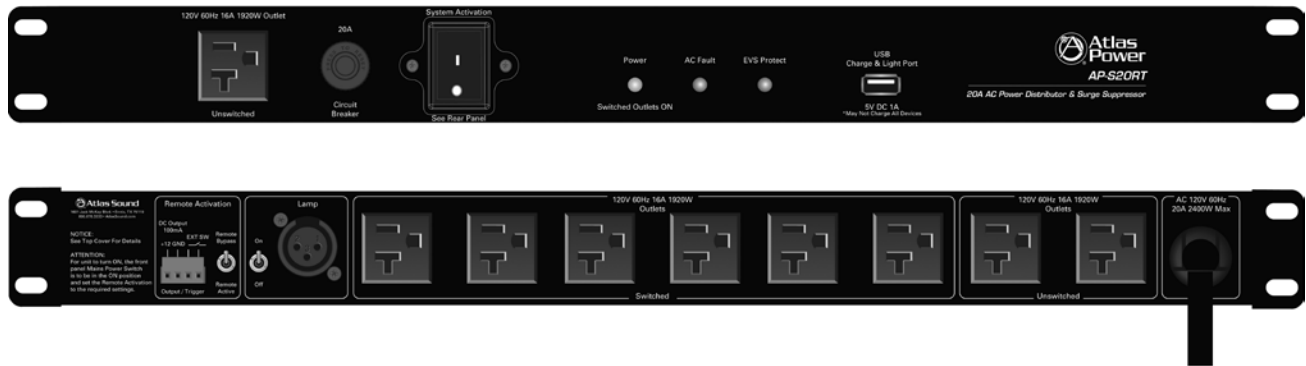




# AP-S20RT AC Power Distribution & AC Suppressor Unit with Remote Activation



1601 Jack McKay Blvd. • Ennis, Texas 75119 U.S.A.  
Telephone: 800.876.3333 • Fax: 800.765.3435



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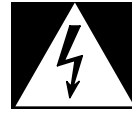


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## Important Safety Instructions



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 product.



1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this device near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other device (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 or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for 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 device.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the device. When a cart is used, use caution when moving the cart/device combination to avoid injury from tip-over.
13. Unplug this device during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the device has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled, or objects have fallen into the device, the device has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. **WARNING:** To reduce the risk of fire or electric shock, this device should not be exposed to rain or moisture and objects filled with liquids, such as a vase, should not be placed on this device.
16. To completely disconnect this equipment from the mains, disconnect the power supply cord plug from the receptacle.
17. The mains plug of the power supply cord shall remain readily operable.



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**WARNING When The Device Is In Use**

- To prevent electric shock, do not remove the product cover as there are high voltage components inside. Refer all servicing to Atlas Sound.
- Should any of the following irregularities occur during use, immediately switch off the power, disconnect the power cord from the AC outlet and contact Atlas Sound. Do not attempt to continue operation with the product as this may cause fire or electric shock:
  - Smoke or strange smell coming from the unit.
  - If the product falls or the case is damaged.
  - If water or any metallic objects falls into the product.
  - If the power supply cord is damaged in any way.
  - If the unit is malfunctioning.
- Do not insert or drop metallic objects or flammable materials into the ventilation holes of the product's cover, as this may result in electric shock or fire.
- Do not place any containers with liquid or metallic objects on the top of the product. If any liquid spills into the unit, fire or electric shock may result.
- Never operate this product or touch the power supply cord during an electrical storm, electric shock may result.
- Never exceed the power rating on the product when connecting equipment. Fire and/or property damage may result.
- Operate the product only with the voltage specified on the unit. Fire and/or electric shock may result if a higher voltage is used.
- Do not modify, kink, or cut the power cord. Do not place the power cord in close proximity to heaters and do not place heavy objects on the power cord, including the product itself, doing so may result in fire or electrical shock.
- Replace the protective cover over the speaker terminals after installation. Do not touch the 70V speaker terminals as electric shock may result.
- Ensure that the safety ground terminal is connected to a proper ground. Never connect the ground to a gas pipe as a catastrophic disaster may result.
- Be sure the installation of the product is stable, avoid slanted surfaces as the product may fall and cause injury or property damage.



**CAUTION When Installing The Product**

- Plugging in or unplugging the power cord with wet hands may result in electric shock.
- Never move the unit with the power cord plugged into the wall, as damage to the power cord may result.
- When unplugging the cord from the wall, grasp the plug, NOT the cord.
- Never install this product in humid or dusty locations, nor in direct sunlight, near sources of heat, or in areas where sooty smoke or steam are present. Fire and electric shock may result.
- Keep all sides of the unit at least 3½" away from objects that may obstruct air flow to prevent the unit's internal temperature rise.



