

Federal Communications Commission (FCC) Statement

FTA RECEIVER MANUAL

This Equipment has been tested and found to comply with the limits for a class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protections against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

Warning

FCC Regulations state that any unauthorized changes or modifications to this equipment not expressly approved by the manufacturer could void user's authority to operate this equipment.

Federal Communications Commission (FCC) Statement

This manual is to help you familiarize with the setup and operation the Digital Satellite Integrated Receiver and Decoder (IRD). Please read through this manual before operating the unit and keep this manual handy for future reference.

There are no user serviceable parts inside the unit. To ensure your safety and avoid damaging the unit, DO NOT remove any cover or attempt to access inside of the unit. Doing so may also void your product warranty. Please refer all servicing to qualified personnel.

<p>CAUTION A RISK OF ELECTRIC SHOCK DO NOT OPEN</p>

READ ME FIRST

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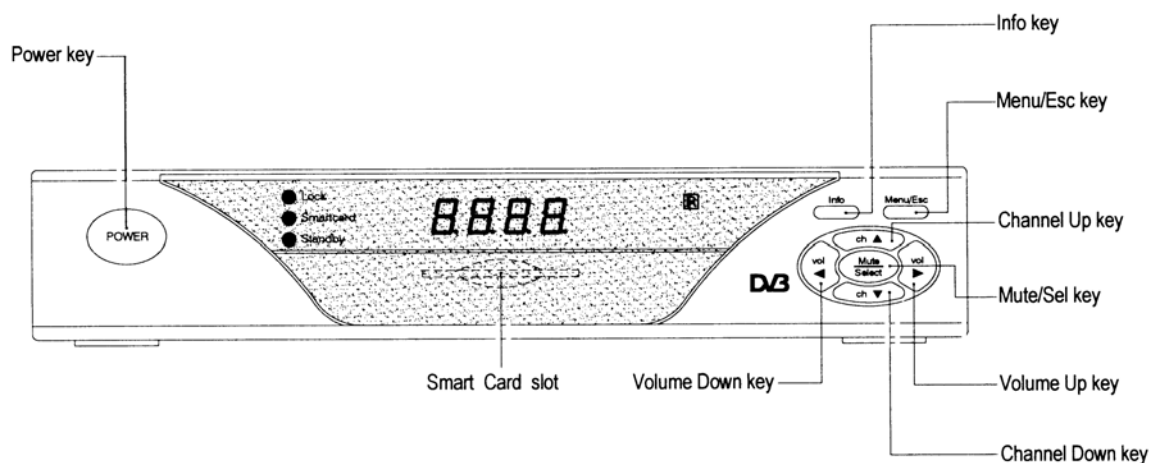
READ ME FIRST

1. NAMES OF PARTS

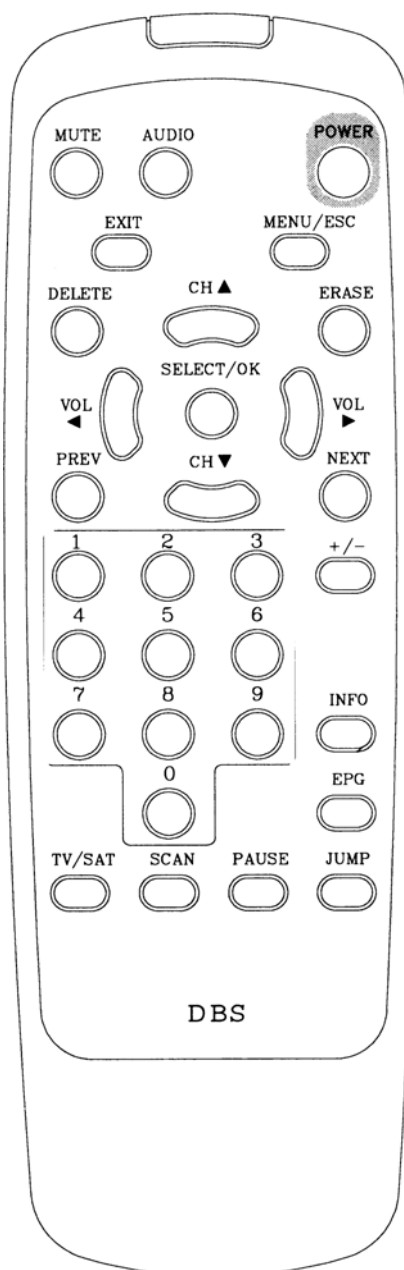
Your IRD should come with the following accessories. Please check to make sure you have received all the parts listed below. If any part is missing, please contact an authorized dealer.

