1. Connecting to TV

- Antenna
- ACC+12V
- Telecomando

Diagram showing connections between the antenna, ACC+12V, and Telecomando to the TV.
2. Remote

3. Basic functions

3.1 TV/RADIO programs switch
Press "TV/RADIO" to switch the programs when it is in full screen.

3.2 Station switch
1. Press "UP/DOWN" to switch to the previous or next program.
2. Press "Enter" to switch to the speediness program list, press "LEFT/RIGHT" to select different program class; press "UP/DOWN" to select program.

Figure 3.2 speediness program list
Press "Enter" to affirm program selection, press "EXIT" to return to hide menu.

3. Press number keys to input program number.
4. If there are some favorite programs that have been set up, just press "FAV" key to enter into the favorite program list;

Figure 3.3 favorite program list
Press "UP/DOWN" to select favorite program, press "Enter" to affirm the selection, press "EXIT" to return to hide menu.
3.3 Display in formation of programs
Press key "Display" to show the information of current programs when it is in normal playing state.

![Figure 3.4 program information display](image)

3.4 Program return
Press "EXIT" under state of full-screen to the previous program played.

3.5 Audio language switch and L/R channel switch
1. Press "Audio" key to switch the language of sound of current programs and switch among "stereo" > "left" > "right" (stereo > left channel > right channel).

![Figure 3.5 audio language and L/R switch list](image)

2. Press "LEFT/RIGHT" to switch among "stereo" > "left" > "right" (stereo > left channel-right channel). Press"up/down" to switch the language of sound.

3. Press "Enter" key confirm the selection and return to full-screen play mode. press"EXIT"to return to full-screen play mode but not save the setting of language of sound,only save the setting of type of language.

3.6 screen zoom
1. Press "ZOOM" to enable zoom mode and show a reading glass on screen left-up.

2. Press "F.R.F.F" to zoom current image being played if in full-screen zoom inZoom in scaling order is: "zoom in 2:0" > "zoom in 3:0" > "zoom in 4:0", zoom out scaling Order is: "zoom in 1/2:0" zoom out 1/3:0 > zoom out 1/4:0.

3. When zooming in, press "LEFT", "RIGHT", "UP" and "DOWN" to move the image to the destination.

4. Press zoom on "EXIT" to cancel current image zoom mode.

3.7 Electronic programs guide (EPG)
1. You can press key EPG on the remote controller to enter into the EPG page to know more about the programs to be played, as shown in the figure below:

![Figure 3.6 EPG menu](image)

Enter into EPG menu default enter daily mode, menu under this mode contain parts as shown in the figure above;

(1). Tab 1 shows the title;
(2). Tab 2 shows time and date list;
(3). Tab 3 shows particular date list;
(4). Tab 4 shows program list, press UP/DOWN to switch between programs;
(5). Tab 5 shows the time range and program information, press F.R.F.F;
(6). Tab 6 shows the detailed program information in Tab5;
(7). Tab 7 shows hint information for keys corresponding to the three colors on the remote controller: ZOOM, A-B, 3D.

(8). Press LEFT/RIGHT to switch between Tab4 and Tab5;
(9). Press A-B key to enter into weekly mode to display the programs and program in formation in different time ranges of the current program list within one week, as shown in figure 3.7.
3.8 Teletext

1. If you want to watch teletext, please press "TTX" on the remote controller to enter the EPG page, as shown in the figure below.

![Teletext page](image1)

2. Input three digits to go to the corresponding page you want.
3. Press "UP" to go to the previous page, while press "DOWN" to go to the next page.
4. Press "LEFT" to back for 100 pages, while press "RIGHT" to advance for 100 pages.
5. Press "TTX" to exit from teletext.

3.9 Subtitle

1. Subtitle is defaulted to be off. To see the captionation information, press the SUB key on the remote controller to enter the Subtitle menu of the current Program, as shown in Figure 3.11.

![Subtitle menu](image2)

2. Press "LEFT/RIGHT" key to choose whether to open Subtitle. Press "UP/DOWN" key to move upward and downward to choose language, as shown in the following figure.
4 Digital TV

In the main of the system, under Digital TV, there are such options as auto TV search or broadcast programs, program management, system setup, software update and software version information view etc.

