D V B - T / T 2
Mobile DTV Receiver

Safety Instruction

Please read the following instructions carefully.
1. The power input is DC+12V~24V+/-10%.
2. Do not expose the receiver to rain , moisture, direct sunlight or do not place it near a heater.
3. Do not use liquid or aerosol cleaners. Use a light damp cloth for cleaning.
4. The hole on the bottom of receiver must be left uncovered to allow proper airflow to the unit.
5. Do not open or remove cover. Refer all servicing to qualified service personnel.

Main Features

* Fully compliant with DVB-T / DVB-T2 standards.
* PIG(Picture In Graphic) support.
* Channel editing function.
* Automatic and manual search.
* Stores over 500 channels.
* Provide electronic program guide(EPG)(option).
* Records programs to USB disk.
* OSD Teletext and VBI Teletext support.
* Support language options :
  1. English, Deutsch, French, Russian, Portuguese, Czech, Danish, Italian and Spanish total 9 Languages for Europe version.
  2. English, Deutsch, French, Czech, Persian, Arabic, Hebrew, Danish and Italian total 9 Languages for Middle East version.
  3. English&Thai for Thai Version
* USB Supports the play of JPEG/MP3/MP4/RMVB play (AVI/MPG/ DAT/ VOB) and software upgrade.
* Remark: Some special USB and MP4 format can not fully support.

Specification

RF Input: UHF: 470 MHz~862MHz
VHF: 174 MHz~230MHz(option)

Input Impedance: 75Ω
Signal Level: -80dBm~ -10dBm
Connector Type: F type terminal x 2
Channel Band Width: 6M/7M/8M
Constellation: QPSK , 16QAM, 64QAM , 256QAM(T2 only)
Guard Interval: T: 1/4,1/8,1/16,1/32
T2: 1/4,1/8,1/16,1/32,1/128,19/128,19/256

FEC: T:1/2,2/3,3/4,5/6,7/8
T2:1/2,3/5,2/3,3/4,4/5,5/6
COFDM Carrier Mode: T: 2K And 8k Non Hierarchical /Hierarchical
T2: 1K,2K,4K,8K,16K,32K
Transport Stream: MPEG-4 AVC/H.264 HP@L4
MPEG-2 MP@HL/ML

Video Aspect Ratio: 4:3 /16:9
Video System: PAL / NTSC
Video Output: 1±0.3Vpp
HDMI: 1.4a Output Interface

Video Resolution:720*576@25fps/720*480@30fps/HD
HDMI Resolution: 1920x1080p/1920x1080i
Audio Decoder: MPEG-2 / HE_AAC(DD/DD+optional)
Audio Channel: R/L/ST
Audio Output: 1Vpp 47Kohm Adjustable With E Volume
Power Cable And Jack: 4Pins:
1.DC+12~24V Input
2.ACC
3.Parking Switch
4.GND

DIN Jack for Video Output: Videox2, GND (DTR-1513/1516)
IR Extension Jack: For IR Extension Box
A/V Output Jack: Video RCA Jack x1, Audio RCA Jack (R/L) x2
Upgrade and Multimedia Port: USB
A/V Input Jack: Video RCA Jack x1, Audio RCA Jack (R/L) x2
ANT1, ANT2 Input Jack: IEC169-24, Female F Type
Operating Temperature: -10℃ ~ +50℃

Storage Temperature: -40℃~+65℃
Power Supply: DC+12V~24V±10%
Power Consumption: Running : 6W Max. (DC12 in)
　　　　　　　　　　　Standby : 1.8W Max. (DC12 in)
Dimension: 172(L)*94(W)*25(H) mm(DTR-1513/1516 series)
　　　　　　 180(L)*97(W)*29(H) mm(DTR-1517 series)

Packing Size (GIFT BOX):
　　　　　　　　270(L)*240 (W) *45(H)mm (DTR-1513/1516)
　　　　　　　　280(L)*235 (W) *50(H)mm (DTR-1517)

Weight: DTR-1513/16 N.W.: 0.25Kg±10% ,G.W.: 0.651Kg±10%
　　　　　DTR-1517 N.W.: 0.22Kg±10% ,G.W.: 0.62Kg±10%

Accessories: 1.Remote control unit(RCU) x1
　　　　　　　 2.Power supply wirex1
　　　　　　　 3.Extended R/C box x1
　　　　　　　 4.AV wire x1
　　　　　　　 5.4pins DIN plug with RCA wires (DTR-1513/1516)
　　　　　　　 6.User's manual x1
　　　　　　　 7.Active antenna (Option)

Contents

16. Games

If you want to have a rest or to relieve you self after hard working,
you can play some games attached in the system.
There are 6 kinds of games.
Game: Tetris, Boxman, Snakes, Gobang, Reversi, Jigsaw.

