

User's Guide

# nfusion HD

Digital Satellite Receiver



Information contained in this manual is subject to change without notice.

No part of this publication may be copied, reproduced, or translated to another language for any purpose.

- Be sure to read the user manual before starting the operation of the receiver.
- Do not open the housing. The receiver contains high-voltage components and parts.
- Even after switching off the receiver still contains high-voltage for a while.
- Do not expose to rain or moisture.
- Do not make objects or fluid enter the housing through the ventilation slot. If any spilt liquid went into to the housing, unplug the power cord and call your local Service provider.
- Do not place close to any heat source.
- Do not press with hard or heavy object.
- To protect possible malfunction by lightning, we recommend you to use power surge unit. Call your local dealer for advice.

The logo for ftaMAX.net is displayed in a stylized, 3D font. The letters 'fta' are in a lowercase, italicized script, while 'MAX' is in a bold, uppercase sans-serif font. The '.net' is in a smaller, lowercase sans-serif font. The entire logo is rendered in a reddish-brown color with a black outline and a slight shadow effect, giving it a three-dimensional appearance. It is set against a light gray background.

**ftaMAX**.net

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## 1.1 Main Features

- Easy Menu Function
  - TV Guide Function
  - Electronic Program Guide(EPG) for On Screen Channel Information
  - Software Upgrading Function through RS-232C Cable by PC / USB STICK
  - Perfect DiSEqC 1.0, DiSEqC 1.1, DiSEqC 1.2, USALS for Various Antenna Systems
  - Supports of Ku/C band, SCPC and MCPC
  - Additional Audio Output Function for Connection to Hi-Fi Audio System
  - Other Functions of Remote Controller, Receiving Level Selection, Channel Editing, Menu Language Selection and Audio Selection
  - Digital free-to-air Satellite Receiver
  - NTSC & PAL Output Function
- Regardless of the TV type, NTSC and PAL channels can be viewed by selection. When PAL channel is viewed on NTSC TV, small deletion on up & down sides of the screen may occur and it is normal, as its conversion is managed by software. And darker color on the bottom side of the screen may occur, when NTSC channel is viewed on PAL TV.
- 1700 Transponders and 6000 Channel Memory Function
  - Teletext Supported (Optional)
  - Multi Language Function(Menu, Audio)
  - Auto Installation(Auto Channel Search) Function.

### GENERAL FEATURES

- Free To Air Channel Reception Only from Satellite and Terrestrial broadcasting
- PPVR (Audio & Video recording to remote PC via LAN)
- Dual Inputs (Satellite & Terrestrial) :
  - Fully Complies with ATSC HDTV (USB) & DVB-S MPEG 2
  - ATSC Tuner (LG NIM Type) & QPSK (LG NIM Type)
  - Decodes All ATSC HDTV Standard Video Formats
  - Including 480i / 480p / 720p / 1080i
  - Selectable Output Video Format : 1080i / 720p / 480p / 480i
  - Standard Definition/High Definition contents (MPEG2 and support MPEG4 AVC/H.264)
- PVR Ready Function via USB
- High Definition Video Output : HDMI and Component (YPbPr)
- Audio Decoding : ISO/IEC13818-3(MPEG-2 audio/MUSICAM)
- Full compliant of MPEG-S Digital & DVB broadcasting
- 950-2150 MHz Input Frequency (IF Loop Throughout)
- Satellite Scan – Multisat Scan support
- Flexible reception of SCPC & MCPC from C/Ku-Band satellites
- Variable input symbol rate
- Video output resolution : 480p, 720p, 1080i
- User selectable output resolution
- Various Aspect Ratio with 4:3, Letter Box, Full Screen & 16:9
- EPG (Electronic Program Guide) & Channels naming supported
- Multi language OSD
- Super fast channel changing speed
- Over 6000 channels TV & Radio Program
- Full Colors & User Friendly GUI for Easy Control

- Timer function & PiG (Picture In Graphic) support
- Zoom In-Out Function for Watching Screen
- Moving Background for Protection of Plasma Display Panel & LCD TV in Radio Chs
- Powerful Various Downloading Methods
  - USB downloading using USB stick
  - RS-232C cable downloading
- Set to Set downloading (Main Program & Channel List Data File)
- Powerful channel editing by
  - Sorting: Alphabetic, CAS, TP order, All
  - Move Channel, Delete Channel, Channel Rename
  - 10 Favorite list & 200 programs per each list
- Parental Lock Function using Master PIN Code
- Satellite & TP / Network Scan
- DISEQC 1.0, 1.1, 1.2 & USALS / 22KHz Switching Control Supported
- Comparable of setting the frequency for SMATV system
- Super universal remote
- UHF ready
- Fast and Smart Scan
- High LNB power generation

#### TECHNICAL SPECIFICATION

- 1 Input Connector: F-type, IEC 169-24
- IF Input Frequency: 950MHz to 2150MHz
- IF Loop Throughout: 950MHz to 2150MHz
- Input Level: -65dBm ~ -25dBm
- DISEQC Control: 1.0, 1.1, 1.2 & USALS Compatible
- Band Switch: 22KHz Tone (22 +/- 4KHz, Amplitude: 0.6 +/- 0.2V)
- Symbol Rate: DVB-S QPSK: 1-45Mbps
- Viterbi Decoding Rate: 1/2, 2/3, 3/4, 5/6 and 7/8
- Bandwidth: 36MHz
- Terrestrial Tuner: ATSC A/53 compliant, 8/16VSB and MMDS, 24/8VSB receiver
- Input Voltage: AC 100-250V, 50/60Hz
- Power Consumption: Max. 60 Watts
- LNB Power: 13 /18VDC / 1,000mA Max
- Power Supply Type: SMPS

#### MPEG TRANSPORT STREAM AV DECODING

- Demultiplex: According to ISO/IEC 13818-1(MPEG-2 system)
- Input stream: Max. 90Mbit/s
- Aspect Ratio: 4:3, 16:9
- Video Resolution: 480p or 720p, 1080i
- Audio Decoding: ISO/IEC13818-3(MPEG2 Audio/MUSICAM)
- Audio Mode: SingleChannel/Dual Channel, Stereo, Joint Stereo
- Video Output: HDMI, Component, RCA, S-Video

#### MICROPROCESSOR & MEMORIES

- Main Processor: STI 7101
- CPU Clock: 266MHz
- Flash Memory: 4 Mbyte + 1Gbyte (Nand flash memory) default

- (16Gbyte nand flash memory: Optional)
- DDR SDRAM: 192 Mbyte
- EEPROM: 32 Kbit(Optional)

#### DATA PORT

- Connector: 9 Pin D-Sub Type
- Protocol: RS232 Asynchronous
- Data Rate: Max. 19.2Kbps 115.2K
- Ethernet: 10BaseT/100BaseTX

#### AV OUTPUT

- Digital output: HDMI
- Video: YPbPr, CVBS output (RCA)
- Audio: Stereo L/R output (RCA)
- S-VHS: S-Video
- Digital Audio: 1 optical output, S/PDIF

#### FRONT PANEL

- Smart Card: 1 Slot
- 7 keys: Menu, OK, Power, Channel Up/Down, Volume Up/Down
- Integrated USB 2.0, support to USB memory stick
- Green VFD display (moving 12 characters in 1 line)

#### REAR PANEL

- ATSC Signal INPUT
- Loopthrough output
- S-VHS: S-Video
- IF Input & Out
- 3RCA: Video, Audio L, Audio R
- Component output: Y/Pb/Pr
- UHF Optional Signal In
- Ethernet port
- Integrated USB 2.0, support to USB memory stick
- HDMI Connector: Type A
- S/PDIF for Digital Audio Bitstream Output
- RS232 Serial Port: 9 Pin Connector, D-Sub Type, Twisted Cable
- Built-in Internal Cooling Fan
- Power On/Off switch

