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I.General Information

1. Preface

This receiver employs the powerful single chip processor STi5518, and is fully compliant with MPEG-2 and DVB-T standards. It receives terrestrial digital TV signals transmitted in the VHF and UHF bands between the rates of 3.7 and 23.8Ms/S at 7MHz or 8MHz channel bandwidths. Program parameters are held in memory when switched off. Features include an Electronic Program Guide, Auto channel Search, and enhanced Multi-language On Screen Display menus. The latest technology and design are employed to provide high reliability and picture stability.

2. Main Features

- Fully DVB-T & MPEG-2 compliant
- Digital Reception covers VHF & UHF band
- Wide screen 16:9 and normal 4:3 Aspect Ratio
- Bandwidth of 7MHz&8MHz Supported
- Teletext/Bit Map subtitle, compliant with ETSI/EN300 472
- Closed Caption Hot Key
- 3000 Editable Channels
- 8 Groups of Favorite Channels
- Automatic, Manual
- Parental Lock Control
- Electronic Program Guide and Information Plate
- Digital Audio Output S/P DIF
- Software upgrade via RS-232 serial port
- Forcible PAL/ NTSC conversion
- Standby with low consumption
- Time adjustment

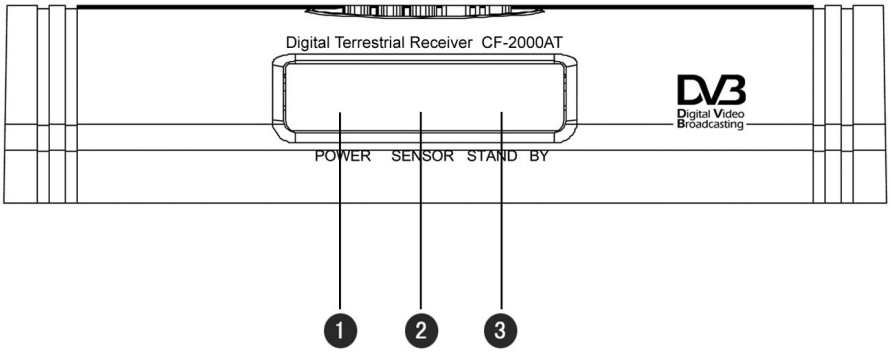
3. For Your Safety

- Allow clear space around the receiver for sufficient ventilation
- Do not cover the receiver's ventilation slots or place it on a unit that emits heat
- Use a soft cloth and mild washing solution to clean the case
- Do not connect or modify cables when the receiver is plugged in
- Do not remove the cover
- Do not allow the unit to be exposed to extreme heat, cold or humid conditions
- Never allow liquids, spray or other materials to come into contact with the circuitboards inside.

4. General Operation of the Receiver

The everyday operation of your receiver is accessed via user friendly on screen displays and menus. These menus can help you get the most from your STB, guiding you through installation and channel manager with its various functions to enhance your viewing pleasure. All functions can be accessed through the Remote Control Unit and the front panel buttons provide access to many functions. Please be aware that new software may change the functionality of the receiver. Should you experience any difficulties with the operation of your unit, please consult the relevant section of this manual or Trouble Shooting. Alternatively call your dealer or a customer service adviser.

5. Front Panel

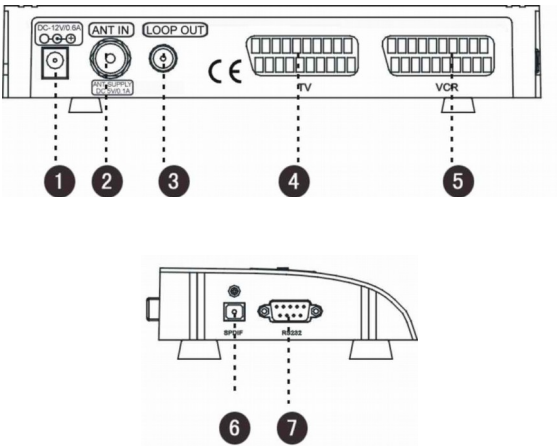


❶ **POWER:** The light shows green when the receiver turns ON.

