VitaSound TV™
Personal Audio Enhancer
PAE-200

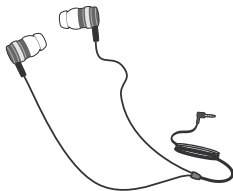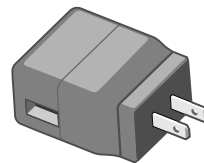# User Manual

1 PAE-200 TV handset

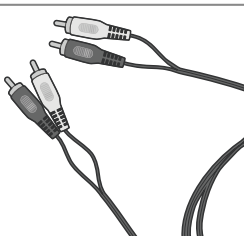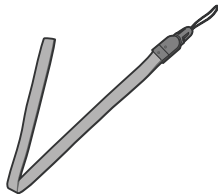2 PAE-200 TV Base unit Transmitter

3 Headset

4 AC/DC USB adaptor 5V 1A

5 USB cable
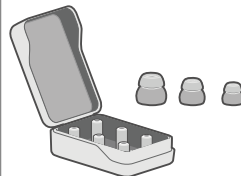
6 Analog (RCA) AV cable

7 Headset case

8 Hanging Neck strap

9 Ear tips (large/regular/small)

Contents

Introduction

Thank you for choosing the Personal Audio Enhancer designed by Vitasound Audio Inc. Please register your product at www.vitasound.com. With "Making Life Sound Better", Vitasound develops and brings to market advanced audio solutions that enhance the quality of life for the boomer generation. Utilizing leading-edge brain science, our patented Neuro-Compensator is a "best-in-class' technology which significantly improves the listening experience by improving the clarity, crispness and naturalness of sound.

PAE-200 TV is a Neuro-Compensator system basic device. Through the complex calculations, it enhances specific sound frequencies to compensate for the hearing while noises will be suppressed. This system is dynamically calculated and adjusting the gain for different frequencies. Users do not need to increase the volume while watching TV, movies or music program.

Important Product Safety and Operation Instructions

- This instruction manual highlights key information about safety, operation and maintenance of the PAE.

- Please read through this manual in its entirety before starting to use the product

- Do not drop, disassemble, burn, paint or insert foreign objects into this product. Do not use this product if it has been cracked, punctured or damaged by water.

- Disconnect all power cables and turn off the system before cleaning this product. Use a soft slightly damp, lint-free cloth to clean.

- Do not use window cleaners, household cleaners, aerosol sprayers, solvents, alcohol, ammonia, or abrasives to clean this product.

- Do not expose the product into water or under water.

- Do not expose under a temperature over 35°C (95°F) such as directly under sunlight or in a car park under sunlight.

- This product use re-chargeable Lithium-ion battery. It must be fully charged before the first use.

- Only the Base Unit provided with this product should be used for charging.

⚠ Warnings

- The battery must be replaced by VitaSound authorized staff. It may cause explosion if the battery is replaced improperly.

- Battery charging should be performed at the temperature of 5°C to 35°C (41°F to 95°F).

- As long as the USB power adapter is connected to the power outlet, it still remains at the AC power. If some trouble occurs while using the USB adaptor, immediately shut off the power by disconnecting the plug from the power outlet.

- To reduce the risk of fire or electric shock, avoid wetting, exposing under water, or replacing containers with water on the product.

- This product has a sound amplifying function and the sound level can cause discomfort or damage hearing if the product is used improperly. Always turn down to a low level before putting on the headset.

- To ensure child safety, please keep the package and small parts included in this product out of reach of children.

💡 Notes

- This product feature is only to cover damaged hearing. It will not restore normal nor reduce the hearing loss.

- This product should be repaired by VitaSound authorized dealers, or service center staff only.

- Any attempted disassembly or repair of the product by a user or unauthorized party will void the product warranty and may irreparably damage the product.

