

Cayin

N3 Master Quality Digital Audio Player Quick User Guide



V1.0-20170515

Cayin N3 is a Digital Audio Player designed by Zhuhai Spark Electronic Equipment Co., Ltd for High Fidelity applications. We have prepared this user manual to explain the features and get familiar with the operation of the DAP. Please read through this manual before you start to use the device.

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1. Attention

Disclaimer

All rights reserved.

Reproduction, translation or adoption of N3 documentations and/or system firmware is prohibited without written approval from Cayin.

The user Guide is a documentation of the product based on the specification at the time of print. Cayin reserves the right to change product specification without prior notice.

Trademark Notice

Cayin is a registered trademark of Zhuhai Spark Electronic Equipment Co. Ltd..

Handling and Disposal of Electronic Waste

This product contains electrical and electronic components. Please do not dispose the product as of general household waste.

This product should be handled by Trash and Recycling Collection Center operated by your local government.

This product uses lithium battery. Please dispose Lithium battery according to related lawful procedures from your local government.

For detailed instruction, please refer to the Environmental protection and/or Disposal Control department in your local government.

Symbol Used

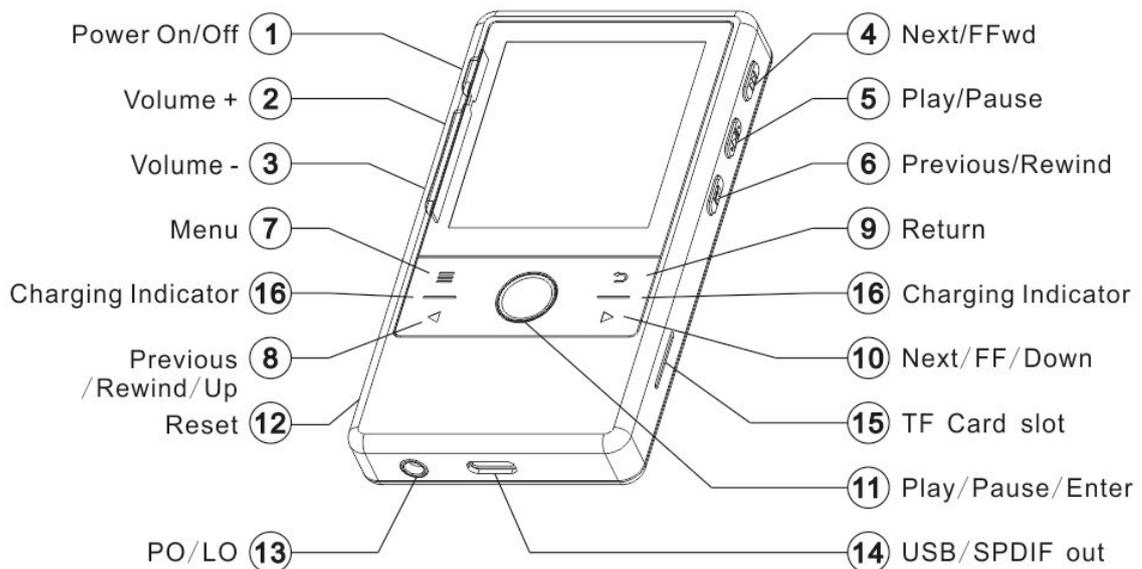
- Prompt Symbol#: Alert the important problems during operation.
- Attention Symbol*: Prompt very important issues or serious risks. It may cause serious damage if you don't operate according to the warning instruction.

2. Packaging and Accessories

The Cayin N3 Digital Audio Player comes with the following accessories in the package. Please check carefully and make sure everything is in place. Please contact our distributors if you find any accessory is missing.

1. N3 Digital Audio Player
2. Type-C USB Cable
3. Quick User Guide
4. Silicone Case (one piece)
5. Screen Protector (two sheets)
6. QA Certificate (one sheet)
7. Warranty Card (one sheet)