❷ **SENSOR:** To detect the red radiation from RCU

❸ **STAND BY:** The light shows green when the receiver runs normally and turns red when the receiver is at STAND BY mode

6. Rear Panel



❶ **DC-12V/0.6A:** Power supply

❷ **ANT IN:** Connect to a terrestrial antenna

❸ **LOOP OUT:** Connect to another receiver (IF loop through output from digital tuner)

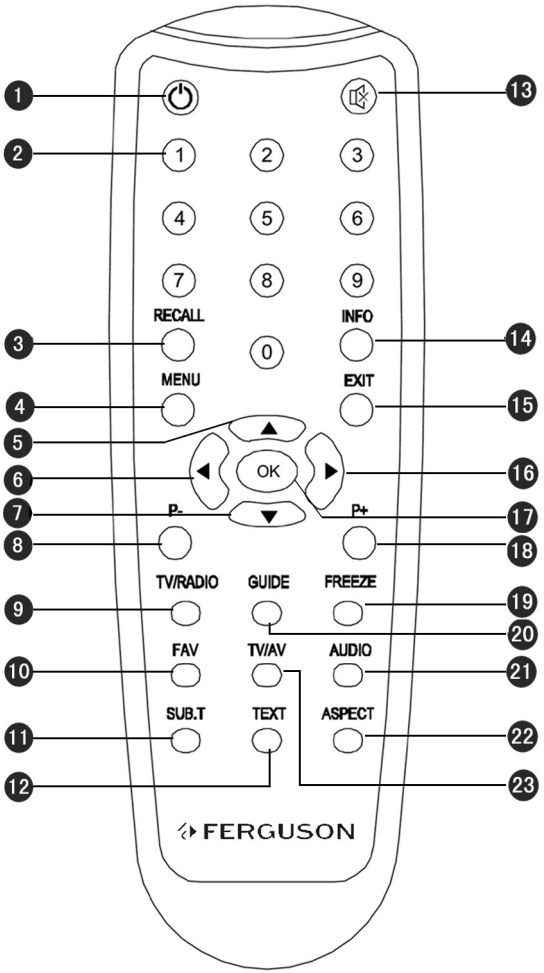
❹ **TV:** Connect to the TV using Video-Scart cable

❺ **VCR:** Connect to VCR using Video-Scart cable

❻ **S/P DIF:** Connect to a Hi-Fi system

❼ **RS232:** Connect to a PC for software upgrade.

7. Remote control unit



Keys specification

❶ **:** Press to switch between operation and standby modes

❷ **0 ~ 9:** Enter number of the required menu item or select a channel number to watch

❸ **RECALL:** Switch back to previous channel

❹ **MENU:** Display the main menu

❺ ❻ ❼ ⓰ **:** Move cursor up / left / down / right,Volume+/-,Channel up/down.

❽ ⓲ **P-/P+:** Press to page up or down

❾ **TV/RADIO:** Switch between TV and Radio modes

❿ **FAV:** Display the favourite list

⓫ **SUB.T:** Subtitle hotkey will select DVB bitmap type titles. Note that subtitles may not always work as the broadcaster may not provide the service

⓬ **TEXT:** Views the text information if the transmitting stream includes text data

⓭ **:** Press to temporarily cut off the sound

⓮ **INFO:** Shows information of the current channel

⓯ **EXIT:** Return to the previous menu on the menu screen or escape from the item

⓱ **OK:** Executes the selected item in the menu screen, or enters the desired value in any input mode

⓳ **FREEZE:** Pause/Play A/V

⓴ **GUIDE:** Calls up the EPG (Electronic Program Guide)

