




**Audiobahn®**  
QUALITY, RELIABILITY, & PURE BLISS



Multi-functional  
Source Unit  
A 3351 / A 3451

**OPERATING INSTRUCTIONS**

PLEASE READ THIS MANUAL BEFORE OPERATING UNIT. RETAIN FOR FUTURE REFERENCE.



## The Audiobahn Way

To bring the product to market that excites the consumer through sound and vision from an orientation of integrity and customer service. We make you look as good as you sound. We strive to take car audio to an extreme the world has never seen, and a world that never stops evolving.

Audiobahn was established in 1997 with one long-term goal in mind, **"Build it Bigger, Badder, & Better, and the people will take notice!"** We back this statement with an engineering team that has brought home several Innovations, Design & Engineering Showcase Awards, and a marketing team from around the world that spends countless hours developing our no compromise products to satisfy the most discriminating enthusiasts.

Our global manufacturing facilities feature ISO9002 ratings (the highest level of quality control awarded in the electronics manufacturing industry), fully robotic assembly lines and a state of the art, California based R & D laboratory.

Due to overwhelming response from our competitors, and our goal to participate in even more events this year, we created **"TEAM AUDIOBAHN."** This organization is designed to create a support network along with shirts and perks for team members. "TEAM AUDIOBAHN" is not only for the diehard competitor, but also for anyone that loves car audio as much as we do. With four levels of play, one is right for you to get started in the Audiobahn family.

Our Technical Department and entire staff look to strive above and beyond the rest of the pack by going that extra mile to help you out. Whether you happen to be a veteran competitor, or a beginner car audio enthusiast that does not know a voice coil from a spider. We are all here to help you get the best system you can with what you have.

Judge for yourself, and remember what it's all about, **"If it's not Bigger, Badder & Better, it's not Audiobahn."** If audio is your life, Audiobahn is the brand for you! We make you look as good as you sound. People never stop trying to get the best product, so we will never stop making it.

\*To learn more about "TEAM AUDIOBAHN" please give us a call, see our website at [www.audiobahninc.com](http://www.audiobahninc.com), or email us at [team@audiobahninc.com](mailto:team@audiobahninc.com) to learn about all the details.

## Introduction

Dear Customer,

Congratulations on your purchase of the worlds finest brand of car audio products. Here at Audiobahn Inc. we are devoted to making our musical reproduction the very best, and we are pleased you have chosen our product. Through years of engineering expertise, hand craftsmanship, and critical testing procedures, we have created a wide range of products that reproduce music with all the clarity and richness you deserve.

For maximum performance we recommend you have your Audiobahn product installed by an Authorized Audiobahn Dealer, as we provide specialized training through our Audiobahn Installer Training Programs. Please read your warranty, keep your receipt, and original carton for possible future use.

Great products and proper installation are only a small piece of the puzzle when it comes to your system. Make sure that your installer is using only 100% authentic installation accessories from the Audiobahn Connections. The Audiobahn Connections line has everything ranging from the smallest terminal, to power wires up to 0 gauge, and 4 channel RCA cables.

To get a free brochure on Audiobahn products and Audiobahn Connections in the U.S. call (714) 988-0400 or e-mail us at [sales@audiobahninc.com](mailto:sales@audiobahninc.com).

### WARNING

Continuous exposure to sound pressure levels over 100 dB may cause permanent hearing loss. High powered autosound systems may produce sound pressure levels well over 135dB. Need we say more! Use common sense.

If after reading this manual, you still have questions regarding your product, we recommend that you see your nearest Audiobahn Dealer. A list of Authorized Audiobahn Dealers can be found on our web page. If you need further assistance, feel free to call us at (800)488-8595 and ask for the Technical Department. Be sure to have the model number, date of purchase, and invoice number available when you call.

The model number can be located on the outside of the carton. Record this in the space provided below along with the date of purchase. It is a good idea to keep your receipt with this, as you will need it in the case of a warranty repair or exchange.

Model Number: \_\_\_\_\_ Date of Purchase: \_\_\_\_\_



# Audi

## Getting Started

Welcome to Audiobahn Inc.. This manual has been designed to provide information for the owner, salesperson, and installer. For those of you who want quick information on how to install this product, please turn to the installation section of this manual. Other information can be located by using the table of contents. We at Audiobahn Inc. have worked very hard to make sure that all of the information in this manual is current, but, as we are constantly finding new ways to improve our product, this information is subject to change without notice. All updated information can be found on our web page in the technical support section.

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### **WARNING**

To prevent injury or fire, take the following precautions; Insert the unit all the way in until it is fully locked in place, otherwise it may fall out of place when jolted. When extending the ignition, battery, or ground wires, make sure to use automotive-grade wires or other wires with a 0.75mm<sup>2</sup>(AWG18) or more to prevent wire deterioration and damage to the wire coating.

If the unit starts to emit smoke or strange smells, turn off the power immediately and consult your Authorized Audiobahn Dealer. Make sure not to get your fingers caught between the faceplate and the unit. Be careful not to drop the unit or subject it to strong shock. The unit may break or crack because it contains glass parts.

### **CAUTION**

To prevent damage to the unit, take the following precautions; Make sure to ground the unit to a negative 12V DC power supply. Do not open the top or bottom covers of the unit. Do not install the unit in a location exposed to direct sunlight, excessive heat or humidity. Also, avoid places with too much dust or the possibility of water exposure.

When replacing a fuse, only use a new one with the original rating. Using a fuse with the wrong rating may cause your unit to malfunction. To prevent a short circuit when replacing a fuse, first disconnect the wiring harness. Do not place any object between the faceplate and the unit. Do not use your own screws. Use only the screws provided. If you use the wrong screws, you could damage the unit.

### **PRECAUTION**

The following are things that you should take into consideration.

If:

Your car was parked in direct sunlight resulting in a considerable rise in temperature inside the car, allow the unit to cool off before operating it.

No power is being supplied to the unit, check the connections first.

Everything is in order, check the fuse.

Your car is equipped with a power antenna, it will extend automatically while the unit is operating.

You have any questions or problems concerning your unit that are not covered in this manual, please consult your nearest Authorized Audionbahn Dealer.



## Warning

### **Volume Level**

For your driving safety, keep the volume level low enough to be aware of road and traffic conditions and emergency vehicles.

### **Car Washing**

To avoid electrical shorts which may cause fire, or other damage, do not expose this product (including the speakers and CDs) to water or excessive moisture.

### **Car Ventilation**

If your car is parked for several hours in direct sunlight, the temperature inside the car may become very high. It is advisable to drive the car and give the interior a chance to cool down before switching the unit on.

### **Power Supply**

This product is designed to be used in a car having a 12 Volt negative ground battery system.

### **Disc Mechanism**

Do not insert coins or any small objects into the unit. Keep screwdrivers and other metallic objects away from the disc mechanism and disc.

### **Service**

This product is made of precision parts. Do not attempt to disassemble or adjust any parts. For repair, please consult your nearest Authorized Audiobahn Dealer.

### **Note:**

The preset memory is cleared and the original factory settings are restored when the power connector or battery is disconnected.



### Detaching the Front Panel

You can detach the front panel of this unit to help deter the unit from being stolen.

1) Press and hold [Open] to cause the faceplate to slide down and forward. "Remove Panel" and then "Good bye See you again!" will be displayed

**REMOVE PANEL**

**Good-bye  
See you again!**

Unit will turn off

2) Press the release button on the bottom front edge of the faceplate and slide the faceplate away from the unit.

3) The faceplate bracket will automatically close after 5 seconds.

