1.Support format

Audio	Bit depth, Sample Rate	Container, Encoding, Compression
Audio	**Bit depth, Sample Rate**	**Container, Encoding, Compression**
WAV	64Bit / 192KHz 24Bit / 352.8KHz	Fixed-point, floating-point
AIFF	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	Not support DST encoding
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
CUE	ANSI / Unicode / Unicode Big-endian / UTF-8 encoding	

Note: The first column spans all above rows as "Local play (SD card)".

USB-PC	PCM 32Bit / 384KHz,DSD256	
USB-Phone	PCM 32Bit / 384KHz,DSD128	
Blue-tooth	PCM 24Bit / 192KHz	SBC / AAC / HWA encoding
Coaxial/optical input	PCM 24Bit / 192KHz,DSD64（DoP）	
Coaxial/optical output	PCM 24Bit / 192KHz,DSD64（DoP）	

Note: Some audio formats has higher requirements at the continuous stability of SD card reading speed, the SD cards which not reach standard maybe stuck or crashed, please use the SD cards which recommended by us, at the same time, too many fragments will caused the above problems, advise use Panasonic formatting software SDFormatter cover formatted it, then use DiskGenius software formatted it as FAT32 again.

2. Power supply and charging

2.1 This unit can be powered by internal battery or input with a DC power supply using an external DC port.

2.2 Charging can use Type-C USB port, support QC2.0 standard fast charger, also can use DC port input the external power supply, act as fast charger when the DC CHG switch opened;

2.3 The detail charger and power supply needed current and voltage standard can check the part of port instruction;

2.4 The charging light status indication is defined as follows:

Steady red: quick charging

Steady blue: common charging

Steady green: fully charged

Red lamp flashing or blue lamp flashing: maybe your charger voltage not be in accordance with requirements, please try to change one charger

Double color lamps alternate flashing: not detected battery or battery abnormal, please try to break off the charger and insert again, repeatedly try but still like so, please contact the service after sales.

3.Firmware upgrade

3.1 The latest firmware files can be downloaded on official website, unpack the files and copy them to the SD card.

3.2 Insert the SD card into the player, long press the ENTER key and turn on the power switch, thus, the updating mode is entered.

3.3 Select the updated file in the updating list and press the ENTER key to start updating, and restart the power after completion.

Note: For more about this, see the official website: www.qlshifi.com

4.Function interface

4.1 Interface instruction

4.1.1 USB-PC

a. This is the Italian combo384 interface which been authorized, can connect computer through USB port A transmit to port B wire, and then download the USB drive. The download address of drive: https://amanero.com/drivers.html, install the corresponding drive according to the version of operating system. After installed the drive at computer end, you will see the "Amanero Technologies USB Driver 1.0.57" equipment name at the device management, this means install successfully. The play software set as that can enjoy music after this audio equipment output;

b. Apple phone and iPad also can connect to this port through the original camera suits;

c. Android phone or tablet also can use OTG wire connect to this port.

4.1.2 USB-PHONE

a. To connect an Android phone or tablet, you need to use the Type-C to Micro USB OTG cable. You can also use the Type-C OTG cable to connect to the mobile phone at one end. The other end uses a USB A port to the Micro port cable to connect to the QA390.;

b. Connecting to an Apple phone or iPad eliminates the need for a camera kit and requires a dedicated Lightning to Micro USB cable. Once connected, switch to the USB-PHONE channel and play music for sound. If there is no sound, try switching to another input channel before switching back to the USB-PHONE channel.

Note: The USB cable connected to the mobile phone is not standard. If necessary, please contact customer service to purchase.

4.1.3 Blue-tooth

After the phone is turned on, select the name "Quloos QA390 Player" to connect. If the Huawei mobile phone supports HWA, the "HWA" logo will be displayed. The mobile phone or device that does not support HWA will automatically use AAC or SBC connection. If the device name is not scanned, Please check if there are other phones connected.

Note: HWA HD audio needs to support HWA's Huawei mobile phone. The stability of HWA encoding in third-party music playback software cannot be guaranteed.

4.1.4 RCA / XLR imitate output

This is the LINE OUT output of the QA390. When the Pre-AMP volume is off, they are the fixed maximum analog volume output. When the Pre-AMP volume is turned on in the menu, their output level is controlled by the Volume knob.
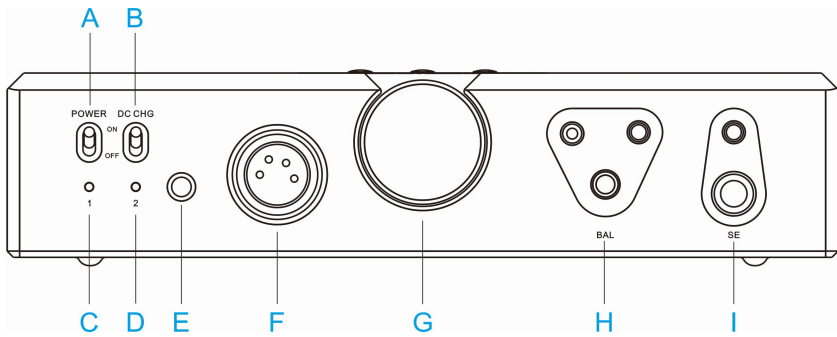
4.1.5 Type-C port

This port is the charging input port, which supports QC2.0 standard fast charge. It can also be input with the normal charger or charging treasure input port of 5V 2A. The fast charge is recommended to be no less than 18W. When this port is input, it only charges and does not supply power. At this time, the power supply still comes from the battery, and can be used while charging, but this will seriously affect the battery life in the long run.

