TRIUMF

VME 6 Channel
High Voltage Module

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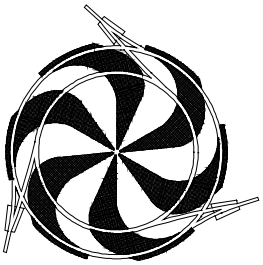

TRIUMF
4004 WESBROOK MALL
VANCOUVER B.C.
V6T 2A3
CANADA

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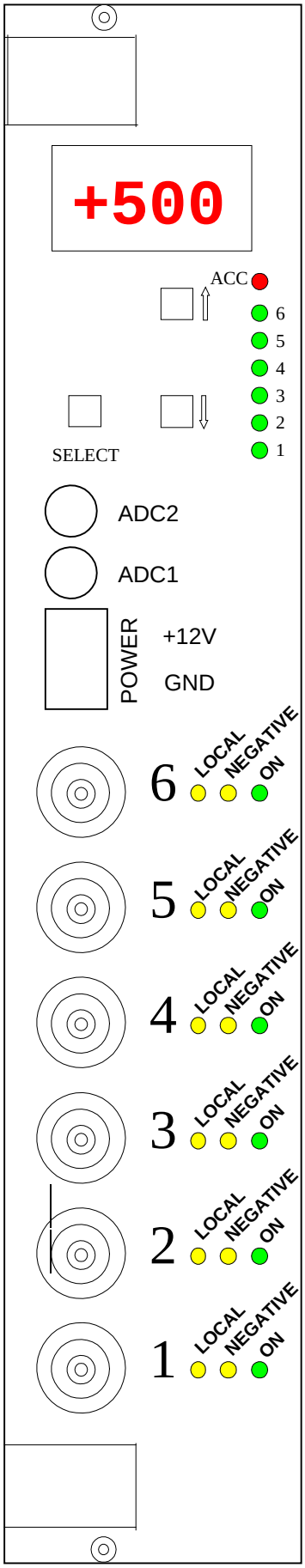
VME 6 Channel High Voltage Supply Module



VME 6 Channel High Voltage Supply Module

General Description

The VME high voltage supply board is a double width 6U VME module which provides 6 channels of variable voltage with a range dependent on the module installed. The modules have ranges of: 0 to 500 volts, 0 to 1000 volts, 0 to 1500 volts and 0 to 2000 volts. The polarity of the channel is dependent on the module plugged in to the board for that channel. Each channel can be controlled and monitored from the VME interface or the front panel.

VME Interface SLAVE – A16, D8(OE),D16

This module requires a 64-byte address space. Jumpers on the printed circuit board configure the base address selection.

Address Modifier Selection

This module will only respond to A16 address cycles.
Short Supervisory & privileged access - 0x29, 0x2D

Base Address Selection

Each jumper corresponds to address bits A15 – A6 on the VME address bus. Installing a jumper for each address bit will select a 0 (low) for the corresponding VME address bit.

Jumpers Installed (X)										Address Range
A15	A14	A13	A12	A11	A10	A09	A08	A07	A06	
X	X	X	X	X	X	X	X	X	X	FFFF0000 – FFFF003F
-	X	X	X	X	X	X	X	X	X	FFFF8000 – FFFF803F
-	-	-	-	-	X	X	X	X	X	FFFFF800 – FFFFF83F
-	-	-	-	-	-	-	-	-	-	FFFFFFC0 – FFFFFFFF

Channel 1- 6 Remote voltage set point registers (xx00 – xx0A)

ADR	$FFFFxx00 - $FFFFxx0A						
BIT	15	14	13	12	11	...	0
NAME	0				REM_VSET1 - 6		
OPER	R/W						
RESET	$0000						

REM_VSET1- 6: These registers provide the output setpoint for a channel when it is configured for *remote access* from the front panel interface. The *local* setpoint is not affected by writing to this register.

500 Volt Modules
Unsigned 12 bit.
Max voltage: 512 volts: $FFF
Min voltage: 0 volts $000

2000 Volt Modules
Unsigned 12 bit.
Max voltage: 2000 volts: $FFF
Min voltage: 0 volts $000

Note: Channels must be configured for *remote control* to allow these registers to control their outputs. Remote/local is configured through the front panel.

