# THE USER'S MANUAL

**M** VISION€+

## Digital Satellite Receiver

Please read this User's Manual Carefully before installing this Reciver

**M** VISION€+

# TABLE OF CONTENTS

# GENERAL SAFETY

## WARNING

Please read the following recommended instructions carefully to avoid the risk of your physical Injury before the product is operated.

Do not cover the receiver and keep clear space around the receiver for sufficient

Check the receiver's operation voltage 90~250V AC50/60 Hz.

Keep liquid away from the receiver.
The receiver shall not be exposed to dripping or splashing and no objects that filled with liquid shall not be placed on the receiver.

Unplug the receiver from the wall outlet before cleaning.
Use a soft cloth and a mild solution of washing-up liquid to clean the casing.

Do not block the receiver's ventilation slots which are provided for ventilation and protection from overheating.
Please maintain the receiver in a free airflow.

Do not allow the receiver to be exposed to hot, cold or humid condition.

Do not use any cable and attachment that are not recommended as these may damage your equipment.

Please unplug the receiver from the wall outlet and disconnect the cable between the receiver and the antenna when you will not use it for long time.

Do not remove the cover to reduce the risk of electric shock.

Do not attempt to service the receiver yourself.
Refer all serving to qualified service personnel.

# GENERAL INFORMATION

## I. UNPACKING

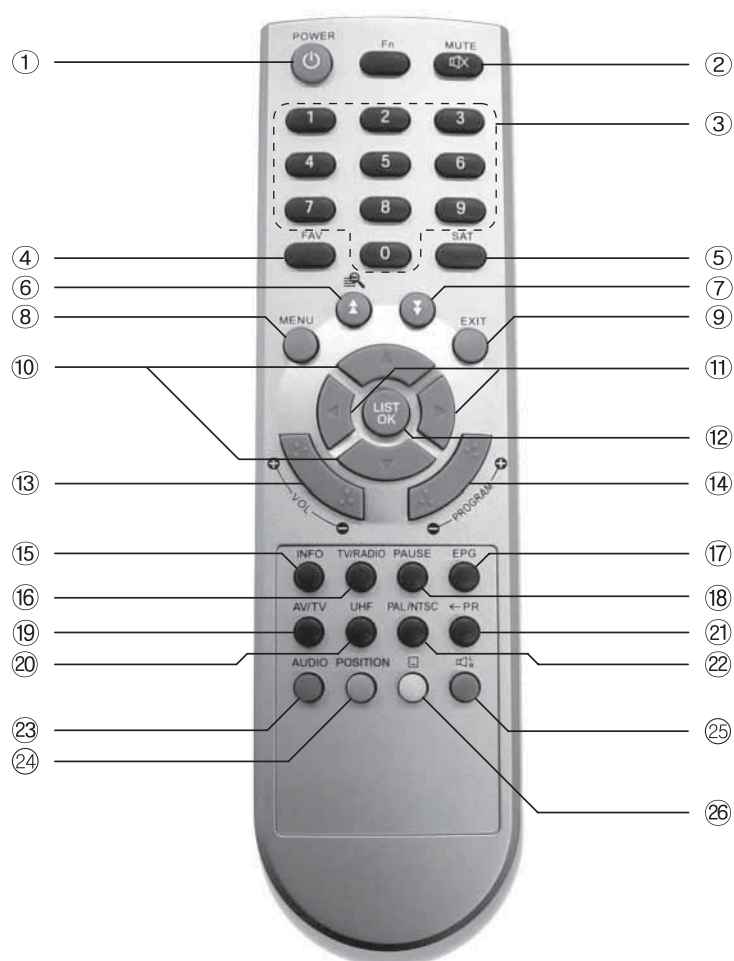Please ensure that the following items are included with the receiver in your packing.

1) Remote Control Unit (RCU)
2) Batteries (2EA)
3) User's Manual

## II. FEATURES

- Fully Compliant to MPEG2 and DVB

- 2 Slots common interface for Viaccess, Irdeto, Cryptoworks, Nagravision, Conax, Mediaguard
  and etc. (Only for CI Model)

- C/KU band control for each antenna

- LNB Tone Switch 22KHz mode On/Off

- LNB Switch 0/12V mode selection

- Multi-LNB controlled by DiSEqC 1.0, 1.2 and USALS

- 5000 channels storable

- PAL/NTSC automatic conversion

- Network Auto Search

- PIG (Picture In Graphic)

- Easy and rapid software upgrade through RS-232 port

- Teletext and subtitle directly from the OSD

- EPG (Provider Electronic Program Guide)

