



Product Information

SN3-GONG

CompactPCI® Serial • Dual-Port 10GBASE-T Ethernet NIC

Document No. 7634 • 16 August 2023



General

The SN3-GONG is a peripheral slot card for CompactPCI® Serial systems. The board is equipped with an Intel® X540 10GBASE-T Ethernet controller, and two RJ45 front panel jacks for attachment of Cat 6 or Cat 6A cables up to 100m length. The ability to auto-negotiate between 100Mbps, 1Gbps, and 10Gbps speeds provides the backwards compatibility for a smooth transition and easy migration to 10GbE.

The X540 is based on PCI Express® 2.1 (up to 5GT/s) and supports x1, x2, x4 and x8 link widths. For optimum performance, the SN3-GONG should be installed in a CompactPCI® Serial fat pipe slot.

The SN3-GONG is well suited for high performance industrial networking applications. Drivers are available for all major operation systems.



Feature Summary

- ▶ PICMG® CompactPCI® Serial (CPCI-S.0) peripheral slot card
- ▶ Single Size Eurocard 3U 4HP 100x160mm²
- ▶ cPCI-S backplane connectors P1 & P2
- ▶ Suitable for PCIe x 1 to PCIe x 8 standard peripheral slots, and fat pipe peripheral slots

- ▶ Gigabit Ethernet controller Intel® X540
- ▶ Link modes 10GBASE-T, 1000BASE-T, and 100BASE-T (IEEE 802.3an, 802.3, 802.3u, and 802.3ab)
- ▶ IEEE 802.3an auto-negotiation for automatic link configuration (speed, duplex, flow control)
- ▶ Automatic cross-over detection function (MDI/MDI-X)
- ▶ Automatic cable diagnostics
- ▶ IEEE 802.3x and 802.3z compliant flow control support
- ▶ Data Center Bridging (DCB) support 802.1Qaz, 802.1Qbb
- ▶ IEEE 802.1Q (VLAN), IEEE 802.1ad (Double VLAN)
- ▶ Hardware-based time stamping (IEEE 1588) and support for 802.1AS - Precise Timing Protocol
- ▶ 15.5KB Jumbo Frame support
- ▶ Rich feature set security functions and I/O virtualization
- ▶ Comprehensive offload and performance features e.g. iSCSI, FCoE
- ▶ Driver support for all major operating systems
- ▶ Two front panel connectors RJ45 with integrated magnetics and echo circuit for noise and EMI cancelling

