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1.Product Profile

1.1 Product Profile

QA662 is a new generation of digital player developed and manufactured by Quloos. It provides digital audio signal output only and lacks analog signal output; So, it must be used in conjunction with other devices, such as a Audio DAC.

QA662 integrates functions including Internal SD card pure playback, coaxial inputs, USB audio inputs, Bluetooth inputs, and Network streaming (optional version), greatly expanding the available usage occasions. It also provides a 10M master clock input, which can be applied for all the above input sources.

QA662 S/PDIF output includes four interfaces: RCA coaxial, BNC coaxial, Optical fiber, AES. It supports word clock output, supports I2S output (HDMI connector). S/PDIF output supports 192kHz and below sampling rate and DoP64 output; and I2S output supports 384kHz and below sampling rate and DSD64~DSD512 native sampling rate output.

1.2 Precautions

Always place the device on a dry, stable and firm surface.

Ensure the product is used in a well-ventilated environment so heat will dissipate.

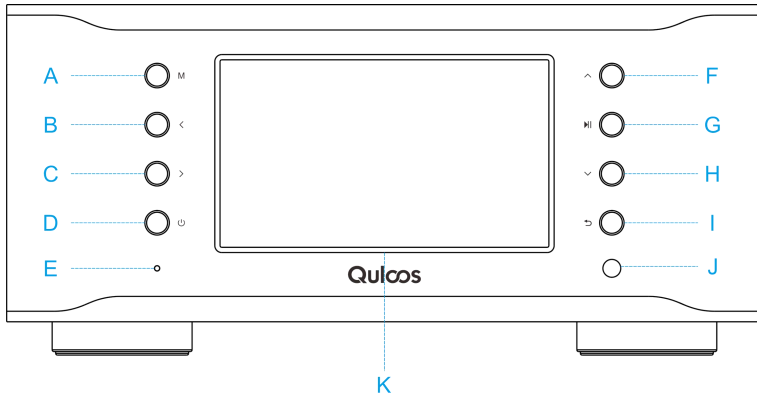
Please make sure that the phase of the input AC power is correct, the ground wire is properly connected, and the connected AC voltage is in line with the labeled voltage range of the machine before using.

The product is heavy, and it is recommended to keep the original package on during transportation to avoid unnecessary damages.

2.Product Structure

2.1 Player Mainframe

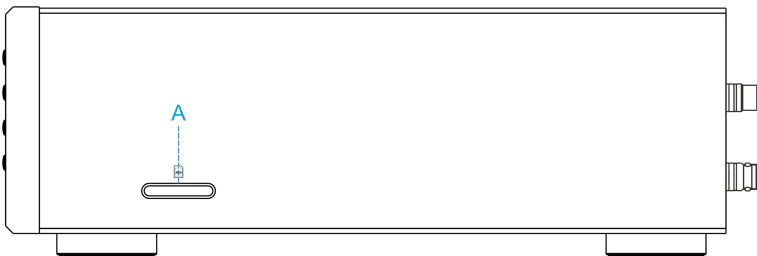
2.1.1 Front Panel



A	Menu
B	Left/ Fast backward (long press)
C	Right/ Fast forward (long press)
D	Standby (long press)
E	Auxiliary indicator light
	Red: standby, green/blue: screen Off

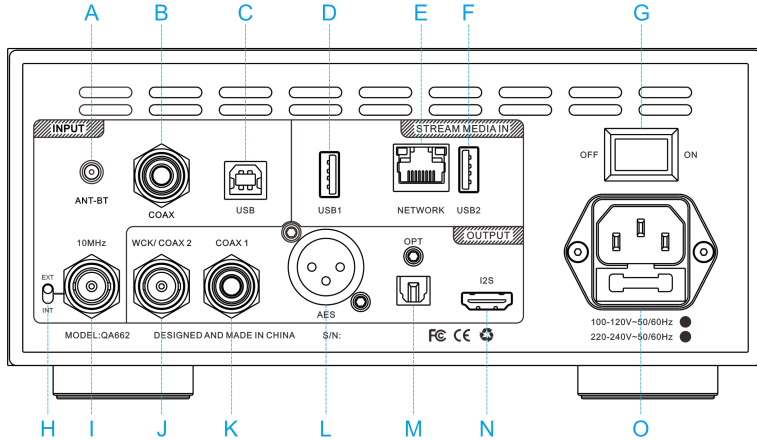
F	Up/Previous song
G	Play/Pause/Enter
H	Down/ Next song
I	Back
J	IR receiving window
K	LCD screen display area