17. Software Upgrade

You can update the software of the receiver with USB port.
New software version can improve performance or solve the problem.
1.Copy the upgrade file into USB disk.
2.Get into system item of software update function.
3.Select upgrade file and press "OK" to confirm the update.
During upgrade progress, don't take off the power supply .Otherwise
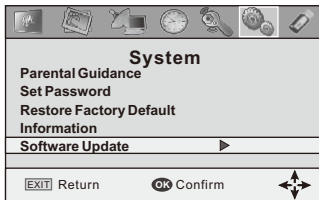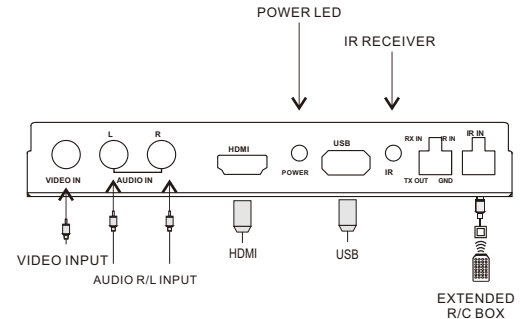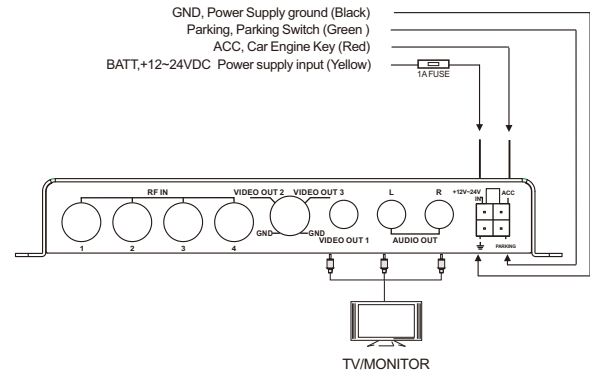the system will fail and can not power on any more.

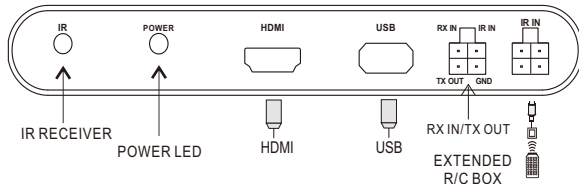
Figure 7

Front and rear panel
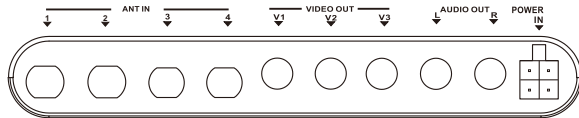
Front (DTR-1513/1516)

Rear (DTR-1513/1516)

Front and rear panel

Front (DTR-1517)

IR POWER HDMI USB RX IN IR IN IR IN
TX OUT GND

IR RECEIVER
POWER LED
HDMI
USB
RX IN/TX OUT
EXTENDED
R/C BOX

Rear (DTR-1517)

ANT IN VIDEO OUT AUDIO OUT POWER
1 2 3 4 V1 V2 V3 L R IN

1. For car use: Connect the BATT wire to car battery and connect ACC
   wire to ACC switch of car.
2. For home use: Put BATT and ACC wire together and connect to
   B+12~24V DC.
3. GND must connect to ground or battery- .

15. Multimedia Function
There are 4 main functions in USB multimedia function.
They are Music ,Photo ,Movie and PVR.

Multimedia

Music Photo Movie PVR
Not Find Any USB Devic

OK Select   EXIT EXIT   ◄ ► MOVE

Figure 6

USB Music
Choose USB Music option, press "OK" key to confirm.
Press "OK" key to enter next directory.
Follow the bottom key guide to operation.

USB Photo
Choose USB Photo option, press "OK" key to confirm.
Press "OK" key to enter next directory.
Follow the bottom key guide to operation.

USB Movie
Choose USB Movie option, press "OK" key to confirm.
Press "OK" key to enter next directory.
Follow the bottom key guide to operation.

PVR Playback
If the pre-recorded file in the USB disk, then you can select the
file and playback.

13. Time

In time menu, there are two time modes, one is Auto setting: the other is Manual setting. The system defaults the setting as Automatic.

14. Language Option

1. The OSD supports multi-language :

  (1) English, Deutsch, French, Russian, Portuguese, Czech, Danish, Italian and Spanish total 9 Languages for Europe version.

  (2) English, Deutsch, French, Czech, Persian, Arabic, Hebrew, Danish and Italian total 9 Languages for Middle East version.

