iBasso Audio
In Pursuit of Perfection

DX220
Reference DAP
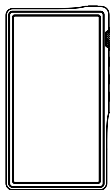
Contents

Package Components

DX220 Player

Leather Case

Coaxial Cable

Balanced Burn-in Cable

Type-C Cable

Screen Protector

iBasso Audio

DX220
Reference DAP
参考级数字音乐播放器

Quick Start Guide
用户快速指南

Quick Start Guide

iBasso Audio
—— Warranty Card ——

Warranty Card

Type-C Cable：

Connect the Type-C cable to a computer for charging, data transfer, and USB-DAC function.

Coaxial Cable：

Connect the coaxial cable to an external DAC, to allow the DX220 working as a digital transport.

Balanced Burn-in Cable：

Plug the burn-in cable into the BAL out socket, and keep playing music to burn-in the DX220. The burn-in process helps the DX220's sound reach its full potential by forming the capacitors and stabilizing the electronic components used.

Leather Case：

Use the leather case to protect the DX220's chassis from scratches.

Screen Protector：

Use the screen protector to protect the DX220's screen from scratches.

Warranty Card：

The warranty will be requested at the time of warranty repair. Please retain the warranty card.

Quick Start Guide:

This reviews the basic functions of the DX220.

Main Features

– Dual SABRE ES9028PRO DAC Chips.

– Bit for Bit Playback With Support up to 32bit/384kHz.

– Support of Native DSD up to 512x.

– 5.0" IPS Full Screen (1080*1920), With On Cell Capacitive Touch Panel.

– Corning Glass on The Front Screen And Rear Panel.

– Support of QC3.0, PD2.0, & MTK PE Plus Quick Charge.

– XMOS USB Receiver With Thesycon USB Audio Driver, Ma king This an Easy to Use USB DAC.

– A Total of 5pcs of Femtosecond League Oscillators, With 2 of Them Being Accusilicon Ultra Low Phase Noise Femt osecond Oscillators.

– Mini Optical Output And Mini Coaxial Output.

– 8–core CPU.

– 4GB LPDDR3

– 64G of Internal Memory.

– 5G WiFi And Bluetooth 5.0.

– Support SDXC And SDHC Micro SD Cards.

– Three Settings of Gain Control.

– Patented User Exchangeable AMP Cards.

– 150–Step Digital Volume Control.

– Audio Formats Supported: MQA, APE, FLAC,WAV, WMA, AAC, ALAC, AIFF, OGG, MP3, DFF, DSF and DXD.

– Support for M3U Playlists.

– 4400mAh 3.8V Li–Polymer Battery (Playtime Will Vary With AMP Cards Used)

Specifications

2.5mm Headphone Out :

Output Level :	6.2Vrms
Frequency Response :	10Hz~45kHz +/−0.3dB
S/N :	125dB
THD+N :	0.00018% (no Load, 3Vrms),
	0.0002% (32Ω Load, 3Vrms)
Crosstalk :	−119dB

3.5mm Headphone Out :

Output Level :	3.1Vrms
Frequency Response :	10Hz~45kHz +/−0.3dB
S/N :	123dB
THD+N :	0.00031% (no Load, 1.8Vrms),
	0.00035% (32Ω Load, 1.8Vrms)
Crosstalk :	−117dB

Line Out :

Output Level :	3.0Vrms
Frequency Response :	10Hz~45kHz +/− 0.3dB
S/N :	122dB
THD+N :	0.00035% (no Load, 1.8Vrms)
Crosstalk :	−116dB

Average Play Time:	8 hours.
	(The play time varies with different resolutions and headphone/IEM loads.)

Names of Parts & Functions

Micro SD Card Slot:

Mini Optical/Coaxial
Output Port

Type–C Port

SPDIF   TYPE-C

Line Out   Phone   BAL   AMP1

Line Out Port   Phone Port

Balanced Phone Port
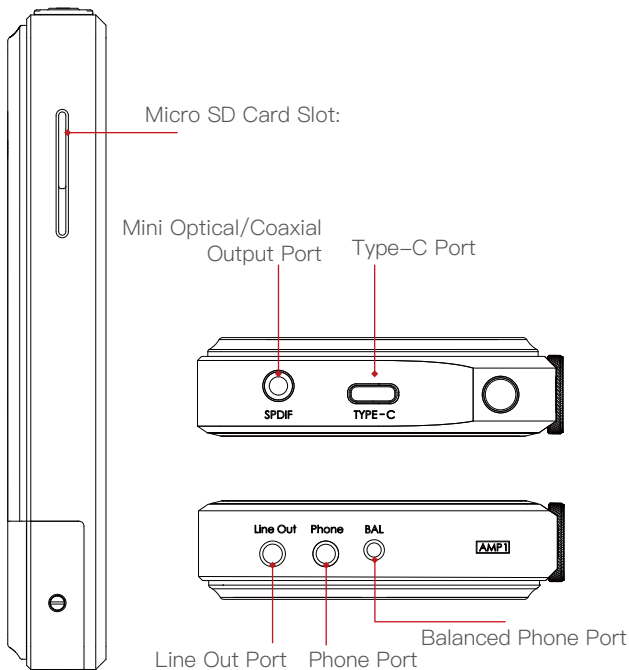
Mini Optical/Coaxial Output Port:

Use a mini optical cable or the furnished coaxial cable to play music stored in the DX220 on an external device with a coaxial input port or an optical input port. Mini optical/coaxial output has the highest output priority which would close the phone out or line out when optical/coaxial cable plugged in.

Type–C Port：

Connect the DX220 to a computer or a USB charger to charge the DX220. Connect the DX220 to a computer to allow the DX220 to work as a card reader as a card reader or an external storage. Connect the DX220 to an OTG storage device to play music files. Connect the DX220 to a PC or a Mac

Line Out Port:

Use a 3.5 to 3.5 interconnect cable to play music stored in the DX220 on an external amplifier with a line in port.

Phone Port:

Plug in the single–ended earphone and output sound through the phone port.

Balanced Phone Port:

Plug in the 2.5mm balanced earphone and output sound through the Balanced phone port.

Micro SD Card Slot:

Insert a Micro SD card into the DX220 to access its stored files.

