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North Atlantic Industries
Excellence in ALL we do

Model 64C2

MULTI-FUNCTION VME I/O CARD

Convection Cooled Option

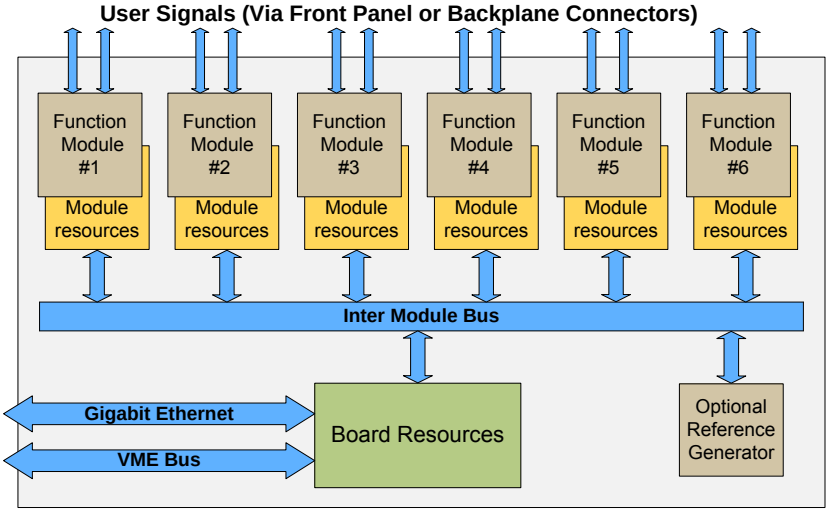
FEATURES

- Multiple I/O and Serial Communication functions on a single slot 6U VME card.
- User can specify six different function modules.
- Continuous background BIT testing checks and reports the health of each channel.
- Control via VME or Ethernet.
- Connections via Front panel, Rear panel, or both.
- Designed for both Commercial and MIL applications.
- Conduction or Convection cooled versions.
- Software Support Kit and Drivers are available.

Conduction Cooled Option

DESCRIPTION

The 64C2 is a single slot, 6U VME multi-function I/O and serial communications card. The "mother board" contains 6 independent module slots, each of which can be populated with a function specific module, and can be controlled via Ethernet (10/100/1000Base-T) as well as by the VME databus. This enhanced Motherboard, using multiple DSP, 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 and Synchro/Resolver/LVDT/RVDT-to-Digital.



In addition, the 64C2 incorporates communication modules such as RS232/422/485, MIL-STD-1553, CANBus and ARINC429. This approach increases packaging density, saves enclosure slots, reduces power consumption and adds continuous background BIT testing. 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 help documentation and sample code. Future features will add a temperature sensor, an elapsed time indicator and a ferroelectric RAM.

Automatic background BIT testing, an important feature, is always enabled and continually checks the health of each channel. There is no need to guess or make assumptions about system performance. A fault is immediately reported and the specific channel is identified. This capability is of tremendous benefit because it identifies and reports a failure, 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. (See Operations Manual for details).

GENERAL BOARD SPECIFICATION

•**Power** – +5VDC •**Operating Temp** – 0° C to 70° C or -40° C to 85° C •**Size** – 233mm x 20mm x 160mm (6U)

AVAILABLE FUNCTION MODULES

1 – Indicates wide selection (See part number in Operations Manual)

