

Car DVB-T2 Receiver

User's Manual



Notice

Warnings, Cautions and Notes

Throughout the whole user manual, pay special attention to the following marks that indicate hazardous situations.

- **Warning**

Indicates a hazardous situation which could result in serious injury.

- **Caution**

Indicates a situation which could damage the equipment or other apparatus.

- **Note**

Indicates additional information to make the user aware of possible problems and information of any importance to help understand, use and maintain the installation.

Meaning of Symbols



To reduce the risk of electric shock, do not remove cover (or back). No user serviceable parts inside. Refer servicing to qualified service personnel.



This symbol indicates dangerous voltage inside the receiver that presents a risk of electric shock or personal injury.



This symbol indicates important instructions accompanying the receiver.

Safety Warning

This receiver has been manufactured to comply with international safety standards.

Please read the following safety precautions carefully.

Safety Instructions and Precautions

1. MAINS SUPPLY (12-24V)

- Operate this product only from the type of power supply indicated on the marking label. If you are not sure of the type of power supplied to your car, consult your local power company. Disconnect the product from the mains before you start any maintenance or installation procedures.

2. CONNECTION TO THE AERIAL

- Disconnect the product from the mains before connecting or disconnecting the cable from the aerial. Failure to do so can damage the aerial.

3. CONNECTION TO THE TV

- Disconnect the product from the mains before connecting or disconnecting the cable from the TV. Failure to do so can damage the TV.

4. OVERLOADING

- Do not overload a wall outlet, extension cord or adapter as this may result in electric fire or shock.

5. LIQUIDS

- The product should not be exposed to liquid of any kind. In addition, no objects filled with liquid should be placed on the apparatus.

6. CLEANING

- Disconnect the product from the wall outlet before cleaning.
- Use a light damp cloth (no solvents) to dust the product.

7. VENTILATION

- The slots on top of the product must be left uncovered to allow proper airflow into the unit.
- Do not stand the product on soft furnishings or carpets.
- Do not stack electronic equipments on top of the product.

8. ATTACHMENTS

- Do not use any unsupported attachments as these may be hazardous or cause damage to the product.

9. EXTRANEIOUS OBJECTS

- Do not insert anything through the openings in the unit, where they can touch dangerous voltage points or damage parts.

10. LIGHTNING, STORM or NOT IN USE

- Unplug the product from the wall outlet and disconnect the antenna during a thunderstorm or when left unattended and unused for long periods of time. This will prevent damage to the unit due to lightning and power-surges.

11. REPLACEMENT of PARTS

- When replacement of parts is required, be sure the service technician uses replacement parts specified by the manufacturer VCAN or those that have the same characteristics as the original part. Unauthorized substitution may result in additional damage to the unit.

Contents


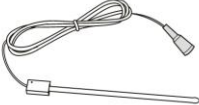




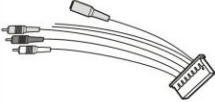
1 Before Using the Product.....	7
1.1 Accessories	7
1.2 Connector	8
1.3 Remote Control.....	10
2 Setup.....	13
2.1 Connecting the Antenna.....	13
2.2 Connecting the TV	14
2.2.1 Using HDMI Cable.....	14
2.2.2 Using RCA Cable.....	14
2.3 Powering On.....	14
3 Installation Wizard.....	15
4 Basic Operation.....	16
4.1 Program Manage Settings.....	16
4.2 Picture Setting	20
4.3 Channel Search.....	21
4.4 Time Setting.....	24

4.5 Option.....	25
4.6 System Setting.....	26
4.7 USB.....	26
5 Trouble Shooting.....	29
6 Technical Specifications.....	30
7 Declaration of conformity.....	31

1 Before Using the Product

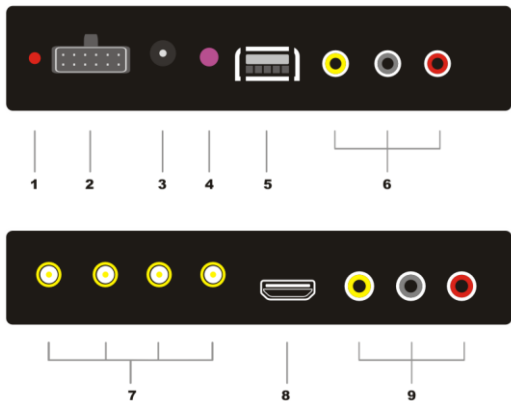
1.1 Accessories

This section provides detailed instructions on the product and its accessories.