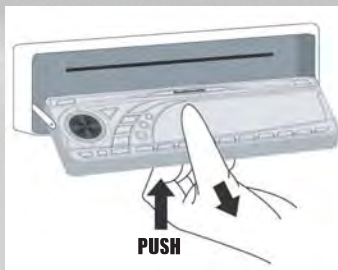
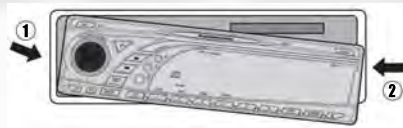


Fig. 1.2 Detaching the Front Panel

**Note** The faceplate bracket will automatically close after 10 seconds even though the faceplate is not detached. When the faceplate slides down, the unit will turn on if the user presses any button except [OPEN] or [EJECT].

### Attaching the Front Panel

Make sure that the faceplate bracket is in the closed position. Press the faceplate against the front of the unit until it clicks into place.



**NOTE:** To protect the front panel, place it in the supplied carrying case when you leave the car.

#### CAUTION

Do not:

- Attempt to attach the faceplate to the faceplate bracket when the bracket is in the open position.
- Manually force the faceplate or you may cause damage to the mechanism that could result in voiding your warranty.
- This faceplate is not waterproof.
- Expose it to water or excessive moisture.
- Remove the faceplate while driving your car.
- Place the faceplate on the dashboard or nearby areas where the temperature rises to high levels.
- Touch the contacts on the face plate or on the main unit, since this may result in poor electrical contacts. If dirt or other foreign substances get on the contacts, wipe them off with a clean and dry cloth. To avoid damaging the front panel, do not push it down or place objects on it while it is open.

### Initial System Start-Up (Reset)

Be sure to press the RESET switch if a fatal problem occurs with the unit or during initial installation. Remove the faceplate to push the reset switch.



Figure 1.3 Bracket & Position of Reset Switch

Use the following instructions (Fig.1.2)to detach the faceplate. Press the RESET button (Fig. 1.3) with a ballpoint pen or a paper clip in the hole at the lower left corner of the unit and gently press it in until the button clicks. "Audiobahn Car Audio System" appears on the display and then "Security Code:" with a blinking cursor. Input the Security Code on Product ID card by turning the Rotary Encoder to choose the number of the digit at the cursor position. Press the [ >> ] button to advance the cursor. Repeat the above procedure. Once all digits are entered, press [Enter].

### **Power On**

1) Turn your car's ignition key to the ACC or ON position. 2) Press any button on the faceplate (except [OPEN] or [EJECT]) to turn on the unit. 3) "Audiobahn Car Audio System" appears on the display for a moment. If you were listening to a song on a CD, the unit plays the song you were listening to the last time.

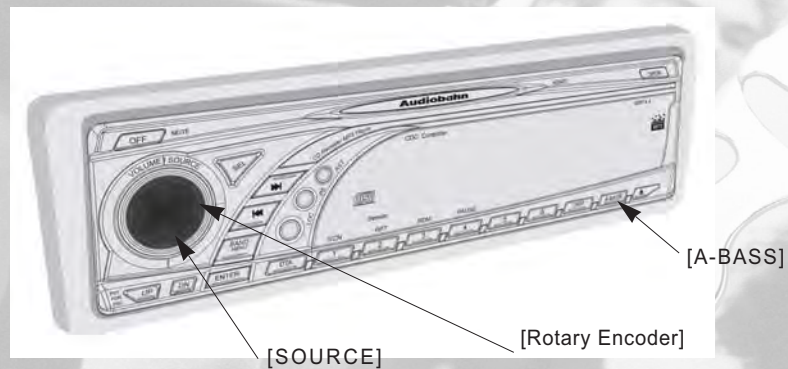
**Note:** Last Song / Level Memory The very first time the power is turned on, the volume will be set to 35. When the unit is turned on, the unit goes to the previous setting you were listening to before the unit was turned off. All the presets, settings and the mode are memorized when the unit is turned off.

### **Power Off**

Press [OFF] button and hold for 1~2 seconds to turn off the unit.

### **Selecting Source**

Press [SOURCE] to change the source.



## Basic Operations

The source will be changed according to the following order:

>TUNER > DISC > (CHANGER) > AUX

TUNER  
FM1 89.10MHZ

DISC  
Track 01 01:16

AUX  
AUX INPUT

Tuner mode (See page 26)

CD mode (See page 14)

AUX mode

### Note:

CHANGER mode is only available if a CD/DVD Changer is connected.  
For Satellite Broadcasting, set to AUX mode.

### Volume

Turn the Rotary Encoder to adjust the volume level.  
Default : 35 Setting Range : 0 to 80 (1dB per step)

Audio Adjustment  
Volume : 35

Note: "MUTE" is displayed if the volume is set to 0.

### Selecting Adjustment modes

1) Press the [SEL] repeatedly to choose the desired adjustment mode.  
Each press changes the mode as follows;

**Bass > Treble > Balance > Fader > Sub woofer Level > Sub Woofer Freq > EQ Curve > Volume**

2) Turn the Rotary Encoder until the desired sound is obtained in each mode.

Note: If the Rotary encoder is not turned within 5 seconds after selecting a mode, **BASS, TREBLE, BALANCE, FADER, SUB WOOFER LEVEL, SUBWOOFER FREQ, EQ CURVE, VOLUME**, the unit automatically sets to the previous mode. When the subwoofer is set to OFF, the level of the subwoofer cannot be adjusted.

### Bass

Turn the bass level up / down  
Default : 0 Setting Range : -7 to +7 (1.7dB per step)

Audio Adjustment  
Bass : 00

## Basic Operation

Audio Adjustment  
Treble : 00

### **Treble**

Turn the treble level up / down  
Default : 0 Setting Range : -7 to +7 (1.7dB per step)

Audio Adjustment  
Balance : C00

### **Balance**

You can adjust the sound balance between the right and left speakers.  
Default : C00(Center)Setting Range : 15 Levels each(1dB per step)

Audio Adjustment  
Fader : C00

### **Fader**

You can adjust the sound balance between the front and rear speakers  
Default : C00(Center)Setting Range : 15 levels each

Audio Adjustment  
Sub-W Level : 00

### **Subwoofer Level**

You can adjust the Subwoofer level from 0 dB to 20dB gain. Default :  
0 Setting Range : 0 to +20 (5dB per step)

Audio Adjustment  
Sub-W Freq. : Flat

### **Subwoofer Frequency**

You can adjust the highest frequency of Subwoofer Output(LPF).  
Default: Flat Setting Range: >Flat ->120Hz ->80Hz ->50Hz<

Audio Adjustment  
EQ Curve : Flat

### **EQ Curve**

Change the Equalizer Curve for Rock, Pop, Classic and Jazz. Default:  
Flat Setting Range : Flat > Rock > Pops > Classic > Jazz

### **About A-Bass**

You can enjoy a clear and powerful bass sound with the A-Bass feature. The A-Bass function boosts the low bass signal with a sharper curve than conventional bass boosts, and it can be configured with a 3 stage bass enhancement.

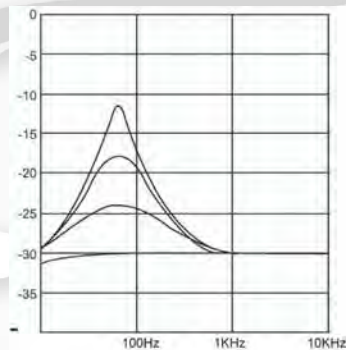


Figure 1.4 Characteristics of A-Bass

### Adjusting A-Bass

- 1) Press the [A-BASS] button repeatedly until the desired bass level (1,2 or 3) appears in the display.
- 2) To cancel, select "A-Bass OFF".

**A-Bass : off**

### Adjusting Source Level

If the difference in volume level of CD, CHANGER(CD/DVD), AUX and TUNER is too much, you can compensate the volume by adjusting each source level. First, set the desired volume level for the TUNER mode, then adjust the volume level of each source.

