

**VME, Gig-E, Serial RapidIO (sRIO) or PCI Express (PCIe) CONTROL  
A/D, D/A, Discrete/TTL/CMOS/Differential I/O, RTD,  
Synchro/Resolver/LVDT/RVDT Measurement and Simulation, Encoder/Counter  
ARINC 429/575, RS-422/485/232, MIL-STD-1553, CANbus**

### FEATURES

- Multiple functions on a single slot 6U OpenVPX card
- **OpenVPX Slot Profile: SLT6-BRG-4F1V2T-10.5.1**
- User can specify up to six different function modules
- Automatic background BIT testing continually checks and reports the health of each channel
- Control via VME or Dual Gig-E interfaces
- sRIO (1x) or PCIe (x1) options
- Front and/or Rear I/O
- Conduction or Convection cooled versions
- Commercial and Rugged applications
- Software Support Kit and Drivers are available



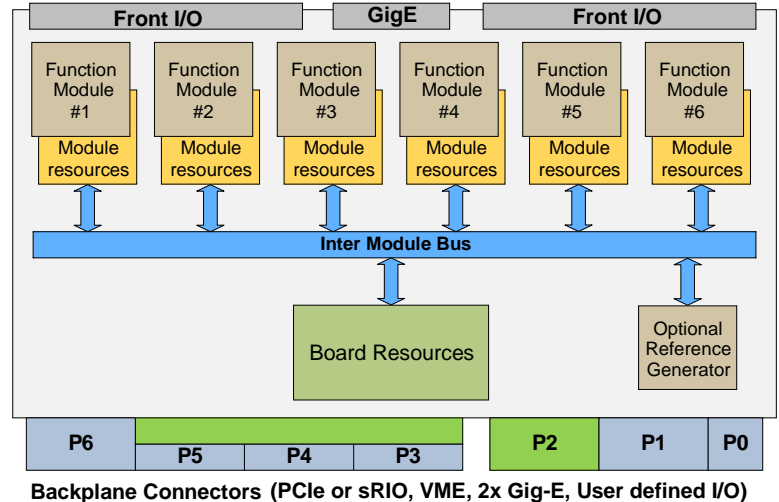
### DESCRIPTION

The 67C3 is a single slot 6U OpenVPX (0.8" pitch) multi-function I/O and serial communications card. With VME, Gigabit Ethernet (Gig-E) and High Speed sRIO or PCIe control interface selections, users can confidently choose to take advantage of the OpenVPX form-factor offering higher speed switched fabric communication options.

The motherboard contains six independent module slots, each of which can be populated with a function-specific module, and can now be controlled by the VME, Gig-E and sRIO or PCIe. This enhanced motherboard, using multiple DSPs, allows for higher processing power and dedicated control for each module. This unique design eliminates the need for multiple, specialized, single function cards by providing a single board solution for a broad assortment of signal interface modules, such as I/O, Synchro/Resolver and LVDT.

In addition, the 67C3 incorporates serial communication modules such as RS232/422/485 and ARINC429. This approach increases packaging density, saves enclosure slots, reduces power consumption and adds continuous background built-in-testing (BIT). Additional enhancements include FIFO data buffering for A/D, D/A, S/D and LVDT functions. All the available functions are listed on the following page. A Software Support Kit (SSK) is supplied which provides helpful documentation and sample code.

Automatic background BIT, an important feature, is always enabled and continually checks the health of each channel. There is no need to make assumptions about system performance. If a fault is detected, it is immediately reported and the specific channel is identified. This capability is of tremendous benefit because it identifies and reports errors without the need to shut down the equipment for troubleshooting. Testing is totally transparent to the user, requires no external programming, and has no effect on the standard operation of the card.



## GENERAL BOARD SPECIFICATION

•**Power:** +5VDC (+/- 12V for select Modules) •**Temp:** 0° C to 70° C or -40° C to 85° C •**Size:** 233mm x 20mm x 160mm (6U)  
•**VITA Open VPX Base Standard with support for:** VITA 46.1 (VMEbus Signal Mapping), VITA 46.3 (Serial RapidIO option) VITA 46.4 (PCI Express option) and VITA 46.6 (Gig-E)

