LIMITED WARRANTY

PANAREX Inc. warrants to the original purchaser that this product shall be free from defects in workmanship and material for two years from the date of original purchase. During this warranty period PANAREX will provide free of charge both parts and labor necessary to correct defects in workmanship or material.

This warranty does not cover damage due to lightning, fire, flood, or other acts of God, damage from accident, abnormal conditions, improper use, or faulty installation, or damage by attempts to repair the units other than by the authorized service of PANAREX.

PANAREX’s liability under this warranty is limited to servicing or adjusting equipment returned to PANAREX authorized service centers with freight prepaid.

Panarex Electronics
Panarex^Satellite TV System
11672 Tuxford Street,
Sun Valley, CA 91352, U.S.A.
Telephone: 818-768-5161
Fax: 818-768-5191
IMPORTANT SAFETY INSTRUCTIONS

All the safety and operating instructions should be read before the product is operated.

The safety and operating instructions should be retained for future reference.

All warnings on the product and in the operating instructions should be adhered to.

All operating and using instructions should be followed.

Unplug this product from the wall outlet before cleaning.

Do not use liquid cleaners or aerosol cleaners. Use damp cloth for cleaning.

Do not use attachments not recommended by the product manufacturer as they may cause hazards.

Do not use this product near water for example, near a bath tub, wash bowl, kitchen sink or laundry tub; in a wet basement; or near swimming pool, and the like.

Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury to a child or an adult and serious damage to the product. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the product. Any mounting of the product should follow the manufacturer’s instructions, and should use a mounting accessory recommended by the manufacturer.

A product and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the product and cart combination to overturn.

This symbol is to be included in the important safeguards of applicable units adjacent to the upper side content.

This symbol is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance(servicing) instructions in the literature accompanying the appliance.

Caution: To prevent electric shock do not use this (polarized) plug with an extension cord, receptacle or other outlet unless the blades can be inserted to prevent blade exposure.

Attention: Pour prévenir les chocs électriques ne pas utiliser cet appareil avec un prolongateur, une prise de courant ou une autre sortie de courant, sauf si les lames peuvent être insérées à fond sans laisser aucune partie à découvert.

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IMPORTANT SAFETY INSTRUCTIONS

A product and cart combination should be moved with care. Quick stops, excessive force, and uneven surface may cause the product and cart combination to overturn.

Slots and openings in the cabinet are provided for ventilation and to assure reliable operation of the product and to protect it from overheating, and these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface.

The openings should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.

This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your product distributor or local power company. For products intended to operate from battery power, or other sources, refer to the operating instructions.

This product may be equipped with a polarized alternating-current line plug (plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

This product is equipped with a three-wire grounding-type plug, a plug having a third (grounding) pin. This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.

Power supply cord should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the product.

The product is equipped with an attachment plug having overload protection. This is a safety feature. See Instruction Manual for replacement or resetting of protective device. If replacement of the plug is required, be sure the service technician has used a replacement plug specified by the manufacturer that has the same overload protection as the original plug.

If an outside antenna or cable system is connected to this product, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/NFPA 70, provides information with regard to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of the antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.

For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the product due to lightning and power-line surges.

An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.

Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.

Never push any kind of objects into this product through openings as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill any kind of liquid on the product.

Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- When the power supply cord or plug is damaged.
- If liquid has been spilled or objects have fallen into the product.
- If the product has been exposed to rain or water.
- If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.
- If the product has been dropped or damaged in any way.
- When the product exhibits a distinct change in performance-this indicates a need for service.

When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.

Upon completion of any service or repair to this product ask the service technician to perform safety checks to determine that the product is in proper operating condition.

The product should be mounted to a wall or ceiling only as recommended by the manufacturer.

The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

U.S.A.

U.S. FEDERAL COMMUNICATIONS COMMISSION RADIO FREQUENCY INTERFERENCE STATEMENT INFORMATION TO THE USER

NOTE: 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 protection 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 of a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for assistance.

Changes or modification not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Connecting of peripherals requires the use of grounded shielded signal cables.
1. WHAT IS THIS PRODUCT FOR?

This product is designed for using Digital Satellite Broadcasting and allows you to enjoy a lot of broadcasting whenever you want to watch it anytime. By simply pressing the button of the remote control unit, the vivid picture and life-like sound of digital broadcasting that your TV portrays through this product, allows you to watch whatever channel you wish of the digital broadcasting.

Throughout this manual you will notice that the operation is easy to use. This manual will help you get the most from this product and guide you through installation, channel selection and many other functions. In case you experience any difficulties to use this product, please consult the relevant section of this manual.

