

Canadian Light Source

VME Crate

Technical Specification 7.8.48.2 Rev. 1

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Signature

Date

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REVISION HISTORY

<i>Revision</i>	<i>Date</i>	<i>Description</i>	<i>Author</i>
A	2001-08-23	Initial revision used for Linac/BR1/SR1 procurement	J.M. Vogt
B	2002-07-24	Updated to CLS standard documentation	H. Engel
0	2002-07-29	Issued for use	H. Engel
1	2006-11-29	Updated to reflect new CLS standards	D. Beauregard

1.0 INTRODUCTION

1.1 PURPOSE

This document defines the requirements for the VME Crates used at the CLS.

1.2 SCOPE

The scope of this specification covers the VME crate hardware. It does not include VME modules.

1.3 DEFINITIONS AND ABBREVIATIONS

VME: Versa Module Eurocard

MTBF: Mean Time Between Failures

MTTR: Mean Time To Repair

Hot-swappable: The module can be replaced with the power on.

CSA: Canadian Standards Association

ULC: Underwriters Laboratory of Canada.

2.0 REQUIREMENTS

2.1 APPLICABLE CODES, STANDARDS AND PROCEDURES

The VME crate shall be in compliance with the following code: ANSI/VITA 1.1-1997 VME64x

2.2 FUNCTIONS

2.2.1 General Requirements

The VME crate shall have the following features:

- a) Meet VME64X standards.
- b) Removable power supply.
- c) Hot-swappable fan tray.
- d) Remote monitoring of crate status.
- e) An available power supply current of:
 - i) Greater than 200A for 5V.
 - ii) Greater than 10A for $\pm 12V$.
 - iii) Greater than 100A for 3.3V.

2.2.2 Additional Items to be Included

None.

2.3 PERFORMANCE

The power supply noise and ripple shall be less than 10mV_{pp} (for 0-20MHz).

2.4 SAFETY AND ENVIRONMENTAL

- a) The VME crate shall be CSA or ULC inspected prior to shipping.
- b) The individual fans shall be monitored. Failure of any fan shall shut off the power supply.
- c) There shall be a sensor for the module temperature. Any temperature above a set threshold shall shut off the power supply.

2.5 INSPECTION, TESTING AND COMMISSIONING

This equipment shall be subject to standard CLS receiving inspection. It shall be subject to a 48-hour test run.

2.6 RELIABILITY AND MAINTAINABILITY

The equipment shall provide a MTBF greater than 60000 hours and a MTTR of less than five minutes. No tools should be required to replace the power supply and the fan.

2.7 LAYOUT

The VME crate shall have a 21slot 6U/160mm front layout, and a 6U rear card cage consisting of a lower rail of 220mm and upper rail of 80mm.

2.8 SERVICES

The VME crate shall run off 120 V AC.

3.0 REFERENCES

None.