- Supporting 256 colors

# GENERAL INFORMATION
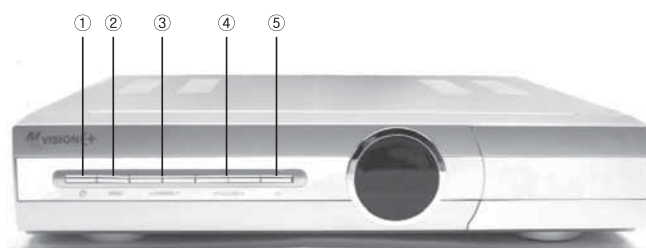
## III. REMOTE CONTROL UNIT (RCU)

# GENERAL INFORMATION

## III. REMOTE CONTROL UNIT (RCU)

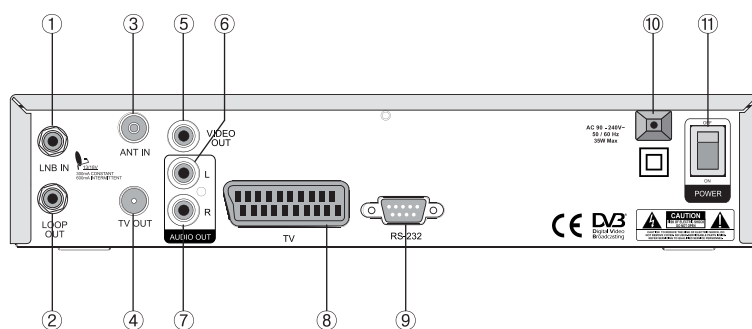|   |   |   |
|---|---|---|
|   |   | Swithches the receiver between operation and standby mode |
| ② | **MUTE ( )** | Enables or disables the audio. |
| ③ | **Numeric buttons** | Selects the TV or Radio service channels and individual menu |
| ④ | **FAV** | Togels the selected favorite mode |
| ⑤ | **SAT** | Togels the selected Satellite list |
| ⑥ | **▲ ( )** | Moves up a page in the channel list. (Selects zoom in/out) |
| ⑦ | **▼** | Moves down a page in the channel list. |
| ⑧ | **MENU** | Displays the main Menu on screen. |
| ⑨ | **EXIT** | Returns to the previous menu or normal viewing mode from a menu. |
| ⑩ | **▲ ▼** | Changes channels or moves to the  item in the menu. |
| ⑪ | **◀ ▶** | Adjusts the volume or moves to left or move item in the menu. |
| ⑫ | **OK / LIST** | Executes the selected item and displays channel lists when you watching a channel. |
| ⑬ | **V+/V-** | Turns volume up or down |
| ⑭ | **P+/P-** | Changes channels up or down on normal mode |
| ⑮ | **INFO** | Displays the program information box on the screen and edit the name of favorite channel list |
| ⑯ | **TV/RADIO** | Switches between TV and Radio. |
| ⑰ | **EPG(Electronic Program Guide)** | Displays the TV or Radio program guide. |
| ⑱ | **PAUSE** | Pauses the playing picture or go to normal mode. |
| ⑲ | **AV / TV** | Selects the TV or AV mode. |
| ⑳ | **UHF** | Switches to UHF tuning mode. |
| ㉑ | **← PR** | Switches to UHF turning mode. |
| ㉒ | **PAL/NTSC** | Switches PAL or NTSC mode. |
| ㉓ | **Audio** | Changes the audio languages. |
| ㉔ | **Position** | Displays position bar on the screen to adjust the antenna. |
| ㉕ |  | Selects the sound mode(LEFT/RIGHT/STEREO). |
|   |   | Enables subtitle and teletext mode |

# GENERAL INFORMATION

## IV. FRONT PANEL



① **POWER**              Switches the receiver power On and Standby.

② **MENU**               Gets into Main Page screen.

③ **CH Up / Down**       Channel up / down or selects the item of Menu.

④ **VOL Up/ Down**       Volume up / down or selects the item of Menu.

⑤ **OK**                 Executes the selected item.

# GENERAL INFORMATION

## V. REAR PANEL



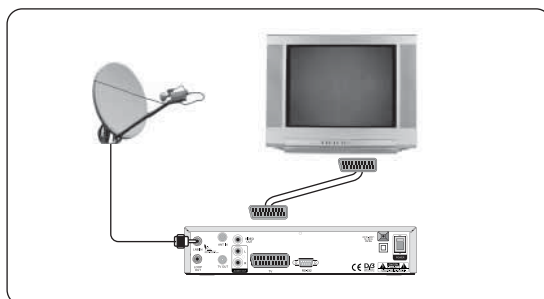| ① | **LNB IN** | Connects to satellite antenna cable. |
|---|---|---|
| ② | **LNB OUT** | Connects to another STB |
| ③ | **ANT** | Connects to TV antenna input. |
| ④ | **TV/VCR** | Connects to TV or VCR. |
| ⑤ | **VIDEO** | Connects VIDEO to the TV or other equipment. |
| ⑥ | **AUDIO-L** | Connects to AUDIO LEFT to TV or other equipment. |
| ⑦ | **AUDIO-R** | Connects to AUDIO RIGHT to TV or other equipment. |
| ⑧ | **TV SCART** | Connects to TV SCART cable. |
| ⑨ | **RS 232** | Connects to personal computer for software upgrade. |
| ⑩ | **POWER SUPPLY** | 90 ~ 250V AC, 50 / 60Hz, 30W. |
| ⑪ | **POWER BUTTON** | Turns On/Off. |

# INSTALLING EQUIPMENT

This section explains several ways of connecting the receiver to your existing TV, VCR and Hi-Fi system.
You can choose one of the following setups that we recommend.
If you have any problem or need help, consult your dealer or service provider.
Please ensure that the following items are included with the receiver in your packing.

## I. CONNECTING THE RECEIVER TO TV

**I-1. Connecting the receiver to TV with the SCART cable**
Connect one end of the SCART cable to the TV SCART socket on the rear panel of the receiver and the other end to a SCART socket on the TV.
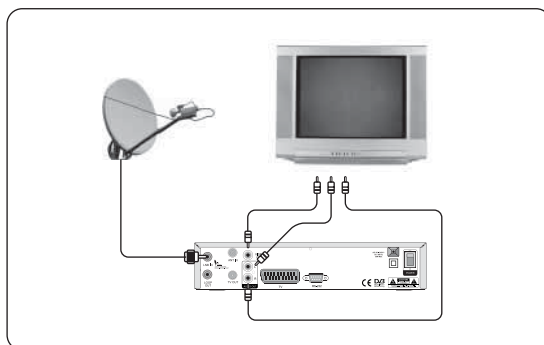


## II. CONNECTING THE RECEIVER TO TV AND VCR WITH CINCH CABLE

**II-1.Connecting the receiver to TV with the CINCH cable**
Connect one end of the CINCH cable to the Audio-R (Red), the Audio-L (White) and the Video (Yellow) socket on the rear panel of the receiver and the other end to the Audio-R (Red), the Audio-L (White) and the VIDEO (Yellow) socket on the TV.