 <p>Antenna X2</p>	 <p>ANTENNA X2*</p>	 <p>RCA cable</p>
 <p>IR</p>	 <p>Remote control</p>	 <p>User Manual</p>
 <p>Power cable</p>		

DVB-T22: 2X Antenna, DVB-T24 4X Antenna

1.2 Connector



1. Power LED
2. Power in + IR in + AV out
3. DC power in
4. IR sensor
5. USB for PVR / upgrade / multimedia
6. AUX AV in
7. 4 RF antenna in
8. HDMI out
9. Audio / Video out

1. POWER LED

The Power LED will turn red only when the receiver is in standby mode.

The Power LED will turn green only when the receiver is in operation mode.

2. POWER In + IR + AV out

Composite wires in port for Power (Battery +, GND-), Extend Infra-Red Remote Control Sensor, Audio + Video Output cable

3. DC Power In

DC Power in port for car cigarette lighter.

4. IR Sensor

Infra-Red Remote Control Sensor.

5. USB Port

USB port for PVR TV programm record / Firmware Upgrade / Multimedia Player(Moive, Picture, Music).

6. AUX AV in

Auxiliary audio video in port. Such DVD player or rear view camera etc.

7. 4 RF Antenna in port

Connect to antenna cable. Please sure screw closely.

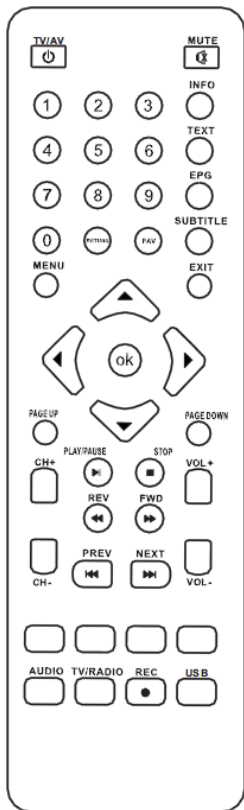
8. HDMI out port












Connects to the TV using an HDMI cable.

9. Audio Video Out port

CVBS connects to the TV and outports Audio and Video, Yellow is for Video , RED is for Audio right, White is for Audio left.

1.3 Remote Control



Key	Function	Key	Function
	Turns power ON/OFF, switch AUX AV input	PR+,PR-	When watching a program,change programs or move to the next higher or lower item in the menu
	When watching a program,mute the sound		When watching a program , adjust the volume or move to the left or right item in the menu
0~9	Enter number of the required menu item or select a program numbe to watch	TV/RADIO	Switches between TV and Radio mode
INFO	Showsinformation of the cur rent program	AUDIO	Choose audio mode
TXT	Switch to teletext mode	EPG	Calls up the EPG (Electronic Program Guide)
SUBTITLE	SUBTITLE	RETURN	Press this key for previous program.
FAV	Display the favorite program list	MENU	Displays the Main Menu on the screen, or return to the previous menu or status
EXIT	Retunes to the previous menu on the menu screen or escape from the menu	Rec	Press this key start to record the program
OK	Executes the selected item in the menu screen or enters the desired value in any input mode	USB	To play the JPEG or recording file.
	To change channels, or to move cursor up or down in the menu		To adjust volume level, or to move cursor left or right in the menu
	Stop to record program	PAUSE	Used to select the freeze function. Press once to freeze the screen picture.
	Seek forward or backward		Seek forward or backward
	Press to fast forward or fast backward		Press to fast forward or fast backward
			Add four color key function: select function teletext mode

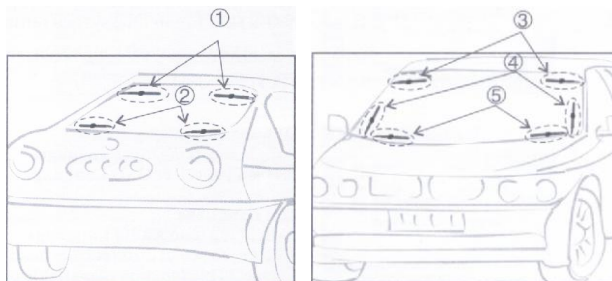
2 Setup

This chapter describes how to connect your receiver to the TV with the particular equipments for gaining optimum signal quality. The receiver provides various interfaces to connect to the TV or other devices. Select the most appropriate procedure depending on the equipment you have.

Note: If you encounter any problems setting up your receiver, please contact your local receiver distributor or manufacturer VCAN.

2.1 Connecting the Antenna

Connect your aerial to the ANTENNA IN as follows.





