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WISDOM SW-1DSP Subwoofer Amplifier with Digital Signal Processing Owner's Manual

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Contents

WISDOM SW-1DSP Subwoofer Amplifier with Digital Signal Processing

Product Information

Specifications

- **Product Name:** SW-1DSP Subwoofer Amplifier with Digital Signal Processing
- **Manufacturer:** Wisdom Audio
- **Operating Voltage:** 6 volts
- **Front Panel:** Located on the front of the amplifier, it contains various controls and indicators for easy operation.
- **Rear Panel:** Located on the back of the amplifier, it includes input and output connections, a power switch, and other ports.
- **Dimensions:** 17 inches (width) x [INSERT DIMENSIONS]

Product Usage Instructions

Safety Instructions
Please read all instructions and precautions carefully and completely before operating your Wisdom Audio equipment.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this equipment near water.
6. Clean only with a dry cloth.
7. Do not block any ventilation openings. Install by the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A

Unpacking the SW-1DSP
After unpacking your SW-1DSP, keep all packing materials for future transport. If you need to ship your SW-1DSP, only the original, purpose-designed shipping carton is acceptable. Any other method of shipping this product runs a risk of damage to the SW1DSP damage that would not be covered by the warranty. Carefully inspect your SW-1DSP for possible damage due to shipping. If you discover any, contact your Wisdom Audio dealer immediately.

FAQ

- **Q: Can I use the SW-1DSP near water?**

  A: No, it is not recommended to use the SW-1DSP near water to avoid the risk of electrical shock.
- **Q: Can I clean the SW-1DSP with a wet cloth?**

  A: No, you should only clean the SW-1DSP with a dry cloth to prevent any damage.
- **Q: What should I do if I find damage to my SW-1DSP after unpacking?**

  A: If you discover any damage to your SW-1DSP, contact your Wisdom Audio dealer immediately for assistance.

DOCUMENT CONVENTIONS
This document contains general safety, installation, and operation instructions for the Wisdom Audio SW-1DSP Subwoofer Amplifier. It is important to read this document before attempting to use this product. Pay particular attention to:
WARNING: Calls attention to a procedure, practice, condition or the like that, if not correctly performed or adhered to, could result in injury or death.

CAUTION: Calls attention to a procedure, practice, condition or the like that, if not correctly performed or adhered to, could result in damage to or destruction of part of or the entire product.
Note: Calls attention to information that aids in the installation or operation of the product.

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.

DANGER: The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of un-insulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to person.

IMPORTANT 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 this equipment.

Marking by the "CE" symbol (shown left) indicates compliance of this device with the EMC (Electromagnetic Compatibility) and LVD (Low Voltage Directive) standards of the European Community.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, under part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used by the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and the receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

Important Safety Instructions

Please read all instructions and precautions carefully and completely before operating your Wisdom Audio equipment.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this equipment near water.
6. Clean only with a dry cloth.
7. Do not block any ventilation openings. Install by the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade of the third prong is provided for your safety. If the provided plug does not fit into your socket, consult an

electrician for the replacement of the obsolete outlet.

10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

11. Only use attachments/accessories specified by the manufacturer.

12. Unplug this apparatus during lightning storms or when unused for long periods.

13. Refer all servicing to qualified personnel. Servicing is required when the apparatus has been damaged in any way, such as a power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

14. ALWAYS disconnect your entire system from the AC mains before connecting or disconnecting any cables, or when cleaning any component.

15. NEVER operate this product with any covers removed.

16. NEVER wet the inside of this product with any liquid.

17. NEVER pour or spill liquids directly on to this unit.

18. NEVER bypass any fuse.

19. NEVER replace any fuse with a value or type other than those specified.

20. NEVER operate this product in an explosive atmosphere.

21. ALWAYS keep electrical equipment out of the reach of children.

Unpacking the SW-1DSP

After unpacking your SW-1DSP, keep all packing materials for future transport. If you need to ship your SW-1DSP, only the original, purpose-designed shipping carton is acceptable. Any other method of shipping this product runs a risk of damage to the SW-1DSP damage that would not be covered by the warranty. Carefully inspect your SW-1DSP for possible damage due to shipping. If you discover any, contact your Wisdom Audio dealer immediately.

