» Kontron Configuration Guide «



CG2300 Carrier Grade Server

Document Revision 1.05

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Revision History

Revision	Brief description of changes	Date of issue
1.00	First release	02/02/2015
1.01	Correction to some contact information	09/02/2015
1.02	Updated link to Kontron website Base system is CG2300-00 SAS cables and PDB added as Spare Parts Details added concerning no CG2300 RAID Cable Kit vs CG2200 Notes for DDR4 – RDIMM/LRDIMM – No UDIMM support Precisions added about Remote Management Module	16/06/2015
1.03	Adding DC connector kit as Spare part Adding note about getting a crimper tool to build DC power cable	04/12/2015
1.04	Internal Release	31/03/2016
1.05	Adding Broadwell CPU Adding Notes about Single PSU or single CPU config (SDR reprogrammation) in Table 1. Modification to Table 1 Step 7(RAID). Modification to Table 3 (RAID components) Top Cover kit added in Spare Parts Picture added for SAS cable as Spare Part Changed ordering number (4-4) for PDB as Spare Part Modification to rack mount section (section M and Appendix A) to: - include rail extenders - reorganize informations	20/04/2016

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Customer Comments

If you have any difficulties using this user's guide, discover an error, or just want to provide some feedback, please send a message to Kontron. Detail any errors you find. We will correct the errors or problems as soon as possible and post the revised user's guide on our website. Thank you.

Acronyms

AC	Alternating Current
CPU	Central Processing Unit
CRMS	Communications Rack Mount Servers
DC	Direct Current
DDR4	Double Data Rate Fourth Generation
DIMM	Dual In-Line Memory Module
EIA	Electronic Industries Alliance
ESD	Electrostatic discharge
ETSI	European Telecommunications Standards Institute
eUSB	Embedded Universal Serial Bus
FH/FL	Full Height/Full Length
Gbe	Gigabit Ethernet
GHz	Gigahertz
HDD	Hard Disk Drive
HW	Hardware
KVM	Kernel-based Virtual Machine
LP	Low Profile
NEBS	Network Equipment-Building System
NIC	network interface controller
OSS	Operations System and Support
PCI	Peripheral Component Interconnect
PCI-E Gen 3	Peripheral Component Interconnect Express, Third Generation
PSU	Power Supply Unit
RAID	Redundant Array of Independent Disks
RDIMM	Registered Dual In-Line Memory Module
RMM	Remote Management Module
RoHS	Restriction of Hazardous Substances
SAS	Serial Attached SCSI (Small Computer System Interface)
SATA	Serial Advanced Technology Attachment
SD	Secure Digidal
SKU	Stock keeping unit
SSD	Solid State Drive
SW	Software
THOL	Tested Hardware and Operating System List
TOC	Table of Content

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Electrostatic Discharge

CAUTION! The CG2300 is sensitive to electrostatic discharge (ESD). Users must observe the appropriate precautions when handling ESD-sensitive devices.

Limited Warranty

Kontron grants the original purchaser of Kontron's products a THREE YEAR LIMITED HARDWARE WARRANTY as described in the following. However, no other warranties that may be granted or implied by anyone on behalf of Kontron are valid unless the consumer has the express written consent of Kontron.

Kontron warrants their own products, excluding software, to be free from manufacturing and material defects for a period of 36 consecutive months from the date of purchase. This warranty is not transferable nor extendible to cover any other users or long- term storage of the product. It does not cover products which have been modified, altered or repaired by any other party than Kontron or their authorized agents. Furthermore, any product which has been, or is suspected of being damaged as a result of negligence, improper use, incorrect handling, servicing or maintenance, or which has been damaged as a result of excessive current/voltage or temperature, or which has had its serial number(s), any other markings or parts thereof altered, defaced or removed will also be excluded from this warranty.

If the customer's eligibility for warranty has not been voided, in the event of any claim, he may return the product at the earliest possible convenience to the original place of purchase, together with a copy of the original document of purchase, a full description of the application the product is used on and a description of the defect. Pack the product in such a way as to ensure safe transportation (see our safety instructions).

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1. Introduction

A. Product Description

The CG2300 Carrier Grade Server is the 7th generation of Kontron's 2U Carrier Grade Server products. The CG2300 supports the Intel® Xeon® E5-2600 v3 and v4 series processors, coupling high performance with power efficiency to provide improved performance-per-watt over previous-generation rack-mount servers.

The CG2300 is designed to meet NEBS-3 and ETSI certification which is suited for a host of applications in the telecom Central Office and industrial environment. The server is targeted to OSS (Operations System and Support), Billing, Provisioning, Softswitch, Media Server, Wireless and Unified Messaging, Call Center and many other applications. It can also support manufacturing, industrial, oil & gas, utility and even military applications where a rugged, highly reliable server is required for harsh environments such as dust, high altitude, fire hazard, earthquake propensity, and high ambient temperatures.

To add to the many recognized benefits of Kontron's Carrier Grade Server family, the CG2300 introduces several new important features such as support of Intel Haswell and Broadwell processors, DDR4 memory, PCI-E Gen3, hot-swap/redundant fans and many flash storage formats (SD, eUSB, M.2).

More detailed product information on the CG2300 is available on Kontron's website at:

http://www.kontron.com/products/systems/telecom-systems/cg2300-carrier-grade-rackmount-server.html

B. Purpose of this Document

This document serves as an ordering reference guide, providing details on what parts are available from Kontron for the CG2300 Carrier Grade Server and its associated accessories and spares. Included are the necessary order codes and other important configuration information related to the ordering of the product.

Supported third-party components are not covered by this document, and may be found in the Tested Hardware and Operating System List (THOL) of the CG2300.

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C. General Flow for Configuring a CG2300 System

Table 1: Configuration Flow

Step	Implication	NOTE or Reference info
A. Start with Base System		NOTE: No PSU included
B. Select quantity of power supply and input type (AC or DC)	Redundant (2) or non-redundant (1) Type: AC or DC	NOTE: 1- If non-redundant, add a PSU filler. 2- SDR reconfig required for non-redundant config, see Installation & Maintenance Guide 1.3 or higher, section 7.2 (Single PSU)
C. Select quantity and type of CPUs	CPU quantity determines: • number of PCIe slots available • number of DIMM slots available CPU type impacts performance	See Table 5 below NOTE: SDR reconfig required for single CPU config, see Installation & Maintenance Guide 1.3 or higher, section 7.2 (Single CPU) See Technical Product Specification
D. Heatsink		NOTE: Two CPU heatsinks shipped with Base System.
E. Select left and right PCIe Risers	Determines number of slots &PCIe bus width (One x16 or two x8)	
F. Select RAID	On-board controller or external PCIe RAID card (for Battery Backup functionality)	On-board: - 0/1/10 included + 5/50 through the upgrade key AXXRPFKHY5 External PCIe RAID card: - refer to THOL or section I. below. - No additional cable kit required.
G. Select Storage	SAS, SATA SSD, M.2, SD Card and/or eUSB	See THOL
H. Select Memory	Sized for the application	Refer to Tested Memory List for list of validated DIMMs **DDR4 - RDIMM or LRDIMM only.** **No UDIMM support.** Refer to Installation & Maintenance Guide for installation instructions
I. Select Remote Management	Basic or Advanced features (Advanced = Integrated KVM and Media Redirection)	NOTE: Dedicated server management NIC port is built-in (motherboard). Basic = built-in Advanced = Activation key required
J. Select System Mounting	Rack mount kits	Refer to Section M. and Appendix A

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2. Ordering CG2300 Systems

This section includes important information regarding how to order CG2300 systems. Please be familiar with each of these areas before placing an order.

