



DIGITAL TV TUNER UNIT

TUE-T220DV

- QUICK REFERENCE GUIDE
Please read before using this equipment.

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DVB T2
TERRESTRIAL

DOLBY AUDIO™

HDMI™
HIGH DEFINITION MULTIMEDIA INTERFACE

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Operating Instructions

WARNING

Points to Observe for Safe Usage

- *Read this manual carefully before using the product. It contains instructions on how to use this product in a safe and effective manner. Alpine cannot be responsible for problems resulting from failure to observe the instructions in this manual.*
- *This manual uses various pictorial displays to show you how to use this product safely and to alert you to potential dangers resulting from improper connections and operation. Following are the meanings of these pictorial displays. It is important to fully understand the meanings of these pictorial displays in order to use this manual and the system properly.*

WARNING

- Operation of the system while driving is dangerous. Users should stop the vehicle before operating the product.

WARNING

- **This symbol means important instructions. Failure to heed them can result in serious injury or death.**

INSTALL THE PRODUCT CORRECTLY SO THAT THE DRIVER CANNOT WATCH TV/VIDEO UNLESS THE VEHICLE IS STOPPED AND THE PARKING BRAKE IS APPLIED.

It is dangerous for the driver to watch TV/Video while driving a vehicle. Installing this product incorrectly enables the driver to watch TV/Video while driving. This may cause a distraction, preventing the driver from looking ahead, thus causing

an accident. The driver or other people could be severely injured.

DO NOT WATCH VIDEO WHILE DRIVING.

Watching the video may distract the driver from looking ahead of the vehicle and cause an accident.

DO NOT OPERATE ANY FUNCTION THAT TAKES YOUR ATTENTION AWAY FROM SAFELY DRIVING YOUR VEHICLE.

Any function that requires your prolonged attention should only be performed after coming to a complete stop. Always stop the vehicle in a safe location before performing these functions. Failure to do so may result in an accident.

MINIMIZE DISPLAY VIEWING WHILE DRIVING.

Viewing the display may distract the driver from looking ahead of the vehicle and cause an accident.

DO NOT DISASSEMBLE OR ALTER.

Doing so may result in an accident, fire or electric shock.

USE ONLY IN CARS WITH A 12 VOLT NEGATIVE GROUND.

(Check with your dealer if you are not sure.) Failure to do so may result in fire, etc.

MAKE THE CORRECT CONNECTIONS.

Failure to make the proper connections may result in fire or product damage.

BEFORE WIRING, DISCONNECT THE CABLE FROM THE NEGATIVE BATTERY TERMINAL.

Failure to do so may result in electric shock or injury due to electrical shorts.

**DO NOT MIX NEW BATTERIES WITH OLD BATTERIES.
INSERT WITH THE CORRECT BATTERY POLARITY.**

When inserting the batteries, be sure to observe proper polarity (+ and -) as instructed.

 **CAUTION**

- This symbol means important instructions. Failure to heed them can result in injury or material property damage.

HALT USE IMMEDIATELY IF A PROBLEM APPEARS.

Failure to do so may cause personal injury or damage to the product. Return it to your authorized Alpine dealer or the nearest Alpine Service Center for repairing.

HAVE THE WIRING AND INSTALLATION DONE BY EXPERTS.

The wiring and installation of this unit requires special technical skill and experience. To ensure safety, always contact the dealer where you purchased this product to have the work done.

ARRANGE THE WIRING SO IT IS NOT CRIMPED OR PINCHED BY A SHARP METAL EDGE.

Route the cables and wiring away from moving parts (like the seat rails) or sharp or pointed edges. This will prevent crimping and damage to the wiring. If wiring passes through a hole in metal, use a rubber grommet to prevent the wire's insulation from being cut by the metal edge of the hole.

DO NOT INSTALL IN LOCATIONS WITH HIGH MOISTURE OR DUST.

Avoid installing the unit in locations with high incidence of moisture or dust. Moisture or dust that penetrates into this unit may result in product failure.

KEEP SMALL OBJECTS SUCH AS SCREWS OUT OF THE REACH OF CHILDREN.