- Remote Control 1
- Batteries 2
- RCA Audio Cable 1(L&R)
- RCA Video Cable 1
- Power Cord 1
- User's Manual 1

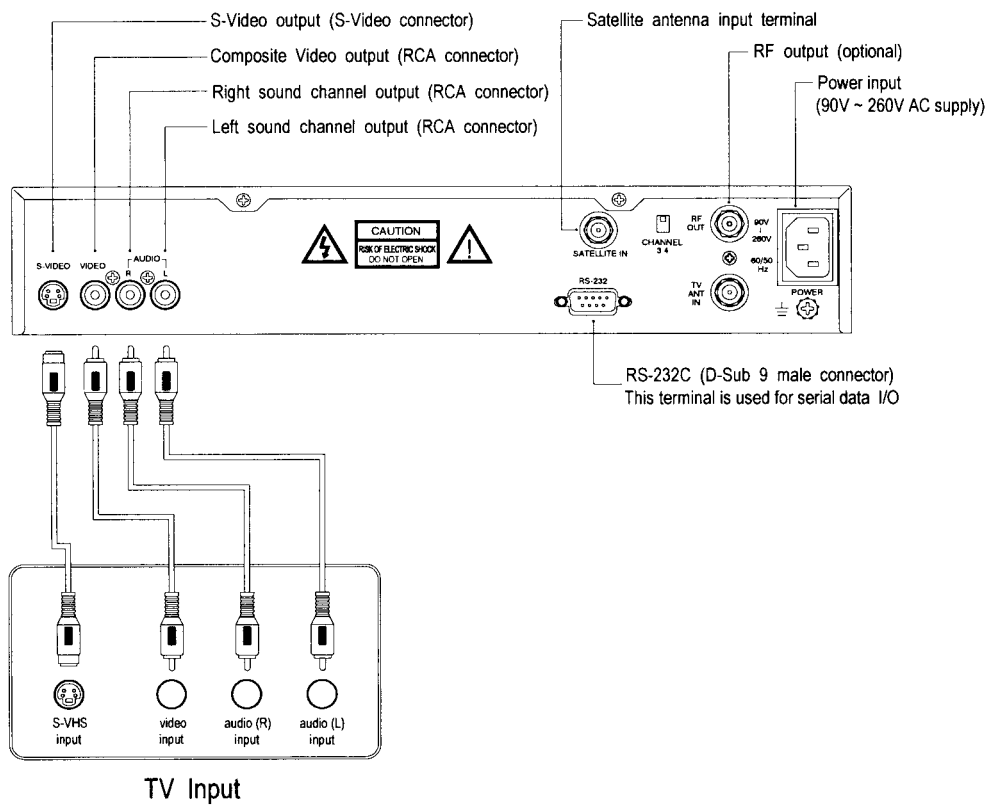
1.1 FRONT PANEL



1.2 REMOTE CONTROL



1.3 REAR PANEL (CONNECTIONS)



2. SET UP

2.1 DISH AND LNB

- Before setting up the IRD, you need to install your satellite dish and LNB following the installation instruction and point the dish to the satellite that you will be receiving the programming from.
- The IRD will not be able to tune in and decode the incoming signal unless the dish and LNB are properly installed.
- If you are not sure if the dish and LNB have been set up correctly, please consult your dealer or professional installer for further information.

2.2 IRD CONNECTIONS

- Connect the coaxial cable from LNB to "SATELLITE IN" on the rear panel.
- Connect audio/video RCA cables (or S-Video Cable) between the IRD and your TV/Monitor.
- Plug the power cord to "POWER" and a grounded outlet.
- Refer to REAR PANEL (CONNECTIONS) on page 3 for reference.