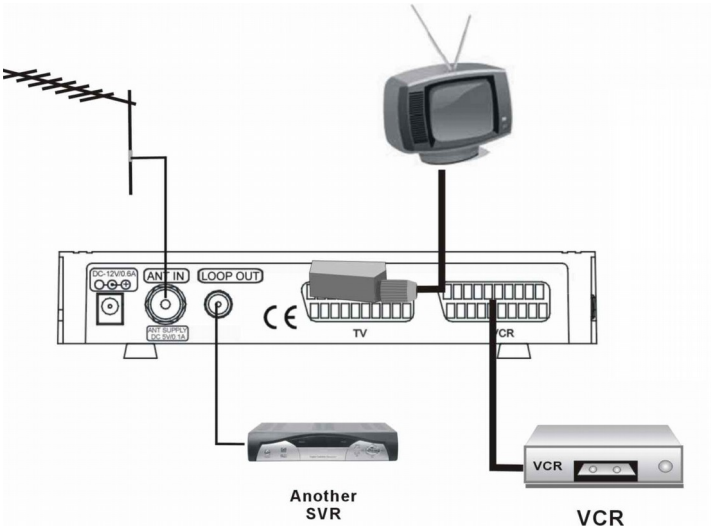
㉑ **AUDIO:**Select audio language

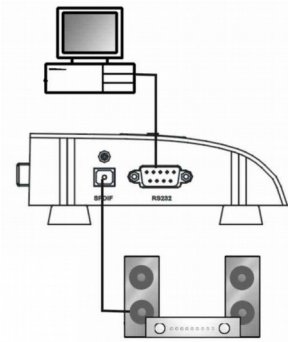
㉒ **ASPECT:** Use this hotkey to select your televison screen format. Continuously press this button to toggle through the different modes.

㉓ **TV/AV:** Press to switch between TV and AV modes

8. Installation of STB

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





II. Menu Structure

Pressing the **MENU** key will display the **Main Menu**.
This menu provides five options.

- **Installation**
  - All Auto Search
  - Manual Search
  - Edit Channel
  - Search Setting
  - STB Information

- **Program Organize**

- **Parent Setting**

- **System Setup**
  - Video Setting
  - Audio Setting
  - OSD Setting
  - Language Setting
  - STB Upgrade
  - STB To STB Upgrade
  - Time Setting
  - Restore Default

- **Game**
  - Tetris
  - Gobang

Use the ▲▼ keys to move from one item to another. Press the the **OK** key and the selected sub menu will display. To escape the menu system at anytime, press the **EXIT** or **MENU** key on the Remote Control Unit.

1. Installation

Use ▲▼ keys to select Installation item from Main Menu and press the **OK** key. The **Installation** menu will display on the screen.

1.1 All Auto search

While **All Auto Search** window appears on the screen, system begins to search programs referring to RF channels system has stored already. During searching, you can see the searched RF channels whose relevant parameter and searching results are shown in the display window. A dynamic bar at the bottom of the window reflect the signal strength. Durinig the searching process, **OK** key is used to skip current RF Channel and **EXIT** key is used to finish the whole process. After searching well, new searched TV and radio programs will be added to the corresponding program list and be arranged under categories.

1.2 Manual search

You can set parameters in Manual Search if you are familiar with relevant parameters. In this mode, only one RF channel, whose necessary parameters are set in **Manual Search** menu by hand, can be searched.

MUX: Press ◀▶ keys to pop up a drop-down list box where you can select your desired option by using ▲▼ keys. Select the desired one and press **OK** key, the box disappears and the value in **Freq(kHz)** varies your selection.

Freq(KHz): Since the value in this item varies the selection in Mux item, it can

also be modified. You can change this value in this way. Highlight this item, then press ▶ key to active it. Use ◀▶ keys to select desired location. By pressing numeric keys or ▲▼ keys on the RCU, you can change the value of desired location. After modifying well, press **OK** key to confirm, or press **EXIT** key to cancel.

Mode: By pressing ◀▶ keys, set this item to be 2K, 8K or Auto.

Guard: Available options are: 1/4, 1/8, 1/16, 1/32 and Auto. Press ◀▶ keys to select one of the available alternatives.

BandWidth: You have a choice of 6M, 7M, 8M. Press ◀▶ keys to select appropriate bandwidth.

If there are items that you are not familar with, please set them to default or auto. Once **OK** key is pressed, corresponding searching window will be displayed on the screen. During this process, new searched programs will be listed in two columns labeled with TV or Radio. Two dynamic bars reflecting the signal quality and the rate of process will also be displayed.

1.3 Edit Channel

Select **Edit Channel** item in the **Install** menu and press **OK** key. Then **Edit Channel** menu will be displayed on the screen. From here, new RF channel can be added and the existing ones can be edited or deleted.

You can use the colour keys on the RCU to execute the corresponding command.