- If you have any service needs and questions, please visit the Vitasound website: www.vitasound.com

Top

Left

Front

Right

Bottom
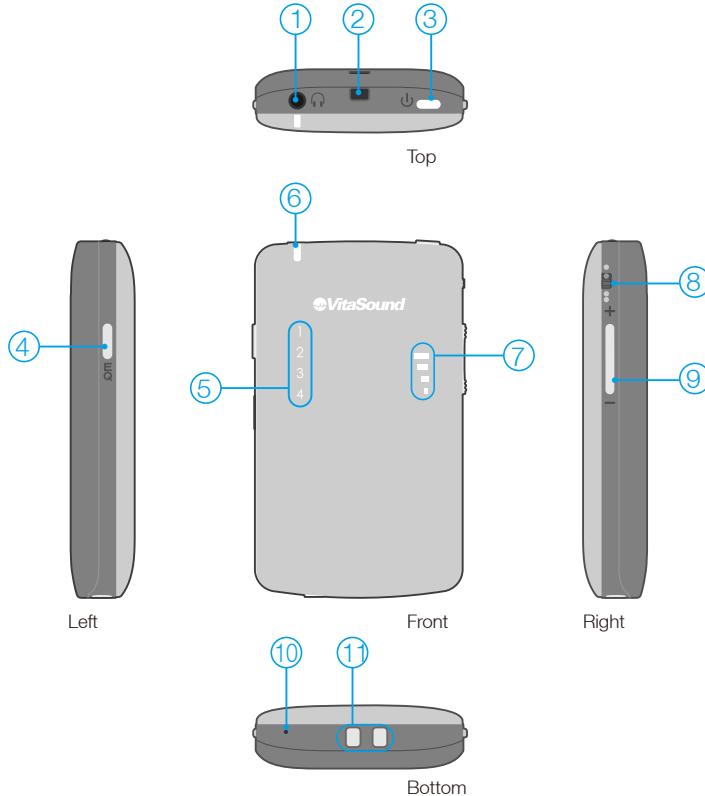
1   Headset port (connect to headset)

2   Hook for neck strap

3   Power button

4   EQ mode button

5   EQ mode indicator (1-4)

6   Power indicator

7   Volume level indicator

8   Volume booster switch

9   Volume adjust buttons

10   Reset button

11   Charging port for Base Unit

@VitaSound
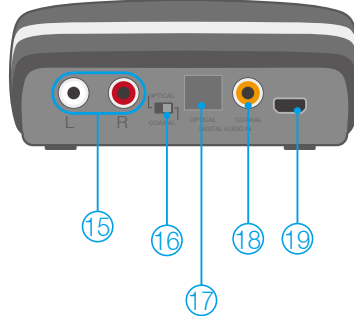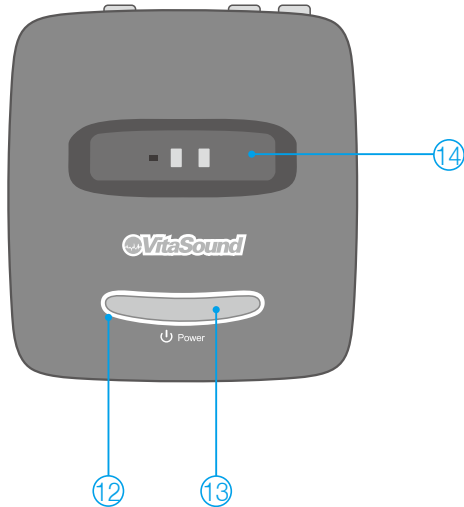
12   Power indicator

13   Power button (transmitting)

14   Charging dock for PAE Handset

15   Analog (RCA) audio-in port

16   Audio input mode switch
     (Optical/Coaxial)

17   Optical audio-in port

18   Coaxial audio-in port

19   USB power adaptor port

Getting Started

1. Connect the RCA audio cable from the Analog audio-in port (15) of the Base Unit to the RCA audio-out port of the TV box

2. Connect the USB power adaptor to the Base Unit power port (19)

3. Put the Handset to the Base unit charging dock (14) for battery charging. It is recommended to charge 5 hours for the first use

4. After charging, put on the neck strap

5. Plug the headset to the headset port (1) on the Handset

6. Power on the TV and the TV box

7. Press the power button (13) to power on the Base Unit, power indicator (12) will be lit up in red color

8. Press the power button (3) to power on the Handset, the power indicator (6) will be flashing

9. When the Handset connects to the Base unit, the power indicator (6) will turn to solid green. TV sound will be played through the headset.

10. Press the volume button (9) to adjust the volume level. Press the ✚ button for increasing the volume level and press the ━ button for lowering the volume level. Volume level indicator (7) will be lit to present the volume level.