Mini Optical/Coaxial Output Port

Type–C

Power/System Switching

Volume Control Wheel

Next/Fast Forward

Play/Pause

Previous/Rewind

Line Out Port

Phone Port

5.0inch LCD

Balanced Phone Port

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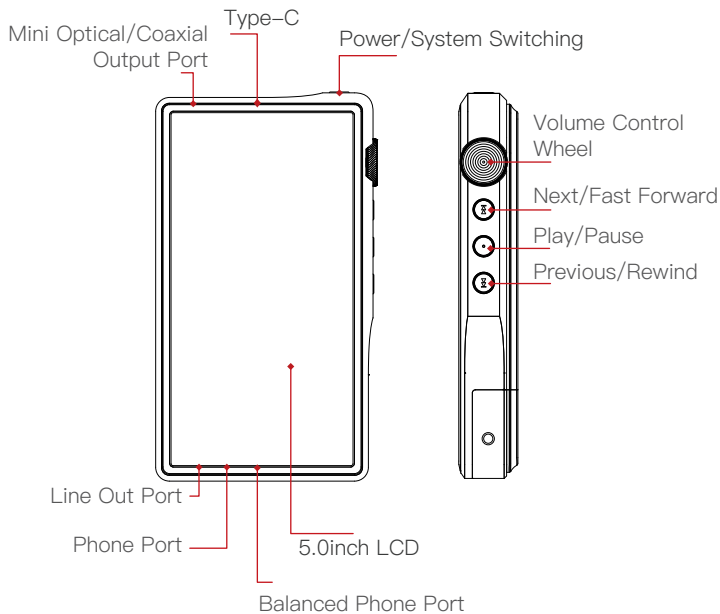
Power/System Switching：

Short Press–Power the LCD screen on and off.
Long Press–To display the pop up window with three options that
are Power off, Reboot, and To Mango.

Volume Control Wheel：

Rotate the wheel upward to increase the volume.
Rotate the wheel downward to decrease the volume.

Next/Fast Forward：

Short Press – Play the next track.
Long Press – Fast forward.

Play/Pause：

Short Press – Play/Pause.
On the Mango OS, long press the play button
to lock the screen.

Previous/Rewind：

Short Press – Replay previous track.
Long Press – Rewind.

Basic Operation:

Power on/off:

1. Press and hold the power button to power on.
2. After the DX220 is powered on, a long press of the Power button to display the pop up window, press Power Off button to power off the DX220.

Power on/off the screen:

Single press the power button to power on/off the screen after the DX220 was powered on.

Reset:

When the DX220 stop unexpectedly duringoperation and the keys are no longer responsive, press and hold the power button for 10 seconds to reset the DX220.

Charging:

DX220 supports three quick charge protocols, QC3.0, PD2.0, and MTK PE Plus. Charging can be done with a standard 5V USB charger or with quick charger that is compliant the stated 3 protocols. A full charge takes about 2.5 hours with the afore mentioned quick charge types.

Connecting to a computer to work as a USB DAC:

The DX220 can work as a USB DAC for Windows PC, Mac computer, and Linux computer.
It is driver free on Mac computer and Linux computer. For Windows PC, one can download the driver from iBasso. com and install it following the steps, before using the USB DAC function.

The DX220 supports up to 32bit/384kHz PCM, and native DSD up to 512x when be used as a USB–DAC.

The following is the instruction:

1. Power on the DX220.
2. Press the DAC on button on Settings/DAC.
3. The"USB DAC"screen will be shown on the DX220.
4. Connect the DX220 to a computer via the furnished type–C Cable.
5. Select "iBasso Audio HiFi device" as the audio output device. Then one can play music on the computer and listen it via the DX220.

Android Basic Features Introduction

WiFi Connection:
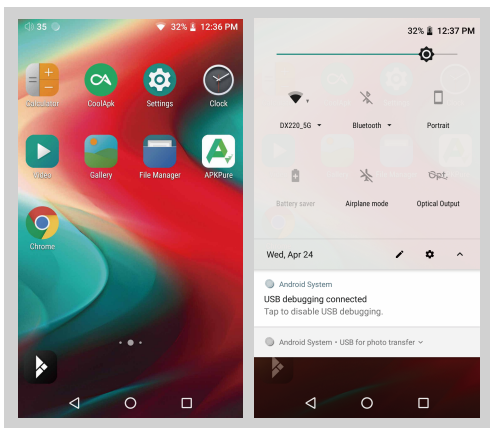
① On the Android desktop, from the top, swipe down the screen to display the notification bar.

② Press the Wireless local area network(WLAN) to turn on the WiFi function. The first time you enter the WLAN, you need to choose the hot spot you will be using and enter the password. From this point forward your password for this hotspot will be remembered and you simply press the WLAN icon to connect to the WiFi internet.

Bluetooth Connection:
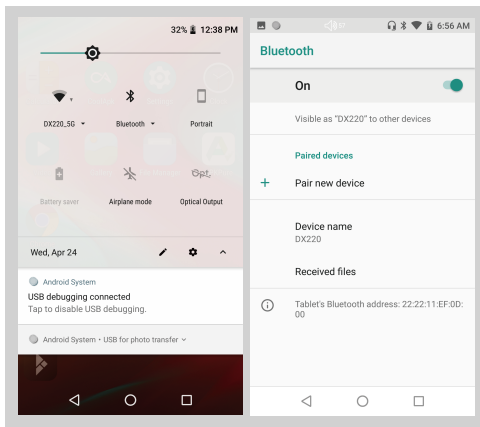
① On the Android desktop, swipe down from the top of the screen to display the notification bar.

② Press the Bluetooth icon to turn on the Bluetooth function. The DX220 will automatically search for the nearby Bluetooth device. At the same time, the DX220 will be visible to the nearby devices. Choose the device that you would like to pair with. After the device has been paired, you can use the DX220 in the Bluetooth mode.

APP Installation:
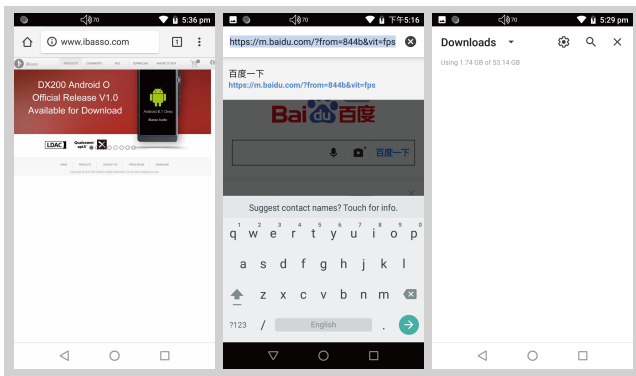
① APKPure and CoolAPK are pre-installed on the DX220. They are similar to Play Store.
② Launch one of them.
③ Search for the APP that you would like to install.
④ Download the APP and install it.

