

Instruction Leaflet AVT 1394/GigE Board Level

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Vision Technologies

CE conformity

AVT standard cameras are manufactured in accordance with the CE standard and its underlying directions.

Board level models are delivered without housing. Because housing design is critical to the electromagnetic interference characteristics of a camera, no CE certification tests regarding electromagnetic interference have been performed for board level models. Users who design board level models into their systems should perform appropriate testing regarding electromagnetic interference after the product design is completed.

Contacting AVT

Ordering and general information:

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phone (for North America): +1 978-225-2030

Support:

support@alliedvisiontec.com

Outside Germany/North America:

Please check the link for your local dealer.

<http://www.alliedvisiontec.com/emea/sales/sales-locations.html>

Hardware installation

To install hardware, read **Hardware Installation Guide**.

<http://www.alliedvisiontec.com/emea/support/downloads/product-literature.html>

Software installation

AVT provides several SDKs (software development kits), which are all free of charge.

<http://www.alliedvisiontec.com/emea/products/software.html>

Safety notifications

There are no switches or parts inside the camera that require adjustment. The warranty becomes void upon opening the camera casing.

If the product is disassembled, reworked or repaired by unapproved service personnel, AVT or its suppliers cannot be held responsible for the subsequent performance or quality of the camera.

The camera does **not** generate dangerous voltages internally. However, because the IEEE 1394b standard permits cable power distribution at voltages higher than 24 V, various international safety standards apply.

Hot-plug precautions 1394

Although FireWire devices can **theoretically** be hot-plugged without powering down equipment, **we strongly recommend turning the computer power off, before connecting a digital camera** to it via a FireWire cable.

Static electricity or slight plug misalignment during insertion may short-circuit and damage components.

The physical ports **may be damaged** by **excessive ESD** (electrostatic discharge), when connected under powered conditions. It is good practice to ensure proper grounding of computer case and camera case to the same ground potential, before plugging the camera cable into the port of the computer. This ensures that no excessive difference of electrical potential exists between computer and camera.

It is **very important not** to exceed an inrush current of 18 mJoule in 3 ms. (This means that a device, when powered via 12 V bus power must **never** draw more than 1.5 A, even not in the first 3 ms.)

Higher inrush current may damage the physical interface chip of the camera and/or the phy chip in your PC.

Whereas inrush current is not a problem for a single 1394b camera, daisy chaining multiple cameras or supplying bus power via (optional) HIROSE power out to circuitry with unknown inrush currents needs careful design considerations to be on the safe side.

Screw-lock and other precautions

Also, all AVT 1394b camera and cables have **industrial screw-lock fasteners**, to insure a tight electrical connection that is resistant to vibration and gravity.

We strongly recommend using only 1394b adapter cards with screw-locks.

Make sure **not** to touch the shield of the camera cable connected to a computer and the ground terminal of the lines at the same time.

If you are charged: before touching the shield of the camera cable, make sure to discharge first (by touching the ground terminal of the lines).

Use only DC power supplies with insulated cases. These are identified by having **only two** power connectors.

If you feel uncomfortable with the previous advice or if you have no knowledge about the connectivity of an installation, **we strongly recommend powering down all systems before connecting or disconnecting a camera.**



Cleaning precautions

Mount/remove lenses and filters in a **dust-free environment**, and **do not** use compressed air (which can force dust into cameras and lenses).

Use only **optical quality tissue**/cloth if you must clean a lens or filter.

Read **Hardware Installation Guide, Chapter Cleaning instructions**.



Caution ESD: Board level

Make sure **not** to touch the shield of the camera cable connected to a computer and the ground terminal of the lines at the same time.

If you are charged: before touching the shield of the camera cable, make sure to discharge first (by touching the ground terminal of the lines).

Use only DC power supplies with insulated cases. These are identified by having **only two** power pins.

If you feel uncomfortable with the previous advice or if you have no knowledge about the connectivity of an installation, **we strongly recommend powering down all systems before connecting or disconnecting a camera**.



Caution ESD: Board level

Only **qualified personnel** is allowed to install and operate the Board level cameras.

Board level cameras are delivered without housing. Handle the sensor board and main board with care. Do not bend the boards. Do not touch the components or contacts on a board. Hold a board by its edges.

Sensor board and main board are sensitive to electrostatic discharge. To avoid possible damage, handle all static-sensitive boards and components in a static-safe work area. Follow the procedures below.

ESD (electrostatic discharge): Static electricity can damage the sensor board or the main board of your Board level cameras. To prevent static damage, discharge static electricity from your body before you touch any of your Board level cameras's electronic components, such as sensor board or main board. To do so, use a static-safe work area with static-dissipative mat and wear a static-dissipative wrist strap. Do not hold any components of your Board level cameras against your clothing. Even if you are wearing a wrist strap, your body is grounded but your clothes are not.

Do not remove the sensor board and main board from its anti-static packaging unless your body is grounded.

ESD shielding: To protect the boards from radiation of other modules or devices use a special ESD protective housing.



Warranty precaution

AVT cameras: **Removed Cover Glass** sensor variant

AVT does not warranty against damage to the sensor after the adhesive foil is removed.

Camera models with **Removed Cover Glass** sensor need special care: For protection during shipment, a special adhesive foil is used, which must be removed before using the camera.

We recommend removing the adhesive foil in a dust-free environment. Without the cover glass the sensor is mechanically very sensitive and must be protected against ESD, humidity and dust.



Warranty precaution

AVT cameras: **Taped Cover Glass** sensor variant

AVT does not warranty against damage to the sensor after the tape is removed.

Camera models with **Taped Cover Glass** sensor need special care: For protection during shipment, a special tape is used to retain the sensor glass. The tape and sensor glass must be removed before using the camera.

We recommend removing the tape and the sensor glass in a dust-free environment. Without the cover glass the sensor is very sensitive and must be protected against ESD, humidity and dust.

Environmental conditions

- Ambient temperature (when camera in use): + 5 °C ... + 45 °C
- Ambient temperature during storage: - 10 °C ... + 70 °C
- Relative humidity: 20 % ... 80 % non-condensing
- Protection: IP 30

For camera families having different conditions see the **Technical Manuals**:

<http://www.alliedvisiontec.com/emea/support/downloads/product-literature.html>

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