



ECS-3 Power Sequencer & Conditioner



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Telephone: 800.876.3333 • Fax: 800.765.3435



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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. This product is equipped with a three-wire grounding-type plug, a plug having a third (grounding) pin. This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.
14. Unplug this device during lightning storms or when unused for long periods of time.
15. 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.
16. **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.
17. To completely disconnect this equipment from the mains, disconnect the power supply cord plug from the receptacle.



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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.
- 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

- Installation of this product must be done by a certified electrician for a permanently connected apparatus provided neither with an all-pole mains switch nor an all-pole circuit breaker. A readily accessible disconnect device shall be incorporated in the building installation power wiring. The installation shall be carried out in accordance with all applicable installation rules in accordance with all applicable federal, state, and local laws, regulations, and safety codes and ordinances.
- 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

- 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.
- 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.





Introduction

Thank you for purchasing the Atlas Sound ECS-3 AC Power Sequencer and Conditioner. The ECS-3 has been designed to meet most installation requirements for AC power distribution and equipment power protection. The 15A compact 1 RU unit features three sequential timing sections that can be activated via the unit, or remotely. Front panel activation is via a momentary switch, while rear activation is via a momentary contact closure, or by 5-24VDC trigger feed. AC Mains Voltage can be monitored via the front panel from the precision Digital Volt Meter. To light your rack, the ECS-3 has incorporated a front panel pull-out dimmable LED tube light. The rear of the rack can be illuminated by the optional Atlas Power 18" 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 base mounts are also superior to the commonly used BNC type base. If a 15A AC Mains power source is not enough to meet the amperage demand of your system, the ECS-3 provides a sequenced 12VDC output that can be used to trigger other devices such as the Atlas Sound ECM-20SH 20A stand alone AC power module.

The ECS-3 also features noise filtering for unwanted Radio Frequency Interference (RFI) that are commonly introduced into the AC lines by nearby radio transmitters or wireless products. EMI filters are incorporated to reduce noise from Electromagnetic Interference (EMI) from such items as electric motors, switching power supplies and lightning. 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. AC Spikes, or Transients, are commonly caused by lightning storms or utility power plant grid switchovers. 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. To protect against this potential problem, the ECS-3 features Dual Clamping Suppression technology (DCS). If a spike intrudes the AC system, the ECS-3 incoming AC Mains has special suppression circuitry to eliminate the unwanted energy and in the unlikely event of any energy getting pass the first stage, each sequenced output section has redundant DCS circuitry clamping the unwanted energy. This circuitry is very fast and can suppress unwanted energy within a nanosecond, while sustaining the suppression up to 2 milliseconds, thus ensuring virtually trouble free protection.

High and low AC Main line voltages are another major contributor to equipment failures. High line can also be known as surges. Surges usually are a slower steady state rise in voltages ranging from 128VAC and up. They can be caused from fluctuations from the utility company's power lines, or industrial equipment turning on and off, and is on the same power leg of the building's incoming AC. Low line is also known as brownouts. This happens when the AC Mains drops below 107VAC. Most of the time it is caused by the utility company not being able to supply enough power during heavy utility consumption time periods, such as heat waves. Another factor would be from voltage drops in AC lines due to long transmissions. The ECS-3 will not only inform you if one of these conditions occurs, but under extreme variances in the AC Mains, it will shut the power to the equipment off. The Abnormal Voltage indicator on the front panel will flash if the AC Mains is between 128VAC and 132VCA or 107VAC and 101VAC. This is to inform you that a surge occurred and may have damaged voltage sensitive equipment. If an extreme voltage swing occurs above 132VAC or below 101VAC, the ECS-3 Extreme Voltage Shutdown (EVS) protection circuit will automatically activate and turn all outlets off until it is manually reset.

The ECS-3 offers sequenced power management control, along with noise filtering and spike/surge protection making it the most compact, effective power management protection system on the market today.