**CAUTION When The Product Is In Use**

- When powering the product up for the first time, ensure that the level control is turned down. Unexpected high sound pressure levels may be present at the speakers and result in hearing loss.
- Never place heavy objects on the product, causing it to fall and/or break, resulting in personal injury and property damage. In addition, the product itself may fall and cause injury and property damage.
- Never operate the product for extended periods with the sound in a distorted condition. This is an indication of a malfunction, which may result in excessive heat being generated and causing a fire.
- Contact Atlas Sound for instructions on cleaning the inside of the unit. Large accumulations of dust inside the unit may result in heat buildup and fire.
- Ensure that the power supply plug is securely plugged into the wall outlet. Never allow dust to accumulate on the power plug or inside the wall outlet.
- When cleaning the unit or the unit is not to be operated for an extended period, unplug the power cord from the wall.



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## Introduction

Thank you for purchasing the Atlas Power AP-S20RT AC Distribution and Suppressor Unit. The AP-S20RT has been designed to meet most installation requirements for AC power distribution and equipment power protection. To light your rack, the AP-S20RT incorporates a front panel USB port for lighting and equipment charging. The rear of the rack can be illuminated by the optional AP-GNL18 gooseneck LED lamp connected via an XLR style socket. LED lamps are far superior in longevity along with heat reduction when compared to traditional incandescent lamps, and the XLR input offers a better connection point over commonly used BNC type bases.

By utilizing the Remote Activation feature, up to 20A of clean electrical power can be switched On or Off with a simple latched dry contact closure. With the closure of the remote activation switch, 12VDC at 100mA is available to power a remote status LED.

An Emergency Power Down function, or EPD, can also be created by using the Remote Activation feature by simply keeping the Remote Activation contact closed until a condition occurs that requires a system shut down. When the contacts are opened, it will remove power from the switched outlets to protect equipment. A rear mounted bypass switch disables the Remote Activation should the need arise.

The AP-S20RT features noise filtering for unwanted Radio Frequency Interference (RFI) that is commonly introduced into AC lines by nearby radio transmitters or wireless products. EMI filters are incorporated to reduce noise and Electromagnetic Interference (EMI) from such items as electric motors and external switching power supplies. The benefit of these filters can be seen on video products or audibly by reducing static pops and external signal interference.

Unstable AC Mains voltage is one of the main reasons for equipment failure. The amount of energy that can be injected into the power system can be immense with voltages reaching 6kV or amperage peaks of 3000A. These spikes are very fast and usually only last for a very short period of time. The AP-S20RT's circuitry is very fast and can suppress unwanted energy within a nanosecond response and sustain the suppression up to 2 milliseconds, thus ensuring virtually trouble-free protection. If damage to the suppression circuitry occurs, the AC fault LED will illuminate.

The AP-S20RT incorporates EVS (Extreme Voltage Shutdown) to remove AC power from devices plugged into the switched outlets in the event of unsafe high or low voltage conditions. A convenient front panel LED indicates if shutdown has occurred.

The AP-S20RT offers power management control, noise filtering, and over/under voltage and spike/surge protection to make it the most compact, effective power management protection system on the market today.



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## Key Features

- 9 Total Outlets
- 6 Rear Panel Switched Outlets
- 2 Rear Panel Unswitched Outlets
- 1 Front Panel Unswitched Convenience Outlet
- Remote Activation via Latched Dry Contact Closure or DC Voltage
- Remote Status LED Power Terminals
- Rear Mounted Remote Activation Bypass Switch
- EPD (Emergency Power Down) to Incorporate With Fire Control Panels
- EVS (Extreme Voltage Shutdown) Clamping Spike & Surge Suppression Circuitry
- RFI Noise Filtering to Reduce Radio Frequency Interference
- EMI Filtering to Reduce Electromagnetic Interference
- Circuit Breaker Protection @ 20A
- Front Mounted USB Charger/Light Port
- Rear Mounted XLR Connector For 12VDC LED Lamp (AP-GNL18) (Lamp Sold Separately)
- Spike Suppression Up To 6000V
- AC Fault Indicator
- AC Power Cord Retainer System