11. Severely hearing-impaired persons can turn the volume booster switch (8) on and increase the volume output level.

    ⚠ Except in special circumstances, please keep using the normal volume output

12. Press the EQ mode button (4) to select different preset compensated EQ modes. EQ indicator (5) will show which mode (1, 2, 3 & 4) has been selected. EQ compensation for each person is different, select one of the modes according to the personal preferences.

13. Indicators (5) & (6) will be lit during any operation. The Handset will enter to sleep mode (to save power) if no more operation in process after 40 seconds. All indicators will be turned off automatically.

14. Press and hold the power button (3) will turn off the Handset. Power indicator (6) will be lit out. Press and hold the power button (13) will turn off the Base Unit. Power indicator (12) will be lit out

15. For detailed instructions, please refer to the following manual

Base Unit Installation and Operation

Installation of Base Unit to TV

1. Connect the Base Unit with one end of the analog (RCA) audio cable

   ☀ Red connector to Red port, White connector to white port

2. Connect the other end of the analog (RCA) audio cable to the analog (RCA) audio-out port of the TV box

   ☀ Red connector to Red port, White connector to white port
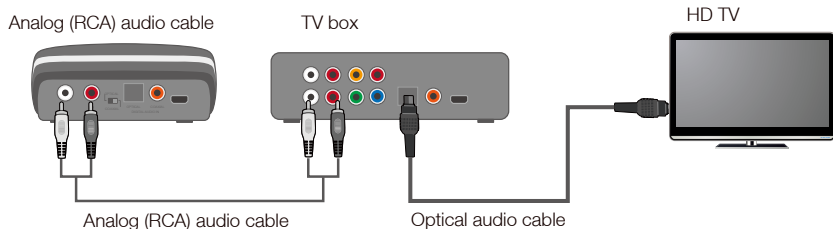
Connect the USB Power Adaptor

1. Connect the USB cable (USB type A end) with the USB power adaptor
2. Plug the adaptor into the wall outlet
3. Connect the other end (USB micro B) of the USB cable into the USB adaptor port on the Base Unit

Base unit – Optical and Coaxial ports

Base Unit allows it to connect to other Smart TVs or advanced video/audio players through the Optical or Coaxial port. Optical and Coaxial cables are optional accessories. Please refer to the instruction manual in the box with the optional parts.

Analog (RCA) audio cable   TV box   HD TV

Analog (RCA) audio cable   Optical audio cable

Base Unit Power ON/OFF and Indicator

1. Press the power button until the Red power indicator is ON
2. It is ready to connect to the Handset when the red light is ON
3. Press and hold the power button until the power indicator is OFF

1 Press

2

3 Press and Hold
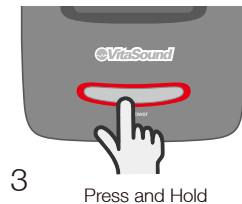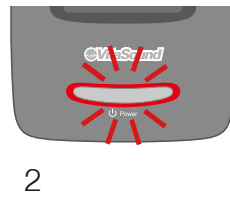
Charging PAE Handset

1. Put the Handset into the Base Unit charging dock
   ☀ No need to turn on the Base Unit and Handset during battery charging
2. The power indicator of the Handset will turn on during battery charging
3. When charging is completed, the indicator will be turned off
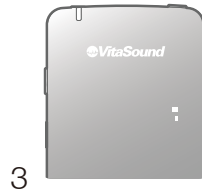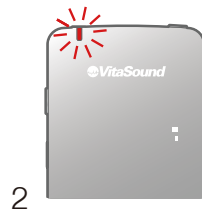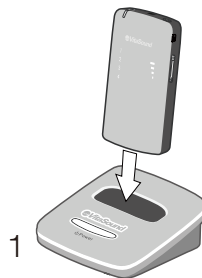
⚠ *This product must be used VitaSound supplied accessory or specified chargers to charge*

1

2

3

☀ Complete charging time: approximately 4 to 5 hours

☀ Battery operation time: approximately 6 to 8 hours

☀ The Handset power button will be flashing in orange and a double Beep sound will be generated through the headset while battery power level is low.