Add (**Red** colour key) Modify (**Green** colour key)

Delete (**Yellow** colour key) Search (**Blue** colour key)

❖ **Add**

After pressing **red** colour key on the RCU, the **Add Channel** menu, which is for setting necessary parameters of the new RF channel, will be displayed on the screen.

Freq: Highlight this item, then press ▶ key to active it. Select desired location. By pressing numeric keys or ▲▼ keys on the RCU, you can change the value of desired location. After modifying well, press **OK** key to confirm, or press **EXIT** key to cancel.

Mode: Select among 2K, 8K and Auto.

Guard: Available options are: 1/4, 1/8, 1/16, 1/32, and Auto.

Bandwidth: The available options are 6M, 7M and 8M.

Having all above parameters set well, press **Exit** key to pop up a warning dialogure asking you for confirmation. Press **OK** to save and exit, otherwise press **EXIT** key. In **Edit Channel** menu, you can find that the new RF channel has been added to the last of the list.

❖ **Modify**

First select the RF channel you want to edit and then press the **green** colour key to display **Modify Channel** menu. The operating methods are the same as “Add”.

❖ **Delete**

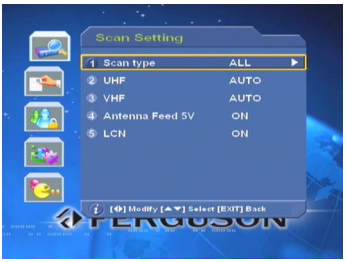
This command allows you to delete one or more unwanted RF channels. The selected RF channel is deleted from the list as soon as **yellow** colour key on the RCU is pressed.

❖ **Search**

First select the channel you want to search and press blue key on the RCU. The Manual Search windows will be shown on the screen.

1.4 Search setting

Select Search setting item in Installation menu and press OK key, and then you will enter into Scan Setting window.



Scan Type: Press ◀▶ keys to select among FTA, CAS and All. If you select FTA, only free programs will be searched.

UHF: Use ◀▶ keys to select proper option among 6M, 7M and 8M and AUTO.

VHF: Use ◀▶ keys to select proper option among 6M, 7M and 8M and AUTO.

Antenna Feed 5V: By pressing ◀▶ keys, select the option to be ON or OFF.If it is ON,then the antenna will output 5V/100mA to activate the antenna.

LCN(LOGICAL CHANNEL NUMER) : By pressing ◀▶ keys, select the option to be ON or OFF. If it is ON,then all the channels will be listed according to their logical channel number.(If the receiver is used in FRANCE,recommend to set it to be “ON”;If it is used in other countries,recommend to set it to be “OFF”)

1.5 STB Information

In this menu, you can view the following receiver information, including Product, HW version, SW version and Released date.

2. Program Organize

You can move, modify and delete any program shown in the **Organize program** window. First use the ▲▼ keys on the RCU to select the program you want to operate, then execute a command by pressing the corresponding color key on the RCU.

The color key corresponds the following command.

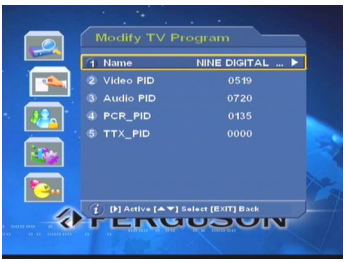
Move(**RED** key) Modify(**GREEN** key) Delete(**YELLOW** key)

❖ **Move**

After pressing **red** key on the RCU, the selected program will be marked with two parallel arrows. Move the program to where you want to locate by using ▲▼ keys and press **red** key to fix the location, meanwhile the mark will disappear.

❖ **Modify**

Press **green** key at selected program, will pop up **Modify TV program** window. From here, you can modify name and the various PID values of the selected program.



Name: press ▶ key to activate it. ◀▶keys are used to move cursor to desired location, and ▲ ▼ keys are used to input desired value among numeric keys, lowcases, capitalization and one space. After modifying well, press **OK** key to confirm, or press **EXIT** key to cancel.

Video PID: Highlight this item, then press ▶ key to active it. Select desired location. By pressing numeric keys or ▲▼ keys on the RCU, you can change the value of desired location.After modifying well, press **OK** key to confirm, or press **EXIT** key to cancel.