D. CG2300 Base System

Table 2: CG2300 Base System SKU

Product Code	Description	Min. Order Qty.
CG2300-00 	CG2300 Carrier Grade Server Base System (PSU not included)	1

The CG2300 system SKU is ordered using the Product Code as the order number. The above SKU is "Base System" SKU—meaning it does not include PSUs, processors, memory, hard drives, power cord, operating system, or plug-in adapters. Those components should be ordered separately as Accessories from Kontron or from third party vendors listed in the Tested Hardware and Operating System List (THOL).

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See the **CG2300 Base System** table below for a list of components included. Notice that there are a number of optional accessory items which must be ordered separately.

Table 3: CG2300 Base System Components

Component Description	AC Configuration	DC Configuration
Chassis (sheet metal, top cover, PCI cages, air duct, interconnection cables, misc. parts)	1 included	
Baseboard S2600CW2SK, power distribution board, system boards, fans, interconnect cables	Included	
AC power supply (850W)	None included with base system, To be ordered: 1 or 2 per system	-
DC power supply (850 W)	-	None included with Base System, To be ordered: 1 or 2 per system
Power Cable (AC)	Purchase separately[1]	Not included
Power Cable (DC)	Not included	DC mating connector and pins included with DC PSU. No power cable included. Must procure and build cable, see Installation and Maintenance Manual
Power Distribution Board	1 included	
Power Supply Filler Panel	None included with Base System Order 1 if you order only one PSU	
Bezel	1 included	
DIMM memory slots (memory not included).	16 slots available	
Bays for hot-swap 2.5" Hard Disk Drives and drive carriers	6 included	
Rear Panel GbE NIC ports (via motherboard)	2 ports available	
On-board (HW) RAID 0/1/10	Included	
On-board controller RAID 5 Key	Purchase separately from Intel	
Hardware RAID cable kit	Included, use same cables (built-in)	
HW RAID Adapter, optional battery backup	Purchase separately[4]	
HW RAID battery mounting bracket	Optional Accessory[2]	
Basic Remote Management Features	Included	
Advance Remote Management Features (RMM4Lite)	Optional Accessory[2]	
Right side Dual slot PCIe x8 passive riser	Optional Accessory[2]	
Right side Single slot PCIe x16 passive riser	Optional Accessory[2]	
Left side Single slot PCIe X16 passive riser	Optional Accessory[2]	
Left side Dual slot PCIe x8 passive riser	Optional Accessory[2]	
Rack Mount Kits	Optional Accessory[3]	
SD Flash Module	1 Included	
Kontron Deployment Assistant on SD Flash media	1 Included	
Rail Enabling Kit	Optional Accessory[3]	
Processor	Purchase separately, refer to Table 5	
Heatsink	2 Included	
RDIMM/LRDIMM DDR4 Memory	Purchase separately[4]	
Hard Disk Drives (SAS or SATA SSD)	Purchase separately[4]	
eUSB Flash Drive	Purchase separately[4]	
M.2 Flash Drive	Purchase separately[4]	

[1]Refer to AC power cord accessory in this section
[2]Refer to step E and I in this section
[3]Refer to "Rack Mounting Options" in Appendix A
[4]Should be purchased separately (refer to THOL and TML)

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E. Select the Quantity and Type of Power Supply

The CG2300 System accommodates up to two power supply units. Order one (non-redundant) or two (redundant) PSUs. If a single PSU is used per system, you must order a PSU Filler panel (to respect forced airflow principle).

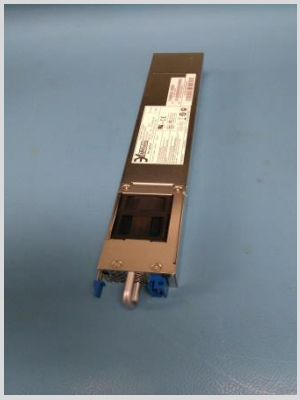
You must order either AC or DC, no AC-DC mix is possible.

Order same quantity of AC power cords to agree with the quantity of AC power supplies in the final system.

Because DC power input cabling is usually custom, no DC power cord is offered. Each DC PSU contains a DC mating connector kit (housing/backshell and connection pins) for terminating DC input power. Proper wiring and crimper tool, which is to be provided by installer/customer, must be planned in order to build DC power cable. See Installation and Maintenance Manual for details.

DC mating connector kit can be ordered as spare/supplementary part, PN 1059-8642. It is a good practice to order at least one spare kit to prevent running short of contact pins when building the DC cable. See section 3 (Ordering CG2300 Serviceable Items)) below.

Table 4: Power Supply Options

Product Code	Description	Products Supported	Included in Base Model (Y/N)	Min. Order Qty
1056-8389 	AC Power Supply	CG2300	N	1 (for AC system)
1056-8385 	DC Power Supply Includes input power connector and pins. Wiring and crimper tool to be provided by installer/customer.	CG2300	N	1 (for DC system)

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K00837-001 	PSU Filler Panel	CG2300, CG2200	N	1 (order one if non-redundant system)
1-340000-0 	AC Power Cord* Should be ordered by North America customers. International customers should procure their specific power cords directly.	All CRMS servers	N	1 (AC system only)

* Power cords are not included with the system. For AC Power cords, order the above North American power cable using the provided product code. This power cable is RoHS-compliant.

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F. Select Quantity and Type of CPUs

The CG2300 is designed to support the following processor SKUs from the Intel® Xeon® processor E5-2600 series. The CG2300 Base System includes no CPUs. Customer must separately purchase CPU 1 and 2.

