



Product Information

CompactPCI® Classic • CN8-REVERB

Five Port RJ45 Gigabit Ethernet Controller

Document No. 9812 • 9 December 2022



General

The CN8-REVERB is a peripheral slot card for CompactPCI® systems. The board is equipped with five independent PCIe® based Gigabit Ethernet controllers, wired to associated RJ45 front panel jacks.

The Intel® I210-IT Ethernet NICs provide latest networking technology and support most common industrial data rates 1000BASE-T, 100BASE-TX, 10BASE-T

The CN8-REVERB combines a PCI® to PCI Express® reverse bridge with a six port PCI Express® packet switch, for optimum bandwidth usage of the classic CompactPCI® backplane.

The CN8-REVERB is well suited for various industrial networking applications and also for PXI™ systems. Drivers are available for all major operation systems.



Feature Summary

General

- ▶ PICMG® CompactPCI® Classic (CPCI 2.0 standard)
- ▶ Single size Eurocard 3U 4HP 100x160mm²
- ▶ Suitable for CompactPCI® & PXI™ systems peripheral slot
- ▶ CompactPCI® backplane connector J1 for +5V supply (5V only design)

Front Panel Connectors

- ▶ 5 x RJ45 receptacles 1000BASE-T with integrated magnetics
- ▶ LEDs green & yellow for link status & activity

Networking Controllers (NIC)

- ▶ Five independent Gigabit Ethernet controllers (5 x MAC address) Intel® I210-IT
- ▶ Integrated PHYs 1000BASE-T, 100BASE-TX, 10BASE-T (IEEE 802.3, 802.3u, 802.3ab)
- ▶ IEEE 802.3ab Auto Negotiation for automatic link configuration
- ▶ Auto MDI, MDI-X Crossover at all speeds
- ▶ Full duplex operation at 10/100/1000Mbps
- ▶ 9.5KB Jumbo Frame support
- ▶ Hardware-based time stamping (IEEE 1588) and support for 802.1AS - Precise Timing Protocol (PTP)
- ▶ Support for Energy Efficient Ethernet (EEE) standard of IEEE 802.3az
- ▶ Option IEEE 802.1Qav compliant Audio-Video Bridging (AVB)
- ▶ IPv4, IPv6, TCP/UDP checksum offloads
- ▶ Intel® driver support for all major operating systems

Functional Components

- ▶ PCI® to PCI Express® reverse bridge for operation in a CompactPCI® Classic backplane
- ▶ PCI Express® packet switch for optimum bandwidth distribution
- ▶ 1 x PCI Express® upstream port to reverse bridge (backplane peripheral slot)
- ▶ 5 x PCI Express® downstream ports to Gigabit Ethernet NICs