- 1) Select TUNER mode and tune a station to check the desired volume level.
- 2) Press the [SOURCE] button to select the source you wish to adjust. Then press and hold the [A-BASS] button for more than a second to enable adjustment mode.
- 3) You can adjust the level of the selected source by turning the Rotary Encoder.  
Default : 0 Setting Range : -4 to +4 (1.25dB per step)

**Note:** The gain level of the TUNER can not be adjusted.

**Level :00**

### Mute

Press [MUTE] to mute the audio volume. Press [MUTE] again to revert to the previous volume level.

**Note** In order to pause a CD or the CD/DVD Changer, press the [PAUSE]button.

### **Clock Display**

Press the [ENTER] button to see clock time.  
Clock Display mode will be released automatically after 5 seconds.



**Clock**  
**12:00AM**

#### Setting Clock time

- 1) Press and hold [DISP] for a second to set the clock time.
- 2) "CLOCK SET" will be displayed and the clock time will be displayed.
- 3) Turn the rotary encoder to set the hour. Press the [>>] button and turn the rotary encoder to set minutes. Press the [;<<] button again and turn the rotary encoder to again set the hours.

Press the [ENTER] button to end the setting of clock time.

#### **NOTE**

The seconds will be reset to 00 right after the clock adjustment mode is released. The clock remains at 12:00AM until the time is set.





### ***Opening and Closing the Movable display***

Press the [OPEN] button and the detachable display will open.

Press the [OPEN] button again to close the detachable display.

**Note:** Do not apply resistance to the moveable display when it is open as it may result in malfunction of the unit

**CAUTION** Keep hands (or any other objects) away from the display while it is opening or closing to avoid damage or injury. The back of the movable display will get very warm under normal operating conditions. This is not a malfunction. **Do not touch.** If a disc contains both CD-DA and MP3 data, only first-recorded data is played. Do not pinch your finger or hand in the front panel. Do not insert any foreign material into the disc slot. Do not use irregularly shaped discs. Do not use discs that have a temporary seals or labels attached.

### ***Playback***

Press the [OPEN] button and the detachable display will open. Insert a disc with the label side facing up and the disc will be pulled into the unit automatically. Playback will start automatically. If a disc is already inserted, press [SOURCE] button repeatedly until "DISC" appears to start playback. When a CD is already inserted, playback starts at the last track when leaving the CD mode.

#### **NOTE:** Usable discs

We recommend using only compact discs containing the marks shown below. You can play CD-Rs(CD-Recordable)/CD-RWs(CD-ReWritable) for audio use on this unit. You can also play CD-Rs/CD-RWs containing MP3(A3451 Only) formatted audio files.

Some of the following CDs may not play on this unit:

Flawed CDs, CDs with fingerprints, CDs exposed to extreme temperatures or sunlight (e.g., left in the car or this unit), CDs recorded under unstable conditions. CDs on which a recording failed and a re-recording was attempted. Use discs with MP3(A3451 Only) files written in the format compliant with ISO9660 level 1 or level 2. For details, see page 24.

On handling Compact Discs(CD/CD-R/CD-RW)

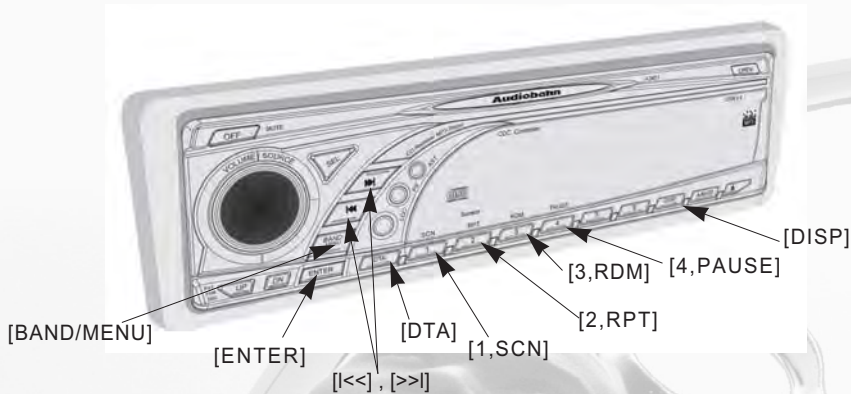
Do not touch the surface

Do not expose the disc to direct sunlight.

Do not affix temporary stickers or labels.  
 Clean the disc when it is dusty.  
 Make sure that there are no bumps around the disc.  
 Do not use commercially available disc accessories.  
 Do not leave the disc in the car or the unit for a long time.  
 Never expose the disc to direct sunlight.  
 Heat and humidity may damage the CD and you may not be able to play it again.

**Ejecting CD**

To eject a disc when it is being played, press [▲] button.



**Changing Display**

Press the [DISP] button to change the display.

Track No. and Elapsed Time > Disc Name > Track > Name

DISC	Disc Name	Track Name
Track 01 02:07	ABBA	Barbie Girl

**NOTE** Disc Name and Track Name are only available when a CD Text disc is inserted.

**Track up and Down**

Momentarily press the [◀] button once during CD play to return to the beginning of the current track. Press once again within 5 seconds to play the previous track. Press repeatedly until you reach the desired track. Press the [▶] button once to advance to the beginning of the next track. If you wish to access a track further ahead, press repeatedly until the desired track is reached.

**Fast forward and backward**

Press and hold the [I<<] , [I>>] button to move backward or forward and release to resume the playback.

**Pause**

To pause playback, press the [4, PAUSE] button.  
Press the [4, PAUSE] button again to resume playback.

**DISC**  
**PAUSE**

**Repeat Play**

Press the [2,RPT] button to repeatedly play the current track.  
Press the [2, RPT] button again to deactivate the repeat play.

**DISC Repeat**  
**Track 03 02:13**

**NOTE:** The CD will be automatically repeated played back when the end of the disc is reached.

**Random Play**

Press the [3, RDM] button to play back all the available tracks in a random sequence.  
Press the [3, RDM] button again to cancel the random play.

**DISC Random**  
**Track 09 01:27**

**Intro SCAN Play**

Press the [1, SCN] button and only the first 10 seconds of each track will be played back in sequence.  
Press the [1, SCN] button to cancel the Intro SCAN Play

**DISC Intro scan**  
**Track 10 00:09**

**NOTE** The Intro SCAN mode will be stopped and returned to the previous playback after all tracks are played.

The Intro SCAN mode will be released when the [2, RPT] or the [3, RDM] button is pressed. The current track will be Repeated or Randomly played correspondingly. The Intro SCAN mode will be also released when [[<<] or [>>]] button is pressed. The beginning of the current track or next track will be played correspondingly.

### **Direct Track Access Mode**

- 1) Press the [DTA] button to change to the Direct Track Access Mode.
- 2) Turn the Rotary Encoder or use the [[<<] and [>>]] button until you reached the desired track.
- 3) Press the [ENTER] button when you find the desired track.

**NOTE** The Direct Track Access Mode will be released if the [DTA] button is pressed again during the process. In MP3 CD mode, DTA, DFA and Wildcard search mode can be selected after the [DTA] is pressed. Refer to MP3 CD section for DTA mode of MP3 CDs (A3451)

### **MENU for Additional Functions : Track Programming, ESP and Version**

#### **Selecting MENU for Additional Functions**

Press and hold the [BAND/MENU] button to enter the Menu mode.  
Press [ENTER] to choose the desired menu.  
Each press changes the menus as follows;

**VIEW PROGRAM > EDIT PRGRAM > ESP > COMPRESSION > VERSION NUMBER**

**DISC**  
View program

**DISC**  
Edit Program

**DISC**  
EPS : Off

**DISC**  
Compression:Off

**DISC**  
Version Number

Turn the rotary encoder to change setting for ESP or Compression mode.

#### **Viewing Track Program ("VIEW PROGRAM ")**

Press the [ENTER] button to display the index and track number.  
"NO MEMORY" will be displayed if there is no track program stored.  
Press the [ENTER] button to display the next index and track number.  
Press the [DTA] button for more than 1 second to exit the PROGRAM VIEW menu.