After the platform is opened, as shown in to set some information about Digital TV, enter Digital TV menu of the system and press "MENU" key firstly to enter the Main menu as shown in Figure 4.1:

![Figure 4.1 system main menu](image)

In main menu, press "UP/DOWN" key to choose Digital TV option and then press "Enter" key once to enter Digital TV menu as shown in Figure 4.2:

![Figure 4.2 Digital TV menu](image)

4.1 Installation

There are three kinds of installation mode as follows:

1. Manual search
2. Auto search
3. Installation menu

- Manual search

   You can enter into parameter "installation page" via input password (Default password in "0000"), as shown in the figure below:

   ![Figure 4.6 manual search menu](image)

2. Prior to manual scanning, you need to configure relevant parameters including:
   (1) Freq(KHZ): the default frequency is 474000KHZ, you can set relevant digits to modify it;
   (2) Bandwidth: the default value of bandwidth is 8MHZ.
3. Press "Enter" key after configuration of parameters to start manual scan.
4. If any program is detected, the scanning process is finished, the system will exit the scanning page and save the program, at the same time return to the "installation menu" and to play them in VPP window automatically, as shown in the figure below:

4.1.2 Auto search

You can search the programs of any channel.

1. You can move the cursor to Auto search via press "UP/DOWN" key under installation menu, then press "Enter" to enter into auto search page, as shown in the figure below:
2. Prior to auto searching, you need to configure relevant parameters including:
   1. Satara Freq(KHZ): the default frequency is 177506KHZ.
   2. End Freq (KHZ): the default frequency is 858000KHZ.
   3. Band width: the default value of bandwidth is 6 MHZ, while you can set automatically to 1MHZ and 8MHZ.

3. If any program is detected and the scanning process is finished, the system will exit. The scanning page and save the program at the same time return to the installation menu and to play them in vpp window automatically as shown in the figure below:

4. 2 channel manager

   System offers an efficient function of channel manager such as channel deleting, marking, moving, locking, sorting, and grouping.

   There are two independent pages for channel manager, TV and RADIO. You can enter the page via "menu digital TV-channel manager", as shown in the figure below:

4.2.1 Channel organizer

   Channel organizer page includes favorite channels, channel deleting, moving, locking, and rename.

---

1. You can the page as shown in the figure below via "MENU-Digital TV channel manager -Channel organizer":

2. It will pop up a dialogue box prompting that "channel not available" when there are no channels in the database to enter into, and it will not enter into channel organizer page.

3. Channel organizer menu includes Favorite channel, Delete channel, Skip channel, Lock channel; press "UP/DOWN" key to choose the line where favorite channel is then Press the 4-color key on the remote controller: press the red "ZOOM" key to set and cancel Favorite channel, the green "Audio" key to set or cancel delete channel, the yellow "PLAY/PAUSE" key to set or cancel skip channel, the blue "TX" key to set or cancel Lock channel. After setting, the corresponding figure will appear.

4. To rename channel, press "UP/DOWN" key to choose the line where the channel to be Renamed is, press "LEFT/RIGHT" key to enter the page to rename the channel, as shown in Figure 4.10:

5. After program editing, to edit the program, press "Enter" key to set or cancel lock program; the system will hint to input "0000": to set Delete program, the system will appear mark after.

6. Press "Exit" key to exit channel organizer page.
3. Press the red key ZOOM of the remote controller to enter Add channel menu, as shown in Figure 4.15:

![Figure 4.15 Add Channel page](image)

Under ADD channel menu, there are 6 parameters for adding one channel as follows:
1. Area Name: For Area Name, press the RIGHT key of the remote controller to enter the Area Name list on the right, then press UP/DOWN key to choose area Name, press Enter key to confirm;
2. Carrier: Press LEFT/RIGHT key to choose;
3. Channel Name: Press LEFT/RIGHT key to enter rename channel page as shown in Figure 4.16;
4. Audio PID, video PID, PCR PID, press 0-9 number key to revise values;
5. Press ENTER key to confirm the adding, the system will hint with "Successfully Updated" and return to Edit channel menu;
6. Press EXIT key to return to Edit channel page.

Press the yellow 3D key of the remote controller to enter Rename Channel menu, as shown in Figure 4.16:

![Figure 4.16 edit Channel page](image)

The operation for this menu is as that of Add Channel page.

4.2.5 Delete All

If you do not like one or some channels, you can delete it/them in channel organizer Menu (Chapter 4.2.1), but if you do not like all TV or Radio, you can enter Delete All Menu to choose to delete all TV, RADIO.

