



KAC_CMD-CTR



- OWNER'S MANUAL

Please read before using this equipment.

- MODE D'EMPLOI

Veuillez lire avant d'utiliser cet appareil.

- MANUAL DE OPERACIÓN

Léalo antes de utilizar este equipo.

Thank you for purchasing this Alpine product. Please take a moment to protect your purchase by registering your product now at the following address: www.alpine-usa.com/registration.

You will be informed of product and software updates (if applicable), special promotions, news about Alpine.

Merci d'avoir acheté ce produit Alpine. Nous vous invitons à consacrer un moment à la protection de votre achat en enregistrant votre produit dès maintenant à l'adresse suivante : www.alpine-usa.com/registration. Vous serez tenu informé des mises à jour des produits et des logiciels (le cas échéant), des promotions spéciales et de l'actualité d'Alpine.

Gracias por adquirir este producto Alpine. Con solo unos pocos pasos podrá proteger su producto, registrándolo a través de la siguiente dirección: www.alpine-usa.com/registration. Recibirá información sobre nuevos productos y software, promociones especiales y novedades sobre Alpine.

ALPS ALPINE NORTH AMERICA, INC.

1500 Atlantic Blvd,
Auburn Hills, Michigan 48326, U.S.A. Phone 1-800-ALPINE-1 (1-800-257-4631)

Designed by ALPINE USA



Contents

Operating Instructions PRECAUTIONS

IMPORTANT INFORMATION.....5-8

WARNING

Points to Observe for Safe Usage.....5-8

Getting Started

Location of Controls 9

Turning Power On or Off.....9

Turning the System On9

Adjusting the Volume.....10

Adjusting the Sub Volume.....10

Switching Source.....11

Radio

Listening to the Radio11

Presetting Stations Manually12

Presetting Stations Automatically12

RDS on/off12

USB Flash drive (Optional)

Playback.....13

Fast-forwarding/Rewind

(USB Audio)14



Repeat Play (USB Audio)14

Shuffle Play (USB Audio)14

Bluetooth® Operation

Setup Before Using.....15

About Bluetooth15

Before Using Bluetooth.....15

Bluetooth® Audio

Playback.....16

AUX Operation (Optional)

AUX Operation17

Camera Operation (Optional)

Camera Operation17

Dimmer

Dimmer17

Menu Functions

EQ.....18-20

Fader/Balance.....21

Adjusting the Crossover Settings (X-Over)21-22

Screen/Lighting Dimmer22

Voltage Gauge.....22

Key Sound.....22

Tuner Region.....22

Language Setup.....22

Software Version 23



Product Information.....23

Updating the Software version.....23

Factory Reset 24

Software License.....30

Information

About the Supported Formats.....25

About Audio Format.....24-25

In Case of Difficulty.....26-27

Specifications27-28

Installation and Connections

WARNING 28

CAUTION 29

Precautions..... 29

Accessory List30

Installation30

Caution concerning the installation location...30

Installation example using the Original

Mounting Bracket.....30

Connections 31

If an ACC power supply is not available.....32

Warranty.....33-37



Operating Instructions

PRECAUTIONS

IMPORTANT INFORMATION

FCC COMPLIANCE STATEMENT

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 more reasonable protection against harmful interference in a residential installation and are more stringent than “outdoor” requirements.

Operation is subjected to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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, you are encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult an experienced radio/TV technician.

WARNING

Points to Observe for Safe Usage

- *Read this manual carefully before using this system components. They contain 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.*
- *This product may be used with software applications. Please follow all usage instructions and warnings when using this product at*



all times. Do not use this product or any software application in a manner which will hinder safe operation of your vehicle.

WARNING

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.

KEEP THE VOLUME AT A LEVEL WHERE YOU CAN STILL HEAR OUTSIDE NOISES WHILE DRIVING.

Excessive volume levels that obscure sounds such as emergency vehicle sirens or road warning signals (train crossings, etc.) can be dangerous and may result in an accident. LISTENING AT LOUD VOLUME LEVELS IN A CAR MAY ALSO CAUSE HEARING DAMAGE.

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 APPLICATIONS WITH A 12 VOLT NEGATIVE GROUND. (Check with your dealer if you are not sure.) Failure to do so may result in fire, etc.

- **Operation of the system while driving is dangerous. Users should stop vehicle before operating the software.**
- **Road conditions and regulations take precedence over information contained on the map display: observe actual traffic restrictions and circumstances while driving.**
- **This software is designed for use exclusively in the unit. It cannot and may not be used in conjunction with other hardware.**

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.

USE THE CORRECT AMPERE RATING WHEN REPLACING FUSES. Failure to do so may result in fire or electric shock.

DO NOT BLOCK VENTS OR RADIATOR PANELS. Doing so may cause heat to build up inside and may result in fire.

USE THIS PRODUCT FOR MOBILE 12V APPLICATIONS. Use for other than its designed application may result in fire, electric shock or other injury.

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 ALLOW CABLES TO BECOME ENTANGLED IN SURROUNDING OBJECTS. Arrange wiring and cables in compliance with the manual to prevent obstructions when driving. Cables or wiring that obstruct or hang up on places such as the steering wheel, gear lever, brake pedals, etc. can be extremely hazardous.



DO NOT SPLICE INTO ELECTRICAL CABLES. Never cut away cable insulation to supply power to other equipment. Doing so will exceed the current carrying capacity of the wire and result in fire or electric shock.

DO NOT DAMAGE PIPE OR WIRING WHEN DRILLING HOLES. When drilling holes in the chassis for installation, take precautions so as not to contact, damage or obstruct pipes, fuel lines, tanks or electrical wiring. Failure to take such precautions may result in fire.

DO NOT USE BOLTS OR NUTS IN THE BRAKE OR STEERING SYSTEMS TO MAKE GROUND CONNECTIONS. Bolts or nuts used for the brake or steering systems (or another safety-related system), or tanks should NEVER be used for installations or ground connections. Using such parts could disable control of the vehicle and cause fire etc.

DO NOT INSTALL IN LOCATIONS WHICH MIGHT HINDER VEHICLE OPERATION, SUCH AS THE STEERING WHEEL OR GEARSHIFT. Doing so may obstruct forward vision or hamper movement etc. and results in serious accident.

CAUTION

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.

USE SPECIFIED ACCESSORY PARTS AND INSTALL THEM SECURELY. Be sure to use only the specified accessory parts. Use of other than designated parts may damage this unit internally or may not securely install the unit in place. This may cause parts to become loose resulting in hazards or product failure.

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 this unit may result in product failure.

NOTICE

Product Cleaning Use a soft dry cloth for periodic cleaning of the product. For more severe stains, please dampen the cloth with water only. Anything else has the chance of dissolving the paint or damaging the plastic.

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.

Protecting the USB connector

- Only an USB flash drive can be connected to the USB connector on this unit. Correct performance using other USB products cannot be guaranteed.
- If the USB connector is used, be sure to use only the supplied connector cable with the unit. A USB hub is not supported.
- Depending on the connected USB flash drive, the unit may not function, or some functions may not be performed.
- The audio file format that can be played on the unit is **MP3/ WMA/WAVE/AAC/MP3**
- Artist/song name, etc., can be displayed. Certain, special characters may not be correctly displayed.



CAUTION

Alpine accepts no responsibility for lost data, etc., even if data, etc., is lost while using this product.

On Handling USB Flash drive

- This unit can control a memory storage device that supports the USB Mass Storage Class (MSC) protocol. Playable audio file formats are **MP3, WMA, AAC, WAVE**

- USB Flash drive function is not guaranteed. Use a USB flash drive according to the terms of agreement. Read the USB flash drive Owner's Manual thoroughly.

- Avoid usage or storage in the following locations: Anywhere in the car exposed to direct sunlight or high temperatures. Anywhere the possibility of high humidity or corrosive substances are present.

- Fix the USB flash drive in a location where driver operation will not be hindered.

- USB Flash drive may not function correctly at high or low temperature.

- Use only certified USB flash drive. Note that even certified USB flash drive, may not function correctly depending on its type or state.

- Depending on the settings of the USB flash drive type, memory state or encoding software, the unit may not play back or display properly.

- USB Flash drive may take time to start playback. If there is a particular file other than audio in the USB flash drive, it may take considerable time before the file is played back or searched.