2.1.2 Side Panel



A	SD card slot (Please be careful with the direction of SD card insertion)
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2.1.3 Rear Panel



A	Bluetooth antenna
B	RCA coaxial input
C	USB audio (bridge) input
D	USB2.0 in/out interface for network streaming. Note ①
E	RJ45 Internet interface for network streaming. Note ①
F	USB3.0 in/out interface for network streaming. Note ①
G	AC power switch. Note ②

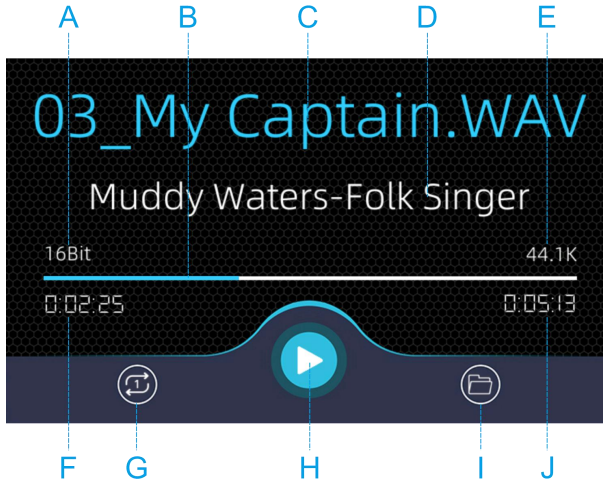
H	Internal clock/External 10M master clock selector switch
I	10MHz master clock input
J	Word clock/BNC coaxial output
K	RCA coaxial output
L	AES output
M	Optical output
N	I2S (IIS) output. Note ③
O	AC power input (fuse included)

Note ①: Models without network streaming do not include this connector.

Note ②: To prevent network streaming firmware damage, ensure the device is powered off (to standby) using the front panel  key or the remote controller before switching off the rear panel power switch or system power switch.

Note ③: For I2S connector wiring, refer to " 2.3 I2S Connector Definition." This HDMI-compatible connector does not adhere to the HDMI protocol and thus should not be connected to HDMI devices such as computers, TVs, or set-top boxes.

2.1.4 Main Interface

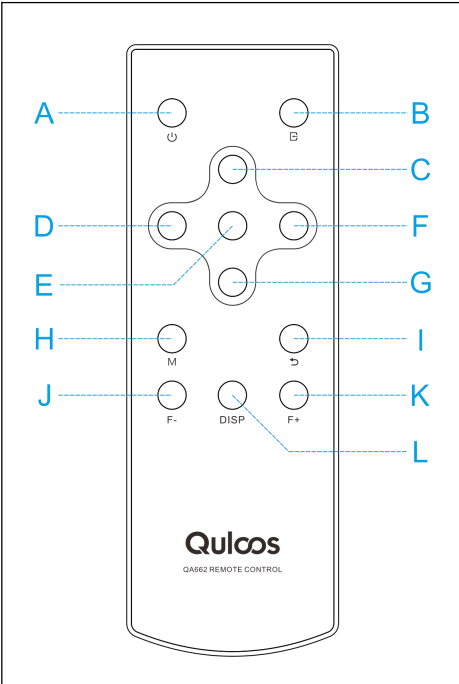


A	Sampling bit.	Note ①
B	Playback progress bar	
C	Song title	
D	Song folder	
E	Sampling rate	

F	Current playback time	
G	Playback mode (Loop/Random,etc.)	
H	Playback status (Play/Pause)	
I	Playback scope (All/Folder)	
J	Total song duration	

Note ①: When using Network streaming as the input, information such as sampling bits, playback progress bar, folders, and current playback time may not be displayed or may appear inaccurately, as the master controller can only obtain limited valid data from the Network streaming source.