Swallowing them may result in serious injury. If swallowed, consult a physician immediately.

 **NOTICE**

Temperature

Be sure the temperature inside the vehicle is between +45°C (+113°F) and 0°C (+32°F) before turning your unit on.

Maintenance

If you have problems, do not attempt to repair the unit yourself.

Return it to your Alpine dealer or the nearest Alpine Service Station for servicing.

Fuse Replacement

When replacing the fuse(s), the replacement must be of the same amperage as shown on the fuse holder. If the fuse(s) blows more than once, carefully check all electrical connections for shorted circuitry. Also have your vehicle's voltage regulator checked.

Installation Location

Make sure the TUE-T220DV will not be exposed to:

- Direct sun and heat
- High humidity
- Excessive dust
- Excessive vibrations

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Antenna Installation

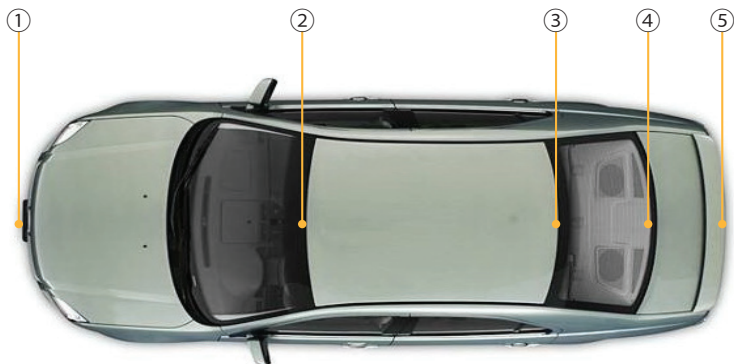
In-car digital TV reception situation will vary from vehicle to vehicle and the installer may need to try antenna mounting positions to determine the best position for most stable signal reception in vehicles.

Important Notes on Antenna Installation

For a better reception, please place the rod antenna horizontally, and keep the rod antenna away from metals.

Antenna Position

To optimize the TV reception performance, we recommend that one antenna is mounted at the front and one at the rear of the vehicle. Please refer to the diagram below for some recommended locations.



- ① Behind the Front Bumper. Note: Please make sure the bumper is not made of metal
- ② Top of the Front Windscreen, but at least 5cm away from the metal body of the car
- ③ Top of the Rear Windscreen, but at least 5cm away from the metal body of the car
- ④ Bottom of the Rear Windscreen, at least 5cm away from the metal body of the car
- ⑤ Behind the Rear Bumper (note: make sure rear bumper is not made of metal).

Note:

For position ② - ④, because the windshields of many cars are usually equipped with film coating (that contains metal), the actual signal reception may be degraded, depending on the degree of shielding provided by the coating.

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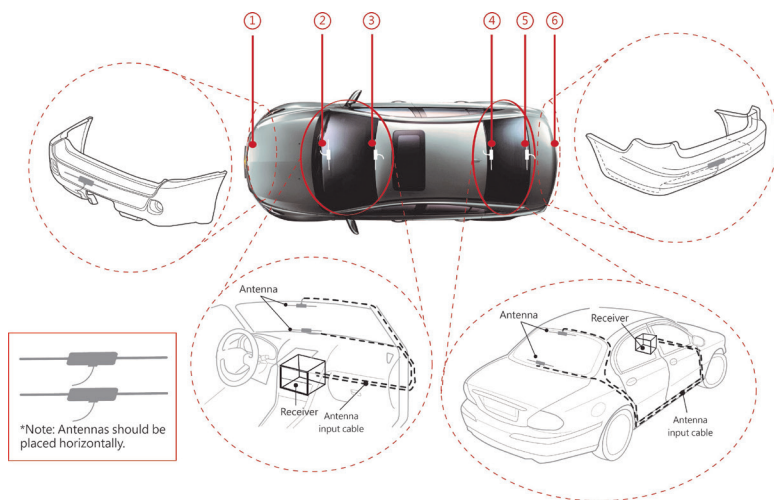
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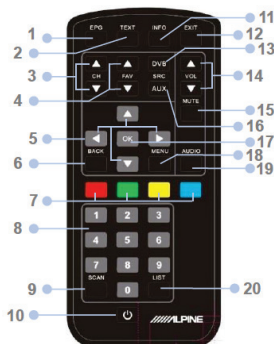
Antenna Cable Routing

Once a suitable position is found, carefully route the antenna cables to the receiver unit and then connect to the Antenna Inputs on the TUE-T220DV.