Placement Considerations

PRECAUTION
For your protection, review "Important Safety Instructions" and "Operating Voltage" before you install your SW-1DSP. Note that adequate clearance for the AC cord and connecting signal cables must be left behind your SW-1DSP. We suggest leaving at least six inches (15 cm) of free space behind your SW-1DSP, so all cables have sufficient room to bend without crimping or undue strain. If possible, the SW-1DSP should also be placed in such a way that the power switch on the rear panel is easily accessible. This switch disconnects power from the unit completely, resulting in effective disconnection of the SW-1DSP from the AC mains. You might think of this as a "vacation switch", should you wish to turn off your system completely when you will be away from home for a prolonged period. Just remember to turn it back on again when you return.

RACKMOUNT INSTALLATION
The SW-1DSP is intended to be installed into an appropriate equipment rack. The chassis includes rack mount ears. These allow the amplifier to be mounted in a standard 19" wide rack mount. Each amplifier requires 1RU of height.

Ventilation
Your Wisdom Audio SW-1DSP has relatively modest ventilation requirements, thanks to its remarkably efficient design. Typically, it becomes only modestly warm during normal operation. Still, please be certain to keep the vents on the sides of the amplifier clear of any obstruction. (The rack mount attachments have corresponding vents.) Mechanical drawings are included in this manual to facilitate special installations where necessary (see "Dimensions" at the end of this manual).

Operating Voltage

For compatibility with existing household outlets, a standard three-prong, 15-ampere plug is provided on the removable, IEC-standard AC mains cable. The Wisdom Audio SW-1DSP is factory configured to the voltage for destination country of sale. Outside the United States, and depending on local electrical codes and regulations, the AC mains cord may need to be replaced with one that conforms to local plug/outlet standards.

Special Design Features

- **High Efficiency –** While many contemporary amplifiers waste 50% or more of the power they pull from the wall as heat, your SW-1DSP amplifier runs at approximately 90% efficiency. As a result, more power is available for the loudspeaker, and less is wasted as heat in your room.
- **Thermal Management –** The high efficiency of the design also means that the amplifiers can be placed close to each other, as in an equipment rack, without undue overheating. Of course, care must be taken to account for the heat generated by other components in the rack; but your Wisdom Audio amplifiers will not greatly contribute to the thermal management challenges of your system.
- **Subwoofer Loudspeaker Management –** Wisdom Audio uses an unusual Regenerative Transmission Line™ (RTL™) design in our subwoofers. As with most subwoofer designs, some equalization is required to fully realize the performance potential of RTL™ designs. The SW-1DSP includes all current Wisdom Audio subwoofers within the built in setup utility that is accessed through the standard networking Ethernet port.

IMPORTANT: The SW-1DSP must be programmed for the attached subwoofer model. This is done during installation by an Authorized Installer and should only be used with the model of subwoofer it is programmed for. Doing otherwise will almost certainly result in poor performance.

Front Panel

1. **SYSTEM STANDBY LED (Amber Color)**
   AMBER LED will be illuminated when in standby and not processing audio.
2. **AUDIO POWER LED (Blue Color)**
   BLUE LED will be illuminated when the SW-1DSP is processing audio and the amplifier is active.

Power Mode Display

- SYSTEM AMBER LED OFF and AUDIO POWER BLUE OFF (No LED are on) = the SW-1DSP is off with no Mains power. Either the rear panel switch is turned off or the power cord is not connected
- SYSTEM AMBER LED ON (Solid) = Unit is in Standby with the Network Port (Ethernet) active and the Web

Server available. All audio functions are turned off and no audio will be processed. The DANTE port (if installed as a Dealer Option) is also deactivated and will not appear on the DANTE Network.