#### REMOTE CONTROL

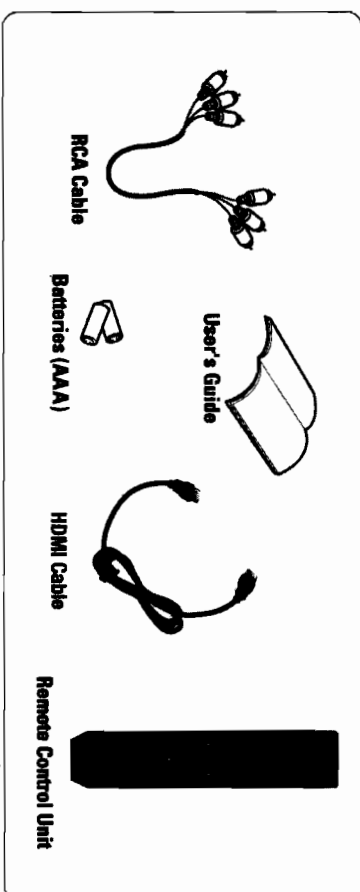
- Type: Super Universal Remote Control
- Battery: 2x1.5V AAA Type

#### DIMENSIONS AND WEIGHT

- Size: 13.4 (W) x 9.65 (D) x 2.36 (H) [inch], (340 (W) x 245 (D) x 60 (H) [mm])
- Weight (Net): 5.95 lbs, (2.7 kg)

## 1.2 Accessories

RCA Cable  
User's Guide  
Batteries (AAA)  
HDMI Cable  
Remote Control Unit



## 1.3 Universal Remote-Controller Setting

### Direct Code Entry

STEP1. Turn on the component that you want to set up (TV, VCR, DVD).

STEP2. Hold the component key "TV, VCR, DVD" and "OK" key down until the component key light comes on. The light should come on after approximately 3 seconds.\*\*

STEP3. Within twenty seconds, enter in a 3-digit code number. (See device code pages) \*\* If the component turns off, you've got the right code. If the component does NOT turn off, press the next 3-digit code listed.

STEP4. Finish setup by pressing 'OK' key.

\*\* Caution: During setup if no key was pressed within 20 seconds during steps 2-3, LED will turn off and settings will not be applied.  
If no any brand code is matched, please try Auto Code Search.

### Auto Code Search

STEP1. Turn on the component that you want to set up (TV, VCR, DVD).

STEP2. Hold the component key "TV, VCR, DVD" and "OK" key down until the component key light comes on. The light should come on after approximately 3 seconds.\*\*

STEP3. Press and release the "CH+" or "CH-" key until your device shuts off. This may take some time.\*\*

STEP4. Finish setup by pressing 'OK' key right after device shuts off.

\*\* Caution: During setup if no key was pressed within 20 seconds during steps 2-3, LED will turn off and settings will not be applied.

### TV

MAKER (BRAND) NAME	CODE NUMBER (3 DIGIT) LIST
ADMIRAL	072, 081, 160, 161, 096
ADVENT	247
AIKO	103
AKAI	006, 146, 248
ALARON	028
AMARK	112, 143
AMERICA_ACTION	043
AMPRO	073
ANAM	043, 054, 055, 056, 080, 112
AOC	058, 006, 004, 112
APRC_DIGITAL	015, 226
AUDIOVOX	076, 103, 043
BAYSONIC	043
BELL_HOWELL	072
BRADFORD	043
BROKSONIC	096

MAKER (BRAND) NAME	CODE NUMBER (3 DIGIT) LIST
CANDLE	006, 002, 003, 004
CAPEHART	059
CARVER	164
CELEBRITY	001
CETRONIC	043
CINERAL	103, 120
CITIZEN	006, 002, 003, 004, 101, 103, 143
CLASSIC	043
CONCERTO	004
CONTEC	043, 051
CORONADO	143
CRAIG	043, 054, 028
CROSLEY	164
CROWN	043, 143
CURTIS, MATHEIS	006, 004, 101, 143, 011, 072, 081, 120, 164
CXC	043
DAEWOO	076, 103, 055, 004, 127, 143, 016, 043, 044, 125, 120
DAYTRON	004, 143
DENON	011
DUMONT	004, 073
DWIN	161
DYNASTY	043
DYNATECH	062
ELECTROBAND	001
ELECTROHOME	024, 076, 143
EMERSON	005, 028, 043, 048, 076, 096, 155, 004, 051, 143, 151, 153, 154
FISHER	007, 057
FUJITSU	164, 028, 198, 246
FUNAI	028, 043, 052, 249
FUTURETECH	043
GATEWAY	242
GE	006, 073, 144, 160, 161, 004, 008, 009, 034, 056, 074, 091, 155, 081, 120
GIBRALTER	004, 073
GOLDSTAR	004, 106, 119, 110, 112, 113, 127, 143
GRUNPY	028, 043
HALL, MARK	004
HARLEY, DAVIDSON	028
HARMAN, KARDON	164
HARVARD	043
HITACHI	163, 004, 007, 009, 011, 072, 010, 012, 023, 075, 143, 158
INFINITY	164
INKE	129

MAKER (BRAND) NAME	CODE NUMBER (3 DIGIT) LIST
INTEQ	073
JBL	164
JCB 001	JCB 001
JCPENNEY	004, 006, 008, 024, 030, 065, 101, 143, 156, 160
JENSEN	013
JVC	038, 001, 034, 083, 206
KENWOOD	006, 001
KLOSS	002, 059
KTV	006, 043, 143, 154
LG	004, 106, 119, 110, 112, 113, 127, 143
LODGENET	072
LOEWE	207, 164
LOGIK	072
LUXMAN	004
LXI	007, 015, 052, 081, 160, 164
MAGNAVOX	006, 003, 004, 022, 059, 060, 061, 063, 064, 127, 164, 094, 160, 028, 250
MAJESTIC	072
MARANTZ	164, 006
MATSUI	164
MATSUSHITA	080
MEGATRON 004	004
MEMOREX	004, 007, 072, 028, 096
MEIZ	088
MGA	024, 006, 004, 042
MIDLAND	073
MINERVA	088
MINUTZ	008
MITSUBISHI	109, 024, 042, 004, 040, 146, 028, 081, 225
MOTOROLA	081
MTC	006, 004, 062, 101
MULTITECH	043
NAD	015, 025
NEC	006, 134, 040, 056, 007, 019, 024, 237
NIKEI	043
NIKKO	103
NTC	103
ONKING	043
ONWA	043
OPTIMUS	080
OPTONICA	019, 081
ORION	096, 201, 202, 203, 204, 205, 028
PANASONIC	034, 056, 080, 164, 208, 222

MAKER (BRAND) NAME	CODE NUMBER (3 DIGIT) LIST
PHILCO	006, 003, 004, 024, 056, 059, 060, 063, 064, 127, 143, 164
PHILIPS	164, 005, 038, 093, 127, 006, 003, 004, 059, 210
PIONEER	023, 025, 135, 176, 004, 018, 006, 209, 234
PORTLAND	004, 143, 103
PRISM	034
PROSCAN	144, 160, 161
PROTON	004, 058, 134, 171, 173, 112
QUASAR	034, 056
RADIO_SHACK	004, 019, 127, 143, 043
RCA	160, 161, 144, 156, 065, 006, 004, 023, 024, 056, 074, 152, 081
REALISTIC	007, 019
RUNCO	072, 073
SAMPO	006, 004, 058, 242
SAMSUNG	004, 101, 127, 133, 143, 160, 089, 105, 211, 228, 229
SANSEI	120
SANSUI	096
SANYO	007, 053, 057, 082, 020
SCOTCH	004
SCOTT	004, 005, 028, 043, 048, 143
SEARS	004, 007, 015, 028, 030, 057, 082, 094, 143, 160, 052, 164
SEMVOX	043
SEMP	015
SHARP	081, 014, 019, 028, 004, 022, 143, 175
SIGNATURE	072
SONY	001, 126, 139
SOUNDDESIGN	003, 004, 028, 043
SPECTRICON	112
SQUAREVIEW	052
SSS	004, 043
STARLITE	043
SUPRE_MACY	002
SUPREME	001
SYLVANIA	006, 003, 059, 060, 063, 064, 127, 160, 164, 044, 249
SYMPHONIC	052, 249
TANDY	081
TATUNG	056, 062
TECHNICS	034, 080
TECHNOL_ACE	028
TECHWOOD	004
TEKNIKA	002, 003, 004, 024, 028, 043, 072, 101, 143, 103, 164
TELERENT	072
TERA	172
TMK	004