### Editing Track Program ("EDIT PROGRAM ")

Turn the Rotary Encoder or press [◀] and [▶] to select the desired track. Press the [ENTER] button to store the desired track at the desired current number. Press [ENTER] button when the track number is displayed as "--", in order to return to and edit the first index. Press the [DATA] button for more than 1 second if you wish to clear the program list. Press the [ENTER] button for more than 1 second to end the program edit.

**DISC**  
**P01 : Track5**

**DISC**  
**P08 : Track --**

**NOTE:** This menu is available only in Audio CD mode. Up to 20 songs can be programmed. Any non-programmed index will be skipped in the playing back order. The stored track program will be erased when the CD is ejected from the player.

### Playing programmed tracks

Press the [BAND] button to play the programmed tracks "NO DATA" will be displayed if there is no track program stored. Press the [BAND] button again to return to Normal Play mode.

### Setting ESP (Electronic Shock Protection)

Turn the Rotary Encoder to select ESP ON/OFF. Press the [ENTER] button to end the ESP setting.

**NOTE** The factory default is ESP OFF.

### Setting Compression Mode for ESP

Turn the Rotary Encoder to select COMPRESSION ON/OFF. Press the [ENTER] button to end the setting of the Compression mode for ESP.

	COMPRESSION Time	Remarks
OFF	10 seconds	
ON	40 seconds	
MP3	1 min 40 seconds	128Kbps Compression Rate

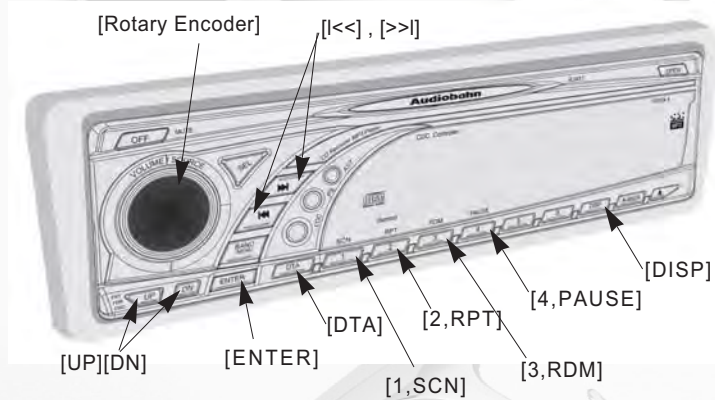
Figure 1.5 Comparison table for ESP Compression mode

**NOTE** The factory default is COMPRESSION OFF.

### Version Number

Select Version Number and press [ENTER]. The 10-digit version number will be displayed. The left-most 5-digits are used for Main MCU and the right-most 5-digits are used for CD MCU. Press the [ENTER] button to end the display of the version number.

**NOTE** The version number is used to identify the product.

**(A3451 Only)****Playing MP3 Files**

See page 16 about Inserting and Ejecting Discs

Press [SOURCE] to select the DISC mode and playback starts automatically.

**Changing Display**

Press [DISP] button to change the display.

File No. and Elapsed **Time** > **Folder Name** > **File Name** > **ID3 Tag** > **Frame Info**

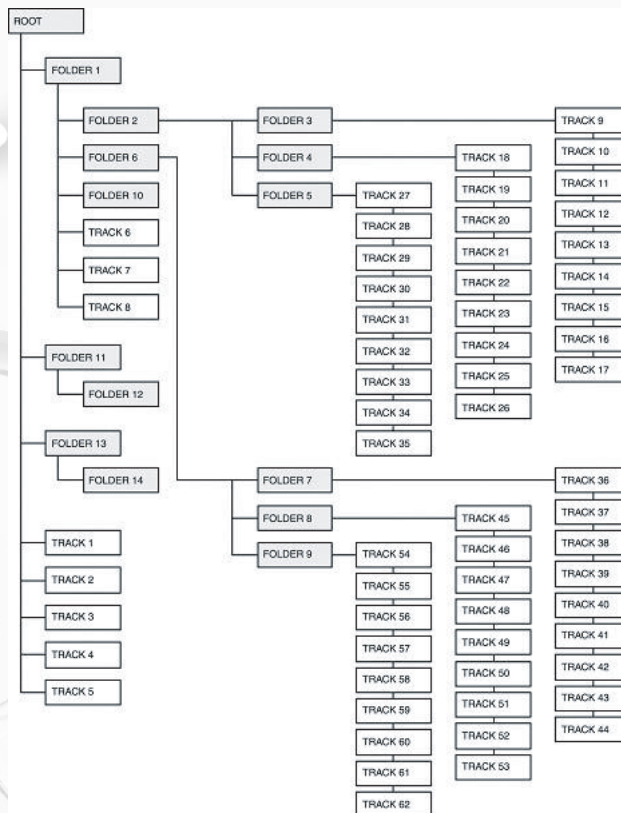
**Folder Selection**

Press Folder [UP], [DN] to select the next or previous folder.



## Order of playing tracks

The following diagram of directories illustrates the playing order



## File up and down

Press the [||<<] button once during MP3 play to return to the beginning of the current file. Press once again within 5 seconds to play the previous file. Press repeatedly until you reach the desired file. Press the [||>>] button once to advance to the beginning of the next file. If you wish to access a file further ahead, press repeatedly until the desired file is reached.



### **Pause**

To pause playback, press the [4, PAUSE] button.  
Press the [4, PAUSE] button again to resume playback.

### **File Repeat Play**

Press the [2,RPT] button to repeatedly playback the current MP3 file and the MP3 file will be played repeatedly.  
Press the [2, RPT] button again to deactivate the repeat play.

**NOTE:** When play order settings (Scan/Repeat/ Random) are selected, the current mode will be released.

### **Folder Repeat Play**

Press and hold the [2,RPT] button to repeatedly playback the MP3 files in the current folder. The MP3 files will be played repeatedly.  
Press the [2, RPT] button again to deactivate the folder repeat play.

### **Random Play**

Press the [3, RDM] button to play back all the available MP3 files in a random sequence.  
Press the [3, RDM] button again to cancel the random play.

### **Intro SCAN Play**

Press the [1, SCAN] button and the first 10 seconds of each file will be played back in sequence.  
Press the [1, SCAN] button to cancel the Intro SCAN Play

**NOTE:** The Intro SCAN mode will be stopped and returned to the previous playback after all MP3 files are played. The Intro SCAN mode will be released when the [2, RPT] or [3, RDM] button is pressed. The current file will be Repeatedly or Randomly played correspondingly. The Intro SCAN mode will also be released when the [||<<] or [||>>] button is pressed. The beginning of the current file or next file will be played correspondingly.

### **Direct Track Access Mode**

There are 3 different modes to find the desired MP3 file  
Press the [DTA] button repeatedly to select the desired search mode  
Each press changes the mode as follows

> DTA > DFA > WCS>





### **Direct Track Access Mode**

- 1) Press the [DTA] button to change to the Direct Track Access (DTA) Mode.
- 2) Press the [ENTER] button to select the selection menu.
- 3) Turn the Rotary Encoder or use the [||<<] and [>>|] button until you reached the desired track.
- 4) Press the [ENTER] button if you find the desired track.

### **Direct File Access Mode**

- 1) Press the [DTA] button to change to the Direct File Access (DTA) Mode.
- 2) Press the [ENTER] button to enter the selection menu
- 3) Turn the Rotary Encoder or press [>>|] or [||<<] button until you reached the desired folder. Press the [ENTER] button when you find the desired folder.
- 4) Turn the Rotary Encoder or press the [||<<] or [>>|] button until you reach the desired MP3 file.
- 5) Press the [ENTER] button once you find the desired MP3 file.