- AUDIO BLUE LED ON (Solid) = Amplifier output and all audio processing is on and active. If DANTE is installed the DANTE port is also active for Audio over IP functions.
- LED BLINKING (Any Color) = The System is not operating correctly and needs attention from an authorized and trained technician.

Rear Panel

CAUTION! Turn off the SW-1DSP before attempting to make or change any connections.

1. **Speaker Output Terminals**

   The Wisdom Audio SW-1DSP is equipped with binding posts for output termination to the loudspeaker system. To take full advantage of the amplifier's sonic quality, we recommend using high-quality speaker cable; please see your Wisdom Audio dealer.

   CAUTION!
   - Never connect a power amplifier's output to any device other than a loudspeaker.
   - Never short-circuit the amplifier's output terminals.
   - Never connect the output of one amplifier to the output terminals of another amplifier.

2. **XLR Audio Inputs**

   These audio inputs normally accept the subwoofer output signals from the system's Surround processor. If two inputs are connected, they will be summed and amplified as a single channel. Connect the appropriate outputs of the SW-1DSP to this input, using a high-quality audio cable.

   The pin assignments of this XLR-type female input connector are:

   - **Pin 1:** Chassis ground
   - **Pin 2:** Signal + (non-inverting)
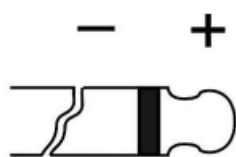   - **Pin 3:** Signal – (inverting)

3. **DANTE (Optional – Dealer Installed)**

   This Audio over IP connection will only be active if the option has been installed by the dealer the unit was purchased from. RJ45 connection for DANTE and AES67 audio. Proper connection should only be done by

trained installers. DANTE training can be obtained by contacting www.Audinate.com. Training is free and available online. Do not connect the home network to this connection unless directed by Wisdom Audio, or by an Audinate trained or DANTE certified installer.

4. **DC Trigger In and Out**

These 12v trigger jacks provide compatibility with a wide range of products to facilitate remote turn-on and turn-off in systems. These 1/8" (3.5 mm) "mini-jacks" allow other components to bring the SW-1DSP in and out of standby. Two such mini-jacks are provided to allow "daisy-chaining" of this turn-on signal with other components, including additional amplifiers. By default the SW-1DSP will turn on when the power switch is first turned on and will not return to Standby unless the DC Trigger is used. The remote trigger input will be operated by any positive-polarity DC signal between 3–20 volts (only a few milliamps are required), with tip polarity as shown below:

Input Signal: 3-20 volts @ less than 10 mA
Output Signal: 12 volts @ 100mA

When connected to AC mains power, with no trigger plug inserted, the SW-1DSP is normally fully ON. Employing a DC Trigger Input allows you to place the amplifier into standby. When the voltage transitions from high to low (off), the unit will go into standby. The 12V Trigger Output jack is driven to a "high" state of 12 volts a few seconds after the SW-1DSP is turned on and can source as much as 100 mA of current at 12 volts. This signal may be used in turn to control other components, such as additional Wisdom Audio SA-series amplifiers. Each Wisdom Audio component has a short delay built into its DC trigger system to facilitate a staggered turn-on sequence.

Your Wisdom Audio dealer can help you take advantage of these design features to maximize your system's convenience and versatility

5. **Ethernet Port**

The Ethernet connection is used for setup and communication to a local network. This will allow for setup of the internal DSP using the built in web-server user interface. This should only be conducted by an Authorized Wisdom Audio installer. The ethernet is an "always on" connection to the network.

The USB connection is included for Factory Use only. If directed by Wisdom Audio this port may be used for diagnostic or firmware updates but is not needed in normal use.

Below are three (3) possible ways to connect to the SW-1DSP for initial configuration.