  (3) English&Thai for Thai Version

2. The audio language support 26 kinds of language :

  (1) Parental Guidance

    Enter password to get into age grade setting, you can select off or setting viewing age like 04、05、06……18 years old.

  (2) Parental Lock

    You can revise system Password, Enter Parental Lock menu.

    1. Press the 0-9 number key on remote controller to input Old Password, the system defaults Password as "000000".

    2. Enter new password

    3. Enter new password again.

  (3) Factory Default

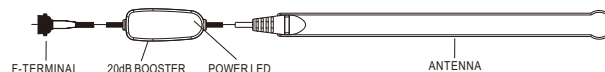   Press OK to return original factory default setting.

    You need enter password (Default password is "000000")

  (4) Version information

    The information included H/W Version, S/W Version, Tuner Type and Date. Press "EXIT" key to return previous menu.
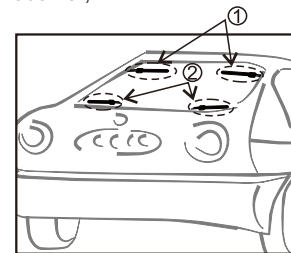
ANT Installation

1. ANT-373 Structure:

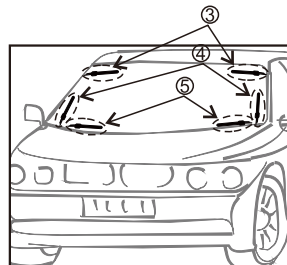F-TERMINAL   20dB BOOSTER   POWER LED   ANTENNA

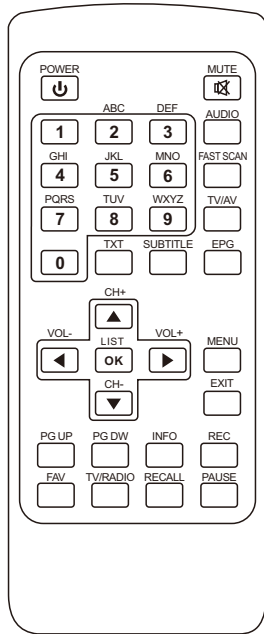### 2. ANT-373 Installation:

1. Tint film (sunshine shield film) will cause poor reception due to it has a metallic coating. Install antenna on a clear window position.

2. Set the antenna power supply to "ON" in the setup manual of receiver, and go channel manager to check the signal strength and quality. Move antenna to a best position.

3. The five install locations are just for your reference.

- POWER: ⏻
  Switch the receiver between stand-by & on mode
- MUTE 🔇:
  Mute the audio output
- Numeric Keys(0~9):
  For direct entry of channel number or input of alphanumeric characters
- AUDIO:
  Switch the audio language if transmitting more then one language and Select the different audio modes
- FAST SCAN:
  Searching all channels quickly
- TV/AV:
  Select between TV and AV mode
- EPG (Electronic Program Guide):
  Call up the EPG function
- TXT:
  Display on the teletext contents of the viewed channel, if teletext is transmitted
- SUBTITLE:
  Switch the subtitle on if the subtitle is transmitted on this channel
- CH(▲/▼):
  Change channels sequentially up or down in viewing mode and move to the next higher or lower item in the menu
- VOL(▲/▼):
  Alter the Audio output level up or down in viewing mode or move to the left or right item in the menu

POWER **MUTE**
ABC DEF **AUDIO**
1 2 3
GHI JKL MNO **FAST SCAN**
4 5 6
PQRS TUV WXYZ **TV/AV**
7 8 9
TXT SUBTITLE EPG
0
CH+
VOL- LIST VOL+ **MENU**
◄ OK ►
CH- **EXIT**
PG UP PG DW INFO REC
FAV TV/RADIO RECALL PAUSE

10. Main Manual
Press "Menu" key to enter the Menu function of the system.
You can set or select all DVB-T functions by this Menu.
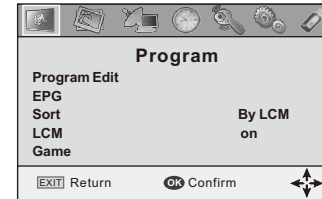The bottom line shown all related key for the operation.

Program
Program Edit
EPG
Sort   By LCM
LCM   on
Game

EXIT Return   OK Confirm

Figure 4

11. Program Edit
1.System offer an efficient function of program edit such as Channel Move, Skip, Lock, Delete, Favorite and Rename.
2.Program listing
  There are 3 kinds of programs listing: channel name, service ID or LCN.

12. Picture
1.TV Mode can be set as PAL or NTSC.
2.Aspect Ratio can be set as AUTO/4:3 FULL/ 4:3 Pan Scan/ 4:3 Letter Box/16:9 WIDE.
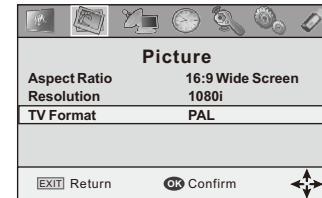3.Resolution:1080p/1080i/576i/576p/720p.