2.3 TRANSPONDER RECORD SETUP

- Turn on the TV and the IRD. After a few seconds have past you will see the message "Searching for Programs..." on the screen. If your IRD has been pre-configured and the previous two steps have been set up correctly, you should be able to see the programs playing on the screen.
- If your IRD has not been configured yet, you need to follow the procedures described in
4.2.1 Channel Parameters (Transponder) Set Up on page 8 to set up the IRD according to the channels that you will be viewing.

3. FUNCTIONS AND OPERATION

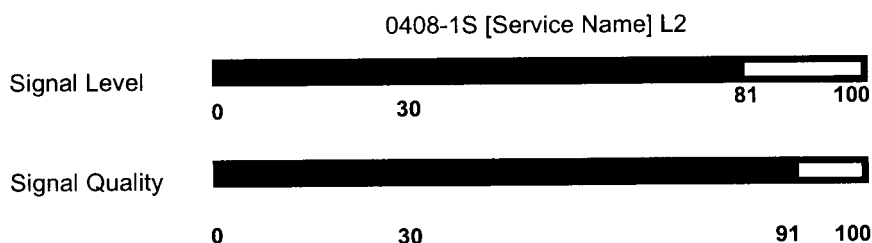
3.1 FRONT PANEL AND REMOTE CONTROL

- **POWER** key: Turn on or turn off IRD power. The STANDBY LED will light when the power is turned on. Please use the POWER key to turn the unit off when you are not watching the program.

[CAUTION: Do not unplug the power cord since the program may be upgrading the system while you are not watching the program. Unplugging the unit from an outlet will prevent the unit from being upgraded when necessary].

Audio 1S
1L
1R
Audio 2S
2L
2R

- **CHANNEL** arrow Channel up, channel down; When in set up menu, these two keys will move the selection up or down.
- **VOLUME** Arrow Volume up, volume down. When in menu mode, these two keys will move the selection left or right. They can also be used to enter numeric value and making selection when entering data.
- **MUTE** key: Pause and resume the audio output.
- **SELECT (OK)** key: Execute the selected command when in menu mode.
- **INFO** key: Press this key to display the information and signal strength/quality of the program that is being tuned now.



The “Signal Level” bar shows the strength of the tuned signal. The “Signal Quality” bar shows the quality of the tuned signal. Above the “Signal Level” bar, the “0408” indicates the program number, and “1S” indicates the current audio model (First audio Stereo.) The “L2” indicates FCL2 (Favorite Channel List 2). In the mean time, the LED display on the front panel will also show “0081” to indicate the signal level. Usually, a signal is considered as poor when its signal level is less than 30.

- **MENU/ESC** key: Enter/Exit the main menu.

3.2 REMOTE CONTROL

- **AUDIO** key: This function allows you to select the audio output from one of the options listed in the table below. You can select from the first audio program (Audio 1x) or the second audio program (Audio 2x, usually second language.) You can also select Stereo, Left Only, or Right Only from either of the audio program. You can use ▲/▼ until the desired setup is highlighted and the SELECT key to activate.
- **EPG** key: Press this key to enter the EPG menu and select the desired program from the menu.
- **EXIT** key: When in MENU, you can press this key to exit to last display.
- **DELETE** key: Delete the set parameter.
- **ERASE** key: Erase the numeric digit before the cursor.
- **PREV** key: When in the EPG menu, you can press this key to display the program content on the previous page (10 records).
- **NEXT** key: When in the EPG menu, you can press this key to display the program content on the next page (10 records). When not in the EPG menu, this key is used to cycle the video system of the video output: NTSC, PAL, PAL-N, PAL-M, and AUTO.
- **+1-** key: When in SET UP menu (within SYSTEM menu under MAIN MENU), you can use ◀/▶ to select a channel number, then press this key to disable or enable the channel. [NOTE: When a channel is disabled, you can not watch the programs when CHANNEL ▲/▼ keys are using.]
- **SCAN** key: Scan all channels defined in the SET UP menu and search all the programs within each channel. This may take a few minutes to complete. While the IRD is scanning the programs, the searching channel and program number will be displayed on the LED on the front panel.
- **TVISAT** key: This only applies to units configured with SCART connectors. Use this key to switch between the TV and satellite input.
- **PAUSE** key: Freeze up the screen. Press this key again to resume the video playing. [NOTE: Unlike a VCR, the video program that is being transmitted will be not recorded and resumed playing after exiting from the PAUSE mode. The video program is a continuous stream.]
- **JUMP** key: Return to previous program.
- **Numeric keys:** Use these keys to enter numeric values when entering set up information, such as Down Link Frequency or Password.

