Active Thermal Management

The trusted name in thermal protection

Parts list – before proceeding, check that you have received all of the following:

Cool-stick main assembly	(1)
Power supply	(1)
Brackets	(1 ea, left & right)
Control unit	(1)

Instructions for installation of the 18" Cool-stick™ enclosure ventilator

An important disclaimer -- The Cool-stick was designed to provide a gentle curtain of fresh room air to flat-panel displays which have been mounted in enclosures that restrict natural ventilation. There is a very wide range of possible installations; on-the-wall, in-the-wall, cabinet mounted, and so on. While we have made every effort to provide a reasonably high rate of air flow at a very low noise level, the details of a given installation are beyond our control, and there will be situations in which the Cool-stick may not be able to provide sufficient cooling to ensure that a particular display device won't overheat. It is the responsibility of the installer to verify that the panel, or other equipment being cooled, is not overheating after installation is complete.

Should the Cool-stick NOT be able to provide the required ventilation, (a test method is suggested later), please contact Active Thermal Management as soon as possible. We will gladly arrange for either a refund (less shipping charges) or credit towards alternate Active Thermal Management equipment which may be more appropriate for the situation. We are available for technical consultation at no charge week days from 8:30 to 4:30 PST at 661-294-7999.

Cool-stick installation guidelines:

To work effectively, Cool-stick must have one opening through which room air can enter the panel's enclosure, and another through which heated air can leave. The most satisfactory arrangement is a slot of no less than 1" height running the entire width of the panel just above and just below the panel.

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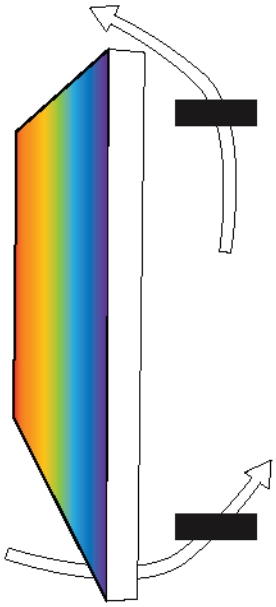

Openings along the vertical edges of the panel are not needed, and will upset the desired bottom-to-top airflow pattern.

It is suggested that part 1 of the test for sufficient ventilation be performed now, before the panel is installed in its enclosure; see below.

Using the included brackets, (note that there is a left and a right bracket) mount the Cool-stick so that the fans' labels are facing upwards and the fans are either pointed straight up or are tilted toward the panel slightly so that the air stream will hit the display's rear panel near the bottom, letting the air flow along the rear panel towards its top.

(See sketch above; the black rectangles are the Cool-sticks viewed on edge.)

Where possible, mounting the Cool-stick horizontal and slightly above the bottom of the display panel is often the preferred arrangement.

One of the Cool-stick's mounting channels slips into the round hole in each bracket, and the other channel is placed in the slot that positions the channels at the desired angle (protruding not more than 1/8" on the other side); see accompanying photograph. Wood screws or other fasteners appropriate for the particular installation should be used to fasten the brackets to the enclosure framework.

Attach the thermal probes to the part of the panel's structure which becomes hottest in use. (See note below; this "hot spot" can be found during the first part of the test when the normal operating temperature of the display is being measured.) It is important that the probes be in close contact with the display; adhesive tape that isn't affected by moderate heat can be used to fasten the probe, while tie-wraps and anchors can secure the probe cable.

After installing the control unit, locating the thermal probe, and connecting the fan leads to the control unit (connect to any FAN connector, 1 - 4), connect the power supply to the connector (J1), and connect the thermal probe to connector THRM.

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Control unit (may vary from picture)

A test for sufficient ventilation –

Part 1 - Using a digital thermometer with an external probe, (readily available at electronics suppliers), measure the temperature of the display's back panel at the point where the temperature is highest or the temperature of the air coming out of the exhaust opening, if the panel has an internal fan, when the panel is operating in an open environment. Tape or otherwise fasten the probe so that it can't move. Let the panel run long enough to ensure that it's reached operating temperature, i.e., the thermometer reading is steady. Note the temperature and turn the panel off.

Note: inexpensive digital thermometers may not be highly accurate, but they are generally stable and repeatable, which is more important for this test.

Part 2 - Carefully mount the panel in the enclosure, not allowing the probe to shift position, and apply any trim that will be used in the final installation. It should be possible to feed the probe wire out of the enclosure so that you can measure the panel's exhaust temperature while it's mounted in what will be its normal operating position. Turn the panel on and allow it to heat up. The Cool-stick fans will turn on when the temperature sensors reach about 90 degrees (F). Let the panel run until the temperature of the exhaust stream again reaches its highest temperature.

If the exhaust temperature hasn't increased by more than a few degrees over the original reading, the panel is being properly ventilated. It's possible that the temperature may even decrease slightly, indicating that the extra ventilation is causing somewhat higher airflow through the panel than normal. If the temperature is more than a few degrees higher than the "free air" reading, check that the fans are running. If they're not, check that the thermal probes are in good contact with the panel.

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WARRANTY

Active Thermal Management ("ATM") warrants its products against defects in materials and workmanship for a period of five years from date of purchase. We will repair or replace, at our option, any ATM product which has a defect in materials or workmanship. The product 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 product which has been modified, unless authorized by ATM.
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 will not be responsible for any consequential or incidental damages, loss of property, revenues, or profit, cost of removal, installation, or reinstallation, personal injury, or for any breach of warranty, regardless of how caused.

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