**II-2.Connecting the receiver to VCR with the CINCH cable**
Connect one end of the CINCH cable to the Audio Right (Red), the Audio-L (White) and the Video (Yellow) socket on the rear panel of the receiver and the other end to the Audio-R (Red), the Audio-L (White) and the VIDEO (Yellow) socket on the VCR.
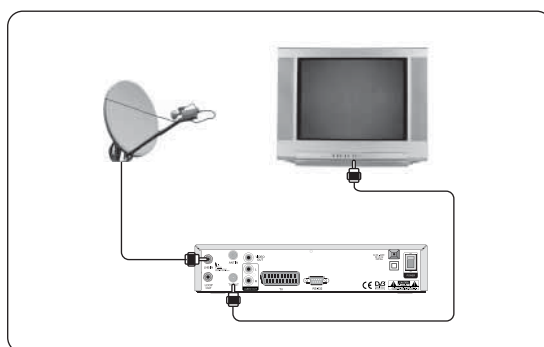
# INSTALLING EQUIPMENT

## III. CONNECTING THE RECEIVER TO TV AND VCR WITH RF CABLE

**II-1. Connecting the receiver to TV and VCR with RF cable**

Connect one end of the RF cable to the TV/VCR socket on the rear panel of the receiver and the other end to the ANT IN on the TV.

Connect one end of the RF cable to the ANT socket on the rear panel of the receiver and the other end to the ANT OUT on the VCR.

# CHANNEL LIST GUIDE

1. Normal Live Mode
   a) When you select one channel, information bar appears automatically on the screen for few seconds. This bar provides you the current channel information.
   b) Press INFO button to see the information during normal live mode.
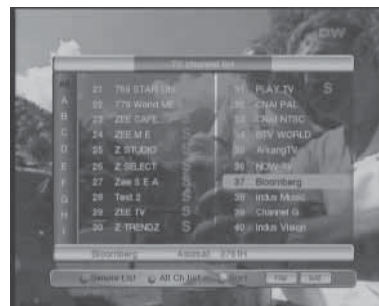
2. Simple Channel List
   a) Press OK on the normal live mode to go to the channel list.
   b) When detail channel list is displayed on screen press RED button to go to simple channel list.

3. Detail Channel List
   a) Press OK on the normal live mode to go to the channel list.
   b) When simple channel list is displayed on screen press RED button to go to detail channel list.
   c) Press ◄ ► and ▲ ▼ to sort by Alphabet
   d) Press SAT button to sort by Satellite and FAV button for Favorite 1~8.
   e) Press GREEN button to return to All Channel or EXIT to return to the current live channel.
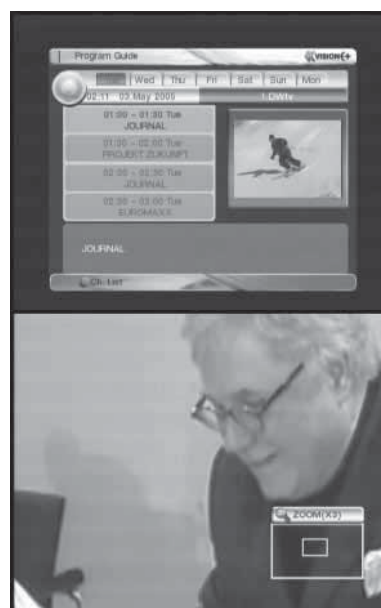   f) Press YELLOW button to sort by all type

4. TV Channel List
   a) Press the SAT key to show Satellite Pop-Up Window then select satellite. Channel list of selected satellite will be displayed.
   b) Press the FAV key to show Favorite Pop-UP Window then select FAV list. Channel list of selected FAV will be displayed.
   c) Press the Green key then all searched channel list will be displayed.
   d) Press MENU key then cursor will move to ALL, placed on the left.
      Then you will be able to sort channel list which you selected.
   e) Sort Key (Yellow Key)- A~Z/Z~A/FTA/CAS
   f) Press Yellow key for sorting A~Z/Z~A/FTA/CAS.
      If you want to go back to unsort from the selected CAS, go back to Pop-Up Window then select unsort.

# CHANNEL LIST GUIDE

5. EPG (Electronic Program Guide)
   a) Press EPG button on the live mode.
   b) EPG of the current channel appears on the screen.
   c) To see other EPG of other channels press RED button
      then channel list appears on the screen.
   d) Select the channel that you want to check the EPG
      and then press OK.
   e) EPG of the selected channel appears on the screen.
      Press RED button if you want to see the Weekly EPG
      of the selected channel.
   f) Press EXIT to return to the previous menu or press
      MENU to go to the current live channel.

