Orisun

User's Manual

Before operating the system,please read this manual thoroughly and retain it for future reference.

Integrated Amplifier **1012**

USER MANUAL FOR 1012 INTEGRATED AMPLIFIER

The **1012** is an easy integrated amplifier to use, but please read the User Manual first to get started and stay safe.

Thank you for purchasing Orisun Audio's **2**0th Anniversary **1012** Integrated Amplifier. You are now in possession of a State-Of-The-Art audio product. Please take a little time to study the User Manual to obtain the best performance from it.

The user manual may describe the **1012** as the "amp" or "amplifier".

Please check www.orisunaudio.com for the latest versions of this manual. Go to the **1012** product page and click on the tab marked "User Manual".

UNPACKING AND LOCATING THE AMPLIFIER

When unpacking the amplifier, please keep the packaging material in a safe place for possible future use. Inside the carton is a power cord suitable for connecting to the mains supply in the country of use. You will also find a remote-control handset and batteries, plus a Bluetooth antenna.

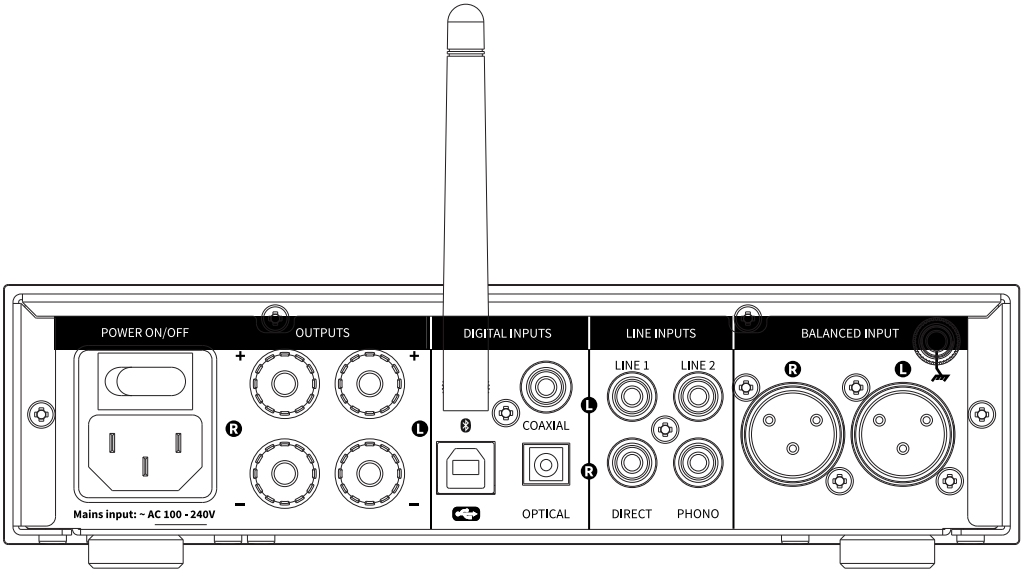
MAINS CONNECTION AND IMPORTANT SAFETY INFORMATION

The amplifier is factory-set, with the voltage selector switch on the base, to the correct power supply voltage for your region. Please make sure the switch is set to the voltage in your location. The two nominal mains voltage options are 115V or 230V. The **1012** will operate normally from 200V to 250V or 100V to 125V AC, 50Hz to 60Hz AC. The amplifier must be grounded for safety and correct electromagnetic performance via the regional mains plug provided. Do not use a ground-lift device to disconnect the safety ground pin.

SAFETY WARNING

Damage will occur if 230V AC is input when the voltage selector switch is set for 115V AC.
Contact your dealer, importer, or www.orisunaudio.com if you require further advice.

CONNECTIONS TO THE REAR PANEL



OUTPUTS With POWER OFF, connect a good quality speaker cable from each loudspeaker to the output terminals.

LINE INPUTS Connect the audio output of a streamer/DAC, or CD Player to either Line 1, or Line 2 (unbalanced inputs) with a good quality stereo RCA-to-RCA interconnect cable.

DIRECT Line 1 can be set in the Menu as PA Direct, to bypass the pre-amp and feed signals directly to the power amp from an external pre-amp or volume-controlled DAC, etc.

