

» CG2100 Carrier Grade Server «



- » NEBS-3 / ETSI compliant
- » Long life support (3-5 years)
- » Short depth, ruggedized 2U chassis
- » Dual, redundant AC or DC power option
- » Telco alarm management
- » Hardware RAID option
- » Industry-leading performance/watt
- » Improved serviceability with hot-swap capability

The CG2100 Carrier Grade Server combines performance, ruggedness, reliability, and long life in a NEBS-3 and ETSI-compliant 2U chassis. It provides dual socket support for the Intel® Xeon® Processor 5600 series, coupling high performance with power efficiency to provide improved performance-per-watt over previous-generation rack-mount servers.

This high-performing, rugged server is an excellent choice for the demanding environment and limited space of the Telco central office, as well as for network data centers. It enables OEMs and TEMs to create specialized, value-added solutions for a variety of telecom applications including unified messaging, SoIP, call control, media and signaling gateways, and operational system support. In addition, the CG2100 is ideal for other types of rugged applications, such as in the Military and Medical segments, where meeting tough environmental requirements is critical.

The CG2100 has been designed to withstand extreme heat, humidity, altitude and zone 4 earthquake shock and multiple other extreme environmental conditions in compliance with NEBS-3/ETSI requirements. Also important for the rigid requirements of the telecom central office, the server includes advanced server management and telco alarm management features that provide visual, audible (optional) and SNMP event indications of faults.

In addition to the many benefits long associated with the Kontron Carrier Grade Server family, the CG2100 introduces several new valuable capabilities such as support of PCI-E Gen2, Power Management Bus, DDR3 memory, hot-swap/redundant fans, and increased memory and storage capacity.

Features & Benefits

Standard Features

Dual socket support for the Intel® Xeon® Processor 5600 series

Three-to-five year lifecycle support

Shallow 20-inch depth

600W AC or DC hot-swap, redundant power supplies with PMBus support

Telco alarm management

Hot-swap, redundant fans

Two rear-panel GbE NIC (Cu) ports

Twelve RDIMM/UDIMM memory slots (DDR3-800/1066/1333)

Drive trays for up to six hot-swap 2.5" SAS or SATA hard disk drives

Customizable front bezel

Optional Features

Integrated Hardware RAID w/ Battery Backup

Remote Management

Flash Memory Support

Optional I/O Module

Up to five PCI slots for flexibility and additional I/O

Benefit

Better power/performance ratios due to 32nm process, smaller die, and 12 cores/24 threads available per system enable significant performance improvement for multi-threaded applications, Improved performance with larger 12M L3 cache

Reduced customer risk with fewer platform transitions and greater lifecycle stability

Increases installation and service flexibility
Meets typical depth needed for most central office installations

Flexibility of either AC or DC power installation
Greater variety of power management schemes available via support of PMBus specification

Telco alarm LEDs on front panel
Relay connector on rear panel supports central office alarm systems

Greater uptime and improved serviceability

Two on-board NIC ports are standard
Maximum 96 GB memory
Integrated memory controller in CPU enables higher performance at lower power

Choice of SAS or SATA drives
Improved serviceability with hot-swap drives
Large number of drives enables a variety of RAID options
Improved drive reliability due to proprietary rotational vibration suppression technology
SATA Solid State Drives supported

Adaptable to customer needs and environment

Benefit

Supports RAID levels 0, 1, 5, 6 providing greater protection, reliability, and performance.

Lights-out management via optional Intel® Remote Management Module 3 (RMM3) with GCM4 (General Communications Module 4) Dedicated Management NIC.
Improved integration over previous versions.

Choice of multiple flash memory options are available:
» Internal bootable USB flash device
» Two (2) front accessible SD flash media devices
» SATA solid state drives

Enables additional Quad GbE ports or Dual 10 GbE ports

Choice of risers to support either (1) five PCI-Express slots, (2) two PCI-X and three PCI-Express slots, or (3) three PCI Express® passive slots.
Faster performance with PCI-E Gen2.

