



Active Thermal Management

The trusted name in thermal protection....

SEC-1 Installation Instructions

IMPORTANT – Read completely BEFORE beginning!

While not difficult or complicated, installation of the Small Enclosure Cooler (SEC-1) does include steps which require basic woodworking skills and tools. Please read the entire installation procedure and determine that you are comfortable performing the tasks outlined before proceeding. If you are not, either arrange for installation by another party or return the SEC-1 to its place of purchase.

Tools required:

- Tape measure
- Sabre saw
- Philips screwdriver
- Pencil and/or marking pen
- Electric drill
- Drill bit(s) slightly larger than sabre saw blade



The SEC-1 includes a fan panel,

Figure 1

power supply,



Figure 2

thermal control assembly,

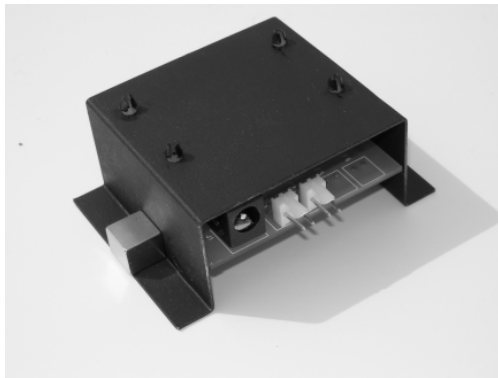


Figure 3

screws for fastening the fan panel to a cabinet panel, wire ties, and wire tie anchors. It is designed for installation in an enclosure or cabinet up to about 12 cubic feet in volume, typically measuring (approximately) 2' x 3' x 2' with no more than 1 shelf, or a small section of a larger enclosure. It can cool several pieces of audio-video equipment, usually a cable box (or satellite receiver), multi-channel amplifier, and 1 or 2 other items which do not generate significant heat. It is NOT intended to cool large enclosures holding many pieces of equipment or more than one device known to run extremely hot.

Active Thermal Management offers cooling equipment for more elaborate installations through its network of professional installers in the US and Canada; more information is available at www.activethermal.com.

A quick overview:

1. Mount the fan panel.
2. Provide an opening for fresh air to enter the cabinet.

DO NOT BEGIN INSTALLATION UNTIL THE LOCATIONS OF THE FAN PANEL AND THE FRESH AIR OPENING ARE DETERMINED!

3. Place the thermal control assembly on the device whose temperature is to be monitored.
4. Plug the fan and power supply plugs into the mating connectors on the thermal control assembly.

When installed properly, the fans will remain on at a slow speed at all times, removing heat generated by “always-on” devices, such as cable boxes, DVRs, and satellite receivers. When the temperature of the component under the thermal control assembly reaches 86 – 90 degrees, the fans will switch to a higher speed. A green LED on the thermal control assembly is lighted at all times, indicating that the SEC-1 is receiving power.

Given the wide range of cabinetry and equipment combinations available, and variations in mounting locations possible, Active Thermal Management cannot guarantee that a given installation will be completely effective at maintaining safe temperatures. The air path may be too restricted or not directed properly, the equipment within the enclosure may generate heat beyond its capacity, or the enclosure may be too large.

IT IS THE REponsibility OF THE OWNER AND/OR INSTALLER TO DETERMINE THAT THE VENTILATION PROVIDED IS ADEQUATE; UNDER NO CIRCUMSTANCES SHALL ACTIVE THERMAL MANAGEMENT BE LIABLE TO THE ORIGINAL PURCHASER OR ANY OTHER PERSON FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES,

**WHETHER ARISING OUT OF BREACH OF WARRANTY,
BREACH OF CONTRACT OR OTHERWISE.**

Detailed installation instructions:

1. Determine the location for the fan panel. The fans are supplied with 38" long wires, allowing great flexibility in mounting. Ideally, the fan panel should be mounted as high as possible, and toward the rear of the enclosure. (Note: Normally, the labels on the fans will face out of the enclosure.)