1. Under channel Manager menu, press UP/DOWN key to choose Delete All option, press ENTER key again, then the system will hint with the dialogue box of inputting Password which is defaulted as 0000, input the proper password via the 0-9 number Key of the remote controller, then enter Delete All menu as shown in Figure 4.17:

![Figure 4.17 Delete All page](image)

2. To delete all TV channels, press UP/DOWN key to move the cursor to All TV channels option, press enter key, then the system will hint with "Delete all tv channels?" dialogue box as shown in Figure 4.18:

![Figure 4.18 system register box](image)

Press LEFT/RIGHT key to choose "YES" or "NO", press Enter key to confirm.

3. To delete all RADIO channels, press UP/DOWN key move the cursor to All Radio Channels Option, press Enter key, then the system will hint with "Delete all Radio Channels?" dialogue box, press LEFT/RIGHT key to choose "Yes" or "No", press Enter key to confirm.
4.3 configuration

Configuration provides individualized system setup function, you can configure the system according to your own hobby and demand. You can enter Configuration menu via the menu (MENU→Digital TV→Configuration), as shown in Figure 4.19.

![Figure 4.19 Configuration page](image)

4.3.1 OSD

Via OSD option setup, you can set the user interface display mode according to your own demand. Via the menu (MENU→Digital TV→Configuration→OSD), you can enter OSD menu, as shown in Figure 4.20:

![Figure 4.20 OSD menu](image)

All options are listed on the left of the OSD menu, when the cursor moves on the option in OSD menu, the values corresponding to this option on the right of the menu. Press UP/DOWN key to move upward and downward to choose the options in OSD menu.

There are following options in OSD menu:

1. OSD Option sets system menu mode. Currently, one mode is supported.
2. Time on OSD Option sets whether to display system time in full-screen play channel. Move the cursor to time on OSD option, press LEFT/RIGHT key to choose between on and Off, the default is Off.
3. OSD Timeout Option sets some information hint dialogue box and displays time length, move the cursor to OSD Timeout Option, press LEFT/RIGHT key to choose among 1-65, the default is 3.
4. OSD Trans option sets menu transparency, press LEFT/RIGHT key to adjust between 0%-6%.
5. OSD language option: The system has the interface support a couple of languages, you can set language via OSD language option.
   1. Move the cursor onto OSD language option, press RIGHT key to enter OSD language list as shown in Figure 4.21:

![Figure 4.21](image)

   2. Press UP/DOWN key choose language.
   3. Press "Enter" key to confirm system interface language selection, then the setting is effective, and then the interface language turns into the currently chosen language, the cursor can move onto OSD language option on the left.
6. List Audio language option: Press RIGHT key to enter the currently supported Audio language list, in the Audio language list, press UP/DOWN key to choose language, press "Enter" key to confirm.
7. 2nd Audio language option: Press RIGHT key to enter the currently supported Audio language list, in the Audio language list, press UP/DOWN key to choose language, press "Enter" key to confirm.
   Press "Enter" key to confirm the editing action in OSD menu, then return to the previous menu.

4.3.2 TV
TV setup provides convenient TV input mode, you can via menu (MENU→Digital TV→Configuration→TV) enter TV set, as shown in Figure 4.22:

![Figure 4.22 TV setting menu](image)

All options are listed on the left of the menu, when the cursor moves to the option on the left of the TV menu, the values corresponding to this option can be displayed on the right of the menu.

4.3.3 System Setup

System setup menu can provide convenient system setup, you can via menu (Menu→Digital TV→Configuration→System Setup) enter System Setup menu, as shown in Figure 4.27:

![Figure 4.27 System Setup menu](image)

4.3.4 Time

Via menu (MENU→Digital TV→Configuration→Time), enter time set, as shown in Figure 4.28:

![Figure 4.28 time setting](image)

In System Setup menu

1. Press UP/DOWN key to move upward and downward the cursor to choose option;
2. When the cursor stays on the option, Press LEFT/RIGHT key to choose circularly among the values in this option press UP/DOWN key to move upward and downward the cursor to choose, press Enter key to confirm;
3. To edit the option in the System Setup menu, press Enter key to save the information and return previous menu;
4. Press EXIT key to return the previous menu.

<table>
<thead>
<tr>
<th>Items</th>
<th>Purposes</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>EQ setup</td>
<td>To set output sound effect.</td>
<td>Standard, classic, Rock, Jazz, POP. Default: Standard</td>
</tr>
<tr>
<td>Surround</td>
<td>To set stage effect.</td>
<td>OFF, Concert, Church, Passive, Live; default: OFF</td>
</tr>
<tr>
<td>Area</td>
<td>To set scanning area and choose,</td>
<td>Germany, England, Italy, France, Spain, Holland, Taiwan, China, Norway, Sweden, Finland, Greece, Australia Supported, depending on different Version.</td>
</tr>
<tr>
<td>Channel</td>
<td>options to download preset</td>
<td></td>
</tr>
</tbody>
</table>
In time menu, there are two time modes: one is Auto setting, the other is Manual setting.