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App, to Uninstall:
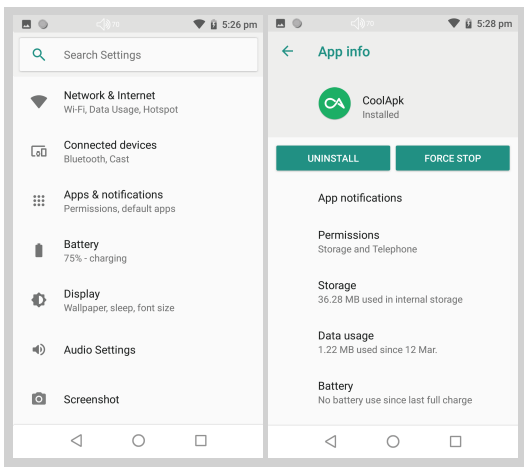
① Press the internet browser on the desktop.
② Enter the website address of the APP.
③ Find the download icon on the website and start
   the download.
④ Return to the desktop and open the download
   manager.
⑤ Press the on downloaded app and install it.

USB Connections:

① Connect the DX220 to a computer using the furnished type–C cable.
② Swipe down the screen from the topto display the notification bar.
③ Press the USB connection icon to choose the type of USB use.
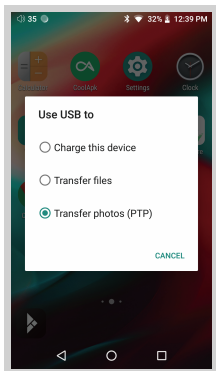
Charging:
This only charges the DX220.
File Transfers:
Transfer files to Windowsor Mac (MTP).
Photo Transfer (PTP):
transfer photos or files if MTP is not supported.

System Settings:

Press Settings icon on the DX220 desktop to go into system settings.
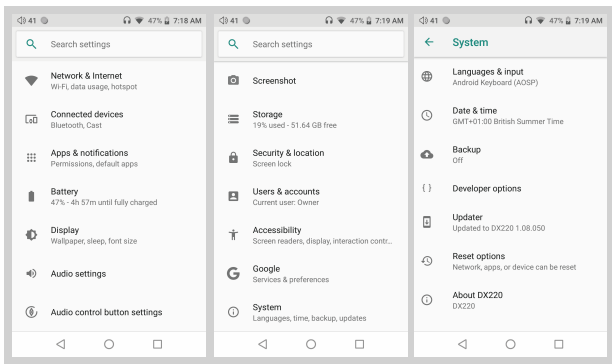
Audio Settings:

Press Settings Icon, then press Audio Settings.
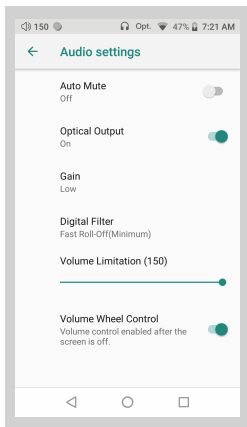
① Automute:
 When Automute is on, it eliminates the noise when the music starts or when you switch songs. However, it may cause the music to be muted for 0.5 seconds on the beginning of the music.

② Optical Output:
 When Optical Output is on, digital output is allowed on the SPDIF port. Keep the Optical Output off when the optical output is not applicable.

③ Gain:
One of the three gains can be selected.

④ Digital Filter:
A total of seven filters are available for user setting.

⑤ Volume Limitation:
This sets the volume to a maximum preset point.

⑥ Volume Control Wheel:
Volume control wheel enabled after the screen is off.

Audio Control Button Settings:

Press Settings Icon, then press Audio Control Button Settings.
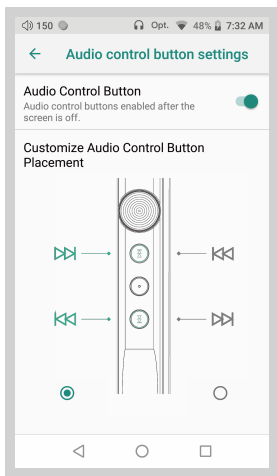
① Audio Control Button:
   When turned on, audio control buttons enabled
   after the screen is off.

② Customize Audio Control Button Placement:
   customize the placement of previous button and
   next button.

Firmware Update:

1: Press Settings Icon, System, Updater.
2: Select Online Update or Local Update.
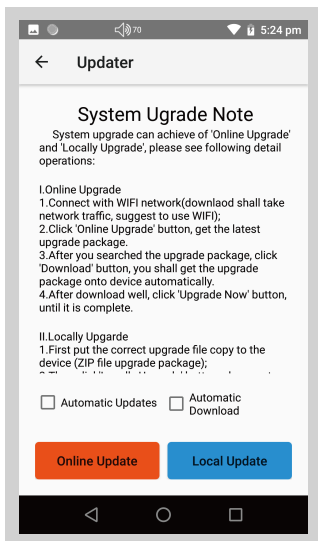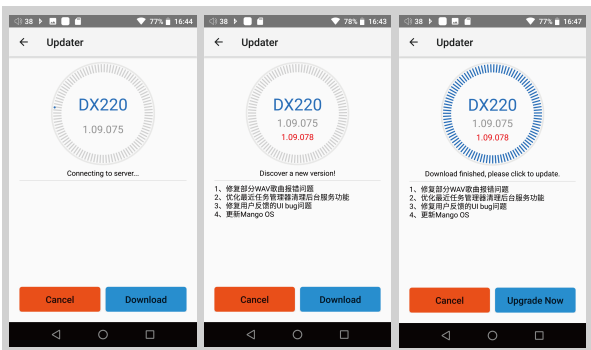
Online Update:

① Make sure the DX220 is connected to WiFi.
② After online update is select, press Check Update.
③ Press Download, the DX220 will start downloading
   the available update package.
④ After the download complete, press Update Now to
   start the firmware update.

Firmware Version:
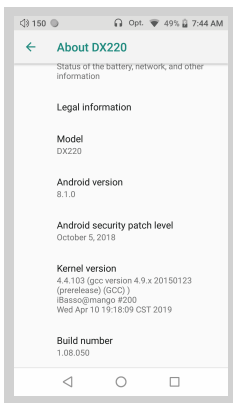
① Press Settings icon, System, About DX220.
② Scroll down the page, the Build number is the
firmware version.