MAKER (BRAND) NAME	CODE NUMBER (3 DIGIT) LIST
TNCl	073
TOSHIBA	015, 030, 007, 040, 062, 101
TOIEVISION	143
UNIVERSAL	008, 009
VIDEO_CONCEPTS	146
VIDIKRON	174, 188, 164
VIDTECH	004
WARDS	004, 064, 164, 008, 009, 019, 028, 060, 061, 063, 072, 074, 143
WESTING_HOUSE	076
YAMAHA	004, 006
YORK	004
YUPITERU	043
ZENITH	072, 073, 095, 103, 011, 096
ZONDA	112

## VCR

MAKER (BRAND) NAME	CODE NUMBER (3 DIGIT) LIST
ADMIRAL	025, 053
AIKO 117	117
AIWA	034, 161, 101
AKAI	043, 046, 124, 146
AMERICA_ACTION	117
AMERICAN_HIGH	031
AMPRO	072
ANAM	031, 103
ASHA 040	040
AUDIO_DYNAMICS	012, 023, 043
AUDIOVOX 101	101
BEAUMARK	040
BROKSONIC	035, 037, 129, 025
CALIX	101
CANON	028, 031
CAPEHART	108
CCE	024, 117
CINERAL	117
CITIZEN	101, 117
COLT 024	024
CRAIG	003, 040, 135, 024, 101
CUIRTIS_MATHES	031, 041
CYBERNEX 040	040
DAEWOO	005, 108, 111, 117, 017, 065, 007, 010
DAYTRON 108	108
DBX	012, 023, 043
DYNATECH	034, 053

MAKER (BRAND) NAME	CODE NUMBER (3 DIGIT) LIST
ELECTROHOME	059, 101
ELECTROPHONIC	101
EMERSON	006, 029, 035, 037, 129, 153, 017, 025, 027, 031, 034, 036, 046, 101, 131, 138, 117
FISHER	003, 010, 008, 009
FUJI	031
FUNAI	034
GARRARD	034
GE	031, 072, 144, 147, 063, 107, 109, 040, 053
GO VIDEO	132, 155, 040, 136
COLDSTAR	101, 004, 012, 020
HARLEY DAVIDSON	034
HARMAN KARDON	012, 045
HARWOOD	024
HITACHI	004, 026, 034, 043, 063, 137, 150
HQ 034	034
HUGHES 004	004
INSTANTREPLAY	031
JCL	031
JCPENNEY	004, 012, 031, 040, 101
JENSEN	043
JVC	048, 043, 055, 060, 130, 150, 152, 012, 031
KEC	101, 117
KENWOOD	034, 150, 014, 048
KLH	024
KODAK	031, 101
LG	101, 004, 012, 020
LLOYD	034
LOGIK	024
LXI	003, 009, 017, 034, 101, 004, 106
MAGIN	040
MAGNASONIC	117
MAGNAVOX	067, 031, 034, 088, 041, 156, 170
MARANTZ	067, 069, 012, 031
MARTA	101
MATSUI	027, 030
MATSUSHITA 031	031
MEI	031
MEMOREX	040, 101, 003, 014, 031, 034, 053, 072, 134, 139, 025
MGA	045, 046, 059
MGN TECHNOLOGY	040
MINOLTA	004, 020
MTSUSHI	059, 061, 051, 004, 046, 020, 045, 053

MAKER (BRAND) NAME	CODE NUMBER (3 DIGIT) LIST
MOTOROLA	031, 053
MTC	034, 040
MULTITECH	024, 034
NEC	012, 023, 043, 048
NIKKO	101
NOBLEX	040
NORDMENDE	043
OLYMPUS	031
OPTIMUS	053, 101
OPTONICA	053, 054
ORION	025
PANASONIC	031, 070, 133, 140, 163
PENTAX	004, 031, 063, 020
PHILCO	031, 034, 067, 025
PHILLIPS	031, 034, 054, 067, 101, 150
PILOT	101
PIONEER	021, 004, 048
PORTLAND	108
PROFITRONIC	040
PROTEC	024
PULSAR	072
QUARTZ	014
QUASAR	031, 070, 133, 140, 163, 014
RADIO SHACK	123, 034
RADIX	101
RANDEX	101
RCA	107, 109, 144, 041, 031, 004, 020, 034, 040, 140, 147, 158, 053
REALISTIC	003, 008, 014, 031, 034, 040, 053, 054, 101, 010
RICO	058
RUNCO	072
SALORA	014
SAMSUNG	040, 017, 107, 109, 113, 115, 124, 122
SANKY	053
SANSUI	043, 135, 048, 025, 034
SANYO	003, 014, 040, 134
SCOTT	017, 037, 129, 131
SEARS	003, 004, 008, 014, 017, 081, 101, 010, 031, 034
SHARP	053, 031, 054, 159
SHINTOM	024
SHOGUN	040
SINGER	024
SONY	001, 057, 058, 003, 052, 053, 031, 154, 171, 009, 034
SOUNDESIGN	034



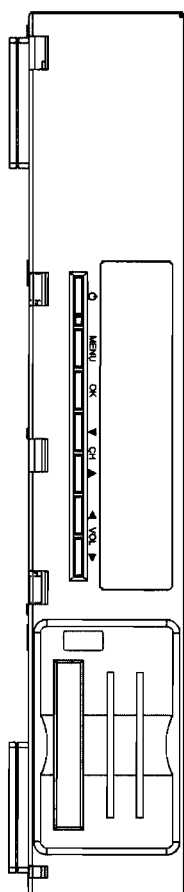
MAKER (BRAND) NAME	CODE NUMBER (3 DIGIT) LIST
STS 004	004
SYLVANIA	031, 034, 059, 067
SYMPHONIC	034
TANDY	034, 010
SATUNG	043
TEAC	034, 043
TECHNICS	031, 070
TEKNIKA	031, 034, 101
THOMAS	034
TMK	006, 040
TOSHIBA	017, 131, 004, 008, 059, 082, 150
TOTEVISION	040, 101
UNITECH	040
VECTOR RESEARCH	012
VIDEO CONCEPTS	012, 034, 046
VIDEOSONIC	040
WARDS	003, 004, 017, 024, 031, 034, 040, 053, 054, 131
WESTINGHOUSE	024, 025
XR-1000	024, 031, 034
YAMAHA	012, 034, 043
ZENITH	072, 034, 001, 058, 080, 101 153, 048, 025

## DVD

MAKER (BRAND) NAME	CODE NUMBER (3 DIGIT) LIST
AIWA	202
ALPINE	221
APEX DIGITAL	251, 246
ARCAM	215
CYBERHOME	220
DAEWOO	220
DENON	226, 241
FUNAI	208
GE	230, 231
GOLDSTAR	235, 239
GO VIDEO	201
HARMAN KARDON	243
HITACHI	223
HITEKER	246
JVC	238
KENWOOD	216
KLH	210
LG	235, 239
MAGNAVOX	254, 237
MARANTZ	253, 242

MAKER (BRAND) NAME	CODE NUMBER (3 DIGIT) LIST
MCINTOSH	217
MEMOREX	207
MITSUBISHI	227
MTRYAD	224
NAD	247, 239
NAKAMICHI	225
ONKYO	240
OPTIMUS	229
PANASONIC	228, 206, 226
PHILIPS	253, 237, 214, 242
POPNEER	255, 222, 229
PROCEED	245
PROSCAN	230, 231
RCA	230, 231
SAMSUNG	236, 248, 201
SANSUI	205
SANYO	204
SHARP	252
SONY	232, 218, 203
SYLVANIA	208
SYMPHONIC	208
TATUNG	224
TECHNICS	228
THETA DIGITAL	229
TOSHIBA	233, 244, 219, 205
VENTURER	209
YAMAHA	249, 226
ZENITH	239, 226, 235

## 2.1 Front panel



**⏻**  
Turn the power on/off.

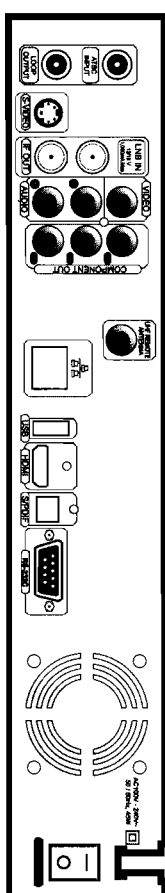
**MENU**  
Shows the menu application.