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Key Features

- 3 Sequencer Timing Sections Fixed 3-Second Intervals, 6 Seconds Total
- 9 Total Outlets Are Provided
- 6 Rear Panel Outlets Are Sequenced In Three Steps
- 2 Front Panel and 1 Rear Panel Unswitched Convenience Outlets
- RFI Noise Filtering to Reduce Radio Frequency Interference
- EMI To Reduce Electromagnetic Interference
- Dual Clamping Spike & Surge Suppression, DCS Circuitry
- Front Panel Digital AC Mains Voltmeter
- LED Indication of Reversed "Live" and "Neutral" Wiring
- Abnormal AC Line Voltage Indicator for Voltages Between 102V–107V or 128V–132V
- Extreme Voltage Shutdown (EVS) Below 102V or Above 132V AC Line
- Circuit Breaker Protection @ 15A Indicated by "Breaker Open" Indicator
- Front Mounted Pull-out LED Light With 2-Position Dimmer
- Rear Mounted XLR Connector for 12VDC LED Lamp
- External Switch Sequence Trigger Activation
- External DCV Sequence Trigger Activation 5-24VDC
- 12VDC Sequence Trigger Output for Optional External AC Outlet
- AC Power Cord Retainer

Applications

The ECS-3 was designed to be flexible with features that allow it to be used in a variety of applications. The sequenced outputs allow the turning of equipment on and off in a particular order, to eliminate an inrush of current and audible pops that often occur with non-sequenced power strips. It also can be used solely for protection against lightning strikes or voltage surges. If fuzzy video or frequent static pops occur, the AC power conditioning will eliminate or reduce those inconveniences. The following are just a few examples of applications the ECS-3 can be used:

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



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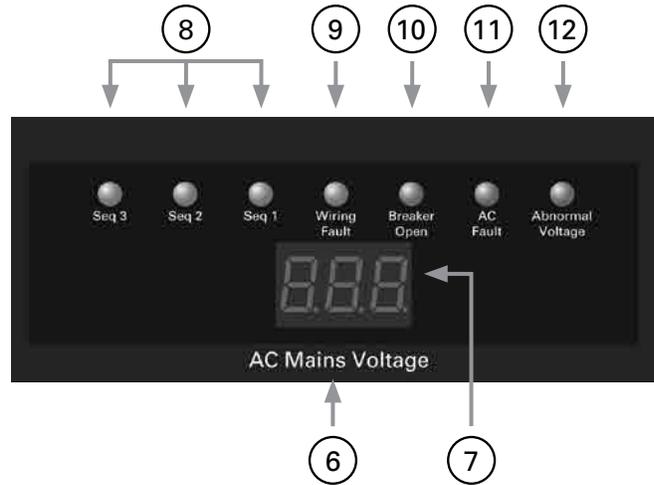
Front Panel



1. **Unswitched AC Outlet** – The two 120VAC outlets are always live when the ECS-3 power cord is plugged into an AC mains power source and voltage is present. If voltage is present at the outlets, it will be displayed on the AC Mains Meter.
Note: The AC mains power switch or sequencer section does not affect the Unswitched AC Outlets. The Unswitched Outlets are protected by the surge protection circuitry, but will not be shut off by the EVS circuit.
2. **AC Mains Breaker** – The 15A rated breaker will open if the combined continuous current draw of all AC outlets exceeds 15A. Note: In audio applications, peak current demands commonly exceed the continuous current ratings on AC outlets. **Note:** The breakers are designed to exceed their rating for a short period of time. If the breaker is tripped, to reset you must first remove the load from the ECS-3 and push the center button on the breaker.
3. **System Activation Switch** – To turn the ECS-3 On or Off, press the momentary switch once.
4. **Pull Out Light** – The LED light is designed to be pulled out when needed.
5. **Pull Out Light Dimmer Switch** – The Pull Out Light can be turned “On” or “Off” by this switch. There are also two brightness settings.