**Power Off, Reboot, And
System Switching:**
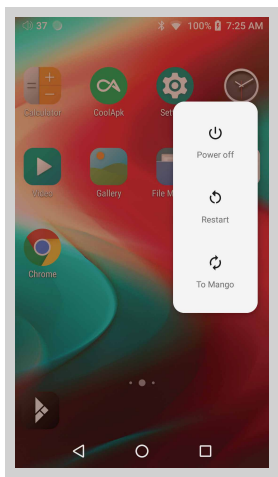
① Long press the power button for 3 seconds.
② There is a pop up window with three options.
③ When To Mango is selected, system will be
   switched to Mango OS.
④ To return to the Android System, go into the
   Advanced menu of Mango.

iBasso Mango Music Player Application

iBasso Audio Mango music player is composed of the Playback screen (home screen), Music screen and Settings.

When on the playback screen, one can swipe left and right on the Album artwork area ③ to switch a song: Press the icon on the top left corner ① to go into Music Screen.
Press the icon on the top right corner ② to go into Settings.
No matter which sub screens of the Music Screen you are browsing, press the thumbnail icon on the bottom left to return to the playback screen.

Playback Screen (home screen):

Equalizer

L/R Balance

Settings

Scanning

Music screen

Track title — The Sound Of White

Artist name — Unknow

Album name — Unknow

Music info

Previous/Rewind

Play Mode:

Next/Fast Forward

Play/Pause
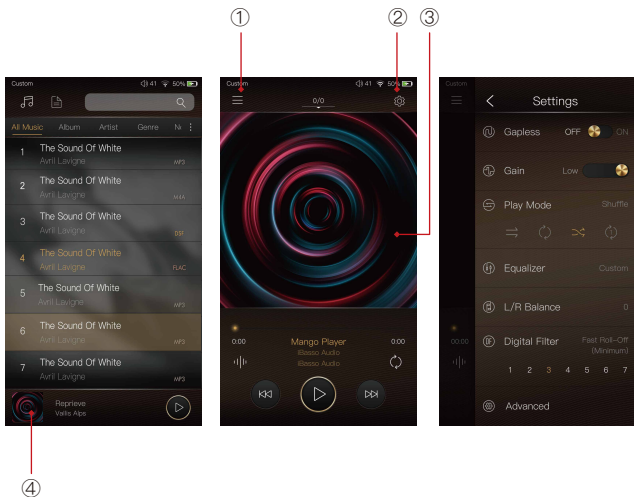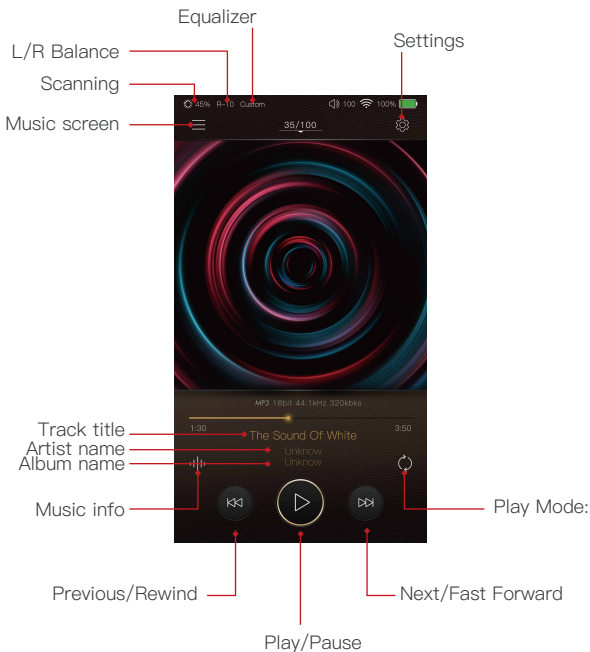
Now Playing Screen:

Swipe down from the track number icon ① to display the now playing screen. One can swipe a song to the left to display the Delete button. Press Delete to delete it from this playlist.
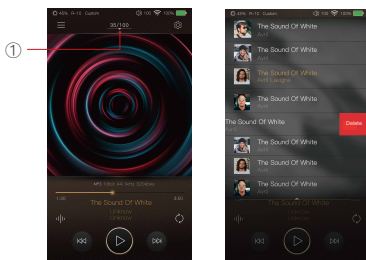
Music Info Screen:

Press the Music info icon ②, the album artwork will show the music info. Press the music info icon again, it will return to album artwork.
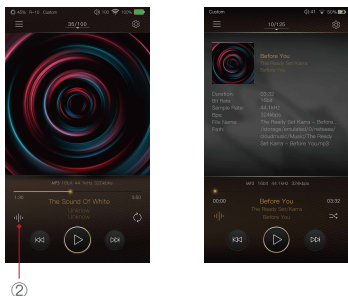
Music Screen:

Detail view ①
Directory view ②
Search bar ③
Navigation bar ④
Navigation bar management ⑥
Music order
Music format
Tracktitle /Artist name
Now playing
Long press ⑤
Playback bar
Thumbnail artwork ⑦
Play/Pause

Track title and artist name of the song that is playing.
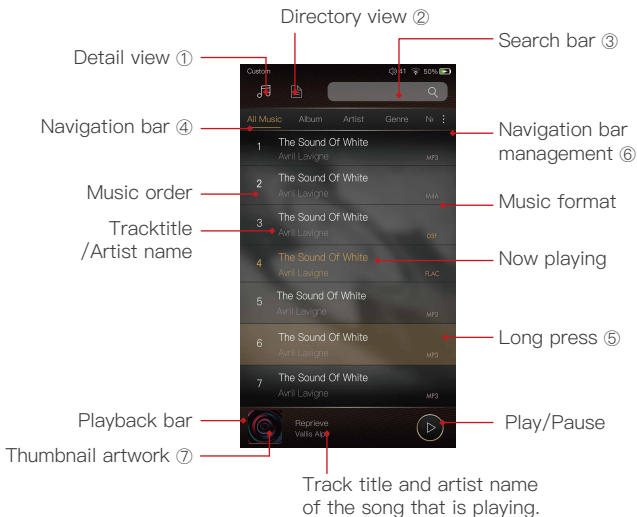
Detail View:
Press the detail view icon to browse the scanned library.

Directory View:
Press the directory view icon to browse in file structure.