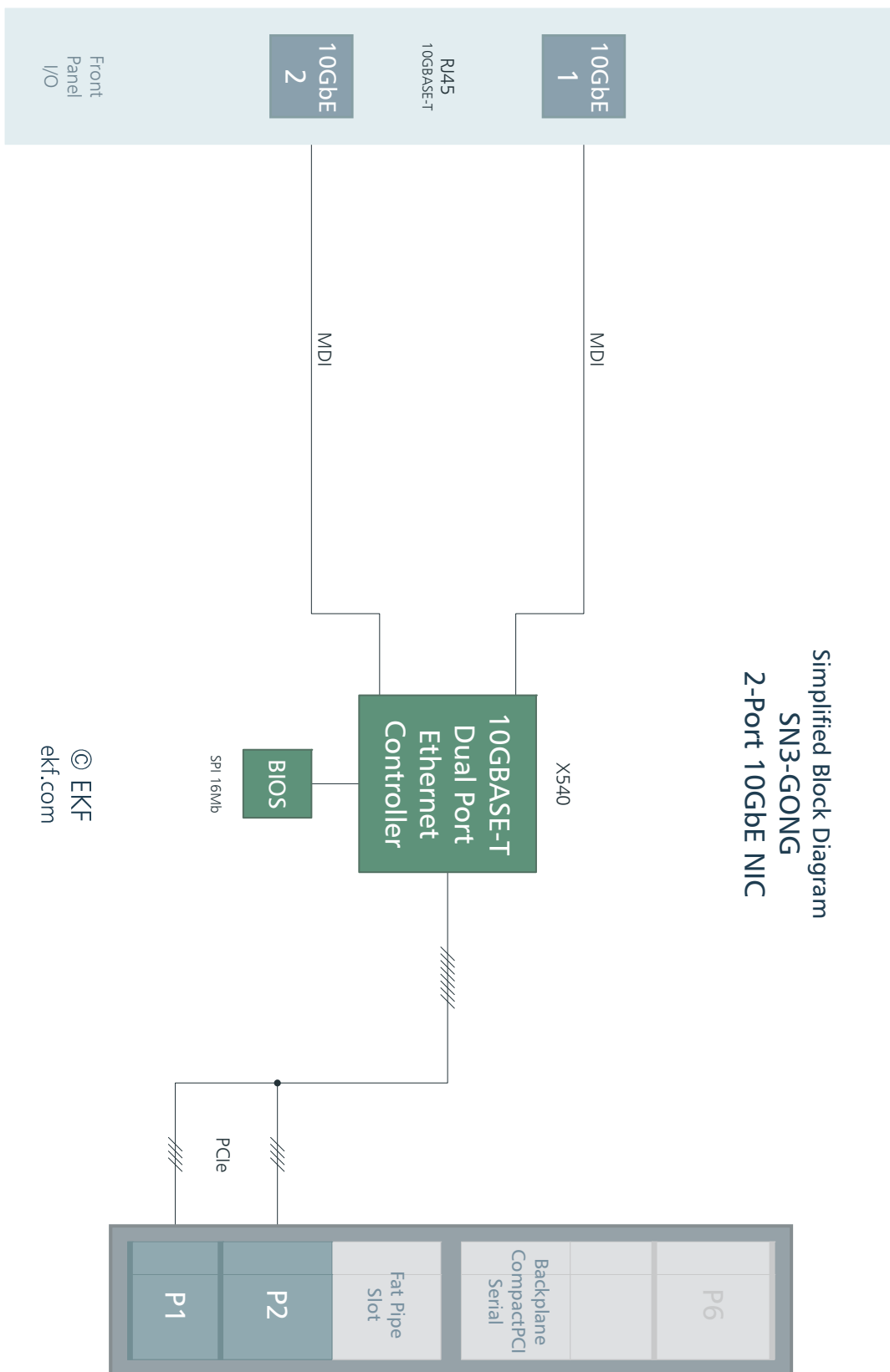
- ▶ Designed & manufactured in Germany
- ▶ ISO 9001 certified quality management
- ▶ Long term availability
- ▶ Rugged solution (coating, sealing, underfilling available on request)
- ▶ RoHS compliant
- ▶ Commercial operating temperature range 0°C to +70°C
- ▶ Industrial operating temperature range -40°C to +85°C on request
- ▶ Storage temperature -40°C to +85°C, max. gradient 5°C/min
- ▶ Humidity 5% ... 95% RH non condensing
- ▶ Altitude -300m ... +3000m
- ▶ Shock 15g 0.33ms, 6g 6ms
- ▶ Vibration 1g 5-2000Hz
- ▶ MTBF 47 years (MIL-HDBK-217F, SN29500 @+40°C)
- ▶ EC Regulatory EN55035, EN55032, EN62368-1 (CE)

