

PureSINE-1000

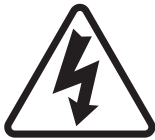
O W N E R M A N U A L

 **CLEF**®

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.



CAUTION: TO REDUCE THE RISK OF ELECTRICAL SHOCK, DO NOT REMOVE COVER. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED PERSONNEL.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

CAUTION: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Important Safety Instructions

Please read all instructions and precautions carefully and completely before operating your PureSINE-1000.

1. **ALWAYS** disconnect your entire system from the AC mains before connecting or disconnecting any cables, or when cleaning any component.
2. This product must be terminated with a three-conductor AC mains power cord that includes an earth ground connection. To prevent shock hazard, all three connections must **ALWAYS** be used.
3. AC extension cords are not recommended for use with this product
4. **NEVER** use flammable or combustible chemicals for cleaning components.
5. **NEVER** operate this product with any covers removed.
6. **NEVER** wet the inside of this product with any liquid.
7. **NEVER** pour or spill liquids directly onto this unit.
8. **NEVER** block airflow through ventilation slots or heat sinks.
9. **NEVER** bypass any fuse.
10. **NEVER** replace any fuse with a value or type other than those specified.
11. **NEVER** attempt to repair this product. If a problem occurs, contact your PureSINE-1000 retailer.
12. **NEVER** expose this product to extremely high or low temperatures.
13. **NEVER** operate this product in an explosive atmosphere.
14. **ALWAYS** keep electrical equipment out of the reach of children.
15. **ALWAYS** unplug sensitive electronic equipment during lightning storms.

*From all of us at Clef Audio,
Thank you for choosing our product.*

Table of Contents

Unpacking	6
Installation Considerations	7
Placement	7
Ventilation	7
Power Requirements	8
Operating States	8
Continuous Operation	8
Special Design Features	9
Venus Engine	9
Polaris Technology	9
Zero-Cross Technology	9
Star Wiring Technic.	9
Protections	10
Surge Protection	10
Under & Over Voltage Protection	10
Over Current Protection	10
Over Temperature Protection	10
Front Panel	11
Rear Panel	12
Care & Maintenance	13
Specifications	14
Dimensions	15

Unpacking

Warning!

DO NOT attempt to lift or move the PureSINE-1000 without adequate assistance. Failure to follow the procedures included in this section may result in personal injuries and/or product damage.

Caution!

DO NOT attempt to lift the PureSINE-1000 while bending at the waist. When lifting, stand as straight as possible using the leg muscles to lift.

When unpacking the PureSINE-1000:

- **DO** save all packing materials for possible future shipping needs.
- **DO** inspect the PureSINE-1000 for signs of damage during shipment. If damage is discovered, contact an authorized Clef Audio dealer for assistance making appropriate claims.

Installation Considerations

The PureSINE-1000 requires special care during installation to ensure optimal performance. Pay particular attention to the precautions included in this section and to other precautions included throughout this owner manual.

Placement

- **DO** review "Important Safety Instructions" and "Power Requirements " before installing the PureSINE-1000
- **DO** place the PureSINE-1000 on a solid, flat, level surface such as a table, shelf, or floor
- **DO** allow at least a 6-inch (15cm) clearance behind the PureSINE-1000 for the power cord to bend without crimping or straining.
- **DO** refer to "Dimensions" for assistance with custom installations.
- **DO NOT** place the PureSINE-1000 on a windowsill or in another location in which it will be exposed to direct sunlight.

Caution!

Before moving the PureSINE-1000, make sure it is powered off with the rear panel power button. Then, make sure the power cord is disconnected from the AC mains connector and the electrical outlet.