Search bar:
Press the search bar to go into the search page to search the desired music or album.

Navigation Bar:
One can swipe it left or right to choose: All Music view, Album view, Artist view, Genre view, Now Playing view, or Playlist view.

Long Press:
Long pressing a song will pop up a window with more options.

Navigation Bar Management:
To customize the navigation bar and music screen.

Thumbnail artwork:
Press to return to the playback screen.

Long Press Pop—up:
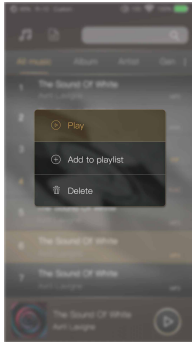
Further Options:

Long Press of a song will pop up a window with further options that allows to play this song, add this song to a playlist, or delete this song.

Album View:
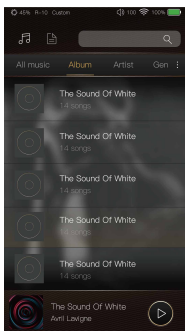
Thumbnail view   Artwork view
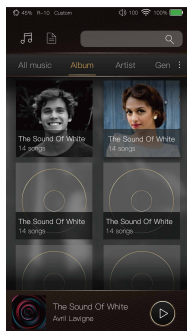
Artist View:
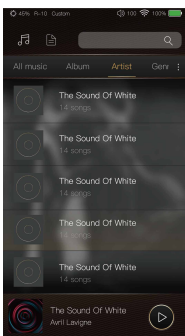
Thumbnail view   Artwork view
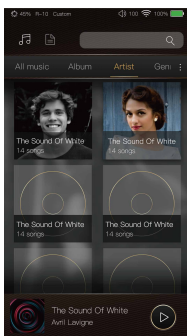
Playlist View:
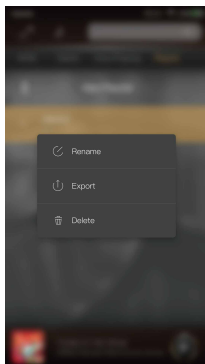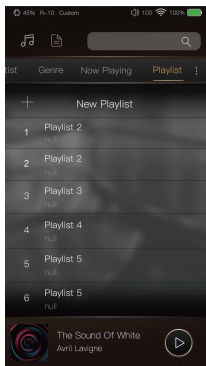
New Playlist:

Press the New Playlist to create a playlist. On the pop-up window, one can name the playlist and add playlist description.

Further Options:

A Long press of the playlist will popup a window with further options, which allows renaming the playlist, exporting the pla ylist, or deletion of the playlist.

The playlist can be found on the internal storage of the iBasso /mango player folder, after the playlist has been exported.

Navigation Bar Management Screen:

Press the icon located on the right side of the navigation bar to go into the navigation bar management and music sorting screen.
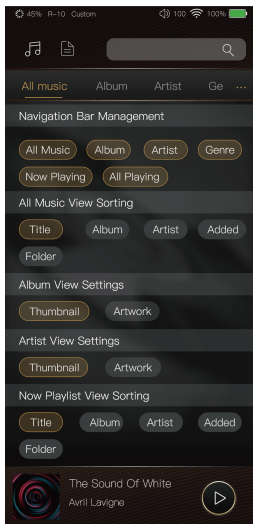
Navigation Bar Management:

One can customize the navigation bar. When selected, the icon is highlighted. Press the icon again to unselect. The selected icon will be shown on the navigation bar. Otherwise, it will not be shown.

All Music View Sorting:

One can sort the all music view by title, album, artist, added time, or folder.

Album View Settings:

One can choose between the thumbnail view and artwork view.

Artist View Settings:

One can choose between the thumbnail view and artwork view.

Now Playing View Sorting:

One can sort the Now Playing by title, album, artist, added time, or folder.

Directory View:

Press the Directory View icon① to go into directory view.
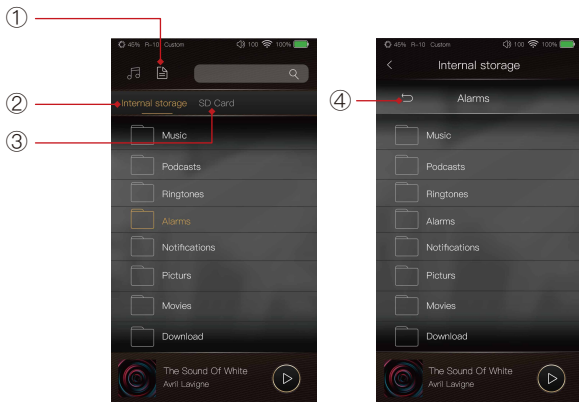
Press the Directory View icon① to go into directory view.
One can browse the music files under internal storage and SD card via folder structure.

Press Internal Storage② to see music files under internal storage. Press SD Card③ to see music files under SD card. Press the return button④ will move back one page at a time.

Search Screen:

Input the keywords to search a track, an album, or an artist.
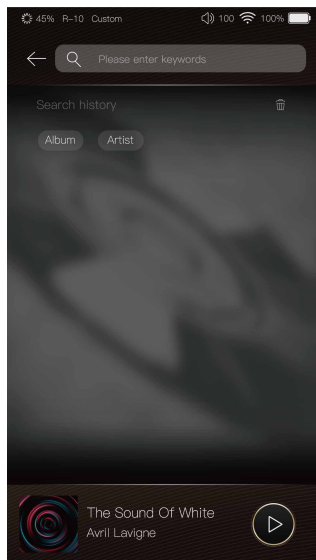
Settings Screen:

Press the Settings icon to go into settings screen.
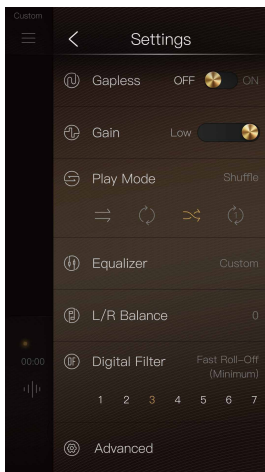
Gapless:

One can enable the gapless to eliminate the gap between two tracks.

Gain:

There are three gain settings. The low gain has the lowest noise floor, it is good for ultra sensitive IEMs.

Play Mode:

One can choose the desired play mode here.

L/R Balance:

Press to go into the L/R balance setting page.

Digital Filter:

There are seven filters, press the number to quickly choose a filter.

Advanced:

To access to more system settings.

