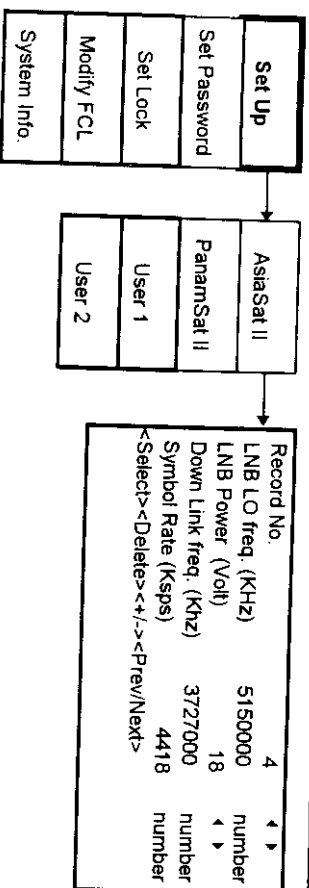


Exhibit E..... User's Manual

ETC Report No. ET87R-01-041

ETC ID: LIT-2000XX

**Programming Note:**

- Record # is the record number of a desired down link channel. The maximum record number is 30 (from 1 to 30). Use ← (Vol down) or → (Vol up) to refer to the previous or the next record.

LNB (Low Noise Block) LO freq. is the local oscillation frequency of the LNB, value is specified in KHz.

Default value is 0KHz.

- LNB power is the power supplied to the LNB, value is specified in volt. LNB can be set to 0v (disable), 14v, or 18v with the ← (Vol down) or → (Vol up) keys. Default value is 0v.

- Down Link freq. is the channel frequency in KHz which is to be tuned.

Default value is 0KHz.

- Symbol Rate is the symbol rate of the tuned channel, which value is in KHz.

Default value is 0KHz.

- Select** is used to tune to the currently selected record.

- Delete** is used to delete the current record. After deletion the parameters will be reset to the default values.
- +/- is used to activate/inactivate a record.
- Prev / Next** is used to jump to the previous or the next 10 records.

- On the "number" item, there are two ways of entering values:

a.) From remote controller: press button 0~9, you can delete character under current cursor position by using <Erase> key. Cursor always points to the extreme right of the field.

b.) From keypad: the digital input will be processed from the **least significant digit to the most significant digit**

← (means start to key in on this field)

↑ to increase the digital number

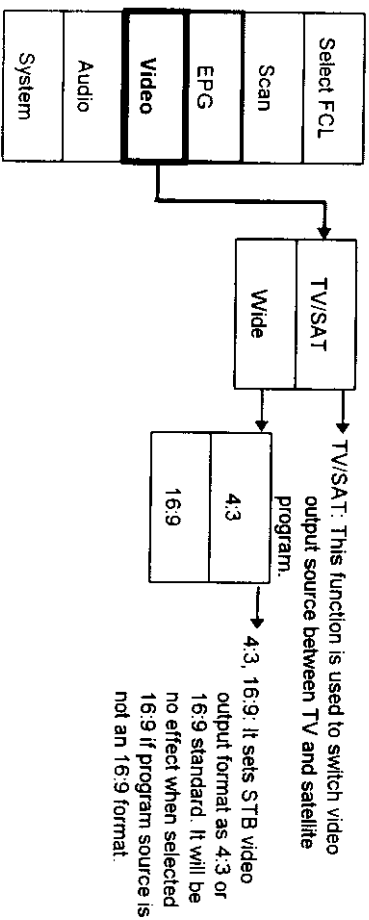
↓ to decrease the digital number

→ to key in the next digit

← (means end to key in on this field)