- The unit can play back "**MP3, WMA, AAC, WAVE** extensions.

- Do not add the above extensions to a file other than audio data. This non-audio data will not be recognized. The resulting playback may contain noise that can damage speakers and/or amplifiers.

- It is recommended to back up important data on a personal computer.

- Do not remove the USB device while playback is in progress. Change SOURCE to something other than USB, then remove the USB device to prevent possible damage to its memory.

- ***Windows Media and the Windows logo are trademarks, or registered trademarks of Microsoft Corporation in the United States and/or other countries. .***
- ***The Bluetooth® word mark and logos are registered trademarks owned by the Bluetooth SIG, Inc. and any use of such marks by Alpine Electronics, Inc. is under license.***
- ***MPEG Layer-3 audio coding technology licensed from Fraunhofer IIS and Thomson. Supply of this product only conveys a license for private, non-commercial use and does not convey a license nor imply any right to use this product in any commercial (i.e. revenue-generation) real time broadcasting (terrestrial, satellite, cable and/or any other media), broadcasting/streaming via internet, intranets and/or other networks or in other electronic content distribution systems, such as pay-audio or audio-on-demand applications. An independent license for such use is required. For details, please visit.***

<http://www.mp3licensing.com>




Operating Instructions

Getting Started



Turning Power On or Off

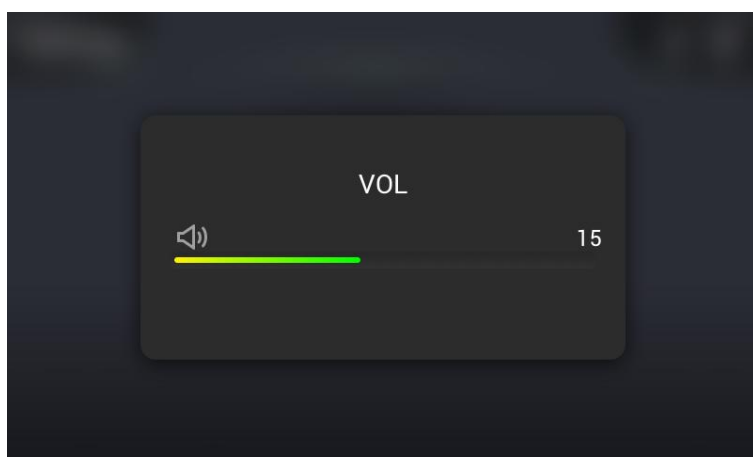
1 Turn the ignition key to the ACC or ON position. The system turns on. • *When turned on, the system displays the last screen that was displayed before the ignition key was turned off. For example, if the unit is in radio mode when ignition is turned off, it will remain in radio mode when ignition is turned back on.*

2 Touch and hold the Music Symbol  (Source Button/Power Off) button for at least 1.7 second to turn the power off/on.

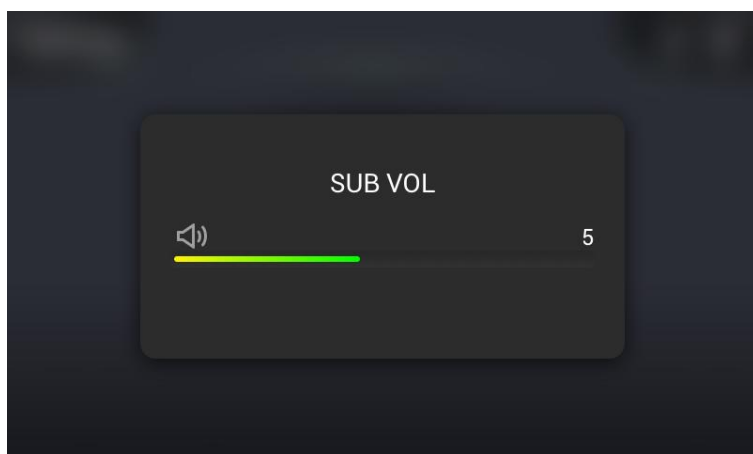
- *The unit is a precision device. Careful handling of the unit should provide you with years of trouble-free operation.*



Adjusting the Volume Adjust the volume by turning the Volume knob right for volume up and left for volume down. 0-39 Steps



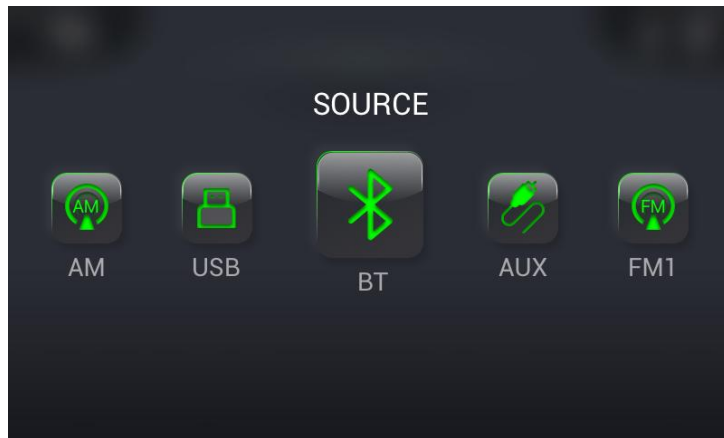
Adjusting the Sub Volume. Adjust the Sub volume by pressing in the knob on when on the main screen. Sub vol will pop up turning the Volume knob right for sub up and down 0-15. To exit press the volume knob in. (the unit will exit Sub volume automatically after 15 seconds of no interaction)





Switching Sources



Press the music note button then use the knob to turn to the source you want and press in on the knob to choose the intended source. Once the source you want is highlighted push in on the knob to select.



FM/AM



A



1. To manually seek up/down press the  buttons momentarily. Use multiple presses to manually tune to your intended station.
2. To automatically seek up/down press the  buttons for 2 seconds the tuner will seek to the next available station.

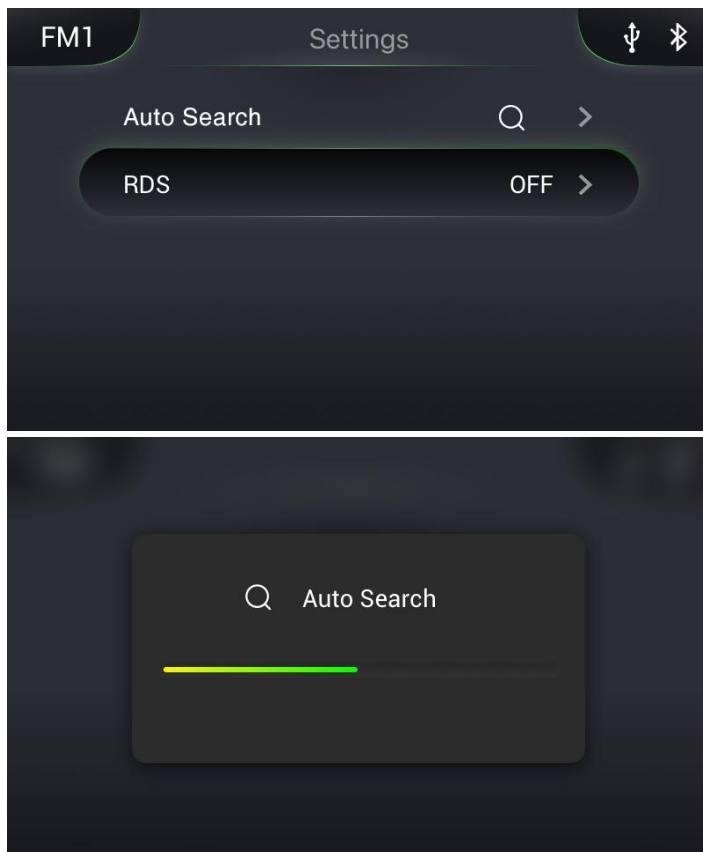


Presetting Stations Manually

1. To save a station press the Bluetooth/ Bookmark tab button. This will highlight the presets use the knob to scroll to the preset you want to save the current station to and press and hold the knob until the preset is saved. Press the Bluetooth/ Bookmark tab button to exit preset menu.
2. Each Radio band can save up to 6 presets.