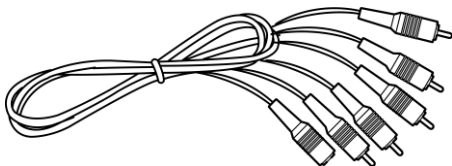
2.2 Connecting the TV

2.2.1 Using HDMI Cable

The HDMI connection is recommended for Digital TV. In case the TV has a HDMI input connector, a special all-digital interface that provides the highest picture quality, connect the receiver to the TV with the HDMI cable.

2.2.3 Using RCA Cable

Connect the receiver and the TV using an RCA cable.



2.3 Powering On

1. Connect the power cord of the receiver to car battery or Car cigarette lighter.
2. Push on the power button located at remote control.

3 Installation Wizard

If you are using the receiver at the first time or have restored the receiver to Factory Default, the Installation Guide Menu will appear on your TV screen.



- (1) [OSD Language]: Press RIGHT/LEFT key to select a language.
- (2) [Country]: Press RIGHT/LEFT key to select your country of residence.
- (3) [Channel Search]: Press RIGHT or OK key to begin Automatic channel search.
- (4) Once channel tuning is complete, you can start watching TV programs.

4 Basic Operation

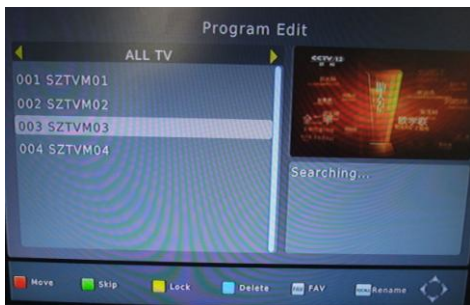
4.1 Program Manage Settings

To access the Menu, press the MENU button and select [Program] using the RIGHT/LEFT keys to navigate through the menu. The Menu provides options to adjust the Program Manage Settings. Select an option and press OK or RIGHT to adjust the setting. Press the EXIT button to exit the Menu.



(a) Program Edit

To edit your program preferences (lock, skip, favorite, move or delete), you will need to enter the Program Edit Menu. This Menu requires a password to access. The default password is '000000', while the master unlock password is '888888'.



Set Favorite Channels

You can create a shortlist of favorite programs that you can easily access. Set Favorite TV or Radio program:

1. Select your desired channel then press the FAV button. A heart-shaped symbol will appear and the channel is marked as a favorite.
2. Repeat the previous step to select more Favorite channels.
3. To confirm and exit the Menu, press the EXIT key.

Disable Favorite TV or Radio:

Select the Favorite channel and press FAV button on the remote control to cancel.

View Favorite Channel

1. While in normal viewing mode, press FAV button and the Favorite Menu will appear.
2. Press UP/DOWN to browse through your Favorite Channels

3. Press OK to select your favorite channel.

Delete a TV or Radio Program

1. Select the Program and then press the BLUE button. A warning message will appear.
Press OK to delete the channel.
2. Repeat the previous step to select more channels to delete.

Skip TV or Radio Channel

1. Select the channel you would like to skip and press the GREEN button. A skip symbol is displayed. The channel is marked as a skip.
2. Repeat the previous step to skip more channels.
3. To save your settings and exit the menu, press EXIT key.

Disable the Skip Channel function:

Select the skip channel and press the GREEN button on the remote control to cancel.

Move a TV or Radio Program

1. Select the preferred channel then press the RED button. A move symbol will appear.
2. Press UP/DOWN to move the channel.
3. Press OK to confirm.
4. Repeat the above steps to move more channels.

Lock Program

You can lock selected programs for restricted viewing.

Lock a TV or Radio channel

1. Select the preferred channel then press the YELLOW button. A lock-shaped symbol is displayed. The channel is now marked as locked.
2. Repeat the previous step to select more channels.
3. To confirm your settings and exit the menu, press the EXIT button.
4. Press the YELLOW button to disable the locked channels function.
5. To view the locked channels, you will be required to enter either the default password '000000' or your last set password. The master unlock password is '888888'.

(b) EPG (Electronic Program Guide)

The EPG is an on-screen TV guide that shows scheduled programs seven days in advance for every tuned channel. Press the EPG button on the Remote Control to access the guide.

You can use the UP/DOWN key to select the preferred program. If there is more than one page of information, use the BLUE button for page up and the YELLOW button for page down.

(c) Sort

Sort your channels from the following options:

[By LCN] - Sort the channels in ascending order.