Table 5: Intel® Xeon® Processors Supported by the CG2300

Processor Number	Cores	Speed	TDP	Memory Speed Support	Kontron P/N	Intel P/N (tray)
Embedded Family (5-7 years availability/support)						
Codename Haswell-EP						
E5-2608L v3	6	2.0 GHz	52 W	DDR4-1866MHz	1056-9896	CM8064402033500
E5-2618L v3	8	2.3 GHz	75 W	DDR4-1866MHz	1056-9889	CM8064401610301
E5-2628L v3	10	2.0 GHz	75 W	DDR4-1866MHz	1056-8325	CM8064401547200
E5-2648L v3	12	1.8 GHz	75 W	DDR4-2133MHz	1056-9887	CM8064401546007
E5-2658 v3	12	2.2 GHz	105 W	DDR4-2133MHz	1056-8322	CM8064401545904
E5-2680 v3	12	2.5 GHz	120 W	DDR4-2133MHz	1056-9917	CM8064401439612
Codename Broadwell-EP						
E5-2608L v4	8	1,6 GHz	50 W	DDR4-1866MHz	1060-3155	CM8066002045102
E5-2618L v4	10	2,2 GHz	75 W	DDR4-2133MHz	1060-3158	CM8066002061300
E5-2628L v4	12	1,9 GHz	75 W	DDR4-2133MHz	1060-3160	CM8066002044903
E5-2648L v4	14	1,8 GHz	75 W	DDR4-2400MHz	1060-3162	CM8066002189001
E5-2658 v4	14	2,3 GHz	105 W	DDR4-2400MHz	1060-3164	CM8066002044801
Server Family						
Codename Haswell-EP						
E5-2623 v3	4	3.0 GHz	105 W	DDR4-1866MHz	1056-9909	CM8064401832000
E5-2670 v3	12	2.3 GHz	120 W	DDR4-2133MHz	1056-9905	CM8064401544801
E5-2683 v3	14	2.0 GHz	120 W	DDR4-2133MHz	1056-9900	CM8064401609728
E5-2690 v3	12	2.6 GHz	135 W	DDR4-2133MHz	1056-9907	CM8064401439416
E5-2695 v3	14	2.3 GHz	120 W	DDR4-2133MHz	1056-9902	CM8064401438110
E5-2698 v3	16	2.3 GHz	135 W	DDR4-2133MHz	1056-9904	CM8064401609800
Codename Broadwell-EP						
E5-2683 v4	16	2.1 GHz	120 W	DDR4-2400 MHz	1060-3167	CM8066002023604
E5-2690 v4	14	2.6 GHz	135 W	DDR4-2400 MHz	1060-3169	CM8066002030908
E5-2695 v4	18	2.1 GHz	120 W	DDR4-2400 MHz	1060-3171	CM8066002023801
E5-2698 v4	20	2.2 GHz	135 W	DDR-2400 MHz	1060-3173	CM8066002024000

Notes:

- The above processors in the Embedded family are on Intel's long life roadmap and are recommended with the CG2300 for highest performance and long availability and support.
- More specifically, the E5-2628L v3, E5-2648L v3 and E5-2658 v3 where successfully tested against NEBS Operating Temperature.
- The above processors in the Server family are appropriate for applications that are not specifically requiring the stringent NEBS (Operating Temperature) requirements compliancy or long life support.
- These processors are orderable from Kontron or Intel using the indicated part numbers.
- Use of the above processors requires passive heatsink. Two heatsinks are included in the Base System, no need to order separately.

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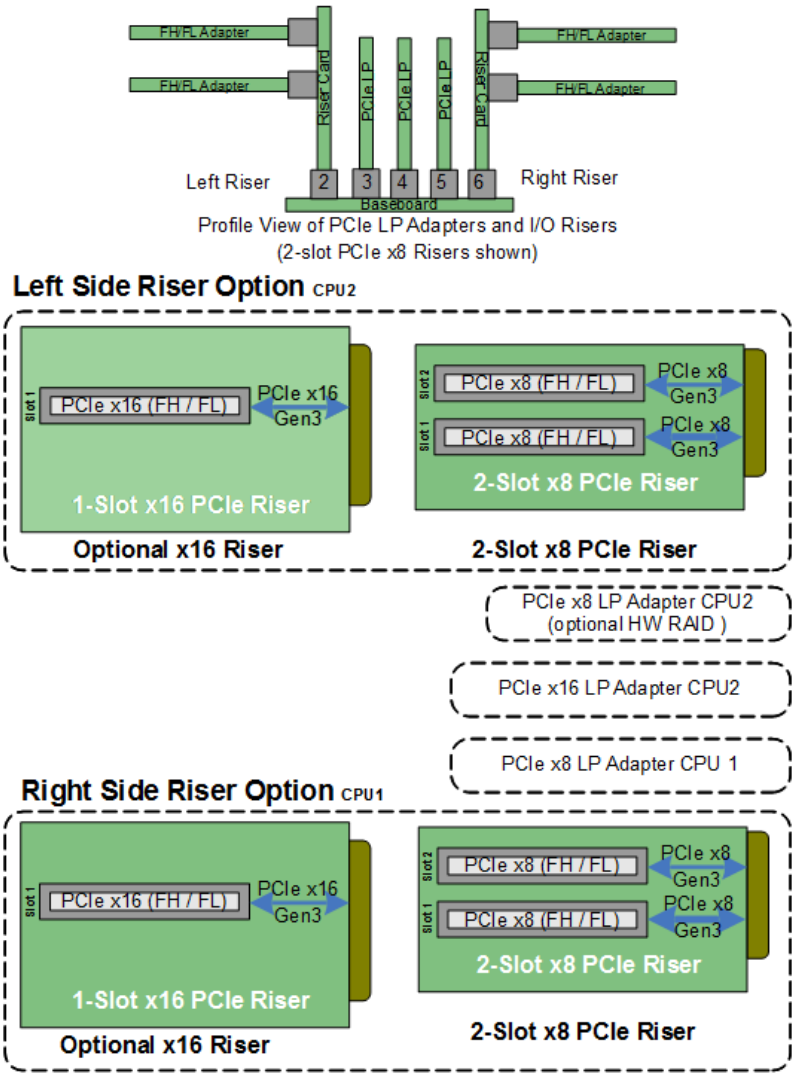
G. Heat Sink

The CG2300 Base System is delivered with two CPU heatsinks.
This heatsink design was done by Kontron for specific use in the CG2300 system.
In order to obtain best CPU and DIMM thermal performance, Kontron does not recommend using any other heatsink model.
If a heatsink requires replacement, please use product code found in the Serviceable Items section below.

H. Select PCIe Risers

This diagram shows the PCI riser physical arrangement. The CG2300 Base System comes with no risers, but can support the addition of two (2) risers, a right-side and a left-side riser.

Figure 1: PCIe Riser Options



Please note that in the diagram above, the three Low Profile PCIe slots are available only when both CPU 1 and CPU 2 are populated.

PCIe risers are NOT included in the Base system.

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Additional Full-height full-length PCIe slots are made available with the purchase of risers. The following risers are available:

Table 6: PCIe Riser Options

	Product Order Code	Description	Min. Order Qty
Choose one for Right side	CG2200-RISER2SX8R 	Right side Dual slot PCI-e x8 Gen 3 passive riser	1
	CG2200-RISER1SX16R 	Right side Single slot PCI-e x16 Gen 3 passive riser	1
Choose one for Left Side	CG2200-RISER1SX16L 	Left side Single slot PCI-e X16 Gen3 passive riser	1
	CG2200-RISER2SX8L 	Left side Dual slot PCI-e x8 Gen 3 passive riser	1

None of the above risers are included in the Base System.

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I. Select RAID

The CG2300 Base System supports RAID 0/1/10 for 6 SAS hard drives or SATA SSD's, done through the on-board SAS controller. If additional level of RAID is required, please refer to the options detailed in Table 7.