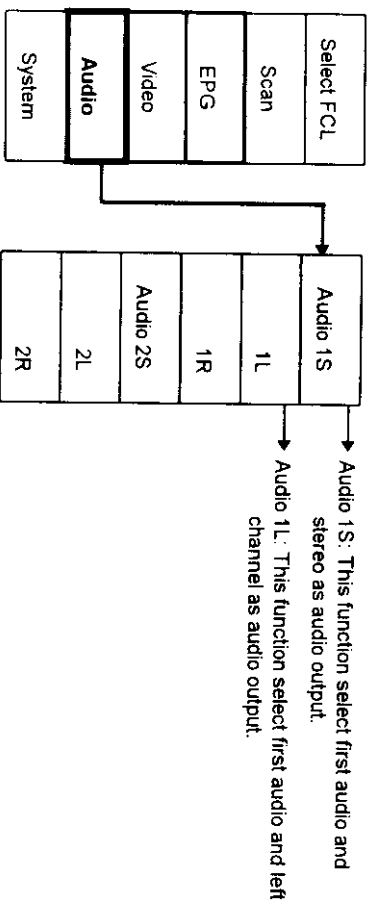
For example, entering 5150000 into down link frequency field is set as follows:

- Enter ← key and down link frequency field displays 0.
- Enter ↑ key five times and down link frequency field displays 5.
- Enter → key and down link frequency field displays 50



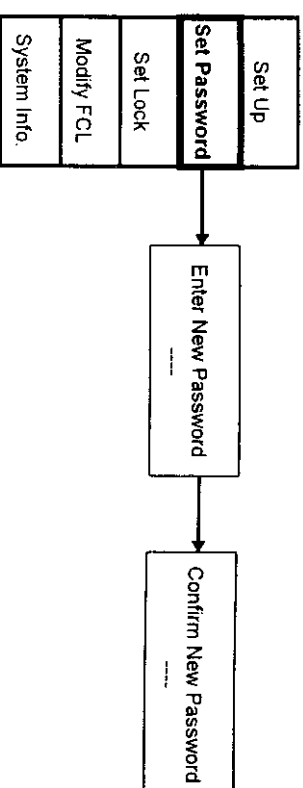
Audio:

Some program has two audio programs accompanies with one video source and it can use "Audio" function to select one of output sources. The STB provides stereo, left only and right only audio output selection. Its menu format is shown as follows:



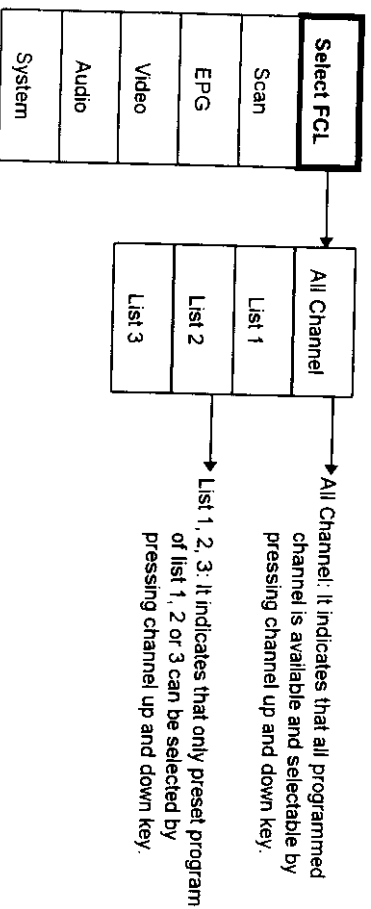
System:

The "System" function is used to set up system parameters



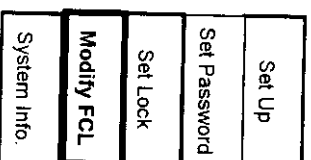
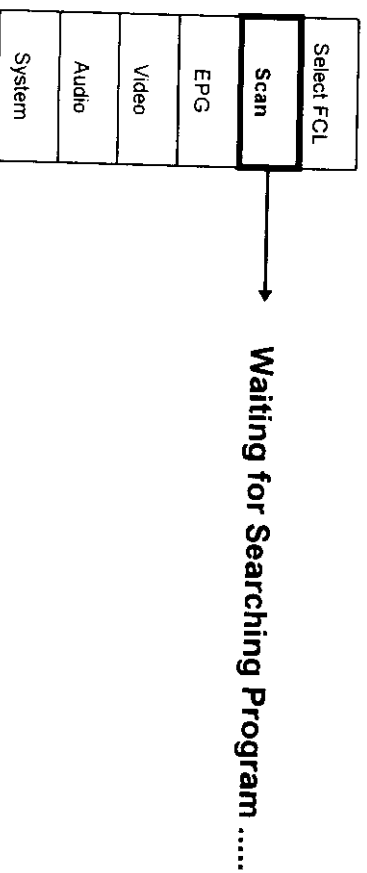
Set Lock:

The "Set Lock" function is used to lock specific program such adult only to prevent unauthorized person or children to watch intentionally. It needs to enter correct password to unlock pre-locked program and will lock it up automatically as jumping over to other program. Its menu is shown as follows. When modifying, the cursor locates at the lock filed and is activated and deactivated by selection key.



Scan:

When selected "Scan" function the STB will scan all preset channel and create program information on EPG. It is recommended to scan again when satellite pointing is changed or program parameters are updated. The following message is shown up when scan function is operating:



Lock	#	Content	Format	FCL
	1901	DW-tv	AV	[1][2][3]
	1902	MCM	AV	1 2 3
	1903	RAI Intern	AV	[1][2][3]
	1904	TVE	AV	[1][2][3]
	1905	DW-Asia	AV	1 2 3
	1906	DW-Ra1	1A	[1][2] 3
	1907	DW-Ra2&3	1A	1 [2] 3
	1908	DW-Ra4&5	1A	1 2 3

3. Troubleshooting

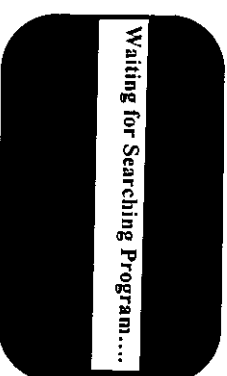
Should you encounter difficulties in the STB operations, check the following troubleshooting procedures. When the unit still does not work after you have checked the troubleshooting list, please contact sales representative where you purchased this unit or service center located in your area. For your safety, please do not open the unit cover. There are no customer adjustable parts inside the box.

Symptoms	Reasons	Actions
POWER lamp does not light up after the power cord is connected.	Power cord is not properly connected.	Connect the power cord to the power outlet properly.

2.2 Messages

2.2.1 SEARCHING

1. This screen will appear right after the power is turned on or during the unit is scanning the channels.



2.2.2 NO SIGNAL

1. This screen will appear if signal is not available or not successfully received.
2. You may want to enter the menu to set the satellite parameters or to check the antenna.



4. Specifications

General Characteristics

Power Input: 90V~260VAC, 47~63 Hz

Dimension: 335mm(W)x266mm(D)x60mm(H)

Weight: 2.7Kg

Power Consumption: 20W max. (normal operating condition)

Operating Temperature / Humidity:

5°C~45°C/15%~80%RH

Tuner

Input Frequency Range: 950 to 2150MHz

Input Signal Level: -25dbm to -65dbm

Input Connection: 75 ohm F-type female connector

IF Bandwidth: 7.8/27/36 MHz

IF Frequency: 479.5MHz

LNB Power: 14V/18V, 300 mA max.

Cable RF Input Characteristics(Optional)

Frequency Band: 54 Mhz to 806 MHz








Modulation Transmission System:

NTSC/M(Channel 3, 4)

PAL(Channel 4, 5)

program number on the lower left hand side of the screen and on the front panel LED.