## Applications

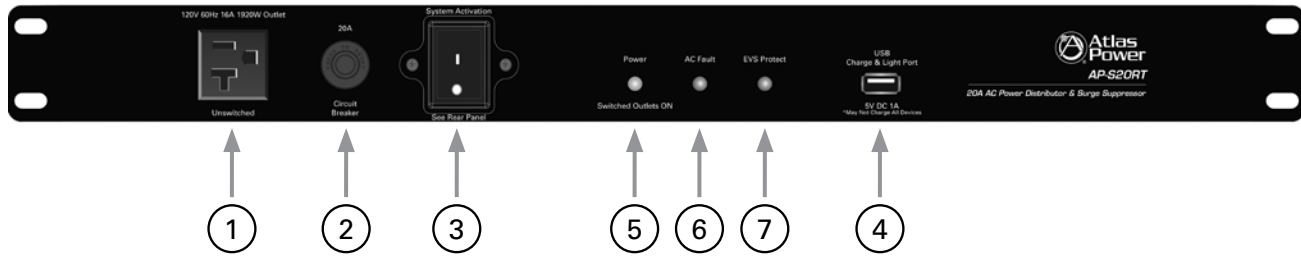
The flexible AP-S20RT was designed with features to be used in a variety of applications. The AP-S20RT can be used solely for protection against voltage surges or for AC distribution. The AP-S20RT can also be used for power conditioning to eliminate or reduce fuzzy video or frequency audio static pops. The following are just a few examples of applications where the AP-S20RT can be used:

- Restaurants
- Houses of Worship
- Schools
- Home Theaters
- Office Buildings
- Sports Bars





## Front Panel



### 1. Unswitched AC Outlet

The 120VAC outlet is always live when the AP-S20RT power cord is plugged into an AC mains power source and voltage is present.

**Note:** The AC mains power switch does not affect the Unswitched AC Outlet but it is protected with surge protection circuitry.

### 2. AC Mains Breaker

The 20A rated breaker will open if the combined draw of all AC outlets exceeds 20A. **Note:** The breaker is designed to exceed its rating for a short period of time. If the breaker is tripped, you must first remove the load from the AP-S20RT and then push to reset.

### 3. Power Switch

To turn the AP-S20RT On or Off, press the switch to the ON or OFF position. (See rear panel Remote Bypass Switch)

### 4. USB Port 5VDC 1A

Convenient USB port for connecting USB rack lighting or for charging external device batteries. **Note:** Will not charge all products. Some devices require licensed charging circuitry.

### 5. Power ON Indicator

Will illuminate Blue when the AC Mains Power Switch is in the ON Position.

### 6. AC Fault Indicator

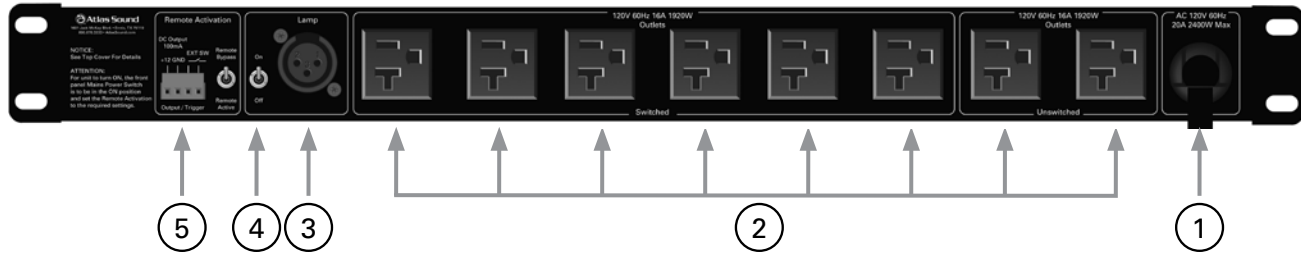
Although the Clamping Suppression circuit virtually assures protection from most transient voltage spikes and surges. Nature has a way of occasionally creating electrical forces that are beyond the capabilities of any device to absorb without some degree of damage. In the rare instance that this occurs and the circuit has been damaged, the Red "AC Fault" LED indicator will illuminate and an internal buzzer will sound. The AP-S20RT will shut off permanently until the unit is repaired. Be advised that activation of this fault condition and the associated repair is not covered under warranty. **Note:** If the AC Fault LED is illuminated, it is important to have all equipment that was connected to that AC Mains Line be inspected for proper operation.

### 7. EVS Protect Indicator

This LED will illuminate when an extreme over or under voltage condition has occurred. A power line voltage below 95VAC or above 140VAC will trigger the EVS circuitry, removing power from the switched outlets. This abnormal voltage condition must be corrected before the AP-S20RT can be reset.



### Rear Panel Features



#### 1. AC Mains Input

Connect the 14 Gauge 9' (3m) power cord to a 20A 120VAC outlet to provide power to the AP-S20RT.