Presetting Stations Automatically

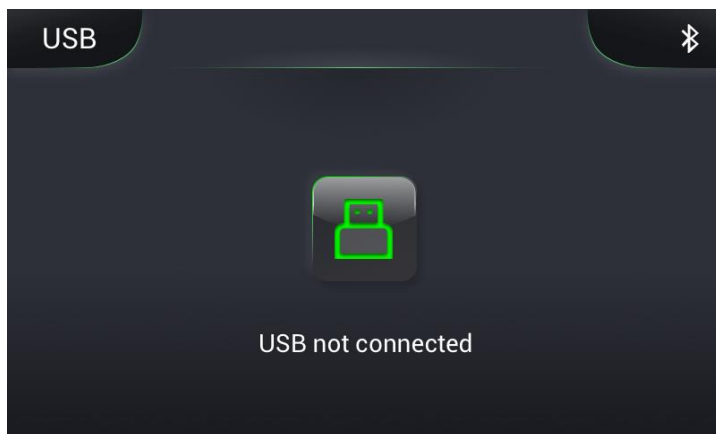
When in FM/AM press the Home button  a new screen will pop up then choose Auto Search to have the unit scan and save the first six stations it finds. You can also turn RDS on and off on this screen. To exit press the  button.



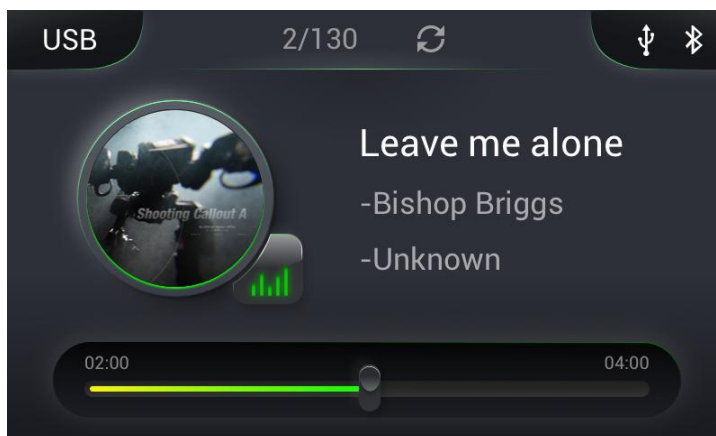


USB

1 Touch the  and select USB mode. The display shows the USB mode screen. If no compatible USB device is installed, you will get the following notification.




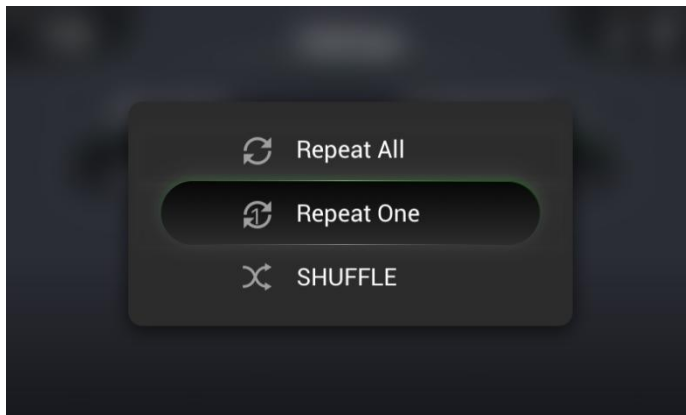
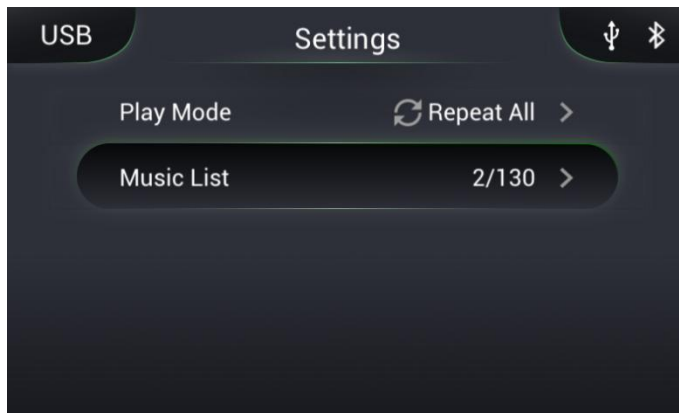
2 Plug in compatible USB with compatible audio tracks loaded on the USB the unit will scan the device and auto play.





Repeat/Shuffle Play (USB Audio)

1 When in USB press the Home button  a new screen will pop up then choose *Play Mode* this will access Repeat One, Repeat All and Shuffle.



2 To pause playback, touch  Press  again to resume playback.

- The playback time may not be correctly displayed when a VBR (Variable Bit Rate) recorded file is played back.
- If there is tag information, artist name/album name/track name is displayed.
- If there is no label information, no name is displayed.
- ID3 tag/WMA tag

If an MP3/WMA/AAC/WAVE contains ID3 tag/ WMA tag information, the ID3 tag/WMA tag information is displayed. (e.g., song name, artist name, and album name)



Track up/Track down USB Audio: Press either   the unit will track up/dn.

Fast-forwarding/Fast-reversing USB Audio: Press and hold either   the unit will start FF or RWD the audio. Release to stop.

Bluetooth® Operation

Setup Before Using

About Bluetooth

Bluetooth is a wireless technology allowing communication between a mobile device or personal computer over short distances. This enables a hands-free call or data transmission between Bluetooth compatible devices. Bluetooth transmission is available in the unlicensed 2.4 GHz spectrum if the distance between devices is within 10 meters. For details, refer to the Bluetooth website (<http://www.bluetooth.com/>).

- *Depending on the Bluetooth version, a Bluetooth compatible device may not be able to communicate with this unit.*
- *Proper function of this unit with all Bluetooth compatible devices is not guaranteed. For handling of the Bluetooth compatible device, consult your Alpine dealer or Alpine website.*
- *Depending on the surroundings, Bluetooth wireless connection may be unstable.*
- *When you place a call, or perform setup operations, be sure to stop your car in a safe place.*
- *Depending on the connected Bluetooth compatible device(s), the function may differ. Also refer to the Owner's Manual of the connected device(s).*

Before Using Bluetooth

Register a Bluetooth device in this unit.

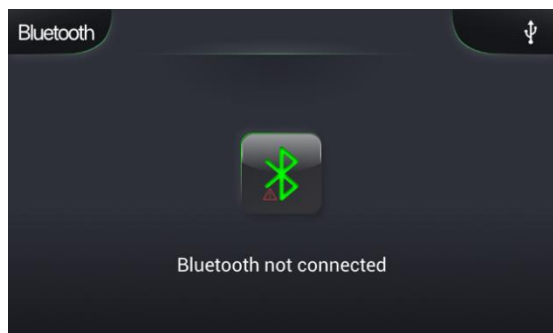
- *You can search for this unit using a Bluetooth compatible device, and then connect that Bluetooth compatible device to this unit. The device name of this unit is "ALPINE UNIVSYS" upon first pairing a device code will pop up on your BT device click yes pair." Also refer to the Owner's Manual of the connected device(s).*

Bluetooth® Audio

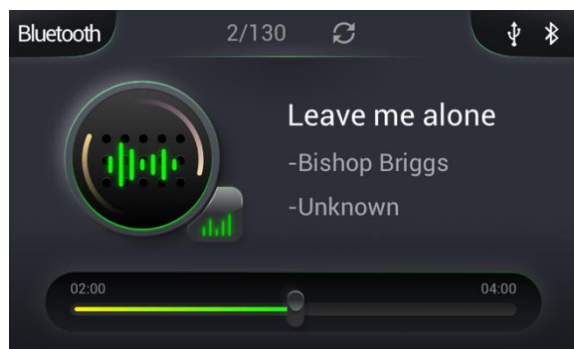
If a Bluetooth compatible mobile phone, portable player, etc. is connected by wireless, you can play back a song (operation is controllable from the unit).

- *Operation may vary, depending on the Bluetooth compatible device*

1 Touch the  and select BT mode. The display shows the BT mode screen. If no BT Device is paired, you will get the following notification.