**OK**  
Select menu or value on menu item.

**CH ▴ ▾**  
Change channel, move menu, or input frequency value.

**VOL ◀ ▶**  
Control volume, change item on menu or input frequency value.

## 2.2 Rear panel



**ATSC INPUT**  
Connect ATSC Antenna cable.

**LOOP OUTPUT**  
To connect to the Digital TV.

**S-VIDEO**  
Separate Video, better picture quality than Composite.

**LNB IN**  
It receives signals from the LNB in the range of 950 ~ 2150MHz.  
Connect a satellite dish to the DIGITAL on the satellite receiver.

**IF OUT**  
It sends signal to another receiver.

**VIDEO**  
It provides composite video output.

**AUDIO (R,L)**  
It provides stereo audio output.

**YPbPr**  
Component video signal output.

**IP Connection**  
Network interface.

**USB Connection**  
It receives data by connecting to USB storage device for software upgrading.

**HDMI (Digital AV out)**  
High Definition Multimedia Interface.

**SPDIF**  
Output for connection to a digital amplifier.

**RS-232C**  
It receives data by connecting to PC for software upgrading.  
Connect with RS-232C cable a PC and receiver.

**ON / OFF**  
The switch is to turn on or off the main power of the receiver mechanically.

## 2.3 Remote Control Unit

Open the controller cover on the back and insert two batteries (AAA - 1.5V).



### STB

To control STB.

### TV

To control TV

### DVD

To control DVD.

### VCR

To control VCR.

### POWER

Turn the power on/off.

### SOURCE

AV input selection in TV mode

### MUTE (M)

Deactivate current sound.

### Numeric(0-9)

Change channel or input frequency value.

### SAT

Select a Satellite

### RECALL (C)

It is to move to previous channel.

### GUIDE

Shows EPG [ELECTRONIC PROGRAM GUIDE].

### FAV

Add TV or Radio channel to the favorite list on Edit TV(Radio)

Channels, or watch favorite channel from your favorite list.

### MENU

Shows the menu application.

### INFO (i)

Shows the information of current channel.

Click the INFO button twice, EPG mode will be displayed.

### THEME

Option (no support)

### EXIT

Exit from the menu.

### Channel (▲▼)

Change channel, move menu.

### Volume (◀▶)

Control volume, change item on menu or input frequency value.

### OK

Shows channel list, Select menu or value on menu item.

### Page UP (▲), DOWN (▼)

Move to previous/next page on TV(Radio),

Favorite Channels or Edit TV(Radio) Channels.

### PLAY (▶), STOP (■), FAST (⏮), REWIND (⏪), RECORD (Ⓜ)

To control PVR function.

F1(Red Button), F2(Green Button), F3(Yellow Button), F4(Blue Button), F5

Special function keys, refer to the relation sections.

### CC (A) - option

Closed- Captioning

### CH

Change to TV mode or Radio mode.

### TV

Option (no support)

### ZOOM

2 times zoom in mode. First press, show target area box. Second press, show zoomed screen. Zoom area can be moved with arrow keys. Exit zoom in mode with "EXIT" remote key.

### RECENT

If you hope to show channel list which you watched TV channel list recently, you have to use this function and may show channel list easily.

### TEXT

Change to teletext mode.

### LANG

Select the audio language from 2 or more audio language channels available.

### SIZE

Select between standard 4:3 and wide 16:9 screen sizes.

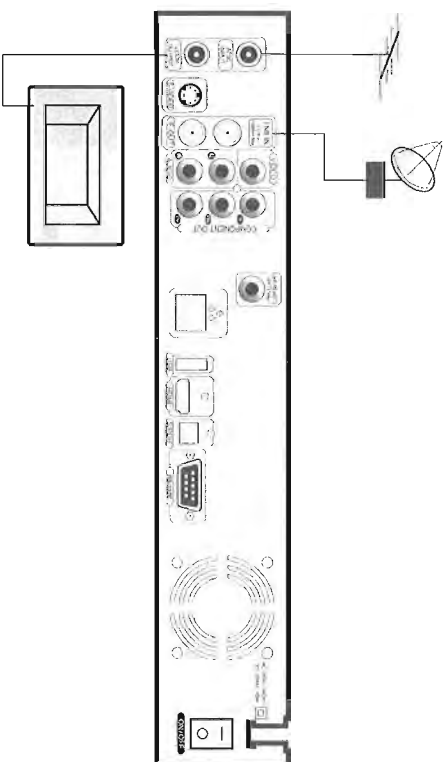
### AUDIO

Select Audio mode (Stereo, left or right).

### 3.1 Connecting to the TV, VCR and Satellite Antenna

It is not necessary to adjust power, as the product is of free - voltage (AC 110~220V)

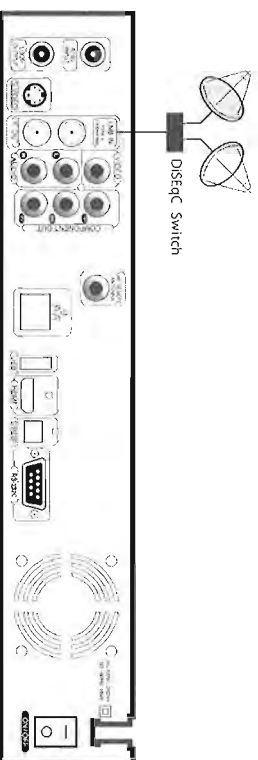
1. Connect the RF cable from the LOOP OUTPUT on the receiver to a TV and connect the TV Antenna to the ATSC INPUT.
2. Connect a cable of the satellite dish to the DIGITAL on the receiver.



### 3.2 Connecting DiSeqC switch

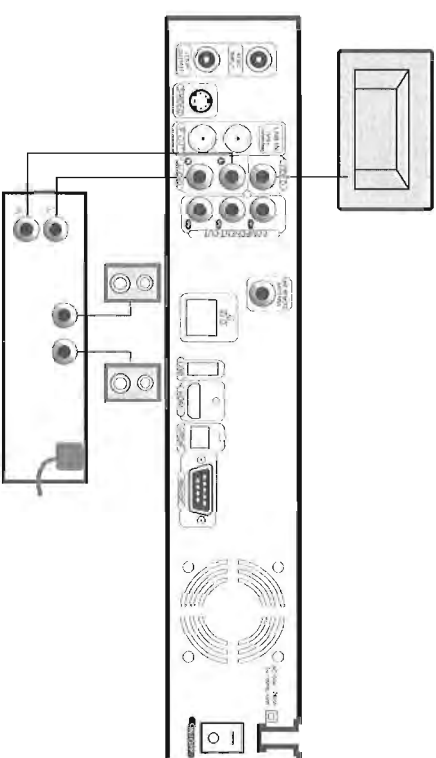
If you have one antenna equipped with many LNBS or two antennas with one LNB on each, you need a DiSeqC switch.

1. Connect the LNBS to a DiSeqC switch at first.
2. Connect the antenna cable to the OUT connector on the DiSeqC switch and connect the end of the cable to the DIGITAL on the receiver.



### 3.3 Connecting to the TV, HiFi system

1. Connect the RCA cable from the VIDEO INPUT on the TV to the VIDEO on the receiver.
2. Connect a RCA stereo cable from the AUDIO RL on the receiver to the AUDIO RL on the HiFi system.



### 3.4 Connecting Smart Card module (Optional)

To receive the distributed program of Service Provider you need a Smart card  
Insert smart card slot for watching TV programs from Service Provider.