From now on, enjoy digital broadcasting with digital satellite receiver!!!

2. WHAT FEATURE DOES THIS PRODUCT OFFER?

- EPG (Electronic Program Guide) - 7 days
- Full compliant of MPEG-2 Digital & DVB broadcasting
- 950-2150 MHz input Frequency (IF loop throughout)
- Variable input Symbol Rate (1.5-45 Msp)
- Multi Language OSD
- Automatic PAL/NTSC Conversion
- Fast Channel Change
- 3000 Channels TV & Radio program
- Flexible reception of SCPC & MCPC from C/Ku band Satellites
- S/PDIF for Digital Audio or Dolby AC-3 Bitstream Output
- Timer Function (Automatic Turn On/Off by Setting Function)
- 256 Colors (Graphic Use Interface) Number
- PIG (Picture in Graphic)
- 5 Favorite List & Unlimited Programs per each
- Powerful Channel Editing Function
  - Sorting : Alphabetical, Satellite, FTA/Scramble, Parental Lock
  - Move, Delete, Favorite Edit
  - Parental Lock, Channel Rename, Channel Skip
- Manual PID/Satellite & TP /Network Scan & Smart Search
- Satellite Scan - Simultaneous Scan with 4 Satellites
- DISEqc 1.3 Control Compatible (STAB USALS)
- Capable of Setting the Frequency for SMATV System
- Upgrading through RS-232C (Receiver to Receiver, PC to Receiver)
3. FOR YOUR SAFETY

- Do not open the cover. It may cause malfunction or electric shock.
- When you do not use the product for a long time, please pull the power cord out from the outlet. Also do not use a damaged power cord that may cause fire or electric shock.
- Do not use or install the product in a humid area.
- Do not cover the product or place anything heavy on the product. Keep clear space around the product for sufficient ventilation.
- Avoid using spray or liquid materials around the product.
- Do not plug in power core before finishing all connections.

4. PLEASE CHECK THE FOLLOWING ACCESSORIES ARE ENCLOSED

- User Manual 1 set
- Remote Control Unit 1 Set
- Batteries (AAA Type) 2EA

Note
If any of the accessories listed above are missing, Please contact the sales outlet where this product was initially purchased.

1. How to use the REMOTE CONTROL KEY

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>POWER</td>
<td>Turn this receiver on/off.</td>
</tr>
<tr>
<td></td>
<td>In the standby mode, it is automatically changed to TV mode that enables to watch terrestrial TV broadcasting.</td>
</tr>
<tr>
<td>INFO</td>
<td>Shows channel information, such as channel number, channel name, Frequency,acing Symbol Rate, Video PID, Audio PID and POR PID.</td>
</tr>
<tr>
<td>SAT/TW</td>
<td>Selects SAT/TW Mode.</td>
</tr>
<tr>
<td>TV/RADIO</td>
<td>Toggles between the TV service and radio service.</td>
</tr>
<tr>
<td>PAUSE</td>
<td>Holds the picture or release the pause.</td>
</tr>
<tr>
<td>SIGNAL</td>
<td>Shows signal quality.</td>
</tr>
<tr>
<td>AUDIO</td>
<td>Selects audio mode (Stereo, left only and right only). Selects language in case of Multilingual program.</td>
</tr>
<tr>
<td>MENU</td>
<td>Enters main menu screen. Or exits menu screen.</td>
</tr>
<tr>
<td>EXIT</td>
<td>Moves to upper menu.</td>
</tr>
<tr>
<td>CH ▲</td>
<td>Channel up/down.</td>
</tr>
<tr>
<td>CH ▼</td>
<td>Moves the cursor upward/downward in the menu screen.</td>
</tr>
<tr>
<td>OK</td>
<td>Shows channel list. Confirms selection.</td>
</tr>
<tr>
<td>VOL ▼</td>
<td>Volume down/up.</td>
</tr>
<tr>
<td>VOL ▲</td>
<td>Changes the value of a selected item.</td>
</tr>
<tr>
<td>LAST</td>
<td>Returns to previous program.</td>
</tr>
<tr>
<td>FAV</td>
<td>Enters favorite program or Exit from Favorite program.</td>
</tr>
<tr>
<td>0-9</td>
<td>Changes channel directly. Controls the numerical operation. Inputs the alphabet in the name edit screen.</td>
</tr>
<tr>
<td>PG ▼</td>
<td>Execute page down function in the menu.</td>
</tr>
<tr>
<td>PG ▲</td>
<td>Execute page up function in the menu.</td>
</tr>
<tr>
<td>SAT</td>
<td>Classifies satellite by satellite.</td>
</tr>
<tr>
<td>EPG</td>
<td>Shows program information.</td>
</tr>
</tbody>
</table>
Operating Principle

- Select an item by using up and down key and change the value of the highlighted (selected) item by using keys shown on the screen. Press OK key to enter the sub-menu if there is no instruction marked on the screen.
- The item is automatically stored and moved the upper menu by pressing the "EXIT" key.
- You can return to normal mode at any time by pressing the menu key from the menu mode.