2.2 Infrared Remote Controller

 <p>The diagram shows the front panel of the Qulcos QA662 remote controller. It features a central cluster of five buttons: a top button (C), a left button (D), a center button (E), a right button (F), and a bottom button (G). Surrounding this cluster are several other buttons: A (top left), B (top right), H (middle left), I (middle right), J (bottom left), K (bottom right), M (bottom left), b (bottom right), F- (bottom left), DISP (bottom center), and F+ (bottom right). The Qulcos logo and 'QA662 REMOTE CONTROL' are printed at the bottom of the device.</p>	A	Standby
	B	Input Source Selecting
	C	Up/Previous Song
	D	Left/ Fast Backward (Long Press)
	E	Play/Pause/Enter
	F	Right/ Fast Forward (Long Press)
	G	Down/Next Song
	H	Menu
	I	Back
	J	Previous Folder
	K	Next Folder
	L	LCD Screen ON/OFF

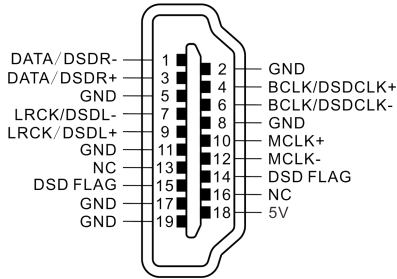
Note:

1. The remote Controller operates on a CR2032 battery. To replace it, use a PH00 screwdriver to remove the four screws on the remotes rear panel.
2. Its functions are limited to Internal SD card pure playback, such as:
 - 1) Play/Pause, previous/next track, fast forward/backward, and folder navigation do not work with Bluetooth, USB, and coaxial inputs.
 - 2) Fast forward/backward and folder navigation are not available during Network streaming.

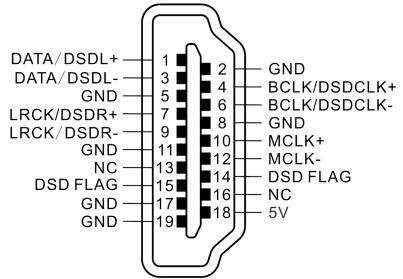
2.3 Definition of I2S Connector

2.3.1 I2S Signal Pin Switching

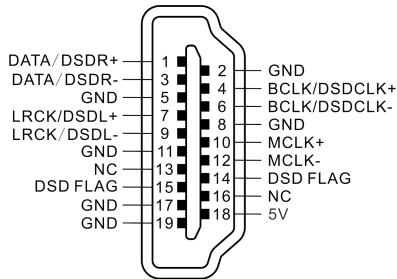
QA662 provides four different definitions of connectors by modifying the "DSD Channel" and "I2S MODE" in the menu.



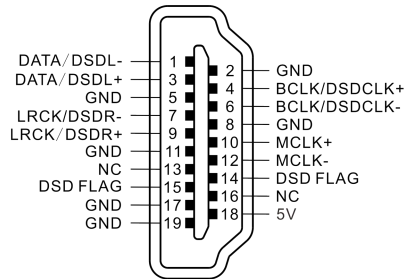
MODE 1



MODE 2



MODE 3



MODE 4

MODE	DSD Channel	I2S MODE
MODE 1	DSDL/LRCK	Normal
MODE 2	DSDL/DATA	Inverted
MODE 3	DSDL/LRCK	Inverted
MODE 4	DSDL/DATA	Normal

3. Specifications and Parameters

3.1 Parameters

Input Voltage	AC110V/220V (factory preset, please refer to the voltage marked on the machine).
Machine Power Consumption	< 30W when working; and <1W when standby.
Output Format	S/PDIF up to 24Bit/192kHz, DoP64; and I2S connector up to 32Bit/384kHz, DSD512. Bluetooth input: Fixed output 24Bit/88.2kHz.
WCK Output	TTL level, Impedance 50 Ohm.
10MHz Clock Input	Level 0.5-3.3V, Impedance 50 Ohm.
Fuse	Slow blow 1A, 5mm*20mm.
AES Connector Standard	U.S.standard (1-ground, 2-hot, 3-cold).