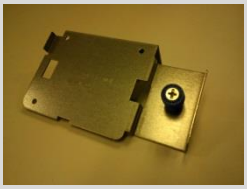
Table 7: CG2300 RAID Options

Supported RAID	Included in CG2300 Base System?	Additional item to order	Comments
0/1/10	Yes	None	LSI3008 chip offers hardware RAID. Storage backplane is directly connected to the RAID controller in Base system.
0/1/5/10/50	No	Intel AXXRPFKHY5	This key, used along with the on-board LSI3008 will permit to add RAID 5 or 50 to the built-in RAID functionality
1/5/6/10/50/60	No	Intel RS3DC080*	Kontron recommends to use this external (PCIe) RAID card when Battery Backup functionality is mandatory for your application. The card itself, without the Battery Backup offers similar functionality vs the on-board RAID solution, using the same LSI 3008 controller.

No supplementary cables are required to use the Intel RS3DC080. System built-in SAS cables simply need to get disconnected from the on-board SAS controller and connected to RAID card. As such, there is no RAID cable kit as it is for the CG2200.

*The Intel RS3DC080 RAID card comes optionally with a battery backup unit (Intel AXXRMFBU4), which requires the following bracket for proper mounting in the system. Note that the AXXRMFBU4 comes delivered with all needed cables, connecting RS3DC080 to AXXRMFBU4. As such, there is no RAID cable kit as it is for the CG2200.

Table 8: Battery Backup Bracket Option for Intel RS3DC080 Card

Product Code	Description	Products Supported	Included in Base System (Y/N)	Min. Order Qty
K00740-001 	Mounting bracket for Intel Battery Backup unit (AXXRMFBU4)	CG2300, CG2200	N	1

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J. Select Storage

SAS HDD / SATA SSD

The CG2300 Base System supports for up to 6 SAS hard drives or SATA SSD's. SATA rotating hard drives are not recommended for use in this system.
Please refer to the Tested Hardware and Operating System List (THOL) for complete listing of HDD's that have been validated for the CG2300. The THOL is a customer-driven document. If a specific HDD is required please contact Kontron's customer support.

Flash Drives

Two front accessible SD memory slots are available. The CG2300 can be configured to boot from SD memory modules for software update or logging purposes. Generic SD-Flash devices may be sourced from a wide variety of vendors.

An internal optional eUSB Flash Drive is supported. Refer to THOL (Tested Hardware and O/S List) for ordering choices.
An internal optional M.2 Flash Drive is supported. Refer to THOL (Tested Hardware and O/S List) for ordering choices.

K. Select Memory

Refer to THOL (Tested Hardware and O/S List) for ordering choices.
DDR4 - RDIMM or LRDIMM only.
No UDIMM support.

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L. Select Remote Management Module Option

CG2300

If you are familiar with CG2200 management's solution, please note that CG2300's management has some differences.

CG2300 has a Dedicated Management Port – 1GbE RJ-45, found in the back panel of the system.
The Dedicated Management Port (DMN) is active with or without the RMM4LITE key installed.

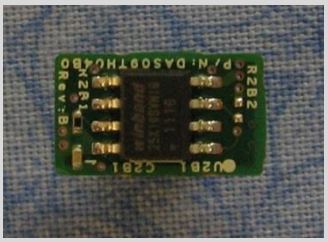
On the CG2300, as for the CG2200, **Basic features** such as IPMI 2.0, Diagnostic Beep Code and Power State Retention are available, even without the AXXRMM4LITE Activation key. Details of Basic features are available in the Baseboard Technical Product Specification found on Kontron's web site.
The RMM4LITE enables **Advanced features**, which are Integrated KVM and Remote Media Redirection.

The RMM4, which was an option on Kontron CG2200, is not compatible with the CG2300.

In comparison, CG2200's Management solution:

The RMM4 and RMM4LITE enable advanced features, which are Integrated KVM and Remote Media redirection.
The RMM4 provides a Dedicated Management Port which is not part of the CG2200 Base System.
The RMM4LITE does not offer a Dedicated Management Port. It must use one of the system's Onboard LAN Ports.
Only one of these two RMM options is to be used per CG2200 system.

Table 9: Remote Management Module Option

Product Code	Description	Products Supported	Included in Base System (Y/N)	Min. Order Qty
AXXRMM4LITE 	Intel® Remote Management Module 4 LITE Activation key	CG2300, CG2200	N	1

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M. Select System Mounting

There are many choices for mounting of the CG2300 within rack enclosures. Depending on the application, the following rack mount kits are available. Rack mounting kits for 2-post or 4-post, 19-inch or 23-inch racks are offered for this product. These include TMLCMOUNT21, TMLPMOUNT41, TMLPMOUNT51, TMLPMOUNT52, and TMLPSLIDE01.

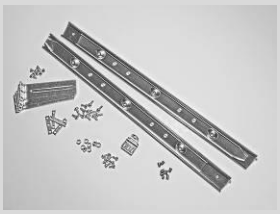
All Rack Mount kits in Table 10 below are EIA Universal - hole spacing.
All Rack Mount kits in Table 10 have the appropriate hardware for mounting in 20 to 24 inch rack depth.
If rack is deeper than 24 inches, then use Extender Kit along with TMLPMOUNT41 or TMLPMOUNT51- see in Table 10 below.

TMLPMOUNT51/52 series are designed with a slide-in rail-type system. Rails are designed to support a mounted server during fan service.

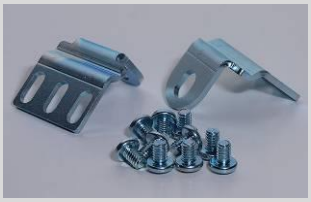
Please refer to Appendix A to determine the correct options to suit your needs.

The TMLPSLIDE01 is an accessory kit designed for use in conjunction with slide rails to produce a rack mounted serviceable server. The TMLPSLIDE01 kit contains two Universal Front Mounting Brackets that secure the server to the front of the rack. The sliding rails and optional mounting brackets required to mount the server must be purchased through the channel.

Table 10: Rack Mount Kits Options (refer to Appendix A for additional details)

Product Code	Description	Slide Pull Out Locking (Yes/No)	Minimum Order Qty
TMLCMOUNT21 	Rack Mount Kit TMLCMOUNT21 Used for mounting servers on a 19-inch wide, 2-post rack	No Slide	10
TMLPMOUNT41 	Rack Mount Kit TMLPMOUNT41 Used for mounting servers on 19-inch wide, 2-post or 4-post racks NOTES: - 2-post screw access is from the side - Not compatible with HP Mulan rack	No	10
TMLPMOUNT51 	Rack Mount Kit TMLPMOUNT51 Used for mounting servers on 19-inch wide, 2-post or 4-post racks NOTES: - Xylan finish	Yes	1
TMLPMOUNT52 	Rack Mount Kit TMLPMOUNT52 Used for mounting servers on 23-inch wide, 2-post or 4-post racks NOTES: - Xylan finish - also ETSI hole spacing compliant	Yes	1

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TMLPSLIDE01 	Universal Front Mounting Brackets The Accuride 22-inch Model 305A-LR slide rails would use TMLPSLIDE01. Each kit contains two Universal Front Mounting Brackets that secure the server to the front of the rack.	N/A	1
1059-8187 	Rails Extender Kit Maximum rack depth when using: - TMLPMOUNT41 –> 36 inches - TMLPMOUNT51 –> 34 inches	N/A see Rail model	1

Notes:

- Using slide rails could result in non-compliance with Seismic Zone 4 requirements of NEBS-3 certification.
- Extra care must be exercised with TMLPMOUNT41 to securely hold the server with one's hands when sliding it out of the rack; otherwise, the server could fall to the ground as it is being removed.
- Plastic strips on TMLPMOUNT41 have peeled off in some customer installations. The result of this is that the parts are usable, but the server could have somewhat of a "scrape-in feel" rather than "slide in". Also, the rails will fit sloppier, so the side-located chassis securing screws could be difficult to align in 2-post installations. Replacement material is available from the plastic strip manufacturer.
- Xylan is a tough, low-friction coating similar to Teflon.
- EIA-Wide spacing doesn't have the interstitial hole that is present in EIA-Universal. TMLPMOUNT51 contains an adapter bracket to overcome this EIA-Wide issue.
- This component (2U Nut Bar) enables installation of a rail kit into a 1U rack slot when there is already equipment installed both above and below that open slot.
- The sides of the server must be accessible when using TMLPMOUNT41 in 2-post racks.
- The **TMLPSLIDE01** kit contains server securing brackets.

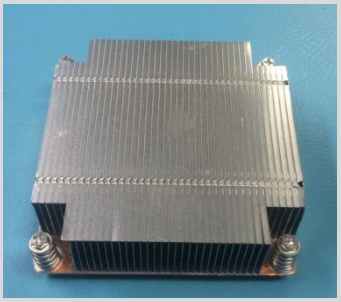
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3. Ordering CG2300 Serviceable Items

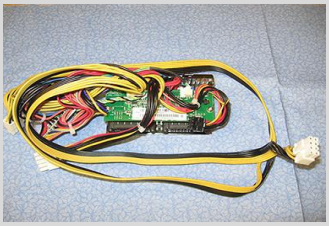
The table below lists all of the Serviceable Spares items that may be ordered for the CG2300 system. Generally these are items that could potentially fail or need replacement over the life of the product. These items are made available so that customers might stock their service depots and repair centers. Please read the following notes regarding this parts list.

- **3rd Party Accessories:** For a listing of compatible 3rd party accessories, please refer to the Tested Hardware and Operating System List (THOL) document.

Table 11: Serviceable Items Options

Product Code	Description	Products Supported	Included in Base Model (Y/N)	Min. Order Qty
NSNSASHDDCARQ 	SAS HDD/SATA SSD Carrier Contents: Carrier, black plastic filler, screws (4)	CG2300, CG2200	Y *(six included)*	1
CG2100-BEZEL01 	Bezel	CG2300, CG2200	Y *(one bezel)*	1
1056-5174 	Heatsink Contents: passive heatsink, pre-installed thermal paste	CG2300	Y *(2 included)*	1
S2600CW2SK 	Intel Server Board S2600CW2SK* * Available from Intel, not Kontron.	CG2300	Y	1

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CG2200-FANSET 	Fan Assembly (6 fans) Contents: 6 x 80m assembly fans. Includes plastic parts (finger guard).	CG2300, CG2200	Y	1
1057-5299 	SAS cable (SFF-8087 to SFF-8643)** ** Two (2) included in Base system, but as serviceable part, does not come in pair	CG2300	Y (2 included)	1
1060-3344 	Power Distribution Board – 850W	CG2300	Y	1
1059-8642 	DC PSU Mating Connector Kit To build DC power cable. It is a good practice to order at least one spare kit to prevent running short of contact pins when building the DC cable.	CG2300	Y (one per DC PSU)	1
1059-8695 	Chassis Top Cover Kit Kit includes Top Cover and Safety Label	CG2300	Y	1

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Appendix A. Rack Mounting Options

Rack Mounting Options for 1U and 2U Communications Rack Mount Servers.
Rack mounting kits for 2-post or 4-post, 19-inch or 23-inch racks are offered for this product.
They are all compatible with 3-inch and 5-inch deep posts.

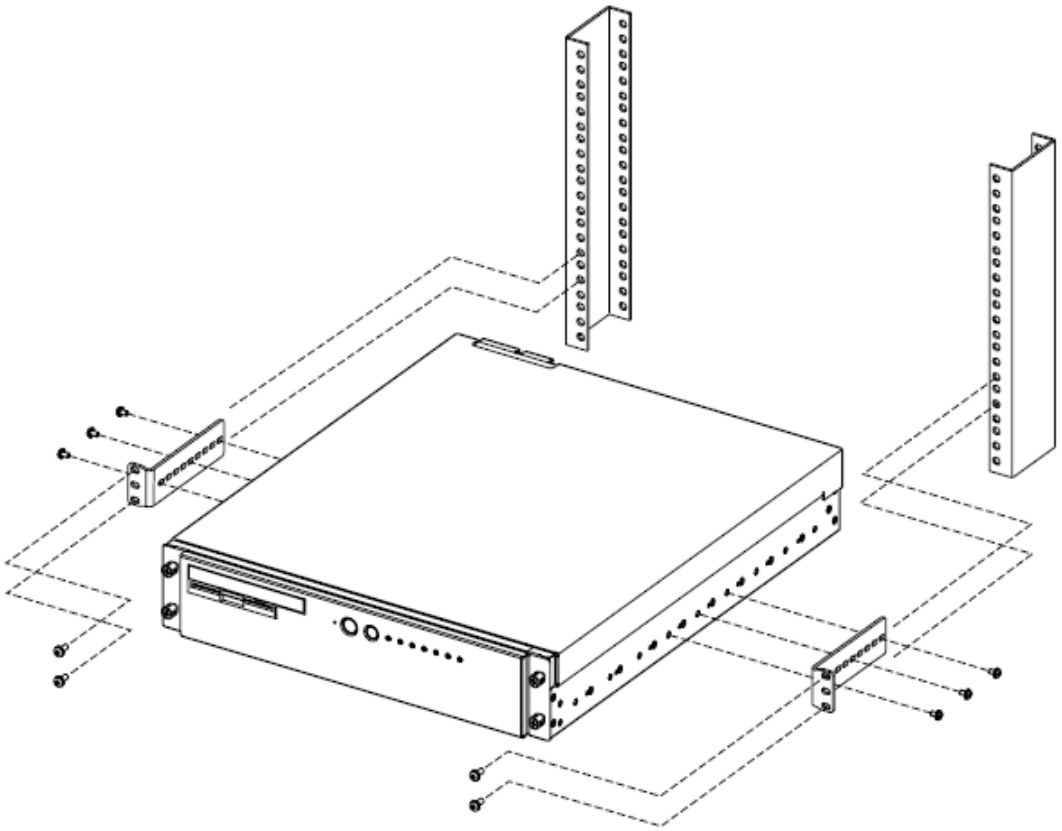
Although these mounts have been designed for industry standard racks, please consult with your Field Application or Sales Engineer before selecting racks for these servers.

Compatible rack mounting kits can also be obtained from 3rd party suppliers.
All rack mount kits listed are suitable for 1U and 2U Communications Rack Mount Servers.
Installation instructions are included in each kit.

Below are examples for various Rail Mounting Kit, as well as Extender kit, intended for rack depth above 24 inches.