6. **AC Mains Function Display**
7. **AC Mains Voltage Display** – This display will illuminate when the AC Mains power cord is plugged into an AC source. **Note:** the display has a 1.5% tolerance. **Note:** If the voltage displayed is not between 107 - 128VAC, refer to the troubleshooting section and item 12 below.
8. **Sequence Indicator** – There are three green LED active sequence outlet indicators labeled “SEQ 1”, “SEQ 2”, and “SEQ 3”. Their sequence timing is set for 3 seconds between Sequence 1-2 & 2-3 while in “On” mode, and Sequence 3-2 & 2-1 during “Off” mode. When the LED is illuminated, the corresponding AC outlet on the rear of the chassis will be active or “Live”. Turned “On”, the order the trigger sequence is “SEQ 1, SEQ 2, SEQ 3”. Turned “Off”, it is “SEQ 3, SEQ 2, SEQ 1”.



9. **AC Mains Wiring Polarity Fault Indicator** – The Red LED will illuminate if the AC Mains Power Cord is plugged into an AC Mains outlet that is wired incorrectly, such as when the AC Hot and the AC Neutral are wired backwards.
10. **AC Mains Breaker Indicator** – This Red LED will illuminate if the maximum unit current draw is exceeded. The breaker rating is 15A, but will handle higher peaks for a short period of time. The LED will illuminate until the AC Mains Breaker is reset.
11. **AC Fault Indicator** – Although the Dual Clamping Suppression (DCS) 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 DCS circuit has been damaged, the Red “AC Fault” LED indicator will illuminate and an internal buzzer will sound. The ECS-3 will also shut off permanently until the unit is repaired. **Note:** If the AC Fault LED is illuminating it is important to have all equipment that was connected to that AC Mains Line inspected for proper operation.
12. **AC Mains Abnormal Voltage Indicator** – This LED flashes under several AC Mains fault situations that are listed below. Normal operating voltages for AC Mains voltage is considered to be between 108VAC and 125VAC. Any voltages exceeding those parameters are considered a risk to damage equipment plugged into the ECS-3.

High AC Line Mains – The Abnormal Voltage LED will flash between 128VAC – 132VAC indicating possible damage may occur to equipment due to high AC Mains voltage. The ECS-3 outlets will remain active but the LED will stay flashing even if the voltage returns to a normal operating range. To stop the LED from flashing the system activation switch must be cycled “Off”.

Note: It is recommended prior to proceeding to have the AC Mains inspected by an electrician.

Low AC Line Mains – The Abnormal Voltage LED will flash between 101VAC – 107VAC indicating possible damage may occur to equipment due to low AC Mains voltage. The ECS-3 outlets will remain active but the LED will stay flashing even if the voltage returns to a normal operating range. To stop the LED from flashing the System Activation Switch must be cycled “Off”.

Note: It is recommended prior to proceeding to have the AC Mains inspected by an electrician.

Extreme High AC Line Mains – If the AC Mains reach 132VAC, the EVS (Extreme Voltage Shutdown) circuit will be triggered to shut off the AC outlets while activating the Abnormal Voltage LED. The Red LED will illuminate steady and the AC Mains Voltage Meter will flash **OL (Overload)**, indicating possible damage may occur to the equipment plugged into the ECS-3 due to high AC Mains voltage. The ECS-3 outlets will remain off until the System Activation Switch is cycled “Off”.

Note: It is recommended prior to proceeding to have the AC Mains inspected by an electrician.

Extreme Low AC Line Mains – If the AC Mains lowers to 100VAC, the EVS (Extreme Voltage Shutdown) circuit will be triggered to shut off the AC outlets while activating the Abnormal Voltage LED. The Red LED will illuminate steady and the AC Mains Voltage Meter will flash **OL (Overload)**, indicating possible damage may occur to the equipment plugged into the ECS-3 due to low AC Mains voltage. The ECS-3 outlets will remain off until the System Activation Switch is cycled “Off”.