PHONO INPUT Line 2 becomes a Phono input with an optional Sequel mk4 module installed.

BALANCED INPUT Connect a streamer, DAC, or CD Player to the balanced inputs with a pair of XLR-to-XLR interconnect cables.

USB Connect a computer/laptop or music streamer with a USB (printer) cable, type A to B, or type C to B, not longer than 5 metres in length.

COAXIAL Connect a CD Transport, Network Streamer, or other digital product with a 75 Ohm RCA-to-RCA digital coaxial cable.

OPTICAL Connect a CD Transport, Network Streamer, TV, Satellite receiver, or other digital output device with a good quality optical interconnect.

BLUETOOTH Screw-in the 10cm antenna provided until it is tight and then swivel it vertically for best reception range.

MAINS CONNECTION

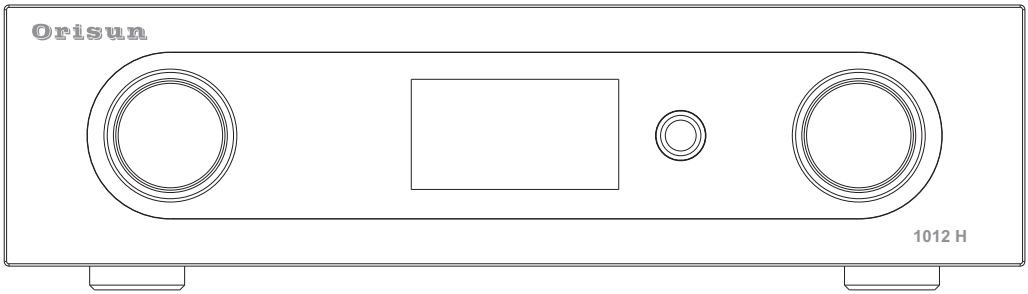
Plug the mains power cord provided into the IEC socket on the rear panel and the mains power plug to the nearest wall socket or good-quality extension socket strip.

POWER ON/OFF

Move the rocker switch above the IEC mains-socket on the rear panel to the ON position, marked I. The amp will start, press the aluminum knob located on the front panel, then the amp will automatically power-ON and the sirenaudio logo will be displayed on the front panel for a few seconds before switching to the HOME screen.

To electrically isolate the amplifier from the mains, move the rocker switch on the back panel to the OFF position, marked O or remove the power cable.

FRONT PANEL CONTROLS AND DISPLAY



DISPLAY Input, volume, and other status messages are shown in the display window. Mute, volume, auto-standby timer, EQ (bass and treble controls) are also displayed at the top and digital connection status at the bottom.

HEADPHONES The headphone jack socket is on the right side of the display window. When in use the loudspeaker output will be automatically muted.

RIGHT-HAND KNOB

Volume Rotate to adjust the VOLUME level from 0 (min) to 70 (max).

Mute Press briefly to MUTE the output and press again to UN-MUTE the output.

LEFT-HAND KNOB

Power ON Press once to manually power-ON from Standby mode.

Auto Standby Press for 2 seconds to manually enter Standby mode.

Input Rotate to select three analogue and four digital inputs.

SETUP MENU Press once to enter and rotate to access the following options.

Input Press and select a new input.

Balance Rotate left or right to move the stereo image between speakers.

EQ Select ON to enable EQ (Tone controls). Select OFF to disable EQ. Treble and bass can only be adjusted when EQ is ON.

Treble Boost or cut treble as required.

Bass Boost or cut bass as required.

BT Pairing Select Bluetooth Input first. Go to Settings on your mobile device and select ORISUN **1012**.

PA Direct Select ON to enable PA Direct mode. Select OFF to return to Line 1.

WARNING Do not connect a source device to PA Direct without a pre-amp in front to control the volume level.

Dimmer Display - Always ON or Auto OFF will turn display off after 20 seconds.

Brightness Adjust display brightness.

