

## Pinnacle Application Note

### 32-Bit Controller Grounding and Communication Cable Installation Instructions (AC-1200, AC-1208, LANLink M1200, and LANLink M1208)

PinFlash #04-002

July 30, 2004

#### Recommendation

1. Each 32-Bit controller should have a suitable local ground. They should not be connected to grounds from other controllers.

Each 32-Bit backplane has a ground connection at a single mounting hole. If the metal enclosure is appropriately grounded and metal bolts are used to mount the backplane to the enclosure, the controller is then grounded through the enclosure. To avoid ground loops in this case, the installer must avoid the connection of other ground sources to the backplane and modules.

2. If the 32-Bit controller is not grounded through the enclosure (i.e. the enclosure is not grounded or the panel is mounted to wood), the installer must provide an appropriate local ground connection. We recommend that ground be provided at the “-“ pin of the power line connector.
3. The 32-Bit backplanes have a 3-pin connector for RS-485 communications. One of the three pins is labeled “GND”. The GND pin on the RS-485 connector should be left open with no connection.
4. We recommend that all cable shield drains be terminated to ground directly and not connected to the 32-Bit controller.

The following controller wiring diagram details the recommended installation as it pertains to grounding of the 32-Bit along with the communication cable wiring between the AC-900 and the 32-Bit Controller.