[By Service Name] - Sort the channels in alphabetical order.

[By Service ID] - Sort the channels according to the station.

[By ONID] - Sort the channels according to ONID.

(d) LCN (Logical Channel Number)

Set LCN on or off.

4.2 Picture Setting

To access the menu, press MENU then select [Picture] using the RIGHT/LEFT key.

The Menu provides options to adjust the video setting. Press UP/DOWN to select an option and press RIGHT/LEFT to adjust that setting. Press EXIT to exit th



(a) Resolution

You can change this setting if the picture resolution does not appear to be correct.

This setting is to match the most common setting for HDMI.

[480P]: for NTSC TV system

[576P]: for PAL TV system

[720P]: for NTSC or PAL TV system

[1080I]: for NTSC or PAL TV system

[1080p50Hz]: for NTSC or PAL TV system

(b) TV Format

If the picture does not appear to be correct you can change this setting. This setting should match the most common setting for TVs in your country.

[NTSC]: for NTSC system TV.

[PAL]: for PAL system TV.

(c) video output

Video output channel switching

[RGB] : for output

[CVBS]: for output

[Ypbpr]: for output

4.3 Channel Search

To access the menu, press MENU and select [Search Channel] using the RIGHT/LEFT keys. This Menu provides options to adjust the Search Channel settings. Press

UP/DOWN to select an option and RIGHT/LEFT to adjust the settings. Press EXIT to exit Menu.



(a) Auto Search

This option will automatically search for channels and save them once the scanning is complete. All previously saved channels and settings will be deleted.

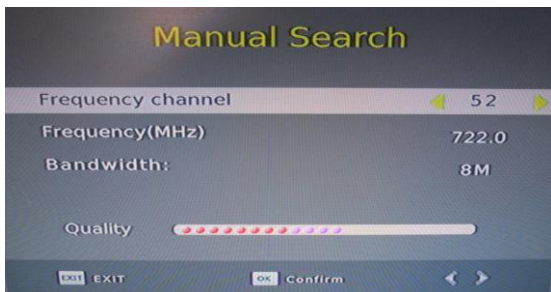
1. Select [Auto Search] and press OK or RIGHT to start channel search.
2. To cancel channel search, press EXIT. Any channels that have been found will be saved.



(b) Manual Search

This option allows you to scan for new channels without deleting previously saved channels and settings.

1. Select [Manual Search] then press OK or RIGHT. The channel search screen will appear.



2. Press the RIGHT/LEFT key to select the channel frequency.
3. Press OK to start searching channels.

If a channel is found, it is saved and added to the channels list. If channels can not be found during searching, the receiver will exit automatically.

(c) Country

Select your country of residence.

4.4 Time Setting

To access the Menu, press MENU select [Time] using the RIGHT/LEFT keys. The Menu provides options to adjust the time settings. Press UP/DOWN to select an option and press RIGHT/LEFT to adjust the setting. Press EXIT to exit the menu



(a) Time offset

Select auto or manual for GMT offset adjustments.

(b) Country Region

Select the Country Region when [Time Offset] is set to Auto.

(c) Time Zone

Select the Time Zone Offset when [Time Offset] is set to Manual.

(d) sleep

Sleep on/off

(e) power on/of

4.5 Option

To access the Menu, press MENU and select [Option] using the RIGHT/LEFT keys.

The menu provides options to adjust the OSD Language, Subtitle Language and Audio Language. Select an option and press RIGHT/LEFT to adjust the setting. Press Exit to exit the Menu.



(a) OSD (On Screen Display) Language

Select an OSD language.

(b) Subtitle Language

Select the preferred subtitle language.

(c) Audio Language

Select the preferred audio language for watching TV channels. If the language is not available, the default program language will be used.

(d) Digital Audio

Select digital audio output mode.

4.6 System Setting

To access the Menu, press MENU select [System] using the RIGHT/LEFT keys. The menu provides options to adjust the system settings. Press the UP/DOWN key to select an option and press RIGHT/LEFT to adjust the setting. Press EXIT to exit the Menu.



(a) Set Password

Set or change the password for locked programs. Enter your old password or the default password '000000'. You will then be asked to enter your new password. Press OK button to confirm your new password. Once it is confirmed, press EXIT to

exit the Menu. The master unlock password is '888888'.

(b) Restore Factory Default

Reset your Set Top Box to the Default Factory Settings. In Main Menu select [Restore Factory Default] using the RIGHT/LEFT keys and press OK or RIGHT to select. Enter your password or the default password '000000' and press OK to confirm.