Power on the Handset

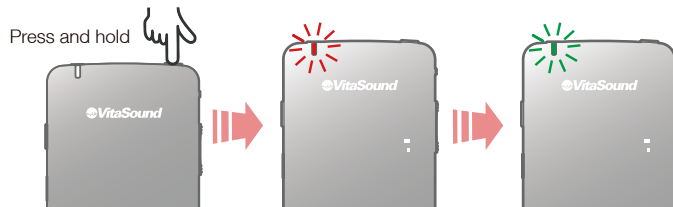Press and hold the power button ⏻ until the Red power indicator is on and flashing. It will search and connect to the Base Unit automatically. The indicator will stop flashing and turn to green color when the Handset is paired to the Base Unit.

Press and hold

Adjust Volume

Press and release ➕ button to increase the volume level.

Press and release the ➖ button to lower the volume level.

There are 8 volume levels to control and each adjustment is 4dB. Volume indicator will show the volume level while adjusting.

Volume adjust button

Volume level indicator
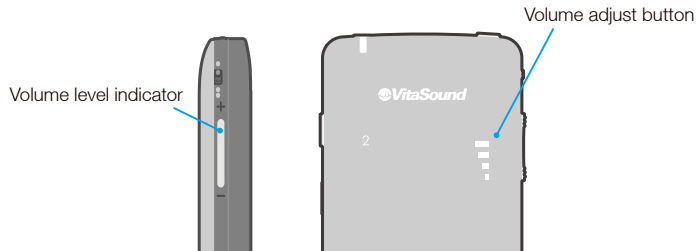
Select Volume Booster

In some cases, user can turn on the volume booster to increase the volume output

● Normal output volume leve

●
● Amplified output volume level

⚠ *Except under special circumstances, it is not recommended to turn on the volume booster*

● Normal output volume level

●
● Amplified output volume level

7

Select EQ Sound Mode

The PAE-200 is equipped with 4 different EQ sound modes. User can select the sound mode according to the personal preferences

EQ mode 1 : overall optimized

EQ mode 2 : Low frequency boost

EQ mode 3 : Medium frequency boost

EQ mode 4 : High frequency boost

EQ mode cycle selection: Press the EQ mode button to switch the EQ mode once; from Mode 1 to Mode 2, from Mode 2 to Mode 3; from Mode 3 to Mode 4; from Mode 4 to Mode 1 and so on.
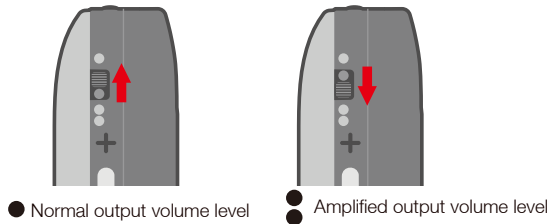
🔅 It is recommended that new users try each EQ mode for 1 minute to find the most personal suitable EQ mode.

EQ mode indicator

EQ mode button
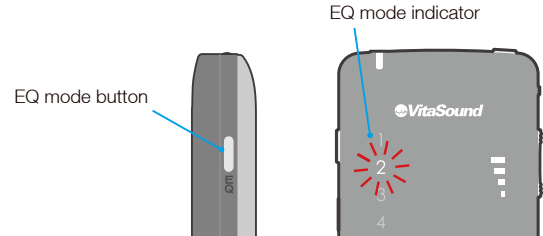
🔅 The corresponding indicator will be lit up after sound mode is selected.

Power Off the Handset

To turn off the PAE Handset, press and hold the power button ⏻ until the power indicator is off.

Press and hold

Sleep & Wake up modes

To save power, PAE will go to sleep mode if the device is not operated in 40 seconds. All EQ and volume LED indicators will be off.

To wake up the PAE, press any button on the device will resume all indicators.

🔅 Any operation is only effective while the PAE is at wake up mode (indicators are on).
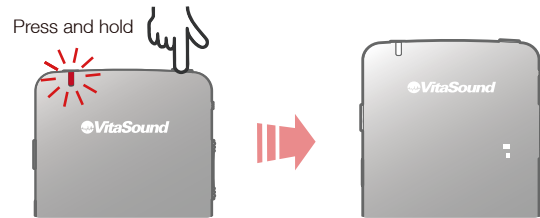
Reset the PAE-200

When the PAE-200 cannot be operated in any situation, press the rest button by a small pin object to reset the PAE-200 Handset.