**NOTE:** The Direct Track Access Mode will be released if the [DTA] button is pressed and held for a second or more

### **Wildcard Search**

- 1) Press the [DTA] button to go to mode for Wildcard Search.(WCS)
- 2) Press the [ENTER] button to start the search Mode.
- 3) “-“ will be displayed at the left most digit of the LCD display
- 4) Press the [||<<] or [>>|] button to set the cursor's position.
- 5) Rotate the [Rotary Encoder] to select the desired character  
Available Characters:  
ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789  
< counterclockwise          clockwise >
- 6) Press the [ENTER] button to start the Wildcard Search after composing your search selection.
- 7) The matching MP3 file/folders will be displayed after the file search.
- 8) Rotate the [ROTARY ENCODER] to select the desired MP3 file/folder.
- 9) Press the [ENTER] button to playback the MP3 file/folder.
- 10) “No File Found” will be displayed if no matching MP3 files / folders exists on the disc.
- 11) Press the [DTA] button to cancel the Wildcard Search.

**NOTE:** The number of usable characters is limited to 8 characters only.

### **About the usable discs**

We recommend using only compact discs containing the marks shown below. You can play CD-R's (CD-Recordable)/CD-RWs (CD-ReWritable) for audio use on this unit. You can also play CD-R's/CD-RW's containing MP3 formatted audio files.

- Some of the following CD's may not play on this unit: Flawed CD's, CD's with fingerprints, CD's exposed to extreme temperatures or sunlight (e.g., left in the car or this unit), CD's recorded under unstable conditions, CDs on which a recording failed and a re-recording was attempted.
- Use discs with MP3 files written in the format compliant with ISO 9660 level 1 or level 2.



### **About MP3**

#### **CAUTION**

Except for personal enjoyment, duplicating audio data (including MP3 data) or distributing, or copying it, whether for free or for a fee, without the permission of the Copyright Act International Treaty are regulated by Federal Law.

#### **What is MP3**

MP3, whose official name is "MPEG Audio Layer 3", is a compression standard prescribed by the ISO, the International Standardization Organization and MPEG which is a joint activity institution of the IEC. MP3 files contain compressed audio data. MP3 encoding is capable of compressing the audio data at extremely high ratios shrinking music files by as much as one-tenth their original size. This is achieved while still maintaining near CD quality. The MP3 format realizes such high compression ratios by eliminating the sounds which are either inaudible to the human ear or masked by other sounds.

#### **Method for creating MP3 files**

The software used to create MP3 files is widely sold or free from various sources. For details on creating MP3 files, refer to the user's manual for that software. The MP3 files that can be played back by this device have the file extension "mp3." Files with no extension cannot be played back. Supported playback sampling rates and bit rates  
sampling rates: 8 kHz- 48 kHz, bit rates: 8-384 kps

#### **ID3 tags**

This device supports ID3 tag v1 and v2.  
If id3 tag data is an mp3 file, this device can display the title (track title), artist name, and album name ID3 tag data.

## Controls and Functions

### Producing MP3 discs

MP3 files are prepared, then written to a CD-R or CD-RW using CD-R writing software, up to 999 files, 100 folders. (including Root folders)

### Media supported

The media that this device can play back are CD-ROM's, CD-R's, and CD-RW's. Corresponding File Systems

This device supports discs formatted with ISO9660 Level 1 or Level 2. Under the ISO9660 standard.

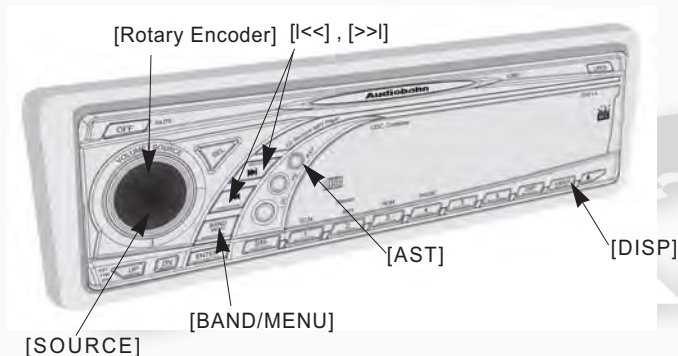
The maximum nested folder depth is 8 (including the root directory). File/folder names are limited to 64 characters. Valid characters for folder/file names are letters A-Z, a-z, numbers 0-9, and `\_` (underscore).

This device also can playback discs in Joliet and other standards that conform to ISO9660. However, sometimes the file names, folder names, etc, are not displayed correctly.

### Formats supported

This device supports CD-ROM XA, Mixed Mode CD, enhanced CD (CD-Extra) and Multi-Session.

This device may not correctly play back discs recorded with Track At Once or packet writing.



## Changing Display

Press the [DISP] button to change the display.  
Station Frequency > Station Name

<b>TUNER P1</b>	<b>TUNER P1</b>
<b>FM1 89.10MHZ</b>	<b>NBC</b>

“No Memory” is displayed if no Station Name is set. The Station frequency is displayed for a moment when changing to a preset with a Station name.

## Manual Tuning

Press the [SOURCE] button to select the [TUNER] mode.  
Press the [BAND/MENU] button repeatedly until the desired radio band is displayed > **FM1 > FM2 > FM3 > AM1(MW) > AM2(LW)**

<b>TUNER</b>	<b>TUNER</b>	<b>TUNER</b>
<b>FM1 89.10MHZ</b>	<b>FM2 88.5MHZ</b>	<b>FM3 99.10MHZ</b>
<b>TUNER</b>	<b>TUNER</b>	
<b>AM1 530KHZ</b>	<b>AM2 550KHZ</b>	

Press the [[<<] or [>>]] button repeatedly until the desired station frequency is displayed.

## Automatic Seek Tuning

Press and hold the [[<<] or [>>]] button for more than a second to find a station downward or upward respectively. Press the same button again to seek the next stations.

## Preset Tuning

- 1) Press the [BAND] button repeatedly until the desired radio band is displayed.
- 2) Press the preset number [1 through 6] buttons to tune to the preset station.



## **Station Preset Memory**

- 1) Select a band and tune to the desired radio station you wish to store in the preset memory
- 2) Press and hold a Preset number [1 through 6] button for a second to store the station in that preset slot.

## **Automatic Seek and Preset Memory Mode (Auto Store)**

- 1) Press and hold the [AST] button for a second to start Auto Store
- 2) The tuner will automatically seek and store 6 strong stations in FM3/AM2(AM)/LW/MW mode in the order of signal strength. When the automatic memory has been completed, the tuner goes to the frequency of first preset number of the stored preset number series.

**NOTE** The last band of each Tuner mode (FM3/AM2(AM)/LW/MW) is used for Auto Store PresetTuner modes vary by location and are factory set according to the area where the unit is sold

## **Programmable Station Memory**

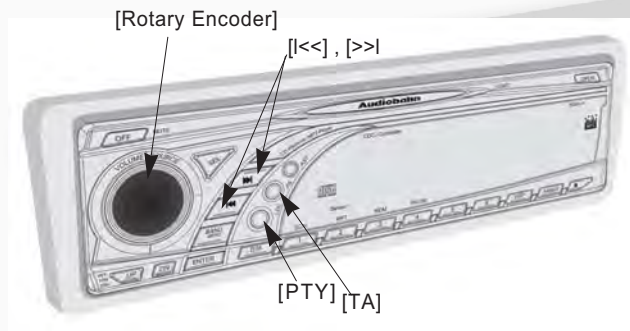
The name of a station can be stored in memory using up to 12 characters as a title. Each of the 30 preset stations can be programmed with their own name.

### **Programming Station Title Memory**

- 1) Press and hold the [Band/Menu] button after tuning the station to be titled, the "NAMESET" is displayed for a second and a "-" cursor will be blink at the first character position. Available characters> 0123456789,ABCDEFGHIJKLMNQRSTUWXYZ, abcdefghijklmnopqrstuvwxyz, \*,+,-,.,/,;,:,<,>,?,@,[,],^,- ( \_ means "space".)
- 2) Turn the Rotary Encoder to select desired characters.
- 3) Press the [||<<] or [||>>] buttons to move the cursor position.
- 4) Press the desired Preset Number [1~6] button for more than a second to store the station and title at the selected preset.