items are subject to changes



Sample System w. SN3-GONG

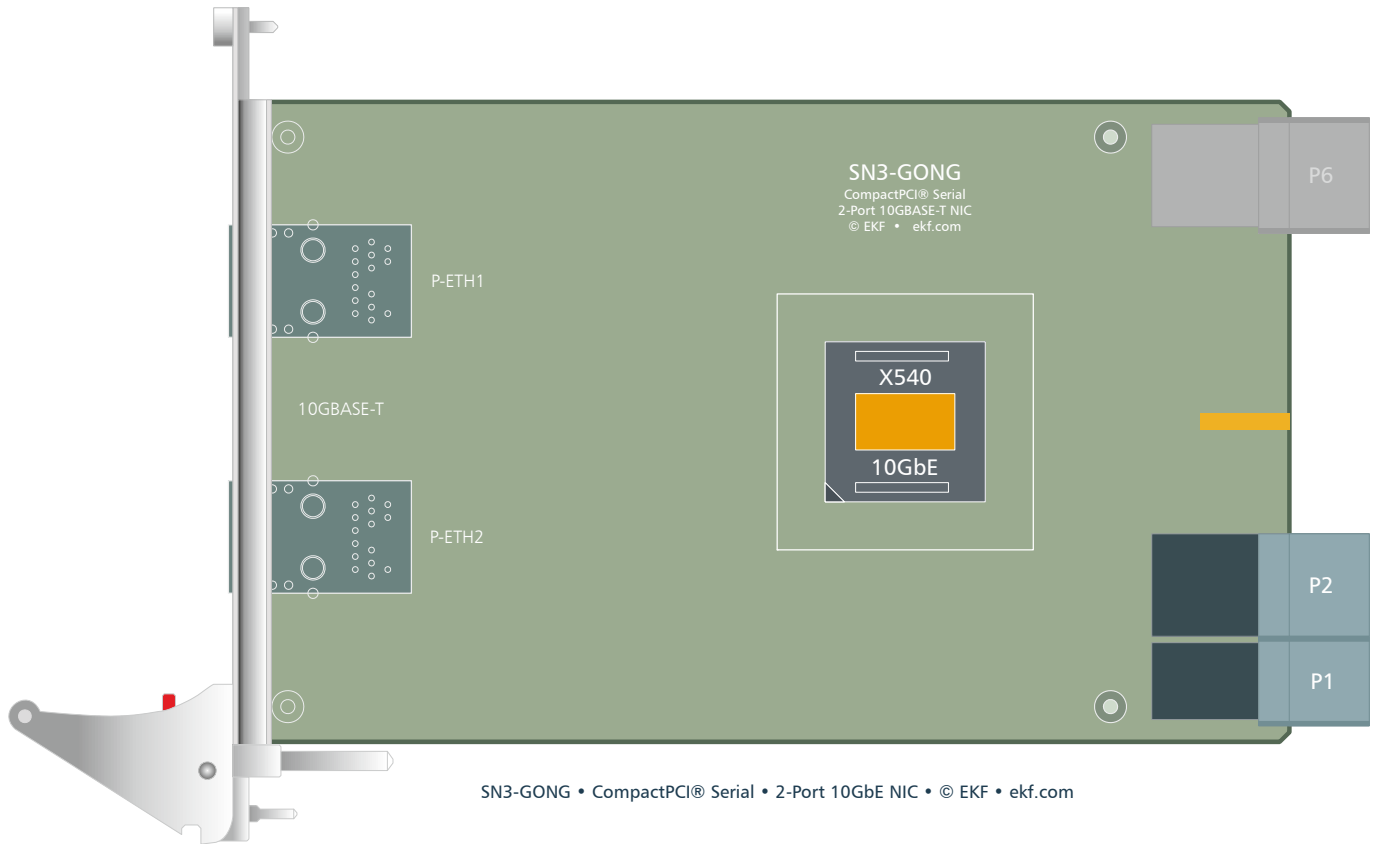
Block Diagram



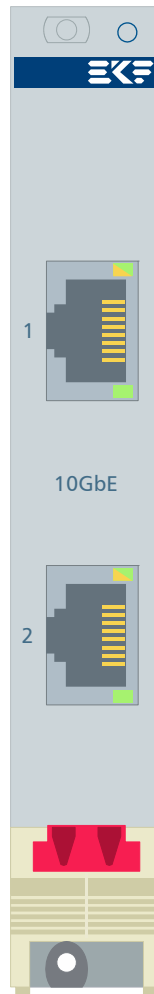
Simplified Block Diagram
SN3-GONG
2-Port 10GbE NIC

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Component Assembly



Front Panel



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SN3-GONG
2-Port NIC
10GBASE-T

RJ45 Connectors

10 Gigabit Ethernet
270.11.08.01 Single RJ45 Jack (2 pos)

10GBASE-T RJ45

Part #270.11.08.01
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Upper LEDs:
yellow=10Gbit/s green=1Gbit/s

Lower LED::
on=link established blinking=activity (data)