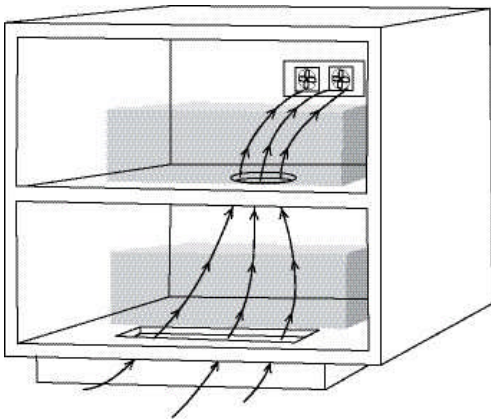


Fig.4

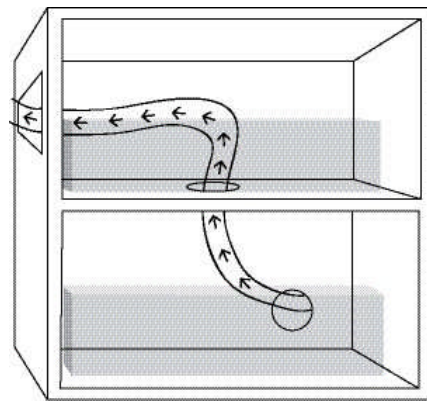


Fig.5

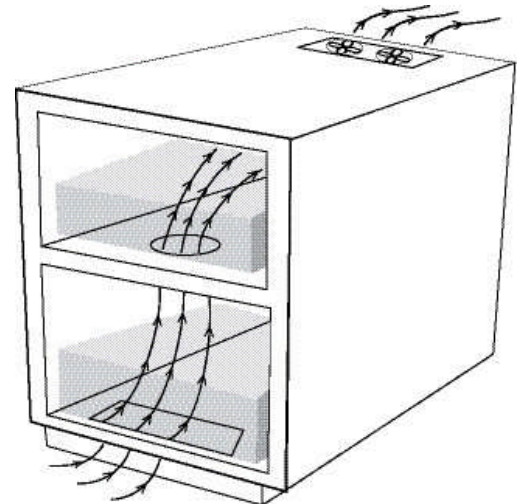


Fig. 6

The drawings show several possible locations for mounting the fan panel and a fresh air intake. The best location for your installation depends on several factors:

- Is there a minimum of 2" of clearance between the back of the enclosure and the wall, allowing rear panel mounting? See figures 4 & 5.
- If not, is mounting the fan panel on the side(s) or top of the enclosure possible? See figures 5, 6 and 7.

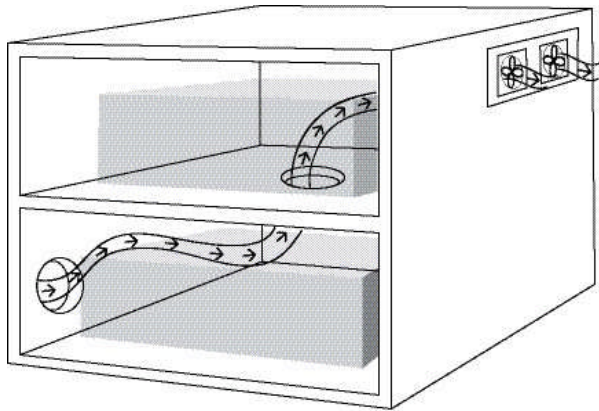


Fig. 7

- If not, and the cabinet stands on feet (air can circulate freely under the cabinet), is mounting the fan panel on the cabinet floor possible? In this case, the panel would be oriented so that air would be taken in from below, and blown up into the cabinet. (The labels on the fans would face into the enclosure in such an installation.) An opening for heated air to escape through would have to be provided high in the cabinet.



After determining the location for the fan panel, cut a 3 ½" x 7 ½" rectangular opening. With the fan wires inside the cabinet, mount the fan panel from the outside of

Fig. 8

the cabinet as illustrated in figure 8, using the six ½" long Philips-head screws supplied; you may wish to drill pilot holes before installing the screws. If they are not appropriate for your cabinet, procure the right fasteners at a home improvement or hardware store.

2. Provision must be made to allow room air to enter the enclosure to replace the hot air being expelled by the SEC-1. A location low in the enclosure and toward the front is generally preferred; the best arrangement is that in which air enters and passes by the heat-generating equipment on its way to the SEC-1's exhaust fans.

Ideally, the fans and fresh air inlet(s) would be located so that a line drawn between them would pass through the equipment to be cooled.

An Important Note

The intake opening should be no less than 10 square inches. A slot 2" x 5", 1" x 10", or two 3" round holes should be adequate. Note the suggested fresh air inlet locations in the drawings.

An air inlet(s) improperly located or too small will prevent the SEC-1 from operating efficiently.

- Avoid locating the inlet too close to the fan panel; room air may enter and be immediately exhausted without cooling the equipment.