2. FRONT PANEL

![Front Panel Image]

Fig 2-2 Front panel

1. POWER
   Switches Stand by mode and Normal viewing mode.

2. CH ▲, CH▼
   Changes Channel Up/Down

3. CHANNEL DISPLAY (4 digit / 7 Segment)
   After pressing the power button, "Init" is showed on screen.
   After the receiver searches program, the program number is displayed as "0001~2000".
### 3. REAR PANEL

<table>
<thead>
<tr>
<th>NO</th>
<th>NAME</th>
<th>FUNCTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>IF INPUT</td>
<td>IF INPUT from LNB to receiver</td>
</tr>
<tr>
<td>2</td>
<td>IF OUTPUT</td>
<td>IF Loop-through output to 2nd receiver</td>
</tr>
<tr>
<td>3</td>
<td>ANT IN</td>
<td>Input from terrestrial TV antenna</td>
</tr>
<tr>
<td>4</td>
<td>TV OUT</td>
<td>Output to TV</td>
</tr>
<tr>
<td>5</td>
<td>VIDEO</td>
<td>Composite video output</td>
</tr>
<tr>
<td>6</td>
<td>L</td>
<td>Left audio output</td>
</tr>
<tr>
<td>7</td>
<td>R</td>
<td>Right audio output</td>
</tr>
<tr>
<td>8</td>
<td>SPDIF</td>
<td>For Digital Audio out</td>
</tr>
<tr>
<td>9</td>
<td>RS232</td>
<td>Serial port used for software downloading</td>
</tr>
<tr>
<td>10</td>
<td>UHF</td>
<td>Option for UHF Remote control kit</td>
</tr>
<tr>
<td>11</td>
<td>+5 GND, 0V/12V</td>
<td>Used for mechanical polarizer</td>
</tr>
<tr>
<td>12</td>
<td>S-VHS</td>
<td>Used for switching external signal (LNB)</td>
</tr>
<tr>
<td>13</td>
<td>AC SWITCH</td>
<td>AC Power ON / OFF</td>
</tr>
</tbody>
</table>

### 4. SIMPLE DIGITAL CONNECTION

When connecting receiver to TV and VCR with RF cable  (Single Antenna)
5. ANALOG / DIGITAL CONNECTION

When connecting receiver to analog receiver and VCR with RF Cable

1. Start Up

If you are watching TV through the RF-cable, you need to adjust the Channel number. The type of TV and Channel numbers are set to PAL-G and Channel 38 at the factory. For USA, Ch.3 is factory preset.

Please follow the brief procedure below and watch the satellite programs.

1. Select the language
2. Select the antenna setup in main menu screen
3. Adjust LNB configuration per each satellite
4. Execute scanning to find program
5. Exit from installation after all programs are searched.

1.1 Language

When the receiver is turned on for the first time the language selection menu is appeared as in the Fig 1-1.

Select the desired language and press OK to confirm it.

This receiver supports 7 languages:

- English
- German
- French
- Portuguese
- Spanish
- Turkish
- Arabic

Picture will be named by section number.
2. Installation

Press the OK key. Antenna setup is appeared on screen as upper second figure.

2.1 Antenna Setup
In this section you could know how to operate LNB set-up.

2.1.1 Satellite
- When you adjust the LNB set-up, you select the satellite using ↓ & ↑ keys.
- After selecting the satellite, Press OK
- Adjust LNB type, LNB Lo-Freq, 22kHz, DISEqC, LNB power, 0/12V, TP, Positioner Setting,
- You can cancel the satellite you chose using ↓ & ↑ keys.

2.1.2 LNB type
Select LNB type using ↓ & ↑ keys.
There are 5 LNB alternatives:
- Universal 1 (9760MHz & 10600 MHz)
- Universal 2 (9760MHz & 10750 MHz)
- Single-SL (5150MHz & 5750 MHz)
- Single-SH (5150MHz & 5750 MHz)
- Standard For USA
22kHz control is automatically set for each LNB alternative.
If Universal 1 or 2 is selected, 22kHz control should be "off state."