Remote Control

Remote Control Operation



1. EPG button

Press the button to enter the Electronic Program Guide

2. TXT button

Press the button to enter the Teletext menu.

3. CH+ / CH- buttons

Press these buttons to select the next/prev. preset service.

4. FAV+ / FAV- button

Press these buttons to select the next/prev. preset service.

5. ▲▼▶◀ buttons

Press the up/down buttons to navigate the OSD or to load the next/previous Teletext page.
Press the left/right buttons to navigate the OSD or to skip the next/previous 100 Teletext pages.

6. Back button

Press the button return to the previously selected service.

7. Teletext menu buttons

Navigate the Teletext shortcut menu by pressing these buttons.
In TV mode the yellow/blue button can

be pressed to select the next/previous favourite service.

8. Number buttons

Preset services and Teletext pages can be directly accessed by using the number buttons.

9. Scan button

Press the button to start the auto scan procedure.

10. Power button

Press the button to turn the DVB-T tuner unit on/off.

11. INFO buttons

Press the info button to show reception details of the currently selected service.

12. Exit button

Press the button to return from a menu.

13. TV/R button

Toggle TV and Radio Services (if available)

14. VOL+ / VOL- buttons

Press these buttons to adjust the volume output level.

15. Mute button

Press the button to switch on/off the audio output.

16. AUX button

17. OK button

Press the button to select a highlighted menu item or to confirm a number input.

18. Menu button

Press the button to enter the main menu.

19. Audio button

Press the button to enter the audio setup menu.

20. LIST buttons

Press the list button to show a list of all available services.

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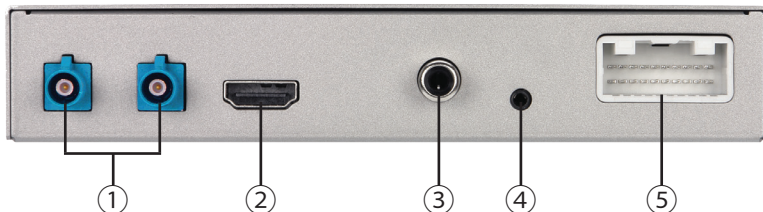
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Getting Started

Location of Connectors

Front



- ① ANTENNA INPUT: Antenna connection port (NOTE: this Antenna Input port also provides +5VDC output for powering the antenna LNA).
- ② HDMI OUT: HDMI signal output.
- ③ SPDIF OUT: SPDIF sound output.
- ④ REMOTE EYE INPUT: IR Remote input for optional remote eye KRE-500E.
- ⑤ POWER / AV: Combination of power input, ACC input, Remote input, CVBS, Video/Audio GND.

Rear



- ⑥ Service: For connection with USB stick or external hard disk to upgrade the system software.
- ⑦ OP: The green "Operating" LED indicates if the system is working or not.
- ⑧ PWR: The red "Power" LED indicates if the 12VDC power supply has been successfully applied to the device.

Turning Power On or Off

Turn the ignition key to the ACC or ON position.

When the unit is powered, the POWER LED indicator will be illuminated in red. Once the system initialization is completed, the Operating LED on the unit will be illuminated as green.

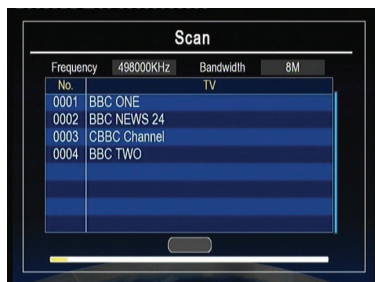
Initial System Start-Up

- 1 Complete the Setup Wizard by selecting your own OSD language, region of operation, and others.
 1. Use [▲]/[▼] buttons to navigate to the items.
 2. Use [OK] button to enter the options available of selected item.
 3. Press [▲]/[▼] buttons to scroll up and down the options.
 4. Pressing the [OK] button to select & enable the desired choice.
 5. Press [MENU] button to exit from current operation.