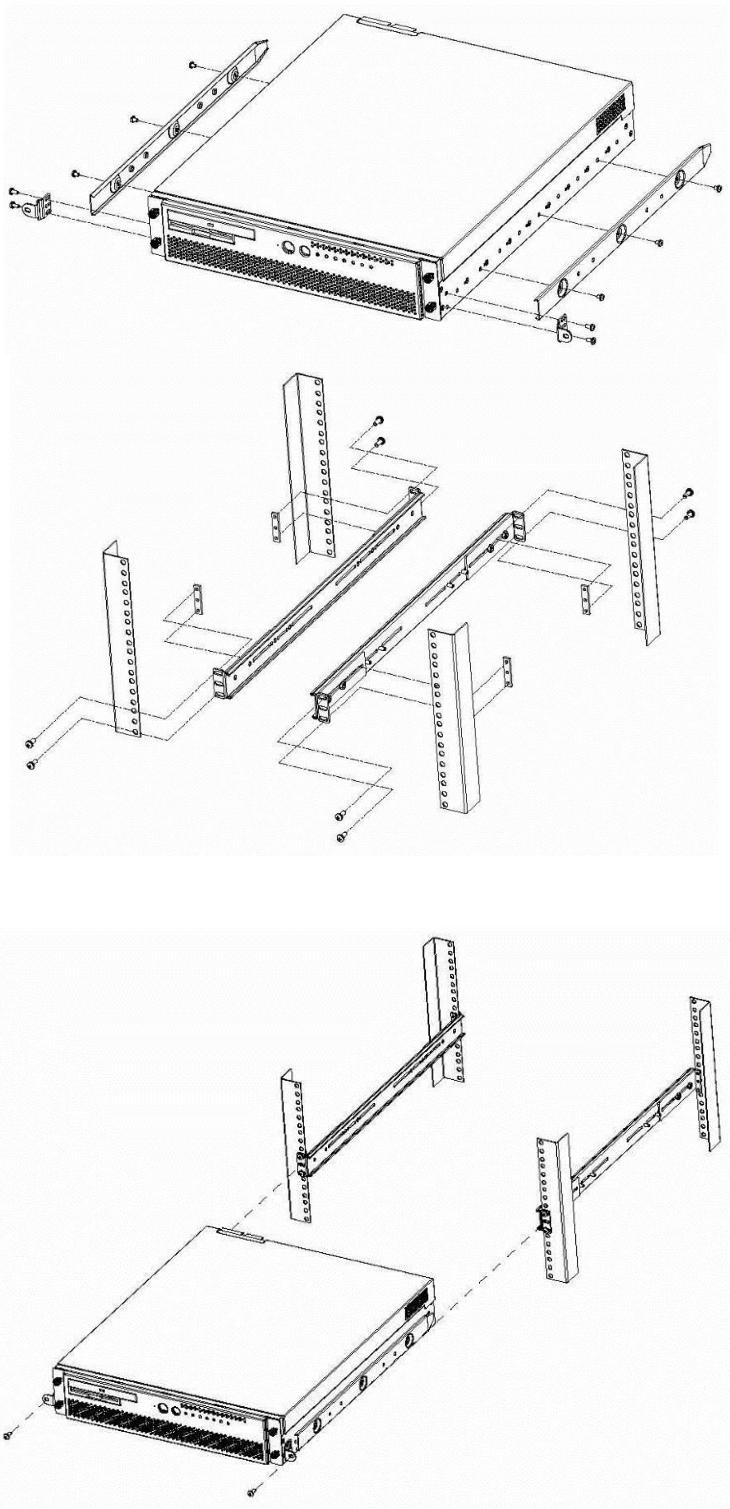
The TMLCMOUNT21 kit mounts Communication Rack Mount Servers to a 2-post, central office type, 19-inch wide rack. This kit consists of L-shaped brackets that fasten to the sides of the server and to the rack.

Figure 2: TMLCMOUNT21



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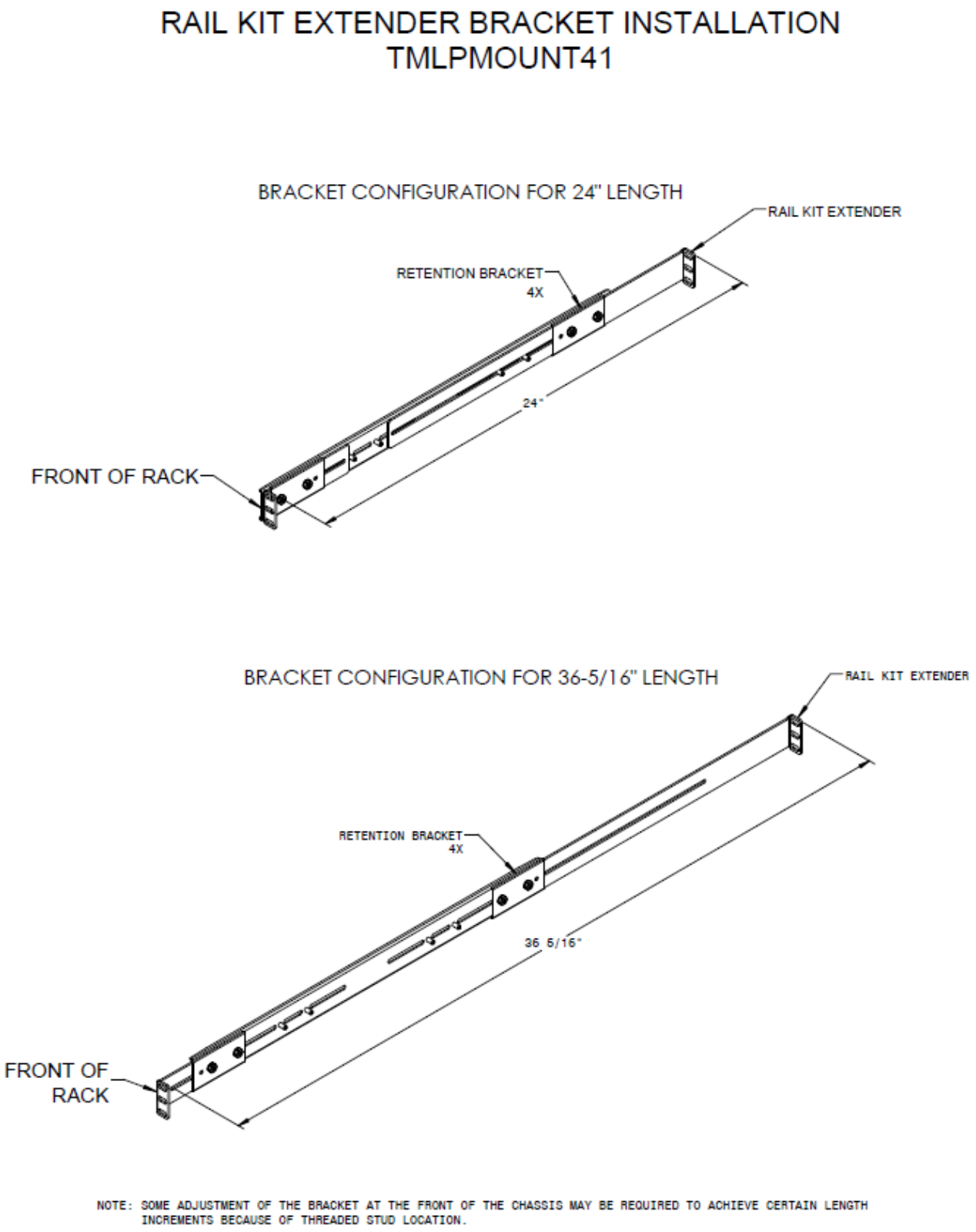
Figure 3: Slide-in Rail-Type System



The diagrams above summarize the components and “slide-in rail-type” system. It can be adapted for a 2-post or 4-post installation. TMLPMOUNT52, for 23-inch rack, has the same mounting topology.