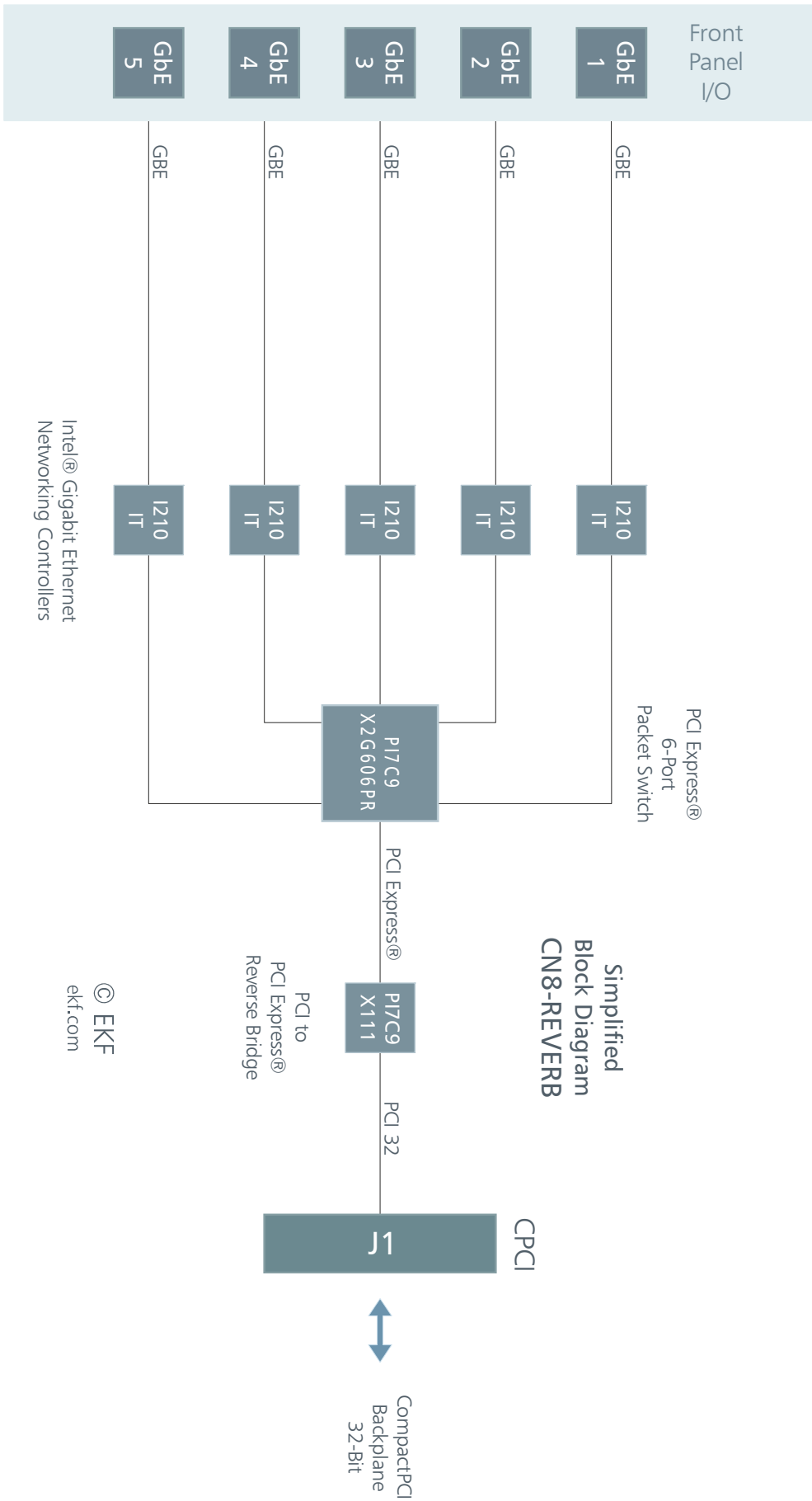
Applications

- ▶ Networking upgrade for legacy CompactPCI® Classic systems
- ▶ Suitable for CompactPCI® & CompactPCI® PlusIO CPU
- ▶ Suitable for PXI™ systems
- ▶ Industrial, railway, transportation, automation
- ▶ Router, bridge, gateway, firewall, data acquisition, data concentrator