Reset button

Headset

To achieve the best sound performance, please use the headset provided by VitaSound. After uses, please unplug the headset from the PAE and put it into the headset case.

Ear tips

Pairs of large, regular & small ear tips are also provided. User can choose the one to fit.

AC/DC USB Power Adaptor

Only use the AC/DC USB power adaptor provided by VitaSound.

The rating of the adaptor is shown on the back of the USB adaptor.

⚠️ *Attempt other power adaptor not provided by VitaSound will cause safety problem*
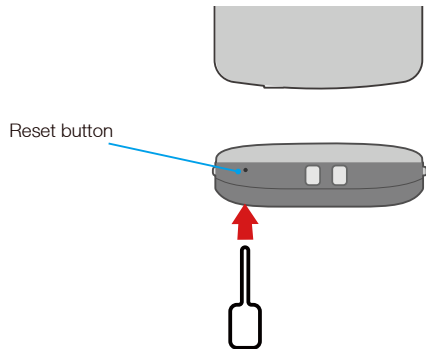
Auto-connection between PAE-200 and Base Unit

If the Handset color of the PAE-200 TV and the "VitaSound" trademark color on the Base Unit Transmitter are the same, they will be connected automatically within a range of 10 meters. No pairing progress is required.

blue trademark

Auto-connection

10 meters

blue color
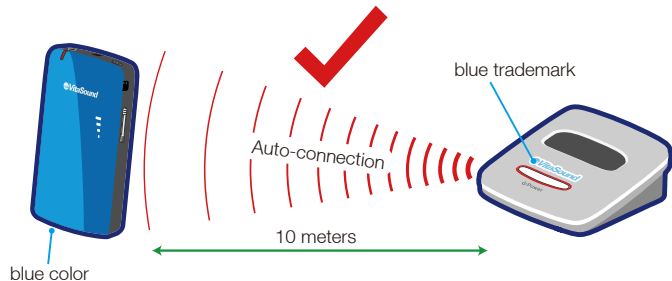
If two Base Units are installed within 5 meters, transmitting signal will be interfered. Power off either one of them according usage situation to prevent signal interference.

5 meters

Cannot recognize the connection
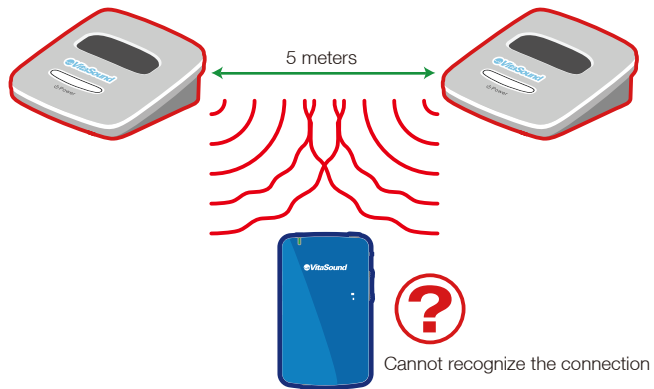
Color Pairing and Connection

