

**MI BPM Project**  
**MI BPM TB Controller Status Report February 21<sup>st</sup>, 2006, 9:30am**  
**Control Module**

## **Hardware status**

### **MI BPM\_TB Control Module Prototype:**

- ) Minor updates to Control Module prototype documentation (Beam-doc-2145-v1 and Beam-doc-2144-v1).

### **MI BPM\_TB Control Module:**

- ) Reviewed “User Requirements” document written by Manfred WENDT.
- ) Working on a preliminary version of the “Functional Requirements Specification”.
- ) Work in progress on the conceptual design of the production version of the Control Module.

## **Firmware status:**

### **MI BPM\_TB Firmware**

- ) As previously reported work in progress on “non-critical” improvements.

### **MI BPM\_TB Controller Prototype Firmware (Avnet Xilinx card FPGA)**

- ) As previously reported work in progress on “non-critical” improvements.

Document related to the Control Module are available on the web page:

[http://www-ese.fnal.gov/MI\\_BPM\\_TB\\_CTL/](http://www-ese.fnal.gov/MI_BPM_TB_CTL/)

### Control Module Prototype design:

#### Good

- ) It works.
- ) The production of the modules can be completed in short time.
- ) It provides a test bench system that can be used for production test of the BPM TB.
- ) It allows implementation of a new addressing scheme in which each 4 channel group is individually addressable.

#### Shortcomings

- ) Has minimal diagnostic. Most of it relies on an Avnet-Xilinx daughter card and is meant to be used for bench testing/debugging and not for field operations.

### Control Module Improved design:

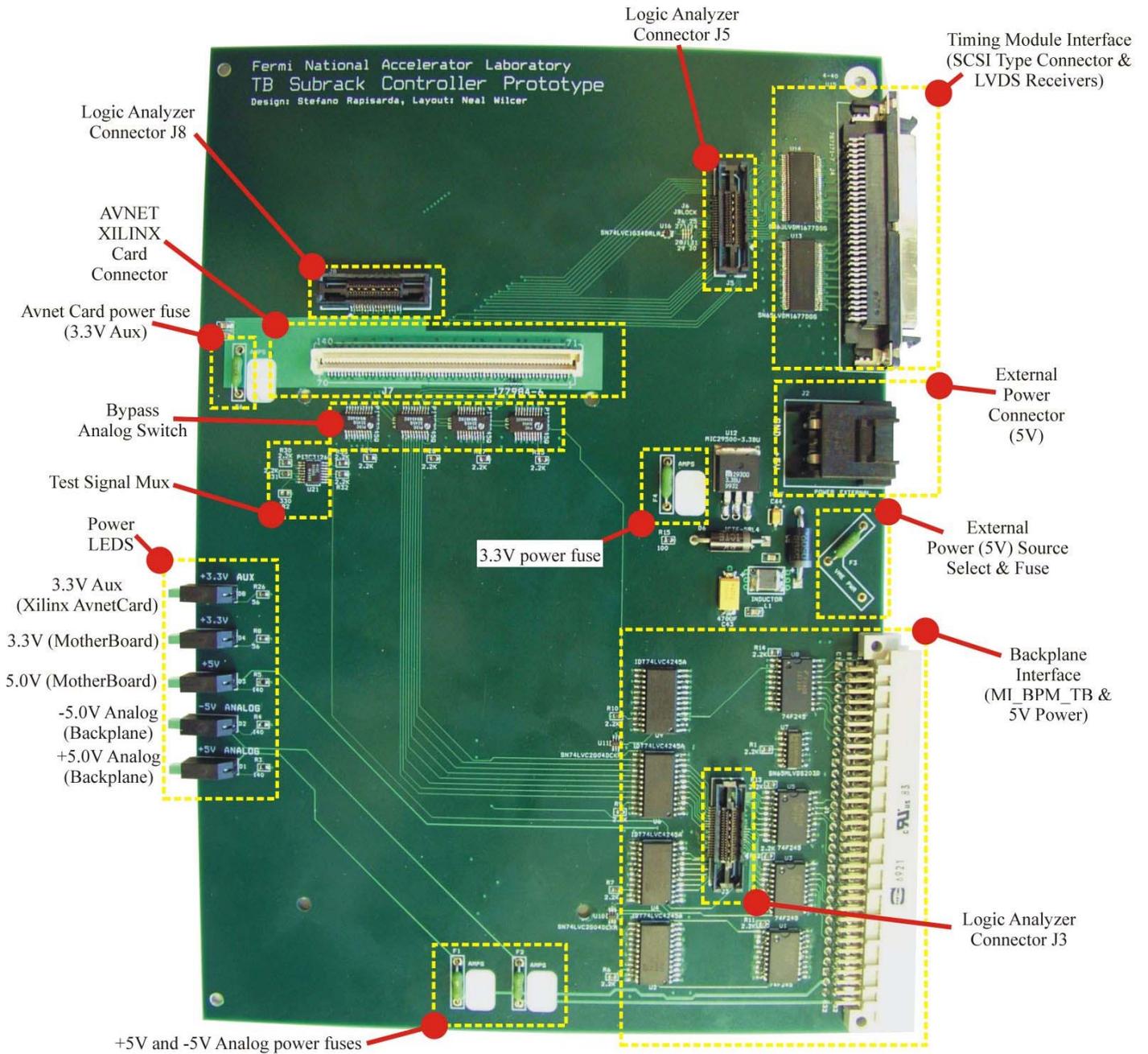
#### Good

- ) Design will be based on current working prototype.
- ) Front panel user interface and field diagnostics
  - a) Visual interface consisting in LEDs, LED displays and multifunction switches.  
It allows full access to the module diagnostic
  - b) Computer interface (RS-232 or ...) with full access to the module diagnostic.
  - c) **Remote mode:** allows monitoring commands sent to the MI BPM TBs.
  - d) **Local Mode:** the front panel provides the user with full control of the MI BPM TBs settings.

#### Shortcomings

- ) More design work and \$ required.

## Prototype Motherboard



## Prototype Motherboard with Xilinx Avnet Card