### **Erasing Station Name**

- 1) Press and hold the [ENTER] button when Station Title is displayed.
- 2) Press the [ENTER] button again when Station Title is flashing. The Station frequency will be displayed automatically if the Station Title is erased properly.



### **Basic Functions**

The RDS (Radio Data System) is a radio information system using the 57KHz subcarrier of regular FM broadcasts. RDS allows you to receive a variety of information such as traffic information, station names, and to automatically re-tune to a stronger transmitter that is broadcasting the same program. The following functions are available when receiving RDS stations.

### **PS / AF / TP / TA / PTY**

#### **Program Service Name (PS)**

The name of the station is displayed.

#### **Alternative Frequency (AF)**

Hold and press the [TA] button for a second to toggle AF mode.

#### **Traffic Programs(TP)**

Identifies Traffic program

#### **Traffic Announcement(TA)**

Radio announcement on traffic conditions.

- 1) Press the [TA] button to toggle TA mode.
- 2) Press the [ << ] or [ >> ] button to select a traffic information station if necessary.



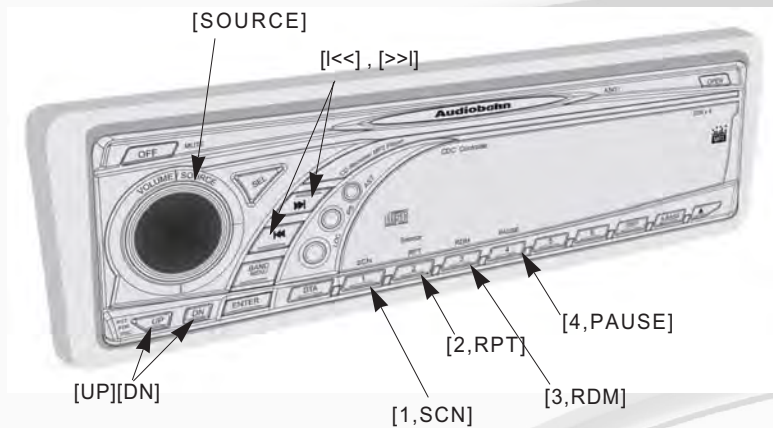
When a traffic information broadcast starts, the unit automatically mutes the CD player/changer. When the traffic information broadcast finishes, the unit automatically returns to the original source play before the traffic information broadcast began.

### **Program Type (PTY) Mode**

Press the PTY button to activate the PTY mode, while the unit is in Radio (FM receiving) mode. The Program Type of the station being currently received will be displayed for 5 seconds. Turn the Rotary Encoder within 5 seconds after activating the PTY mode to choose the desired program type while the PTY (program type) is being displayed.

**NEWS****AFFAIRS****INFORMATION**

Press the PTY button within 5 seconds after selecting the program type to start searching for a station in the selected program type. The chosen program type indicator blinks during searching and lights when station is found



## **CD Changer Control**

### **Playback**

Insert the Magazine and press the [SOURCE] button to activate the CD CHANGER mode. Playback will start automatically.

### **Next / Previous Track**

Press [>>] to go to next track

Press [||<<|] to return to beginning of current track

Press [||<<|] once again within 5 seconds to play the previous track, then press repeatedly until you reach the desired track.

### **Fast forward and backward**

Press and hold the [||<<|] or [>>|] button to move fast backward or forward and release to resume the playback.

### **Pause**

To pause playback, press the [4, PAUSE] button.

Press the [4, PAUSE] button again to resume playback.





### **Repeat Play**

Press the [2, RPT] button to playback the current track and the track will be played repeatedly.

Press the [2, RPT] button again to deactivate the repeat play.

**NOTE** All the tracks will be automatically played back repeatedly on the CD.

### **Random Play**

Press the [3, RDM] button to play back all the available tracks in a random sequence. Press the [3, RDM] button again to cancel the random play.

### **Disc Selection**

Press [UP] or [DN] to select the next disc or previous disc.

### **Disc Scan**

Press and hold the [1, SCN] button and the first 10 seconds of the first track on each discs will be played back in sequence.

Press the [1, SCN] button again to cancel the Disc ScanPlay.

### **Disc Repeat Play**

Press and hold the [2, RPT] button to playback all of the tracks on the current CD. The tracks will be played repeatedly.

Press the [2, RPT] button again to deactivate the CD repeat play.

### **DVD Changer Control**

#### **Disc Selection**

Press [UP] or [DN] to select the next disc or previous disc.

#### **Next / Previous Track**

Press [>>] to go to next track

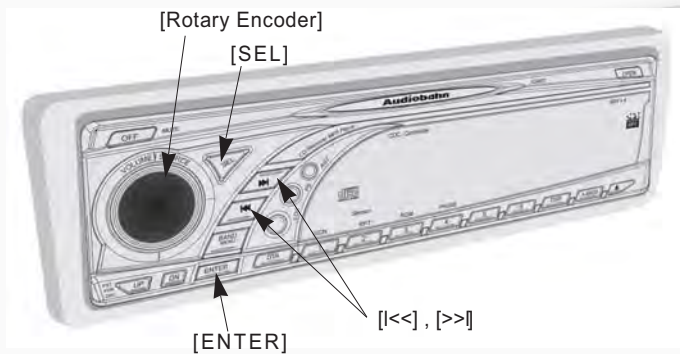
Press [I<<] to return to beginning of current track.

Press [I<<] once again within 5 seconds to play the previous track.

Press repeatedly until you reach the desired track.

#### **Fast forward and backward**

Press and hold the [I<<] or [>>] button to move fast backward or forward and release to resume the playback.



Press and hold the [SEL] button for a second to enter Setting Mode.  
Press the [SEL] repeatedly to choose the desired Setting mode.

**>Button Beep > Lighting > Brightness > Source Type > Local/ DX Seek > Regional > TA Volume > RDS Type > Change Sec. Code**

### **Button Beep**

Turn the Rotary Encoder to toggle the mode between "Beep On" and "Beep Off".

**System Settings**  
**Button Beep : On**

**NOTE** The initial setting at the factory is "BEEP ON".

### **Changing Front Panel Lighting Color**

Turn the Rotary Encoder to toggle the mode among "Blue", "Red" and "Green"

**System Settings**  
**Lighting : Blue**

**NOTE** The initial setting at the factory is "Blue".

### **Adjusting Display Brightness**

Turn the Rotary Encoder to select the Brightness Level in the setting range from 1 to 11.

#### **System Settings**

**Brightness : 06**

**NOTE:** The initial setting at the factory is "06"

### **Changing Source Type**

Turn the Rotary Encoder to select the source type  
Range : Aux > MD > DVD

#### **System Settings**

**Source type : AUX**

**NOTE:** The initial setting at the factory is "Aux"  
In case of satellite broadcasting, set to AUX.

### **Local / DX Seek**

Turn the Rotary Encoder to select either the Local or DX seek setting. When using the Local Seek setting, only stations with a strong signal will be tuned during Automatic Seek or Auto Store Tuning.

#### **System Settings**

**Seek : Local**

**NOTE:** The initial setting at the factory is "DX"

### **Selectable RDS Regional Setting**

Turn the Rotary Encoder to select either the RDS Regional On or Off. When RDS Regional is On, the unit will only allow AF switching to the exact matching broadcast (PI Code). When RDS Regional is Off, the unit will allow AF switching to regional variants of the broadcast.

#### **System Settings**

**Regional : On**

**NOTE:** The initial setting at the factory is "On"

### **TA Volume Level**

Turn the Rotary Encoder to adjust TA Volume Level ("TA Volume") in the setting range from 0 to 80.