4.1.6 DC port

The standard is 5.5mm*2.1mm, the internal positive and negative, the voltage is 5V~13V. It is recommended to use 9V/12V, not less than 20W high quality power supply. This port is the external power input port. This port will automatically disconnect the battery when the power is input. The power supply is convenient for the user to use the QA390 as a long-term power supply. When the DC CHG of the panel is turned ON, the battery is also charged. When it is turned OFF, only the power supply is not charged.
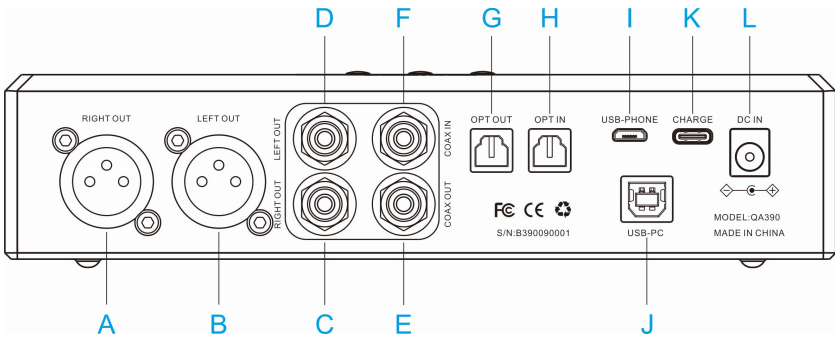
Note: at least one time charging and discharging the battery per month, otherwise, it will seriously affect the working life of battery.
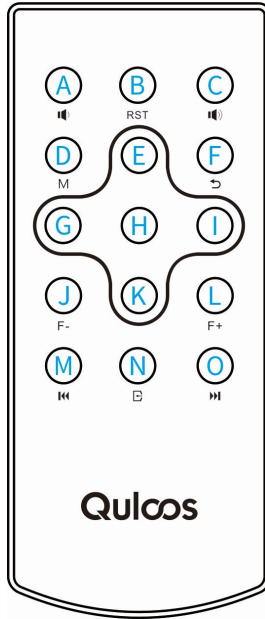
4.2 Front panel

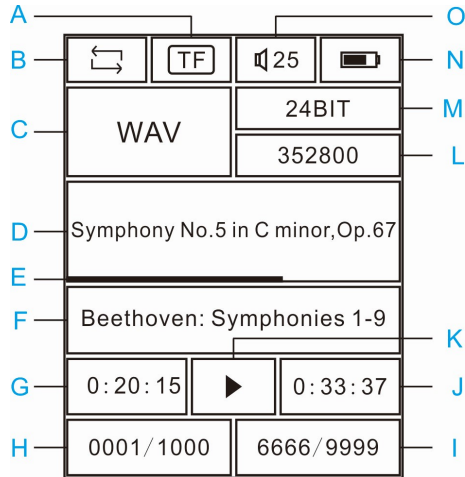| NO.	Function instruction
A	Power switch
B	DC IN charging selector switch
C	Off-screen indicator (this light is on when the screen is off)
D	Charging status indicate lamp
E	Infrared remote receive window
F	XLR balance output port
G	Volume knob(can control the headphone output and PRE-AMP function volume)
H	Balance headphone output port(suitable to 2.5/3.5/4.4 insert needle)
I	Single end headphone output port(suitable to 3.5/6.35 insert needle)

4.3 Rear panel

RIGHT OUT | LEFT OUT | LEFT OUT | RIGHT OUT | COAX IN | COAX OUT | OPT OUT | OPT IN | USB-PHONE | CHARGE | DC IN

FC CE

S/N:B390090001

USB-PC

MODEL:QA390
MADE IN CHINA

NO.	Function instruction
A	XLR balance output right channel
B	XLR balance output left channel
C	RCA analog output right channel
D	RCA analog output left channel
E	Coaxial digital output
F	Coaxial digital input
G	Optical digital output
H	Optical digital input
I	USB input-connect phone(needn't camera suits)
J	USB input-connect computer
K	Type-C charging input(support fast charging)
L	Power supply input (power & charge)

4.4 Remoter

NO.	Function instruction	NO.	Function instruction
A	Headphone/Preamp Volume reduce	B	Reset
C	Headphone/Preamp Volume increase	D	Setting
E	Direction key-up	F	Return
G	Direction key-down	H	Confirm/play
I	Direction key-right	J	Previous folder
K	Direction key-left	L	Next folder
M	Previous song	N	Input channel selection
O	Next song		

4.5 Interface Layout

NO.	Function instruction
A	Playing range
B	Playing mode
C	Audio format
D	Track name
E	Progress bar
F	Folder name
G	Current elapsed time of track
H	Folder index / total number of folders
I	Track index / total number of tracks
J	Total time of track
K	Play / Pause
L	Sample Rate
M	Bit depth
N	Battery capacity
O	Volume

5.Operating instructions

5.1 Scan music

When use the large-capacity SD card and load more songs at the same time, the first time scan need waiting about 1min, now the songs list will be saved to confirm next time fast start machine

5.2 Local play

Return to main interface, select the signal source as SD card, can enter into SD card for local play

5.3 Favorite operating

Add: In the folder list, track list and playing interface, long time press the confirm key 2s then loose it, add the selected folder or song into favorite after select confirm. The maximum capacity is 100.