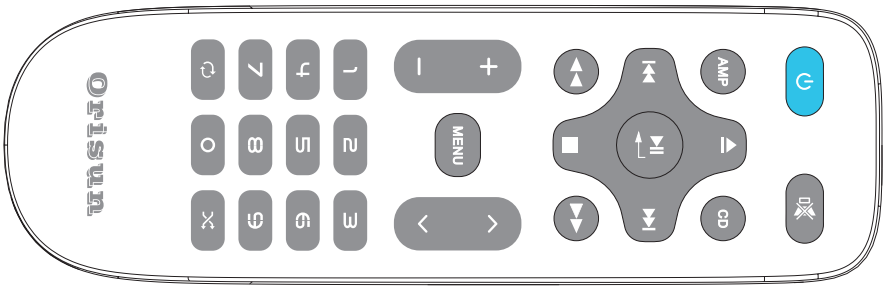
Auto Standby Adjust to be Always On, Idle 30 mins, Idle 60 mins, or Idle 120 mins.

USB Wake On Select Enabled to wake up the ORISUN **1012** from Standby mode automatically when connected to a computer or laptop that automatically goes to sleep. Power management may need adjustment in your PC or laptop BIOS to enable this function. Go to settings for Apple IOS adjustments.

Info Press to show model number **1012** and software revision.

Reset Press to return the amplifier to factory default settings.

REMOTE CONTROL HANDSET



Operation is simple but some buttons have dual functions and require AMP or CD to be pressed first.

AMPLIFIER FUNCTIONS

Press AMP button once to prioritise amplifier functions. It will remember this instruction, so once done, it is not necessary to do it again, unless to switch back from CD priority.

Press the blue Standby button to wake-up the amplifier or send it into Standby mode.

Other function buttons include the following.

VOLUME	**+** UP and **-** DOWN.
MUTE	Speaker symbol with X un-Mute.
INPUT	⋀ up or ⋁ down.
MENU	Select menu options and then select options with the ⋀ up and ⋁ down arrow buttons.
ENTER	Press the round button in the group of five, which is shared with CD play and pause operation.
BLUETOOTH	Use **I<<** **>>I** arrow keys shared with CD operation to play, **II** pause, stop, **>>I** track forward and **I<<** track backwards.

CD FUNCTIONS

Press CD once to remotely control CD PLAYER functions. It will remember the instruction. Amplifier volume and mute also work in CD mode.

MAIN	Play **>**, Pause **II**, ■ Stop, **>>I** Track Forward, **I<<** Track backwards, **>>** Scan Forward, Scan backwards, and ⋀ Eject disc.
MENU	Press to enter menu. Options include Display brightness, SW revision info, etc.
NUMBERS	**0** to **9** are for direct track access.
REPEAT	Press the bottom left button once to repeat all tracks, press again to repeat the same track and press again to exit repeat.
RANDOM	Press once to play tracks in a random order. Press once again to exit random play.

ADVANCED MENU

POWERING THE AMPLIFIER

The mains POWER ON/OFF switch marked **0** and **I** is located on the rear panel. To power the amplifier **ON**, depress the mains switch to position **I**. The CREEK logo will illuminate on the display screen followed two seconds later by the home screen showing the amplifier's status.

ECO MODE

To comply with International Ecological Power Regulations, electrical consumer products are required to lower their power consumption to <0.5W when idle for 30 mins or more. Therefore, the **1012** automatically enters STANDBY mode if it doesn't detect user interaction or an audio signal for a pre-set time.

AUTO STANDBY

Enter the **MENU** to adjust the **STANDBY** timeout. Options 30 mins, 60 mins, 120 mins, or Always On. A graphical timer symbol will be displayed when Auto Standby is enabled.

POWER CORDS

The **1012** is supplied with a good quality power cord with mains plug matching the power socket used in your region or country. If in doubt, consult your dealer, or the official importer. After-market power cords are unlikely to improve audio performance due to the high-tech "regenerative" high frequency power supply used by the **1012**.

MAINS VOLTAGE SELECTOR

To prevent accidental use, the two-way mains voltage switch is protected by a transparent cover. If the amplifier is to be used in a different voltage region to its factory setting, the switch must be moved. Loosen both screws by half a turn and swing the transparent cover out of the way to access the switch, move the switch left or right to reveal either 115V or 230V. Replace the plastic cover and tighten the two screws before connecting to the mains.