To modify the rest PIDs, please refer to the above.

❖ **Delete**

This command allows you to delete one or more unwanted programs. The selected program will be marked with "✂" symbol after pressing **yellow** key on the RCU. Press **yellow** key again, then the symbol will disappear.

Note: You cannot view the deleted program unless you search it again.

❖ **FAV**

If you want to add several TV programs to FAV list. You can do as follows:

When you enter Organize Program menu, default favourite list will be shown on the screen as FAV1. By pressing **FAV** key on the RCU, you can access the next favourite list.

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

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

3. Parent Setting

Parent Control: Through selecting proper control level, parents can prevent children from watching programs beyond their age effectly and easily. Highlight this item and activate it, system will pop up a drop-down list. Select proper control level and press OK key to confirm.

Password Enable: Select between Enable and Disable. If select “Enable”, before you enter into this window, a passord is needed. The default value is **0000**.

New Password: Move cursor to this item, and activate it. Then you can input the new password by pressing numeric keys (0~9) on the RCU.

Verify Password: Input the new password again by referring to the above.

After modifying well, press **EXIT** or **MENU** key to escape from this window.

4. System Setup

Select System Setup item under Main Menu and press OK key to engage menu.

4.1 Video Setting

In System Property menu, press OK key at Video Setting item to display its sub-window.
Video Mode: Press ◀▶ keys to select among PAL, NTSC and SECAM.
Screen Mode: Press ◀▶ keys to select among AUTO, 16:9, 4:3 Full and 4:3 Letter.
Scart Output : Select between CVBS and RGB.

4.2 Audio Setting

In System property menu, press OK key at Audio Setting item to display its sub-window.
Audio Channel: Select proper option among LEFT, RIGHT, MONO and STEREO.
Audio format: The default is PCM.

4.3 OSD Setting

Opacity: The value in this item ranges from 70% to 100% by step 5%. Select the proper one according to the actual effection.
Menu Timeout: Except “No“ option, the available options are from 10 to 45 by step 5. Use ◀▶ keys to select desired one. The option that you have selected

determins the displaying time of menu or window. If selec “NO”, the menu will be shown in the screen till you press **EXIT** key to close it.

Banner Timeout: Controls the information bar’s display time.

TeleText Output: press ◀▶ keys to select between VBI and OSD.

Color Mode: The availabe options are User Mode,Movie,News and Sports

Chroma(Brightness,Contrast): Select desired one.

After setting well, press **EXIT** key to return to previous menu, or press **MENU** key to close current window.

4.4 Language Setting

Menu Language: Press ◀▶ keys to select proper language as menu lagnauge.

Subtitle Language: Press ◀▶ keys to select proper language as subtitle lagnauge.

4.5 STB Upgrade

Before entering into its window, you have to use numeric keys(0~9) on the RCU to input a password. The default STB password is **7391**.

Freq (KHz): Highlight this item, and then active it. Select desired location. By pressing numeric keys or cc keys on the RCU, you can change the value of desired location.After modifying well, press **OK** key to confirm, or press **EXIT** key to cancel.

Mode: Select among 2k, 8k and Auto.

Guard: The availabe options are 1/32, 1/16, 1/8, 1/4 and Auto.

Bandwidth: Select among 6M, 7M and 8M.

After setting, press **OK** key to pop up a warning dialogue for confirmation, or

press **EXIT** key to escape from current window.

4.6 STB To STB Upgrade

Before entering into its window, you have to use numeric keys(0~9) on the RCU to input a password. The default STB password is **7391**.
NOTE:**7391** is the master password.
1.Power off the STB.(2 STBs)
2. Connect maste STB to slave STB by an crossed 'RS232 serial cable'.(data will transfer from master STB to slave STB)
3. Power on the two receivers.
4.Press OK key at the STB To STB Upgrade item, the upgrade will start automatically.
5. Power off the two receivers.
6. plug off the 'RS232 serial cable'.
7.Now reset the receiver and enjoy the fantastic DTV programs.

4.7 Time Setting

Time Offset: press ▶ key to pop up a drop-down list. Select proper option according to the time zone you have been.
On Time : Use number keys to enter the start time when the receiver is to turn on automatically.
Off Time : select time when the receiver will turn off automatically using number keys.