Ventilation

- **DO** select a dry, well-ventilated location out of direct sunlight.
- **DO** allow at least a 2 to 3-inch (5 to 8cm) clearance above the PureSINE-1000 for proper heat dissipation through air circulation. The PureSINE-1000 is designed for both passive convection cooling and active fan cooling.
- **DO NOT** obstruct the ventilation holes on the top and bottom of the PureSINE-1000 or reduce airflow through the PS-1000
- **DO NOT** place the PureSINE-1000 on a thick rug or carpet or cover the PureSINE-1000 with a cloth, as this might prevent proper cooling. If the PureSINE-1000 is placed on the floor, use a thick piece of tempered glass to provide firm support and proper ventilation.
- **DO NOT** expose the PureSINE-1000 to high temperatures, humidity, steam, smoke, dampness, or excessive dust. Avoid installing the PureSINE-1000 near radiators and other heat-producing appliances.

Power Requirements

When shipped, the PureSINE-1000 is configured for 220-230V AC power operation at 50Hz. Before operating the PureSINE-1000 make sure the AC mains connector label indicates the correct operating voltage for the current location.

Operating States

The PureSINE-1000 has three operating states:

1. Off

Power is disconnected from the AC mains connector.

2. Standby

Power is connected to a small power supply, and control circuits. The PureSINE-1000 consumes less than 30W of power.

3. On

Power is connected to the AC mains connector and all power components.

Continuous Operation

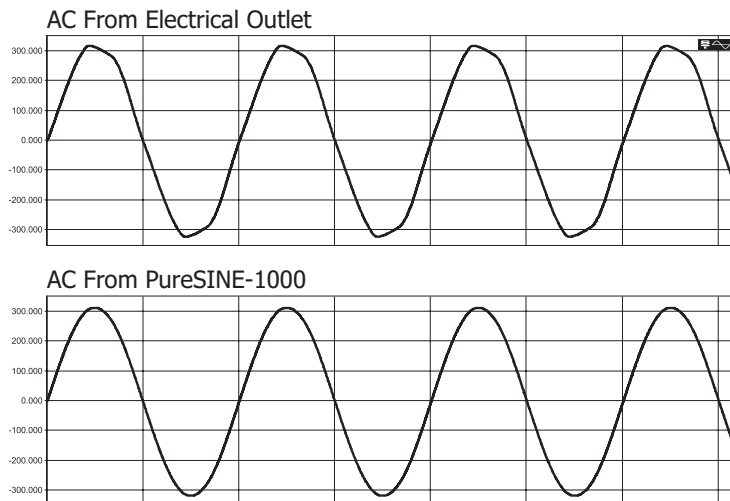
The PureSINE-1000 should be unplugged during lightning storms and extended periods of non-use. Otherwise, it is designed for continuous operation. For best performance, make sure power is connected to the AC mains connector at all times. During normal operation, do not use the power button (on the rear panel) to power off the PureSINE-1000. Instead, use the on/off button to place the PureSINE-1000 into standby.

Special Design Features

Thank you for purchasing the PureSINE-1000. The Puresine-1000 is designed to focus on AC line correction on both waveform and voltage level. The PS-1000 output is very low distortion Sinewave, less than 0.8% distortion, which is very close to ideal AC line waveform. The equipment connected to PS-1000 will operate at optimum condition resulting in gaining maximum performance. Besides AC line waveform correction, PS-1000 output also stabilizes at 220V+ 0.8% during the AC input fluctuation between 196V - 240V.

Venus Engine

This advanced design circuit continuously monitors, analyzes and corrects the AC line output waveform and voltage level in analog real-time mode, the AC output is very constant at all time which could not be found in conventional stabilizer in the market.



Polaris Technology

This is Clef proprietary filter technology which is different from common filter design. The common filter design usually filters only high and very high frequency. Polaris filter in PureSINE-1000 is designed to work from 10KHz upward which is the frequency band that affects the sound and video quality. Polaris filter can reduce the noise in AC line over **95%** of total noise so the improvement of sound and picture quality can be clearly detected.

Zero-Cross Technology

Each PureSINE-1000 duplex has the special filter circuit to reduce the interference generated by equipment plugged into duplexes from one duplex to the other duplex. This to ensure the purity and cleanness of the AC line delivered to equipment.

