

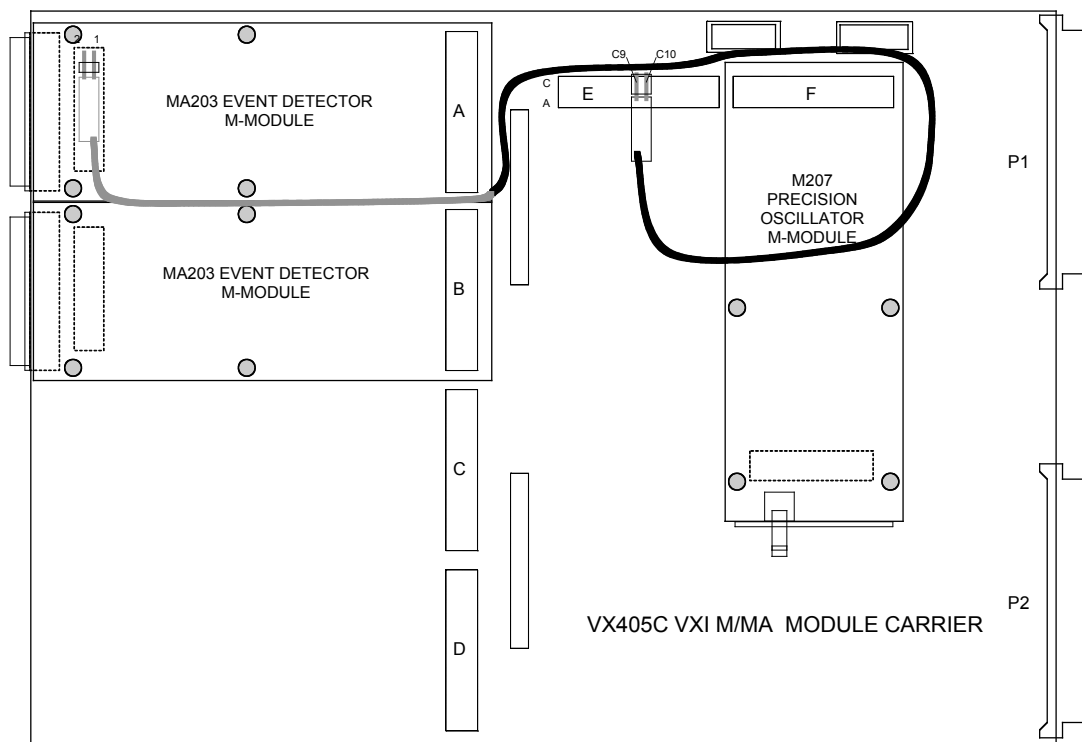
VX405C104 Integrated 32-Channel Event Detector w/ Precision Oscillator

Assembly P/N 11028760

DESCRIPTION

The VX405C104 is a single-slot C-size VXI module that provides 32 channels of event detection with individually programmable threshold levels for each channel. A precision oscillator facilitates precision time stamping of the captured data. The output of the precision oscillator is routed to one of the event detection input channels to provide accurate time stamp synchronization and long term stability.

The module is an integration of several standard C&H products as shown below. The two MA203 modules configured with AM104 Opt. 4 accessory modules each provide 16 channels of programmable threshold event detection. The M207 provides the high accuracy and stable clock reference. The VX405C provides the electrical and mechanical interface to a VXI backplane and chassis.



MECHANICAL

The mechanical dimensions of the module are in conformance with the VXIbus specification Rev. 1.4 for single slot 'C' size modules. The nominal dimensions are 233.35 mm (9.187 in) high x 340 mm (13.386 in) deep.

ENVIRONMENTAL

Operating Temperature:	0°C to +55°C
Storage Temperature:	-40°C to +75°C
Humidity:	<95% without condensation

DOCUMENTATION

This document discusses the use of the integrated module. For full details on each of the individual modules used in the VX405C104, please refer to the User Manual for that particular module. The document part numbers for the various modules are:

<u>Module</u>	<u>User Manual Part Number</u>
VX405C	11027055
MA203 w/AM104	11028104
M207	11028614

CONFIGURATION

The M207, located in position “F”, outputs a clock signal from MTRIGA of the M-Module interface. Under software control, the user can route MTRIGA as an output onto any of the VXI TTL Trigger lines. In the same way, software can route the same VXI TTL Trigger line to the MTRIGA signal on the position “E” M-Module connector. A coaxial cable is connected to MTRIGA (center conductor) and MTRIGB (shield) of that connector. The cable then routes the clock signal to input channel 0 of the MA203 in position “A”. The center conductor is connected the + side of the channel and the shield is connected to the ground side. Leaving MTRIGB on the position “E” M-Module connector software disabled (high-impedance) allows the shield to be desirably grounded at one end.