## AVAILABLE FUNCTION MODULES

1 – Indicates wide selection

Module	Channels	Input Scaling	Resolution	Accuracy	Sampling (programmable)
A/D Converter	C1	10	±1.25,2.5,5 or 10 VDC 16 bit	0.05% FS	200 KHz max
	C2	10	±5,10,20 or 40 VDC	16 bit	0.1% FS
	C3	10	0-25 mA	16 bit	0.1% FS
	C4	10	±6.25,12.5,25 or 50 VDC	16 bit	0.1% FS
	CA	10	(Channels 1-6 are C2 type and Channels 7-10 are C3 type)		200 KHz max
D/A Converter	F1	10	±10 or 0-10 VDC	16 bit	0.05% FS
	F3	10	±5 or 0-5 VDC	16 bit	0.05% FS
	F5	4	±25 or 0-25 VDC	16 bit	0.05% FS
	J3	10	±1.25 or 0-1.25 VDC	16 bit	0.05% FS
	J5	10	±2.5 or 0-2.5 VDC	16 bit	0.05% FS
	J8	4	±20 to ±100 VDC	16 bit	0.15% FS
D/S	6 <sup>1</sup>	3	47 Hz – 10 KHz	16 bit	± 0.1°
DLV	5 <sup>1</sup>	3	47 Hz – 10 KHz	16 bit	0.2% FS
Discrete I/O	K6 (v4)	16	0 – 60 VDC	0 – 60 VDC	Input or Output
TTL	D7	16	0 – 5.5 V	TTL/CMOS	Input or Output
Differential Transceiver	D8	16	Input Range (422) -10 V to +10 V	Input Range (485) -7 V to +12 V	Output Range (422/485) -0.25 V to +5 V
Encoder	E7	4	24 VDC	32 bit	SSI, Encoder, Quadrature
LVDT	L <sup>1</sup>	4	360 Hz to 20 KHz	16 bit	0.025% FS 2 or 3/4 wire
S/D	S <sup>1</sup>	4	50 Hz to 20 KHz	16 bit	1 arc-min
RTD	G4	6	Update rate 16.7 Hz/channel	16 bit	0.05% FS
Strain Gage	G5	4	Update rate 2.3 Hz – 2.4 KHz	16 bit	0.1% FS (±)
ARINC 429/575	A4	6	Frequency 100 KHz or 12.5 KHz	Input/output RX/TX	Message Buffer 256 word Tx/Rx
MIL-STD-1553	N7	2	Operational Modes BC,RT, BM, BM/RT	Onboard RAM 128 Kbyte per ch	Coupled Transformer
	N8	2	BC,RT, BM, BM/RT	128 Kbyte per ch	Direct
CANBus	P6	4	CAN protocol Version 2.0B	Message Buffer 16K RX/TX	Data rate (Prog) 1 Mb/s max.
RS-232/422/485	P8	4	Communication Async / Sync	Data rate (Sync) 4 Mbits/s per ch.	Data rate (Async) 1 Mbit/s per ch
Reference	W <sup>1</sup>	1	Frequency 47 Hz – 20 KHz	Accuracy +/- 3%	Voltage 2 – 115 VRMS

## PART NUMBER DESIGNATION 67C3 - XX XX XX XX XX XX X X X X X X -XX

Slot # 1 2 3 4 5 6

### MODULE (SLOT) DEFINITION

Enter Module Designation (i.e.C1) for each slot (1 through 6). <sup>Note 1</sup>

### ON-BOARD REFERENCE SUPPLY (M7)

0 = No On-Board Reference Supply; 1 = 2-28Vrms, 360-10 KHz, Programmable  
2 = Reserved for future use; 3 = 115Vrms Fixed, 360-10 KHz, Programmable

### MECHANICAL

F = Front Panel J1, J2, and Rear I/O  
P = Blank Front Panel, Rear I/O only  
W = P with Wedge locks

### ENVIRONMENTAL

C = 0 TO 70 °C  
E = -40 TO +85 °C  
H = E with conformal coating  
K = C with conformal coating

### ETHERNET

0 = No Ethernet; 1 = Front Panel Ethernet Connection; 2 = P0 Ethernet Connection  
3 = Dual Ethernet, Port 1 Front, Port 2 Rear 4 = Dual Ethernet, Port 1 & 2 Rear

### HIGH SPEED INTERFACE CONNECTIONS

0 = none (VME/Ethernet only); 1 = SRIO; 2-4 = reserved; 5 = PCIe; 6-8 = reserved

### ENCODER OUTPUTS FOR SYNCHRO / RESOLVER MODULES

0 = No Encoder outputs;  
1 = Encoders included for each specified Synchro module

### SPECIAL OPTION CODE (or leave blank)

**Note 1:** Enter 'Z0' if slot is **not** populated and no On-board Reference Supply is chosen. If slot #1 is unpopulated and an On-board Reference Supply is selected, enter either 'W6' if low voltage supply is selected (1), or 'W7' if high voltage supply (3) is selected.

## UNITRONIX Pty Ltd

PO Box 486, Morisset NSW 2264

NSW: Tel: 61 2 4977 3511 Fax: 61 2 4977 3522

WA: Tel: 61 8 9455 2424 Fax: 61 8 9455 2458

unitsyd@unitronix.com.au www.unitronix.com.au