NOTE: Time zone setting will be automatically updated once the region setting is changed.

- 2 Execute auto search of available DVB-T and DVB-T2 TV channels.
 1. Use [▲]/[▼] buttons to Highlight the 'START' option.
 2. Press [OK] button to start auto TV search operation. The auto scan process will take a few minutes.



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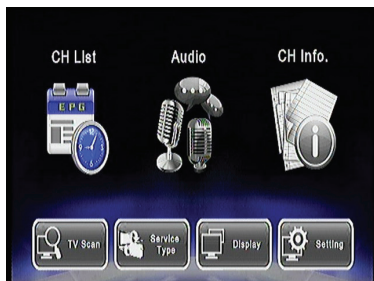
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Operation

Select a Channel from the Channel List

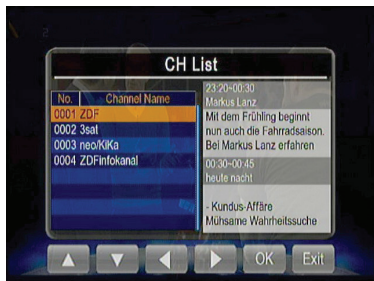
Press **[MENU]** to access all TV functions available, including channel list, audio settings, channel info, TV scan, service type, display setting and the TV setting.

The channel list function will list all available channel information for TV selection, program preview, and to access the Electronic Program Guide (EPG).



- 1 Select 'CH List' in the TV menu and press the **[OK]** button. The 'CH List' will appear on the screen. Scroll up/down the CH list to select the desired TV program.

NOTE: Pressing the **[List]** hot key on remote controller will allow quick access to the Channel List while watching TV.



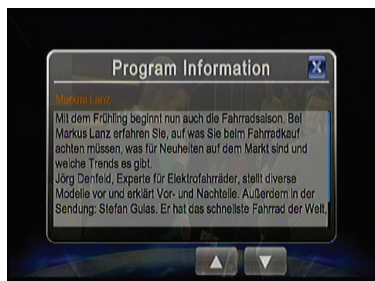
- 2 Press the **[▶]** key to view the EPG info of the selected TV programs as shown in the illustration.



- 3 Use [▲]/[▼] to select a TV program and press [OK] to view the program information.



- 4 Press the [EXIT] button to return to the 'Schedule' view. Press one more time to return to the 'Channel List'.



Channel Information (CH Info.)

Shows detailed parameters and signal information of the currently received channel.

- 1 Highlight the 'Channel Information' option and press the [OK] button to display the channel information.
- 2 Press the [EXIT]/[MENU] button to exit.



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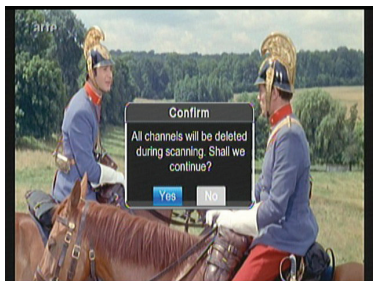
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Channel Scan

- 1 Highlight the 'Automatic Search' option to scan the available channels automatically.
- 2 Press the [OK] button to restart the channel search again. The previous TV channels will be deleted automatically if this function is executed.



Channel Sorting (CH sorting)

- 1 Select 'Channel sorting' in the TV settings and press the [OK] button. The channel manager screen will appear as shown in the illustration.
- 2 Scroll up/down the channel list. Press the [OK] button to enter the editing menu for the chosen channel. Options are: skip, move and delete functions.
- 3 Press [EXIT]/[MENU] button to exit anytime.



Skipping a Channel

- 1 After entering the channel editing menu, select the 'SKIP' button on the screen by pressing the [▶]/[◀] buttons.
- 2 Press the [OK] button to activate or deactivate it.

NOTE: this function temporarily removes the channel from the program list. The user can restore the channels by deactivating the function.