Default VX405C Factory Settings

Logical Address:	8
Base (Modulo):	1
Address Space:	A32
Slot Enable:	A, B, E, & F positions enabled

Default M207 Factory Settings

Clock Out Select:	SQ DIV N/2 (square wave output of $(10\text{MHz} \div N) \div 2$)
Divide-By-N Value:	0032hex (50 to produce a 100KHz, 10 μ s output clock)
MTRIGA Output:	Enabled
MTRIGB Output:	Disabled
Front Panel Output:	Enabled (to allow calibration)
Front Panel Impedance:	50 Ω

Default MA203 Factory Settings

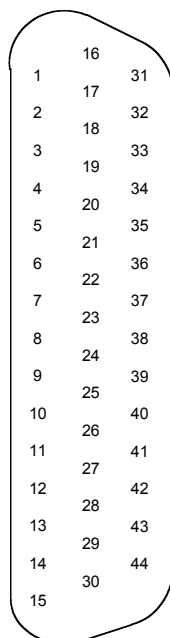
EXTCLK Impedance:	50 Ω
EXTCLK Threshold:	TTL (1.8V)
EXTRUN Impedance:	50 Ω
EXTRUN Threshold:	TTL (1.8V)

Using the default factory settings, the logical addresses (LA) of the modules will be in consecutive order beginning with logical address 8 (i.e., position A = 8, position B = 9, ... position F = 13). Refer to the MA203 User Manual for details on programming the MA203s located in positions A & B. Positions E (LA 12) and F (LA 13) are programmed using VXI A16 registers located in the VX405C logic. Only the triggers need to be configured for these positions. Setting the registers as indicated below will configure the triggers to operate as discussed above. Refer to the VX405C User Manual for more programming details.

<u>LA</u>	<u>A16 Reg.</u>	<u>Value</u>	<u>Function</u>
13	0xA	0x00C1	Route M207 MTRIGA as a non-inverted output to VXI TTL Trigger 1
12	0xA	0x0081	Route VXI TTL Trigger 1 to MTRIGA as a non-inverted input and leave MTRIGB disabled

I/O CONNECTOR

Below is the signal list for the four MA203 connectors. For more details please refer to the MA203 User Manual. Note that the clock signal from the M207 is connected to INA0(+) and GND through an internal peripheral interface connector on the MA203 in position "A". This signal should be left unconnected or not be driven by an external connection.



<u>PIN</u>	<u>SIGNAL</u>	<u>PIN</u>	<u>SIGNAL</u>	<u>PIN</u>	<u>SIGNAL</u>
1	INA0(+)	16	GND	31	GND
2	INA1(+)	17	GND	32	-12VSUP*
3	INA2(+)	18	GND	33	+12VSUP*
4	INA3(+)	19	GND	34	GND
5	INA4(+)	20	GND	35	ISOVNEG*
6	INA5(+)	21	GND	36	ISOVPOS*
7	INA6(+)	22	GND	37	GND
8	INA7(+)	23	GND	38	EXTCLK
9	INA8(+)	24	GND	39	GND
10	INA9(+)	25	GND	40	EXTRUN
11	INA10(+)	26	GND	41	GND
12	INA11(+)	27	GND	42	GND
13	INA12(+)	28	GND	43	GND
14	INA13(+)	29	GND	44	INA15(+)
15	INA14(+)	30	GND		

* These output pins are only used for supplemental operation.

WARRANTY

C&H Technologies, Inc. warrants its modules to be free from defects in material and workmanship for three years from date of shipment. C&H will repair or replace the defective product without charge within the warranty period, provided the defective item is shipped, freight prepaid, to C&H Technologies, at 445 Round Rock West Drive, Round Rock, TX 78681. C&H will pay return freight charges to any point in the continental United States or Canada. Contact factory for full warranty statement.