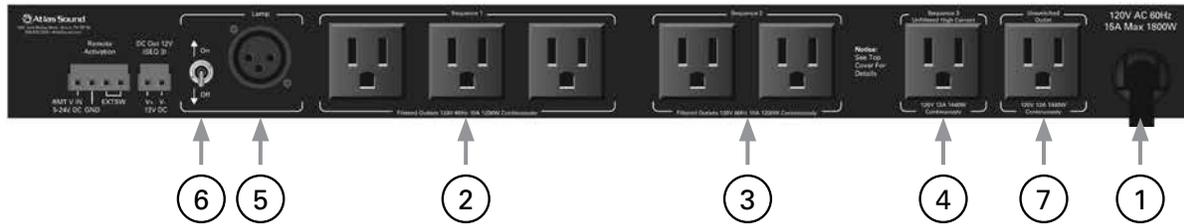
Note: It is recommended prior to proceeding to have the AC Mains inspected by an electrician.



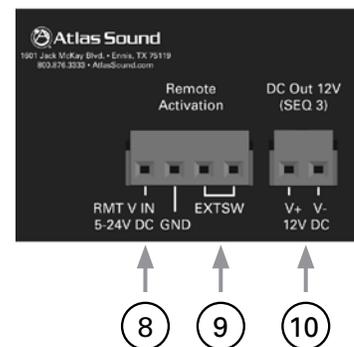
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Rear Panel Features



1. **AC Mains Input** – Connect the 9' (3m) power cord to a 15A 120VAC outlet to provide power to the ECS-3.
2. **Sequence 1 AC Outlets** – The three AC outlets are “Live” when the Sequence 1 section is activated. These outlets are recommended for products such as computers, modems, routers, DSP processors, cable/SAT, DVD, or CRT TV's. These outlets have a special filter circuit that is optimized to reduce interference to your Digital and Analog components. The total maximum continuous draw for this sequential section is 10A and the total current draw for the ECS-3 is 15A.
Note: It does not harm high current audio components to be connected to the Sequential Section 1 digital filter outlets.
3. **Sequence 2 AC Outlets** – The two AC outlets are “Live” when the Sequence 2 section is activated. These outlets are recommended for Analog and Digital type products such as audio receivers, tape decks, mixers, or video equipment. These outlets have a special filter circuit that is optimized to reduce interference to your analog type components. The total maximum continuous draw for this sequential section is 10A and the total current draw for the ECS-3 is 15A.
Note: It does not harm high current audio components to be connected to the Sequential Section 2 filter outlets.
4. **Sequence 3 AC Outlet** – The single high current non filtered AC outlet is “Live” when Sequence 3 section is activated. This 15A NEMA outlet is designed to deliver a maximum 12A continuous current to power hungry components like amplifiers and projectors. In audio applications, peak current demands commonly exceed the continuous current ratings on AC outlets. The unit is protected by the internal AC Mains 15A breaker if excessive continuous current is drawn from the unit. It does not harm low power consuming components when connected to the Sequential Section 3 Analog filter outlets. If more high power outlets are needed or if 15A is not enough current to support your power requirements you can use the 24VDC trigger to activate an additional power outlet such as the ECM-20SH. Contact Atlas Sound for AC outlet options.
5. **XLR Light Socket** – A 12VDC XLR light socket is to provide power for the optional Atlas Power AP-GNL18 light.
6. **Light Socket Power Switch** – This switch turns the XLR light socket On or Off.
7. **Unswitched AC Outlet** – This 120VAC outlet is always live when the ECS-3 power cord is plugged into an AC Mains power source and voltage is present. If voltage is present at the outlets it will be displayed on the AC Mains Meter.
Note: The AC Mains power switch or sequencer section does not affect the Unswitched AC Outlets. The Unswitched Outlets are protected by the surge protection circuitry but will not be shut off by the EVS circuit.
8. **External Voltage Sequence Trigger** – The ECS-3 can be activated remotely by providing DC voltages between 5VDC and 24VDC. **Note:** This function overrides the front panel System Activation Switch.
9. **External Sequence Trigger** – The ECS-3 can be activated remotely by placing a Momentary Switch between the two contact points. This function is in parallel with the front panel System Activation Switch. **Note:** If remote activation requires a remote Hard Switch Contact Closure (CC), we suggest using the 12VDC from the rear XLR light port, running through a remote switch and return the DC Voltage to Remote V Input Pin to activate the unit. When the rear light switch is in the ON position, 12VDC is always present in Pin 2 regardless if the ECS-3 is activated. It will be required to use a standard XLR male connector and connect to Pin 2 to access the 12VDC.
10. **DC Output** – The ECS-3 can handle 15A of current before the breaker opens. If 15A is not enough current to support the power requirements, this output can be used to activate an additional power outlet such as the ECM-20SH. This triggered 12VDC voltage works in conjunction with Sequence 3 timing section. Contact Atlas Sound for AC outlet options. **Note:** This DC output can also be used to power an LED indicator for a remote activation switch such as the Atlas ECS-KSW3.