Ports 1-2	1	MDX0+
	2	MDX0-
	3	MDX1+
	4	MDX2+
	5	MDX2-
	6	MDX1-
	7	MDX3+
	8	MDX3-

Ethernet Driver Download

<https://downloadcenter.intel.com/SearchResult.aspx?lang=eng&keyword=x540>

P1 CompactPCI® Serial Backplane Connector

P1 CompactPCI® Serial Peripheral Slot Backplane Connector												
EKF Part #250.3.1206.20.02 • 72 pos. 12x6, 14mm Width												
P1	A	B	C	D	E	F	G	H	I	J	K	L
6	GND	1 PE TX02+	1 PE TX02-	GND	1 PE RX02+	1 PE RX02-	GND	1 PE TX03+	1 PE TX03-	GND	1 PE RX03+	1 PE RX03-
5	1 PE TX00+	1 PE TX00-	GND	1 PE RX00+	1 PE RX00-	GND	1 PE TX01+	1 PE TX01-	GND	1 PE RX01+	1 PE RX01-	GND
4	GND	<i>1_</i> <i>USB2+</i>	<i>1_</i> <i>USB2-</i>	GND	PE_CLK IN+	PE_CLK IN-	GND	<i>1</i> <i>SATA</i> <i>TX+</i>	<i>1</i> <i>SATA</i> <i>TX-</i>	GND	<i>1</i> <i>SATA</i> <i>RX+</i>	<i>1</i> <i>SATA</i> <i>RX-</i>
3	<i>1</i> <i>USB3</i> <i>TX+</i>	<i>1</i> <i>USB3</i> <i>TX-</i>	GA0	<i>1</i> <i>USB3</i> <i>RX+</i>	<i>1</i> <i>USB3</i> <i>RX-</i>	GA1	<i>SATA</i> <i>SDI</i>	<i>SATA</i> <i>SDO</i>	GA2	<i>SATA</i> <i>SCL</i>	<i>SATA</i> <i>SL</i>	GA3
2	GND	I2C SCL	I2C SDA	GND	<i>RSV</i>	<i>RSV</i>	GND	RST#	WAKE#	GND	PE_ EN#	SYS EN#
1	+12V	<i>STBY</i>	GND	+12V	+12V	GND	+12V	+12V	GND	+12V	+12V	GND

pin positions printed italic/gray: not connected

For signal descriptions please refer to PICMG CPCI-S.0 R1.0 CompactPCI® Serial Specification

P2 CompactPCI® Serial Backplane Connector

P2 CompactPCI® Serial Fat Pipe Peripheral Slot Backplane Connector												
EKF Part #250.3.1208.20.00 • 96 pos. 12x8, 16mm Width												
P2	A	B	C	D	E	F	G	H	I	J	K	L
8	GND	<i>IO</i>	<i>IO</i>	GND	<i>IO</i>	<i>IO</i>	GND	<i>IO</i>	<i>IO</i>	GND	<i>IO</i>	<i>IO</i>
7	<i>IO</i>	<i>IO</i>	GND	<i>IO</i>	<i>IO</i>	GND	<i>IO</i>	<i>IO</i>	GND	<i>IO</i>	<i>IO</i>	GND
6	GND	<i>IO</i>	<i>IO</i>	GND	<i>IO</i>	<i>IO</i>	GND	<i>IO</i>	<i>IO</i>	GND	<i>IO</i>	<i>IO</i>
5	<i>IO</i>	<i>IO</i>	GND	<i>IO</i>	<i>IO</i>	GND	<i>IO</i>	<i>IO</i>	GND	<i>IO</i>	<i>IO</i>	GND
4	GND	<i>IO</i>	<i>IO</i>	GND	<i>IO</i>	<i>IO</i>	GND	<i>IO</i>	<i>IO</i>	GND	<i>IO</i>	<i>IO</i>
3	<i>IO</i>	<i>IO</i>	GND	<i>IO</i>	<i>IO</i>	GND	<i>IO</i>	<i>IO</i>	GND	<i>IO</i>	<i>IO</i>	GND
2	GND	1 PE TX06+	1 PE TX06-	GND	1 PE RX06+	1 PE RX06-	GND	1 PE TX07+	1 PE TX07-	GND	1 PE RX07+	1 PE RX07-
1	1 PE TX04+	1 PE TX04-	GND	1 PE RX04+	1 PE RX04-	GND	1 PE TX05+	1 PE TX05-	GND	1 PE RX05+	1 PE RX05-	GND

pin positions printed italic/white: not connected

For signal descriptions please refer to PICMG CPCI-S.0 R1.0 CompactPCI® Serial Specification

SN3-GONG Links

SN3-GONG Home (2 x RJ45 10GbE)	www.ekf.com/s/sn3/sn3.html
Intel® Driver Download	https://downloadcenter.intel.com/SearchResult.aspx?lang=eng&keyword=x540
SN5-TOMBAK Home (2 x SFP+ 10GbE)	www.ekf.com/s/sn5/sn5.html
CompactPCI® Serial Ethernet Switches	www.ekf.com/s/serial.html#SL
CompactPCI® Serial Ethernet Controllers	www.ekf.com/s/serial.html#SN
CompactPCI® Serial Overview	www.ekf.com/s/serial_concise.pdf
CompactPCI® Serial - All You Need to Know	www.ekf.com/s/smart_solution.pdf

Ordering Information

For popular SN3-GONG SKUs please refer to
www.ekf.com/liste/liste_21.html#SN3



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59065 HAMM
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