2 Pair a compatible BT device the unit once paired will try to auto play if the BT device supports it. (If BT device supports Artwork unit will show artwork)



2 To pause playback: Press  Press  again to resume playback.

- The playback time may not be correctly displayed when a VBR (Variable Bit Rate) recorded file is played back.
- If there is tag information, artist name/album name/track name is displayed.
- If there is no label information, no name is displayed.
- ID3 tag/WMA tag

Track up/Track down BT Audio: Press either   the unit will track up/dn.

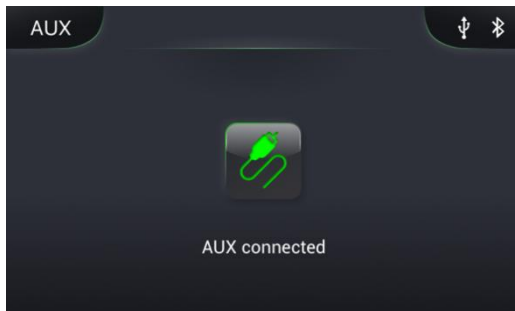
Fast-forwarding/Rewinding BT Audio (if device supports it): Press and hold either   the unit will start FF or RWD the audio. Release to stop.



AUX Operation

- 1 Touch the  and select Aux mode. The display shows the Aux mode screen.

AUX screen example



- 2 Optional AUX operation: This unit has an Aux enable wire that when switched to 12v+ will automatically switch this unit to the aux source to allow AUX audio to pass. When 12v+ is removed from the wire the unit will return to its previous source.

Camera Operation



- 1 **Camera** operation: This unit has a Camera enable wire that when switched to 12v+ will automatically switch this unit to the Camera video input. When 12v+ is removed from the wire the unit will return to its previous screen.

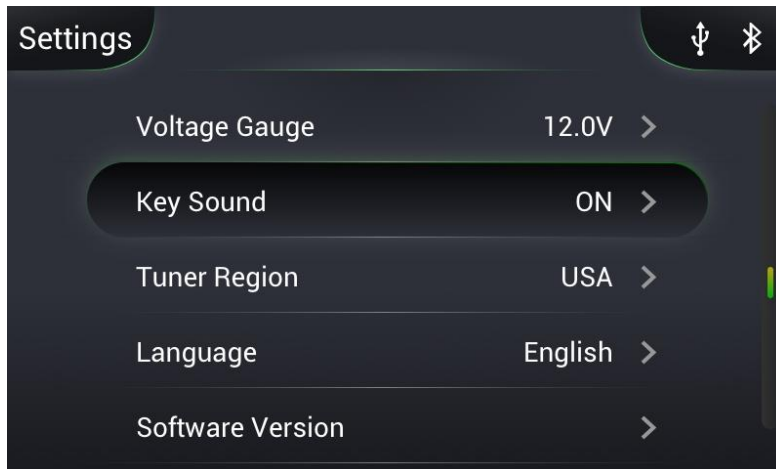
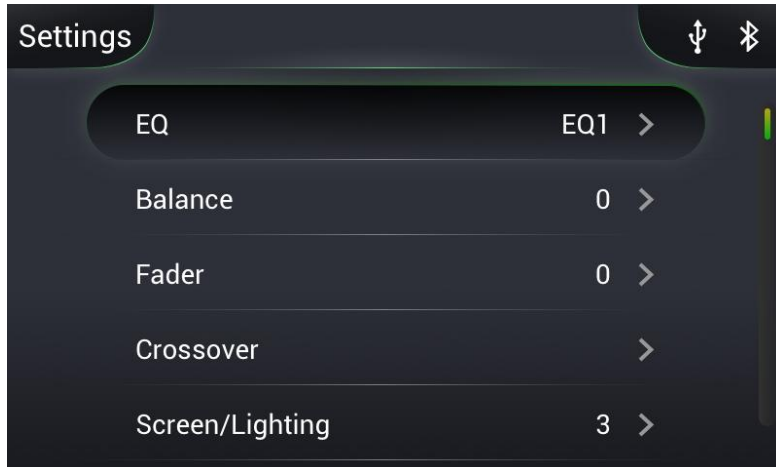
Dimmer

- 1 **Dimmer** operation: This unit has a Dimmer enable wire that when switched to 12v+ will automatically dim this unit to a desired brightness. When 12v+ is removed from the wire the unit will return to its previous screen. See Menu section for brightness adjustment.



Menu Functions

To enter the MENU settings press  for 3 seconds. This will bring up the user menu as shown below. To Exit the Menu push the  while in the main Menu.





EQ Adjustment

EQ Operation: Press the Knob to choose EQ then use the knob to scroll to the EQ preset you want to adjust then press in on the knob to choose that preset EQ. This unit has six eq Memories with six bands of parametric EQ available for each memory as shown below.

Band1 20hz-99hz

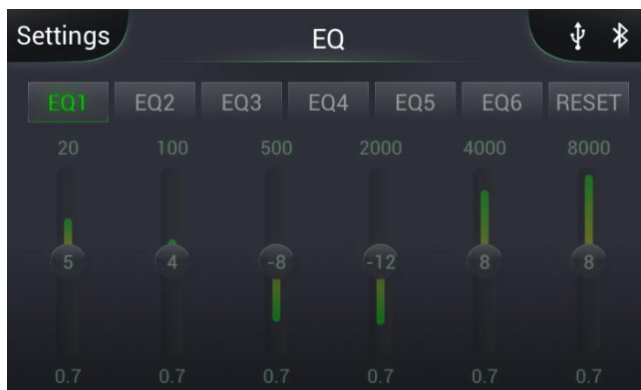
Band 2 100hz-490hz

Band 3 500hz-1900hz

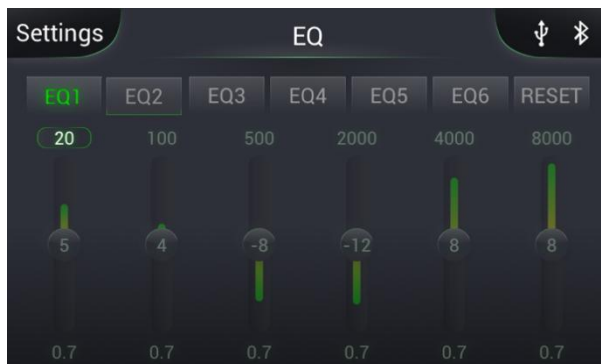
Band 4 2khz-3.8khz

Band 5 4khz-7.5khz

Band 6 8khz-20khz

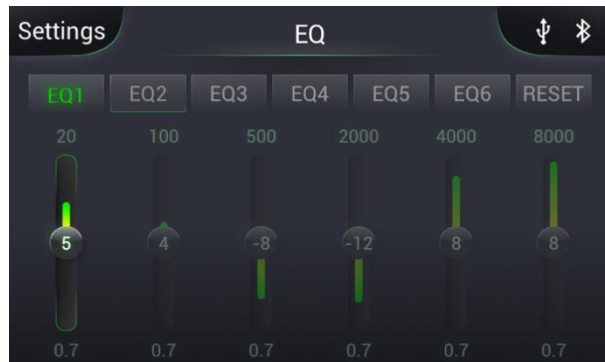


Use the knob to scroll through EQ1 to EQ6 to choose an EQ to adjust press in on the Knob. This will highlight the chosen EQ green around the slider and light up the frequency for that band. You can now use the Knob to scroll to each frequency band on that preset EQ. Once you find the band you want to change press in on the Knob.

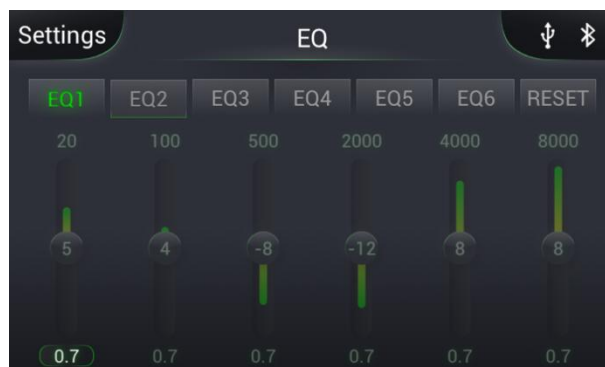





This will unhighlight the slider and just highlight the frequency. You can now turn the knob to adjust the band to the frequency you want to be the center of your EQ. Press the knob to lock in the frequency and move to Gain Adjustment.