3.2 SD Card Parameters

Support up to 512G, FAT32 and ExFAT format. For better audio quality and stability, it is recommended to use SanDisk high-speed card (Extreme or Extreme Pro) and to format it as FAT32 format.

The upper limit for the machine to read from SD card is: 3 levels of folders; 2048 total folders; 752 single level folders; and 12288 total songs.

For some music formats, it demands high continuous stability of SD card reading speed, and substandard SD card may cause playback stuttering or crash, so please use the recommended SD card. At the same time, too much fragmentation of the SD card can also cause the above problems, so it is recommended to use Panasonic formatting software SDFormatter to perform overwrite formatting, and then use DiskGenius software to format to FAT32 format.




3.3 Supported Formats


	Format	Maximum Sampling Bits/Sampling Rate	Container, Encoding, Compression Level
Pure Playback (SD Card)	WAV	32Bit/192kHz 24Bit/352.8kHz	Fixed Point, Floating Point
	AIFF	32Bit/192kHz 24Bit/352.8kHz	
	FLAC	24Bit/352.8kHz	Level 0~8
	ALAC	24Bit/48kHz	M4A Container
	WavPack	24Bit/48kHz	Fast/Normal/High/High Plus
	APE	C1000: 24Bit/192kHz C2000: 24Bit/192kHz C3000: 24Bit/192kHz C4000: 24Bit/96kHz	Fast/Normal/ High/Extra High
	TTA	24Bit/48kHz	
	DIFF	DSD128	DST Encoding is Not Supported.
	DSF	DSD128	
	SACD-ISO	DSD64	
	MP3	16Bit/48kHz 96-320kbps	CBR/VBR/ABR Encoding
	AAC	16Bit/44.1kHz	M4A Container, AAC LC/SBR Encoding
	DTS	16Bit/44.1kHz	WAV Container, DTS-5.1/DTS-ES Encoding
	CUE	ANSI/Unicode/Unicode Big Endian/UTF-8 Encoding	
USB & Network streaming		PCM 32Bit/384kHz, DSD512	
Bluetooth		PCM 24Bit/96kHz (Fixed output 24bit 88.2kHz)	SBC/AAC/AptX etc. Encoding
Coaxial Input		PCM 24Bit/192kHz, DSD64 (DoP)	
COAX/OPT/AES Output		PCM 24Bit/192kHz, DSD64 (DoP)	
I2S Output		PCM 32Bit/384kHz, DSD512	

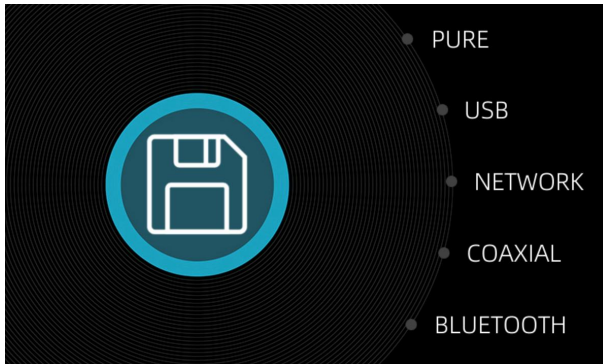
Note: Please use the I2S output when the sampling rate exceeds 192kHz and DSD64.

4. Input Source Selection

4.1. Selection Method

Continuously click the front panel  key to switch to the "Input Selection" interface, then press the  key to move the cursor to the source to be selected, and then press the  key to select the source and enter the corresponding display interface.

You may also continuously click the  key of the matched remote controller to switch to the desired channel.



4.2. selectable Input Sources

4.2.1 PURE

Play the music stored in the SD card inserted in the right side of the machine. Support music formats including WAV, FLAC, APE, DSD, etc. Please refer to "3.3 Supported Formats" for specific information.