**System Settings**  
**TA Volume : 40**

**NOTE** The initial setting at the factory is "40"

### **RDS Type**

Turn the Rotary Encoder to select either RDS - Europe, or RBDS - USA, depending on your geographic location.

**System Settings**  
**RDS : Europe**

**NOTE** The initial setting at the factory is "RDS - Europe"

### **Changing Security Code**

Turn the Rotary Encoder to select the "change Sec. Code"  
Press [ENTER] and input the current Security Code by using Rotary Encoder & [>>],[<<] keys, then press [ENTER].  
Input the New Security Code and press [ENTER].  
Input the New Security Code once again and press [ENTER].

**System Settings**  
**Change Sec. Code**

**NOTE**

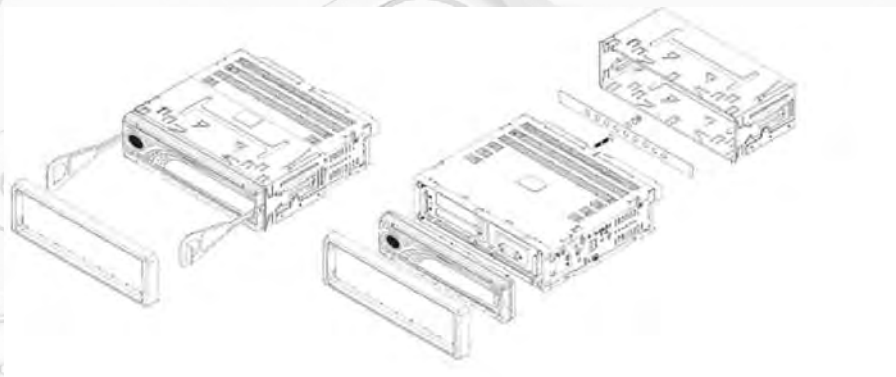
The initial set security code at the factory is on your Product ID Card. This factory set security code will always work even if you forget what you changed it to. If you do not enter a code for the new security code, the security code will be disabled and resetting the unit or disconnecting / reconnecting the battery will not require a security code to operate the unit.

### *Installation*

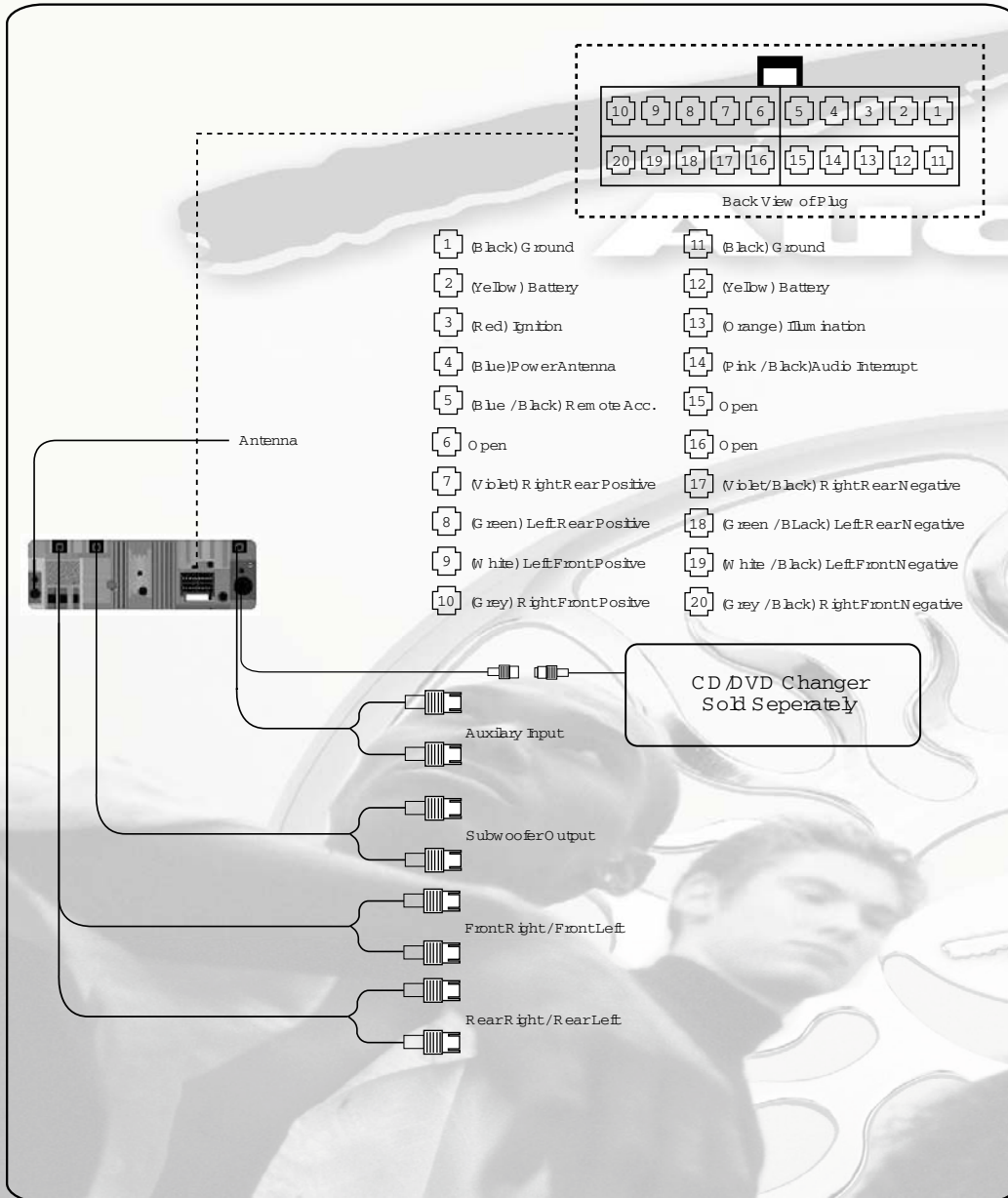
#### **Installation Procedure**

1. To prevent a short circuit, remove the key from the ignition and disconnect the (-) battery.
2. Make the proper input and output wire connections for each unit.
3. Connect the speaker wires of the wiring harness
4. Connect the wiring harness connector in the following order : Ground, Battery, Ignition.
5. Connect the wiring harness connector to the unit
6. Install the unit in your car
7. Reconnect the (-) battery
8. Press the reset button

Align the holes in the unit (two locations on each side) with the vehicle mounting bracket and secure the unit with the accessory screws.



**NOTE:** This installation method is a reference example. Make sure that the unit is installed securely in place. If the unit is unstable, it may malfunction (for example, the sound may skip)





### **Preliminary Steps**

Check and take steps as described in the tables below.

### **If You Suspect Something Wrong**

Immediately switch power off. Disconnect the power cable and check that there is neither smoke nor heat from the unit before asking for repairs. Never try to repair the unit yourself because it is dangerous to do so.

### **Product Service**

If the suggestions in the charts do not solve the problem, we recommend that you take it to your nearest Authorized Audiobahn Dealer. The product should be serviced only by a qualified technician

**NOTE:** Do not use the unit if it malfunctions or something is wrong. Do not use the unit in an irregular condition, for example, without sound, or with smoke or foul smell, which can cause ignition or electric shock. Immediately stop using the unit and call the store where you purchased it.

### **Common**

- No power** Car's engine switch is not on.  
→Turn your car's ignition switch to ACC or ON.  
→Cables are not correctly connected.  
→Connect cables correctly.  
Battery cable: Connect the battery cable to the terminal that is always live. Accessory cable: Connect the accessory cable to your car's ACC source.  
Ground wire: Connect the grounding wire to a metal part of your car.  
→Fuse is burnt.  
→Call the store where you purchased the unit, or your nearest Authorized Audiobahn DEALER and ask for replacement fuses.
- No sound** Mute is set to ON  
→Set it to OFF  
→Cables are not correctly connected.  
→Connect cables correctly. External Mute lead is not correctly connected.  
→Connect the External Mute lead correctly.  
→Condensation (dew)

## Trouble Shooting

### Noise

A mobile phone is used near the unit.  
→Keep the mobile phone away from the unit.