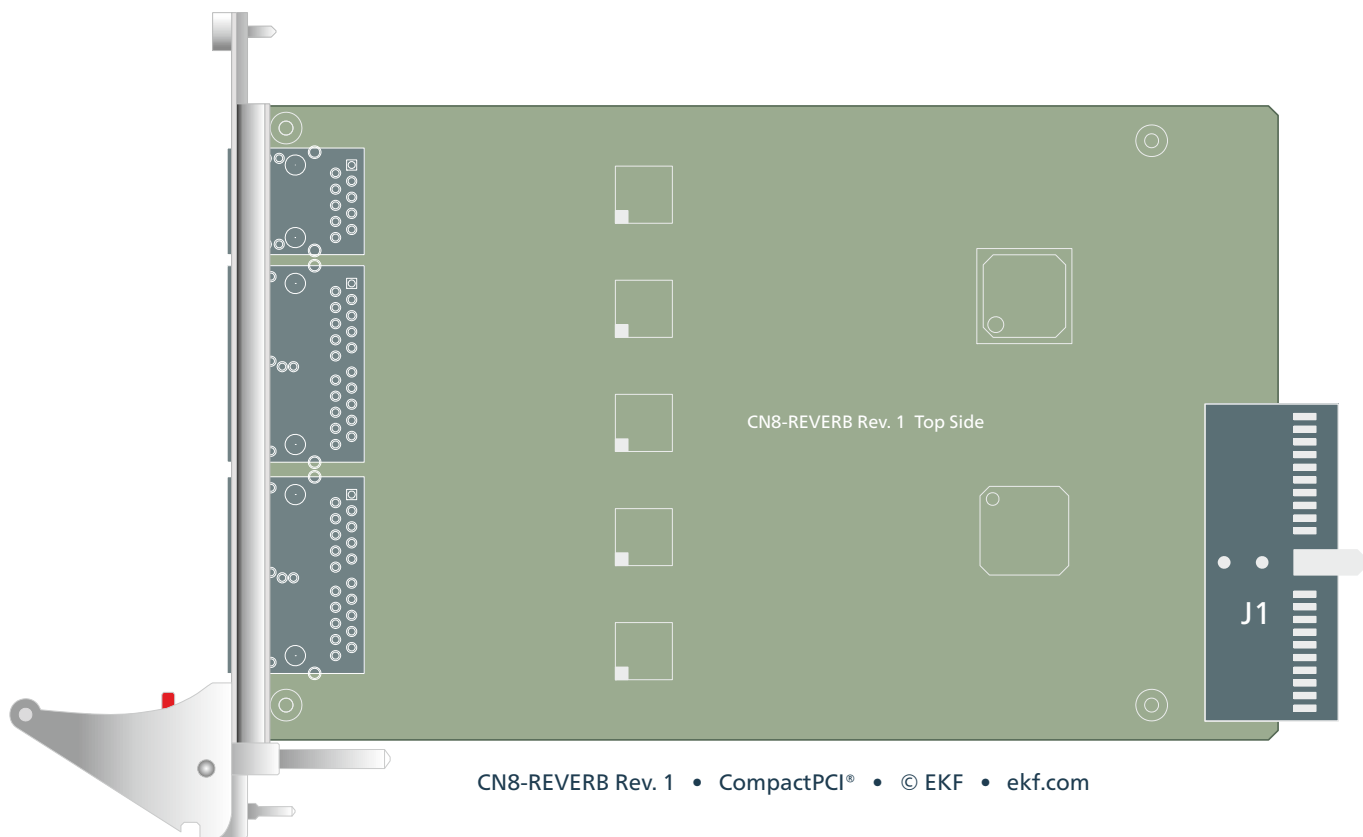
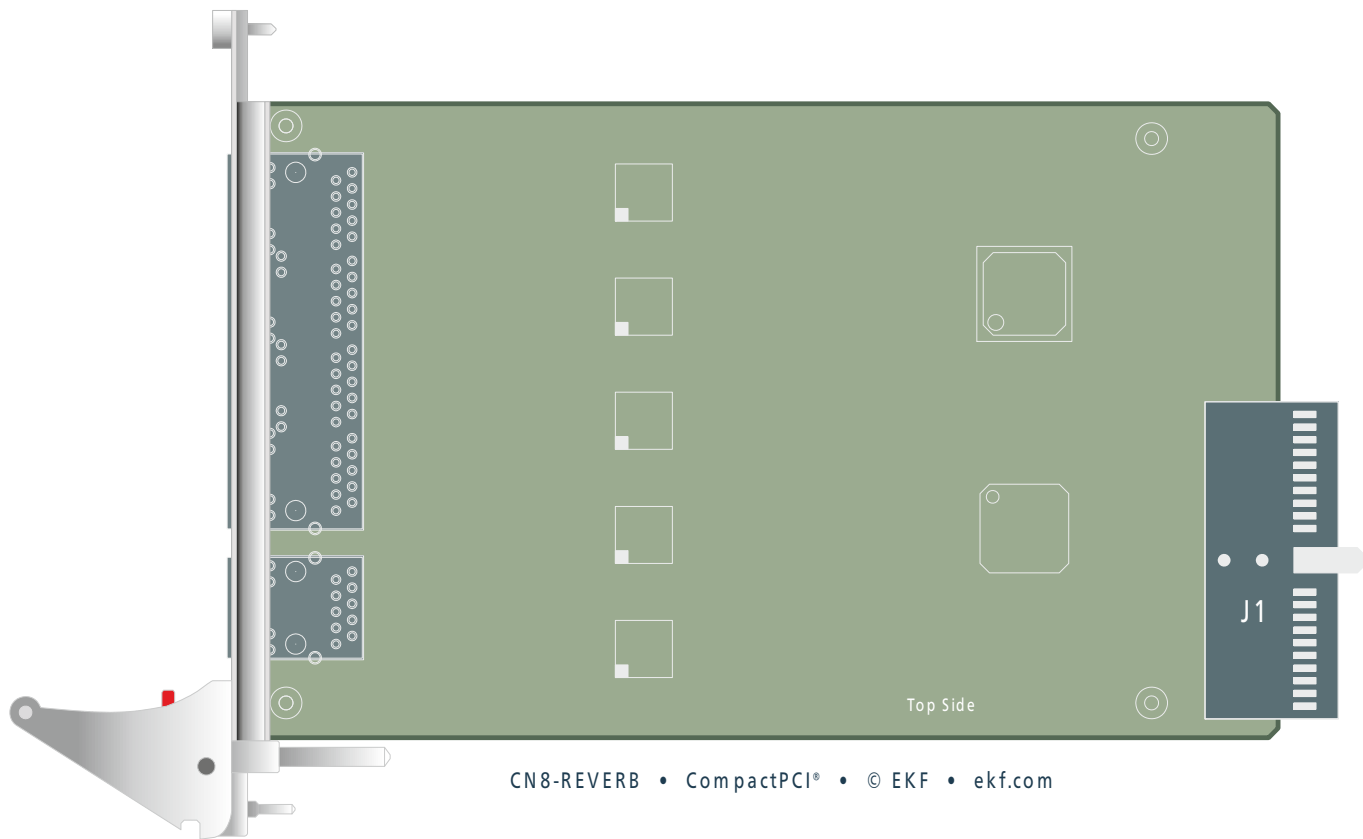
Environment & Regulatory