9. When turn the volume up or down, the volume level bar is displayed on the lower side of the screen.
10. Numeric keys on the remote controller can be used to change program.
11. When the "Mute" button is pressed, a "Mute" message is shown on the lower left hand side of the screen and the audio output is off. If you press the "Mute" button again, the audio is back on and "Mute" message is disappeared.
12. When the "Pause" button is pressed, the screen is frozen. If you press it again, the program jumps to the current frame and continues.
13. When the "EPG" button is pressed, a list of the scanned programs is listed as follows for selection:

Lock	#	Content	Format
	1901	DW-tv	AV
	1902	MCM	AV
	1903	RAI Intern	AV
	1904	TVE	AV
	1905	DW-Asia	AV
	1906	DW-Ra1	1A
	1907	DW-Ra2&3	1A

Where "Lock" indicates program lock status and lock

Default Keypad:

Power/Standby
Menu/Esc
Mute/Select
Info

Channel Up/
Channel Down/
Volume Up/
Volume Down/

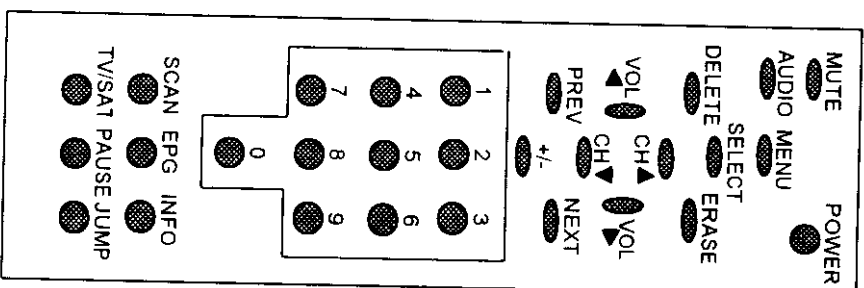
List of Parameters:

LNB Frequency and Polarization
Satellite Frequency
Symbol Rate

OSD Functions:

Channel Info Display
EPG Info Display

1.3 Remote Controller



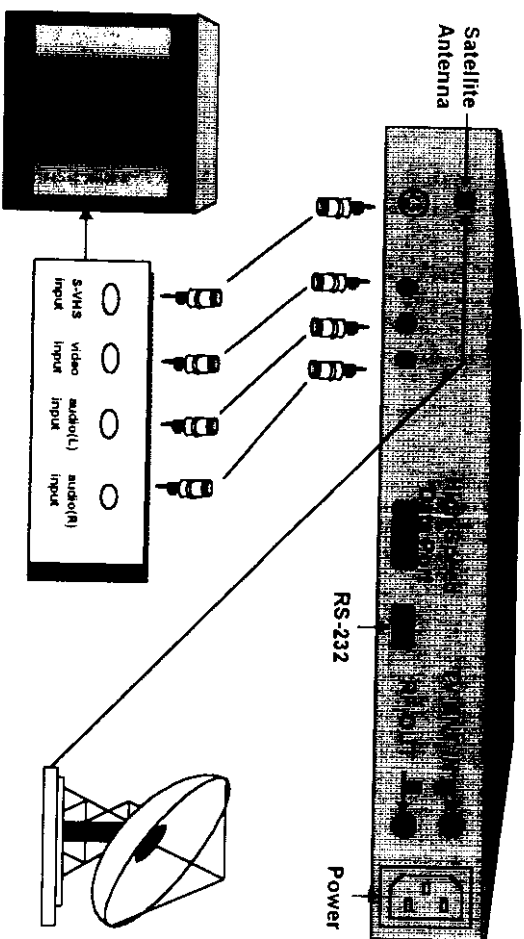
3,786 H C Band	WTN Asia feeds	AV	MPEG 2 SR5632, FEC 3/4
3,800 H C Band	APT TV	AV	MPEG 2 SR5632, FEC 3/4
3,806 V C Band	GXTV(廣東)	AV	MPEG 2 SR4418, FEC 3/4
3,813 V C Band	Shaanxi TV(陝西)	AV	MPEG 2 SR4418, FEC 3/4
3,820 V C Band	AHTV(安徽)	AV	MPEG 2 SR4418, FEC 3/4
3,827 H C Band	Mongolian package(蒙古)	AV	MPEG 2 SR4418, FEC 3/4
	Inner Mongolia TV	AV	V00FF - A0100
	National Mongolia TV	AV	V01FF - A0200
3,834 V C Band	Hei Long Jiang TV(黑龍江)	AV	MPEG 2 SR4418, FEC 3/4
3,840 H C Band	GDTV 1(Guangdong)(廣東)	AV	MPEG 2 SR4418, FEC 3/4
3,847 H C Band	HNTV 1 (Hunan)(湖南)	AV	MPEG 2 SR4418, FEC 3/4
3,854 H C Band	HBTv (Hubei)(湖北)	AV	MPEG 2, SR4418, FEC 3/4
3,900V C Band	Star TV	AV	MPEG 2, Digistar SR28100, FEC 3/4
	Star Plus Japan	AV	V0200 - A0280