4. SYSTEM MENU

When the MENU key is pressed, the following will appear on the screen:








EPG	Electronic Program Guide
System	System Set Up
Select FCL	Select Favorite Channels List
Audio	Audio Set Up
Video	Video Set Up
Scan	Scan All Channels

This screen indicates that you are now in SYSTEM MENU mode.

When you first enter the SYSTEM MENU, the EPG will be highlighted to indicate that it is being selected. Pressing the SELECT key will enter the EPG MENU. Or, use the ▲/▼ keys to select other menu items.

4.1 EPG

Pressing the EPG key or selecting EPG from the SYSTEM MENU will enter the following EPG (Electronic Program Guide) menu:

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

"Lock" indicates the program's locking status. If a program is locked, it can only be unlocked by entering the correct password. Please refer to Set Lock on page 11 for more information on locking and unlocking a program.

 Unlocked  Locked

"#" indicates the program number.

"Content" indicates the program name.

"Format" indicates the audio and video contents of the program.

"A/V" means the program contains both audio and video contents.

"1A" indicates only the first audio program is available.

Use the ▲/▼ to highlight a program, then press the SELECT key to tune to the program.

4.2 SYSTEM SET UP

In SYSTEM MENU use the ▲/▼ keys to highlight "System" and press the SELECT key to enter the System Setup Menu.

EPG	Electronic Program Guide
System	Systems Set Up
Select FCL	Select Favorite Channels List
Audio	Audio Set Up
Video	Video Set Up
Scan	Scan All Channels

Enter Password: _ _ _ _ _

(may or may not required depending on the password set up)

You may need to enter the password to enter the System Setup Menu. This depends on whether you have previously set up a password to prevent unauthorized access to your IRD setup. The following table shows the contents of the System Setup Menu:

Set Up	Channel Parameters (Transponder) Set Up
Set Password	Password Set Up
Set Lock	Program Lock Set Up
Modify FCL	Modify Favorite Channels List
System Info	System Information

4.2.1 Channel Parameters (Transponder) Set Up

Selecting the "Set Up" from the System Menu will enter the Channel Parameters Set Up Menu illustrated below. It contains the parameters that are required to successfully tune to the programs that you wish to receive. These parameters need to be set up correctly so that the IRD will be able to decode the signal and play back the video and audio contents.

Record No. (Channel Number)	4	(use ◀ / ▶ key)
LNB LO freq. (KHz) (LNB Frequency)	5150000	(numeric keys)
LNB Power (LNB Orientation)	18	(use ◀ / ▶ key)
Down Link freq. (KHz) (Program frequency)	3727000	(numeric keys)
Symbol Rate (Ksps) (Symbol rate)	4418	(numeric keys)
0/12V Mode (Volt)	0	(use ◀ / ▶ key)
DISEqC 1.0	OFF	(use ◀ / ▶ key)

Each channel represents a transponder within a particular satellite. The associated parameters are either pre-configured or need to be set up. Sometimes, if the setup information is lost, you may need to enter the parameters manually. It is important that you maintain a record of the setup information for the programs that you are viewing so that you may enter it again when necessary.

4.2.1.1 Record No.

Depending on the model of your IRD, there are several record numbers to keep your channel information. You can select the record number that you wish to use to maintain the transponder information. While the "Record No." is highlighted, use the ▶ / ◀ keys to change the record number that you will be setting up.

4.2.1.2 LNB LO Freq.

LNB LO Freq. is the Local Oscillation Frequency of the LNB that you are using. Please refer to the user's manual of the LNB for the value that needs to be entered here. Use the ▲ / ▼ keys to highlight LNB LO Freq. and use the numeric keys on the remote control to enter the value.

4.2.1.3 Entering Values

You can also enter numeric values by using the Volume ▶ / ◀ and Channel ▲ / ▼ keys from the front panel. Pressing ◀ will enter the numeric entry mode and clear the entry to 0. Pressing ▲ / ▼ keys will increase/decrease the digit. Pressing ▶ will add a zero to the back of the number. Pressing ◀ again will exit the numeric entry mode.