Move Channels

- 1 After entering the channel editing menu, select the 'MOVE' button on screen by pressing the [▶]/[◀] buttons.
- 2 Use the [▲]/[▼] buttons to move the channel up or down in the list.
- 3 Press the [OK] button to save the new listing.

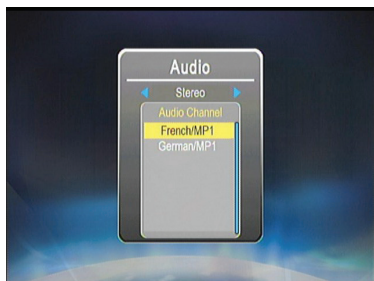
Channel Delete

- After entering the channel editing menu, select the 'DELETE' button on the screen by pressing the [▶]/[◀] buttons.
- Press the [OK] button to delete the channel.

NOTE: this function will permanently delete the channel from the current program list. Users will only restore the previous channels back by performing the auto search again.

Audio

- Highlight the 'Audio' option on the TV menu screen and press the [OK] button to enter the 'Audio'.
- Select the stereo/left/right audio channel and scroll the available languages. Press the [OK] button to select the language of the current service.
- Press the [EXIT]/[MENU] key to exit.

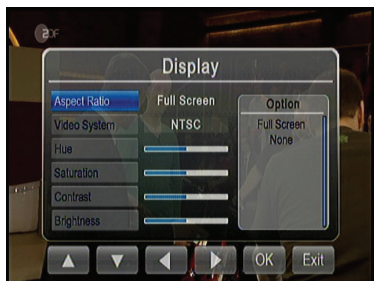


Service Type

To toggle between TV and Radio service (where available).

Display

- To adjust the image to your preferences, highlight the item you want to change.
- Press the [OK] button to activate your settings.
- After adjusting, press the [EXIT]/[MENU] button to exit the 'Display' menu.



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System Settings

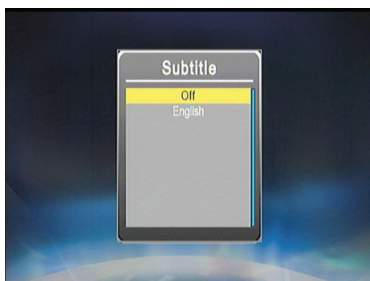
In the System Settings, the users can adjust the channel sorting, subtitle setting, teletext, antenna power, AFS setting, country/language settings, HDMI settings, reset to factory default, and proceed to a software upgrade.

Use the [▲] and the [▼] buttons to highlight the desired item and press the [OK] button to select one item.



Subtitle

- 1 Highlight the 'Subtitle' option and press the [OK] button to enter the 'Subtitle' menu.
- 2 Scroll the available languages and press the [OK] button to activate the subtitle.
- 3 Press the [EXIT]/[MENU] key to exit.



Teletext

- 1 Highlight the 'Teletext' option and press the [OK] button to enter 'Teletext'.
- 2 Press the [▲] button to view the next page or the [▼] to view the previous teletext page.
- 3 Press the numerical key buttons to jump to a specific teletext page.
- 4 Press the [EXIT]/[MENU] key to exit.

Antenna power

To set up the antenna power

- 1 Highlight the 'Ant.Power' option on the Setting screen and press the [OK] button to enter the 'Antenna Power' menu.
- 2 Press the [OK] button to select the power.

Note: if the power is set to 'on', it means that the antenna will be supplied with +5VDC to drive the antenna's amplifier. For the supplied antennas, we suggest to keep this antenna power on.

- 3 Press the [MENU]/[EXIT] button to exit.

AFS Setting

As a TV program may be broadcasted using different frequencies at different places (within its service area), users who intend to continuously watch a TV program may need to tune to a different frequency when moving out of the existing cell. Traditionally, this tuning was carried out by users manually. AFS (Automatic Frequency Switching) is a function intended to provide users an uninterrupted viewing of certain TV channels by automatically switching the TV frequency when needed.

- 1 Highlight the '**AFS Setting**' option on the Setting screen and press the [OK] button to enter '**AFS Setting**' menu.