Star Wiring Technic

This is special technique which totally separate the wiring to each duplex. This will reduce the crosstalk between duplex and increase maximum current delivered the equipment.

Protections

Surge Protection

PureSINE-1000 is equipped with surge protection circuit that can absorb up to 13000 amps surge (8x20ms pulse) and up to 1,440 Jules. This will protect PureSINE-1000 itself and the equipment connected to PureSINE-1000 from surge voltage from AC mains.

Under & Over Voltage Protection

In case of AC mains is under or over voltage;

- AC mains between 196V-199V (under voltage) and 236V-240V (over voltage) The audible alarm will sound to alert user the abnormal voltage. The PureSINE-1000 will still function properly. The alarm sound can be turned off by **Alarm On/Off switch** on rear panel.

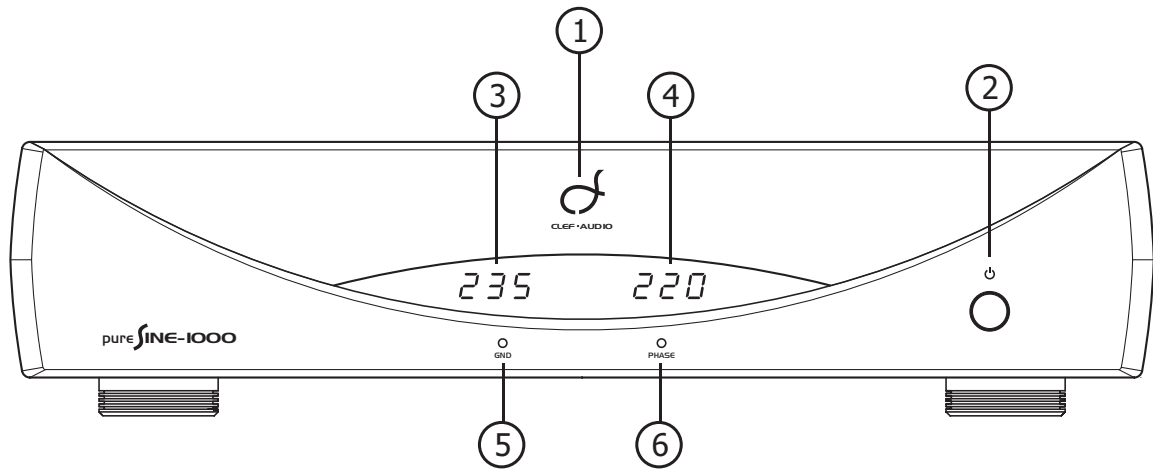
- AC mains under 196V and over 240V This is extremely low or high voltage, PureSINE-1000 will shutdown itself to protect against too low or too high voltage. PureSINE-1000 can be turned on again by pressing **On/Off button** while AC mains is back to normal level, 196V-240V.

Over Current Protection

The over-current protection circuit will continuously monitors the current PureSINE-1000 delivers to equipment. If the current is over 5A (or equal to 1000VA load), PureSINE-1000 will shutdown itself. Press **On/Off button** again to turn on PureSINE-1000 but please make sure the the load is less than 5A or 1000VA.

Over Temperature Protection

In some case that PureSINE-1000 is placed in bad ventilation area, the internal temperature may be too high. The circuit will shutdown PureSINE-1000, wait until the unit cool down and press **On/Off button** to resume operation.



Front Panel

The numbers in the front panel illustration shown above correspond with the numbered items that begin below.

1. Indicator LOGO

Indicates the operating state of the PureSINE-1000.

1.1 Dimly lit Indicates that the PureSINE-1000 is in Standby.

1.2 Fully lit Indicates that the PureSINE-1000 is powered "on."

2. On/Off Button

Places the PureSINE-1000 into standby mode and takes the PureSINE-1000 out of standby mode. When the PureSINE-1000 is powered on, pressing and releasing the On/Off button places the PureSINE-1000 standby or takes the PureSINE-1000 out of standby

3. AC Input Display

Shows input voltage from AC mains.