1. The system defaults the setting as Automatic. Press UP/DOWN key to change time mode.
2. When the setting is Manual, press UP/DOWN key to move upward and downward the cursor to move only between timer mode, GMT offset and Summer time.

(1) Set Date option: move the cursor upward and downward onto Date option, press LEFT/RIGHT key to enter date setting menu, as shown in Figure 4.30:

![Figure 4.30 date setting](image)

In date setting menu, press Display key to help information, as shown in Figure 4.31:

![Figure 4.31 help information of ir-keys](image)

(2) Move the cursor upward and downward to time option, press 0-9 number key to revise values.
3. After time is set, press Enter key to save the setting, then return to the previous menu.

4.3.5 Wakeup Timer
If you want to set timer to play at certain time or giving some hint information such as Birthday, you can via wakeup time menu, as shown in Figure 4.32:

![Figure 4.32 Wakeup Timer](image)

In Wakeup Timer menu, you can set Timer NO: set Wakeup event number, the system can support at most 8 events. Timer Mode: set timer mode, wake-up mode: set wake-up mode, wake-up message: set wake-up message, wake-up channel: set wake-up channel name, Wakeup date: set wakeup date, on time: set wakeup time, Duration: set duration.

4.3.6 Parental Lock
You can revise system password, you can via menu (menu →Digital TV → Configuration →Parental Lock) to enter Parental Lock menu, as shown in Figure 4.35:

![Figure 4.35 Change Password](image)
1. Press the 0-9 number key on the remote controller to input old password, the system defaults password as "0000".

2. If the password is input correctly, the cursor can move onto enter new password option, press 0-9 number key on the remote controller to input new 4-digit password.

3. The cursor move confirm new password option, press 0-9 number key press on the remote controller to input new 4-digits password; if it is confirmed the new password is different from the new password input, the system will hint to in put new password again, until they are consistent, after password is set successfully, the system will hint the success and save the setting, and the new password will come into effect.

4. 4 Factory Default

Via menu(MENU Digital TV Factory Default), enter the page.

1. Press the 0-9 number key on the remote controller to input password, the system defaults passwords as "0000", then the system will hint with "Do you want to perform factory default?" Dialogue box.

Press "LEFT/RIGHT" key to choose "YES" or "NO", press "Enter" key to confirm.

4. 5 Technical Parameters:

- **Frequency**
  - Receiving frequency: VHF-I (174MHz), UHF (470MHz-862MHz)
  - Bandwidth: 8MHz
  - Input level: -78dBm~20dBm
  - Input resistance: 75Ω

- **Demodulator**
  - Wave: COA FM
  - Demodulation: QPSK, QAM16, QAM64
  - Mode: 2k, 8k

- **Protection gap**: 1/4, 1/8, 1/16, 1/32
- **Code rate**: 1/2, 2/3, 2/4, 5/6, 7/8

- **Video Decoding**
  - Standard: ISO/IEC 13818-2MPEG-2MP@ML
  - Video format: 4:3, 16:9
  - Resolution: max. 720×576
  - Input code rate: max 15 Mbit/S

- **Demultiplexer**
  - Standard: ISO/IEC 13818-1
  - Max. input code current: 60Mbps (serial connection) /7.5MBps (parallel connection)

- **Audio Decoding**
  - Standard: ISO/IEC 13818-3
  - Channel mode: left, right and stereo
  - Sampling frequency: 32KHz, 44.1KHz, 48KHz

- **Microprocessor**
  - SUNPLUS SPHE1002

- **Video Output**
  - Output system: PAL/NTSC
  - Output level: 1.0Vpp
  - Output resistance: 75Ω

- **Audio Output**
  - Frequency range: 20Hz-20KHz
  - Output power: 30mW
  - Note: load 32Ω, total harmonic distortion ≤ 1%

- **Power Supply**
  - Input: DC12V
  - Power consumption: ≤3W

- **Others**
  - Working temperature: -20℃~70℃
  - Dimensions: 106×66.25×21.5(mm)
  - Weight: about 110g

**Cautions**

This manual is only for reference, and all information contained shall be subject to change without prior notice. For omission or mistakes in the manual, Bethlehem reserves the rights to interpret.