Play Mode:

One can choose the desired play mode among Order, Loop, Shuffle, and Repeat.
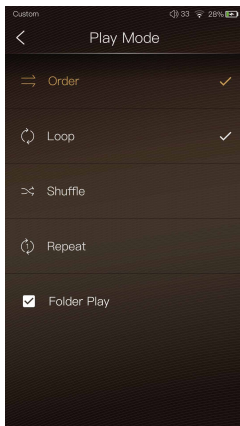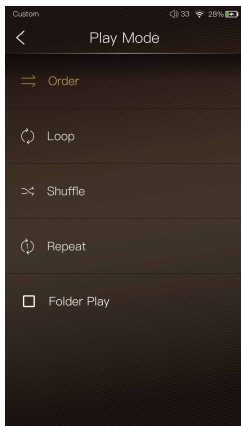
Folder Play:

To enable the folder play function, tick the box on the left, then select either the order play mode or loop play mode. After a full media scan, or rescan the library, you can go to Directory and select a song under a folder. After this folder is played, the DX220 will play the next folder.

Equalizer:

The DX220 has two types of Equalizer, Graphic EQ and Parametric EQ.
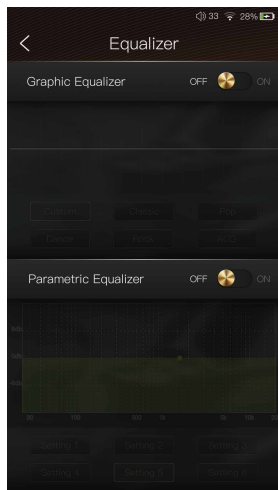
Graphic Equalizer:

Press the button of the Graphic Equalizer to enable the Graphic Equalizer.
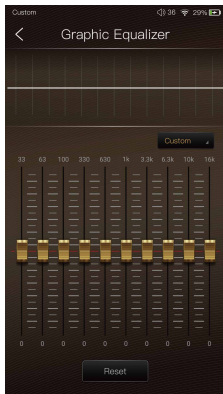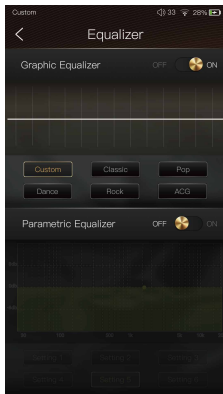
Pre–set EQ:

There are 5 kinds of pre–set EQ and a custom option. One can quickly set the equalizer as desired by selecting them.

How to Adjust The EQ Settings:

Press on the response curve, the 10 band slide bars will show up. One can adjust the EQ settings by positioning the bars up or down.

Parametric Equalizer:

Press the button of the Parametric Equalizer to enable the it.
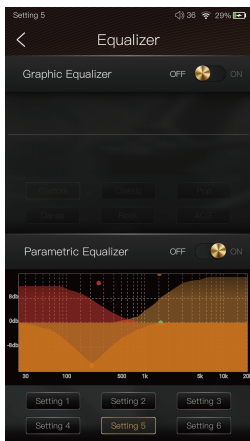
Parametric Equalizer:

Press the button of the Parametric Equalizer to enable the it.

How to Go Into The Parametric EQ Setting Screen:

Press the response curve to go into the parametric EQ setting screen.

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Parametric Equalizer Setting Screen:
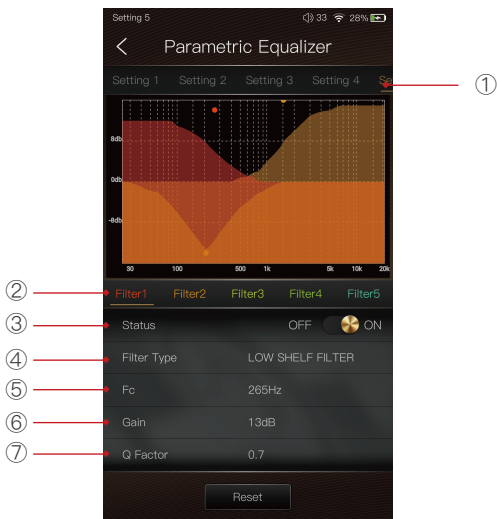
① Settings on the Selection Bar:

One can swipe left and right to select a setting.

② Filter Navigation Bar:

There are maximum of 6 filters allowed for each setting. One can swipe left and right to select a filter, then customize it.

③ Status:

Status of each filter. One can turn on or turn off the selected filter.

④ Filter Type:

There are eight kinds of filters. Select one of the filters.

⑤ Frequency:

This is the central frequency. Input a value between 33Hz to 16,000Hz.

⑥ Gain:

This is the gain for each central frequency. Input a value between −20dB to 20dB.

⑦ Q Factor:

This is the quality factor. Input a value between 0.3 to 20.

Parametric Equalizer Setting Instruction:

Central Frequency (Fc):
The central frequency of each filter setting.

Gain:
The gain for the central frequency.

Quality Factor:
The range of effect of the filter.

As shown on the pictures below, the larger value of the Q factor, the smaller the effect compared the central frequency. The smaller value of the Q factor, the larger the effect in relation to the central frequency.

The following are the curves of the filters (Fc=100Hz, gain=4dB)

1. Low Pass Filter

The frequency higher than the central frequency will be affected. Gain setting is ineffective with low pass filter.

①. Q=0.7071

②. Q=20

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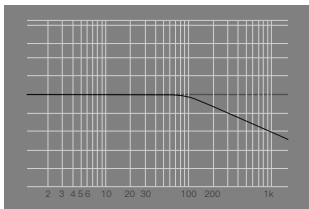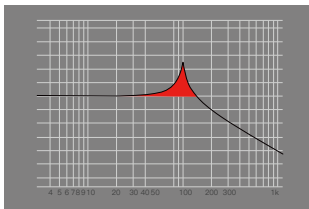
2. High Pass Filter

The frequency smaller than the central frequency will be affected.
Gain setting is ineffective with high pass filter.
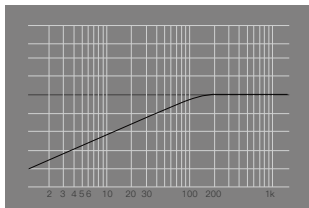
③. Q=0.7071
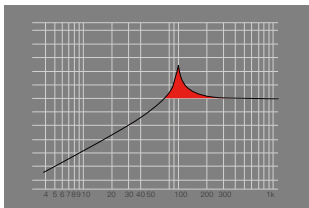
④. Q=20

3. All Pass Filte

There is no effect beside the central frequency. Gain setting is
ineffective with all pass filter.
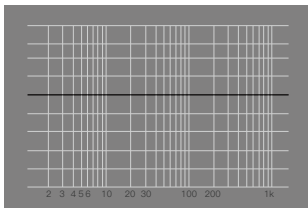
⑤.

