

# 1U / 2U CMA Cable Routing Reference for Intel® Server Chassis

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**A Guide for Technically Qualified Assemblers of Intel® Identified Subassemblies/  
Products**

Intel Order Number: D64052-001



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# Safety Information

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## Important Safety Instructions

Read all caution and safety statements in this document before performing any of the instructions. See also Intel® Server Boards and Server Chassis Safety Information on the *Intel® Server Deployment Toolkit 2.0 CD* and/or at <http://support.intel.com/support/motherboards/server/sb/cs-010770.htm>.

## Wichtige Sicherheitshinweise

Lesen Sie zunächst sämtliche Warnung und Sicherheitshinweise in diesem Dokument, bevor Sie eine der Anweisungen ausführen. Beachten Sie hierzu auch die Sicherheitshinweise zu Intel-Serverplatinen und Servergehäusen auf der *Intel® Server Deployment Toolkit 2.0 CD* oder unter <http://support.intel.com/support/motherboards/server/sb/cs-010770.htm>.

## Consignes de sécurité

Lisez attention toutes les consignes de sécurité et les mises en garde indiquées dans ce document avant de suivre toute instruction. Consultez Intel Server Boards and Server Chassis Safety Information sur le *Intel® Server Deployment Toolkit 2.0 CD* ou bien rendez-vous sur le site <http://support.intel.com/support/motherboards/server/sb/cs-010770.htm>.

## Instrucciones de seguridad importantes

Lea todas las declaraciones de seguridad y precaución de este documento antes de realizar cualquiera de las instrucciones. Vea Intel Server Boards and Server Chassis Safety Information en el *Intel® Server Deployment Toolkit 2.0 CD* y/o en <http://support.intel.com/support/motherboards/server/sb/cs-010770.htm>.

### 重要安全指导

在执行任何指令之前，请阅读本文档中的所有注意事项及安全声明。和/或 <http://support.intel.com/support/motherboards/server/safecert.htm> 上的 *Intel Server Boards and Server Chassis Safety Information* (《Intel 服务器主板与服务器机箱安全信息》)。

## Warnings

**Heed safety instructions:** Before working with your server product, whether you are using this guide or any other resource as a reference, pay close attention to the safety instructions. You must adhere to the assembly instructions in this guide to ensure and maintain compliance with existing product certifications and approvals. Use only the described, regulated components specified in this guide. Use of other products / components will void the UL listing and other regulatory approvals of the product and will most likely result in noncompliance with product regulations in the region(s) in which the product is sold.

**System power on/off:** The power button DOES NOT turn off the system AC power. To remove power from system, you must unplug the AC power cord from the wall outlet. Make sure the AC power cord is unplugged before you open the chassis, add, or remove any components.

**Hazardous conditions, devices and cables:** Hazardous electrical conditions may be present on power, telephone, and communication cables. Turn off the server and disconnect the power cord, telecommunications systems, networks, and modems attached to the server before opening it. Otherwise, personal injury or equipment damage can result.

**Electrostatic discharge (ESD) and ESD protection:** ESD can damage disk drives, boards, and other parts. We recommend that you perform all procedures in this chapter only at an ESD workstation. If one is not available, provide some ESD protection by wearing an antistatic wrist strap attached to chassis ground any unpainted metal surface on your server when handling parts.

**ESD and handling boards:** Always handle boards carefully. They can be extremely sensitive to ESD. Hold boards only by their edges. After removing a board from its protective wrapper or from the server, place the board component side up on a grounded, static free surface. Use a conductive foam pad if available but not the board wrapper. Do not slide board over any surface.

**Installing or removing jumpers:** A jumper is a small plastic encased conductor that slips over two jumper pins. Some jumpers have a small tab on top that you can grip with your fingertips or with a pair of fine needle nosed pliers. If your jumpers do not have such a tab, take care when using needle nosed pliers to remove or install a jumper; grip the narrow sides of the jumper with the pliers, never the wide sides. Gripping the wide sides can damage the contacts inside the jumper, causing intermittent problems with the function controlled by that jumper. Take care to grip with, but not squeeze, the pliers or other tool you use to remove a jumper, or you may bend or break the pins on the board.

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# 1 Cable Management Arm Cable Routing Reference

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The instructions in this guide are provided as a reference when cabling 1U and 2U Intel® Server Chassis in a rack using the Cable Management Arm.

## Before You Begin

Before installing the the server(s) in a rack, observe these safety guidelines:

1. Turn off all peripheral devices connected to the server.
2. Turn off the server by pressing the power button on the front of the chassis. Then unplug the AC power cord(s) from the chassis or wall outlet.
3. Label and disconnect all peripheral cables and all telecommunications lines connected to I/O connectors or ports on the back of the chassis.
4. Provide electrostatic discharge (ESD) protection by wearing an anti-static wrist strap attached to a chassis ground - any unpainted metal surface - when handling components.