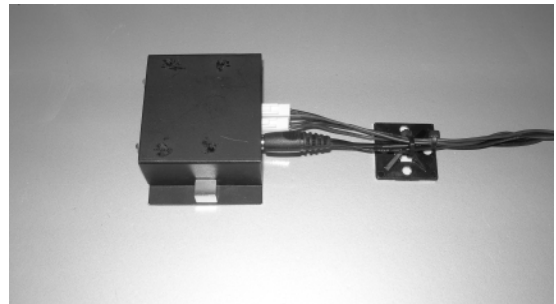


Fig. 9

- Generous holes (two 3" diameter or one 4" diameter) must be made in any shelf in the air path to allow air to pass through. Center the holes under the equipment, so that air flows up and around the equipment on the shelf.
3. Place the thermal switch assembly on the hottest part of the piece of equipment which runs the hottest in normal operation. Small magnets on the side flanges of the thermal switch assembly's metal cover will hold it firmly in place on equipment with steel covers. Some equipment may use aluminum covers; in this case, use the wire ties and wire tie anchors near the thermal switch assembly to keep the assembly in place, as shown in Figure 9. The printed circuit board within the thermal switch assembly is free to "float" up and down a small amount so that the thermal switch will always touch the top of the equipment being monitored despite small manufacturing variances.
 4. Plug the power supply into the mating jack on

the thermal switch assembly, and plug the fans into the 2-pin connectors, as shown in Figure 10. Note that the fan plugs can only be inserted one way.

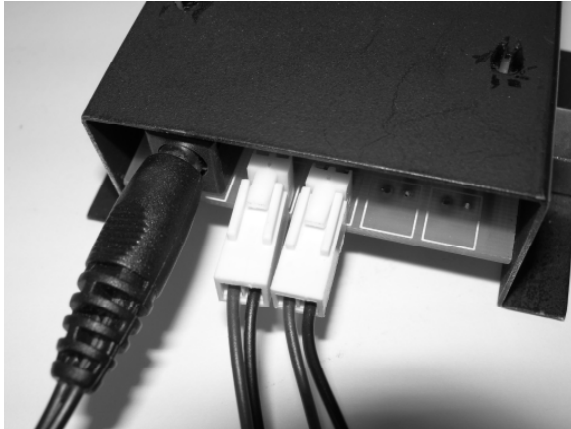


Fig. 10

The SEC-1 is powered by a wall-type power supply. Do not plug it into a switched outlet; use an AC outlet which is always live. If possible, use an outlet on the same circuit that powers the equipment producing the most heat. If this circuit breaker should trip,

the ventilation will stop, but the heat source will also turn off. If the SEC-1 is powered from a different circuit, it is possible that the fans could lose power while the equipment in the enclosure continued to produce heat.

In case of difficulty:

If the equipment enclosure is still hot:

- And the fans are NOT turning –

The SEC-1 may not be receiving power; is the green led lighted?

Is the power supply plugged into an always-live AC outlet?

Is the power supply plugged into the thermal switch assembly?

Are the fans plugged into the thermal switch assembly?

Is the thermal switch located on the hottest piece of equipment?

- And the fans ARE turning –

Have you provided an adequately-sized and properly positioned fresh air opening?

If the fans are turning slowly (this can be tested by aiming an ordinary hair dryer set to “high heat” at the thermal switch; if the fans speed up after a few seconds, the fans were running at low speed), the thermal switch assembly may not be positioned correctly; make certain it is over the hottest part of the equipment being monitored.

Warranty - Active Thermal Management (“ATM”) warrants the SEC-1 against defects in materials and workmanship for a period of one year from date of purchase. We will repair or replace, at our option, any SEC-1 which has a defect in materials or workmanship. The product being returned must be properly packaged and returned prepaid with an ATM return authorization number clearly written on the outside of the shipping carton and with a copy of the bill of sale or ATM invoice to verify the original purchase date. Our warranty does NOT apply to:

1. Shipping damage, either concealed or visible. Claims must be filed with the carrier.
2. Damage caused by improper installation or improper electrical voltage.
3. Any SEC-1 which has been modified.
4. Damage caused by corrosion, abrasion, immersion, or severe temperatures.
5. Products which have been subject to abuse, misuse, abnormal usage, or accident.

These warranties give you specific legal rights, and are subject to any applicable consumer protection legislation. You may also have additional rights which vary from state to state.

No other warranties, expressed, implied, or written, shall apply to this product. ATM is not responsible for any consequential or incidental damages, loss of property, revenues, or profit, cost of removal, installation, or reinstallation, personal damage, or for any breach of warranty, regardless of how caused.