3. Control Buttons and Connectors



1. **Power On/Off** : hold 2 seconds for power on/off; click to turn on/off screen (disable screen lock)
2. **Volume+**: Increase Volume.
3. **Volume-**: Decrease Volume.
4. **Next /FFwd**: In the Playing Now screen, click to selects next song; hold to Fast Forward from current playback, and release the button to resume playback at designated location.
5. **Play/Pause**:
 - In the playlist, confirm and play the selected song;
 - In the playing Now screen, click once to play or pause; hold for 2 seconds to stop playback and return to the main menu;
6. **Previous/Rewind**: In the Playing Now screen, click to select previous song or restart from the beginning of current song. Hold to rewind from current playback, and release the button to resume playback at designated location.
7. **Menu**: In the Playlist and Playing Now screen, click to pop-up or collapse the hidden menu.
8. **Previous/Rewind/Up**:
 - In the menu system, click to move to previous (left or upward) menu option.
 - In the Playing Now screen, click to select previous song or restart from the beginning of current song. Hold to rewind from current playback, and release the button to resume playback at designated location.
9. **Return**: Click to return to previous menu; Hold to return to main menu.
10. **Next/FF/Down**:
 - In the menu system, click to move to next (right or downward) menu option.
 - In the Playing Now screen, click to select next song. Hold to rewind from current playback, and release the button to resume playback at designated location.
11. **Play/Pause/Enter**:
 - In the menu system, confirm or enter next menu;
 - In the playlist, confirm and play the selected song;
 - In the playing Now screen, click once to play or pause; hold for 2 seconds to display playlist.
12. **Reset**: If the system behaves abnormally, you can use a nonmetallic pin (e.g.toothpick) to activate the reset button inside the reset hole, the system will reboot and resume.

13. **PO/LO:** This socket can work with headphone or audio signal cable with 3.5mm TRS audio connector.

- At line out mode, transmit the audio signal to an outboard amplifier through an audio cable with 3.5mm connector. The output level will not be affected by volume control.
- At phone out mode, can work with non-balanced headphone with 3.5mm, and recommended impedance is 8~300Ω.

*Charging indicator will flash while charging, and stay always-on when charging is completed.

*When operated in Line Out mode, the device will be set the volume to maximum, which might cause damage to the headphone or the hearing of user. Please disconnect your headphone from the device and connect proper device prior to switching output selection in the player.

*When you select Line Out, the device will pop-up warning message to remind you the potential hazard in disconnecting headphone to the device at Line Out mode, you need to press Enter button to confirm the device is ready before Line Out setting become effective.

* If N3 detected the 3.5mm connector has been disconnected while the player is at Line Out mode, the player will reset itself to headphone mode automatically to avoid mis-connection in the future.

14. **USB/SPDIF out:**

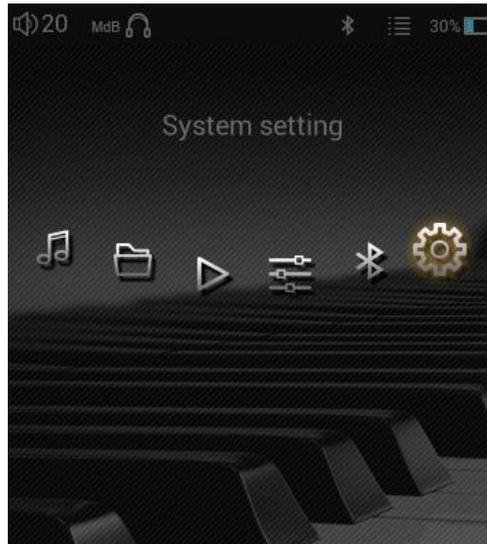
- **Connect to PC:** after the player is turned on and set to USB mode, connect the player to a computer with an USB cable (provided with the player) to copy, paste, and delete files on the TF card.
Please make sure all the operations have been completed before disconnecting the player from the computer.
- **OTG:** Copy or playback music files when connected to external Type-C storage device.
- **USB DAC:** Connect to a USB DAC equipment to enable outboard digital-analog conversion, or connect to a USB source equipment (such as a computer) and let N3 perform the digital to analogue conversion.
- **SPDIF out:** Connect to a coaxial DAC device via a Type-C to coaxial adapter cable.

15. **TF card slot:** The TF card slot support up to 256GB TF card.

16. **Charging indicator:** Indicators will be flashing while charging and stay always-on when charging is completed.

4. Display and Menu

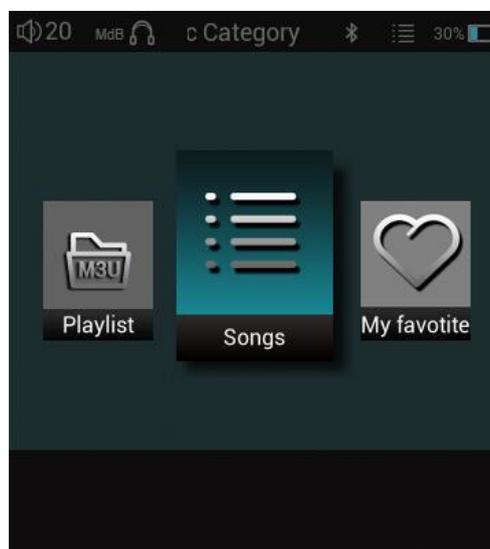
After powering on, N3 will enter main menu like the picture below.