4.2.1.4 LNB Power

LNB Power is the voltage that the IRD will send to the LNB through the coaxial cable. A typical value may be 14 or 18 volts depending on the modulated signal that is being transmitted vertically or horizontally. This entry has pre-defined values of: 0, 14,

18,14+22K, and 18+22K. The number 14 is for the vertical signal and the number 18 is for the horizontal signal. If you have multiple satellites and satellite switches installed and are using 14+22K and 18+22K; add another two mechanisms to select the appropriate dish/LNB.

4.2.1.5 Down Link Freq.

The Down Link Frequency is the frequency of the channel that you are tuning. You need to check with the program provider and find out the values of this parameter. There are also several web sites on the internet that list these parameters as well. This parameter also needs numeric values to be entered. Be sure to enter the number according to the units that are being displayed. For example, a 11.998 GHz down link frequency should be entered as 11998000 (KHz), not 11998 (MHz.)

4.2.1.6 Symbol Rate

The symbol rate uses the channel that you will be tuning. Initial setting is 0 Ksps. Like the Down Link Freq., you will need to check with the program provider to find out the value of the symbol rate and enter the value accordingly.

4.2.1.7 0/12 V

This will control the 12 Volts output of the IRD. The default is 0 Volt.

4.2.1.8 DISEqC 1.0

The IRD supports DISEqC 1.0, which allows you to set up multiple satellites. Options are OFF, LNB1, LNB2, LNB3, and LNB4. The default value is OFF.

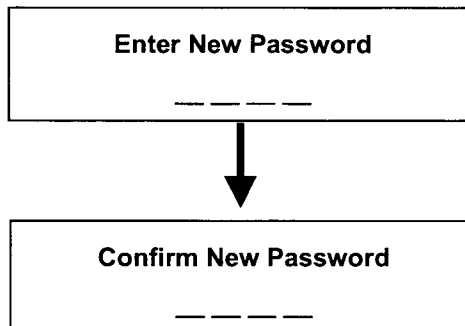
4.2.2 Password Set Up

Selecting "Set Password" from System Set Up Menu will allow you to enter a password which will prevent unauthorized modification to your IRD.

The Password is a four-digit number that you enter when you enter Password Set Up Menu. The system will ask you to enter the number again to verify. Make sure that you can remember the password or keep the password in a safe place in case you forget. If you forget your password, you need to contact your dealer in order to get access to your set up menu again.

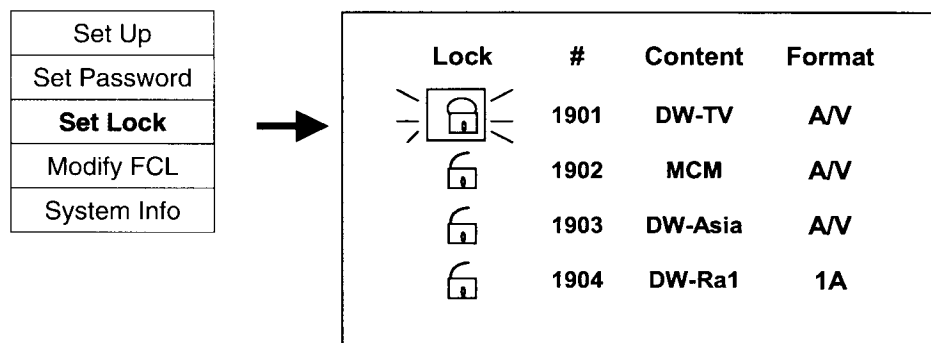
Set Up
Set Password
Set Lock
Modify FCL
System Info

Password protection can be removed by entering "0000," which will remove the password protection from the set up menus.



4.2.3 Program Lock Set Up

From the System Set Up Menu, select Set Lock to enter the following Program Lock Set Up screen.




The Program Lock Set Up is used to prevent unauthorized access to designated programs (e.g. adult programming). To lock a program, use the ▲/▼ keys to highlight the program that you wish to select. Pressing the <Select> key will lock the program. The icon on the left of program number will be changed to "locked." Pressing the <Select> key again will unlock the program and the icon will change to "unlock".





