#### 2. AC Power Outlets

These six outlets are "Live" when the front panel power switch is activated. The two Unswitched Outlets are always live if the power cord is connected to 120VAC.

#### 3. XLR Light Socket

A 12VDC XLR light socket provides power for the optional AL-GNL18 light.

#### 4. Light Socket Power Switch

Two-position switch to power On/Off the XLR light socket.

#### 5. Remote Activation

There are two methods to remotely activate the AP-S20RT:

- A. External Switch** - The Ext SW terminals are connected to a latching type dry contact closure to activate the AP-S20RT. **Note:** The Remote Bypass switch must be shorted for Remote Activation. This feature can be used for Emergency Power Down (EPD), when tied into a normally closed latching contact closure (e.g. Fire Panel).
- B. DC Voltage** - When you apply 5V - 24VDC to the Ext SW terminals the unit will activate. See "Remote Activation Drawings" for details.

The terminals marked "+12V" and "GND" can be connected to a remote panel LED (not included) to indicate function when remotely activated.





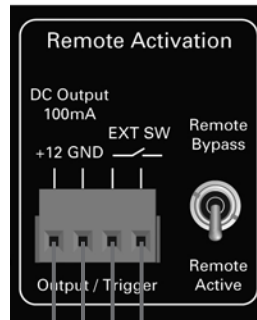


## Installation

Before installing, it is recommended to read the entire manual to ensure proper operation and that all features are being utilized. The AP-S20RT can be placed on a shelf or rack mounted in a standard 19" width rack. When rack mounted, placement within the rack is flexible however the AP-S20RT should be within 6' of a dedicated 20A AC outlet. When rack mounting, use Rack Rail type screws of 10/32" x 1". Always make sure the 20A outlet is properly inspected by a certified electrician prior to connecting the AP-S20RT. Make sure to inspect the equipment that will be connected to the AP-S20RT to ensure it does not exceed 20A total amperage draw.

### Remote Activation Connections Diagram

#### Remote Activation via Hard Contact Switch

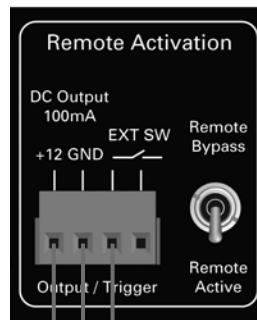


Use External Key or Panel Switch, Hard Contact

To Remote Panel LED, Use the +12 and GND Terminals.

**Note:** Use a 2K ohm 1/8W Resistor In Series with +12VDC and LED

#### Remote Voltage Activation



Apply +5V-24VDC and Connect a Ground to the GND Terminal to Activate the Unit.

**Note:** It is OK to Have Two Wires In the Same Terminal.

To Remote Panel LED, Use the +12 and GND Terminals.

**Note:** Use a 2K ohm 1/8W Resistor In Series with +12VDC and LED



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### AC Power Cord Retainer System



Your Atlas Power product comes with an AC Mains Power Cord Retainer System. This system prevents the power cord from being removed without the use of a screwdriver. Follow these steps for installation.

**Note:** Installation of this product must be done by a certified electrician.

1. Locate the 6/32 screw, retainer clip, and zip tie.
2. Locate the AC wall outlet that will be used to power the Atlas Power product. Remove the center screw securing the cover plate to the AC outlet.
3. Place the screw through the retainer clip and insert into the cover plate making sure to securely tighten. Inset the zip tie through the retainer clip slots as shown in Figure 3.
4. Wrap the zip tie around the power cord as shown in Figure 4.
5. Feed the end of the zip tie through the retainer and pull tightly to secure. **Note:** Some adjustment of the retainer may be needed in order to properly align it as shown in Figure 6.
6. Cut the excess zip tie off as shown in Figure 7.

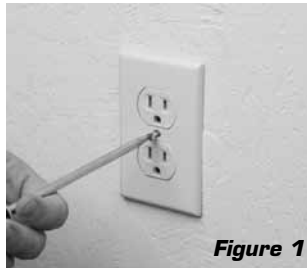


Figure 1

3. Place the screw through the retainer clip and insert into the cover plate making sure to securely tighten. Inset the zip tie through the retainer clip slots as shown in Figure 3.



