

NINO card meeting summary 1/20/2014

1. Entire NINO card array on GRINCH should be covered with an Al sheet for shielding against low energy EM background.
2. Power for boards is +5Vdc at approximately 1A/card.
3. Power supply should be near cards with filtering just before each card.
4. Need power supply for discriminator inputs (2/card) +1.2-1.9 Vdc. Can we use one supply for all cards to set voltages all the same?
5. Choose power supplies that preferably have no smart controls to reduce sensitivity to radiation.
6. Need substantial ground from PMT array to NINO card frame. Suggest copper foil or plates between these components.
7. Corner holes of NINO card should be connected to ground plane and through hole to allow contact with screw and standoff.
8. Need output wires for "OR" outputs (2/card).
9. All wires connected to card must be strain relieved on the card if possible except the ribbon connectors ("OR", discriminator voltage, power supply). Must watch for crosstalk.
10. Strain relief of input cables needed on the NINO card. May need to extend board for this. Possibly use pins on NINO card instead of soldering each cable directly to the card.
11. Need to design mounting of cards to allow connection of two rows of tubes per card and 9th tube on separate card.
12. Card mounting must include a metal plate underneath for electrical shielding.
13. Air cooling/fans are needed to control card temperatures.
14. Need to have PMT array box nickel plated to protect from rusting. NC A&T will investigate this option.