Technical Information

Processor

Type	Intel® Xeon® Processor 5600 series
Chipset	Intel® 5520 Chipset + ICH10R

Connections

PCI adapter slot support	The following riser card options are supported: Five full-height PCI Express®* slots Two full-height PCI-X slots with an on-board PXH bridge chip and one full height and two low-profile PCI Express* slots Three full-height PCI Express®* slots (passive)
GbE NIC ports	Two (2) RJ-45 10/100/1000 Mb network connects (rear - standard)
Optional I/O Module	Enables additional Quad GbE ports or Dual 10 GbE ports
Serial ports	RJ-45 serial COM2 connector (one front / one rear)
Video port	One DB-15 video connector (rear)
USB 2.0 ports	Five (5): one front / four rear
Management ports	One RMM3/GCM4 connector to support optional Intel® Remote Management Module 3

Storage

Type	Up to six 2.5" SAS or SATA hot-swap hard drives
Redundancy	RAID 1, RAID 5, RAID 6
Internal	Carrier with six HDD trays
SD Flash Storage	Two (2) front accessible Secure Data flash media devices are supported

Memory

Memory type	DDR3 technology at 800/1066/1333 MHz
Number of DIMM slots	Twelve (12) RDIMM or UDIMM slots
Maximum memory capacity	96 GB (non-mirrored mode)

Physical

Height	3.45 inches (87.6 mm)
Width	17.14 inches (435.3 mm)
Depth	20 inches (508 mm)

Environmental

Temperature, operating	5°C to 40°C (41° F to 104° F)
Temperature, non-operating	-40°C to 70°C (-40° F to 158° F)
Humidity, non-operating	95%, non-condensing at temperatures of 23° C (73° F) to 40° C (104° F)
Altitude	0 to 1,800 m (0 to 5,905 ft) @ 40°C; 0 to 4,000 m (0 to 13,123 ft) @ 30°C
Vibration, non-operating	5 Hz @ 0.001g ² /Hz to 20Hz @ 0.01g ² /Hz (slope up)*; 0 Hz to 500Hz @ 0.01g ² /Hz (flat)*; Input acceleration is 2.20g RMS* 10 min per axis in all 3 axes on all samples*; Random control limit tolerance in +/- 3dB*
Shock, operating	Half-sine 2 G, 11 ms pulse, 100 pulses in each direction, on each of the three axes**
Shock, non-operating	Trapezoidal, 25 G, 205 inches/sec delta V, two drops in per face, (total 12 drops) **
Electrostatic discharge (ESD)	Tested ESD levels up to 12kV (kilovolts) air discharge and up to 8kV contact discharge without physical damage**
Acoustic	Sound power: 7B max at ambient temperatures < 23 +/-2°C**
RoHS	Complies with RoHS Directive 2002/95/EC

* per Intel®s 25-GS0009 Boards and Systems Environmental Standards Governing Spec ** per the K00158 CRMS Environmental Standards Specification

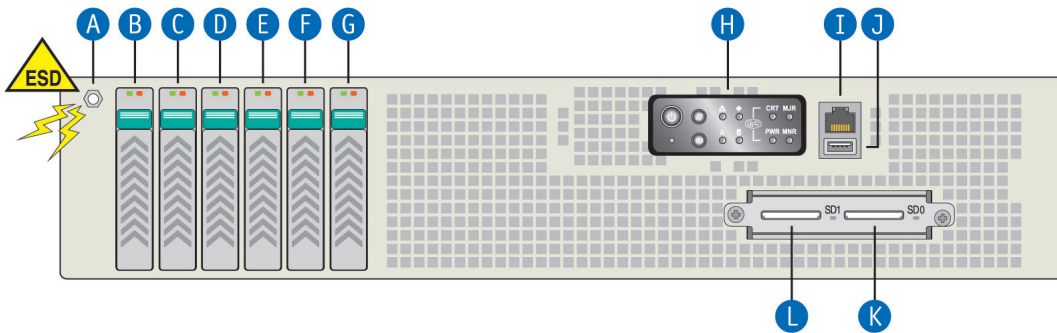
Safety Compliance

USA/Canada	UL 60950-1, 1st Edition/CSA 22.2 No. 950-1
Europe	Nemko/GS EN 60950-1, 2nd Edition; Low Voltage Directive, 73/23/EEC
International	CB Certificate and Report to IEC60950-1, 2nd Edition and all international deviations