6. ZOOM IN/OUT
   a) By selecting page up key ( ▲ ) in a normal live mode
      you can use Zoom In/Out function.
   b) From the Pop-Up Window of Zoom function you can
      select(*2*3*4)by page up key( ▲ ), for Zoom out press
      page down key.
   c) When you move cursor of Zoom focus by key ( ◄ ► ▲ ▼ )
      then you can select Zoom In/Out on the focused point
      by pressing page up/down keys.
      Press Pause key then live mode will be paused on the
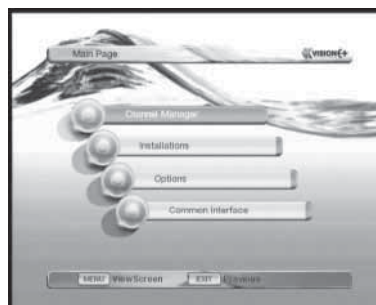      mode of Zoom.

# MENU GUIDE

## 📑 Main Page

Press the MENU button on the RCU to open Main Page on the screen. Main Page will be displayed.

1. You can move into the main page using ▲▼ on the RCU.
2. Press OK to confirm your selection.
3. Press EXIT to return to the previous menu or press MENU to go to the current live channel.

I. **Channel Manager**
II. **Installations**
III. **Options**
IV. **Common Interface**(Only for FCI and FCIS Models)

## 📑 I. Channel Manager

This section may help you to organize channels according to your preference.
1. Select Channel Manager in the Main Page with ▲▼ and press OK.
2. TV Channel Manager Page displays on the screen.
3. Select the mode that you want using ◄ ► .
4. To see the channel that you choose, go to the channel and then press RED botton.
5. Press EXIT to return to the previous menu or press MENU to go to the current live channel.

**I-1.** Favorite
**I-2.** Rename
**I-3.** Move
**I-4.** Lock
**I-5.** Delete

### I-1. Favorite

1. Using ◄ ► go to the Favorite mode then press YELLOW button to choose Favorite 1~8.
2. Press OK on the channel that you want to add or delete.
3. ☆ will be marked at the end of selected channel name bar. To delete press OK again.
4. Selected channels will be automatically saved.
5. If you want to check the saved Favorite Channel List go to other mode(Rename~Delete) except Favorite and then press FAV button to check Favorite 1~8.
6. Press EXIT to return to the previous menu or press MENU to go to the current live channel.

# MENU GUIDE

## 👆 I. Channel Manager

### I-2. Rename

1. Using ◀▶ go to the Rename mode.
2. Select the channel that you want to rename using ▲▼ and then press OK.
3. Keypad Dialog displays on the screen.
4. Edit the name entering NUMBERS and/or WORDS in the Keypad Dialog.
5. Press YELLOW button to rename Favorite 1~8 and press BLUE button to rename Satellite.
6. Press EXIT to return to the previous menu or press MENU to go to the current live channel.
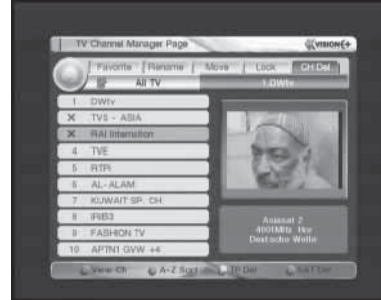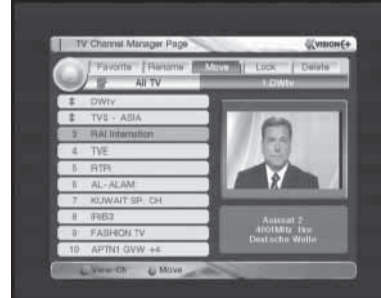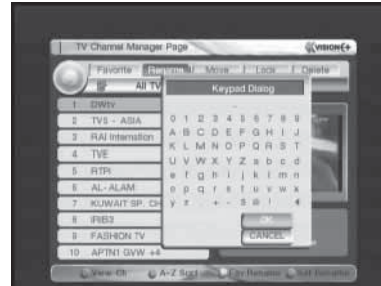
### I-3. Move

1. Using ◀▶ go to the Move mode.
2. Select channels which you want to move by pressing OK key.
3. Move cursor that you want to place on then press Green button.
4. Press EXIT to return to the previous menu or press MENU to go to the current live channel.

### I-4. Lock

1. Using ◀▶ go to the Lock mode.
2. Select the channel that you want to lock and then press OK. 🔒 will be marked at the end of the selected channel name bar. To delete press OK again.
3. Press EXIT to go to Main Page or press MENU to go to the current live channel.

### I-5. Delete

1. Using ◀▶ go to the Delete mode.
2. Select the channel that you want to delete and then press OK. ✖ will be marked on the selected channel number. To delete press OK again.
3. Press YELLOW button to delete TP. Select one channel and press OK. All channels of that TP will be automatically selected.
4. Press BLUE button to delete Satellite. Select one channel and press OK. All channels of that Satellite will be automatically selected.
5. Press EXIT to return to the previous menu or press MENU to go to the current live channel.
6. Message Box displays on the screen.
7. Select OK on the Message Box and then press OK to delete the marked channels.
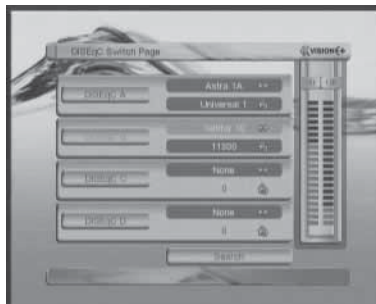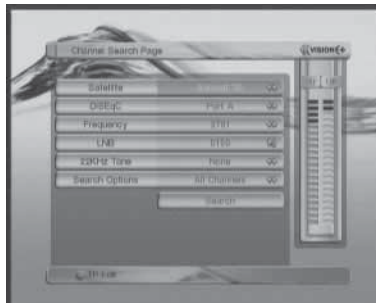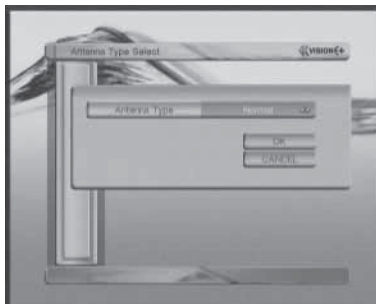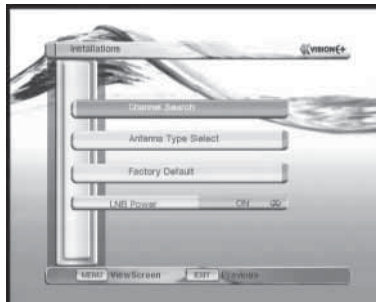
# MENU GUIDE