POWER CONSUMPTION

The technically advanced **1012** is very energy efficient. It draws only 5 Watts power from the mains continuously when powered-ON with no signal, but less than 0.5W in STANDBY mode. In STANDBY mode, a subsidiary power supply produces a low voltage to continuously power the amp's system microcontroller. The microcontroller draws very little power but must be powered to wait for instructions to turn the main power supply on and start the amplifier working.

ANALOGUE INPUTS

Balanced Audio XLR sockets follow convention. Pin 1. = Ground/shield. Pin 2. = Hot (+ phase). Pin 3. = Cold (– phase). Balanced audio inputs will naturally double the gain, or input sensitivity. The **1012** pre-amp circuitry attenuates the balanced input signals, so they match the Line input sensitivity.

If the user does not need balanced input's technical advantages, but requires another unbalanced Line input, this can be easily achieved if required.

Two options to use the XLR as an unbalanced input are as follows:

1. XLR-male to RCA female adapter plug or custom RCA to XLR male plug.
2. Orisun Audio can supply these types of cables and plugs, if required.

BALANCED AUDIO

Balanced audio is a professional method of interconnecting audio equipment. Balanced audio connections do not use ground in the signal path. Ground is used only to shield the signal path from electromagnetic interference. Longer cables may be used, if required, and are less susceptible to electromagnetic interference. A balanced interface ensures that induced noises appear as common-mode voltages at the receiver end which are then rejected or cancelled out.

LINE 1 and LINE 2

Both stereo RCA inputs offer unbalanced audio inputs for signals up to 2 volts in level, so they are suitable for CD Players, DACs, Radio Tuners, and Streaming devices with analogue audio outputs. The volume level is controlled by the audio pre-amp circuitry.

DIRECT

DIRECT is an alternative option for LINE 1. When PA Direct is selected in the MENU, any signal input on Line 1 sockets will bypass the pre-amp and volume control and connect directly to the power amplifier. Therefore, it is essential to control the volume level externally, via a pre-amplifier, or digital device (DAC) with volume adjustment.

PHONO

Phono input is an alternative option for LINE 2.
To listen to vinyl discs requires a Phono pre-amp to boost the signal by 40 or 50dBs (x100 or x316) and change the frequency response to match the RIAA standard.

GROUND TERMINAL

The screw terminal ground post above Balanced input socket is for grounding a turntable's tonearm. Most tonearms have a separate ground wire to connect them to the amplifier's chassis ground. Some turntable brands combine the tone arm ground with the signal ground, which makes the ground post redundant.

DIGITAL INPUTS

Bluetooth
Select Bluetooth input and search for "ORISUN **1012**" on your mobile device. Up to 5 devices can be remembered by the **1012**.

If "ORISUN **1012**" is not immediately available when searching, it may be due to all 5 addresses being taken. If so, go to the "SETUP MENU" and select BT Pairing, then select "Pair a new device" or, "Clear all paired devices". "Clear all paired devices" will force the **1012** to forget ALL previously paired devices.

Your mobile BT device's volume may be set at minimum, so check, and if necessary, increase the volume on the mobile device to maximum and adjust the desired level from the amplifier to achieve higher audio resolution. Alternatively, if you prefer, adjust the amplifier's volume to approximately '40' and then control the volume from your mobile device for convenience.

Bluetooth radio reception range is restricted by walls and other physical obstructions to less than 15m, or 50 feet.

USB
USB Class 2 Audio is the preferred method of connecting high-resolution digital audio signals from a computer or high-end network streamer to the **1012**. Use a USB type A male, to USB type B male (printer) cable, not longer than 5m (16 feet). The **1012**'s DAC can resolve high-resolution digital signals greater than 24-Bit 192kHz, and DSD64 music files.

OPTICAL
Optical cables are, by their nature, ground-isolated and can be purchased in various lengths and quality. Optical SPDIF – TOSLINK has a maximum resolution of 24-bit 192kHz.

COAXIAL
Use a good quality 75 Ohm (RG59U) shielded cable for best results. The maximum resolution for passing SPDIF signals via coaxial cable is 24-bit 192 kHz. To prevent unwanted ground loops, the Coaxial input is transformer isolated from ground.