Installation

Before installing we strongly suggest you read the entire manual to ensure you benefit from all the features of the ECS-3. The ECS-3 can be placed on a shelf or rack mounted in a standard 19" width rack. Placement within a rack is not critical but the rack should be within 6' of dedicated 15A AC outlet. Always make sure the 15A outlet is properly inspected by a certified electrician prior to connecting the ECS-3. Below are a few installation tips.

- After plugging the ECS-3 into a 15A AC Mains outlet inspect the Wiring Fault LED for illumination. The LED should not be on.
- Inspect the equipment that is to be plugged into the ECS-3 to ensure it does not exceed 15A total amperage draw.
- Divide the equipment into three categories. Pick the outlets that match the outlets equipment use.

Troubleshooting

Issue: Wiring Fault LED is illuminated.

Possible Cause: AC Mains outlet is wired incorrectly.

Action Needed: Contact a certified electrician to inspect the building's wiring.

Issue: No power to the AC outlets.

Possible Cause: Circuit breaker has tripped due to excessive load.

Action Needed: Remove one piece of equipment from the ECS-3, and push the breaker re-set tab located on the front panel.

Note: We suggest first locating the highest power-consumer such as a power amplifier and disconnecting or turning down that unit. If the ECS-3 breaker continues to trip, relocating some of the gear may be required.

Issue: No power to the AC outlets, "Abnormal Voltage" indicator is illuminated, the Volt Meter is Flashing and you hear a buzzer from the unit.

Possible Cause: The AC Mains Voltage exceeded 132VAC or the voltage dropped below 101VAC.

Action Needed: Measure the AC mains before the ECS-3. If the voltage is between 117VAC and 123VAC you may proceed to reset the ECS-3 by restarting the start up sequence.

Note: It is important to have all equipment that was connected to that AC Mains Line inspected for proper operation. If the problem persists, contact your local power company for the cause of unstable AC line conditions.

Issue: Abnormal LED Flashing when you have power to all outlets.

Possible Cause: The AC Mains Voltage exceeded 128VAC or the voltage dropped below 107VAC

Action Needed: The ECS-3 must be re-sequenced to turn off the LED. Measure the AC mains before the ECS-3. If the voltage is between 117VAC and 123VAC you may proceed to reset the ECS-3 by restarting the start up sequence.

Note: It is important to have all equipment that was connected to that AC Mains Line inspected for proper operation. If the problem persists, contact your local power company for the cause of unstable AC line conditions.

Issue: AC Fault LED is Flashing, a buzzer is sounding and you have no power at any outlets.

Possible Cause: Although the Dual Clamping Suppression (DCS) 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, the DCS circuit has been damaged during the suppression.

Action Needed: If this happens, the ECS-3 will shut off and the unit will need to be repaired or replaced. It is important to have all equipment that was connected to that AC Mains Line inspected for proper operation.



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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 for a permanently connected apparatus provided neither with an all-pole mains switch nor an all-pole circuit breaker. A readily accessible disconnect device shall be incorporated in the building installation power wiring. The installation shall be carried out in accordance with all applicable installation rules in accordance with all applicable federal, state, and local laws, regulations, safety codes and ordinances.