4.8 Restore Default

Select the Restore Default item in the **System Property** menu and press the **OK** key. A

message box will seek your confirmation. Press **OK** key to restore factory defaults.

Note : Reset to Defaults should be used with care as all programs found will be erased and Parameters re-set to factory default using this function.

5. Games

In **Main Menu**, move the cursor to **Game** and press the **OK** key. **Games** menu will display. This receiver includes two games, Tetris and Gobang. Select the desired game and press the **OK** key to play. The TV program selected will continue to run in the background whilst you play.

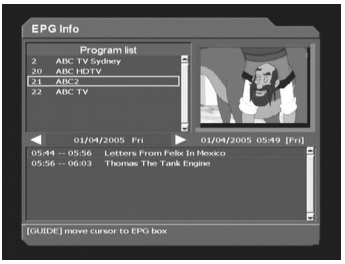
6. Shortcut Key Functions

The basic TV and Radio functions of your receiver are described below:

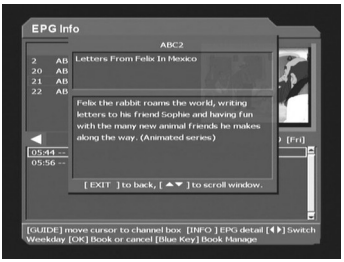
6.1 Electronic Program GUIDE (EPG)

In normal view mode, press **GUIDE** key on the RCU to get into **EPG Info**.

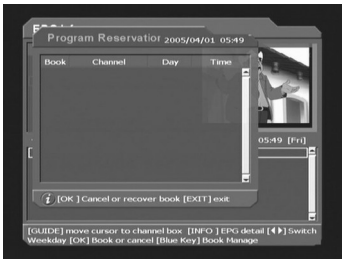
The up-left side of this window is program list where you can use ▲▼ keys to select desired program. The contents shown in up-right PIG (picture in graphic) and down EPGs list vary the selection in program list.



Guide key on the RCU is used to swtich between program list and down list. In down list: keys are used ◀▶ to switch days among

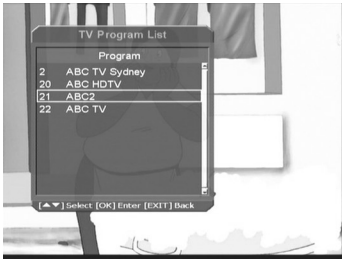


current week shown on the top of the down list. The EPGs in down list vary with the day selection. If you want to know details about one EPG, system will pop up a bigger textbox by pessing **INFO** key at this EPG. In EPG list, only the EPGs in the future can be booked. By pressing **OK** key at selected EPG, a clock mark appearing at the right side of selected EPG means the selected EPG is Booked. By pressing **blue** key on the RCU, system will pop up **Program Reservation** window where you can cancel the booked EPG by pressing **OK** key at selected EPG.



Press **EXIT** to return to previous menu, or press **MENU** key to close this window.

6.2 Program List



Display the **Program List** by pressing the **OK** key on the RCU (whilst not in Menu mode). Use ▲▼ keys to step through the programs available. Press the **OK** key on RCU to select a different program.

The program list extinguishes after pressing **EXIT** or **MENU** keys.

The **TV/RADIO** key on the RCU switches between TV and Radio programs.

The **RECALL** key returns to the last program viewed, providing an easy way to toggle between 2 programs.

6.3 CH ▲ CH ▼

The ▲▼ keys on the RCU provide an easy way to change programs. A banner window that shows information including Channel, Program and EPG appears for several

seconds. The time of this window stays active can be adjusted in Menu **Time Out**.
The number keys on the RCU can also be used to change programs.

6.4 Favorite List

Press **FAV** key on the RCU (whilst not in Menu mode) to display the **Favorite List**.
Press **FAV** key again to access the next favorite list. 8 groups are available.
The method to arrange favorite program groups is explained in **2. Program Organize.**

6.5 Audio Select

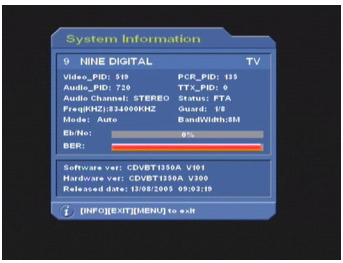
Should a particular program be available in more than one language, under the non-menu mode, pressing AUDIO key on the RCU will display Audio Select menu, which allows you to select the appropriate audio language and track for the current program.
◀▶keys are used to switch among the preprogrammed options. Please note that the audio language depends on the transmission of audio signal.