#### NOTE

Insert smart card into a smart card slot with facing IC upwards

4.1 Antenna Setup

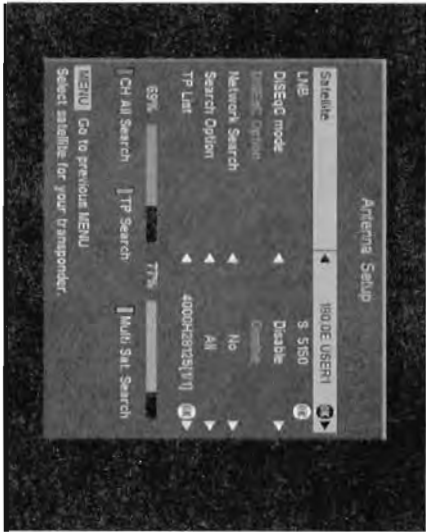
If it is the first time using a receiver, you should set parameters for system configuration. Refer to the following section.  
Turn on your TV and Satellite receiver.  
Press the MENU button, main menu screen will appear as shown below.



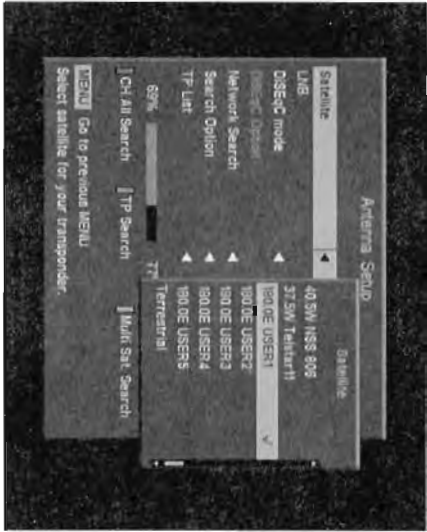
1. Select Installation on the Main Menu.



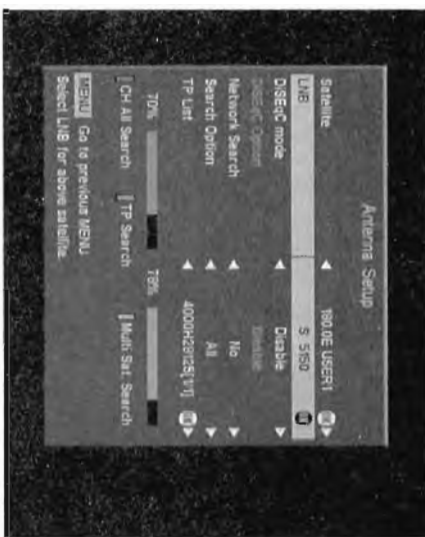
2. Select "Antenna Setup"



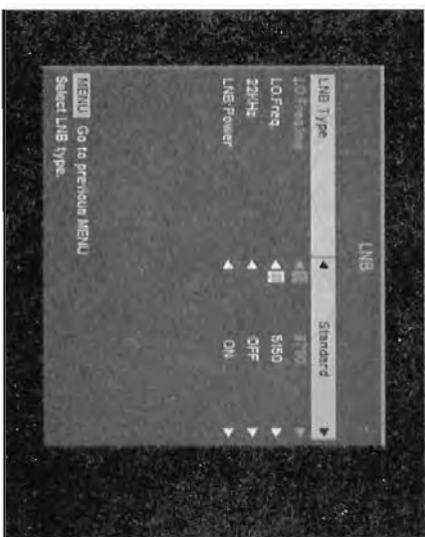
3. Select correct name of Satellite. If there is no proper satellite name listed in the item, choose one among USER1 ~ USER 5.



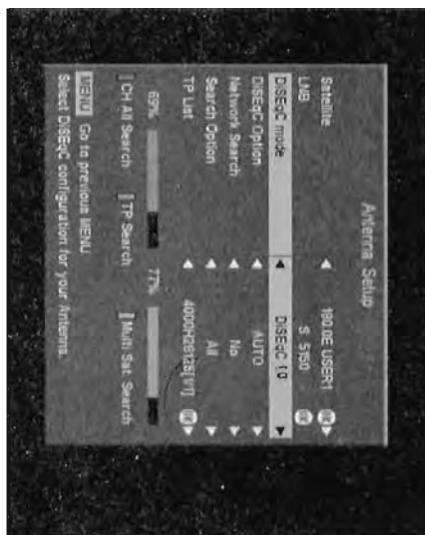
4. If you want to change the LNB, go to LNB in the Antenna Setup.



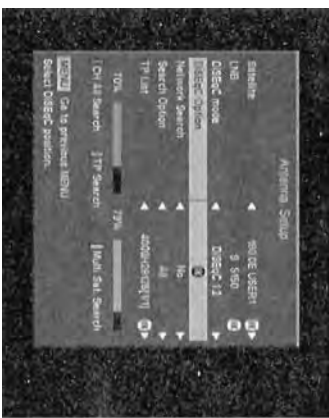
5. If you want to change the LNB go to LNB TYPE and use ◀ ▶ buttons to select the LNB type and LNB Frequency.



6. If only one antenna is in use, please set DiSeqC mode to disable. If more than 1 antenna, you can select DiSeqC1.0, DiSeqC1.1, DiSeqC1.2, USALS.

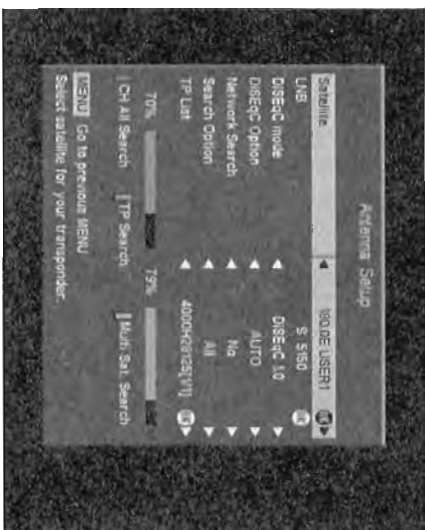


7. If you have a DiSeqC1.2 motorized system to control your satellite antenna you have to select DiSeqC1.2 on DiSeqC mode in Antenna Setup.



8. If you want to search channels, press Color button.

Red: CH All search, Green: TP search, Yellow: Multi sat search.



After successful completion of channel searching, please move to TV Channels or Radio Channels on TV list to select currently received channels.

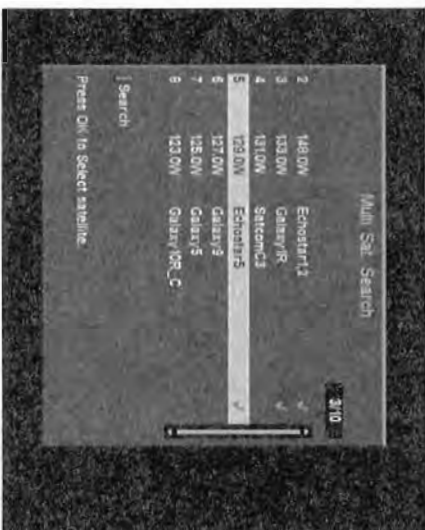
Then you should select the TV channel or Radio channel which you want. After then you can watch the TV program or listen to the radio.

### [ Multi Sat. Search ]

Move: MAIN menu -> Antenna Setup -> Yellow key(multi sat search) -> Select satellite -> Red button

Press OK to choose the desired satellite

Press the RED button in the RCU to scan the selected satellites.

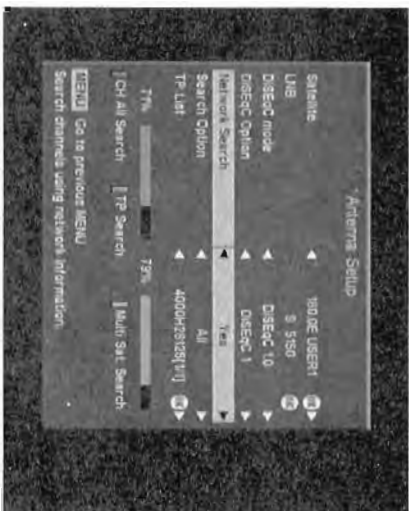


### [ Network Search ]

Network search function is enable to search new TPs and all channels in all TPs.

\* How to go "Network Search" menu :

Main menu -> Installation --> Antenna Setup -> Network Search (select "Yes").



### NOTE

Depending on certain TP or satellite, the Network Search function may not work.

