding of recorded scrambled contents, it may not work properly. If you want to activate rewinding function, descramble the contents with relevant CAM module first and then do rewind.

7.3 Delete Programs

You can delete any program in HD-Program Guide menu.

- 1 Press **ORANGE (LIST)** key then HD-Program Guide menu will pop-up.
- 2 In HD-Program Guide, select a program with  or .
- 3 Press **RED (●)** key to delete the program then Delete dialog menu will pop-up.





- 4 Press  to delete the program or **EXIT** key to void.

* *Note : For deleting any stored program, you must stop both playing and recording.*

7.4 Descrambling Service

1. Descrambling Start


You must select a program to descramble stored programs.

- 1 Press **Orange (LIST)** Key.
- 2 In HD-Program Guide, select a scrambled program by pressing  or .
- 3 Press **Time shift (⏮)** to start descramble.

* *Note : Necessarily correct CAM must be inserted for descrambling.*

7.5 Lock Programs



If you want to lock any program, enter the advanced menu by pressing **MENU** key with HD- Information Bar. After locking a program, you must enter the password for playing the program.

- 1 Start playing a program.
- 2 Press  then HD-Information Bar will pop-up.
- 3 Press **MENU** key, the advanced menu will pop-up.

Hard Disk Operation

7.5 Lock Programs



④ Select 'LOCK' using  or .

⑤ Press , LOCK enable or disable will be setted with Yes or No.




* Note : The password for playing a stored program is the same password for any other lock operation.

7.6 Skip Play


You can set the part you don't want to play, such as advertisements.

The skip part consists of start and end points.

In all, 10 skip points are available.


① Select a program with  or , and press  to play in HD-Program Guide menu.

② Start playing and search the start point of skip play using trick play controls.

③ Press RED () key to set the start point.



④ Temporary start point will be displayed with a red pointer on the Bar.

⑤ Press RED () key to set the end point you want.

7.6 Skip Play

⑥ Then a proper pair of start and end points will be displayed with yellow pointers on the Bar.



* Note : To try to set an improper pair will be rejected.

⑦ Press RED (●) key at the position between start and end points, then the skip-point will be removed.

⑧ Press MENU key and select 'Clear skip points'.

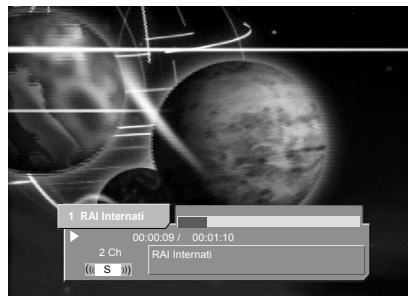


⑨ Press (⏮), to remove all skip points.

7.7 Bookmark

You can jump to a position directly by bookmark function in playback and time-shifted playback. To search positions very quickly and easily, use bookmarks.

① To add a bookmark, press **bookmark** (📍) key at the position you want to add it.
Green dot is displayed at HD-information bar.



Hard Disk Operation

7.7 Bookmark

- 2 Press go to bookmark (Ⓜ) key to jump to the previous bookmark.
- 3 To remove a bookmark, select the bookmarked position by go to bookmark (Ⓜ) key and press bookmark (Ⓜ) key.

7.8 Repeat

1. Repeat Mode

You can repeat playback by pressing REPEAT (Ⓜ) key.

- 1 Start playback a stored program on HD.
- 2 Press REPEAT (Ⓜ) key to repeat playback.
- 3 Whenever press REPEAT (Ⓜ), Repeat 1, Repeat All, Normal mode are displayed in turn.

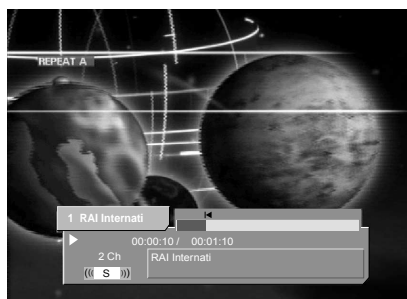


* Note : If Repeat 1 mode is selected, only current program is repeated. If Repeat all mode is selected, every program on HD is repeated. If Normal mode is selected, any program will not be repeated.

2. Repeat A-B

You can repeat selected region by pressing REPEAT A-B (Ⓜ) key.

- 1 Start playback a stored program on HD.
- 2 Press REPEAT A-B (Ⓜ) key to display repeat A message.
If HD-Information bar pops up, ◀ icon is displayed on HD-Information bar.



7.8 Repeat

- Once more, Press **REPEAT A-B** (⏮) key to display repeat A-B message.
And selected region is played repeatedly.
If HD-Information bar pops up, ⏮, ⏭ icon display on HD-Information bar.



- To stop repeat A-B function, press **REPEAT A-B** (⏮) key once more.

7.9 Split Operation

You can split a program in two programs. The operation takes a few minutes to complete splitting.