Picture
Aspect Ratio   16:9 Wide Screen
Resolution   1080i
TV Format   PAL

EXIT Return   OK Confirm

Figure 5

4. Program List

1.Press "CH+/-" to switch to the previous or next program.
2.Press "OK" to switch to the speediness program list,
Select different program as you want and Press "OK" to confirm program Selection.
3.Press number keys to input program number.

5. Information

Press "INFO" key to show the information of current programs when it is in normal playing state. Press again to show more detail information.

6. Program Return

Press "RECALL" key under state of full-screen to return to the previous program played.

7. Audio Language Switch and L/R Channel Switch

Press "AUDIO" key to switch the language of current program and switch among "stereo" → "Left" → "right" .

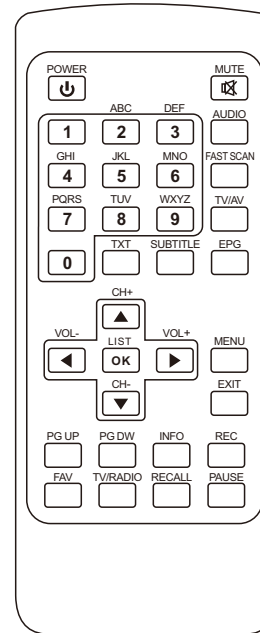## 8. Electronic Programs Guide(EPG)(option)

You can press "EPG" key on the remote controller to enter into the EPG page. The bottom Line shows hint information for keys, corresponding to the functions

9. Recording

Insert the USB disk to USB port and press "REC" key to record the current viewing program into USB disk.
TV/AV
Press "TV/AV' key to switch between TV or AV IN function..

- OK/LIST:
 Select an item or confirm a choice.
 A list will enter the channel in viewing mode
- MENU:
 Access the main menu
- PG UP/ PG DN:
 Move up/down a page in the channel list. Shown movie playing speed while playing .
- INFO:
 Display information on viewed channel
- EXIT:
 To return to previous status or exit
- REC
 Record the programs to USB disk
- FAV (RED):
 Select the favorite channels
- TV/RADIO(GREEN):
 Switch between TV and radio mode
- RECALL(YELLOW):
 Go back to the previously viewed channel
- PAUSE(BLUE):
 Press once to pause the screen picture, press once again to resume normal mode

Basic Functions

1. Enter into system and power on-off

Before start the system, please check all wiring and ANT installation.

```
        Installation Guide

OSD Language        ◄   English  ►

Country                    Germany
Channel Search




EXIT  EXIT        OK Confirm       ✦
```

Figure 1

When power on the unit in first time, the picture will show the OSD language, country and channel search. After language and country setting. then go channel search to scan all available TV programs. Press "OK"key to start.

There are three kinds of scan mode as follow:

1. Auto Search
2. Manual Search
3. fast scan.

Auto Search

You can move the cursor to "Auto Search" and press the "ok" key to start scan all available programs in the area you are.

```
        Channel Search
Auto Search
Manual Search
Country                    Germany
Antenna Power              Off


EXIT  Return       OK Confirm      ✦
```

Figure 2

Manual Search

If you know the frequency channel, after set the country.
You can select manual search.

1. You can move the cursor to "manual search" via press "CH+/-" key
2. select the country via press "vol+/-" key.

Then you need set antenna power to "on" .
(1) Enter channel NO. by press key NO.0-9.
(2) Press "OK" key after configuration of start manual scan.

```
        Manual Search

Channel No.         ◄    22     ►
Frequency:               482000
Bandwidth                8M

Quality      ▭▭▭▭▭▭▭▭
Strength     ▭▭▭▭▭▭▭▭

EXIT  EXIT        OK Confirm       ↔
```
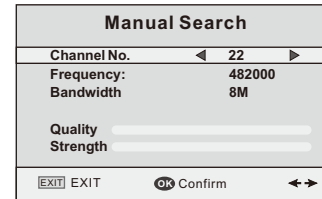
Figure 3

Fast Search

Press "FAST SCAN" key on remote controller to start.
If any program is detected and scanning process is finished, system will exit the scanning page and to play them in window automatically.

2. Volume Adjustment and Mute

1. Press "VOL+/-" to adjust volume when system is in normal playing mode and it will show volume bar on the image.
2. Press "MUTE" to enter into the mode when in normal playing and repress "MUTE" to back the normal state.

3. TV/RADIO Programs Switch

Press "TV/RADIO" to switch the programs.