### Radio

Poor reception in FM stereo and monaural broadcasts.

Station is too far, or signals are too weak.  
→Select other stations of higher signal level  
The radio antenna is not extended enough.  
→Fully extend the radio antenna.  
The motor antenna relay control lead is not connected correctly  
→If there is a motor antenna in the car, connect the motor antenna relay control lead to the motor antenna lead that is installed in the car correctly.

Preset station is reset.

Battery cable is not correctly connected.  
→Connect the battery cable to the terminal that is always live.

### CD / MP3

Disc is in the CD compartment, but no sound is made/disc is ejected automatically.

Disc is upside down.  
→Place disc in the correct direction with the label side up.  
Disc is dirty.  
→Clean disc, referring to the section on "CD( Page 14)."  
A disc that has data other than CD-DA or MP3 type is loaded.  
→Only discs that have CD-DA or MP3 type data should be used.

Sound skips, bad sound quality. (i.e. caused by noise)

Disc is dirty.  
→Clean disc, referring to the section on "CD(Page14)"caused by noise  
→Some CD-R/RWs can not be played back successfully due to incompatibility among writing software, a CD recorder(CD-R/RW drive and the discs. Refer to instructions for the concerned devices for details

Disc does not eject

Mounting angle is over 30 degrees  
→Adjust mounting angle to less than 30 degrees.Unstable mounting.  
→Mount the unit securely with the mounting parts, referring to the section on "Warning(Page 5~6)

Disc is in the CD compartment, but no sound is made/disc is ejected automatically

CD is defective. Mechanical trouble.  
→Open the panel and press " EJECT". If normal operation is not restored, call the store where you purchased the unit orthe nearest Authorized Audiobahn Dealer.



## Trouble Shooting

### CD

CD text is not displayed normally

Disc is dirty, or has scratches.  
→Clean disc, referring to the section on " CD.

Time is counted but no sound comes out.

The 1st track of a mix mode disc was reproduced. (Mix mode is a format in which data except music is recorded on the 1st track and music data is recorded on other than the 1st track in a session.)  
→Playback music data recorded on other than the 1st track.

### MP3(A3451 Only)

No playback

The disc does not conform to any of the file systems supported by this player.  
→Insert a disc that conforms to the file systems supported by this player. For supported file systems, see "Creating MP3 files and recording on CD-R/RW (Page 24)."The MP3 file is missing the ".MP3" file name extension.  
→Make sure to add the ".MP3" extension to each MP3 file name.

It takes too long for playback to start

The folders and files recorded on the disc are layered too much.  
→As checking of files takes longer in this case, do not record any unnecessary folders or files other than MP3s on the disc. (If there are many hierarchies of files and folders, it may take up to 150 seconds to start playback.)

Poor recording quality, sound is skipping

The recording quality differs depending on the encoding software used, and on setting such as the bit rate. Set the bit rate within the range specified in the specifications chart (Page 41).

Files are not played in the desired order

High-speed writing was executed when MP3 data was recorded on the disc.  
→Decrease writing speed as low as possible.  
Files or folders are not recorded in the desired playback order.  
→Some writing software lets you specify the recording order by adding a prefix in the range of "01" –"99", etc. to the filename. For details refer to the user manual of your writing software.

Folder / file name is not displayed correctly

The disc does not conform to the file systems supported by this player.  
→Insert a disc that conforms to the file systems supported by this player. For supported file systems, see "CreatingMP3 files and recording on CD-R/RW (Page 24)."  
→There may be a problem with your writing software or CD recorder (CD-R/RW drive). For details refer to the user manual of your writing software.

File playing time is not displayed correctly

You ran the file in fast forward / fast reverse during playback or turned off the ignition switch of the car during playback. Playing another file will return the file playing time to normal. You played a VBR (Variable Bit Rate) format MP3 file.  
→The file playing time of VBR(Variable Bit Rate) format MP3 file is sometimes displayed incorrectly.  
You played a file in which character information had been recorded by use of ID3Tag or later version.  
→A file in which character information was recorded by use of ID3Tag or later version may not be reproduced normally. For example, the file playing time may not be displayed correctly.

### **Sound Setting**

No sound from Left, Right, Front, or Rear Speakers.

Left and right balance, or front and rear balance is off to one side.  
→Adjust BALANCE and FADER as appropriate (Page 12)  
Cables are not correctly connected.  
→Connect the cables correctly.

Left and Right sounds are reversed.

The right speaker lead is connected to the left speaker and the left speaker lead to the right speaker.  
→Connect the speaker leads correctly.

## Specification

### FM TUNER SECTION

Tuning Range	87.5-108.2 MHz (European Version) 87.5-107.9 MHz (US Version)
Usable Sensitivity	5dBuV (S/N 30 dB)
Signal-to-Noise Ratio	65 dB
Stereo Separation	32 dB

### AM TUNER SECTION

Tuning Range	531-1602 KHz (European Version) 530-1710 KHz (US Version)
Usable Sensitivity	35dBuV (S/N 20 dB)
Signal-to-Noise Ratio	50dB

### LW TUNER SECTION

Tuning Range	144-288 KHz (European Version)
Usable Sensitivity	38dBuV (S/N 20 dB)
Signal-to-Noise Ratio	50dB

### GENERAL

Power Requirement	11-16V DC Allowable
Maximum Power Output	45w x 4 (A3351) 50w x 4 (A3451)
Maximum Pre-Output Voltage	4V / 10Kohms
Maximum Subwoofer Output	
Voltage	4V / 10Kohms
Bass	±12dB at 100Hz
Treble	±12dB at 10KHz
Weight	2.5Kg

### CHASSIS SIZE

Width	7" (178mm)
Height	2" (50mm)
Depth	6.1" (155mm)

### CD PLAYER SECTION

Frequency Response	20-20KHz( 3dB)
Total Harmonic Distortion	0.1%(at 1KHz)
Dynamic Range	75dB(at 1KHz)
Signal-to-Noise Ratio	85dB(at 1KHz)
Channel Separation	60dB(at 1KHz)
MP3 decoding (A3451 Only)	MPEG 1 Audio Layer 3 MPEG 2 Audio Layer 3
Bit Rate (A3451)	
(MPEG 1 Audio Layer 2)	32Kbps-380Kbps, VBR(Variable Bit Rate)
(MPEG 1 Audio Layer 3)	32Kbps-320Kbps, VBR(Variable Bit Rate)
(MPEG 2 Audio Layer 3)	8Kbps-160Kbps, VBR(Variable Bit Rate)
Sampling Frequency(A3451)	
(MPEG 1 Audio Layer 3)	32KHz, 44.1KHz, 48KHz
(MPEG 2 Audio Layer 3)	16KHz, 22.05KHz, 24KHz

Specifications and design are subject to modification without notice due to improvement



## FM TUNER SECTION

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MP3 decoding (A3451 Only)	MPEG 1 Audio Layer 3 MPEG 2 Audio Layer 3

### Bit Rate (A3451)

(MPEG 1 Audio Layer 2)	32Kbps-380Kbps, VBR(Variable Bit Rate)
(MPEG 1 Audio Layer 3)	32Kbps-320Kbps, VBR(Variable Bit Rate)
(MPEG 2 Audio Layer 3)	8Kbps-160Kbps, VBR(Variable Bit Rate)
Sampling Frequency(A3451)	
(MPEG 1 Audio Layer 3)	32KHz, 44.1KHz, 48KHz
(MPEG 2 Audio Layer 3)	16KHz, 22.05KHz, 24KHz

Specifications and design are subject to modification without notice due to improvement