## ☞ II. Installation

This section may help you to set up antenna and scan satellite or transponder, etc.
Select Installations in Main Page using ▲▼ and press OK.
Press EXIT to return to the previous menu or press MENU to go to the current live channel.

II-1. Channel Search
II-2. Antenna Type Select
II-3. Factory Default
II-4. LNB Power

### ▒ II-1. Channel Search

1. Select Channel Search in Installations using ▲▼ and press OK.

2. a) From Factory Defult Mode, Antenna Type Select box displays on the screen automatically.
   b) Select Antenna Type using ◄►. (Normal, DiSEqC Switch, DiSEqC 1.2 or USALS)
   c) If you select DiSEqC Switch and press OK on the Antenna Select Type box, DiSEqC Switch Page displays automatically.
   d) Select the proper Satellite of each DiSEqC port(A~D) using ◄► and ▲▼ and press SEARCH.
      Selected Satellites will be searched automatically.
   e) If you select Normal, DiSEqC 1.2 or USALS and press OK on the Antenna Select Type Box, Antenna Setup Page displays on the screen.

3. You can move the cursor using ▲▼ and press OK when you select the value that you want.
3-1. Antenna Setup Page 1 (Normal / DiSEqC Switch)
   a) Satellite
   - Press OK to display the Satellite List Box.
   - Select the proper Satellite and then press OK.

   b) DiSEqC
   - Press OK to display the DiSEqC Port List.
   - Select the proper DiSEqC port and then press OK.

   c) Frequency
   - Press OK to display the Frequency List.
   - Select the proper Frequency and then press OK.
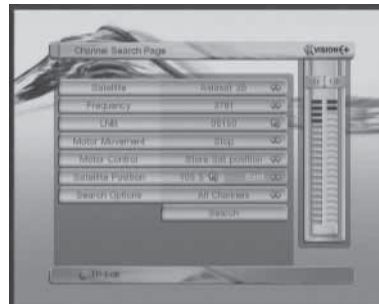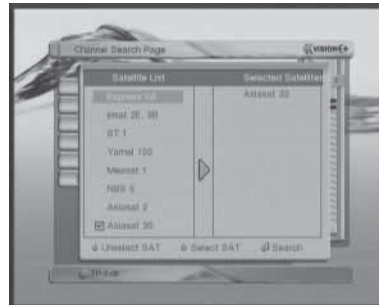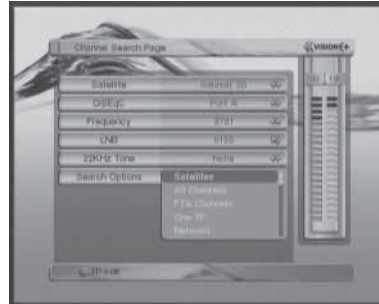
# MENU GUIDE

## II. Installation

d) LNB
- Press OK to display the LNB frequency list.
- Select the proper LNB frequency and then press OK.
- You can also input directly the numbers using
  NUMBER KEY on the RCU.

e) 22KHzTone
  - Select the one among None, 0 KHz or 22 KHz
    depending on the user's antenna switch box.

f) Sea rch Option
  - Press OK to display the Search Option list.
  - Select the Search Option that you want and then
    press OK.

g) Search
  - Press Search to start scan channels.
  - Selected Satellite displays on the screen.
  - Press ▶ to select more Satellites or ◀ to cancel
    the selected Satellites.
  - Press OK to start scanning.

h) Edit
  - To Edit TP press the RED button on the RCU.

3-2 Antenna Setup Page 2 (DiSEqC 1.2)
  a) Satellite
    - Press OK to display the Satellite List Box.
    - Select the proper Satellite and then press OK.

  b) Frequency
    - Press OK to display the Frequency List.
    - Select the proper Frequency and then press OK.

  c) LNB
    - Press OK to display the LNB frequency list.
    - Select the proper LNB frequency and then press
      OK.
    - You can also input directly the numbers using
      NUMBER KEY on the RCU.

  d) Motor Movement
    - Search the appropriate position of the selected
      Satellite using ◀ ▶ .

# MENU GUIDE

## 🖐 II. Installation

e) Motor Control
Select the position using ◀ ▶ and then press OK.
Message box displays on the screen.
- Store Sat position
Stores the current position of the motor for the
selected satellite.
- Goto Sat Position
Moves the motor to the stored position of the
selected satellite.
- Goto 0
Goes to the center of the motor.
- Reset Position
Resets all stored position of the motor.

f) Satellite Position
- Input directly the position using NUMBER KEY on
the RCU
- Select the direction using ◀ ▶ (WEST / EAST).

g) Search Option
- Press OK to display the Search Option list.
- Select the Search Option that you want and then
press OK.

h) Search
- Press Search to start scan channels.
- Selected Satellites displays on the screen.
- Press ▶ to select more Satellites or ◀ to cancel
the selected Satellites.
- To Edit TP press the RED button on the RCU.
- Press OK to start scanning.