2.1.3 LNB Lo-Freq
If the required LNB frequency is not available, select "Standard" and then enter the frequency manually using the numeric keys.
For USA : C-Band L/O : 5150 MHz
Ku-Band L/O : 10750 MHz

2.1.4 22kHz
In case you are using a Dual LNB or two antennas connected to a 22kHz tone switch box, make 22kHz tone switch "ON" or "OFF" to select an LNB or an antenna.

2.1.5 DISEqC
- Full DiSEqC
If DiSEqC switching box is used in this Receiver, Select the port number to get the IF signal from the LNB, which is connected, to DiSEqC switching box.
2. OPERATION

- Option DiSEqC box
If the option switch is only used as shown in below figure. There are two kinds of different ways to scan satellite depending on LNB type.
(1) For universal LNB.
Select a DiSEqC number to which the RF signal is fed the LNB.
(2) For standard LNB.
For low band scanning, "set 22kHz" to off and select a DiSEqC number.
For high band scanning, "set 22kHz" to off and select a DiSEqC number.

2.1.6 Skew
In case that LNB with mechanical polarizer is used in your system.
Adjust skew value by using \(\downarrow\uparrow\) key and check signal status bar at the same time. Keep on adjusting at the maximum signal status.

2.1.7 TP
Select a specific transponder by using the VOL \(\downarrow\uparrow\) keys.

2.1.8 Positioner Setting
It is used to set the DiSEqC 1.2 motor & USALS.
If you have no positioner equipment, Select "Disable". Otherwise you can select either DiSEqC 1.2 or USALS.

1) DiSEqC 1.2
(1) Current position
Select the position number by using \(\downarrow\uparrow\) keys (#0–#26: default define, #27–#49: users define)
(2) Movement
Select East / West by using \(\downarrow\uparrow\) keys and press OK to stop
(3) Nudge East / West
Select Nudge East / West by using \(\downarrow\uparrow\) keys and press OK to save current position
(4) Recalculation
If it is used to shift the position for all satellites
Select Recalculation by using OK key and is makes above movement function
(5) East Limit Set
Move the position to the most eastern position and press OK then East Limit is stored

2) USALS (DiSEqC 1.3)
(1) Satellite Position
It points out the position of saved satellite.
You can change the position of the satellite by numeric keys
(2) My Longitude
Please input Local Longitude by numeric keys
(3) My Latitude
Please input Local Latitude by numeric keys
(4) Reference position
This is same as DiSEqC 1.2 Reference
(5) Move
The satellite’s position of (1) and the one calculated by value of (2) & (3) will be shown. Press OK key and it will move.
(6) Store
Please select "Store" and the present position will be saved.

2.1.9 Satellite Scan
After all LNB setting is finished, select and confirm Satellite scan, then channel searching is executed.

# If you press SIG key on RCU, signal strength menu will be displayed on the screen.

2.2 Satellite scan
Scan all the transponder of selected satellites.
(1) Press OK key and Select wanted satellite by using \(\uparrow\downarrow\) key
(If you want to scan several satellites once. You can control by \(\uparrow\downarrow\) keys)
Then press OK key to execute scanning.
(2) You can select satellites whatever you chose though. It is possible to search only for 4 satellites among satellites you chose.
(3) Transponder will be consecutively scanned all selected satellites.
2.3 TP scan
Selected TP is scanned in this menu
(1) Select TP scan in the installation menu
(2) Select a satellite
(3) Select TP to scan by using the ▲▼ key (using ▲▼ keys you can
multiscan), then press OK to search

2.4 Network Scan
Procedure for setting up is same as TP scan
Advantage: when TP information is updated, updated information should be
scanned

2.5 Advanced Scan
Advanced Scan is used to scan the new TP of which the parameters have been
entered manually. After setting the search parameters like down frequency,
symbol rate and polarity by using the numeric keys and VOL ▲▼ keys, press
"OK".
Setting Video PID/Audio PID/PCR PID
• You can set the PID to search program.
• After setting the PID values, press OK key.

2.6 Smart Search

2.6.1 How to add a new satellite
1. Select the satellite name with ▲▼ keys.
2. If you want to add a new satellite, press the OK key.

2.6.2 LNB Configuration
Please refer to 4.1 Antenna Setup.

2.6.3 Symbol range
• Select Full, High or Low
• Full : High and Low
• High : >7.5M
• Low : <7.5M

2.6.4 Polarity
• Select Horizontal / Vertical with ▲▼ keys.
• All : Scan Horizontal and Vertical.
• Horizontal : Scan Horizontal TP only.
• Vertical : Scan Vertical TP only.