If the Handset color of PAE-200 and the "VitaSound" trademark color on the Base Unit are not matched, the Handset and Base Unit will not be paired. Please be aware of the PAE-200 Handset color and the "VitaSound" trademark color of the Base Unit before use.
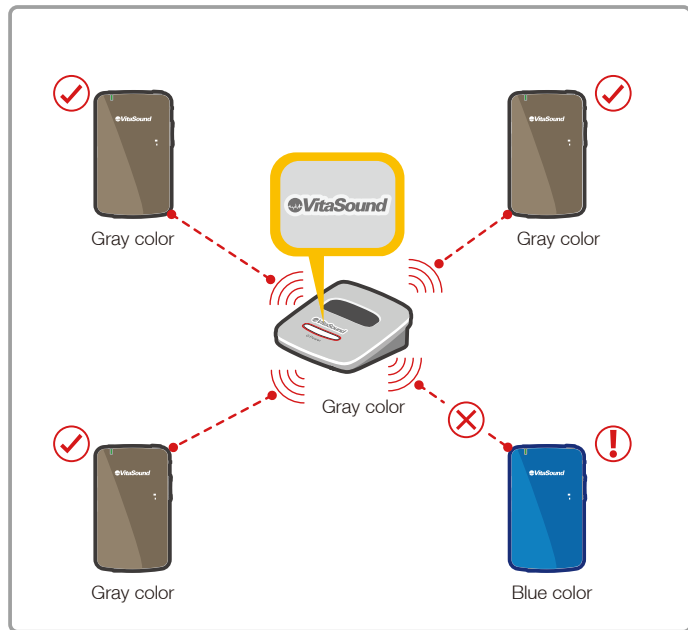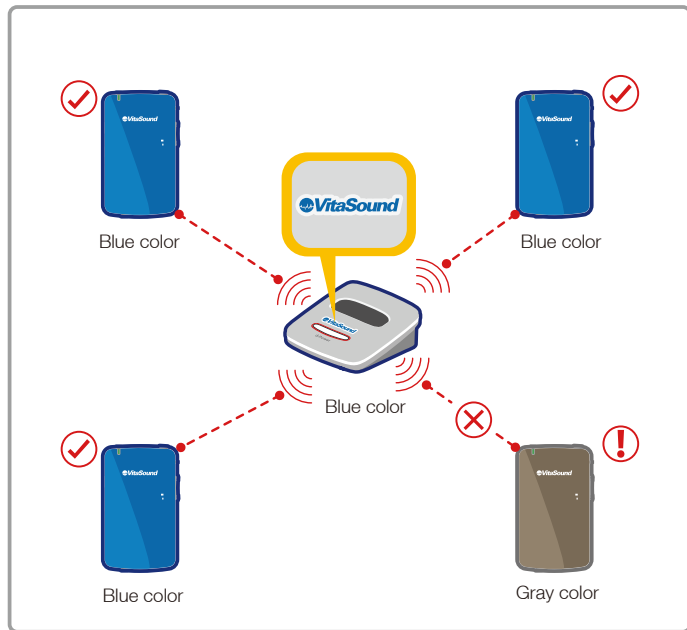
Frequently Asked Questions

Symptom	Possible Cause	Possible Corrective Action	Page
The PAE-200 Handset is not working	The PAE-200 Handset is off.	Turn on the PAE-200 Handset.	7
	The PAE-200 Handset is out of battery	Charge the PAE-200 Handset immediately.	6
	The PAE-200 Handset is hang off.	Press the Rest Button with a small pin object to reset the PAE-200 Handset.	9
All indicators of the PAE-200 Handset turn off themselves, except the power indicator.	The behavior is normal. The indicators will be off automatically for power saving when no operation is performed for 40 seconds.	N/A	
Red LED of Power indicator of the PAE-200 Handset is flashing	The Handset battery is running low.	Turn off the PAE-200 and start charging.	6
	The Base Unit is power off.	Turn on the Base Unit.	6
	The PAE-200 Handset exceeds 10 meters of the operation range from the Base unit.	Make sure The PAE-200 Handset is in the operation range.	10
	The PAE-200 Handset cannot connect to the Base Unit within the 10 meters operation range.	Please contact VitaSound service.	
No sound is produced from the headset while the Red indicator of the PAE-200 Handset is solid on and the wireless connection is normal.	The volume level of the PAE-200 is too low	Increase the PAE-200 Handset volume output level.	7
	The headset is not plugged into the PAE-200 Handset properly.	Make sure the headset is firmly plugged into the PAE-200 Handset.	7
	No audio signal from the Base Unit or TV.	Make sure the TV is turned on. (Please read your TV manual for detail)	
		Make sure the volume of the TV is on. (Please read your TV manual for detail)	
		Make sure the mute mode of your TV is not activated. (Please read your TV manual for detail)	
		When using the analog (RCA) audio cable to connect the Base Unit and TV box, make sure the optical and coaxial cables are disconnected with the Base Unit and TV box.	5
		When using the analog (RCA) audio cable to connect the Base Unit and TV box, make sure the optical and coaxial cables are disconnected with the Base Unit and TV box. (Please read your TV box manual for detail)	5
		When using the optical cable to connect the Base Unit and TV box, make sure 1) the optical cable is connected with the Base Unit and TV box properly 2) the Audio input mode switch on the Base Unit is switched into " Optical audio input".	5