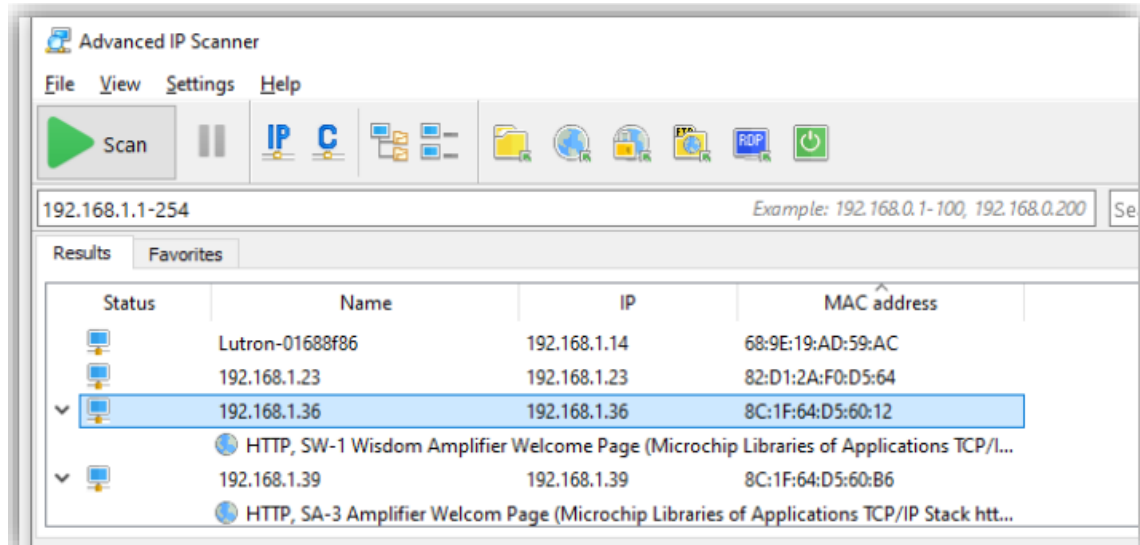1. **Connecting the SW-1DSP on a Local Area Network using Hostname**

   This is the most common connection method and will be used by most standard home networks. There are several connection options below. For multiple amplifiers on a single network, we recommend connecting one at a time, and renaming them with a unique name or Static IP Address. Connect the SW-1DSP unit to the Local Area Network (LAN) by plugging an Ethernet cable into the Ethernet port on the rear of the unit and to an open port on the network router or switch. Turn on the unit. The SW-1DSP should always be discoverable via its mDNS name. You may need to install an mDNS application such as Bounjour Print Services for Windows from Apple. To access the SW-1DSP, open a web browser and search for the following address:

   http://SW-1.local

2. **Connecting the SW-1DSP on a Local Area Network using IP Address**

If the SW-1DSP cannot be located using mDNS, it can be accessed via IP address. First locate the IP address of the SW-1DSP by performing an IP scan of the network using a scanner such as the Advanced IP Scanner.

All SW-1DSP amplifiers have an available homepage from the built in web-server; and a MAC Address that starts with 8C:1F:64:D5:xx:xx

Once the IP address has been discovered, use it to access the Speaker Wizard by entering the IP address as shown in the example below:

Example: http://192.168.1.36

3. **Direct Connection without a Network and/or without a DHCP Server**

   If the above methods do not work, you can connect directly without a router or switch. The SW-1DSP will have a default IP Address of 169.254.0.8 if no DHCP router is found. This can happen if you are using a switch only, or have connected directly from your computer to the SW-1DSP. Note that you can only connect one (1) SW-1DSP at a time with this method.