2.6.5 Scan
• Select Scan type with ▲▼ keys.
• When you select the OK key, the scanning will start.

2.7 Edit TP/Satellite
In this mode, you can add the New-Satellite and the new transponder
information.
Also you can update or delete the transponder information.

2.7.1 How to add a new satellite
• Select "New" in the satellite name using the numeric key or CH ▲▼ key,
  Press VOL ▲▼ keys to move digit.
• Maximum number of characters is 12-digit.
• Press OK key.
• Enter the down frequency, Symbol Rate and LNB Polarity.
• Press EXIT or OK key, the new transponder information is stored.

2.7.2 How to rename the satellite
• Press OK after selecting a satellite of which you want to change name.
• Select "Rename" in the menu.
• Enter new name by using numeric key or CH ▲▼ keys and press OK key.

2.7.3 How to Delete/Restore a satellite
• Press OK key after selecting a satellite you want to delete.
• Press OK to confirm, otherwise press EXIT to cancel. The color of the deleted
satellite name in the list is changed.
• The satellite which has had already searched channels cannot be deleted.
• To restore the deleted satellite, move the cursor to the deleted satellite and
press OK key. Then select "Restore" in the screen and press OK key.

2.7.4 How to add a new transponder
• Press OK after selecting a satellite
• Select Edit TP and then Transponder list is shown
• Press OK key selecting "NEW" in the transponder list.
• Enter the down frequency, Symbol Rate and LNB Polarity.
• Press EXIT or OK, the new transponder information is stored.

2.7.5 How to delete or update a transponder added
• Press OK key after selecting a satellite
• Select Edit TP, than transponder list is shown
• Select a transponder you want to delete or update
• Press OK on the TP you want to Edit or Delete
• You can see the Edit or Delete in the small-menu
• In case you want to Edit a list TP
  Select EDIT and press "OKkey
  Enter Down frequency, LNB polarity and Symbol Rate and press "EXIT OR OK
  Then New TP date is automatically updated
• In case you want to Delete a TP
  Select Delete in the small menu, press OK key
  Then the TP selected is deleted
3. Parental Control

After selecting Parental control and entering the correct password, the screen as shown in the right appears. The default password at the factory is “0-0-0-0”.

You may change the PIN code, which is your password in other words, and lock the receiver to prevent children from watching selected programs.

3.1 Change PIN Code

You can change the PIN Code (Password) if you want.
(1) Enter the Old password. If you enter this mode for the first time after purchasing the receiver, the OLD PIN Code is the default password.
(2) Enter the new password.
(3) Reenter the new password to confirm.

Warning! You must remember the New password because it is used in several Function as follows.

Password is required
(1) To show parental locked channels
(2) To enter Parental Control menu
(3) To enter channel edit menu
(4) To execute factory setting

4. Channel Edit

In this mode,
(1) You can sort the channels out upon your Preference.
(2) You can rearrange the channel list.
(3) You can delete channel.
(4) You can adjust the favorite channel list, as required.
(5) You can skip channels.
(6) You can change the channel name, as you want.
(7) To enter channel edit mode, you need to press 4 digit password (factory setting is ‘0-0-0-0’)

4.1 How to sort the channel

(1) Press OK after selecting Sort.
(2) Sub mode will be appeared as follows
   • Alphabetical
   • Satellite
   • FTA/Scramble
   • P-Lock
(3) Select the mode among the 4 kinds of mode that you want to sort and press OK
(4) Press EXIT to exit from this mode.

Note
The Format of Sorted List:
• Alphabetical & Satellite: In Alphabetical order
• FTA/Scramble: The Free channels first & the scrambled channels later and vice-versa
• P-Lock: The channels of P-Lock first

4.2 How to move the channel

(1) Press the ‘OK’ key after Selecting ‘Move’ key
(2) Press OK to select a channel to move and then move the selected channel to the new position by using CH ▲▼ keys.
(3) Repress “OK” key.
4.3 How to delete the channel
(1) Select “Delete” and press “OK.”
(2) Select a channel you want to delete by using the ▶ key.
(3) Press OK key.
(4) All channels that you selected are deleted.

4.4 How to store/release the favorite channel
(1) Select “Favorite” and press “OK.”
(2) Press “OK”, then this channel is included to the favorite channel list.
(3) The mark stands for the favorite channel.
(4) To delete a channel from the favorite list, go to the marked channel and Press “OK”.

4.5 How to lock/unlock the channel
(1) Select P-LOCK in the screen as shown and press OK.
(2) Select the channel that you want to lock and press “OK”.
(3) This channel is now locked and the symbol of lock will be shown as a locked channel.
(4) You can release the locked channel if you press OK after selecting the locked channel.
(5) Once locked channel is selected while watching television, password is requested.
(6) Picture and sound is appeared after the correct password is given by pressing the numeric key.