- Select a program with or , and press to play in HD-Program Guide menu.
- Go to the split point using trick play control.
- Press **MENU** key, then the additional menu will pop-up.



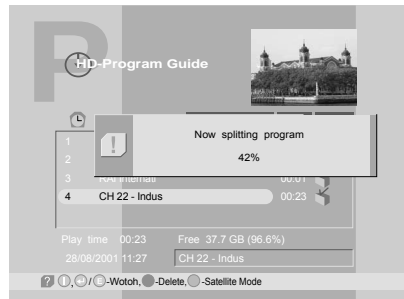
- Select '**Split take**' menu and press , then Split take dialog will pop-up.



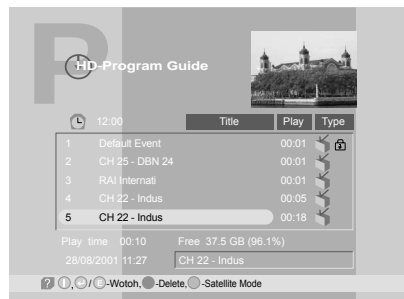
Hard Disk Operation

7.9 Split Operation

- 5 Press **ENTER** to start splitting or **EXIT** key to cancel.
- 6 If split operation starts, the progress window will pop-up and you can see the status of process.



- 7 After splitting, HD-Program Guide menu will pop-up and splitted program will be selected.



7.10 Trick Play Controls without OSD

You can use trick play controls without HD-Information Bar.

Small yellow icon will be displayed for trick play controls.

At pause state, pressing **GREEN** (**◀◀**) / **YELLOW** (**▶▶**) will make the program be played step by step.

- 1 In HD-Program Guide menu select a program with **ENTER** or **EXIT** and press **ENTER** to play.
- 2 Press **BLUE** (**▶|**) and then **GREEN** (**◀◀**) or **YELLOW** (**▶▶**) to start trick play without any OSD.
- 3 You can control trick play while yellow icons are displayed.
- 4 Besides, you can control step by step play with **GREEN** (**◀◀**) / **YELLOW** (**▶▶**) at pause state.

Trouble Shooting

There may be various reasons for the abnormal operation of the unit. Therefore, if the unit does not work properly, check it according to the procedures shown in the table below :

Problem	Possible causes	Remedy
LED on front panel does not light.	AC power cord disconnected.	Connect power cord properly into the power socket.
No Picture or sound.	Wrong connection of the video/audio output to TV input terminal. Wrong connection of satellite antenna cable. Wrong direction of satellite antenna. No signal or weak signal. Wrong setting of channel information in MENU screen.	Connect terminals correctly with scart cable or RCA or RF cable. Connect the antenna cable correctly. Adjust the direction of antenna. Check the cable connections, LNB and other equipment connected between the LNB and the receiver or adjust the antenna. Type the setting value correctly.
Black-and-white screen or V-Hold.	Your TV mode is different from satellite broadcasting mode.	Use TV of same mode. Use the NTSC/PAL converter connected to the receiver and TV.
The remote controller is not working.	Battery exhausted. Fluorescent light interfering with the remote controller Remote controller is incorrectly aimed.	Change the batteries. Switch off the light.

Specifications

System capabilities	Fully DVB compliant	
LNB/Tuner input	Connector	IEC 169-24, female
	Frequency range	50MHz ~ 870MHz
	Signal level	-20dBm ~ +30dBm
Demodulator	Front end	QAM
	Symbol rate	2Msps ~ 5.5Msps
System resource	Input impedance	75 Ohm unbalanced
	Processor	32bit processor (166MHz)
	SDRAM	32Mbyte
	FLASH	8Mbyte
	EEPROM	4Kbyte
Video Decoder	MPEG 2	Main Profile @ Main Level
	Data Rate	up to 15Mbits/s
	Resolution	720 X 576, 720 X 480
	Video format	NTSC, PAL-M
	Aspect Ratio	4:3, 16:9
Teletext	DVB compliant	VBI insertion and OSD
MPEG Audio	MPEG 1 layer 1 & 2	
	Type	Mono, Dual mono, Stereo, Joint Stereo
	Sampling rates	32, 44.1 and 48 KHz
Serial data interface	Connector	9pin D-sub male, Max 115Kbps
Remote control	Code	NEC-IR
	Operating condition	up to 7 Meter
Power supply	Power consumption	max 60W
	Supply voltage	98V ~ 240V
	Supply frequency	47Hz ~ 63Hz

Specifications

Rear Panel connectors	Video out	1 X RCA cinch
	Audio L/R	2 X RCA cinch
	DIGITAL OUT	1 X RCA cinch
	S-VHS out	1 X 4P MINI DIN
	Digital tuner input	IEC 169 - 24
	Loop-through Digital tuner	IEC 169 - 24
	RF ANT IN	IEC 169 - 24
	RF OUT	IEC 169 - 24

Physical Specification	Size (W X H X D)	335 X 58.5 X 268(mm)
	Weight (Net)	3.2Kg