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Figure 4: TMLPMOUNT41 Extender Kit

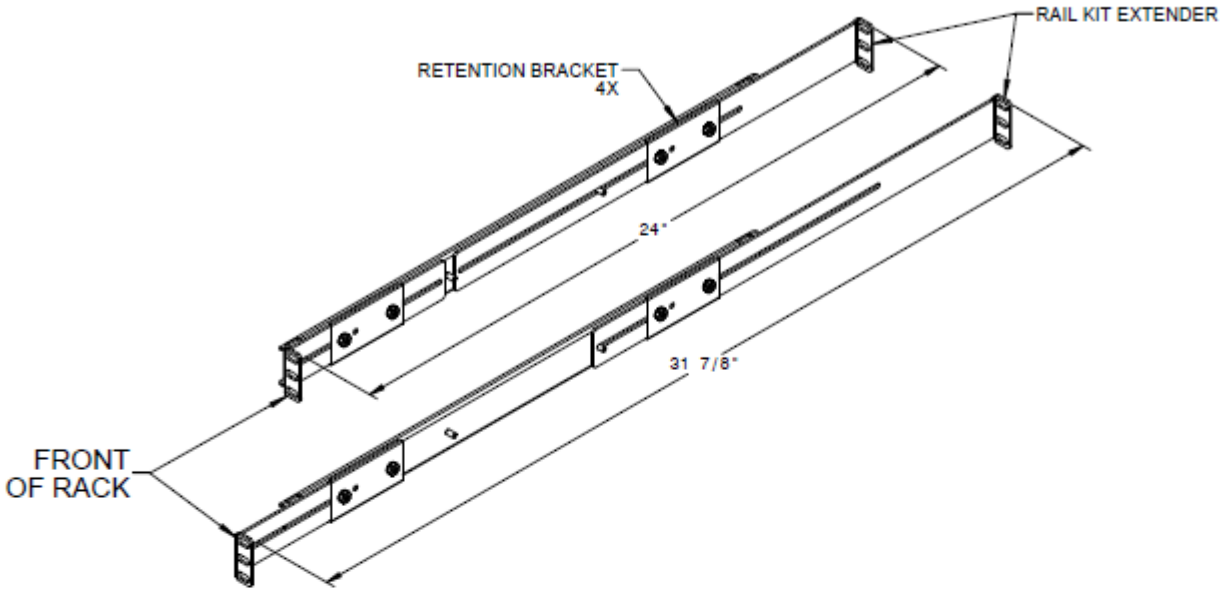


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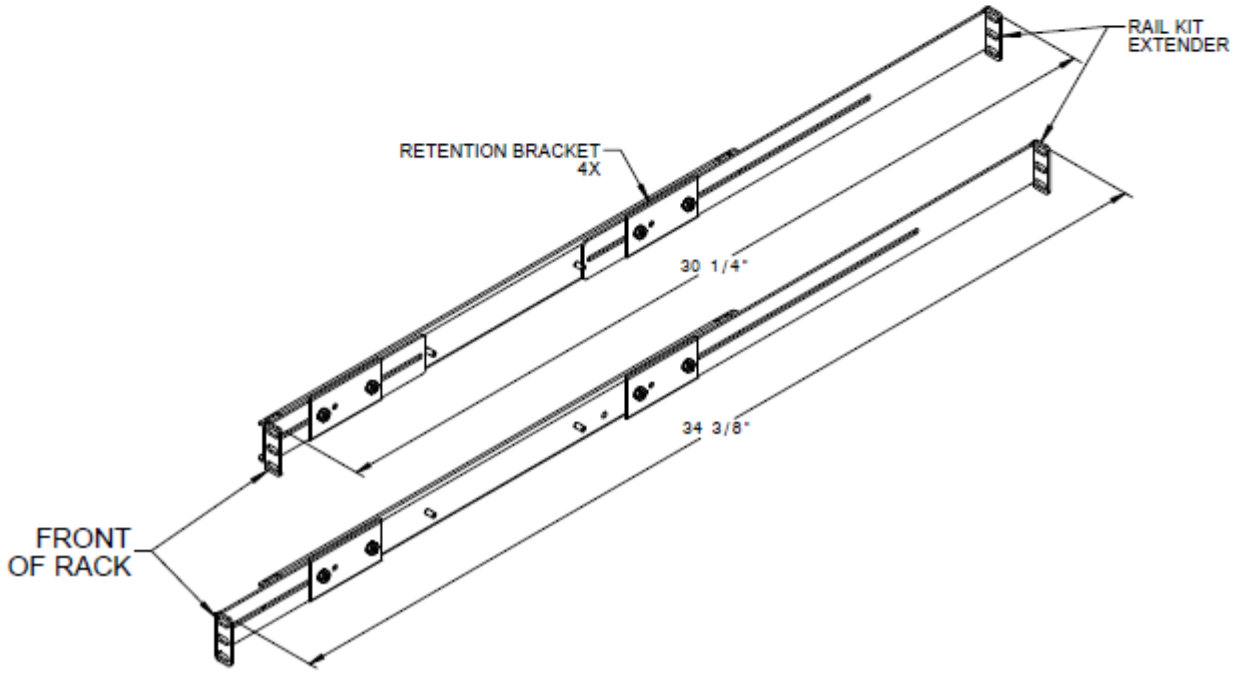
Figure 5: TMLPMOUNT51 Extender Kit

RAIL KIT EXTENDER BRACKET INSTALLATION TMLPMOUNT51

BRACKET CONFIGURATION FOR LENGTH 24" TO 31-7/8"