Electromagnetic Compatibility

Australia/New Zealand	EN55022, Class A Limit
Canada	IC ICES-003 Class A Limit
Europe	EMC Directive, 2004/108/EC; EN55022, Class A Limit, Radiated & Conducted Emissions; EN55024 Immunity Characteristics for ITE; EN61000-4-2 ESD Immunity; EN61000-4-3 Radiated Immunity; EN61000-4-4 Electrical Fast Transient; EN61000-4-5 Surge; EN61000-4-6 Conducted RF; EN61000-4-8 Power Frequency Magnetic Fields; EN61000-4-11 Voltage Fluctuations and Short Interrupts; EN61000-3-2 Harmonic Currents; EN61000-3-3 Voltage Flicker
International	CISPR 22, Class A Limit, CISPR 24 Immunity
Japan	VCCI Class A ITE (CISPR 22, Class A Limit)
Korea	KCC Approval, Class A
Russia	Gost Approval (EMC and safety)
Taiwan	BSMI Approval, CNS 13438, Class A and CNS13436 Safety
USA	FCC 47 CFR Parts 15, Verified Class A Limit

CG2100 CARRIER grade server front panel



A: Anti-static connection

B-G: Hard drive bay (supports six 2.5" SAS/SATA drives)

H: Status LEDs/switches

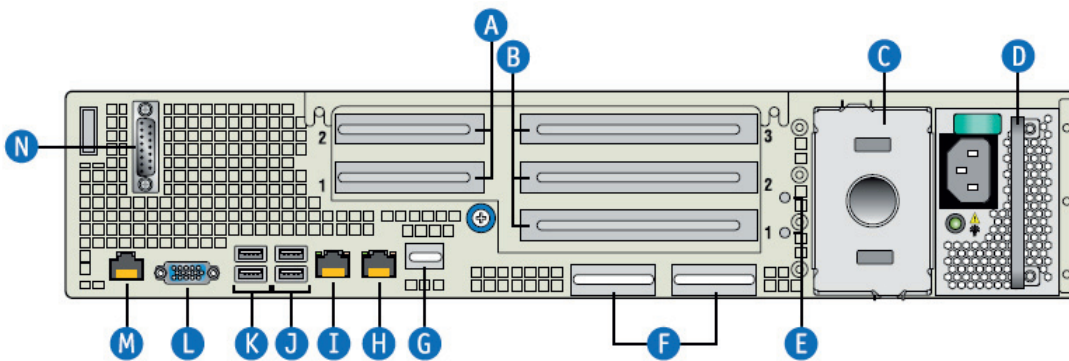
I: Serial port (COM 2)

J: USB port

K: SD flash module 0

L: SD flash module 1

CG2100 CARRIER grade server REAR panel



A: Low-profile add-in cards (filler panels shown)

B: Full-height add-in cards (filler panels shown)

C: Power supply #2 slot (filler panel shown)

D: Power supply #1 (AC module shown; DC modules also available)

E: Grounding lugs (for DC)

F: Optional I/O module ports (filler panel shown)

G: Optional GCM port (filler panel shown)

H: RJ-45 NIC 2 connector

I: RJ-45 NIC 1 connector

J: USB ports (2)

K: USB ports (2)

L: Video connector

M: RJ-45 Serial port (COM 2/serial B)

N: Telco alarms connector

CORPORATE OFFICES

Europe, Middle East & Africa

Lise-Meitner-Str. 3-5
86156 Augsburg
Germany

Tel.: +49 (0) 821 4086-0

Fax: +49 (0) 821 4086 111

sales@kontron.com

North America

14118 Stowe Drive
Poway, CA 92064-7147
USA

Tel.: +1 888 294 4558

Fax: +1 858 677 0898

info@us.kontron.com

Asia Pacific

17 Building, Block #1, ABP.
188 Southern West 4th Ring Road
Beijing 100070, P.R.China

Tel.: +86 10 63751188

Fax: +86 10 83682438

info@kontron.cn