4.2.2 USB (Audio Input)

This is a Combo384 USB bridge. Connect it to your computer using a USB cable and download the necessary driver from <https://www.q1shifi.com/?cate=8>. Once the driver is installed, your device should appear as "Quloos QA662" under "Sound, Video and Game Controllers" in Device Manager, indicating successful installation. To enjoy music, select this audio device or "DSD:ASIO:Amanero ASIO Combo384" as the output in your media player.

For mobile devices, use an OTG cable. No additional drivers are required for Mac OSX 10.6+, Linux with a UAC2 compliant kernel.

4.2.3 Network (Network Streaming)

Please refer to Chapter 7 for introduction.

4.2.4 Coaxial (Input)

It can be connected to other audio devices with coaxial output, and the QA662 will enhance and output the improved signal quality.

4.2.5 Bluetooth (Input)

After turning on the Bluetooth in your cell phone, select the device with the name of " Quloos BT1.1" to pair, and if the device is not scanned or cannot be paired successfully, please check whether there is another cell phone already connected.

Please connect the Bluetooth receiving antenna, and make sure there is no wall or other signal attenuating entity between the transmitter and the receiver.

5. Parameter Settings

5.1 Parameter Setting Method

Click the front panel **M** key to enter the setting page, then press **^/∨** to move the cursor to the item for setting parameter, and then press the **</>** or **▶|** key to select the parameter value, and at last press the **M** key to exit and save the setting after modification.

The same method applies to the remote controller.

5.2 Restoring Factory Settings

Click the front panel **M** key to enter the setting page, then press and hold the **M** key for more than two seconds and then release it. After that, the interface of "Restore Defaults?" will pop up. Click the **</>** key to move the cursor to the "Yes" button, click the **▶|** key to execute the operation, and finally press the **M** key to exit.

5.3 Parameter Settings

5.3.1 Playback Mode (valid for pure playback only)

Loop: Sequential play from top to bottom, restarts after the last song.

Random: Plays tracks randomly.

Once: Sequential play from top to bottom, stops after the last song.

Invert: Sequential play from bottom to top, restarts after the first song.

One: Continuous play of the same song.

5.3.2 Playback Range (valid for pure playback only)

All: Play all supported formats on the entire SD card.

Folder: Play files within the selected folder.

5.3.3 Memory Playback (valid for pure playback only)

Auto: After power is turned on, resumes the last played file and automatically play.

Pause: After power is turned on, resumes the last played file and not automatically play.

Close: After power is turned on, switch to the "Input Channel" selection page.

5.3.4 Tuning Mode (valid for pure playback only)

Available settings: Mellow and Bright.

Applicable to WAV files only; changes take effect after a song change.

5.3.5 WCK/COAX2

Set the output signal type for the WCK/COAX2 connector at the rear:

WCK: Outputs word clock.

COAX2: Outputs S/PDIF coaxial signal.

5.3.6 DSD Channel

Used to align the I2S output sequence with the DAC. Refer to "2.3.1 I2S Signal Pin Switching" for details.

5.3.7 I2S Mode

Used to align the I2S output sequence with the DAC. Refer to "2.3.1 I2S Signal Pin Switching" for details.

5.3.8 LCD brightness

It is used to set the brightness level of the screen, the larger the number the brighter the screen.

5.3.9 Language


It is used to set the menu language of QA662 display.

5.3.10 System Info

It is used to check the machine information, including firmware version, firmware release date, time of current run, etc.

6. Common Operations

6.1 Power On/Off Operation



Power on the device by pressing the 'I' side of the AC power switch, located at the top left corner of the devices rear. To power off, press the 'O' side. The device also features a soft shutdown (Standby) function, accessible via the front panel  key or the remote controller.

For extended periods of disuse, it is recommended to perform a hard




shutdown by turning off the power switch at the rear.

Note: Always use the soft shutdown function through the front panel or remote controller before switching off the main power at the rear or the system power; failure to do so may damage the firmware of the Network streaming.




6.2 Standby/Wake-up






Hold the front panel  key for 3 seconds until the red LED lights up, then release to enter standby. The LCD will show the "Auto Shutdown". The same operation wakes the machine from standby. The remote controller  key can also be used for standby/wake-up functions.

