

Avolites Ltd.
Engineering Change Notice

Title	Running Hi End Intellabeams from Diamond 4 and Boris 3 motherboards.
ECN Number	ECN-0152
Equipment	Diamond 4 and Boris 3 motherboards.
Author	Richard Salzedo
Drawing Number	
Date	15/10/2003

Reason for ECN	My Intellabeam wont work although the DMX appears to be OK.
Special Parts required	
Special Tools required	

Problem:

My Intellabeam wont work although the DMX appears to be OK.

The Intellabeam uses a non compliant DMX input circuit, this circuit is seen by the Diamond 4 and Boris 3 console protection circuits as a fault condition.

Background:

The Diamond 4 and Boris 3 use circuits that have been designed to work with future standards of DMX such as RDM and are fully backward compliant to all DMX compliant devices. We have also included protection circuits which prevent DMX line drivers and other circuits being damaged from accidentally applied voltages to the DMX line.

Solutions:

- 1 Highly recommended, best option:
Use an Avolites Rack or Truss splitter to buffer the signal. (Other splitter units may work, however they probably will not if there have DMX protection fitted.)
- 2 Recommended only in an absolute emergency since this may damage the motherboard and this will not be covered under the Avolites warrantee.
Remove the protection devices marked PT from the Avolites console by shorting them out on the reverse side of the PCB. See the schematics given below for details. Note that this will invalidate any Avolites Warrantee.
Make sure the console is clearly marked that the protection circuits have been removed and date the note for future engineers to see!
- 3 Contact HighEnd Systems technical support to seek guidance from them. It may be possible to replace the input receiver in the Intellabeam with a more sensitive part such as an HP2300. Their web site is www.hiend.com

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Additional information:

The DMX input circuit for the Intellabeam is published on the HiEnd web site at:
<ftp://ftp.highend.com/pub/Products/Intellabeam/Schematic/lbeam.pdf>

The output circuit schematic for an Avolites Splitter, Borris 3 motherboard and Diamond DMX output are shown below.

Diamond 4 DMX circuit: Edm1910a-4of7.pdf

Borris 3 DMX circuit: Brs1050f-4of8.pdf

Truss and Rack Splitter DMX (Driver circuits are the same design): Tds7200a-1o1.pdf