A/D Converter	**Module**	**Channels**	**Input Scaling**	**Resolution**	**Accuracy**	**Sampling (programmable)**
	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	200 KHz max
	C3	10	0-25 mA	16 bit	0.1% FS	200 KHz max
	C4	10	±6.25,12.5,25 or 50 VDC	16 bit	0.1% FS	200 KHz max
	CA	10	(Channels 1-6 are C2 type and Channels 7-10 are C3 type)			
D/A Converter	**Module**	**Channels**	**Output Range**	**Resolution**	**Accuracy**	**Settling time**
	F1	10	±10 or 0-10 VDC	16 bit	0.05% FS	15µs max
	F3	10	±5 or 0-5 VDC	16 bit	0.05% FS	10µs max
	F5	4	±25 or 0-25 VDC	16 bit	0.05% FS	10µs max
	J3	10	±1.25 or 0-1.25 VDC	16 bit	0.05% FS	10µs max
	J5	10	±2.5 or 0-2.5 VDC	16 bit	0.05% FS	350µs max
	J8	4	±20 to ±100 VDC	16 bit	0.15% FS	10µs max
D/S	**Module**	**Channels**	**Frequency**	**Resolution**	**Accuracy**	**Power**
	6[1]	3	47 Hz – 10KHz	16 bit	± 0.1°	0.25 VA / channel
DLV	**Module**	**Channels**	**Frequency**	**Resolution**	**Accuracy**	**Power**
	5[1]	3	47 Hz – 10KHz	16 bit	0.2% FS	0.1 VA / channel
Discrete I/O	**Module**	**Channels**	**Input Range**	**Output Range**	**Programmable**	
	K6 (v4)	16	0 – 60 VDC	0 – 60 VDC	Input or Output	
TTL	**Module**	**Channels**	**Input Range**	**Output level**	**Programmable**	
	D7	16	0 – 5.5 V	TTL/CMOS	Input or Output	
Differential Transceiver	**Module**	**Channels**	**Input Range (422)**	**Input Range (485)**	**Output Range (422/485)**	
	D8	11	-10V to +10V	-7V to +12V	-0.25V to +5V	
Encoder	**Module**	**Channels**	**Signal Voltage**	**Resolution**	**Counter Modes**	
	E7	4	24 VDC	32 bit	SSI, Encoder, Quadrature	
LVDT	**Module**	**Channels**	**Frequency**	**Resolution**	**Accuracy**	**Interface**
	L[1]	4	360 Hz to 20 KHz	16 bit	0.025% FS	2 or 3/4 wire
S/D	**Module**	**Channels**	**Frequency**	**Resolution**	**Accuracy**	**Tracking Rate**
	S[1]	4	50 Hz to 20 KHz	16 bit	1 arc-min	190 RPS
RTD	**Module**	**Channels**	**Update rate**	**Resolution**	**Accuracy**	**Interface**
	G4	6	16.7 Hz/channel	16 bit	0.05% FS	2, 3 or 4 wire
ARINC 429/575	**Module**	**Channels**	**Frequency**	**Input/output**		
	A4	6	100 KHz or 12.5 KHz	RX/TX		
MIL-STD-1553	**Module**	**Channels**	**Operational Modes**	**Onboard RAM**	**Coupled**	
	N7	2	BC,RT, BM, BM/RT	128Kbyte per ch	Transformer	
	N8	2	BC,RT, BM, BM/RT	128Kbyte per ch	Direct	
CANBus	**Module**	**Channels**	**CAN protocol**	**Message Buffer**		
	P6	4	Version 2.0B	RX/TX (0-8 bytes)		
RS-232/422/485	**Module**	**Channels**	**Communication**	**Data rate (Sync)**	**Data rate (Async)**	**Message Data Buffer**
	P8	4	Async / Sync	4 Mbits/s per ch.	1 Mbit/s per ch	32KB RX/TX
Reference	**Module**	**Channels**	**Frequency**	**Accuracy**	**Voltage**	**Power**
	W[1]	1	47 Hz – 20KHz	+/- 3%	2 – 115 VRMS	6 VA

PART NUMBER DESIGNATION

64C2 – XX XX XX XX XX XX 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). **Note 1**

ON-BOARD REFERENCE SUPPLY (M7)
0 = No On-Board Reference Supply; 1 = 2-28Vrms, 360-10kHz, Programmable
2 = Reserved for future use; 3 = 115Vrms Fixed, 360-10kHz, Programmable

MECHANICAL
F = Front Panel J1, J2, and P2 & P0 I/O;
S = Front Panel J1, J2, and P2 I/O (No P0)
P = P2 & P0 I/O only
G = P2 I/O only (No P0)
W = P with Wedge locks
A= VME64 Blank Front Panel and P2 & P0 I/O only
R = VME64 Blank Front Panel and P2 only (No P0)
B= VME64 Front Panel with J1, J2, P2 & P0
T= VME64 Front Panel with J1, J2, P2 I/O (No P0)
D= VME64 Blank Front Panel, Low profile extractors and P2 & P0 I/O only

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

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.

For detailed specifications & complete part number designation, visit **www.naii.com** to download Operations Manual.

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