3-3 Antenna Setup Page 3 (USALS)
a) Satellite
- Press OK to display the Satellite List Box.
- Select the proper Satellite and then press OK.

b) Frequency
- Press OK to display the Frequency List.
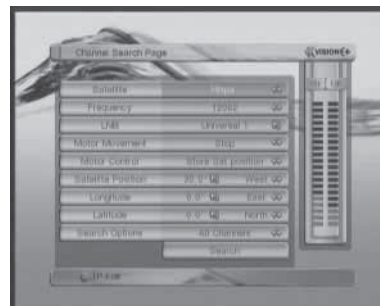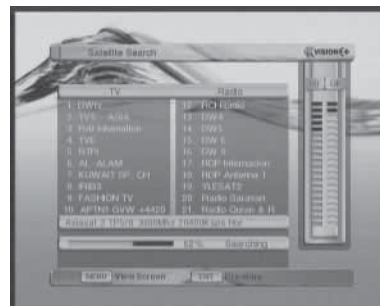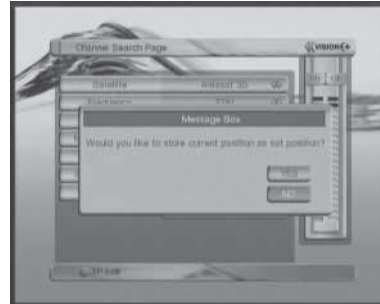- Select the proper Frequency and then press OK.

c) LNB
- Press OK to display the LNB frequency list.
- Select the proper LNB frequency and then press
OK.
- You can also input directly the numbers using
NUMBER KEY on the RCU.

d) Motor Movement
- Search the appropriate position of the selected Satellite using ◀ ▶.

# MENU GUIDE

e) Motor Control
   Select the position using ◄ ► and then press OK.
   Message box displays on the screen.
   - Store Sat position
   Stores the current position of the motor for the
   selected satellite.
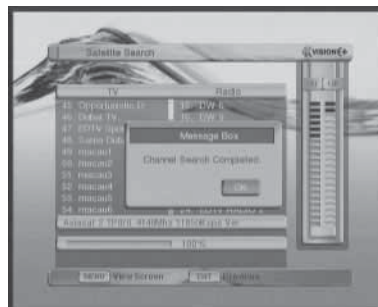   - Goto Sat Position
    Moves the motor to the stored position of the
    selected satellite.
   - Goto 0
    Goes to the center of the motor.
   - Reset Position
    Resets all stored position of the motor.



f) Satellite Position
   - Input directly the position using NUMBER KEY on the RCU
   - Select the direction using ◄ ► (WEST / EAST).

g) Longitude
   - Input directly the Longitude using NUMBER KEY on the RCU.
   - Select the direction using ◄ ► (WEST / EAST).

h) Latitude
   - Input directly the Latitude using NUMBER KEY on the RCU.
   - Select the direction using ◄ ► (NORTH / SOUTH).

i) Search Option
   - Press OK to display the Search Option list.
   - Select the Search Option that you want and then press OK.

j) Search
   - Press Search to start scan channels.
   - Selected Satellite displays on the screen.
   - Press ► to select more Satellites or ◄ to cancel the selected Satellites.
   - To Edit TP press the RED button on the RCU.
   - Press OK to start scanning.

4. Press EXIT to return to the previous menu or press MENU to go to the current live channel.
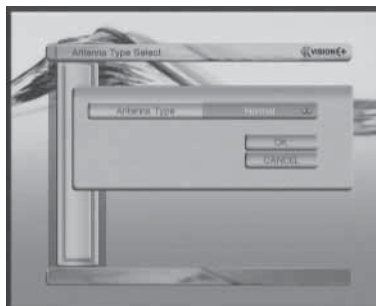
# MENU GUIDE

## II. Installation

### II-2. Antenna Type Select

Use Antenna Type Select function when you want to change
the adjusted configuration.
1. Select Antenna Type Select in Installations using ▲▼
   and press OK.
2. Select Antenna Type using ◄► .
   (Normal, DiSEqC Switch, DiSEqc 1.2 or USALS)

### II-3. Factory Default

Use Factory Default function only when you want to return
the receiver to the condition of factory default.
All settings and channels will be deleted.

1. Select Factory Default in Installations using ▲▼ and
   press OK.
2. Message box displays on the screen.
3. Select OK to return the receiver to the condition of
   factory default and then press OK.
4. Press EXIT to return to the previous menu or press
   MENU to go to the current live channel.

### II-4. LNB Power

1. Select LNB Power in Installations using ▲▼ and press OK.
2. Select ON or OFF using ◄► or OK button.
3. Press EXIT to return to the previous menu or press MENU to go to the current live channel.