RIGHT-HAND CONTROL KNOB FUNCTIONS

Rotate the right-hand Volume control knob to adjust the volume in 1dB (1 decibel) steps from 0 to 70, maximum.

It is important to note that the power output of the amplifier is the product of both the volume setting and the input signal level from the source equipment. Sources with lower output signals will require the amplifier's volume setting to be higher to achieve the required loudness. Don't worry if you find the volume is approaching maximum (70) to achieve your preferred listening level, it does not necessarily mean the amplifier is working too hard.

The volume setting is stored when the amplifier is powered – OFF, but when the **1012** is powered – ON again the last setting will be restored, unless the level was higher than 40. So, if the amplifier's volume is set between 41 and 70 and then powered – OFF, when it is powered – ON again, the level will be reduced to 40.

LEFT-HAND KNOB FUNCTIONS

Power ON	Press once to manually power-ON from Standby mode.
Auto Standby	Press for 2 seconds to manually enter Standby mode.
Input	Rotate to select three analogue and four digital inputs.
SETUP MENU	Press once to enter and rotate to access the following options.
Input	Press and select a new input.
Balance	Rotate left or right to move the stereo image between speakers.
EQ	Select ON to enable EQ (Tone controls). Select OFF to disable EQ. Treble and bass can only be adjusted when EQ is ON. Treble Boost or cut treble as required. Bass Boost or cut bass as required.
BT Pairing	Select Bluetooth Input first. Go to Settings on your mobile device and select ORISUN **1012**
PA Direct	Select ON to enable PA Direct mode. Select OFF to return to Line 1. **WARNING** Do not connect a source device to PA Direct without a pre-amp in front to control the volume level.
Dimmer	Display - Always ON or Auto OFF will turn display off after 20 seconds.
Brightness	Adjust display brightness.
Auto Standby	Adjust to be Always On, Idle 30 mins, Idle 60 mins, or Idle 120 mins.
USB Wake On	Select Enabled to wake-up the **1012** from Standby mode automatically when connected to a computer or laptop that automatically goes to sleep. **Note** Power management may need adjustment in BIOS on a PC or laptop to enable this function. Go to settings for Apple IOS.
Info	Press to show model number **1012** and software revision.
Reset	Press to return the amplifier to factory default settings.

ADDITIONAL FUNCTIONS

DISPLAY

The backlit LCD display is designed to show the amplifier's status.
The selected INPUT is displayed across the middle in large letters.
When Volume level is changed, number 0 – 70 will replace INPUT for a few seconds.
A loudspeaker symbol will be present at the top left when in use.
When headphones are plugged in the loudspeaker symbol will change to a headphone symbol.
Mute will change the colour of the symbol to RED, plus X.
Next to the loudspeaker symbol is a number, which represents the volume setting.
EQ and Treble and Bass settings are shown in the top right corner when higher or lower than 0dB.
Where possible digital input sample-rate and connection status will be displayed across the bottom.

CONTROL SETTINGS

When the input or other settings are changed, the last action is memorised, after a short delay. So, when the amplifier is powered-OFF or goes into Standby the last setting will be remembered when the amplifier is powered – ON again.

PROTECTION MECHANISMS

The amplifier will protect itself from three types of potential problems, as follows.

OVER TEMPERATURE

The **1012** 's modern high-tech circuitry is designed to run much cooler than conventional amplifiers with similar power output capability. However, if the amplifier does overheat it will automatically mute the loudspeaker output. The output will return automatically when the temperature drops sufficiently. To prevent overheating do not run the amplifier at high levels with restricted airflow or in a place where the ambient temperature is higher than 25C, or 77F.

OVER-CURRENT

If you connect the **1012** to a loudspeaker load less than 4 Ohms at high levels, or the output terminals, or speaker cables, are accidentally short-circuited, the **1012** will immediately protect itself by muting the output. To avoid this happening, do not connect speaker cables with the amplifier powered and amplifying a signal. If the load is too low and the level too high, reduce the volume to a lower level. Once the fault has been cleared the amplifier will operate normally again. If that does not work, power the amplifier off and check the speaker wiring for short circuits.