Main menu can be divided into six parts as below:

(1) Music Category

- Songs
- My favorite
- Recent played songs
- Album
- Genre
- Artist
- Playlist



(2) Music Library

- TF card
- OTG
- Update the Music Library

(3) Playing now

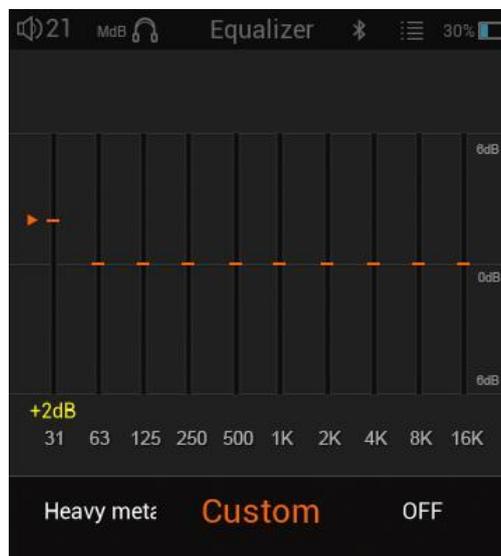


(4) Music Settings

- Gain setting (HdB, MdB, LdB)
- DSD gain compensation (+0dB~+6dB)
- Replay Gain (Album, Track, OFF)
- Equalizer (Rock, Classic, Jazz, Pop, Dance, Vocal, Blues, Heavy metal, Custom, OFF)
- Digital Filter (Short delay slow, Super Slow, Sharp, Short delay sharp, Slow)
- Play mode (Play All, Shuffle, Repeat Current, Repeat All)
- Output selection (Phone Output, Line Output)

Note: Using the Line Out output will result in the Volume being set to MAX. Please disconnect your headphone and connect the device to appropriate equipment?

- S/PDIF Output (DoP, D2P)
- Breakpoint resume (ON/OFF)
- Gapless (ON/OFF)
- Max volume (0-100)
- setup startup volume (Memory/Custom)
- Startup volume (0-100, preset 20)
- Balance (L10-0-R10)
- Lyric (ON/OFF)
- Album Art (ON/OFF)



(5) Bluetooth

Bluetooth (ON/OFF)

apt-X (ON/OFF)

Scan Bluetooth devices (Paired Devices, Available Devices)

(6) System setting

- Language (English, Japanese, Korean, French, Dutch, Hebrew, Russian, Simplify Chinese, Traditional Chinese)
- Theme selection (Theme A, Theme B, Theme C, Theme D)
- USB mode (USB/DAC)
- Capacitive Touch sensing (ON/OFF)
- Backlight time (30s/1m/5m/10m/30m/always on)
- Brightness (5 levels, adjust according to your need)
- Folder operation (ON/OFF)
- Idle Shutdown (ON/OFF)
- Idle Shutdown time (5m/10m/20m/30m/1hr/2hr, only available when Idle Shutdown is set to ON)
- Scheduled Power off (ON/OFF)
- Sleep shutdown time (5m/10m/20m/30m/1hr/2hr, only available when Idle Shutdown is set to ON)
- About the player
- Reset
- System upgrade

5. File Transfer

The player is equipped with USB2.0 connection port that supports high speed file transfer.

- Turn on your computer (MAC or PC) and the N3 player.
- Connect the player to computer with the USB cable supplied with the player.
- While connected, you can browse, copy and delete files on the TF card of the player with your computer, or copy the files from computer to TF card
- At the end of your file operation, please select the USB device icon in the task bar to disconnect the player from the compute.
- You can unplug the USB cable now.

6. Using Headphones

The player can work with 3.5mm non-balanced headphone. If you unplug the headphone during playback, the player will pause automatically. You can use a high quality adapter (not provided as N3 standard accessory) if you need to use 6.35mm headphone.

7. Basic Operation

Playback control

Please refer to the control buttons and connectors description in previous section for basic operation.

Music File

- Add all files into “Playing Now” list

After you enter the “Music Library” menu, you can select “Update the Music Library” option, the system will add all the music file stored in TF card to “Playing Now” list, previous “Playing Now” list will be refreshed as a result of this.

