

DFE Semi-custom Backplane

This is a standard VME size, 21 slot, 6U monolithic backplane with custom connectors in all slots. We will supply an OrCad generated schematic and provide connector location on the cards that engage with this backplane. The prospective company will design the artwork for PCB fabrication (2-3 weeks) and deliver fully populated backplanes 6-8 weeks after artwork approval. The quantity required will be 10. Due to: the close proximity of the 2mm hard metrics, the large number of bussed signals (VME), and the requirement of internal only signal traces, this board will be no less than 8, no more than 12 layers thick. The thickness of the backplane should be at least .125" to provide rigidity.

Slot 1: Contains one type A 2mm HM connector, two triaxial connectors and two headers. A differential 1553 signal (75 ohm Z) from two triax connectors is brought to the type A connector. VME signals (~7MHz) are bussed to all slots, with appropriate terminations at both ends. One status bit is bussed from each of the slots 2-21 to slot 1. "Shared" signals from slots 2 and 21 are bussed to the two 10 position headers.

Slots 2-21: Contains one type A, one type B and one type C, 2mm HM connector. Many of the signals (TOP and BOT MUON, and TOP and BOT L1L2) are straight feedthrough only. There are 16 shared signals bussed between "previous" and "next" slots, these are low voltage differential (LVDS) signals and should be implemented accordingly (differential/100 ohm Z).

See Excel document for connector pin-out.

An important factor on this board is the high power requirements: 325 amps of 3.3V and 80 amps of 5V. It will probably require large bus bars on the back of the backplane (power area); these will have to remain fairly low profile to accommodate 6U transition cards plugged into the back of the backplane. As with the AFE board, this power area will also include a small connector and poly fuses for power sense.

For questions please contact:

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