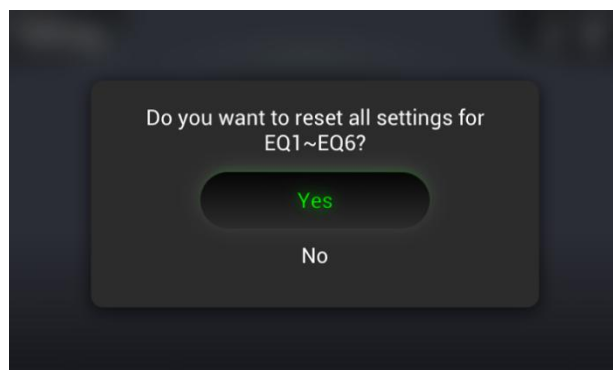
Gain adjustment this unit allows for up to 12 steps of boost or cut per band. Turn the knob left or right to adjust and press in to move to the bandwidth adjustment. You can adjust the width of the EQ from a Q of .7 to a Q of 4. (.7 is a very wide Q so it will affect a wider band of frequencies with 4 being a narrow Q that will affect a narrower band of frequencies.



Press the knob again to highlight the Slider then you can use the knob to scroll to other bands to repeat the above process.

When you are done adjusting the EQ press the  once to be able to choose a different EQ preset or twice to return to the Main Menu.

If you want to reset the EQs to factory settings, please scroll to Reset then press in on the Knob. A warning will pop up select Yes.





Balance

Press the Knob to choose Balance: then turn the knob to the right to balance to the right and left to balance to the left. Press in on the Knob to return to the Main Menu.

Fader

Press the Knob to choose Fader: then turn the knob to the right to fade to the Front and left to fade to the rear. Press in on the Knob to return to the Main Menu.

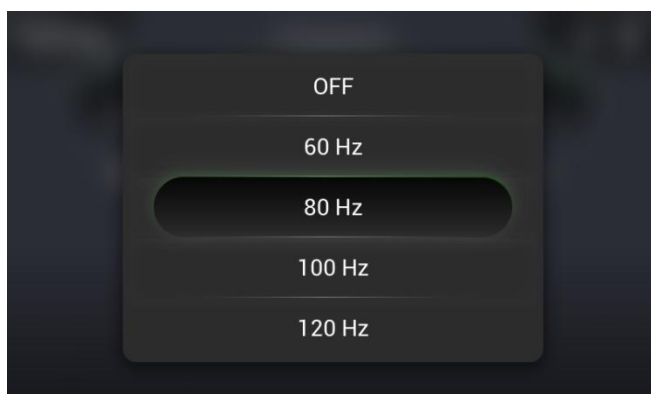
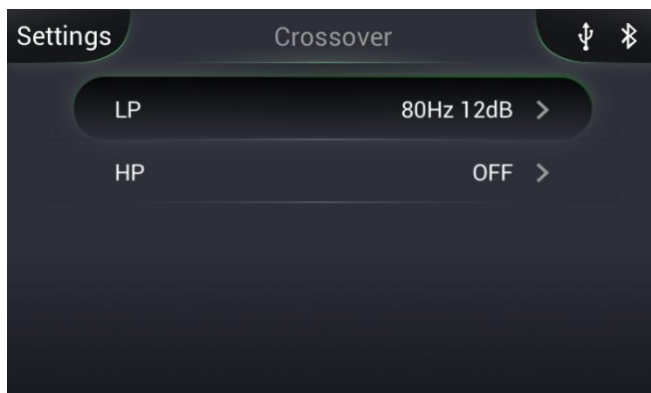
Crossover

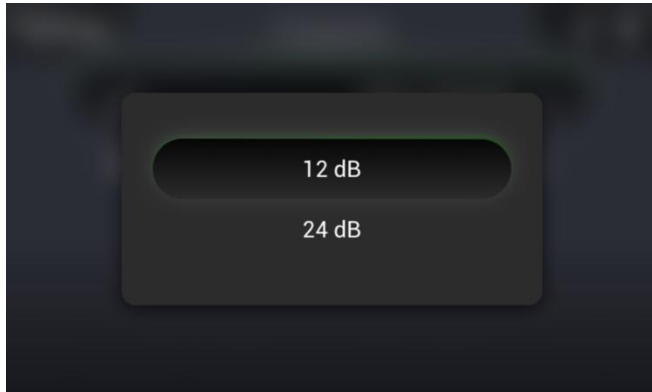
Press the Knob to choose Crossover: This will pop up the main crossover menu. LP stands for Low pass and will control the Subwoofer out RCAS. HP stands for High pass and will control the front and rear speaker and RCA outputs. You have a couple of options within these menus.


Frequency: Off, 60hz, 80hz, 100hz, 120hz

Slope: 12db, 24db

Use the Knob to scroll to your desired setting then press in on the Knob to select.





Press in on the  to return to the Main Menu.

Screen Lighting

Press the Knob to choose Screen Lighting: then turn the knob to the right to increase brightness or left to dim the brightness (1-5). Press in on the Knob to return to the Main Menu.

Voltage Gauge

Press the Knob to choose Voltage Gauge: This will pop up a larger display of the current Dc input voltage. Press in on the Knob to return to the Main Menu.

Key Sound

Press the Knob to choose Key Sound: This will pop up a larger display with Off and On option choose your option then press in on the Knob to return to the Main Menu.

Tuner Region

Press the Knob to choose Tuner Region: This will pop up a larger display with USA or Europe as options choose your option then press in on the Knob to return to the Main Menu.

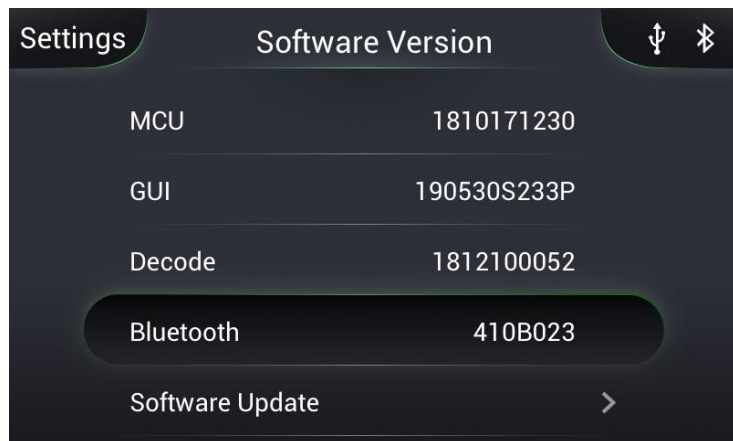
Language

Press the Knob to choose Language: This will pop up a larger display with English or Spanish as options choose your option then press in on the Knob to return to the Main Menu.



Software Version

Press the Knob to choose Software Version: This will pop up a larger display with the info shown below. Press in on the Knob to return to the Main Menu.



Software Update

There are two types of Software that can be user updated on this unit this includes the MCU software and MPU software. If Alpine releases a Software update it will be available on the product page on our website at www.alpine-usa.com you will need to have a compatible USB drive to install these updates.

1. Download both MPU and MCU updated software.
2. Unzip the files and put them on a compatible USB drive
3. Plug in USB drive to unit
4. Unit should automatically come up and ask if you want to update.
5. Choose MCU first and push in on the knob to select choose Yes. Unit will take up to 1 minute to complete and will turn off and back on when finished.
6. Now choose MPU first and push in on the knob to select choose Yes. Unit will take up to 3 minute to complete and will turn off and back on when finished.

If the unit does not automatically ask you to update when you install the USB drive with the update files on it press and hold  for 3 seconds to enter the Main Menu. Then scroll down to Software version and push in on the knob to select. You will see Software update MCU and MPU click MCU first then click Yes. Follow the same process for MPU.

Warning do not turn off the unit or power during a Software update process this could damage the unit requiring it to be sent in for service!!!!!!



Factory Reset

Press the Knob to choose Factory Reset: This will pop up a larger display with Yes or No as options if you choose Yes the radio will reset all the settings back to the factory specifications and restart.