4.6 How to SKIP the channel
(1) Select “SKIP” and then press “OK”
(2) Select the channel you want to hide
(3) Press “OK”

4.7 How to rename the channel
(1) Press OK after selecting RENAME mode
(2) Select the channel of which you want to change name
(3) Press OK to enter the character input mode.
(4) Put new names, as you want using the 4 arrows keys and numeric key. The maximum number of characters is 20.
(5) After completion of entering new, press OK

5. User Setup
In this USER SETUP mode, you can select the sub-mode as shown on the [Fig 6] by pressing the OK key and CH ▲▼ key. The changed set-up is activated and stored by pressing the EXIT key.

5.1 Language
Press the EXIT key after you select your preferable language by using VOL ◄ ► key.
English, German, French, Portuguese, Spanish, Turkish, Arabic, Croatian

5.2 Aspect ratio
You can set the TV aspect ratio [4:3 for normal TV & 16:9 for wide TV] by pressing VOL ◄ ► keys.

5.3 TV Type (USA Standard is NTSC)
You can set the TV type (PAL, NTSC and AUTO) by pressing VOL ◄ ► keys.
If the setting value is Auto, then TV is set automatically by source program. So, the source program is PAL, TV set PAL source program is NTSC, TV set NTSC.

5.4 Time Setting
After selecting the Time Setting, you can adjust the time. Also you can set the wakeup time and sleeping time to turn receiver on and off automatically according to the time programmed.
5.5 Modulator
If you want to watch the broadcasting through, the modulator output, you could change the modulator channel as follows after pressing the OK key to enter the sub-menu.
(1) NTSC is supported.
(2) You can adjust the Modulator type by pressing VOL ← → key.
(3) You can adjust Modulator type, you can go back to the previous mode by pressing EXIT or OK key.
(4) The adjusted data is programmed automatically when the EXIT key is pressed.
(5) Modulator channel can be changed from the channel 3 to channel 4.
   1) Set TV channel to 3 and find menu screen.
   2) Select modulator column and change the channel number by ← → key.
   3) Press "EXIT" key to store and menu screen is appeared.
   4) Tune TV channel to the channel newly stored as in the above.

5.6 OSD setting
You can adjust the transparency level by using ← → key.

5.7 Data Transfer (Receiver to Receiver)
1) Connect RS232 DB-9 Null Modem Cable (Pin #2 & 3 twisted) between master and slave receiver.
2) Leave the slave receiver power off during all the time until completion of data transfer.
3) Hook up the master receiver to the TV and select "SW Transfer" at "User Setup" screen.
4) Select “Ver Code” or “Ch Date” by using “Vol↓” or “Vol↑” button. Then press “CH” button to start transfer. During data transfer, processing percentage will be displayed on the screen.

6. Factory Setting
Once the Factory setting is selected and the correct password is given by pressing 4-digit numeric keys followed by OK key, whole parameters are changed to the value written in the factory. That is, factory setting functions your STB (Set Top Box) the first stage. If you do not want to continue this mode, press EXIT key before you enter password.

7. System Information
Shows the information of model name, data and version of STB.

8. Channel List
- you can see the channel list as shown in the above figure by pressing OK key
- To watch another channel, move the cursor to the channel you want by using ← → keys ↑ ↓ PG ↑ PG ↓ and press OK key
- If favorite channels are saved, the list is changed from channel list TV to favorite list.
- Pressing TV/RADIO key change from channel list to channel list Radio You can exit from the channel list menu by pressing "EXIT" key or "OK" key.

Note: Do not disturb data transfer by touching any Remote button, RS232 Cable, IF Cable, RCA Cable etc. during data transfer period until “Please wait for saving” message disappeared. Interruption of data transfer could damage the receiver’s flash memory chip which makes the receiver dead and void warranty.
9. Program Guide

- The title and start time of the program is shown as in the right figure after pressing EPG key.
- Select the particular channel you. The channel will be changed.
- If you want to watch TV with full screen, Press EXIT.

10. Audio change

- In multilingual program, favorite language is selected by pressing AUDIO key and CH ▲▼ keys
- Audio mode (L-left, R-right, L/R-stereo) can be changed by pressing AUDIO key and VOL ▲▼ key.

11. Recall the Favorite channel

- Press the FAV key to recall a stored favorite channel.
- Favorite channel is programmed and stored in the channel edit menu.