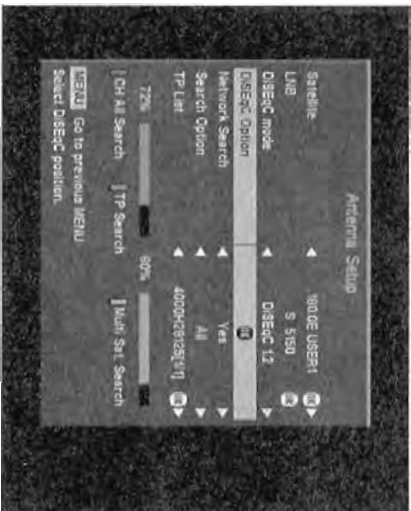
### [ DISEQC1.2 Settings ]

If you have a DISEQC1.2 motorized system to control your satellite antenna you have to make the following setting.

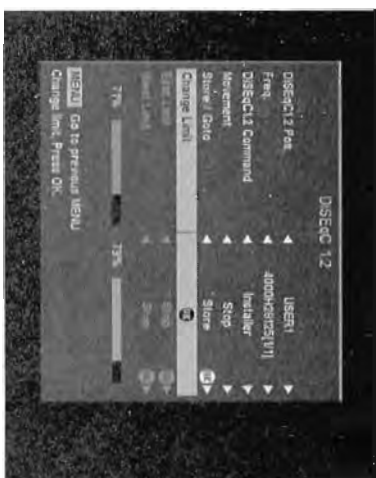
First, you must select DISEQC1.2 on the DISEQC mode in the Antenna Setup.

< Please refer to the Setting section >

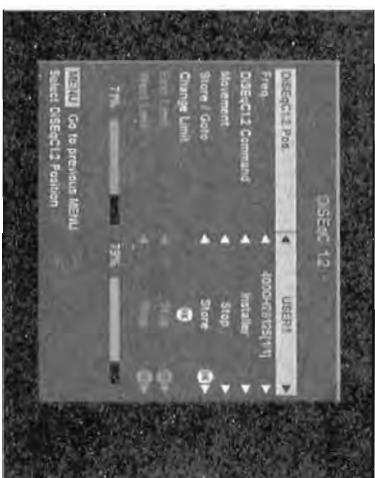
1. Press OK on DISEQC1.2



2. You should set the East Limit and West Limit of your satellite antenna, if you use the satellite receiver at first. Press OK button on the Change Limit item, set the East/West Limit.



3. Select satellite you want and DISSEQ1.2 Pos. will be set automatically.



**DISSEQ1.2 Pos.**  
DISSEQ1.2 Pos. shows positioner value of the current satellite.

**DISSEQ1.2 Command**  
DISSEQ1.2 Command changes the current mode between Installer and User.

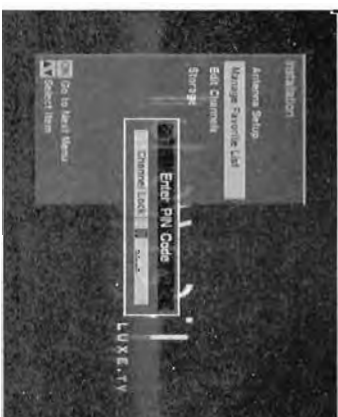
**Movement**  
In User mode this is used to tune the position of the motor. In Installer mode this is used to search for the position of a satellite manually.

**Store**  
Stores the current position of the motor for the selected satellite name.

**Go**  
Moves the motor to the stored position of the selected satellite name.

## 4.2 Manage Favorite List

Press the MENU button, main menu screen will appear as shown below.  
Select Manage Favorite List on Installation.



### NOTE

The default password is "0000"

### Rename Favorite Name

1. Press RED button from Favorite List.





- 2. You can change the character by number button (1~9).  
To change characters( big/small letter, number), using ▲▼  
To delete one character, press Green button.



Add Services

- 1. Press Blue button on Manage Favorite List Menu. Add Services Menu will appear as shown below.



- 2. You can add channels to Favorite List by Blue button.  
Then you can see the selected channels on right side.



- 3. To cancel the selected channel, you should select the Favorite List by Red button. Then press Green Button on channel that you want to cancel.



4.3 Viewing TV(or Radio)

- 1. Press the Power button.
- 2. Press the TV(or Radio) button.
- 3. If you want to see all TV channel list, click the "OK" button and then select the TV Channel (or Radio Channel). TV Channel (or Radio Channel) window will appear.

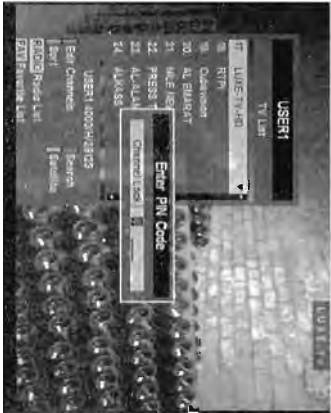


Press [Yellow] button on RCU, you can see available Satellites.



Edit TV Channels / Edit Radio Channels

Press RED button on TV List(or RADIO List) and you can see similar screen will be shown as below. To enter "Edit", Password is required. The default password is "0000"



Rename channel

- 1. Press RED button from Edit TV List or Edit Radio List.



2. You can change the character by number button (1~9).  
To change characters (big/small letter, number), using **▲▼**  
To delete one character, press Green button.



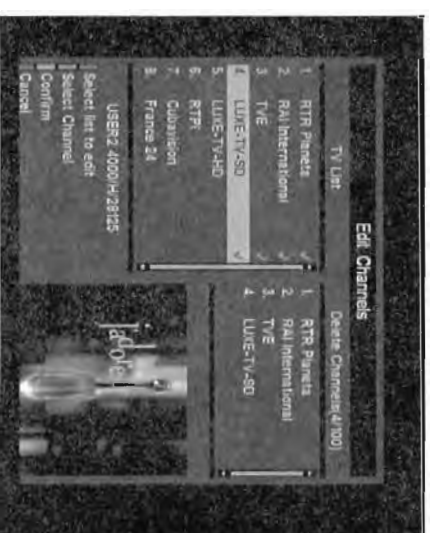
### Channel Move

Press Green button and then select channels (Green button).  
Then you can see the selected channels on right side.  
Select your desired position on left side, Press Yellow button.



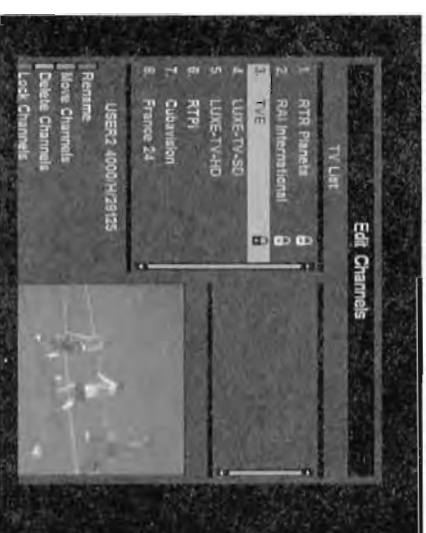
### Channel Delete

Press Yellow button and then select channels (Green button),  
you can see the selected channel on right side, if You want to confirm to delete channels,  
Press Yellow button.



### Channel Lock

Press Blue button for channel lock.



**Viewing favorite list**

Press FAV button on 'TV list', you can see the favorite list.

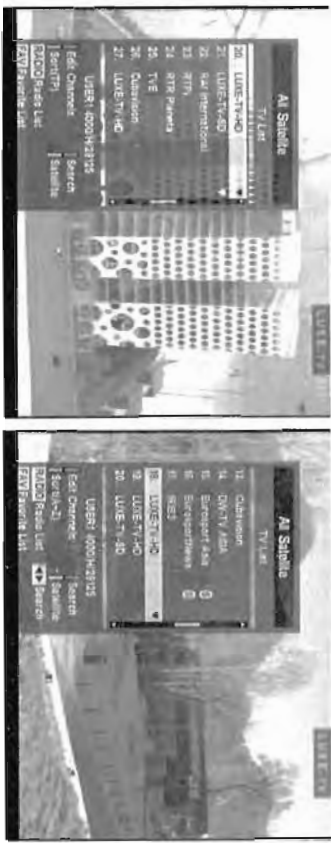


**Sort**

Press Green button in the 'TV List' screen.