on screen menu. Please see section 2.2.3 for details.

12. Volume up/ button

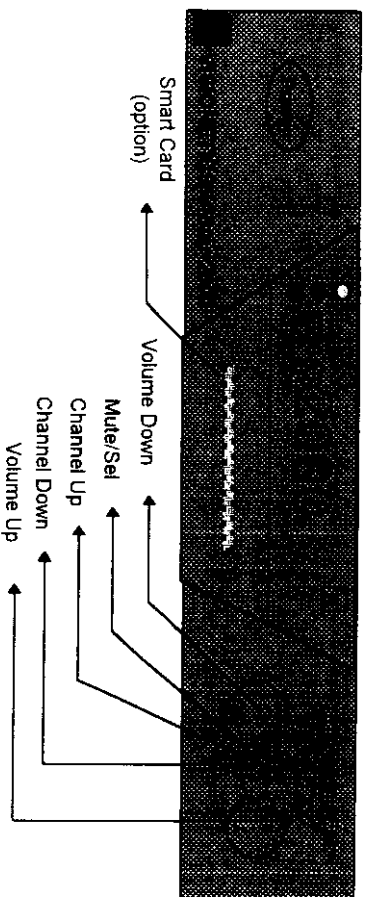
This button is used to turn up the volume output level. However, while in the menu mode, it is used to navigate the on screen menu. Please see section 2.2.3 for details.

1.2 Rear Panel

[illegible]

1. Controls and Functions

1.1 Front Panel



1. Standby lamp

A lighting red LED indicates power line is connected and main power does not turn on.

2. TV/Sat lamp

A lighting red LED indicates the AV output services satellite program and services TV program if it is off.

3. Lock lamp

A lighting yellow LED indicates the selected program signal is locked correctly.

4. Numerical LED

Appendix C: User 1 Satellite

[illegible]

Model: ViStar 2000

FCC ID: LTV-2000XX

**THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES.
OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS
(1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE
AND (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE
RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE
UNDESIRABLE OPERATION.**

MADE IN TAIWA

Note : The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

VIStar 2000 User Manual

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3F, NO.3, PROPERITY ROAD I
SCIENCE-BASED INDUSTRIAL PARK
HSINCHU, TAIWAN, R.O.C.**

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FAX: 886-3-577-2170

e-mail: visiontw@tpts5.seed.net.tw

3,940 H C Band	Star Movies Japan	AV	V0201 - A0284
	Channel V	AV	V0202 - A0288
	(sports feeds)	AV	V0203 - A028C
	Sky News	AV	V0205 - A0294
	ZakSat	AV	MPEG 2 SR26650, FEC 2/3
4,000 H C Band	Hallmark	AV	V0020 - A0021
	[KIBC-TV test card]	AV	V0023 - A0024
	European Bouquet	AV	MPEG 2 SR28125, FEC 3/4
	MCM Asia	AV	V0200 - A0280
	RAI International	AV	V0201 - A0284
	TVE International	AV	V0202 - A0288
	TV 5 Asie	AV	V0203 - A028C
	Deutsche Welle TV	AV	V0202 - A0288
	Deutsche Welle 1	A	
	Deutsche Welle 2	A	
	Deutsche Welle 3	A	
	Deutsche Welle 4	A	
	Deutsche Welle 5	A	
	Radio Finland	A	
	RCI - Radio Canada Int.	A	
	SRI - Swiss Radio Int.	A	
	WRN 1	A	

1. S-Video output (S-Video connector)

2. Composite Video output (RCA connector)

3. Left sound channel output (RCA connector)

4. Right sound channel output (RCA connector)

5. Satellite antenna input terminal (F-type connector)

*** 6. High Speed Data port (D-Sub 25 male connector)**

This terminal is an IEEE 1284 data port and is used for parallel data I/O.