- ▶ Designed & manufactured in Germany
- ▶ ISO 9001 certified quality management
- ▶ Long term availability
- ▶ Rugged solution (coating, sealing, underfilling on request)
- ▶ RoHS compliant
- ▶ Operating temperature: -40°C to +85°C industrial temperature range
- ▶ 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 68.7 years
- ▶ EC Regulatory EN55035, EN55032, EN62368-1

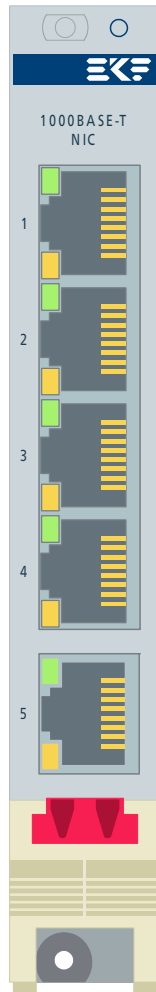
Block Diagram



Assembly

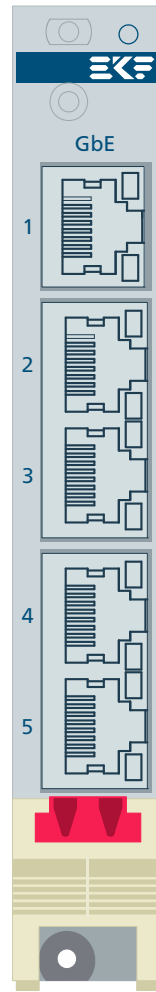


Front Panel



CN8-REVERB

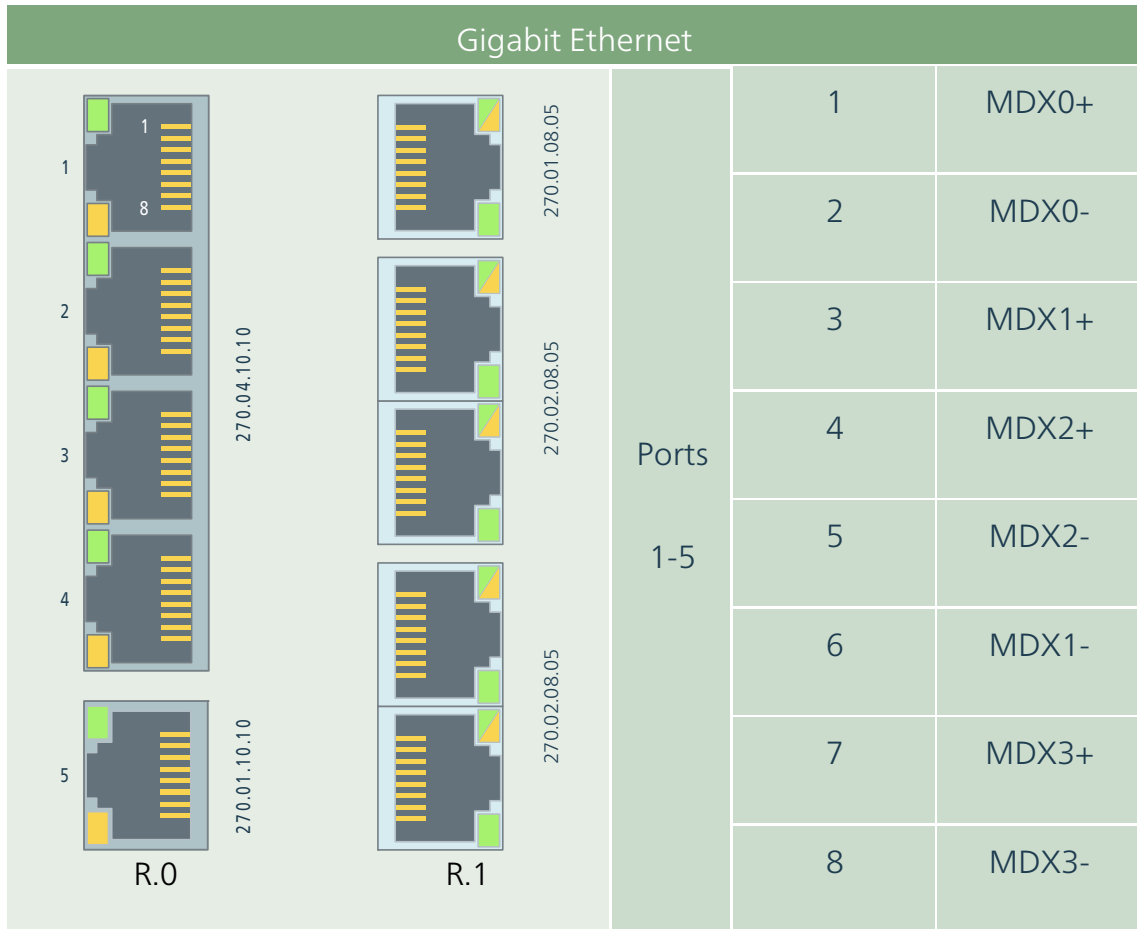
Rev.0



CN8-REVERB

Rev.1

RJ45 Connectors



Rev. 0

green LEDs:

link 100Mbps (slight) & 1000Mbps (bright)

yellow LEDs:

blinking=activity (data transfer)

Rev.1

upper LEDs:

yellow=1Gbit/s green=100Mbit/s off=10Mbit/s

lower green LEDs:

on=link established blinking=activity (data)

CompactPCI® Peripheral Slot Connector J1

#J1	A	B	C	D	E
25	+5V	REQ64#	ENUM#	+3.3V	+5V
24	AD1	+5V	VI/O	AD0	ACK64#
23	+3.3V	AD4	AD3	+5V	AD2