- 2 When selecting '**On**', another screen will open, allowing to select the '**AFS Idle Time**'. This setting can be changed between 30 sec to 10 minutes. This suppresses unwanted ping-pong effects when driving along in mountain regions with many tunnels.



- 3 Press the [MENU]/[EXIT] button to exit

Country/Language

- 1 Highlight the item you want to adjust.
- 2 Select one option by pressing the the [OK] button or exit the setting by pressing the [EXIT]/[MENU] button.
- 3 After adjusting, press the [EXIT]/[MENU] button to exit the '**Country/Language**' menu.



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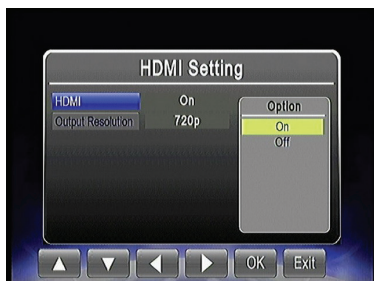
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HDMI Setting

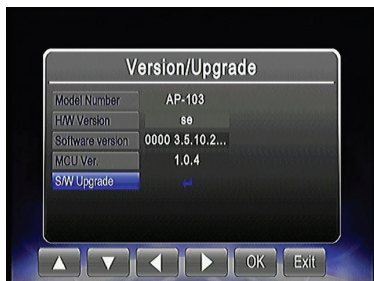
- 1 Highlight the option that you want to adjust.
- 2 Select one by pressing the [OK] button or exit the setting by pressing the [EXIT]/[MENU] button.
- 3 After adjusting, press the [EXIT]/[MENU] button to exit the 'HDMI Setting' menu.



Version / Upgrade

To upgrade the software version

- 1 Insert the USB device containing the software upgrade file into the USB slot.
- 2 After entering the Version/Upgrade menu, press the [OK] button to start the upgrade.



Reset Default

To reset all settings to factory default

- 1 Highlight the 'Reset Default' option and press the [OK] button to reset system settings to factory default.
- 2 Press the [EXIT] button or select [NO] to exit.

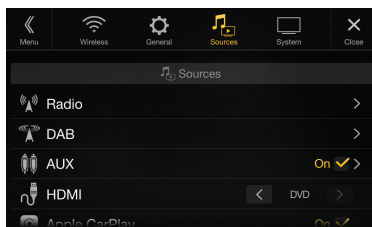


Setting up your Alpine Unit

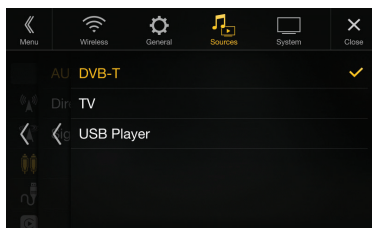
Enabling Direct Touch Operation

In order to enjoy Direct Touch control, the connected AV/ AVN unit needs to support this feature. Usually 'Direct Touch' needs to be enabled in the unit's setting menu.

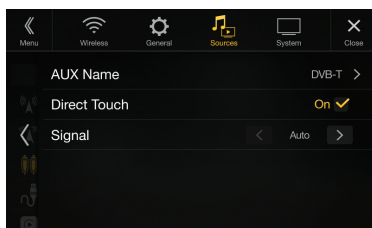
- 1 Go to '**Settings**,' '**Audio**,' '**AUX**' and enable the AUX input.



- 2 When the AUX input is enabled, the option '**AUX Name**' becomes available. Select '**DVB-T**' from the menu.



- 3 When '**DVB-T**' was selected, the '**Direct Touch**' setting becomes available. Make sure to set '**DirectTouch**' to '**On**'.



Note: Direct Touch is currently not available for HDMI connections. Consult the owner's manual of your Alpine Unit for details regarding the connection.