*** 7. RS-232C (D-Sub 9 male connector)**

This terminal is used for serial data I/O.

8. TV Antenna Input (F-type connector)

It is used to connect to TV antenna cable. This signal can be bypassed to RF Output by menu control.

*** 9. RF Output (F-type connector)**

This terminal provides TV program or STB RF signals to TV set. It can be used to connect to TV's antenna input.

10. Power input

Connect the power cord to 110V or 220V AC.

Appendix A: Asiasat 2 at 100.5° E

TP	Channel	Format	Video
3,700 V C Band	Star TV	AV	MPEG 2, Digistar SR28100, FEC 3/4
	Star Chinese Channel	AV	V0200 - A0280
	Star Movies Southeast Asia	AV	V0201 - A0284
	Viva Cinema	AV	V0202 - A0288
	Sky News	AV	V0203 - A028C
	CNBC	AV	V0204 - A0290
	NBC	AV	V0205 - A0294
	ESPN Contribution Feeds	AV	V0207 - A029C
	Racing Channel		
	Henan TV(河南)	AV	MPEG 2 SR4418, FEC 3/4
3,706 H C Band			
3,713 H C Band	Qinghai TV(青海)	AV	MPEG 2 SR4418, FEC 3/4
3,720 H C Band	Fujian TV(福建)	AV	MPEG 2 SR4418, FEC 3/4
3,727 H C Band	Jiangxi TV(江西)	AV	MPEG 2 SR4418, FEC 3/4
3,734 H C Band	Liaoning TV(遼寧)	AV	MPEG 2 SR4418, FEC 3/4
3,766 V C Band	Myawady TV (Myanmar)	AV	MPEG 2 SR5080, FEC 7/8

2. Initial Set Up and Operation**2.1 Initial Set Up and Basic Operations**

1. Connect the audio and video outputs to a TV and checks the connection of the power cable and the antenna cable.
2. Turn on the TV power then press the power button on the remote controller or on the front panel of the STB.
3. The STB will tune to a previously tuned program automatically if any; otherwise, you need to initially set up the tuning list.
4. The current program number is displayed on the front panel LED.
5. If you press "MENU" button on the remote controller/front panel, you can see the menu screen of the system function. You can use scan function to scan all programs when pointing satellite is changed.
6. The Video aspect ratio can be toggled among 4:3 or 16:9 by selecting the "Video" item under Menu setting.
7. When you tune to a multi-audio broadcasting, press "Audio" button to switch among different accompanied audio channels.
8. When channel up or down key is pressed, it displays the

Parallel DVB TS Output (Optional)**Output Level:** LVDS or TTL**Connector Type:** D-Sub 25**Impedance:** 100 ohm (LVDS)**Video Output****Video Format:** PAL/NTSC**Frame Rate:** 25/30**Maximum Resolution:** 720x576 (PAL), 720x480 (NTSC)**Aspect Ratio:** 4:3, 16:9**Output Type:** RCA, S-Video, RF**Audio Output****Mode:** Mono, Dual, Joint Stereo, Stereo**Sample Rate:** 32KHz, 44.1KHz, 48KHz**Frequency Response:** 20~20KHz ± 2 dB, 60~18KHz ± 0.5 dB**Controls****Front Panel Controls:**

User Input Keypads

User Message Display

LED Status Display

channel that can be unlocked by entering correct password. The “#” is the program number, “Content” is the content title. The program format “AV” indicates audio and Video output simultaneously and “1A” indicates only first audio available. You can use \uparrow or \downarrow button to highlight a program and, then use the SELECT button to tune to selected program.