Tips: The player will stop current playback while updating “Music Library” and will only display music files that can be processed by the device. Unsupported documents will not be included in the filing system.

- You can access, manage and play the music files stored in the device from the "Music Library" and "Music Category" menu.

At the Home menu, select “Music Library” and then TF card, you can now start to browse through folders and select music file to playback. Alternatively, you can select “Music Category”, the player will offer a list of music grouping or selection criteria at your discretion.

Bluetooth

You can enjoy your music in wireless mode after you connect your N3 to a Bluetooth device through a pairing process. Please be reminded that N3 cannot support DSD file format through Bluetooth connection.

Coaxial Output

Cayin has embedded the S/PDIF signal in the USB Type-C connector, you can connect a Type C to RCA (or 3.5mm) coaxial adapter cable to output S/PDIF Coaxial digital signal from N3 to external Digital to Analogue Converter.

ReplayGain

ReplayGain function will normalize the output level of different recording, making sure the volume output will maintain at minimum difference. You can turn off the feature, or select output level normalization according to individual track or the complete album.

8. Gain settings

Please adjust the gain setting of the player according to the preference and type of headphone used. At home menu, go to Music Setup, find Gain Setting and you can change it among “Hdb”, “Mdb” and “Ldb”.

- When set the gain setting to “Hdb”, the player will operate in high gain setting. This setting is recommend for low sensitivity or high impedance headphone.
- When set the gain setting to “Mdb”, this setting will keep the player in mid-range operation, recommend starting from here and adjusting accordingly.
- When set the gain setting to “Ldb”, the player will operate in low gain setting, and this setting is recommend for high sensitivity or low impedance headphone.

Safety Notice: The power rating of this device is very high, please adjust the volume to a lower setting before you insert headphone into the device, and slowly adjust the volume setting to a comfortable level to avoid hearing damage due to extremely loud sound level.

9. Charging

Charging Procedure

1. Connect the player to computer to charge with the USB cable coming with the player.
2. The battery installed in the player is rated at 2500 mAH (3.8V). It will take around 3 hours to completely charge up the battery, and 1.5-2.0A USB charger is recommended.

Precautions

We recommend our customer to use high quality charger (not provided by this device) with N3 because inferior charger might introduce high risk in the long run.

Charging while playing: When N3 is connected to a USB charger, it can continue to function as normal while charging is in progress (under USB mode).

Charging recommendations

Good usage habits can extend battery and player product life. If the device has been partially charged several times, we recommend you to perform a full recharge of the battery.

Note: Due to the special characteristic of lithium battery, the battery reading might not be accurate if the device has not been fully discharged for a long time.

10. Firmware Upgrade

The player hardware running is based on system firmware. In order to promote the operation efficiency and performance, we will Irregularly improve it in line with requirements. Improving and optimizing product function can be realized by updating system.

Notice

1. Each version of firmware might contain minor difference, consumer please decide on your own according to whether you need to update the firmware of your N3 Player.
2. Under normal circumstances, firmware upgrade will not cause any damage to user information, but Cayin cannot exclude the possibility of upgrade failure due to mal-operation or any other reason.
3. The N3 firmware cannot be used in other product, and the firmware from other product cannot be used in N3.

Firmware Upgrade procedure

1. For safety reason, please make sure the device has sufficient battery power before you proceed. Please confirm the device has not less than 50% battery power, otherwise please charge up the player before you proceed to firmware upgrade;
2. You can download the latest firmware from the Cayin website (www.cayin.cn). Decompress and copy the new N3 firmware file (update.upt) into the root directory of a TF card (all common file format are acceptable);
3. Switch off the player, insert the TF card that stored the update.upt file into the player's TF card slot;
4. There are two options to upgrade the firmware of the player:
 - A. At the main menu screen, go to "System Setting", scroll down to select "System Update". Select "Yes" to confirm and the system will start the upgrade process, and reboot the player when upgrade is completed.
 - B. While N3 is powered off, hold down the "Enter" key in the front panel first and the "Power On/Off" key on the side panel, the system will start the upgrade process, and reboot the player when upgrade is completed.
5. Player will reboot at the end of the firmware upgrade. You can verify the current firmware version number by selecting System Setting menu, under "About the Player and storage information" option, check out the Firmware Version detail.

*Important Tips:

- Do not operate the device during firmware upgrade.

- Please delete the firmware file from the TF card after firmware upgrade.
- Please update your Music Library after firmware upgrade.