You can select the order you want (A~Z, TP,FTA-CAS)

You can change channel fast by alphabet order ◀▶ on A~Z order



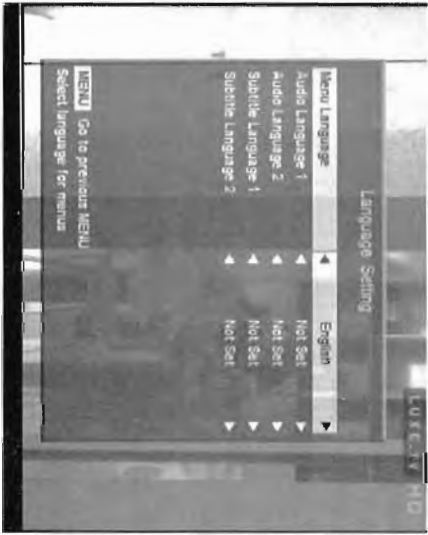
**4.4 System Settings**

From these menus you can select "System Setting" on the Main Menu.



**Language Setting**

Use ◀▶ keys to select the desired language.



**Menu Language**

For menu language selection, select desired language from Menu Language of system Settings.

**Audio language**

Only if a current channel contains 2 or more audio language information, set the Audio Language as English or other favorite language.

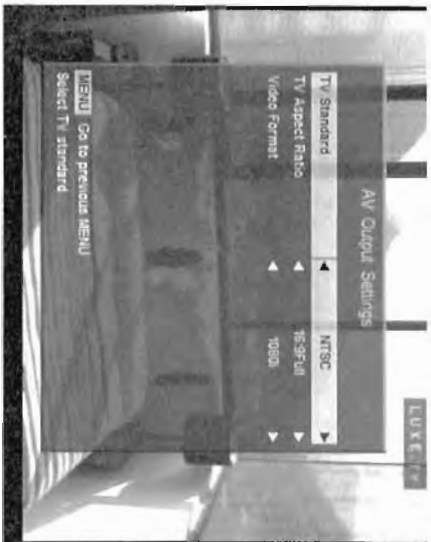
**Subtitle Language**

Please select the primary and secondary languages in your area.

## AV Output Settings

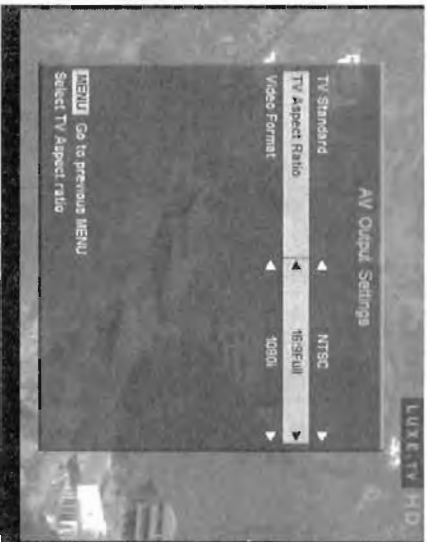
### TV Standard

Except for a few, most countries are using PAL system for TV signal, accordingly set TV Standard as PAL. To be more flexible for NTSC or PAL signal from different satellites, select MULTI for automatic signal conversion.

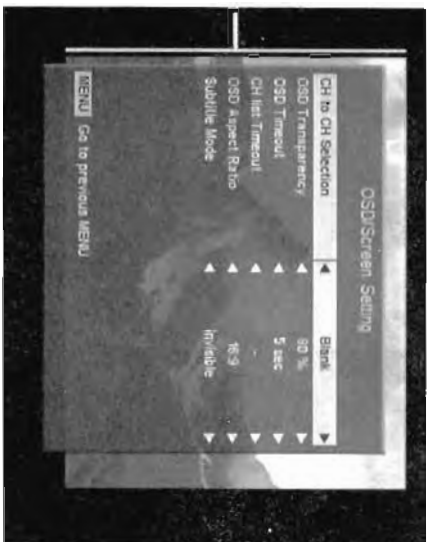


### TV Aspect Ratio

Press SIZE button when you watch on TV or go to "System Setting" menu. Select "TV Aspect Ratio" and you can change. You can change 4:3, 4:3Pan, 16:9Full or 16:9Pillar modes.



## OSD/Screen Setting



### CH to CH Selection

While you are changing the channel, it shows whether the blank screen or not.

### OSD Transparency

Adjust Transparency on the OSD(On Screen Display)

### OSD Timeout

Set up I-plate Timeout for hidden on / off.

### CH List Timeout

Set up the TV channel list timeout for hidden on /off

### OSD Aspect Ratio

Select between standard 4:3 or wide16:9 mode.

### Subtitle mode

You can select subtitle mode ( invisible or visible).

## Time Settings



### Time Adjustment

To set the receiver time for EPG (Electronic Program Guide), set the time according to GMT (Greenwich Mean Time) by using VOL ◀▶. If EPG in England is needed to set, adjust as 00:00. In the case of Dubai, adjust as 04:00

### Clock

set the local time.

### On Timer, On Timer CH

set the timer and the channel.

### Off Timer

set the timer.

### Sleep Timer

set 10 ~ 240 minutes

### Summer Time

set the summer time.

## Parental Control

You can protect your installed data and information by locking the menu. Channel lock allows you to lock the channel with the password in order to prevent from accessing of the channel by your children or some unauthorized person. Default password is "0000" for Menu Lock and Channel Lock. This can be changes here.



### Factory Default

You can initialize All Information to factory default.



## 4.5 STB Information

### STB Information

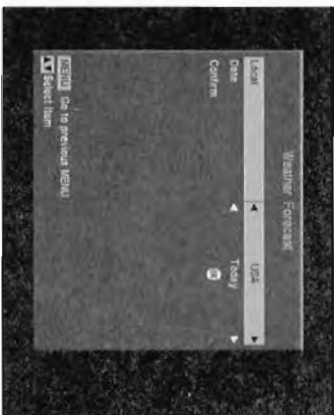
You can check SW Information.(Boot, SW Version).



## 4.6 Weather Forecast

### Weather Forecast

You can get weather information for USA and CANADA.



## 4.7 CA Information(Optional)

CA modules and Smart Cards are licensed to Service Providers.

If you want to watch TV Programs from a Service Provider you must use a CA module (Conditional Access) with a Smart Card.

If no CA module is used you can only watch FREE TO AIR TV Programs.

Press CA Information of "Information menu". Then, the following sub menu will be shown as below.



You will get access to information and menus connected to the Common Interface(CA) Module

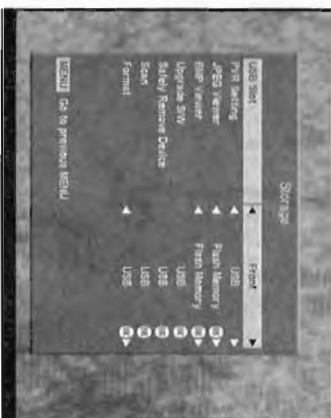
## 4.8 Storage(USB, Flash Memory(Optional))

Select Storage menu on Installation.

### USB Slot

First of all, you have to connect usb slot on receiver to USB storage device.

Use ◀▶ keys to select the desired USB Slot side(Front or Rear).



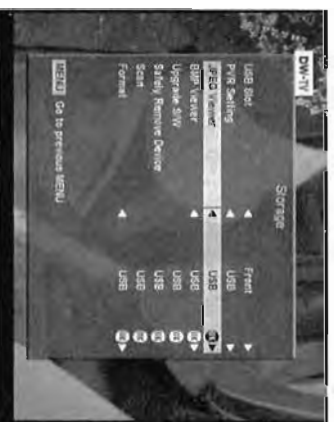


**PVR Setting**

You can select PVR Type by using ◀▶ keys(USB or IP).

**JPEG Viewer**

Select media by using ◀▶ keys(USB or Flash Memory(Optional)). then, press OK button.

**BMP Viewer**

Select media by using ◀▶ keys(USB or Flash Memory(Optional)). then, press OK button.

**Upgrade SW****Refresh**

- Press 'Red button' on File List and you can see the updated File List.