4. AC Pure SineWave Output Display

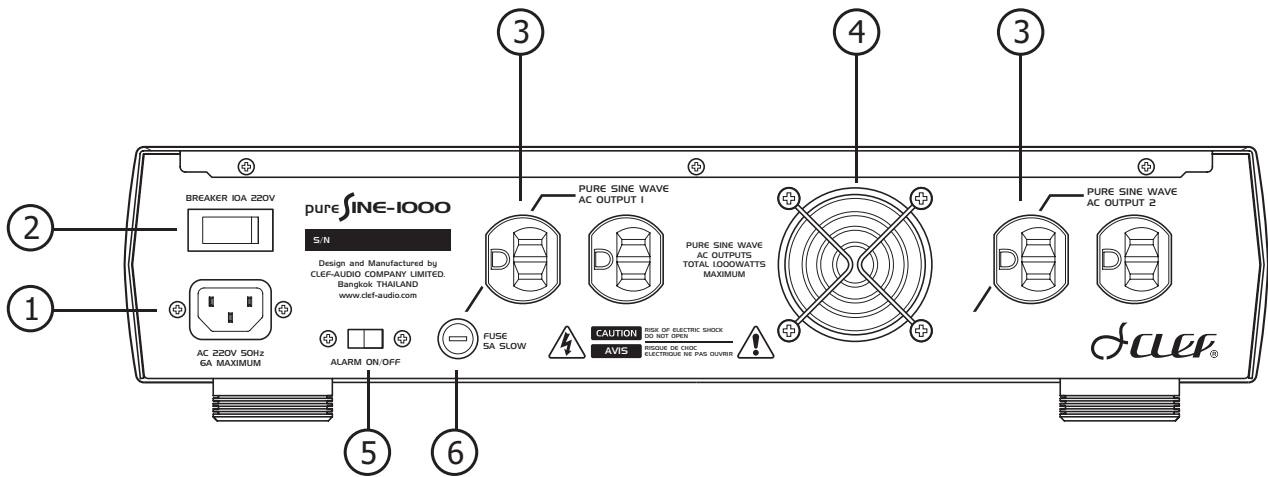
Shows Regulated AC line output from PureSINE-1000

5. Ground Indicator

Shows when AC input ground wire is connected properly.

6. AC Phase Indicator

Shows when AC input Phase, Line and Neutral wires are connect properly.



Rear Panel

The numbers in the rear panel illustration shown above correspond with the numbered items that begin below.

1. **AC Main Connector**
Plug the supplied power cord into this connector and plug the other end into electrical outlet.
2. **Power (Breaker) Switch**
Press this switch to "RESET" side to start PureSINE-1000 in standby mode. The indicator logo on front panel will dimly lit.
3. **Pure Sinewave AC Outputs**
The PureSINE-1000 has two duplexes which can connect up to 4 equipment.
4. **Cooling Fan**
This fan operates while internal temperature reach the set point to reduce internal temperature.
5. **Alarm On/Off Switch**
To enable/disable high and low AC mains voltage audible alarm
6. **Overload Protection Fuse**
This fuse protects the PS-1000 from excessive output load. The maximum current is 5A (1000VA)

Caution!

If the fuse blow, replace with same type and rating fuse.

Care & Maintenance

The PureSINE-1000 requires routine care and maintenance to ensure optimal performance. The bulleted items included in this section indicate maintenance procedures that should be performed on a regular basis.

Note

Failure to perform the maintenance procedures included in this section may void the manufacturer's warranty and/or standard repair policies.

- Use a feather duster or a low-pressure blower to remove dust from the PureSINE-1000 exterior surface.
- Use a soft, lint-free cloth to remove dirt and fingerprints from the PureSINE-1000 exterior surface. Do not use a cloth made with steel wool or metal polish. If needed, this cloth can be dampened with isopropyl alcohol. Do not dampen the cloth with Benzene, acetone-based cleaners, and other commercial cleaners.

Caution!