Reject: In the favorite list, long time press confirm key 2s then loose it, select confirm can reject the songs from favorite

Note: the play scope of favorite limit at the current favorite list

5.4 Delete songs

Select the song under the song list, long time press return key 2s then loose it, select confirm to delete

Note: only modify the file suffix as.nul, can search out all.nul documents in the computer and unified delete or recover

5.5 USB-PC

Return main interface, select the signal source as USB-PC, can connect computer, phone and PAD. After installed the drive at computer end, you will see the "Amanero Technologies USB Driver 1.0.57" equipment name at the device management, at the same time, the play software should set it as output

5.6 USB-PHONE

Return to main interface, select the signal source as USB-PHONE, can connect phone or tablet, connect Apple phone needn't camera kit, please adjust the phone volume to be the max after connected well.

5.7 Blue-tooth

Return to main interface, select signal source as Blue-tooth, select name "Quloos QA390 Player" to connect after phone open the blue-tooth, please adjust the phone volume to be the max after connected well.

5.8 Coaxial / Optical input

Return to main interface, select signal source as coaxial or optical as digital signal input

6. Setting parameters

6.1 Playback Range

ALL: all songs on the SD card are valid files
Folder: only the songs in current file folder can be played

6.2 Memory Playback

OFF: Turn off the memory mode, and the master interface will show after startup.
PAUSE: Turn on the memory mode, and the playing interface will show after startup, ready for the user to play.
AUTO : Turn on the memory mode, the playing interface will show after startup, and songs in memory will be played.

6.3 Digital output

You can set coaxial or fiber optical digital output on or off. If it is seldom used, you may turn it off to save power.

6.4 Analog output

OFF: The analog power supply is completely turned off. When it is turned off, it can be used

as a pure digital turntable, and it can save power.

ON: Analog power is fully turned on, headphone and line output are on

PO: Headphone output is on, line output is off

LO: Line output is on, headphone output is off

6.5 Tuning mode

Tuning mode has bright and mellow, equal to firmware shifting mode(default mellow)

6.6 Preamp volume

Fix: Preamp volume closed, output as the max volume

Adjustable: open the Pre-amp volume, can adjust the volume through knob and remoter

Note: when the Pre-amp volume can be adjusted, it is synchronization adjusted with the headphone volume

6.7 Gain

Gain has four modes at low, medium, high and super high (default super high)

Low-resistance, high-sensitivity earbuds suggest that the gain is set to low or medium. If you hear the noise floor, you can switch to the lower first gain.

6.8 AMP voltage

The AMP voltage has three structure at low, medium and high (default high)

Generally, the medium and high resistance headphone select headphone voltage is high, low resistance headphone select headphone voltage is medium or low

6.9 Sound mode

Slow Roll-off (default)

Sharp Roll-off

Short Delay Slow Roll-off

Short Delay Sharp Roll-off

Super Slow Roll-off

Low-Dispersion

All to DSD: increase all formats to be 1Bit 5.6MHz which is two times of SACD output

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6.10 Volume protection

Set volume protection, means adjustable max volume value, advise set one volume protection value according to headphone setting, avoid unexpected adjust be too big volume

6.11 Automatically Off-screen

Set the time to automatically turn off the LCD screen, turn off the display to save power, and improve the sound quality. After turning off, press the confirmation button of the main unit or remote control to light up again

6.12 Automatically power off

Set the automatic power off time, can set automatically power off after 30, 60, 90 and 120 minutes, valid after press setting key withdraw

6.13 Pause power off time

Set automatic power off when 15 or 30 minutes after pause play, default close

6.14 Remote control power on/off

If you do not use the remote control, it is recommended to set it to off to avoid photoelectric interference in the space

6.15 Factory Settings Reset

Under the setting menu, 2s long time setting key then loose, select confirm can recover leave factory setting, at the same time, clear the received songs in the favorite

1Appendix I   Product maintain guarantee card

When product occur failure, please fill well this card carefully, tear off it and submit it to us with the product.

Product name	QA390		Serial Number	
Purchase date	DD MM YY			
Customer name			Zip code	
Mobile phone			Fix phone	
Shipping address				
Feedback of Abnormal Situation				
Cause Analysis and Solution	（This part filled by the manufacturer）			
Remarks				

ShenZhen QLS Electronic Technology Co.,Ltd (Quloos)

Contact: Chen Xue Qian (Clark)

E-mail :cxqmcu@cxqmcu.com