This option will delete all preset channels and settings. The Master unlock password is '888888'.

(c) Information

View model, hardware and software information.

(d) Software update

(1)If the status is set 'ON ', it will scan new software from broadcast according to your preferred time in "Start time".

(1.1) Start Time

This is the time that the receiver will scan for software updates.

(2)USB update

System can be updated via USB

4.7 USB

To access the Menu, press the **MENU** button and select [USB] using the RIGHT/LEFT keys. The menu provides options to playback Music, Photo and Multimedia files. It can support AVI, MP3, WMA, JPEG and BMP etc formats. The receiver will only support USB device with FAT32 file system. It will not support NTFS file system.



(a) Multimedia

When a USB device is attached you can select from the Music, Photo or Movie options in this menu using the RIGHT/LEFT keys and OK to select. If a USB device is not connected, the warning message "No USB device is Found" will appear.



(b) Photo configure

-**Slide Time:** adjust slide show interval to 1~8 seconds.

-**Slide Mode:** adjust slide show effect as mode 0~59 or random.

-**Aspect Ratio:**

[Keep]: Play picture in its original aspect.

[Discard]: Play picture in full screen mode.

(c) Movie Configure:

- Aspect Ratio:

[Keep]: Play movie in its original aspect.

[Discard]: Play movie in full screen mode.

- Subtitle Specific:

[Small]: Displays the subtitle as small mode.

[Normal]: Displays the subtitle as normal mode.

[Big]: Displays the subtitle as big mode.

- Subtitle BG:

[White]: Displays the subtitle in white background.

[Transparent]: Displays the subtitle in transparent background.

[Grey]: Displays the subtitle in grey background.

[Yellowgreen]: Displays the subtitle in yellowgreen background.

- Subtitle Font Color:

[Red]: Displays Subtitle in red font.

[Blue]: Displays Subtitle in blue font.

[Green]: Displays Subtitle in green font.

Notes:

- We can't guarantee compatibility (operation and/or bus power) with all USB mass storage devices and assume no responsibility for any loss of data that may occur when connected to this unit.
- With large amounts of data, it may take longer for the system to read the contents of a USB device.
- Some USB devices may not be properly recognized.
- Even when they are in a supported format, some files may not play or display depending on the content.

5 Trouble Shooting

Problem	Potential Reasons	What to do
No picture	Power isn't connected	Connect the power
	The power switch is not on	Switch on the power
Screen shows "No Signal"	DVB-T cable not connected	Plug in the DVB-T cable
	Aerial cable is faulty	Check aerial cable and connections
No sound from speaker	No or incorrect connection with audio cable	Connect the audio cable correctly
	Sound on mute	Turn off mute function
Only sound, no image	No or incorrect connection with	Make sure cables are connected

on the screen	AV cable	correctly
	The program is a radio program	Press <TV/RADIO> key to shift into TV mode
Remote control is not working	The battery is exhausted	Change battery
	Remote control is not facing or close enough to the Set Top Box	Adjust the position of the Remote control and move closer to the receiver
Picture is breaking up	The signal is too weak	Check aerial cable and connections

6 Technical Specifications

Item	Sub Item	Parameter
Tuner	Input Frequency	48~862MHz
	RF Input Level	-20~-82dBm
	RF Bandwidth	6MHZ, 7MHz, 8MHz
	Modulation	QPSK, 16QAM, 64QAM, 256QAM
Video	Decoder Format	MPEG4 AVC/H.264 HP@L4 MPEG2 MP@ML/HL
	Output Format	576P,720P,1080i,1080p50Hz
	Aspect Ratio	4:3, 16:9, Auto
	Output Port	HDMI(V1.3C), YPbPr, CVBS

Audio	Decoder Format	MPEG-1(layer1&1&2&3), WMA,
	Audio output	S/PDIF(Coaxial), RCAx2(L/R)
USB2.0	Supported Capacity	Unlimited
	Supported Media	MP3, WMA, JPEG, BMP, AVI
Power	Supply Voltage	12~24V
	Maximum Power	10W
	Consumption	
	Standby Power Consumption	<0.8W

7 Declaration of conformity

The manufacturer herewith declares the conformity of that product with the following directives and standards:

Low Voltage Directive 2006/95/EC

EN 60065:2002+A1:2006

EMC Directive 2004/108/EC

EN 55 013:2001+A1:2003+A2:2006

EN 55 020:2007

EN 61 000-3-2:2006

EN 61 000-3-3:2008

Model: DVB-T2