12. How to Download Software via RS-232 Serial Cable

1) Connect between Receiver and PC by RS-232 Serial Cable

2) Please find the following files
   Execution File: GTROM_.exe
   Main Source Code: .BIN
   The above files may be variable whenever new software is released.
   Please copy these files to your PC directory and execute it.

3) Execute GTROM_.EXE and the screen, which can select COM port, will appear as belows:

   Above program screen will be appeared on your computer monitor.

4) Input STB model exactly on above STB setting. You can refer to STB model on system information.

5) Download code is Main Source code titled “___.bin”

6) Press browser to find and execute main source.

7) If you find source program out, press Download

8) If above process be done successfully, downloading processing will be displayed and actual program update will be done after downloading

Caution!
Never turn off receiver during software downloading
Any interruption while downloading will damage the flash ROM which will void the warranty.
* GTROM_.EXE file can be updated continuously.
3.1 KIT LIST
1. UHF Receiver  
2. UHF Antenna  
3. UHF Remote Control  
4. Battery (AAA Type) - 2pcs.

3.2 INSTALLATION
1. Take off the AC power plug of the Satellite Receiver from the wall socket.  
2. Connect the UHF antenna to ANT IN.  
3. Connect the Cable Assembly to the UHF RX IN on the rear of the Satellite Receiver.  
4. Plug the AC power cord and turn on the receiver.  
5. Use UHF Remote Controller.

3.3 SPECIFICATION

<table>
<thead>
<tr>
<th><strong>UHF Receiver</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>FREQUENCY</td>
<td>512.00MHz</td>
</tr>
<tr>
<td>MODULATION MODE</td>
<td>FSK</td>
</tr>
<tr>
<td>UHF INPUT LEVEL</td>
<td>-95dBm</td>
</tr>
<tr>
<td>WHIP ANTENNA</td>
<td>177mm</td>
</tr>
<tr>
<td>SIZE (mm)</td>
<td>65 x 96 x 33</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>UHF Remote Control</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>INDOOR USE</td>
<td>About 50m</td>
</tr>
<tr>
<td>OUTDOOR USE</td>
<td>About 200m</td>
</tr>
<tr>
<td>BATTERIES (AAA Type)</td>
<td>1.5V x 2pcs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Tuner/Channel</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Input connector</td>
<td>F-type, IEC 169-24</td>
</tr>
<tr>
<td>IF Input Frequency</td>
<td>950kHz to 2150kHz</td>
</tr>
<tr>
<td>IF Loop throughout</td>
<td>950kHz to 2150kHz</td>
</tr>
<tr>
<td>IF Frequency</td>
<td>Zero-IF</td>
</tr>
<tr>
<td>Input Level</td>
<td>-65dBm to -25dBm</td>
</tr>
<tr>
<td>LNB power</td>
<td>15/18V DC, 500mA Max</td>
</tr>
<tr>
<td>DIS ES C Control</td>
<td>Version 1.3 Compatible</td>
</tr>
<tr>
<td>Band Switching</td>
<td>22kHz Tone</td>
</tr>
<tr>
<td>Demodulation</td>
<td>QPSK</td>
</tr>
<tr>
<td>Symbol Rate</td>
<td>2.4 Mbps</td>
</tr>
<tr>
<td>Viterbi Decoding Rate</td>
<td>1/2, 2/3, 3/4, 5/6, 7/8</td>
</tr>
<tr>
<td>Reed Solomor Decoding PE:</td>
<td>204, 128, b=8</td>
</tr>
<tr>
<td>DIS ES C</td>
<td>I.3 Compatible</td>
</tr>
<tr>
<td></td>
<td>(STAB USALS)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>MPEG Transport Stream &amp; A/V Decoding</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Demultiplex</td>
<td>According to ISO/IEC 13818-1</td>
</tr>
<tr>
<td>Input Stream</td>
<td>Max. 30Mbps/1080i</td>
</tr>
<tr>
<td>Asped Ratio</td>
<td>4:3: 16:9</td>
</tr>
<tr>
<td>Video Resolution</td>
<td>720 x 576</td>
</tr>
<tr>
<td>Audio Decoding</td>
<td>MPEG Layer I and II</td>
</tr>
<tr>
<td>Audio Mode</td>
<td>Single/Dual Channel, Stereo, Joint Stereo</td>
</tr>
<tr>
<td>Sampling Frequency</td>
<td>16.22/5.024/3.24/4.41.48kHz</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Microprocessor &amp; Memories</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Processor</td>
<td>ST165181V18, ST20 32bit</td>
</tr>
<tr>
<td>CPU Clock</td>
<td>81 MHz</td>
</tr>
<tr>
<td>Flash Memory</td>
<td>1 Mbyte</td>
</tr>
<tr>
<td>SDRAM</td>
<td>8 Mbyte</td>
</tr>
<tr>
<td>EEPROM</td>
<td>32 Kbit</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Data Port</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Connector</td>
<td>9Pin D-sub Type</td>
</tr>
<tr>
<td>Protocol</td>
<td>RS232 Asynchronous</td>
</tr>
<tr>
<td>Data Rate</td>
<td>Max. 1.2Mbps</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>RF Modulator</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Connector</td>
<td>IEC 169-2 Male/Female</td>
</tr>
<tr>
<td>Frequency</td>
<td>470MHz to 860MHz</td>
</tr>
<tr>
<td>Output channel</td>
<td>CH 1-4</td>
</tr>
<tr>
<td>TV Standard</td>
<td>NTSC</td>
</tr>
<tr>
<td>Preset channel</td>
<td>Changeable by Menu Screen</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Front Panel</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>4 Digits LED Display</td>
<td>Channel Number Display</td>
</tr>
<tr>
<td>3 Keys</td>
<td>Power, Channel Down and Channel Up</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Rear Panel</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>IF Input</td>
<td>F-type Connector</td>
</tr>
<tr>
<td>PD Input/output</td>
<td>F-type Connector</td>
</tr>
<tr>
<td>4 Phone/Gnd</td>
<td>Video, Audio L, Audio R, S/P DIF</td>
</tr>
<tr>
<td>Modulator</td>
<td>RS232 Serial Port</td>
</tr>
<tr>
<td></td>
<td>9Pin D-sub Type</td>
</tr>
</tbody>
</table>