When a program is locked, using channel ▲/▼ keys will skip the locked channel. Entering the numeric value of the program, e.g. "0501," will require you to enter the password to view the program. Changing the program will lock the program again.

4.2.4 Modify FCL (Favorite Channels List)





From the System Set Up Menu select Modify FCL to enter the following Modify FCL screen.

Set Up				
Set Password				
Set Lock				
Modify FCL				
System Info				



Lock	#	Content	Format	FCL
	1901	DW-TV	A/V	  
	1902	MCM	A/V	  
	1903	DW-Asia	A/V	  
	1904	DW-Ra1	1A	  
	1905	TVS	A/V	  



Favorite Channel List can be used to organize similar programs into one group so that viewing the program is more convenient. Parents can also use this feature to set up the channels that are suitable for the children to watch.

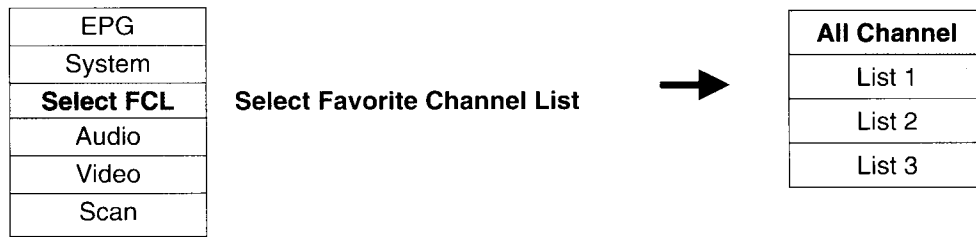
The system has four FCL lists. They are “**ALL Channel**”, “**List 1**”, “**List 2**”, and “**List3**”. All the programs are classified into “All Channel”. You can set up programs to belong to List 1, 2, and/or 3. Use the  keys to highlight the FCL number within each program, and press the <SELECT> key to set that program under the list number. Pressing the <SELECT> key again will deselect the program from the list. For example, program TVS belongs to Favorite Channel List 1, but not 2 and 3.

4.2.5 System Info

System Info will display the IRD's software version and the serial number for the Conditional Access System.

4.3 Select FCL (Favorite Channel List):

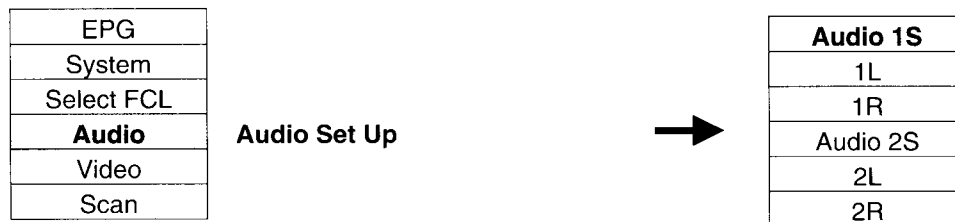
Once the Favorite Channel Lists are set up, you can use the Select FCL to select the programs you wish to view from the lists you have defined. Only the programs defined in the list will be played when using the Channel  keys.



To select FCL, use the ▲/▼ keys to highlight FCL List1, List2, or List3 (or All Channel), press the <SELECT> to set the FCL.

4.4 Audio

Some programs have more than one audio program channel associated with a video program. You can select the audio program that you wish to listen to by using the Audio Set Up. You can also select Stereo, Left Channel Only, Right Channel for either audio program.



Use the ▲/▼ keys to highlight the audio set up that you need then press <SELECT> to set. If the program does not contain a second audio program, all the options associated with the second audio will be displayed in the color gray. This means selecting the option will have no effect.