Remote power ON/OFF control register (Bits 5-0)

ADR	$FFFFxx0C (Bits 5-0)							
BIT	7	6	5	4	3	2	1	0
NAME	Reserved	Reserved	PWR_ON6	PWR_ON5	PWR_ON4	PWR_ON3	PWR_ON2	PWR_ON1
OPER	R	R	R/W	R/W	R/W	R/W	R/W	R/W
RESET	0	0	0	0	0	0	0	0

PWR_ON1 - 6: Bit is clear (0): Power supply channel is commanded OFF.
Bit is set (1): Power supply channel is commanded ON.

Note: A channel must be configured for *remote control* to allow this register to control its output. Remote/local control is configured through the front panel.

Power ON/OFF status register (Bits 5-0)

ADR	$FFFFxx0D (Bits 5-0)							
BIT	7	6	5	4	3	2	1	0
NAME	Reserved	Reserved	PWR_STAT6	PWR_STAT5	PWR_STAT4	PWR_STAT3	PWR_STAT2	PWR_STAT1
OPER	R	R	R	R	R	R	R	R
RESET	0	0	0	0	0	0	0	0

PWR_STAT1 - 6: Bit is clear (0): Power supply is OFF.
Bit is set (1): Power supply is ON.

Polarity status register (Bits 5-0)

ADR	$FFFFxx0E (Bits 5-0)							
BIT	7	6	5	4	3	2	1	0
NAME	VOLT_LVL1	VOLT_LVL0	POL _ STAT 6	POL _ STAT 5	POL _ STAT 4	POL _ STAT 3	POL _ STAT 2	POL _ STAT 1
OPER	R	R	R	R	R	R	R	R
RESET	0	0	0	0	0	0	0	0

VOLT_LVL0-1:
00: VME Module contains 0.5K Volt Spellman modules
01: VME Module contains 1.0K Volt Spellman modules
10: VME Module contains 1.5K Volt Spellman modules
11: VME Module contains 2.0K Volt Spellman modules

POL_STAT1 - 6:
Bit is clear (0): Voltage for a channel is positive.
Bit is set (1): Voltage for a channel is negative.

Remote /Local status register (Bits 5-0)

ADR	$FFFFxx0F (Bits 5-0)							
BIT	7	6	5	4	3	2	1	0
NAME	Reserved	Reserved	REM_LOC6	REM_LOC5	REM_LOC4	REM_LOC3	REM_LOC2	REM_LOC1
OPER	R	R	R	R	R	R	R	R
RESET	0	0	0	0	0	0	0	0

REM_LOC1 - 6:
Bit is clear (0): Channel is controlled remotely from the VME interface.
Bit is set (1): Channel is controlled locally from the front panel.

Note: This register can only be accessed via the front panel.

Channel 1- 6 Output readback registers (xx10 – xx1A)

ADR	$FFFFxx10 - $FFFFxx1E						
BIT	15	14	13	12	11	...	0
NAME	0				VRDBK1 - 6		
OPER	R						
RESET	$000						

VRDBK1- 6: These registers provide readback of the voltage measured on the output connector of each channel. If the channel is configured for local control the readback will correspond with the *local* setpoint.

500 Volt Modules
Signed 2's compliment 12 bit.

Max voltage:	+500 volts:	$7FF
	0 volts	$000
Min voltage:	-500 volts:	$800

2000 Volt Modules
Signed 2's compliment 12 bit.

Max voltage:	+2000 volts:	$7E1
	0 volts	$000
Min voltage:	-2000 volts:	$81F

ADC Channel 1- 2 readback registers (xx1C – xx1E)

ADR	$FFFFxx1C - $FFFFxx1E						
BIT	15	14	13	12	11	...	0
NAME	0				ADCRDBK1 - 6		
OPER	R						
RESET	$000						

ADCRDBK1- 2: These registers provide readback of the voltage measured on the input connector of each ADC channel.

Signed 2's compliment 12 bit.

Max voltage:	+10 volts:	$7FF
	0 volts	$000
Min voltage:	-10 volts:	$800

VME HIGH VOLTAGE MODULE LOCAL CONTROL MENU