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

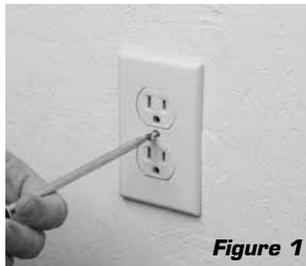


Figure 1

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

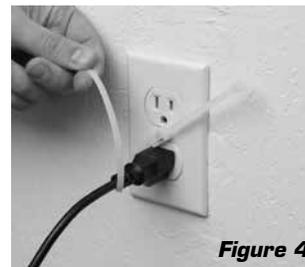


Figure 4

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.

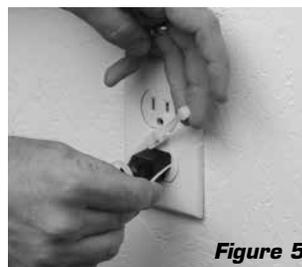


Figure 5



Figure 6

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



Figure 7



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ECS-3 Specifications

Type	Power Sequencer, Power Conditioner & Suppressor
Sequencer Sections	3, Fixed Time of 3 Seconds Between "On" Seq. 2 & 3, "Off" 2 & 1
Load Rating	15A Continuous
Safety Listing	ETL (UL 60065 Standard)
Front Panel	
AC Outlets	2 Unswitched
Lights	1 Pull out LED with Dimmer Switch
Activation Switch	Momentary
Circuit Breaker	15A Resettable
AC Mains Voltmeter	Three Digits (Digital)
Indicators	Sequencer Sections 1, 2 & 3, Abnormal Voltage, AC Fault, Breaker Open, Wiring Fault
Rear Panel	
AC Outlets	7 Total, Sequence Section 1 (3 outlets), Sequence Section 2 (2 Outlets), Sequence Section 3 (1 outlet), Unswitched (1 Outlet)
External Switch Activation Trigger	Momentary Contacts, 2 Position Euro/Phoenix 5.08mm Type Connector
External Voltage Activation Trigger	5-24VDC Continuous, 10mA, 2 Position Euro/Phoenix 5.08mm Type Connector
DC Output	12VDC 100mA Output Paralleled to Sequencer Section 3 Timing
LED Light Socket	XLR Socket to Provide 12VDC for Optional 18" Gooseneck Lamp
LED Light Switch	Two Position On/Off
Grounding Terminal	Hand Screw Type Terminal to Chassis Ground
AC Mains Power Cord	9' (3 Meters) 14-gauge
Technical Data	
Current Rating	15 amps
Power Consumption	12 watts
Operating Voltage	102 - 132VAC
High Voltage Surge Protection	Trigger at 133VAC, 1ms Typically
Low Voltage Protection	Trigger at 101VAC, 1ms Typically
Voltmeter Accuracy	±1.5VAC
Spike Protection Modes	DCS (Dual Clamping Suppression) Circuitry on Incoming AC Mains and Each Sequential Section Output
Min. Spike Clamping Voltage	460 VRMS @ 3,000A
Max. Spike Clamping Voltage	6kV
Max. Spike Clamping Resp. Time	1 nanosecond
Spike Clamping Voltage @ 100A	1250Vp for 20µs
Maximum Surge Current	6,500A
Energy Rating @ 2ms	2000 Joules
Noise Attenuation EMI/RFI Seq. Section 1 & 2	10dB @ 10 kHz, 40dB @ 100 kHz, 100dB @ 10 MHz
Temperature Range	5° to 35° C
Humidity Range	5% to 95% R.H.
Mechanical	
Chassis Finish	Black
Mounting	Rack Mount, 19", 1 RU
Dimensions	Height 1.75" (44.45mm) x Width 19" (482.6mm) x Depth 8.5" (215.9mm)
Weight	7.6 lbs (3.45kg)



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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 ECS-3 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.

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