   Connect the SW-1DSP unit to the Ethernet port of your computer by plugging an Ethernet cable from the computer directly to the SW-1DSP without a router or switch. Turn on the unit and take it out of standby. Open your web browser and enter the IP Address of 169.254.0.8

6. **Power Switch**

   When power is first switched on, the SW-1DSP will turn on automatically. The only way to place the unit is Standby is with the DC Trigger (above). An AC mains switch is located adjacent to the power cord on the rear panel of the SW-1DSP. This switch may be used to disconnect the unit from the AC mains without having to unplug the SW-1DSP from the wall outlet. If you plan to be away for an extended period or have any other reason to turn the SW-1DSP completely off, you may either unplug the SW-1DSP or you may use the AC mains switch.

   IMPORTANT: As with all your electronics, we suggest you completely disconnect the SW-1DSP from the AC mains during severe electrical storm

7. **AC Mains Input and Fuse Holder**

   An IEC standard removable power cord is used with the SW-1DSP. A high quality 15-ampere AC mains cord is included with the product; although the use of the standardized IEC receptacle means that you may easily substitute another high-quality AC mains cord if you wish.

   WARNING! Your new Wisdom Audio SW-1DSP has been safety-tested and is designed for operation with a three-conductor power cord. Do not defeat the "third pin" or earth ground of the AC power cord.

DANGER! Potentially dangerous voltages and current capabilities exist within your SW-1DSP. Do not attempt to open any portion of the SW-1DSP's cabinet. There are no user-serviceable parts inside your SW-1DSP. All service of this product must be referred to a qualified Wisdom Audio dealer or distributor.

We recommend that care be taken to ensure that all AC plugs for the equipment in the system be wired to ensure proper AC polarity. Doing so will minimize noise in the system.

Troubleshooting a No Power Condition

The Wisdom Audio SW-1DSP incorporates a fuse block that protects both the live and neutral (ground) sides of the circuit. If your SW-1DSP is plugged into an AC outlet that you know is live (plug a lamp into it as a test), and yet appears to be off, check the following:

1. Check the AC cord to make sure it is not damaged.
2. Check the AC mains switch to ensure that it is ON (the side with the straight line is depressed, not the "O" side).
3. If that does not resolve the problem, turn Off the AC mains switch ("O") and then disconnect the power cord from the AC mains receptacle.
4. Using a small screwdriver, gently pry open the fuse block cover at the top edge of the assembly. (You may be able to do it with just your fingernail.)
5. Pull out the fuse block and check the fuse. If either is blown, please contact your local Wisdom Audio dealer (or Wisdom Audio) for service.

Care & Maintenance

To remove dust from the cabinet of your SW-1DSP, use a feather duster or a lint-free soft cloth. To remove dirt and fingerprints, we recommend isopropyl alcohol and a soft cloth. Dampen the cloth with alcohol first and then lightly clean the surface of the SW-1DSP with the cloth. Do not use excessive amounts of alcohol that might drip off the cloth and into the SW-1DSP.

CAUTION! At no time should liquid cleaners be applied directly to the SW-1DSP, as direct application of liquids may result in damage to electronic components within the unit.

North American Warranty

Standard Warranty

When purchased from and installed by an authorized Wisdom Audio dealer, Wisdom Audio electronic products are warranted to be free from defects in material and workmanship under normal use for five years from the original date of purchase.

IMPORTANT: Wisdom Audio electronics are designed for installation and operation in environmentally controlled conditions, such as are found in normal residential environments. When used in harsh conditions such as outdoors or in marine applications, the warranty is three years from the original date of purchase.

During the warranty period, any Wisdom Audio products exhibiting defects in materials and/or workmanship will be repaired or replaced, at our option, without charge for either parts or labor, at our factory. The warranty will not apply to any Wisdom Audio products that has been misused, abused, altered, or installed and calibrated by anyone other than an authorized Wisdom Audio dealer. Any Wisdom Audio product not performing satisfactorily may be returned to the factory for evaluation. Return authorization must first be obtained by either calling or writing the factory before shipping the component. The factory will pay for return shipping charges only if the component is found to be defective as mentioned above. Other stipulations may apply to shipping charges. There is no other express warranty on Wisdom Audio products. Neither this warranty nor any other warranty, express or implied, including any implied warranties of merchantability or fitness, shall extend beyond the warranty period. No responsibility is assumed for any incidental or consequential damages. Some states do not allow limitations on how long an implied warranty lasts and other states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state.