# MENU GUIDE

## III. Options

This section may help you to set up OSD language, time , etc.
Select Options in Main Page using ▲▼ and press OK.
Press EXIT to return to the previous menu or press MENU
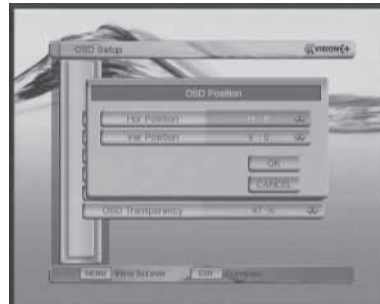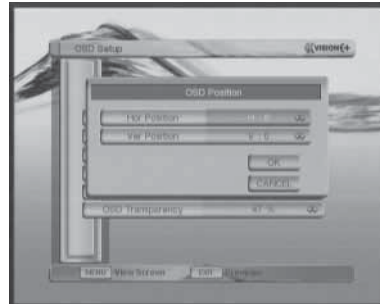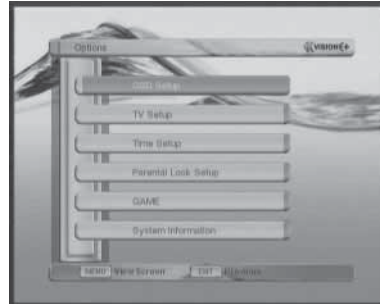to go to the current live channel.

III-1. OSD Setup
III-2. TV Setup
III-3. Time Setup
III-4. Parental Lock Setup
III-5. System Information

### III-1. OSD Setup

1. Select OSD Setup in Options using ▲▼ and press OK.

   a) OSD Language
      - Press OK to display OSD Language list.
      - Select the language that you want and then press OK.
   b) Audio Language
      - Press OK to display Audio Language list.
      - Select the language that you want and then press OK.
   c) Subtitle Language
      - Press OK to display Subtitle Language list.
      - Select the language that you want and then press OK.
   d) Display Info Bar
      - Press OK to display Display Info Bar time list.
      - Select the second that you want to display and then
        press OK.
   e) OSD Position
      - Press OK to change Horizontal and Vertical Position of
        the OSD.
      - OSD Position box displays on the screen.
      - Select Hor Position / Ver Position using ▲▼.
      - Move the OSD Position to right/left or up/down
        using ◄►.
      - Select OK on the OSD Position box and then press OK.
   f) Transparency Ratio(0~100%)
      - When you want to change transparency ratio select OSD
        Transparency Manu Bar then change the ratio of
        transparency(0~100%).

2. Press EXIT to return to the previous menu or press
   MENU to go to the current live channel.

# MENU GUIDE

## III. Options

### III-2. TV Setup
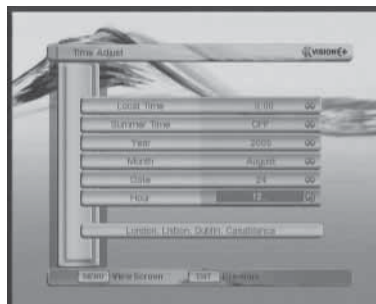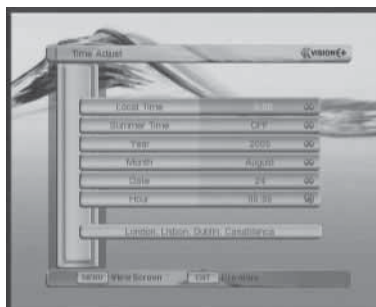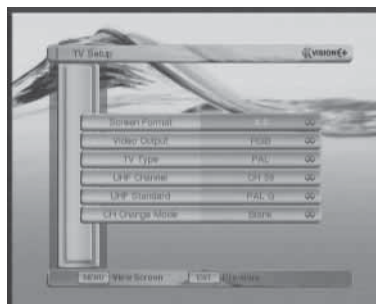
1. Select TV Setup in Options using ▲▼ and press OK.
   a) Screen Format
      - Press OK to display Screen Format list.
      - Select the Format that you want and then press OK.
   b) Video Output
      - Press OK to display Video Output list.
      - Select RGB if your SCART supports RGB control
        and then press OK.
      - Select CVBS if your SCART does not support RGB
        control and the press OK.
   c) TV Type
      - Press OK to display TV Type list.
      - Select the proper mode according to your TV type
        and press OK.
   d) UHF Channel
      - Press OK to display UHF Channel list.
      - Select the proper channel and then press OK.
   e) UHF Standard
      - Press OK to display UHF Standard list.
      - Select the proper mode and then press OK.

2. Press EXIT to return to the previous menu or press
   MENU to go to the current live channel.

### III-3. Time Setup

Set your local time according to your location.
1. Select Time Setup in Options using ▲▼ and press OK.
2. Time Adjust page displays on the screen.
3. Move the cursor using ▲▼◄► and press OK when
   you select the value that you want. (Input Hour directly
   using number keys on the RCU)
4. Press EXIT to return to the previous menu or press
   MENU to go to the current live channel.

# MENU GUIDE

## III. Options

### III-4. Parental Lock Setup

1. Select Parental Lock Setup in Options using ▲ ▼ and press OK.
2. Parental Lock Page displays on the screen.
3. You can lock and unlock Parental Lock selecting ON or OFF using ◄ ► (For Channels)
4. You can lock and unlock Install Lock selecting ON or OFF using ◄ ► (For Installation Settings)
5. Enter new password if you want to change the current password.
6. Confirm your new password entering new password again.
7. Press EXIT to return to the previous menu or press MENU to go to the current live channel.

Note. DEFAULT PASSWORD IS 0000

### III-5. System Information

This option help you to know the current S/W and H/W version. Also provides you the product name.
1. Select System Information in Options using ▲ ▼ and press OK.
2. Press EXIT to return to the previous menu.