<table>
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</tr>
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</tr>
<tr>
<td>EEPROM</td>
<td>32 Kbit</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Remote Control</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>Infra-Red (Carrier Freq: 38kHz)</td>
</tr>
<tr>
<td>Battery</td>
<td>2 x 1.5V AAA Type</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Others</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Voltage</td>
<td>AC90-250V, 50/60Hz</td>
</tr>
<tr>
<td>Power Consumption</td>
<td>Max. 25 Watts</td>
</tr>
<tr>
<td>Standby Power</td>
<td>Less than 5 Watts</td>
</tr>
<tr>
<td>Dimension</td>
<td>290 x 200 x 65mm 2.9kg</td>
</tr>
</tbody>
</table>
There may be various reasons for the abnormal of the unit. Therefore, if the unit does not work properly, check the unit according to the procedures shown in the table below.

<table>
<thead>
<tr>
<th>Problem</th>
<th>Possible causes</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>LED on front panel does not light</td>
<td>AC power cord disconnected</td>
<td>Connect power cord properly into the power socket</td>
</tr>
<tr>
<td>No Picture or sound</td>
<td>Wrong connection of the video/audio output to TV input terminal</td>
<td>Connect two terminals correctly with scart cable or RCA or RF cable</td>
</tr>
<tr>
<td></td>
<td>Wrong connection of satellite antenna cable</td>
<td>Connect the antenna cable correctly</td>
</tr>
<tr>
<td></td>
<td>Wrong direction of satellite antenna</td>
<td>Adjust the direction of antenna</td>
</tr>
<tr>
<td></td>
<td>No signal or weak signal</td>
<td>Check the cable connections, LNB and other equipment connected between the LNB and the receiver or adjust the antenna</td>
</tr>
<tr>
<td></td>
<td>Wrong setting of channel information in MENU screen</td>
<td>Type the setting value correctly</td>
</tr>
<tr>
<td>Black-and-white screen or V-Hold</td>
<td>Your TV mode is different from satellite broadcasting mode</td>
<td>Use TV of same mode</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Use the NTSC/PAL converter connected to the receiver and TV</td>
</tr>
<tr>
<td>The remote controller is not working</td>
<td>Battery exhausted</td>
<td>Change the batteries</td>
</tr>
<tr>
<td></td>
<td>Fluorescent light interfering with the remote controller</td>
<td>Switch off the light</td>
</tr>
<tr>
<td></td>
<td>Remote controller is incorrectly aimed</td>
<td>Aim the remote control at the receiver</td>
</tr>
<tr>
<td>Distorted menu screen</td>
<td>Too high brightness and contrast level of TV set</td>
<td>Adjust brightness and contrast to low level</td>
</tr>
<tr>
<td>Not working</td>
<td>Process Down</td>
<td>Remove the power code or AC switch OFF/ON</td>
</tr>
</tbody>
</table>