14. When the INFO button is pressed, the information of the currently tuned program is displayed as follows:

xxxx-yy [Service name] Lx

0	30	100	value
Where xxxx is the program number and yy is the audio status (1S, 1L, 1R, 2S...), and Lx is favorite channel list number. The range of signal level is from 0 to 100. It is estimated as receiving a poor signal whenever this value less than 30.			

15. When tune to an audio only program, it will display a message like:

RADIO - # [Content]

16. The NEXT button can be used to toggle the NTSC/PAL output modes. This is useful when you find out the STB's video format mis-matches your TV system, just press the NEXT button and power up again.

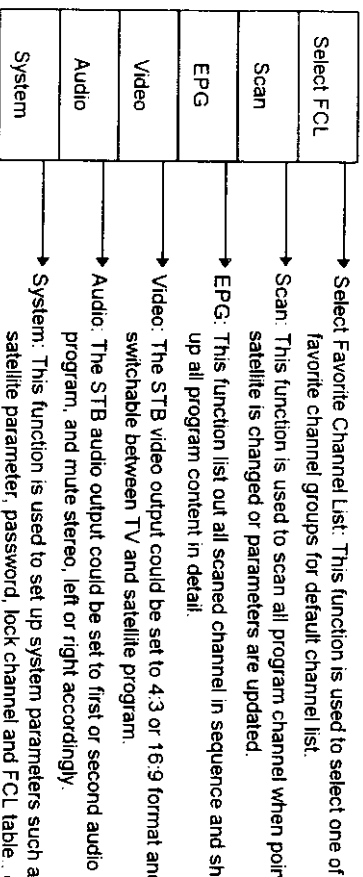
No pictures on the screen	Video output terminal is not connected to the INPUT terminal of the TV monitor properly.	Connect both terminals properly.
	Broadcasting satellite antenna is not connected properly.	Connect the antenna cable properly.
	Audio output cords are not connected or loose.	Connect the audio cords properly.
	The unit is in pause mode.	Press "PAUSE" button.
No sound from the TV speakers.	The unit is in mute mode.	Press "MUTE" button
	The antenna cable is shorted to ground.	It might be antenna cable or LNB's problem. Please Check antenna cable assembly or replace a new one.

2.2.3MENU SETTING

The STB's on-screen menu is described as follows:

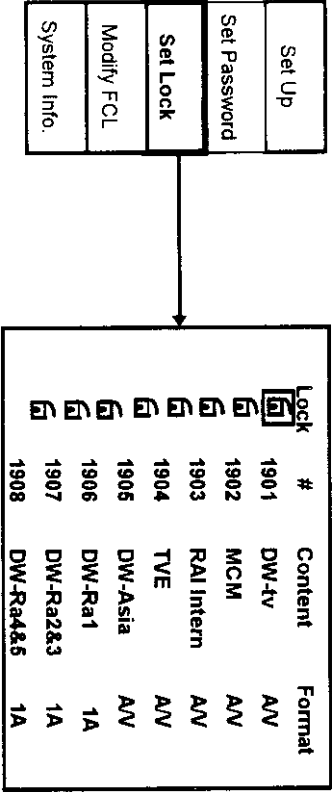
Main Menu:

When **menu** key is pressed then the following menu will be popped up on the screen.



Select FCL:

When selected "**Select FCL**" then the following menu is popped up, and selects one of four options for default channel operation. Each Favorite Channel List is a group of receiving programs and when one is selected except of "All Channel" the channel up and down operation are constrained within the group of programs. The system defaults classify all scanned program into "All Channel".