Information

About the Supported Formats

About Audio Format

Method for creating WAVE/WMA/AAC/AC3/MPEG/Ogg/FLAC/ APE (USB Flash drive) files

Audio data is compressed using software with WAVE/WMA/AAC/ AC3/MPEG/Ogg/FLAC/APE (USB Flash drive) codecs. For details on creating WAVE/WMA/AAC/AC3/MPEG/Ogg/FLAC/APE(USB Flash drive files, refer to the user's manual for that software. WAVE/WMA/AAC/AC3/MPEG/Ogg/FLAC/APE (USB Flash drive) files that are playable on this device have the file extensions.

WAVE:.WAV
WMA:.WMA,.asf
AAC:.aac
AC3:.ac3,.ec3 MPEG:.mp1,mp2,mpa,mp3,mp4,m4a Ogg:.ogg

FLAC:.flac APE:.ape

WMA is not supported for the following files, Windows Media Audio Professional, Windows Media Audio 10 std or Windows Media Audio 10 Pro Lossless.

There are many different versions of the AAC format. Confirm that the software being used conforms to the acceptable formats listed above. It's possible that the format may be unplayable even though the extension is valid.

Playback of AAC files encoded by iTunes is supported.

WAVE (USB Flash drive)

Filename : .wav
Container: Waveform Audio File Format(base on RIFF) Audio Coding: LPCM,IMA-ADPCM

WMA (USB Flash drive)

Filename : .wma,.asf
Container: Advanced Systems Format(ASF) Audio Coding: WMA STD

* Support object:
Content Description Object: only Title,Artist

AAC (USB Flash drive)

Filename : .aac
Container: Audio Data Transport Stream (ADTS) Audio Coding: AAC-LC/HE-AAC

AC3 (USB Flash drive)

Filename : .ac3,.ec3 Container: AC3 bit streams Audio Coding: AC3

Container: Enhanced AC3 Bit Stream Audio Coding: E-AC3



MPEG (USB Flash drive)

Filename : .mp1 Container: MPEG PS Audio Coding: MP1

Filename: .mp2,.mpa Container: MPEG PS Audio Coding: MP2

Filename : .mp3 Container: MPEG PS Audio Coding: MP3

* Support Tag:ID3V1 ID3v2.3 : only TPE1, TALB, TCONTIT2, TYER

Filename : .mp4,.m4a Container: MP4 File Format Audio Coding: AAC-LC,HE-AAC

OGG (USB Flash drive)

Filename. : .ogg Container: Ogg Audio Coding: Vorbis

FLAC (USB Flash drive)

Filename. : .flac Container: FLAC Audio Coding: FLAC

APE (USB Flash drive)

Filename. : .ape

Container: APE (Monkey's Audio Lossless Audio File) Audio Coding: Monkey's Audio

Audio Coding: MP1 / MP2 / MP3, AC3, LPCM

File Name:.dat

Video Coding: MPEG-1 Video

Audio Coding: MPEG-1 Audio Layer II

Format: MPEG4

Audio Coding: MP3, AAC-LC/HE-AAC, AC3, LPCM

CAUTION

Except for private use, duplicating audio data or distributing, transferring, or copying it, whether for free or for a fee, without permission of the copyright holder is strictly prohibited by the Copyright Act and by international treaty.

Terminology

Bit rate This is the "sound" compression rate specified for encoding. The higher the bit rate, the higher the sound quality, but also the larger the files.

Sampling rate This value shows how many times per second the data is sampled (recorded). For example, music CDs use a sampling rate of 44.1 kHz, so the sound is sampled (recorded) 44,100 times per second. The higher the sampling rate, the higher the sound quality, but also the larger the volume of data.

Encoding Converting music CDs, WAVE (AIFF) files, and other sound files into the specified audio compression format.

Tag Song information such as track titles, artist names, album names, etc., written into MP3/WMA/AAC/FLAC/WAVE/Ogg/APE (USB flash drive) files.

Root folder The root folder (or root directory) is found at the top of the file system. The root folder contains all folders and files. It is created automatically for all burned discs.

In Case of Difficulty



Basic

No function or display.

- Vehicle's ignition is off. - If connected according to the instructions, the unit will not operate with the vehicle's ignition off.
- Improper power lead connections. - Check power lead connections.
- Blown fuse.
- Check the fuse on the battery lead of the unit; replace with the proper value if necessary.

No sound or unnatural sound.

- Incorrect setting of volume/balance/fader controls. - Readjust the controls.
- Connections are not properly or securely made. - Check the connections and firmly connect.
- Temperature in the vehicle is too low. - Increase the vehicle's interior temperature to operation temperature range.
- Connections to the Auxiliary Device are not securely made. - Check the connections and firmly connect.
- Temperature in the vehicle is too high. - Allow the vehicle's interior temperature to cool.

Radio

Unable to receive stations.

- No antenna, or open connection in the antenna cable. - Make sure the antenna is properly connected; replace the antenna or cable if necessary.

Unable to tune stations in the seek mode.

- You are in a weak signal area. - Change the radio frequency manually.
- If the area you are in is a primary signal area, the antenna may not be grounded and connected properly.
- Check your antenna connections; make sure the antenna is properly grounded at its mounting location.
- The antenna may not be the proper length. - Make sure the antenna is fully extended; if broken, replace the antenna with a new one.
- Broadcast is noisy. The antenna is not the proper length. - Extend the antenna fully; replace it if it is broken. The antenna is poorly grounded. Make sure the antenna is grounded properly at its mounting location.
- The station signal is weak and noisy.
- If above solution does not work, tune in another station.

USB Audio

If you encounter a problem, please turn the power off, then on again. If the unit is still not functioning normally, please review the items in the following checklist. This guide will help you isolate the problem if the unit is at fault. Otherwise, make sure the rest of your system is properly connected, or then consult your authorized Alpine dealer.

This device is not supported • Unsupported device.

- Change to play supported USB device.



Device No Response. • No response from the device.

No Audio.

- There is no audio data in the current video file.

Audio format not supported • Not supported audio format. - Download supported audio format to USB flash drive.

Audio trick not supported • Prompts fast forwarding / reversing or jumping on current audio is not supported.
- Change the current audio format.

No Artist (/ No Song / No album)

- There are no tag-info in the USB Audio / iPod Audio. - Change to play audio-file with tag-info

Bluetooth

No Bluetooth device were found

- The Bluetooth audio device was not connected correctly.

- Check the settings for the unit and the Bluetooth audio device and reconnect

Specifications

GENERAL

Power Requirement 14.4 V DC
(10.8 – 15.1 V allowable)

Operating temperature 4°F to +140°F
(-20°C to + 60°C)

Power Output 17 W RMS $\times 4^{+2}$ *

2 Primary amplifier ratings per CEA-2006 Standard

- Power output: measured at 4 Ohms and $\leq 1\%$ THD+N • S/N: 80 dBA (reference: 1 W into 4 Ohms)

**1 Frequency response may differ depending on the encoder software/bit rate.*

Bluetooth V5.0

< +4dBm Ave. (Power class 2)

A2DP (Advanced Audio Distribution Profile)

FM TUNER SECTION

Tuning Range 87.7 – 107.9 MHz < 9 dBu (75 ohms) < 5 dBu (75 ohms) 65 dB Mono Usable Sensitivity 50 dB Quieting Sensitivity Signal-to-Noise Ratio Stereo Separation

AM TUNER SECTION

35 dB 530 – 1710 kHz 34 dBu Tuning Range Usable Sensitivity

USB SECTION USB 2.0

1,500 mA USB Play From Fat 32 Device



CHASSIS SIZE

Width Height Depth 178 mm 100 mm 68 mm

- *Due to continuous product improvement, specifications and design are subject to change without notice.*

Installation and Connections

Before installing or connecting the unit, please read the following and pages 5 to 8 of this manual thoroughly for proper use.

WARNING

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.

MAKE THE CORRECT CONNECTIONS.

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

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.

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 ALLOW CABLES TO BECOME ENTANGLED IN SURROUNDING OBJECTS.

Arrange wiring and cables in compliance with the manual to prevent obstructions when driving. Cables or wiring that obstruct or hang up on places such as the steering wheel, gear lever, brake pedals, etc. can be extremely hazardous.

DO NOT SPLICE INTO ELECTRICAL CABLES.