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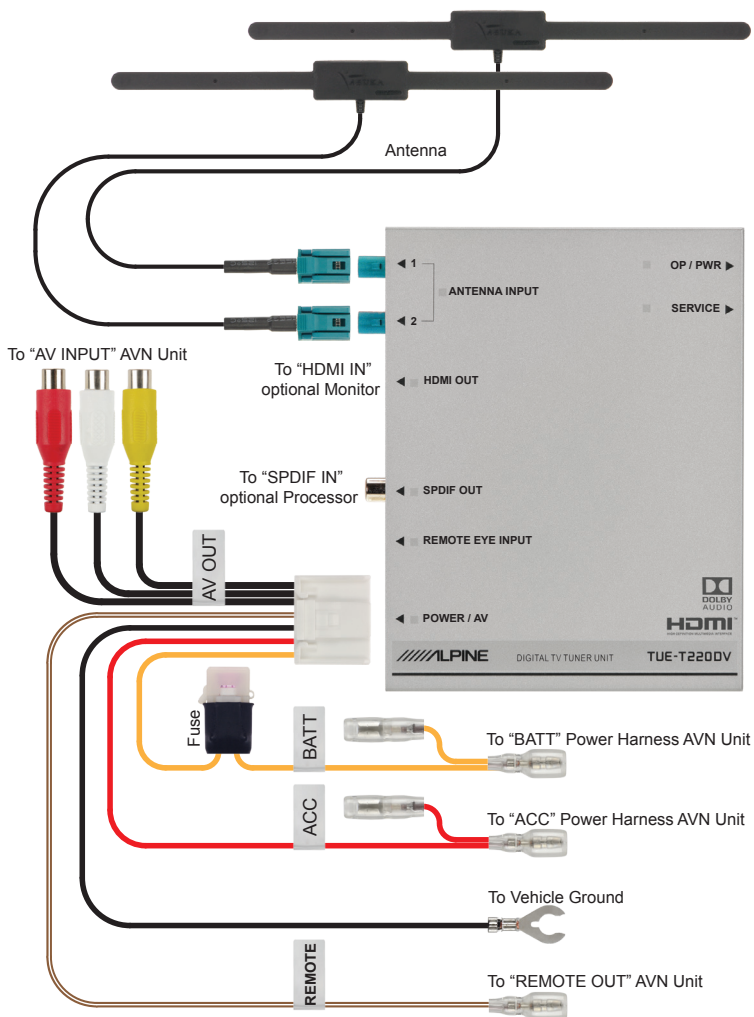
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Connections



Specifications

RF Input	
Antenna	Active antenna supported (Fakra Connector type)
Frequency range	VHF (170-230 MHz) and UHF band (470-862 MHz)
RF input impedance	75 Ohms
Channel bandwidth	6/7/8 MHz
TV System	
Transmission standard	ETSI EN 302-755 v1.4.1 standard Support all DVB-T2 modes; Single and multiple-PLPs, SISO and MISO transmission
Video/Audio decoder	Real time 1080p50 Full-HD Video Decoder: MPEG-2(ISO/IEC 13818-2) SD& HD H.264 (MPEG-4 AVC, ISO/IEC 14496-10) SD & HD H.265 (HEVC, ISO/IEC 23008-2) SD & HD
Software Features	
OSD Language	English, French, German, Italian, Spanish, Portuguese, Russian, Czech, Slovak, Greek
Features	DVB-T2 TV, Auto Channel Search, Multi-Language EPG, Channel Preview, Teletext, Subtitle
Interface	
POWER / AV	12VDC, negative ground, analogue Video- and Audio-Out-puts, remote connection
Digital Video Output	HDMI
Digital Audio Output	SPDIF
Remote Port	Alpine compatible IR
Service Port	USB 2.0 host supported (for software upgrade)
Power	
Input voltage	+11-16VDC
Power consumption	4.4W typical (at 25°C), 6W max (at 85°C),
Dimensions and Weight	
Dimensions	154mm x 119mm x 27.5mm
Weight	~ 470g (Main unit)

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**Information on Disposal of Old Electrical and Electronic Equipment
(applicable for countries that have adopted separate waste collection systems)**

If you want to dispose this product, do not mix it with general household waste. There is a separate collection system for used electronic products in accordance with legislation that requires proper treatment, recovery and recycling. Contact your local authority for details in locating a recycle facility nearest to you. Proper recycling and waste disposal will help conserve resources whilst preventing detrimental effects on our health and the environment.

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