Audio 1S: First Audio Stereo

1L: First Audio Left Channel Only

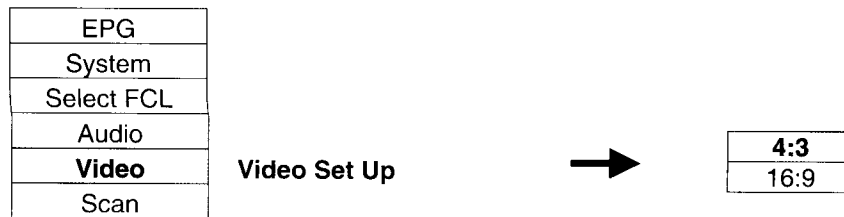
1R: First Audio Right Channel Only

Audio 2S: Second Audio Stereo

2L: Second Audio Left Channel Only

2R: Second Audio Right Channel Only

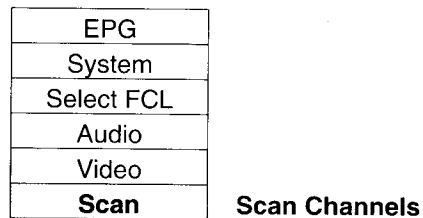
4.5 Video Set Up



Video Set Up allows you to choose between 4:3 or 16:9 display format. However, selecting 16:9 will have no effect on program that is not in 16:9 format.

To select either format, use the ▲/▼ keys to highlight the video format that you like, then press the <SELECT> key to set to that display format.

4.6 Scan



Selecting Scan command will scan all the programs in all the channels that have been set up in Channel Parameter Set Up. While the search is in progress the following message will be shown on the screen and the LED display will be showing the programs that are being tuned.

Searching for Programs

This process may take a few minutes to complete. If you have set up a password for your IRD, the system will ask for the password before scanning.

The contents shown in EPG are also updated when the IRD rescan the programs. It is recommended that you do a scan when the dish/LNB have been moved to receive programming from another satellite.

5. TROUBLESHOOTING

Should you encounter difficulties during setup or operation, check the following troubleshooting procedures. If the unit still doesn't work, please contact your dealer or authorized service center near you.

For your own safety, do not remove the covers of the unit or attempt to gain access to the inside of the unit. There are no user serviceable components inside the box.

Symptoms	Reasons	Actions
Standby LED does not light up after the power cord is connected	Power cord is not properly connected	Connect the power cord to the power outlet and POWER inlet of the IRD properly
Lock LED lights up but no pictures on the screen	Video output cable is not connected to TV/ Monitor	Connect the video cable
	TV/Monitor is not turned on or not set to the correct video input mode	Turn on TV/Monitor or set to the mode where the video cable is connected to
Lock LED does not light up and "No Signal" is shown on the screen	Dish is not pointed to the broadcasting satellite properly	Adjust dish and LNB until the Lock LED lights up
	Cable from dish/LNB is not connected	Connect the F-type cable from dish/LNB to SATELLITE IN
No sounds from the TV speakers	Audio cable is not properly connected	Connect the audio cable properly
	The unit is in pause mode	Press "PAUSE " key
	The unit is in mute mode	Press "MUTE" key
"LNB Overload" message displayed on the screen	There might be a short in the input cable from LNB	Check the input cable to see if there is short
	Defective LNB	Check if the LNB works

6. QUESTIONS AND ANSWERS

- Q1: The picture is unstable and jumping, TV can not lock on the picture.
- A1: The IRD Video output mode may not be compatible with TV's video system. For example, the TV system is "NTSC", but the IRD is set up on the "PAL" output. You can use the "NEXT" key on the Remote Control to select the correct output mode.
- Q2: The set-up of Vertical & Horizontal Polarization is opposite to actual receiving polarization.
- A2: Adjust the LNB 90°.
- Q3: I can only receive either Horizontal or Vertical Polarization programs, even though I have set up the LNB Power to 14/18V correctly.
- A3: Your LNB may be a single Polarization type and can only receive either Parallel or Vertical program. Change the LNB to dual Polarization type.
- Q4: The screen shows "LNB overload", no program is shown.
- A4: Check the RF input cable. There may be a short within the cable. Also check if the LNB is working normally.
- Q5: The screen shows "No Signal". Pressing "INFO" key will show "0" on the Signal Value.
- A5: 1) Check to see if the LNB is working normally.
2) Check to see if the cable between LNB and IRD is broken. Zero Signal Value usually means that there is no signal coming from the SATELLITE IN.
- Q6: Bad signal reception with the video demonstrating blocks or even freeze up.
- A6: Check to make sure the dish and LNB are pointing to the most optimal orientation. Adjust the dish's orientation carefully to see if there is improvement. Also turn the LNB to see if the signal quality improves. Another possible cause is interference from signal reflection or other sources. Check the surroundings.
- Q7: The screen shows "Smart Card not inserted correctly".
- A7: Pull the card out and re-insert firmly.
-

Q8: When scanning programs, there are programs showing "Scramble Channel".