Never cut away cable insulation to supply power to other equipment. Doing so will exceed the current carrying capacity of the wire and result in fire or electric shock.

DO NOT DAMAGE PIPE OR WIRING WHEN DRILLING HOLES.

When drilling holes in the chassis for installation, take precautions so as not to contact, damage or obstruct pipes, fuel lines, tanks or electrical wiring. Failure to take such precautions may result in fire.

DO NOT USE BOLTS OR NUTS IN THE BRAKE OR STEERING SYSTEMS TO MAKE GROUND CONNECTIONS.

Bolts or nuts used for the brake or steering systems (or any other safety-related system), or tanks should NEVER be used for installations or ground connections. Using such parts could disable control of the vehicle and cause fire etc.

DO NOT INSTALL IN LOCATIONS WHICH MIGHT HINDER VEHICLE OPERATION, SUCH AS THE STEERING WHEEL OR GEARSHIFT.

Doing so may obstruct forward vision or hamper movement etc. and results in serious accident.



CAUTION

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.

USE SPECIFIED ACCESSORY PARTS AND INSTALL THEM SECURELY.

Be sure to use only the specified accessory parts. Use of other than designated parts may damage this unit internally or may not securely install the unit in place. This may cause parts to become loose resulting in hazards or product failure.

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.

Precautions

- Be sure to disconnect the cable from the (-) battery post before installing your unit. This will reduce any chance of damage to the unit in case of a short-circuit.
- Be sure to connect the color coded leads according to the diagram. Incorrect connections may cause the unit to malfunction or damage to the vehicle's electrical system.
- When making connections to the vehicle's electrical system, be aware of the factory installed components (e.g. on-board computer). Do not tap into these leads to provide power for this unit. When connecting the unit to the fuse box, make sure the fuse for the intended circuit of the unit has the appropriate amperage. When in doubt, consult your Alpine dealer.
- The unit uses female RCA-type jacks for connection to other units (e.g. amplifier) having RCA connectors. You may need an adaptor to connect other units. If so, please contact your authorized Alpine dealer for assistance.
- Be sure to connect the speaker (-) leads to the speaker (-) terminal. Never connect left and right channel speaker cables to each other or to the vehicle body.

Accessory List

Main unit.....	1	Power/Signal cable.....	1
Screw.....	4	Rear mount bracket.....	4
Rear mount bracket Hardware	1	Warranty card.....	1

Installation

Caution concerning the installation location:



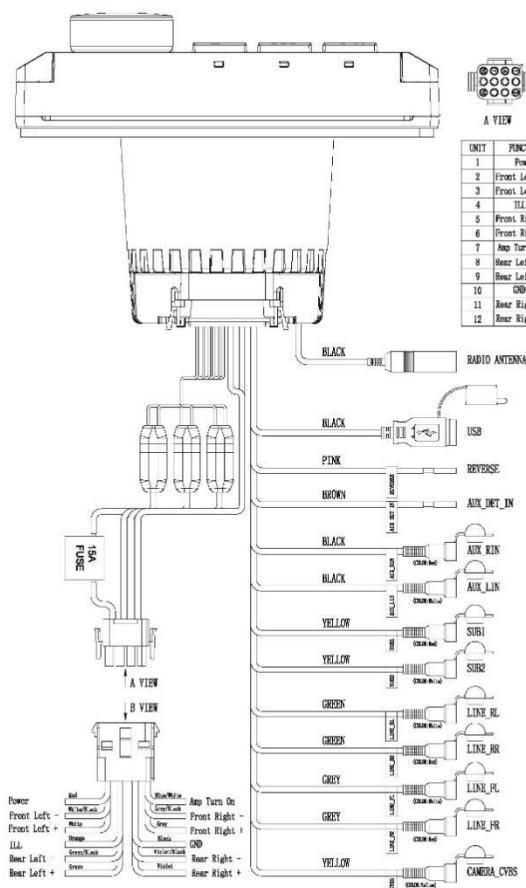
This Unit has two mounting options. The first is a marine industry standard 3-inch round mounting hole with a universal U mount rear bracket. The second mounting option allows you to secure the faceplate of the radio via 4 hidden corner screws. If your application requires you to cut the required 3-inch hole please make sure to verify that the location you choose is free from all wires, cables, or devices behind the location you plan to cut. Once the hole is cut, please use the either the rear U bracket or the four front screws to securely mount the unit.

Add mounting Images.

To securely connect the ground lead, use an already installed screw on a metal part of the vehicle (marked ()) or a clean, bare metal spot on the vehicle's chassis.

Fix the cables carefully. Do not damage them by mounting them into movable parts, such as the seat rail, or by locating them against sharp or pointed edges.

Connections





Radio Antenna Receptacle

Remote Turn-On Lead (Blue/White)

Connect this lead to the remote turn-on lead of your amplifier or signal processor.

Reverse Lead + (Pink) Activates back up camera input

Right Rear (+) Speaker Output Lead (Violet)

Right Rear (-) Speaker Output Lead (Violet/Black)

Right Front (+) Speaker Output Lead (Gray)

Right Front (-) Speaker Output Lead (Gray/Black)

Left Front (+) Speaker Output Lead (White)

Left Front (-) Speaker Output Lead (White/Black)

Left Rear (+) Speaker Output Lead (Green)

Left Rear (-) Speaker Output Lead (Green/Black)

Switched Power Lead (Ignition) (Red)

Connect this lead to an open terminal on the vehicle's fuse box or another unused power source that provides (+) 12V only when the ignition is turned on or in the accessory position.

Ground Lead (Black)

Connect this lead to a good chassis ground on the vehicle. Make sure the connection is made to bare metal and is securely fastened using the sheet metal screw provided.

REAR CAMERA Input RCA Connector (Yellow)

Use when connecting a camera with RCA Output Connector.

Rear Output RCA Connectors

Can be used as Rear Output RCA Connectors. RED is right and WHITE is left.

Front Output RCA Connectors

Can be used as Front Output RCA Connectors. RED is right and WHITE is left.

Subwoofer RCA Connectors _ RED WHITE is mono

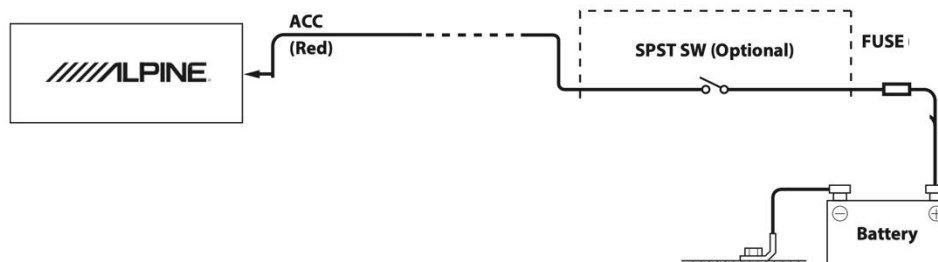
AUX INPUT RCA Connectors USB Connector

To USB flash drive.



If an ACC power supply is not available

Connection Diagram of SPST Switch (sold separately)



- If your vehicle has no ACC power supply, add an SPST (single-pole, single-throw) switch (sold separately) and fuse (sold separately).

<p>IMPORTANT</p> <p>Please record the serial number of your unit in the space provided below and keep it as a permanent record. The serial number plate is located on the bottom of the unit.</p>	<p>SERIAL NUMBER: INSTALLATION DATE: INSTALLATION TECHNICIAN: PLACE OF PURCHASE:</p>
--	--

To prevent external noise from entering the audio system.

- Locate the unit and route the leads at least 10 cm away from the car harness.
- Keep the battery power leads as far away from other leads as possible.
- Connect the ground lead securely to a bare metal spot (remove any paint, dirt or grease if necessary) of the car chassis.
- If you add an optional noise suppressor, connect it as far away from the unit as possible. Your Alpine dealer carries various noise suppressors, contact them for further information.
- Your Alpine dealer knows best about noise prevention measures so consult your dealer for further information.



LIMITED WARRANTY ALPINE ELECTRONICS OF AMERICA, INC. ("Alpine"), is dedicated to quality craftsmanship and is pleased to offer this Warranty. We suggest that you read it thoroughly. Should you have any questions, please contact your Dealer, or contact Alpine at one of the telephone numbers listed below.