11. Safety Information

Product Safety

- Do not place heavy objects on top of the device. This may cause damage or malfunction to the player.
- Do not place the player near anything that can disperse strong magnetic field.
- Do not use this device in highly moisturized environment. This may cause damage to electrical circuit.
- Do not drop or hit the device and its accessories with hard force. This may cause damage or malfunction to the device
- Do not use the device in dusty or smoky environment. This may cause damage or malfunction to the device
- Do not use chemical solvents or detergents to clean the device. This may cause damage to the device.
- Do not use the device at thunderstorm. This may cause damage to the device
- Do not attempt to disassemble the device. This may cause damage and void the warranty.

Battery Safety

Do not place the unit in a fire or attempt to heat up the player. This may cause the battery to explode. If you notice the battery of the player is displacing high temperature, please stop using the device immediately, otherwise this may cause damage to the device.

12. Trouble Shooting

If you run into the following issues with your N5, please try to rectify the situation by the remedial action suggested. If the problem remains after you tried the suggested action, please contact our sales support or Maintenance department for alternative solution.

Symptom	Explanation	Remedial Action
Unable to turn on	The battery is too low to be powered on	Charge the battery and try to turn on again
No sound from headphones	Volume is too low	Adjust the volume to a suitable position
	The headphone is damaged or bad connections	Change the headphone, make sure all cables are firmly connected
	Output level of the music file is too low	Play other music files to verify whether this is a file-based problem
Music files cannot be played	Music file is damaged	Please remove damaged file from the player and play other music files
File name has no suffix	Happened occasionally when parsing from an inappropriate Cue file	Update music library

File playback error	Music file in TF card might have been removed or deleted, causing the playback error	Update music library
USB DAC cannot be recognized	The driver has not been installed or setup properly; PC music playback software has not designated this device as playback output.	Install appropriate USB Audio driver and select N3 as system output device as your music playback software on your computer
System Halt		hold power until the player reboot itself or use a non-metal pin to activate reset button directly

13. Technical Specifications

Specification		
Dimension	100*54*13(mm)	
Net Weight	~100g	
Recommended Headphone Impedance Range	8~300Ω	
Battery	Capacity	2500mAh 3.8V Lithium ion polymer
	Duration	~12HRS
	Charging time	~3HRS (with 1.5-2A Charger, not provided)
	Charging current	≤1500mA when charge with 2A Charger, ≤500mA when charge with computer USB port
Line Out	Output Level	1.0V (@10kΩ)
	Frequency Response	20Hz-20kHz (±0.2dB, Fs=192kHz) 5Hz-50kHz (±2dB, Fs=192kHz)
	THD+N	0.03% (kHz, Fs=44.1kHz; 20Hz-20kHz, A-Weighted)
	Dynamic Range	108dB (20Hz-20kHz, A-Weighted)
	SNR	108dB (20Hz-20kHz, A-Weighted)
Phones Out	Power rating	130mW+130mW (@32Ω)
	Frequency Response	20Hz-20kHz (±0.2dB, Fs=192kHz) 5Hz-50kHz (±2dB, Fs=192kHz)
	THD+N	0.03% (1kHz, Fs=44.1kHz; 20Hz-20kHz, A-Weighted)
	Dynamic Range	108dB (20Hz-20kHz, A-Weighted)
	SNR	108dB (20Hz-20kHz, A-Weighted)
	Output Impedance	≤1Ω
Coaxial Out	Rated Output Level	0.5Vp-p (@75Ω)
	Rated Output impedance	75Ω
USB DAC	USB Mode	Asynchronized USB Audio 2.0 Class
	DSD	Up to DSD128 (Native or DoP)
	PCM	Up to 192kHz/24Bit

	Windows	Support (Driver required)
	MAC OSx	Support
	iOS	Not Support
	Android	Not Support
Music Format (LocalStorage)	DSF	Native hardware decode up to DSD256 (DST encoded DSD not supported)
	DFF	
	ISO	
	WAV	Up to 384kHz/32bit
	AIFF	Up to 384kHz/32bit
	FLAC	Up to 192kHz/24bit
	APE	Up to 192kHz/24Bit (support Fast, Normal, High and Extra High compression only)
	ALAC	Up to 192kHz/24bit
	WMA	Up to 96kHz/24bit
	MP2/MP3	Up to 48kHz/16bit
	AAC	Up to 48kHz/16bit
	OGG	Up to 48kHz/16bit

#Notice: the N3 player does not support 64kHz sampling frequency at all music format.