A8: These programs have been scrambled. You will need to subscribe to the programs and obtain a Smart Card from the program provider to watch such programs. Be sure to contact your dealer to make sure the Smart Card that you are going to use is compatible with the IRD. Usually, the program provider will supply the IRD with the Smart Card together.

Q9: The screen shows "Smart Card not initialized", can not receive programs.

A9: Contact your dealer or program provider to initialize the Smart Card or replace it with another one.

Q10: How do I cancel the password protection?

A10: Reset password to "0000".

Q11: There's no sound after my pressing "TV/SAT" on the Remote Control.

A11: This function switches the input to the SCART input on the back of the IRD. If there is no connection on the SCART connector, the audio will be cut off. Press the <TV/SAT> key to restore the audio output. This applies to European models only.

Q12: Can I use any NagraVision Smart Card with any receiver with NagraVision's Common Interface module?

A12: No. The I.D. number of each NagraVision Card needs to match the ID number of the Common Interface module.

7. SPECIFICATIONS

General Characteristics

Power Input	90 V~ 260 V AC, 47~ 63 Hz
Dimensions	335mm (W) × 266mm (D) × 60mm (H)
Weight	2.7 Kg
Power Consumption	20W max. (Normal operating condition)
Operating Temperature	5°C~ 45°C
Operating Humidity	15%~80% RH

Tuner

Input Frequency Range	950 to 2150 MHz
Input Signal Level	-25 dbm to -65 dbm
Input Connection	75 ohm F- type female connector
IF Bandwidth	7.8/27/36 MHz
IF Frequency	479.5 MHz
LNB Power	14 V/ 18 V, 400 mA max.

Video Output

Video Format	PAL/NTSC
Frame Rate	25/30
Maximum Resolution	720 × 576 (PAL), 720 × 480 (NTSC)
Aspect Ratio	4:3, 16:9
Connector Type	RCA, S-Video and RF

Audio Output

Mode	Mono, Dual, Joint Stereo, Stereo
Sample Rate	32 KHz, 44.1 KHz, 48 KHz
Frequency Response	20~20 KHz ≤ ± 2 dB, 60~18 KHz ≤ ± 0.5 dB

Controls and Display

Front Panel Controls	User Input Keypads
Infrared Remote Control	
On Screen Message Display	Channel Info Display EPG Info Display
LED Status Display	

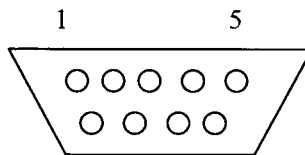
List of Parameters

LNB Frequency and Polarization
Satellite Frequency
Symbol Rate

8. Appendix

8.1 RS232 interface

Pin Assignment



Pin	Signal	Description
1	NC	
2	TX	Transmit data
3	RX	Receive data
4	+5V	+5V Volt
5	GND	Ground
6	NC	
7	NC	Clear to send
8	NC	Request to send
9	NC	

8.2 NAGRAVISION ERROR MESSAGES

a) "Smart Card error"

When there is a communication error with the Smart Card. Possible Cause: A Smart Card from another system other than NagraVision is inserted.

b) "Smart Card not inserted correctly"

When program cannot receive any response from Smart Card. Possible Cause: A faulty Smart Card reader or Smart Card is not inserted properly.

c) "Please inserted Smart Card"

Smart Card is not inserted.

d) "Invalid Smart card ID"

The Smart Card's ID (serial no) is incorrect.

e) "Smart Card Blacklisted "

The Smart Card has been erased or destroyed because of serious violation of the usage agreement or abuse.

f) "Smart Card Suspended"

The Smart Card has been suspended.

g) "Smart Card Not Initialized"

"Decoder s/n: XX XXXX XXXX XX"

"Smart Card s/n: XX XXXX XXXX XX"

The Smart Card and the IRD have never been paired before.

h) "This Smart Card Cannot Be Used In This Decoder"

The Smart Card has not been paired with the decoder.

i) "Access Denied"

The subscriber does not have the access right to access a particular program.

j) "Access Blackout"

When IRD is in an area where program reception is restricted.