Symptom	Possible Cause	Possible Corrective Action	Page
No sound is produced from the headset while the Red indicator of the PAE-200 Handset is solid on and the wireless connection is normal.	No audio signal from the Base Unit or TV	When using the coaxial cable to connect the Base Unit and TV box, make sure 1) the coaxial cable is connected with the Base Unit and TV box properly 2) the Audio input mode switch on the Base Unit is switched into " Coaxial audio input".	5
Auto-connection between the PAE-200 Handset and the Base Unit is not working	The PAE-200 Handset and the Base Unit are out of the 10 meters operation range.	Make sure the PAE-200 is within a range of 10 meters from the Base Unit.	
	The auto-connection dose NOT work when the PAE-200 Handset color and the "VitaSound" trademark color on the Base Unit are different.	Make sure the PAE-200 Handset color and the "VitaSound" trademark color on the Base Unit are the same before use.	11
Signal interference occurs	More than 1 Base Unit are installed in 5 meters	1) Turn off one Base Unit is not in use, or 2) Keep the distance between each Unit more than 5 meters	10

PAE-200 TV Handset

Dimensions:	100.2mm x 60mm x 19.1mm
Weight:	88 gram
Battery:	Built-in rechargeable lithium-ion, 2000 mAh
Operation time:	6 – 8 hours (fully charged)
Charging time:	4 – 5 hours
Headset Socket:	3.5mm stereo jack plug
Output signal frequency range:	200 – 16,000 Hz
EQ sound mode:	4 modes
Volume control:	8 steps (4dB/step)
Output power:	60 mW (16Ω load)
Digital signal processing:	32 kHz sampling frequency
	16 bit resolution in stereo
Radio communication frequency:	2.4 GHz, ISM band
Radio communication range:	10m indoor, clear line or straight
Radio communication characteristics:	Automatic channel searching
	Coexists with other radio transmitters operating on the 2.4GHz frequency band
Topology:	Point-to-point
Antenna Type:	Internal SMD antenna

Base Unit Transmitter

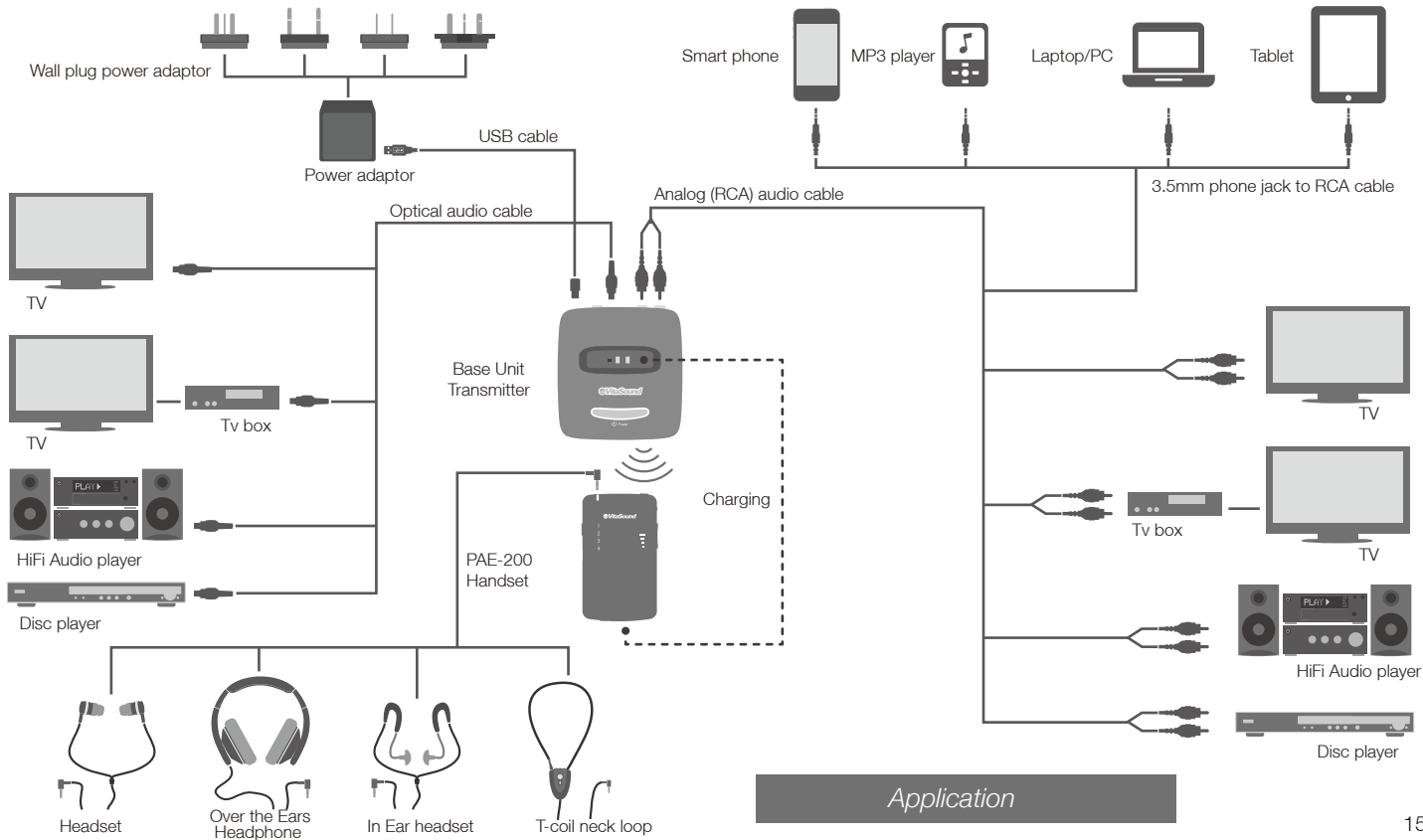|	
Dimension:	101.5mm x 94.1mm x 40.1mm
Wieght:	97 gram
Power:	5V 1A (5W)
Audio source input:	Analog (RCA) Jack (Red/White)
	Optical Jack 44.1kHz PCM / 48kHz PCM
	Coaxial Jack 44.1kHz PCM / 48kHz PCM
Digital radio transmission:	2.4 GHz, ISM band
	Coexists with other radio transmitters operating on the 2.4GHz ISM band
Radio communication range:	10m indoor, clear line or straight
Radio communication characteristics:	Automatic channel searching
Radio communication range:	10m indoor, clear line or straight
Topology:	Point-to-point
Transmitter output:	8dBmW