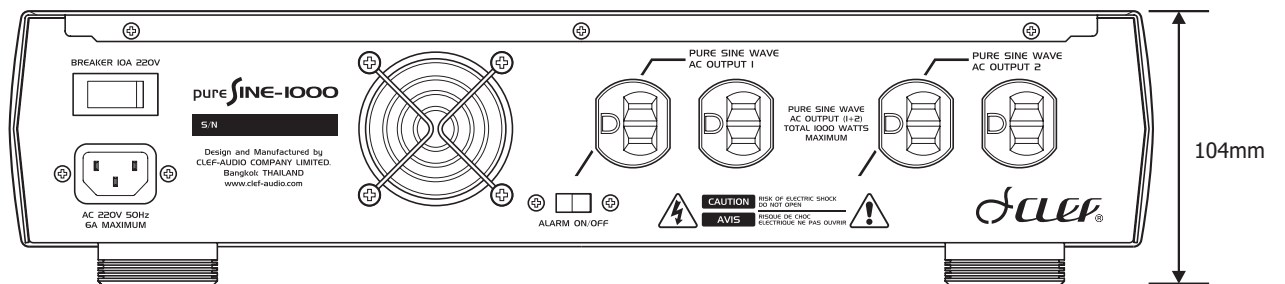
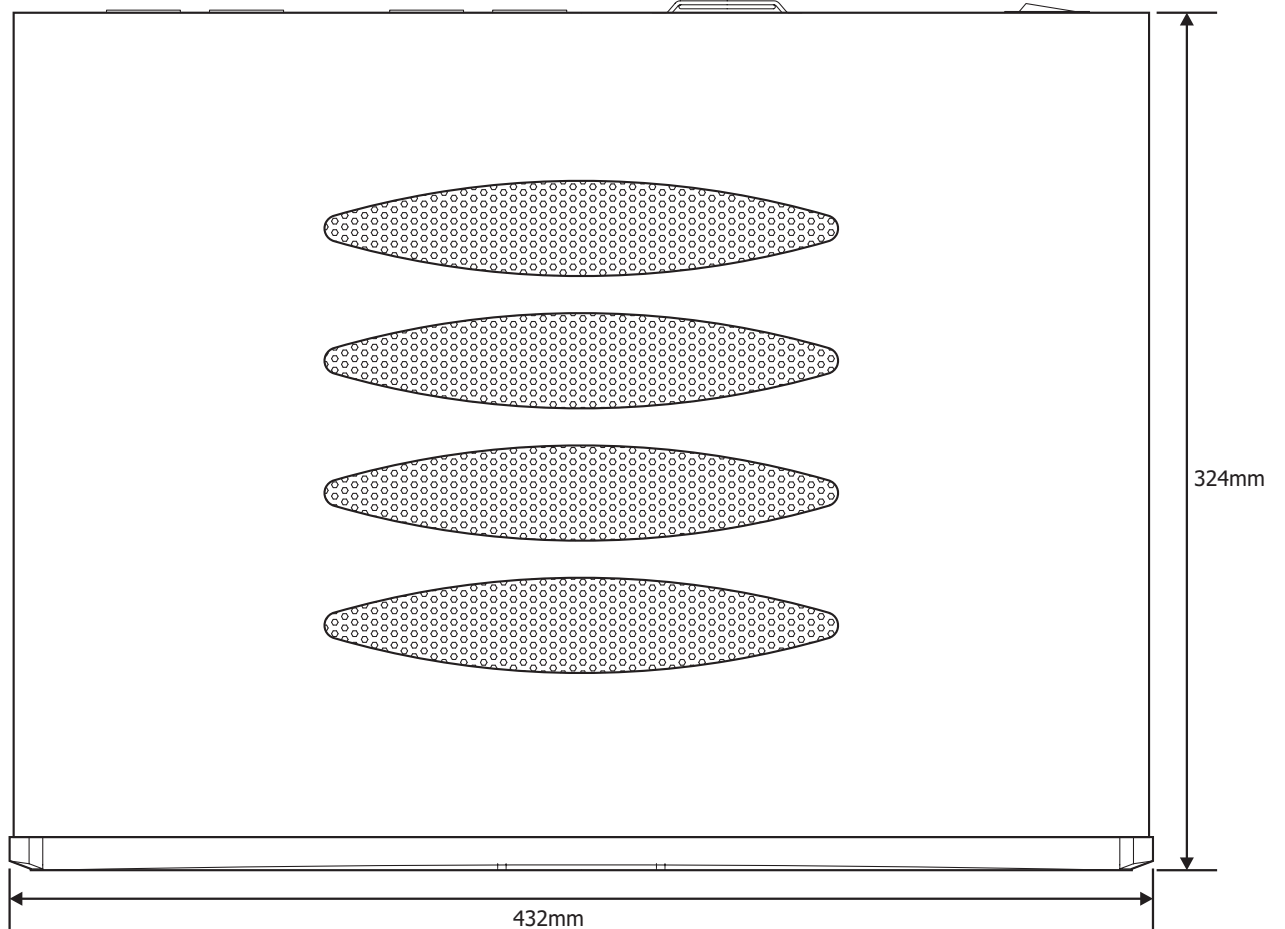
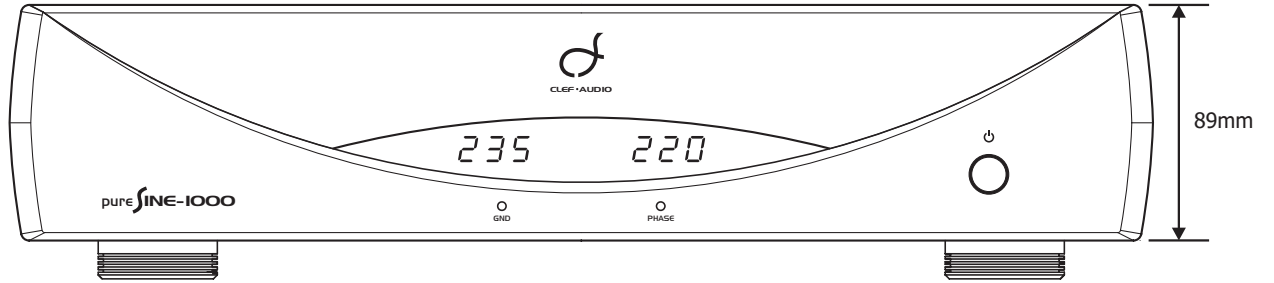
Do not apply liquid directly to the PureSINE-1000 exterior surface. Doing so may damage electrical components.