4. Band Filter

There is no a large effect on the central frequency. The frequency beside the central frequency has similar effect. Gain setting is ineffective with band filter.
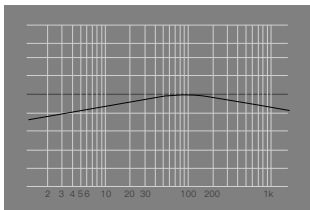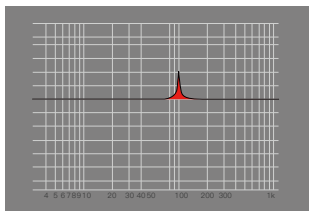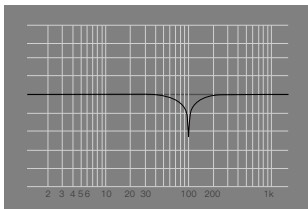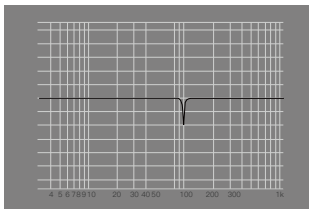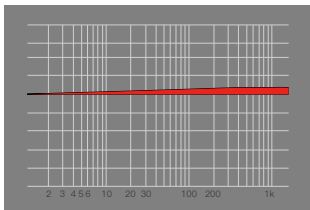

⑥. Q=0.7071
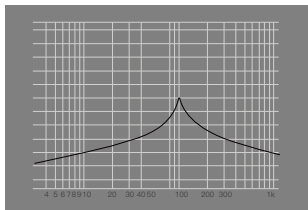
⑦. Q=20

5. Peak Filter
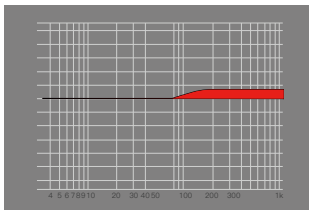
There is a large effect on the central frequency. The frequency beside the central frequency has similar effect.
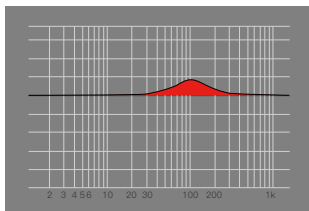
⑧. Q=0.7071

⑨. Q=20

6. Notch Filter

The central frequency has obvious reduction. The frequency beside the central frequency has similar effect. Gain setting is ineffective with notch filter.

⑩. Q=0.7071

⑪. Q=20

7. High Shelf Filter

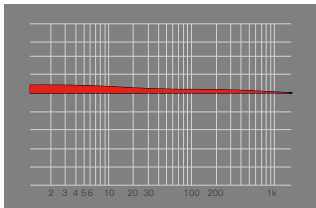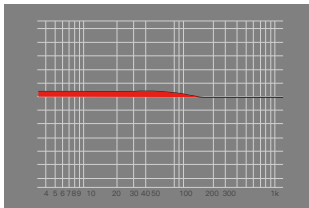There is a wide effect on the frequency that is higher than the central frequency.

⑫. Q=0.7071

⑬. Q=20

8. Low Shelf Filter

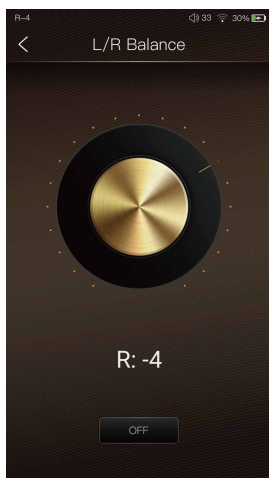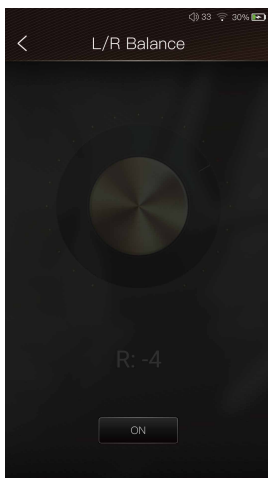There is a wide effect on the frequency that is lower than the central frequency.
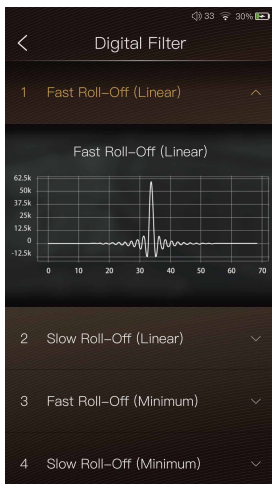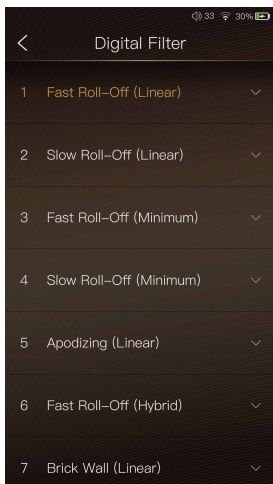

⑭. Q=0.7071

⑮. Q=20

L/R Balance:

Slide clockwise to decrease the volume in right channel. Slide in counterclockwise to decrease the volume in left channel.
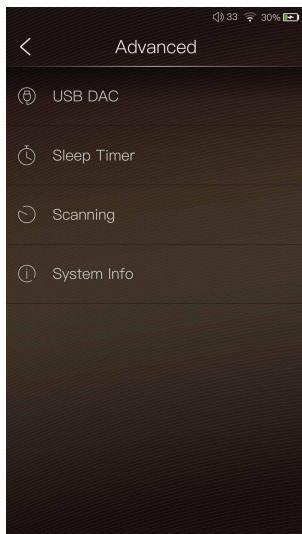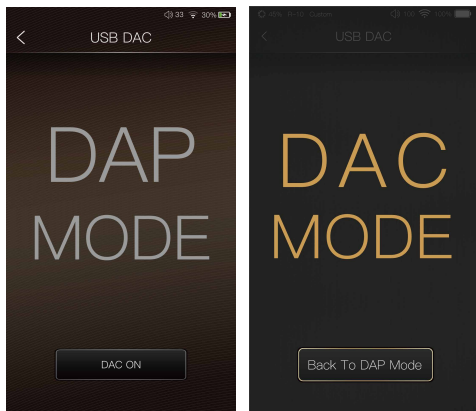
Digital Filter:

Digital Filter:

There are seven digital filters available. Press a digital filter to unfold the figure.

