



Active Thermal Management

The trusted name in thermal protection

Circle-vent™ Installation Instructions

Introduction:

Circle-vent is comprised of two fan assemblies, power supply, thermal probe, control unit, screws for fastening the fan assemblies to a cabinet panel, wire ties, and wire tie anchors. It is designed for installation in a wood enclosure or cabinet when cooling devices cannot be completely hidden and appearance is important.

Shipped in exhaust mode, the fan assemblies can easily be field-modified to work in intake mode. If used as an intake device, provisions must be made to allow the escape of hot air; similarly, when used in exhaust mode, there must be an opening through which room air can enter. *For maximum effectiveness, a line drawn from intake opening to exhaust opening would pass through the equipment to be cooled.*

- Circle-vent is available in a surface-mount version which mounts in a 3 3/8' square hole, easily installed as a retrofit cooling solution. A flange covers any minor edge chipping which may occur when cutting the hole.
- It is also available in a flush-mount version for installation by cabinet makers; *properly-executed installation of flush-mount versions requires a high degree of woodworking skill.*

Enclosures no larger than 12 cubic feet in volume with no more than 1 shelf, or small sections of a larger enclosure are suitable for cooling with Circle-vent.

Circle-vent, properly installed, 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 manufactures other products suitable for cooling larger enclosures, which can be seen at www.activethermal.com.

Both of the Circle-vent fan/grille assemblies are powered by a wall-type power supply and are controlled by a thermal control assembly which supplies power above approximately 90 degrees.

The fans are easily separated from the wood grille to allow both changing the mode of operation from exhaust to intake and finishing the grille; simply remove the 4 screws holding each fan.

****IMPORTANT****

In order to protect the grille and prevent warping or cracking, you must seal the grille on EACH side and in between all slots *prior* to installation.

Whether you are painting, staining, or sealing the grille with urethane, they must have the appropriate finish applied **BEFORE** they are installed. If the grille is not protected in this way, Active Thermal Management will not be responsible for any warping or cracking that might occur.

1. After finishing, reassemble the fans and grilles in desired operating mode. ***Do NOT use excessive force when tightening the screws.***

- a. For "intake" mode, reassemble with the fans' labels facing away from the grille section.

- In intake mode, Circle-vents can be mounted through a side wall or other surface of a cabinet to bring room air in.

- b. For "exhaust" mode, the fans' labels should face the grille section.

- In exhaust mode, Circle-vents can be mounted above or behind an amplifier or another heat-producing component to expel heated air.

Main installation steps:

1. Separate the fan and grille sections.
2. Finish grilles as required.
3. Reassemble in intake or exhaust mode.
4. Create primary openings for each fan assembly and secondary openings for fresh air intake (if Circle-vent is to be used in exhaust mode) or hot air exhaust (if Circle-vent is to be used in intake mode).
5. Install fan assemblies in primary openings
6. Install thermal switch, connect fan wires, and connect to power source.

A quick overview:

1. After finishing the grilles, mount the fan assemblies in the primary openings.
2. Provide secondary opening(s) as described in (4) above.

DO NOT BEGIN INSTALLATION UNTIL BOTH PRIMARY AND SECONDARY OPENING LOCATIONS ARE DETERMINED!

3. Place the control unit on or near the device whose temperature is to be monitored. Place the thermal probe on or just above the equipment to be monitored.
4. Plug the fans, thermal probe, and power supply connectors into the mating jacks on the thermal control assembly.

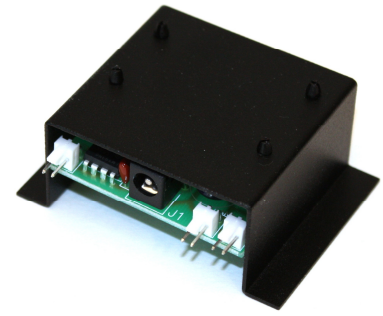
When the temperature of the component under the thermal probe reaches 88 – 90 degrees, the fans will switch on and a red LED will light. A green LED on the thermal control assembly is lighted at all times, indicating that Circle-vent is receiving power.

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.

Additional installation information:

The fans are supplied with 38" long wires, allowing great flexibility in mounting. Ideally, the fan assemblies should be mounted as high as possible, and toward the rear of the enclosure. High on the side(s) or along the top surface of the cabinet are two possibilities for locations for the primary openings (in exhaust mode) with secondary openings low and as forward as possible. In intake mode, low and towards the front on the sides of the cabinet is a good location for the primary openings, with slots or holes high on the back panel good for secondary openings.



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 secondary opening should be no less than 10 square inches in area. A slot 2" x 5", 1" x 10", or two 3" round holes should be adequate.

Secondary openings improperly located or too small will prevent the CIRCLE-VENT from operating efficiently.

- Avoid locating primary and secondary openings too close together; room air may enter and be immediately exhausted without cooling the equipment.
- 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.
- Place the thermal probe on the hottest part of the piece of equipment which runs the hottest in normal operation. Small magnets on the side flanges of the control unit's metal cover will hold it firmly in place on or near equipment with steel covers. Some equipment may use aluminum covers; in this case, use the wire ties and wire tie anchors near the control to keep it in place.

Plug the power supply into the mating jack J1 on the thermal switch assembly, and plug the fans into the 2-pin connectors FAN1 and FAN2, as shown in Figure 2. Note that the fan plugs can only be inserted one way. Plug the thermal probe into connector THRM.

CIRCLE-VENT 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 CIRCLE-VENT 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.

Figure 2

In case of difficulty:

If the equipment enclosure is still hot:

- And the fans are NOT turning –

Circle-vent 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 control unit?

Are the fans and thermal probe plugged into the control unit?

- And the fans ARE turning –

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