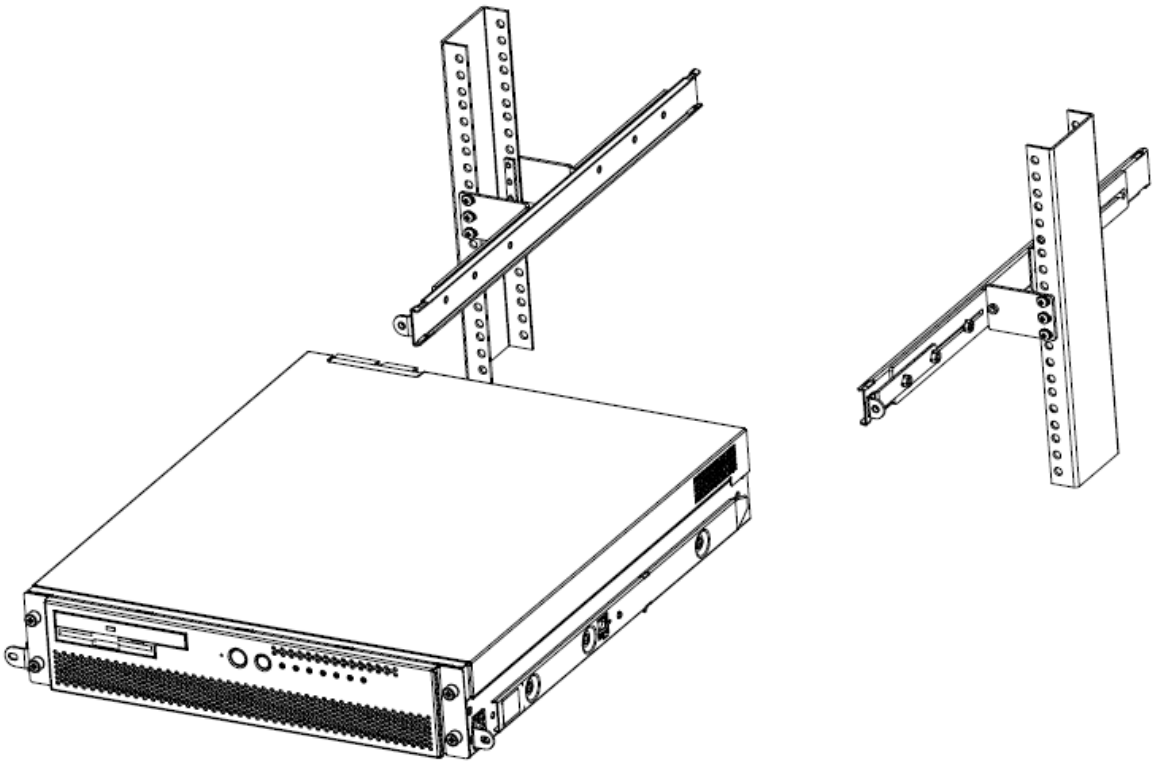


BRACKET CONFIGURATION FOR LENGTH 30-1/4" TO 34-3/8"



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Figure 6: Two-post mid-mount in 23-inch rack



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Figure 7: TMLPMOUNT41/51 - 2-post

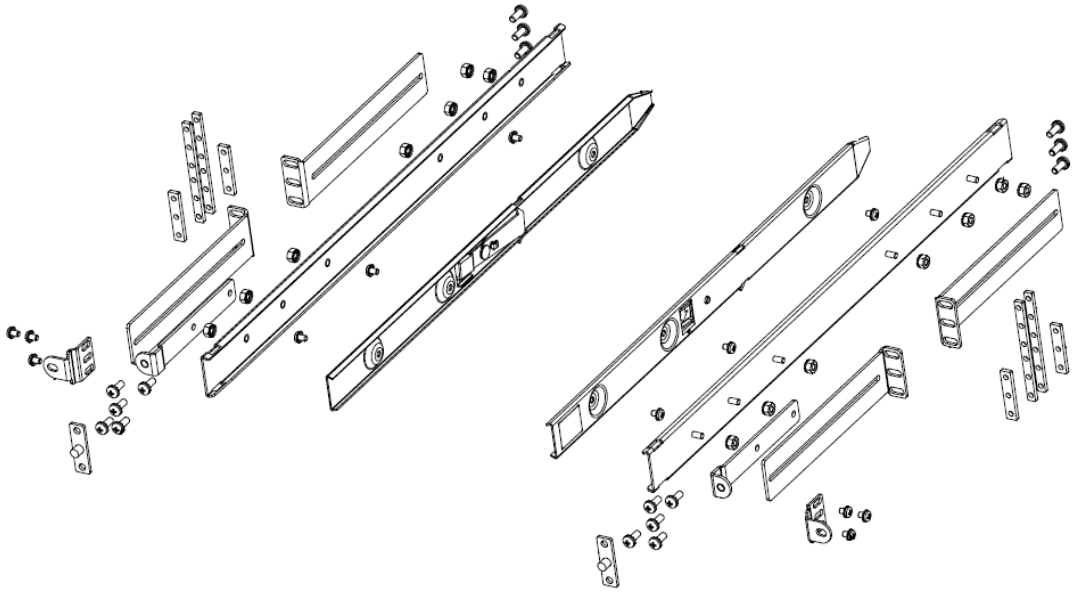
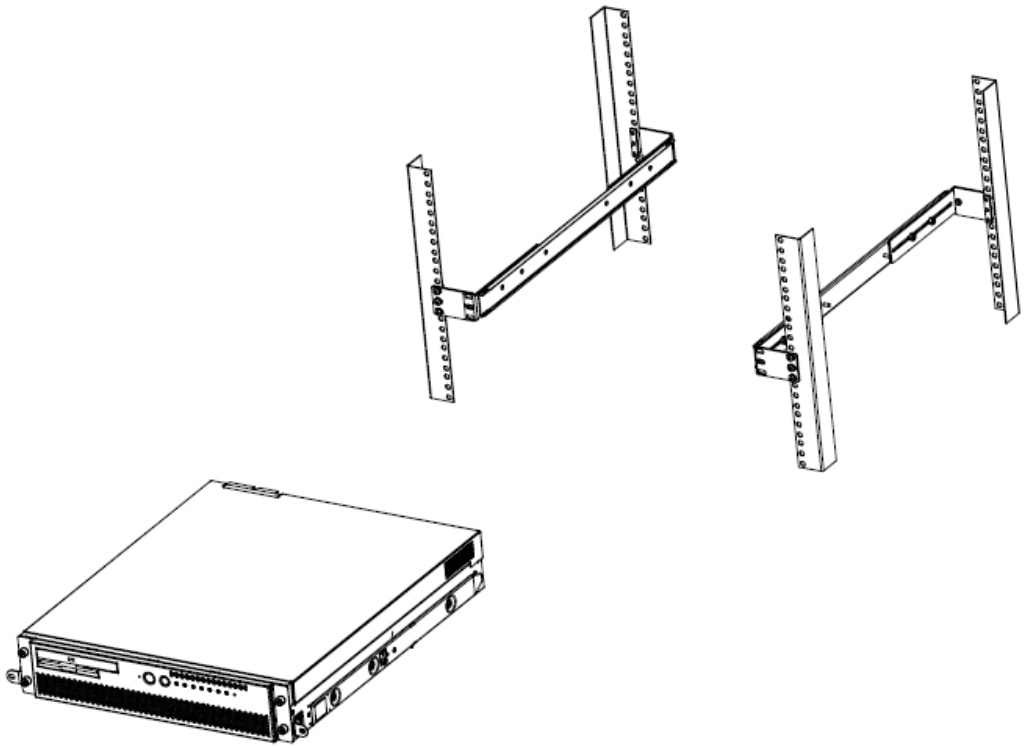


Figure 8: TMLPMOUNT52 - 4-post (23 inch rack shown)



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Configuration Guide – CG2300
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