# MENU GUIDE

## 📑 IV.  Common Interface

The receiver is equipped with two slots of Common Interface
which have access to the scrambled and the pay per view
services with various conditional access modules and a
valid smart card.
The programs that can be descrambled are determined by
the conditional access module and smart card that you use.

1. Select Common Interface in Main Page with ▲▼ and
   press OK.
2. Common Interface displays on the screen.
   (The phrase 'No Module' is indicated when the conditional
   access module is not installed)
3. Insert the conditional access module into Slot 1 or Slot 2.
4. The name of the Slot differs according to each inserted
   conditional access module.
5. Press EXIT to return to the previous menu or press MENU
   to go to the current live channel.

# TROUBLESHOOTING

| Problem | Solution |
|---------|----------|
| **Nothing appears on the Front Panel No power supply** | Check that the power cable is plugged into the power socket. |
| **No Picture** | – Check the dish and adjust it.<br>– Check the cable connection and correct it.<br>– Get out of UHF mode.<br>– Check channel and video output. |
| **No Sound** | – Check the volume level of the TV and receiver.<br>– Check the mute status of TV and receiver.<br>– Check the cable connection and correct. |
| **Remote Control Unit dose not work** | – Replace batteries.<br>– Aim the remote control unit directly to the receiver.<br>– Checking that nothing blocks the front panel. |
| **Service is not running or scrambled** | – Check the Conditional Access Module and smart card are appropriate for the selected service.<br>– Check the Conditional Access Module and smart card are correctly inserted or not. |
| **"No Signal" on the screen** | – Check the signal strength and the signal quality in the menu.<br>– Check the LNB and replace the LNB if necessary.<br>– Check the LNB cable.<br>– Check the dish and adjust it. |
| **Tuner Defective Check.** | - Go to the Option and select System Information.<br>- Check Tuner : When 'SZVO" changed to 'TUERRVO' Tuner is defective. |
| **You have forgotten your secret PIN Code.** | Contact your Service Provider. |

# SPECFICATIONS

## I. TUNER & CHANNEL

| Item | Specification |
|---|---|
| Type | 2 X F-type (Output-throught), IEC 169-24 Female |
| Frequency Range | 950Mhz to 2150MHz |
| Input Impedance | -25 to -65 dBm |
| LNB Power | 13.5/18.5Vdc±5%, 0.5Amax, Overload protected |
| 22KHz Tone | Frequency : 22KHz±2KHz Amplitude : 0.6V±0.2V |
| DiSEqC Control | Version 1.2 Compatible |
| Demodulation | QPSK |
| Input Symbol Rate | 2-45Ms/s |
| FEC Decoder | Convolution Code Rate 1/2, 2/3, 3/4, 5/6 and 7/8 with Constraint Length K=7 |

## II. SYSTEM

| Item | Specification |
|---|---|
| Main Processor | Sti5518 |
| Flash Memory | 2 Mbytes |
| SDRAM | 8 Mbytes |

## III. MPEG transport stream & AV decoding

| Item | Specification |
|---|---|
| Transport Stream | MPEG-2 ISO/IEC 13818 Transport Stream Specification |
| Profile Level | MPEG-2 MP @ML |
| Input Rate | Max 60 Mbit/s |
| Aspect Ratio | 4:3, 16:9 |
| Frame Rate | 25Hz for PAL, 30Hz for NTSC |
| Video Resolution | 720X576(PAL), 720X480(NTSC) |
| Teletext | VBI |
| Audio Decoding | MPEG/MultiCam Layer 1 & 11, MP3, AC3 |
| Audio Mode | Single Channel/Dual Channel Joint Stereo/Stereo |
| Frequency Response | 20Hz~20KHz<+/-2dB  ,  60Hz~18KHz<+/-0.5dB |
| Sampling Rate | 32, 44.1, 48KHz |

# SPECFICATIONS

## IV. ENVIRONMENTAL CONDITION

| Item | Specification |
|---|---|
| Operation Temperature | 0~40° |
| Storage Temperature | -30°~80° |
| Operating Humidity Range | 10~85%RH, Non-condensing |
| Storage Humidity Range | 5~90%RH, Non-condensing |

## V. A/V & DATA IN/OUT

| Item | Specification |
|---|---|
| TV Scart Output | CVBS, RGB, L, R Output with Volume Control |
| RCA Output | CVBS(Yellow), L, R Output(White, Red) with Volume Control |
| Data Interface | RS-232, Bit Rate : 115200baud<br>Connector : 9-Pin D-Sub Male type |

## VI. RF-MODULATOR

| Item | Specification |
|---|---|
| RF-Connector | 75W IEC 169-2, Male/Female |
| Frequency | 470MHz to 860MHz |
| Output Channel | CH 21-69 for the Demodulator |
| TV Standard | PAL G/I/K Selectable by Menu Setting |
| Audio Output | Mono with Volume Control |
| Preset Channel | CH 38(or TBD), Software changeable by Menu Screen |

## VII. POWER SUPPLY

| Item | Specification |
|---|---|
| Input Voltage | AC 90~240V, 50Hz~60Hz |
| Power Consumtion | Max, 40w |
| Stand-by Power | <= 6.5W |
| Protection | Seperate Internal Fuse<br>The input shall have lightning protection |

**FCC Information**

This device complies with Part 15 of the FCC Results. Operation is subject to the following two conditions:

      (1) This Device may not cause harmful interface, and

      (2) This device must accept any interference received, including interference that may cause undesired operation.

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Note: This equipment has been tested and found to comply with the limits for CLASS B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. 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 correct the interference by one or more of the following measures:

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

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**WARNING**

Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.