DC OFFSET

Direct Current (DC) voltage has the potential to damage a loudspeaker if not removed quickly. The **1012** 's DC Offset protection circuitry will prevent this happening and mute the output.

ADDENDUM

SOFTWARE

Like most modern electronic equipment, a digital microcontroller is used to manage almost every function. The programming of this microcontroller may need to be upgraded over time. To view the revision number, press the left-hand control knob briefly. Rotate the left-hand knob to select “Info”. Press the knob to view the Model: **1012** and Revision: 1.8, or higher.

Please check for the latest firmware available on Orisun’s website.

Device Firmware Update allows certain functions and features to be updated by the dealer via a connection inside the amplifier. Contact your dealer or importer for more details or write to www.orisunaudio.com for more information.

RADIO INTERFERENCE

The **1012** is designed to work properly in normal domestic operating conditions. However, its performance could be adversely affected if sited near to a mobile phone, light dimmer, wi-fi modem, etc. This may be particularly noticeable when using Phono input, Phono cartridges are constructed with a coil of wire inside that behaves like a radio receiver tuned circuit and antenna. Relocating the **1012**, or the source of interference, should normalise the situation.

CAUTION

Do not drive the amplifier to sound pressure levels causing severe audible distortion or clipping (square waves). Distortion is an indication that either the amplifier or loudspeakers are being pushed beyond their design limits. Heavily clipped audio signals may damage loudspeakers.

Sustained sound pressure levels from loudspeakers and headphones above 90dB for more than a few minutes are detrimental to human hearing. Permanent hearing damage may result. Enjoy the music and take care of your ears.

Please contact your supplying dealer or write to www.orisunaudio.com for further information.

TECHNICAL SPECIFICATIONS

Power output:	55 W into 8 Ohms, 110 W into 4 Ohms, 1% THD, 2 channels driven.
Continuous output current:	>8A RMS.
THD and Noise:	<0.0045% (1khz, 2x 5W - 8 Ohms).
Signal to Noise Ratio:	105dB A weighted.
Frequency Response:	10Hz to 20kHz, ±1dB. 5Hz to 50 kHz, ±3dB.
Input sensitivity:	525mV for 55 W into 8 Ohms.
Voltage gain:	32dB (x40). Power amp gain.
Crosstalk:	>68dB at 1 kHz, 2x 5 W into 8 Ohms.
Pre-Amp Inputs:	2 unbalanced RCA, and 1 balanced XLR.
Phono options:	Sequel mk4 MM Phono turns Line 2 into a Phono input.
Power Amp direct:	Line 1 configurable via the menu as Direct power amp input.
Power amp sensitivity:	525mV for 55 W into 8 Ohms.
Digital inputs:	1x coaxial RCA, 1x optical TOSLINK, 24bit 192kHz. 1x USB 2.0, type B. PCM >24 Bit 192kHz, DSD64 - 2.8224Mbits.
Bluetooth 5.0 aptX HD:	Range limited to <15m. aptX is a registered trademark of Qualcomm Inc.
Digital to Analogue Converter:	ES9018k2m stereo Sabre DAC.
Loudspeaker Outputs:	4mm binding posts with side entry hole and spade lug.
Damping factor:	>100 (at 8 Ohms).
Headphone Output socket:	6.3mm stereo jack socket suitable for 30 – 300 Ohm.
Remote control:	RC-40 remote uses standard RC5 codes.
Mains input voltage range:	100V to 240V, switched 115V/230V @ 50Hz/60Hz.
Mains Fuse:	T4A - 250V. Not user serviceable.
Power Consumption:	<0.5W Standby, 10W Idle, 350W Max.
Auto Standby:	Automatically powers-down with no signal.
Standby time options:	30 mins, 60 mins, 120 mins, and Always On.
Finish colours:	Silver or black front panel. Black cover only.
Weight:	2.2kgs (4.84 lbs) net, 3kgs (6.6 lbs) gross (packed).
Size W/H/D:	21.5 x 6 x 25.5 cm (8.46″ x 2.36″ x 10”) inc. feet, knobs, LS terminals.