Figure 2



Figure 3

4. Wrap the zip tie around the power cord as shown in Figure 4.



Figure 4

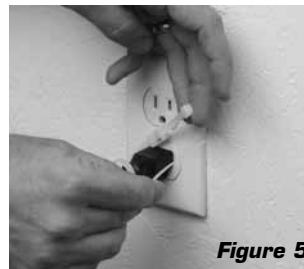


Figure 5

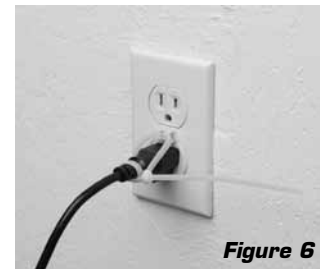


Figure 6

6. Cut the excess zip tie off as shown in Figure 7.



Figure 7



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## Specifications

Type	Power Conditioner & Suppressor
Load Rating	20A
Safety Listings	ETL (UL 60065 Standard)

### Front Panel

Outlets	1 Unswitched
USB Port	1 USB Charge/Light Port (5VDC, 1A)
Activation Switch	Rocker
Circuit Breaker	20A Resettable
Indicators	AC Power On, AC Fault, EVS Protect

### Rear Panel

AC Outlets	8 Outlets Total
LED Light Socket	XLR Socket to Provide 12VDC for Optional AL-GNL18 Gooseneck Lamp
LED Light Switch	Two position (On / Off)
Remote Activation	Latching Type Dry Contact Closure or 5V-24VDC
Remote Activation Connector	4 Position 3.5mm Phoenix Type Connection
AC Mains Power Cord	9' (2.74m), 12 Gauge, 20A Male AC Plug

### Technical Data

Current Rating	20 Amps
Operating Voltage	102VAC - 132VAC
Power Consumption	8 Watts
Min. Spike Clamping Voltage	460VRMS @ 3,000A
Max. Spike Clamping Voltage	6000V
Max. Spike Clamping Resp. Time	1 Nanosecond
Spike Clamping Voltage @ 100A	1250Vp for 20 $\mu$ s
Maximum Surge Current	6,500A
Energy Rating @ 2ms	600 Joules
Noise Attenuation RFI	10dB @ 10kHz / 40dB @ 100kHz / 100dB @ 10MHz
EVS Limits	95VAC Low, 140VAC High, Auto Reset
Temperature Range	5° – 35°C
Humidity Range	5% to 95% Relative Humidity

### Mechanical

Chassis Finish	Black
Mounting	Rack Mount, 1 RU
Height	1.75" (1RU, 44.5mm)
Width	19" (482.6mm)
Depth	8" (203mm)
Weight	5.5 lbs (2.49kg)



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### Limited Warranty

All products manufactured by Atlas Sound are warranted to the original dealer/installer, industrial or commercial purchaser to be free from defects in material and workmanship and to be in compliance with our published specifications, if any. This warranty shall extend from the date of purchase for a period of three years on all Atlas Sound products, including SOUNDOLIER brand, and ATLAS SOUND brand products except as follows: one year on electronics and control systems; one year on replacement parts; and one year on Musician Series stands and related accessories. Additionally, fuses and lamps carry no warranty. Atlas Sound will solely at its discretion, replace at no charge or repair free of charge defective parts or products when the product has been applied and used in accordance with our published operation and installation instructions. We will not be responsible for defects caused by improper storage, misuse (including failure to provide reasonable and necessary maintenance), accident, abnormal atmospheres, water immersion, lightning discharge, or malfunctions when products have been modified or operated in excess of rated power, altered, serviced or installed in other than a workman like manner. The original sales invoice should be retained as evidence of purchase under the terms of this warranty. All warranty returns must comply with our returns policy set forth below. When products returned to Atlas Sound do not qualify for repair or replacement under our warranty, repairs may be performed at prevailing costs for material and labor unless there is included with the returned product(s) a written request for an estimate of repair costs before any nonwarranty work is performed. In the event of replacement or upon completion of repairs, return shipment will be made with the transportation charges collect.

EXCEPT TO THE EXTENT THAT APPLICABLE LAW PREVENTS THE LIMITATION OF CONSEQUENTIAL DAMAGES FOR PERSONAL INJURY, ATLAS SOUND SHALL NOT BE LIABLE IN TORT OR CONTRACT FOR ANY DIRECT, CONSEQUENTIAL OR INCIDENTAL LOSS OR DAMAGE ARISING OUT OF THE INSTALLATION, USE OR INABILITY TO USE THE PRODUCTS. THE ABOVE WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Atlas Sound does not assume, or does it authorize any other person to assume or extend on its behalf, any other warranty, obligation, or liability. This warranty gives you specific legal rights and you may have other rights which vary from state to state.

### Service

Should your AP-S20RT require service, please contact the Atlas Sound warranty department at 1-877-689-8055, ext. 277 to obtain an RA number.

Atlas Sound Tech Support can be reached at 1-800-876-3333.

Visit our website at [www.AtlasSound.com](http://www.AtlasSound.com) to see other Atlas products.

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