22	AD7	GND	+3.3V	AD6	AD5
21	+3.3V	AD9	AD8	M66EN	C/BE0#
20	AD12	GND	VI/O	AD11	AD10
19	+3.3V	AD15	AD14	GND	AD13
18	SERR#	GND	+3.3V	PAR	C/BE1#
17	+3.3V	IPMB SCL	IPMB SDA	GND	PERR#
16	DEVSEL#	GND	VI/O	STOP#	LOCK#
15	+3.3V	FRAME#	IRDY#	BD_SEL#	TRDY#
14					
13			Not Keyed		
12					
11	AD18	AD17	AD16	GND	C/BE2#
10	AD21	GND	+3.3V	AD20	AD19
9	C/BE3#	IDSEL	AD23	GND	AD22
8	AD26	GND	VI/O	AD25	AD24
7	AD30	AD29	AD28	GND	AD27
6	REQ#	GND	+3.3V	CLK	AD31
5	BRSVP1A5	BRSVP1B5	RST#	GND	GNT#
4	IPMB PWR	HEALTHY#	VI/O	INTP	INTS
3	INTA#	INTB#	INTC#	+5V	INTD#
2	TCK	+5V	TMS	TDO ¹	TDI ¹
1	+5V	-12V	TRST#	+12V	+5V

pin positions printed grey: not connected

¹ TDO - TDI internally connected

Beyond All Limits:

EKF High Performance Embedded



Industrial Computers Made in Germany
boards. systems. solutions.

EKF Elektronik GmbH
Philipp-Reis-Str. 4 (Haus 1)
Lilienthalstr. 2 (Haus 2)
59065 HAMM
Germany



Phone +49 (0)2381/6890-0
Fax +49 (0)2381/6890-90
Internet www.ekf.com
E-Mail sales@ekf.com