For the digital (Optical or Coaxial) connection, the Base Unit dose NOT support Dolby Digital 2.1 / 5.1 / 7.1 audio coding.

Environmental Requirements
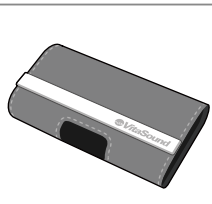
Operating temperature:	0 °C to 35 °C (32 °F to 95 °F)
Relative humidity:	5 % to 95 %

Regulatory requirements

Complies with the following requirements:	CE, FCC, RoHS and C-Tick

Wall plug power adaptor

Power adaptor

USB cable

Optical audio cable

Analog (RCA) audio cable

Smart phone   MP3 player   Laptop/PC   Tablet

3.5mm phone jack to RCA cable

TV

TV

Tv box

HiFi Audio player

Disc player

Base Unit
Transmitter

PAE-200
Handset

Charging

TV

Tv box

TV

HiFi Audio player

Disc player

Headset

Over the Ears
Headphone

In Ear headset

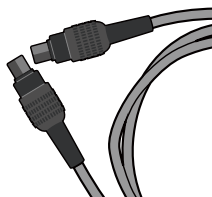T-coil neck loop

Application

15
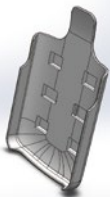
Leather Case	Neck Strap Clip Case	Belt Clip Case
Optical Cable	Coaxial Cable	3.5mm Phone Jack to RCA Cable
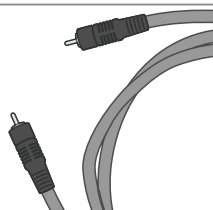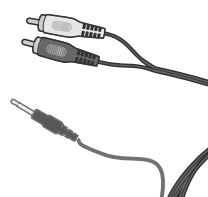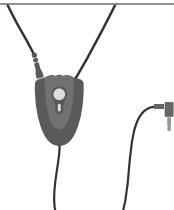
Over the Ears Headphone	In Ear Headset	T-coil Neck Loop
Hanging Neck Strap	Reset Pin	

FCC Statement:
This device complies with Part 15 of the FCC Rules. Operation is subject 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.

- - - - -

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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.

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

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 :
(1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

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