- Refer to "Installation Considerations" for information about preventative maintenance.

Specifications

Rated input voltage:	196-240 V AC
Spike Protection Modes:	L-N, N-G, L-G
Spike Clamping Voltage:	800 V peak @ 3,000 amps, 275 VAC RMS
Response time:	1 nanosecond
Maximum surge current:	13,000 amps (8 x 20 mS pulse)
Maximum spike energy:	1,440 Joules total
Noise attenuation:	>10 dB @ 10 kHz, >46 dB @ 100 kHz, >100 dB @ 1-10 MHz
Rated output capacity:	1,000 VA (continuous)
Rated output voltage:	220 V AC < 0.8 % or +/- <1.5 V
Rated output current:	5.0 A
Output frequency:	50 Hz
Instantaneous peak current capacity:	15 A
Output waveform THD:	0.2% or less
Input frequency:	50 Hz
No-load power consumption:	45 W
Efficiency:	70 % 1000 W Load @ 240V AC Input
Meter:	Dual Digital True RMS Meter
Distortion Input/Output:	< 0.2 % @ Input 3%
Dimensions:	Width 430 mm (17.0"), Height 103 mm (4.0"), Depth 325 mm (12.8")
Weight:	13.5 Kg net, 14.5 Kg in shipping carton

Dimension, PureSINE-1000





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