6.6 Volume

Audio Volume can be adjusted using either the RCU or the receivers front panel keys, for TV or Radio services. An handy Audio MUTE function is also available the RCU.

6.7 Information

On the non-menu mode, by pressing ▲▼ keys to select a channel or pressing **INFO** key at the RCU, a channel bar, which includes current



channel's information and short EPGs, will be shown at the bottom of the screen. If you want to know details about one EPG, system will pop up a bigger textbox by pessing **INFO** key at this EPG.

Press **INFO** key again , **System Information** will display on the screen. From here,you can know details about current channel such as values of all PIDs, hardware version, software version, released date and so on.

6.8 Subtitle

The Green **SUB.T** key on the RCU opens and closes the Subtitles or Closed Captions function, when the broadcaster provides this service.

6.9 Freeze

The video of the program running is Freeze Framed instantaneously when the **FREEZE** key is pressed. Pressing the **FREEZE** key again re-activates Video.

6.10 TeleText

Press the Yellow **TEXT** key on the RCU to open Teletext function. Teletext starts at main index page 100. Pages can be called up using the RCU number keys. Press the **TEXT** key again to close it. A comprehensive Teletext service is provided on 7 and Prime Network programs. Powerful built in error correctors ensure Teletext displays properly, without characters missing.

III. Technical Specification

TUNER	
Input frequency	174 ~ 860MHz UHF & VHF
Bandwidth	7MHz or 8 MHz
Input level	-72 ~ -20 dBm
Input impedance	75Ω
DEMODULATION	
Demodulation	QPSK, 16QAM, 64QAM
FEC	1/2, 2/3, 3/4, 5/6, 7/8
Mode	2K, 8K
Guard	1/4, 1/8, 1/16, 1/32
DEMULTIPLEXER	
Standard	ISO/IEC 13818-1
Input max. bit stream rate	60Mbps(Serial) / 7.5MBps(Parallel)
VIDEO DECODING	
Standard	ISO/IEC 13818-2 MPEG-2 MP@ML
Aspect ratio	4:3, 16:9
Video resolution	Max. 720 x 576
Teletext	DVB-TXT ETSI / EN 300 472
AUDIO DECODING	
Standard	ISO/IEC 13818-3
Output mode	Left channel, Right channel, Stereo
Sample frequency	32, 44.1, 48KHz
Volume level	16 Levels
AV OUTPUT	
Video de-emphasis	CCIR REC.405-1, 625LINES
Video bandwidth	5.5MHz
Video output impedance	75Ω
Video output level	1.0Vp-p
Audio output	Mono, Stereo

Audio output frequency	20Hz~ 20KHz
Audio output Impedance	Low
Audio output level	0dBm
POWER	
Input voltage	AC100 ～ 240V, 50/60Hz
Power consumption	15W max
AMBIENT	
Operation temperature	0℃ ~ 40℃

IV. Trouble Shooting

Note : If you cannot solve the problem by re ferring to the above trouble shooting, please contact your re-seller.

Problem	Possible Causes	What To Do
The display on the front panel does not light up.	Main cable is not connected.	Check that the main cable is plugged into power socket.
No sound and picture, but the front panel shows time.	The unit is in standby mode.	Press the key on the RCU.
No sound or picture.	Poor signal quality or bad interconnections	Check the antenna system Check cable connections.
Bad picture/ Blocking error.	Signal is too strong.	Try a signal attenuator to the RF IN port.
No picture appears on the TV screen.	The system is connected by SCART leads and TV is not in AV/EXT mode.	Check that you have selected the correct channel or Video Input on your TV.
There is interference on your digital terrestrial channel.	The system is connected using RF leads and the output channel of the receiver interferes with an existing terrestrial channel or Video signal.	Change the receiver output channel to a more suitable channel.
The RCU is not working.	Battery exhausted.	Change the battery.