6.3. Selecting Songs (valid for pure playback only)

In the main playback interface, click the  key at the lower right corner of the front panel to return to the current folder song list and folder list in turn, adjust the cursor to the desired song or folder position through the  key, and then press the  key to enter the folder or play the song.





6.4 Add/Remove Songs Favorites (valid for pure playback only)

In the playback interface or song list, long press the  key for two seconds and then release it to bring the "Add to favorite?" interface, use the  key to move the cursor to the "Yes" button position and then click the  key to add the current song to your favorites.

Continuously press the  key to enter the "Favorites" file list, use the  keys to move the cursor to the file you want to delete, long press the  key for two seconds and then release it to bring the interface of "Del from Favorite?", use the  key to move the cursor to the "Yes" button, and then click the  key to remove the current file from the "Favorites".

6.5 Updating Song Library Manually (valid for pure playback only)

If there are songs in the card added or deleted, and the machine does not re-read and recognize the new songs, we can try to update the library manually. The specific operations are as follows:

Click the  key to enter the "Settings" page, then long press the  key for two seconds and release it to bring the "update music and restart" interface, use the  key to move the cursor to the "Yes" button, and then press the  key to start the "Update Song Library" operation. The system will reboot and start

scanning and updating the song library, and the time taken for this process depends on the number of files in the SD card (if it takes more than five minutes to finish reading, please try to reboot the machine).

Note: Because the library and the settings share the same FLASH storage area, after updating the library manually, the settings in the menu will also be restored to the factory default values.

6.6 Fast Forward/Backward (valid for pure playback only)

Long press the > key to perform fast forward operation; and long press the < key to perform fast backward operation. The same method applies to the remote controller.

6.7 Selection of Word Clock Output

The rear panels "WCK/COAX2" connector can output a word clock for device synchronization (provided the connected device supports word clock input). By default, it functions as COAX2 for S/PDIF signal output. To output word clock, select "WCK" for the "WCK/COAX2" setting in the parameter setting.

6.8 Selection of External 10M Master Clock

Connect the external 10M master clock to the QA662 and move the toggle switch to the EXT position when the device is powered off.

Ensure the clock switch is in the correct position before turning on the machine, as it will not operate otherwise.

6.9 Saving Current Information

To extend its lifespan, this device lacks a real-time data save feature. However, it offers alternative saving options. Should you wish to resume previous work upon restart, select an appropriate data-saving method before powering off.

- 1, The data will be saved automatically when you use Standby to turn off the power.
- 2, Press the M key to access the "Menu" interface, and upon exiting without changing any settings, data is saved automatically.
- 3, The data will be saved after switching the input source and keeping it in use for five minutes.

6.10 Turn off/Wake up LCD Screen

The "DISP" key on the remote controller can be used to turn off and wake up the LCD screen. The front panel green/blue LED are lighted when the LCD screen goes off, and the LED go off after the LCD screen is woken up.

6.11 Firmware Upgrade

Copy the upgrade file into the root directory of SD card, insert this SD card into the machine, long press the **▶||** key and then turn on the power, and you can enter the upgrade interface. Select the required upgrade file through the **^/∨** key and then click the **▶||** key to start the upgrade. After the completion of the upgrade, reboot the machine.

The whole upgrade process can be completed within one minute, and there is no need to sequentially upgrade by firmware version. Therefore, you can upgrade to a lower version of firmware when the current version is higher.

Please try not to disconnect the power during the upgrade process.

7. Network Streaming

7.1 Introduction to the Network Streaming

The Network streaming of QA662 supports acceptance of content pushed by streaming media such as UPNP (DLAN), Airplay and Roon Bridge.

QA662 must be on the same LAN as the pre-pushed streaming media, and it is connected to the router via a cable.

In normal playback, the LCD screen will display brief information about the song such as the song title, sampling rate, and total duration.