Digital Filter:

To access more system settings.

USB DAC:

The DX220 can work as a USB DAC for Windows PC, Mac computer, and Linux computer. It is driver free on a Mac computer and Linux computer. For Windows PC, one can download the driver from iBasso.com and install it following the steps included with the download, before using the USB DAC function. The DX220 supports up to 32bit/384kHz PCM, and native DSD up to 512x when be used as a USB-DAC.

The following are the instructions for USB DAC use:

① Power on the DX220.
② Press the DAC On button on Settings/USB DAC.
③ The"USB DAC"screen will be shown on the DX220.
④ Connect the DX220 to a computer via the furnished type–C Cable.
⑤ Select "iBasso Audio HiFi device" as the audio output device. Then one can play music on the computer and listen it via the DX220, which will use the DX220 day and amplifier. Or you can use the line out of the DX220 into any amp of choice.

Sleep Timer:
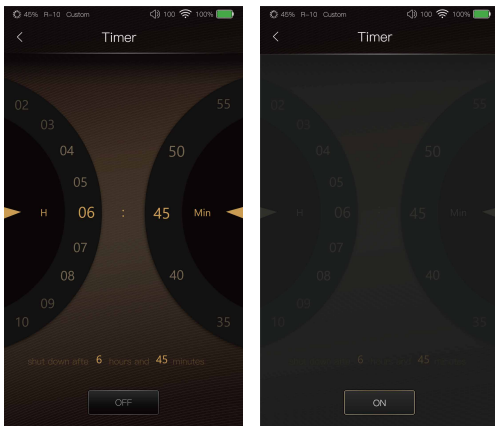
Set the count down sleep timer to power off the DX220. The left hand side is the value of hours. The right hand is the value of minutes. The DX220 will be powered off after the counter has completed. If there are any operations in the meanwhile, the DX220 will start the counter again after the last operation.

Scanning:
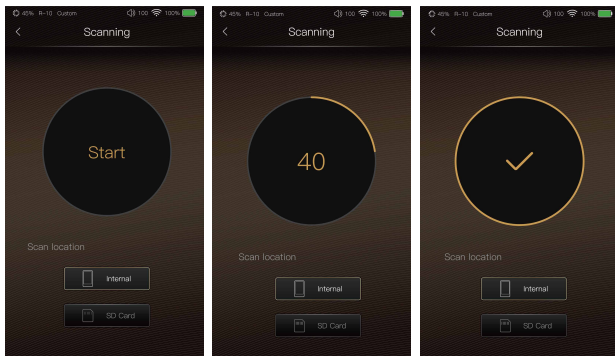
Select the scan locations and the press start to perform a complete media scanning. One can use this feature to rebuild the music library.
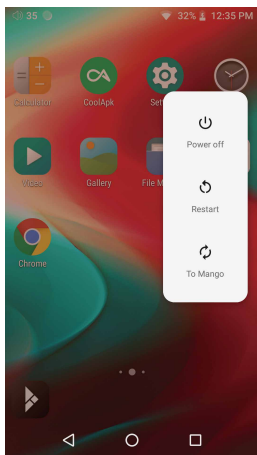
System Info:
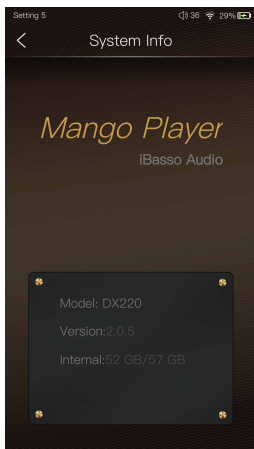
One can see the firmware version on this screen. Also, one can see the space available of the internal memory and SD card.

Mango OS

To reboot to Mango OS from Android, first of all, long press the power button for 3 seconds to pop up a window with three options. When "To Mango" is selected, the system will switch to the Mango OS.

The Mango OS User interface is composed of three parts:
Music playback screen (homepage), my music, and settings.
On the Music playback screen, press the icon① to go to My
Music, press the icon② to go to Settings.
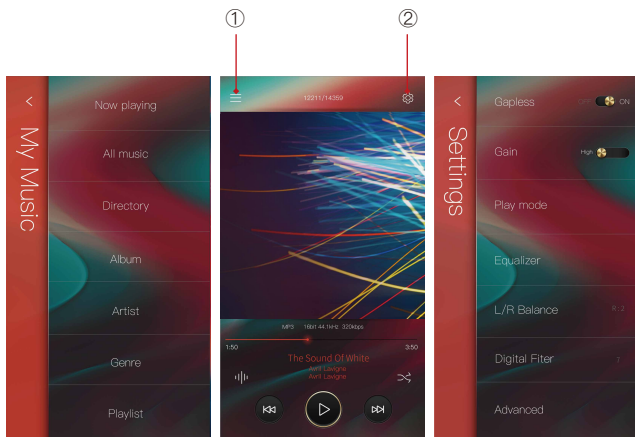
* The Mango OS operation is similar to the iBasso
  Mango APP, please refer to the iBasso Mango APP
  instruction for any questions.

To return to the Android System, go into the Advanced menu, press "To Android", then press "Yes".
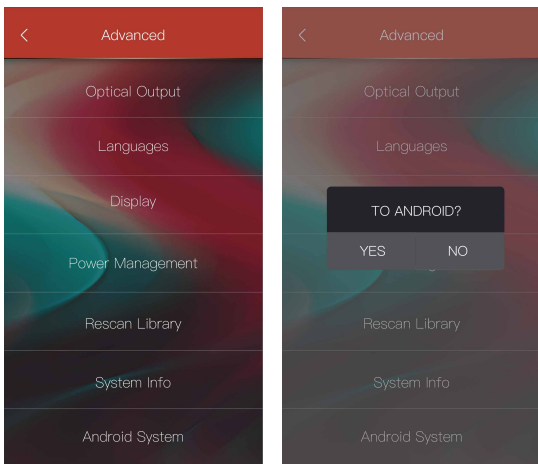
MQA

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