PRODUCTS COVERED: This Warranty covers Car Audio Products and Related Accessories ("the product"). Products purchased in the Canada are covered only in Canada. Products purchased in the U.S.A. are covered only in the U.S.A.

LENGTH OF WARRANTY: This Warranty is in effect for one year from the date of the first consumer purchase.

WHO IS COVERED: This Warranty only covers the original purchaser of the product, who must reside in the United States, Puerto Rico, Mexico, Brazil, Argentina or Canada.

WHAT IS COVERED: This Warranty covers defects in materials or workmanship (parts and labor) in the product.

WHAT IS NOT COVERED: This Warranty does not cover the following:

Damage occurring during shipment of the product to Alpine for repair (claims must be presented to the carrier).

Damage caused by accident or abuse, including burned voice coils caused by over-driving the speaker (amplifier level is turned up and driven into distortion or clipping). Speaker mechanical failure (e.g. punctures, tears or rips). Cracked or damaged LCD panels. Dropped or damaged hard drives.

Damage caused by negligence, misuse, improper operation, or failure to follow instructions contained in the Owner's manual.

Damage caused by act of God, including without limitation, earthquake, fire, flood, storms, or other acts of nature.
Any cost or expense related to the removal or reinstallation of the product.

Service performed by an unauthorized person, company, or association.

Any product which has the serial number defaced, altered or removed.

Any product which has been adjusted, altered, or modified without Alpine's consent.

Any product not distributed by Alpine within the United States, Puerto Rico or Canada.

Any product not purchased from an Authorized Alpine Dealer.

HOW TO OBTAIN WARRANTY SERVICE:

A You are responsible for delivery of the product to an Authorized Alpine Service Center or Alpine for repair and for payment of any initial shipping charges. Alpine will, at its option, repair or replace the product with a new or reconditioned product without charge. If the repairs are covered by the warranty, and if the product was shipped to an Authorized Alpine Service Center or Alpine, Alpine will pay the return shipping charges.

B You should provide a detailed description of the problem(s) for which service is required.

C You must supply proof of your purchase of the product.

D You must package the product securely to avoid damage during shipment. To prevent lost packages it is recommended to use a carrier that provides a tracking service.

HOW WE LIMIT IMPLIED WARRANTIES:



ANY IMPLIED WARRANTIES INCLUDING FITNESS FOR USE AND MERCHANTABILITY ARE LIMITED IN DURATION TO THE PERIOD OF THE EXPRESS WARRANTY SET FORTH ABOVE AND NO PERSON IS AUTHORIZED TO ASSUME FOR ALPINE ANY OTHER LIABILITY IN CONNECTION WITH THE SALE OF THE PRODUCT.

HOW WE EXCLUDE CERTAIN DAMAGES:

ALPINE EXPRESSLY DISCLAIMS LIABILITY FOR INCIDENTAL AND CONSEQUENTIAL DAMAGES CAUSED BY THE PRODUCT. THE TERM "INCIDENTAL DAMAGES" REFERS TO EXPENSES OF TRANSPORTING THE PRODUCT TO THE ALPINE SERVICE CENTER, LOSS OF THE ORIGINAL PURCHASER'S TIME, LOSS OF THE USE OF THE PRODUCT, BUS FARES, CAR RENTALS OR OTHERS COSTS RELATING TO THE CARE AND CUSTODY OF THE PRODUCT. THE TERM "CONSEQUENTIAL DAMAGES" REFERS TO THE COST OF REPAIRING OR REPLACING OTHER PROPERTY WHICH IS DAMAGED WHEN THIS PRODUCT DOES NOT WORK PROPERLY. THE REMEDIES PROVIDED UNDER THIS WARRANTY ARE EXCLUSIVE AND IN LIEU OF ALL OTHERS.

HOW STATE/PROVINCIAL LAW RELATES TO THE

WARRANTY: This Warranty gives you specific legal rights, and you may also have other rights which vary from state to state and province to province. In addition, some states/provinces do not allow limitations on how long an implied warranty lasts, and some do not allow the exclusion or limitation of incidental or consequential damages. Accordingly, limitations as to these matters contained herein may not apply to you.

IN CANADA ONLY: This Warranty is not valid unless your Alpine car audio product has been installed in your vehicle by an Authorized Installation Center, and this warranty stamped upon installation by the installation center.

HOW TO CONTACT CUSTOMER SERVICE: Should the product require service, please call the following number for your nearest Authorized Alpine Service Center.

CAR AUDIO 1-800-ALPINE-1 (1-800-257-4631)

Or visit our website at; <http://www.alpine-usa.com>

ALPINE ELECTRONICS OF AMERICA, INC., 1500 Atlantic Blvd, Auburn Hills, Michigan 48326, U.S.A. Do not send products to this address. Call the toll free telephone number or visit the website to locate a service center.

About the Rules of Bluetooth Electromagnetic Radiation Regulation USA/Canada

FCC/IC CAUTION

This device complies with Part 15 of the FCC Rules and Industry Canada's licence-exempt RSSs. Operation is subject to the following two conditions:

- This device may not cause interference; and
 - This device must accept any interference, including interference that may cause undesired operation of the device. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
- This equipment complies with FCC/IC radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines and RSS-102 of the IC radio frequency (RF) Exposure rules. This equipment has very low levels of RF energy that it deemed to comply without maximum permissive exposure evaluation (MPE). But it is desirable that it should be installed and operated keeping the radiator at least 20 cm or more away from person's body.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :



- **l'appareil ne doit pas produire de brouillage;**
- **l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le**

fonctionnement.

Cet équipement est conforme aux limites d'exposition aux rayonnements énoncées pour un environnement non contrôlé et respecte les règles des radioélectriques (RF) de la FCC lignes directrices d'exposition et d'exposition aux fréquences radioélectriques (RF) CNR-102 de l'IC. Cet équipement émet une énergie RF très faible qui est considérée conforme sans évaluation de l'exposition maximale autorisée (MPE). Cependant, il est souhaitable qu'il devrait être installé et utilisé en gardant une distance de 20 cm ou plus entre le radiateur et le corps humain.

"La operación de este equipo está sujeta a las siguientes dos condiciones: (1) es posible que este equipo o dispositivo no cause interferencia perjudicial y (2) este equipo o dispositivo debe aceptar cualquier interferencia, incluyendo la que pueda causar su operación no deseada." resolution 680: "Este equipamento não tem direito à proteção contra interferência prejudicial e não pode causar interferência em sistemas devidamente autorizados."

Don't forget to take a moment to protect your purchase by registering your product now at the following address: www.alpine-usa.com/registration.

N'oubliez pas de consacrer un moment à la protection de votre achat en enregistrant votre produit dès maintenant à l'adresse suivante : www.alpine-usa.com/registration.

Recuerde que con solo unos pocos pasos podrá proteger su producto, registrándolo a través de la siguiente dirección: www.alpine-usa.com/registration.

This software includes open source software codes licensed under GNU General Public

GNU GENERAL PUBLIC LICENSE Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc. 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things. To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps:

- (1) copyright the software.
- (2) offer you this license which gives you legal permission to copy,

distribute and/or modify the software.



Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

Detailed license notice, full license texts and machine readable copy of the corresponding source code are readily available on our OSS website (*)

* <http://www.alpine.com/e/oss/download>

Disclaimer

TO THE EXTENT PERMITTED BY APPLICABLE LAW, AND AS PROVIDED IN THE GPL AND LGPL, PIONEER AND ITS LICENSORS PROVIDE AND YOU ACCEPT THE FIRMWARE "AS IS" WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. YOU ACCEPT THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE FIRMWARE.

UNLESS REQUIRED BY APPLICABLE LAW, AND AS PROVIDED IN THE GPL AND LGPL, IN NO EVENT WILL PIONEER OR ITS LICENSORS BE LIABLE TO YOU OR ANY THIRD PARTIES FOR DAMAGES OF ANY KIND ARISING OUT OF YOUR USE OR INABILITY TO USE THE FIRMWARE, INCLUDING WITHOUT LIMITATION ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, CONSEQUENTIAL, PUNITIVE OR EXEMPLARY DAMAGES, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

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 on a circuit different from

that to which the receiver is connected.

- Consult the dealer or an experienced radio/TV technician for help.