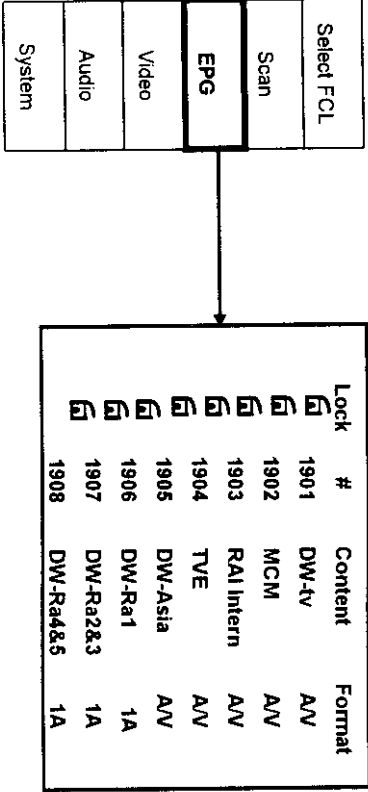


Modify FCL:

The "Modify FCL" is used to create personal favorite channel lists that are joyfully satisfied with personal watching habits and entertainment. Parents are easy to use this advance feature to classify TV program into FCL list for their children. The STB provide four FCL lists those are "All Channel", "List 1", "List 2" and "List 3". All scanned programs are classify into "All Channel". Each program could be classified into "List 1" to "List 3". For example, program 1901 is classified into list 1, 2 and 3, and 1902 is only belongs to all channel, and 1903 is list1 and 3. The FCL could be selected on "Select FCL" menu.

EPG:

The EPG menu is shown as follows:



Where "Lock" indicates program lock status and lock channel can be unlocked by entering correct password. The "#" is the program number, "Content" is the content title. The program format "AV" indicates audio and Video output simultaneous and "1A" indicates only first audio available. You can use **↑** button to highlight a program and then use the SELECT button to tune to selected program.

Video:

When selected "Video" function the following menu is popped up on screen as follows:

4. Enter **↶** key once and down link frequency field displays 51.
5. Enter **→** key and down link frequency field displays 510
6. Enter **↶** key five times and down link frequency field displays 515.
7. Enter **→** key four times and down link frequency field displays 5150000
8. Enter **↶** key to exit key pad programming mode.

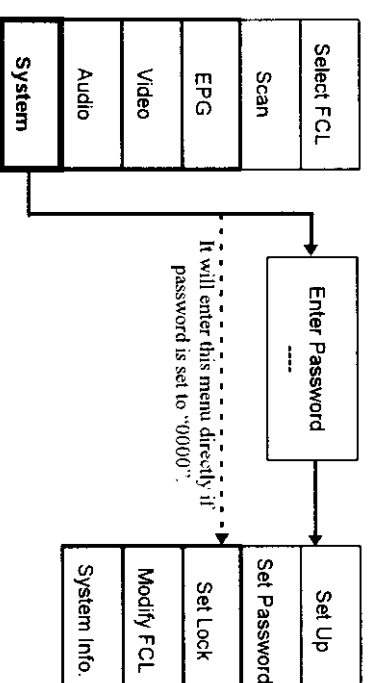
On the menu items marked as **↶→**, you can use "

↶ ("Vol down) " and "**→** ("Vol up) " to select the desired value.

Set Password:

System password is a four digits of numerical number and could be changed for personal security concern. We recommend to create an unpredictable password when system has setup completely. The STB will bypass password check if password is set to "0000", and the default password is also set to "0000".

such as satellite parameter, password, lock channel and FCL table.. etc. When this function is selected and the password is checked first and then the menu is popped up as follows:



Note: The STB will bypass password check if password is set "0000". The default password is also set to "0000".

Set Up:

The "**Set Up**" menu is used to select pointing satellite or update program parameters. The STB has pre-set two sets of Digital TV program parameters for AsiaSat II and PanamSat II for each installation, and two user defined records for special application. Each program has an unique record to specify satellite LNB local frequency, downlink frequency, symbol rate and antenna polarization. All records are saved into EEPROM and resume play automatically on power up. It will initiate scanning operation if satellite is changed or updated intentionally.

VIStar 2000 User Manual

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