**Upgrade SW**

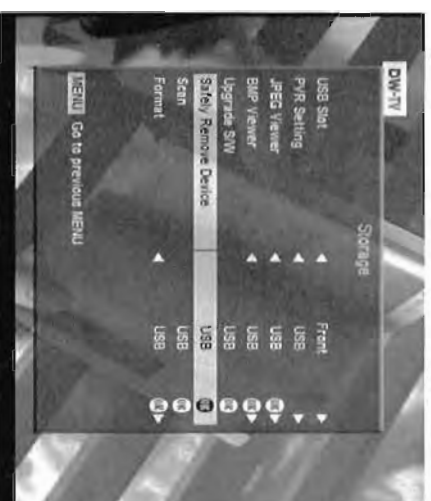
- Select a sw file on File List and then press 'Green button'.

**Save data to USB**

- Press 'Yellow button' to save user settings and channels data to USB.

**Safely Remove Device**

You should use this function before removing USB device.





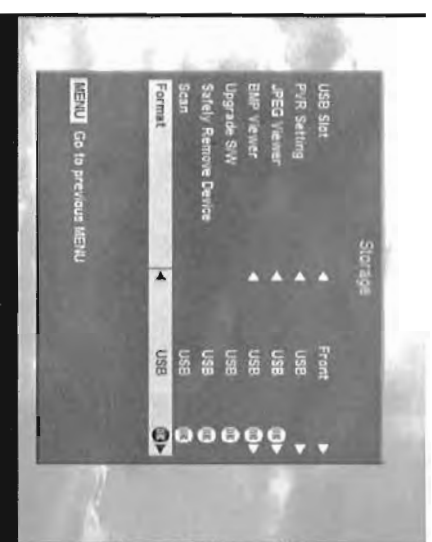
### Scan

This function checks file systems on USB device.



### Format

Select media by using ◀▶ keys(USB or Flash Memory(Optional)). then, press OK button.



## 4.9 Recording

Press Record button to start recording.



You can stop the recording with Stop button.

## 4.10 Play

Press Play button to enter file list menu.



Play

- Press 'Play button' to play a recorded file.

Refresh

- Press 'Red button' on File List and you can see the updated File List.

Detail

- Press 'Green button' on File List and you can see information about a recorded file.

Send to PC

- Press 'Yellow button' to send a recorded file in USB to your PC.

Delete

- Press 'Blue button' to delete a recorded file in USB.

## 4.1.1 Network Settings

If you using IP PVR function, you should set IP Address for network Interface.

**DHCP/STATIC**

DHCP and STATIC are the protocols used by network devices to obtain IP address, and if you want to change the protocol, use ◀▶ keys to select the protocol.(DHCP or STATIC)

NOTE

- DHCP: receive IP address automatically.
- STATIC: setting fixed IP address manually

**IP PVR**

If you using IP PVR function, you have to set the IP address of the recording to remote PC.

## 4.12 Other Functions

### Audio Selection

If broadcasting channel is supporting multi language, different language can be selected from Audio Selection.

1. To select different language on current channel, press LANG button on RCU.
2. Press OK button on your favorite language.

According to different audio data on each channel, different audio language types can be selected.



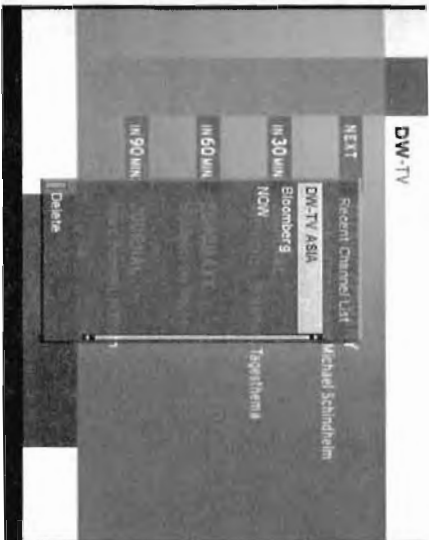
### TV Guide

Press GUIDE button of RCU for channel information.



### Function of Recent List

1. If you watch TV/Radio channel over 5minutes, automatically added Recent Channel List. The latest watching channel is located in high rank. If you watch TV channel in Recent List over 5minutes, it is changed a high rank in Recent List automatically.



2. In Recent Channel List, you can move cursor and select channel. If you press Ok button, you can watch the selected channel.
3. Red button: Delete selected channel in Recent Channel List.

### Favorite Hot button

If you press Green button when you are watching TV, selected channel is added Favorite Group as below.



### Capturing the still picture

You can capture a still image by C button.



## 5.1 Troubleshooting

SYMPTOM	SOLUTION
No picture display and no VFD channel display	Check the power connection
No picture display with normal VFD channel display	1. Check the connection with TV 2. Check the connection between TV outside input and receiver cable
No satellite channel with MAIN MENU screen on	1. Check the LNB, Frequency, Polarization and Symbol Rate from installation menu 2. Check the connection of receiver or Antenna Angle
No sound with normal screen display	1. Check between sound output connector and TV 2. Check if it is not in MUTE condition
Remote control unit does not work	Check if the batteries in remote control unit are Dead

## 5.2 Specification

LNB/Tuner	RF input frequency	950 to 2,150MHz
	RF input level	-65 to -25dBm
	LNB control	DiSeqC1.0/1.2 USAL_S
	LNB power	13V/18V/Max 1000mA)
MPEG	LNB tone switch	22KH±2KHz(0.6 Vp-p +0.2V)
	Video	MPEG-II Main Profile@Main Level
	Audio	MPEG-II layer I&II
VIDEO	Resolution	720×576
	Video output level	1Vp-p into 75
	Aspect ratio	4:3, 16:9
	Frequency range	20Hz to 20KHz
	Sampling frequency	32/44, 1/48KHz
	Frequency response	20Hz to 20KHz Hi-Fi Quality Digital stereo
Audio	Audio output level	2V rms into 600
	Supply voltage	(100~240V AC, 50/60Hz)
	Power consumption	60W(Standby 20W)
	Operating temp.	0°C ~ 50°C
General Data	Storage temp.	-40°C ~65°C
	Dimensions	340(W)×247(D)×67.5(H)mm
	Weight	2.7Kg

## 5.3 Glossary

### LNB

Low Noise Block converter. The LNB is an electronic unit mounted on satellite dish to receive signals reflected by the dish and convert to signals.

### L.O. frequency

Local Oscillator frequency as a part of LNB. It converts the satellite frequency to usable signals for the receiver.

### Polarization

Polarization allows several programs to be fitted into same frequency band.

### Symbol Rate

Size of the digital package transmission

### Parental Control

The function is to allow parents to lock channels for unsuitable viewers. A locked program can only be unlocked with the password.

### DVB

Digital Video Broadcast. International standard for digital TV broadcasting

### MPEG

Moving Picture Experts Group, A system for compression of digital data

### RF

Radio Frequency

### EPG

Electronic Programming Guide. Program information is displayed on the TV screen, depending upon the satellite condition.

### MHz

Abbreviation for Megahertz. The prefix mega means million, and Hertz means cycles per second.

### DISEqC

Digital Satellite Equipment Control

### NTSC

National Television Standards Committee

### PAL

Phase Alternate Line

### Ku band

11~18GHz Frequency

### C band

3~4GHz Frequency

### SCPC

Single Channel Per Carrier

### MCPC

Multi Channel Per Carrier

### PID

Packet Identifier.

### TP

Transponder

### SCART, RCA

A connector for connection of Satellite receiver, VCR and TV sets.

### VCR

Video Cassette Recorder.

### USB

USB is an abbreviation for 'Universal Serial Bus'.

A USB on a computer is a place where you can attach another piece of equipment, for example a printer.

### ATSC

"Advanced Television Standard Committee" It's established by the FCC to define new standards for publicly regulated broadcast television in the U.S.

### HDTV

HDTV (High Definition Television) offers clearer pictures (higher resolution) than ordinary TV.

It usually is wider than present NTSC and offers twice as higher resolution. In order to transmit high resolution picture through present TV bandwidth, a picture is digitized, compressed and signalized before transmission and when it reaches each home, its data is decompressed and separated before displaying on the monitor.

**ftaMAX**  
**.net**