7.2 Turning on the Network Streaming

Continuously click the front panel **↶** key to enter the "Input Selection" page, press the **^/∨** key to adjust the cursor to the "NETWORK" position, and then press the **▶||** key to select the Network playback. The display interface will switch to the "NETWORK" interface; or continuously click the **🔍** key on the remote controller until the display page switches to the "NETWORK" interface. The entire startup time will take one to two minutes. After successful startup, the red power icon **🔴** in the upper right corner of the display will be changed to the blue icon **🔵**, and the dynamic IP address of the device in the LAN will be displayed at the same time.

7.3 Turning off the Network Streaming

After exiting from the Network streaming to another input source, the Network streaming will continue to work in the background for five minutes to avoid accidental switching by the user.

Before turning off the entire power when network streaming is not yet closed (including switching from network streaming to other inputs within 5 minutes), please make sure to put the machine into standby mode first through the \cup key on the front panel or the remote controller. Then, you can turn off the power switch at the rear or the system power. Failing to do so may damage the firmware of the network streaming.

7.4 Accessing IP Address of Network Streaming

When needing to access the network streaming to check information or perform other operations, you will need to enter the IP address of the device in your browser and perform the operation after entering the system.

The current IP address can be obtained by the following two methods.

- 1) The IP address will be displayed in the upper right corner of the LCD screen after successful startup.
- 2) During playback, press the \blacktriangleright key to pause the playback and return to the network streaming interface to check the IP address.

7.5 Common Control Methods

There are three methods, namely UPNP (DLAN), Airplay and Roon Bridge, that we can use to push the streaming resources to QA662s Network streaming for playing.

7.5.1 UPNP (DLAN) Streaming

Many music apps support casting to DLNA devices. Typically, the necessary settings can be found on the song playback screen. Access the DLNA settings, and set the output device to "QA662 UPnP."

7.5.2 Airplay (Apple Music)

To play a song via AirPlay, select the track, then open the playback controller and click the "AirPlay" button. Choose "QA662 Airplay" from the device list that appears. Ensure the volume of the Apple Music app is turned up.

7.5.3 Roon Bridge

In the Roon system, the QA662 functions as a player for network streaming, with controllers and the Roon Core provided by other devices. To use the Roon Bridge feature, create a Roon account and set up the Roon Core. Start the Roon software, login with your account, navigate to the "Settings" via the menu in the top left, and under "Audio" choose the "QA662" as your playback device.

7.6 Other Applications of the network streaming

The network streaming capabilities of the QA662 are similar to those of a Raspberry Pi, offering much more functionality than just what has been mentioned above. For example, it can mount USB flash drives via USB 3.0, read cards with a card reader plus SD card, and play music from NAS devices locally. However, these functions are relatively complex to use and have a certain learning curve, so they will not be elaborated on here. Those interested can search for relevant information on their own. (But please remember, these features are not very stable, and various issues occurring during use are common.)

8. Frequently Asked Questions

8.1 Upon startup, the panel LED may illuminate briefly before turning off, and the LCD screen will remain off throughout. This could be due to:

1. The clock selector switch on the rear being in the incorrect position.
2. If an external 10M master clock is chosen, ensure the input clock meets the necessary specifications for the machine to operate properly.

8.2 The SD card is not recognized or there is music in the card which is not read.

1. Confirm that the SD card is in FAT32 format (SanDisk SD card is recommended).
2. The number of songs or folders stored in the SD card exceeds the upper limit, please refer to 3.2 for details.
3. Some file formats may be beyond the machine's recognition range, and the best solution is to convert them to WAV format that meets the requirements.
4. If the newly added songs are not recognized, please try to update the library manually, please refer to 6.5 for details.

8.3 The Bluetooth of the machine can not be searched.

1. Please make sure the Bluetooth antenna is connected to the machine.
2. There is a possibility that another cell phone or tablet has already connected to QA662 (Quloos BT1.1).

8.4 Remote controller failure

This situation may be due to low battery of the remote controller, needs to be replaced with a new battery. The replacement method refers to the relevant introduction in the "2.2 Remote Controller" section.

9. Contact Us

WEB: <https://www.qlshifi.com>

E-mail: cxqmcu@cxqmcu.com