This warranty is applicable in the United States and Canada only. Outside of the U.S. and Canada, please contact your local, authorized Wisdom Audio distributor for warranty and service information.

Obtaining Service

We take great pride in our dealers. Experience, dedication, and integrity make these professionals ideally suited to assist with our customers' service needs. If your Wisdom Audio amplifier must be serviced, please contact your dealer. Your dealer will then decide whether the problem can be remedied locally, or whether to contact Wisdom Audio for further service information or parts, or to obtain a Return Authorization. The Wisdom Audio Service Department works closely with your dealer to solve your service needs expediently.
IMPORTANT: Return authorization must be obtained from Wisdom Audio's Service Department BEFORE a unit is shipped for service.

Information about a problem must be explicit and complete. A specific, comprehensive description of the problem helps your dealer and the Wisdom Audio Service Department locate and repair the difficulty as quickly as possible. A copy of the original bill of sale will serve to verify warranty status. Please include it with the unit when it is brought in for warranty service.
WARNING: All returned units must be packaged in their original packaging, and the proper return authorization numbers must be marked on the outer carton for identification. Shipping the unit in improper packaging may void the warranty, as Wisdom Audio cannot be responsible for the resulting shipping damage.

Your dealer can order a new set of shipping materials for you if you need to ship your loudspeaker and no longer have the original materials. There will be a charge for this service. We strongly recommend saving all packing materials in case you need to ship your unit someday.

If the packaging to protect the unit is, in our opinion or that of our dealer, inadequate to protect the unit, we reserve the right to repackage it for return shipment at the owner's expense. Neither Wisdom Audio nor your dealer can be responsible for shipping damage due to improper (that is, non-original) packaging.

Specifications

All specifications are subject to change at any time to improve the product.

- **Rated power @ 8 ohms:** 230 Watts (1% THD+N, 100hz Sine Wave)
- **Rated power @ 4 ohms:** 370 Watts (1% THD+N, 100hz Sine Wave)
- **THD+N:** 0.005% (1 Watt, 4 ohms load, 100hz Sine Wave)
- **Peak output current:** 20 amps
- **Voltage gain:** 31 dB
- **Input sensitivity:** 1.2V for full output
- **Input impedance:** 47 kΩ
- **Polarity:** Non-inverting
- **Signal to Noise ratio (main outputs):** −100 dB (ref 1V rms, A-wtd.)
- **Output impedance:** Less than 0.05Ω from 20–20,000 Hz
- **Thermal load:** 3 BTU/minute or less
- **Minimum Impedance Load:** 3 Ohms
- **Mains voltage:** 100-120 V~ 50/60 Hz 80 W or 200-240 V~ 50/60 Hz 90 W (With 1/8 of max. output); Factory Set to the voltage for the region unit was sold into
- **Power consumption:** 500W (±5%) at full power, 26W (±5%) at idle (Audio Processor active with Network active), 16W (±5%) in standby (Audio Processor Off, Network Always Active)
- **Product Weight:** 7 lbs. (3.25 kg)

- **Product Dimensions HxWxD:** 1.7" x 17" x 11.29" (43mm x 432mm x 287mm)
- **Shipping Weight:** 12 lbs. (5.5 kg)
- **Shipping Dimensions:** TBD

For more information, see your Wisdom Audio dealer or contact:

Wisdom Audio
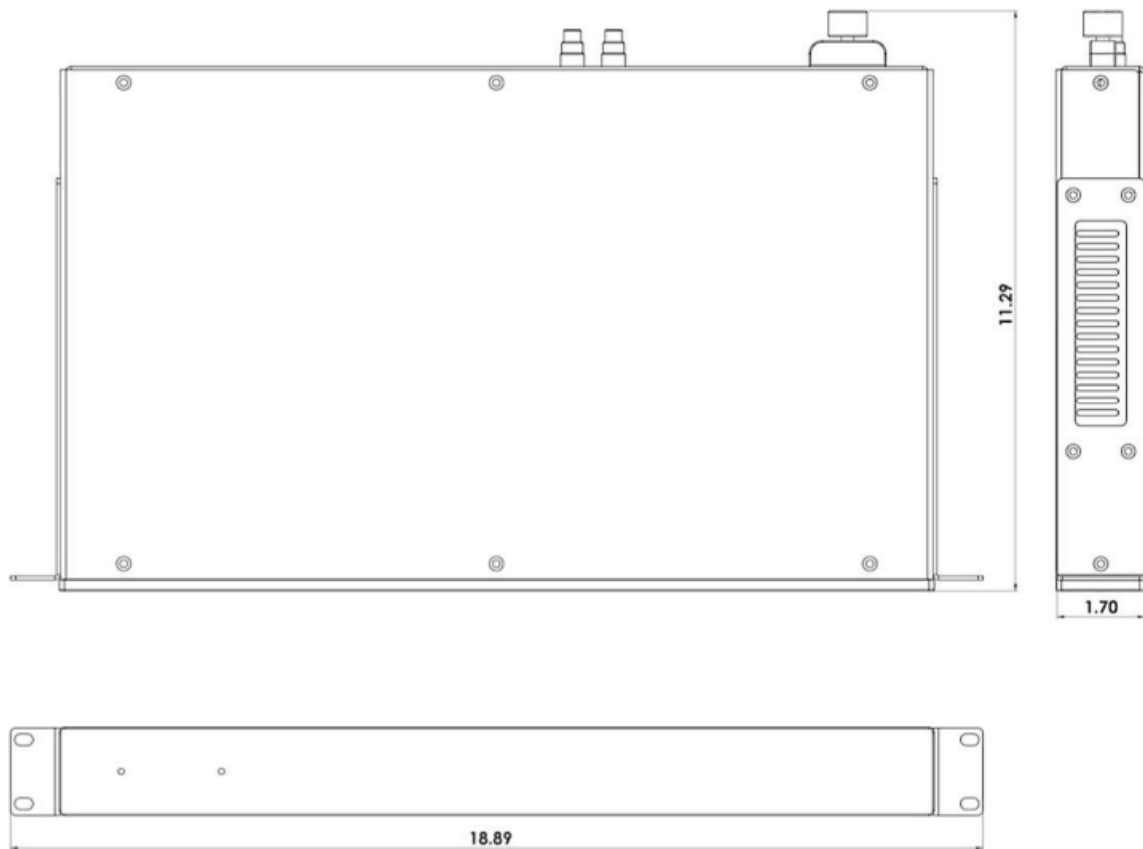1572 College Parkway, Suite 164
Carson City, NV 89706
wisdomaudio.com
information@wisdomaudio.com
(775) 887-8850

SW-1DSP Dimensions

WISDOMAUDIO.COM

Documents / Resources

	WISDOM SW-1DSP Subwoofer Amplifier with Digital Signal Processing [pdf] Owner's Manual SW-1DSP Subwoofer Amplifier with Digital Signal Processing, SW-1DSP, Subwoofer Amplifier with Digital Signal Processing, Amplifier with Digital Signal Processing, Digital Signal Processing, Signal Processing, Processing, Subwoofer Amplifier, Amplifier

References

- **HOME - Wisdom Audio**
- **Audinate - Maker of Dante, Pro AV's Leading Networking Technology**
- **Audinate - Maker of Dante, Pro AV's Leading Networking Technology**
- **Advanced IP Scanner - Download Free Network Scanner**
- **User Manual**