## Tools and Supplies Needed

- Anti-static wrist strap and conductive foam pad (recommended)

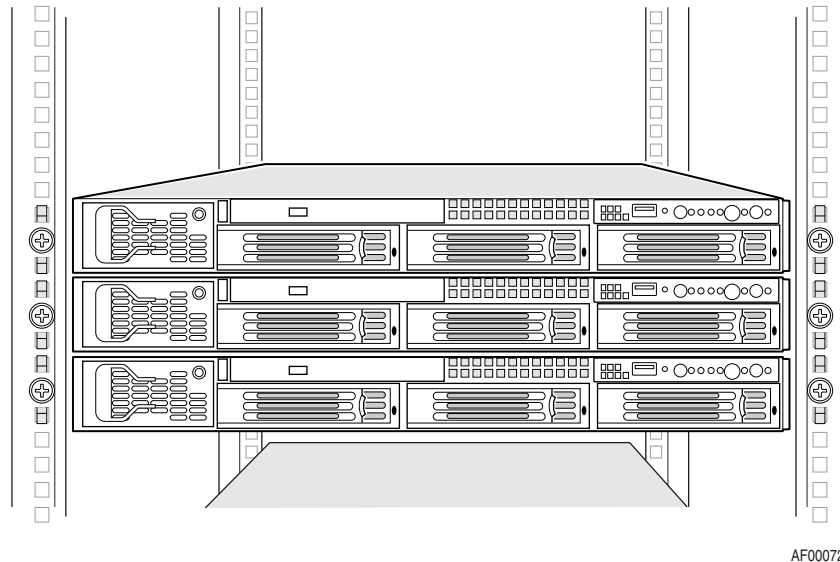
## Cable Management Arm Kit Content List

Each Cable Management Arm kit contains the following:

- Cable Management Arm Assembly (1)
- Velcro tie straps (8)

## Cable Routing Instructions

The Cable Management Arm is available to aide in the installation of multiple servers in a rack, see [Figure 1](#). The following instructions are provided as a reference when routing cables with the CMA. These instructions are the recommendations for a “typical” multiple server installation. Many configurations are unique and may require deviations from these recommended instructions



**Figure 1. Typical Multiple Server Installation in a Rack**

*Notes: Although 1U servers are used in all illustrations, the instructions apply to both 1U and 2U servers.*

*In all subsequent illustrations, cable colors are for graphical clarity only.*

1. Place cables as shown in [Figure 2](#), making sure all cables are inside the CMA channel arm.
2. Secure cables together with two cable ties above the VGA input as they come out of the back of the server. These ties are to prevent the cables from dropping below the server when it is fully extended from the rack. See letter “A” in [Figure 2](#) for the two locations to tie (redundant power supply server illustrated as reference).

*Note:* Do not attach cables to the back of the server.

3. Route cables around the back side of the CMA double-hinge. See letter “B” in [Figure 2](#) for details.

*Note:* Cables at this location should be able to flex freely when the CMA rotates closed as the server is pushed back in the rack.

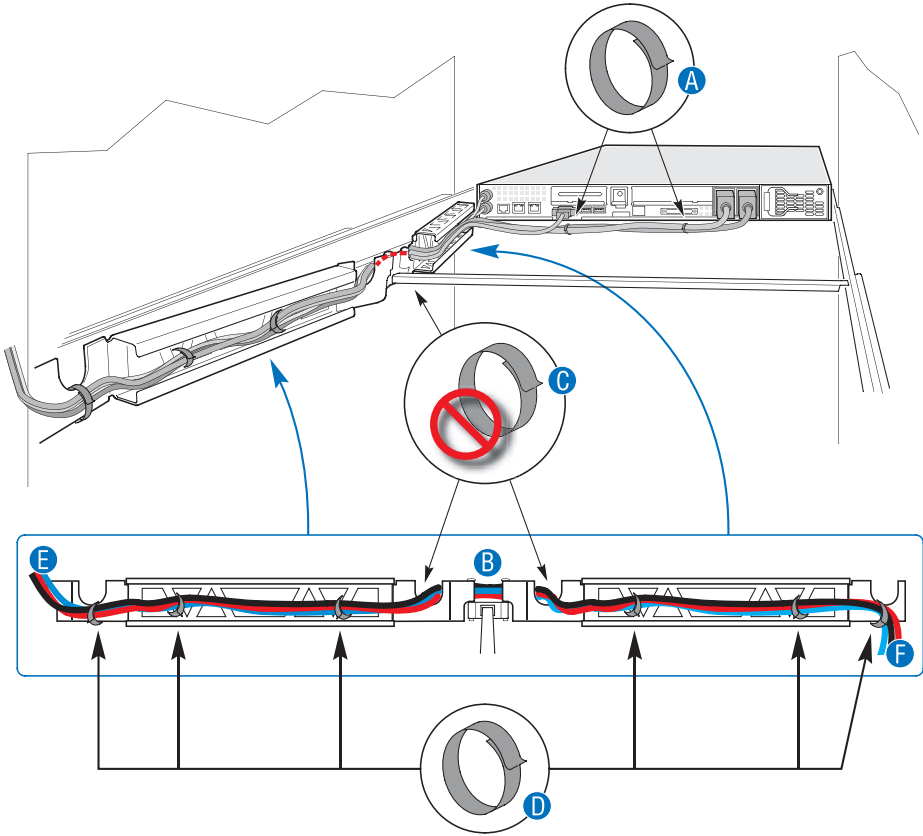
4. Do not attach or restrain cables at locations shown by letter “C” in [Figure 2](#).
5. Secure cables to the CMA in the six locations shown by letter “D” in [Figure 2](#).

*Note:* Cable ties should be routed inside the CMA, not on the top or bottom of the CMA.

*Note:* References to letters “E” and “F” in [Figure 2](#) are as follows:

- “E”, to power/data sources
- “F”, to server back panel

Cable Management Arm Cable Routing Reference

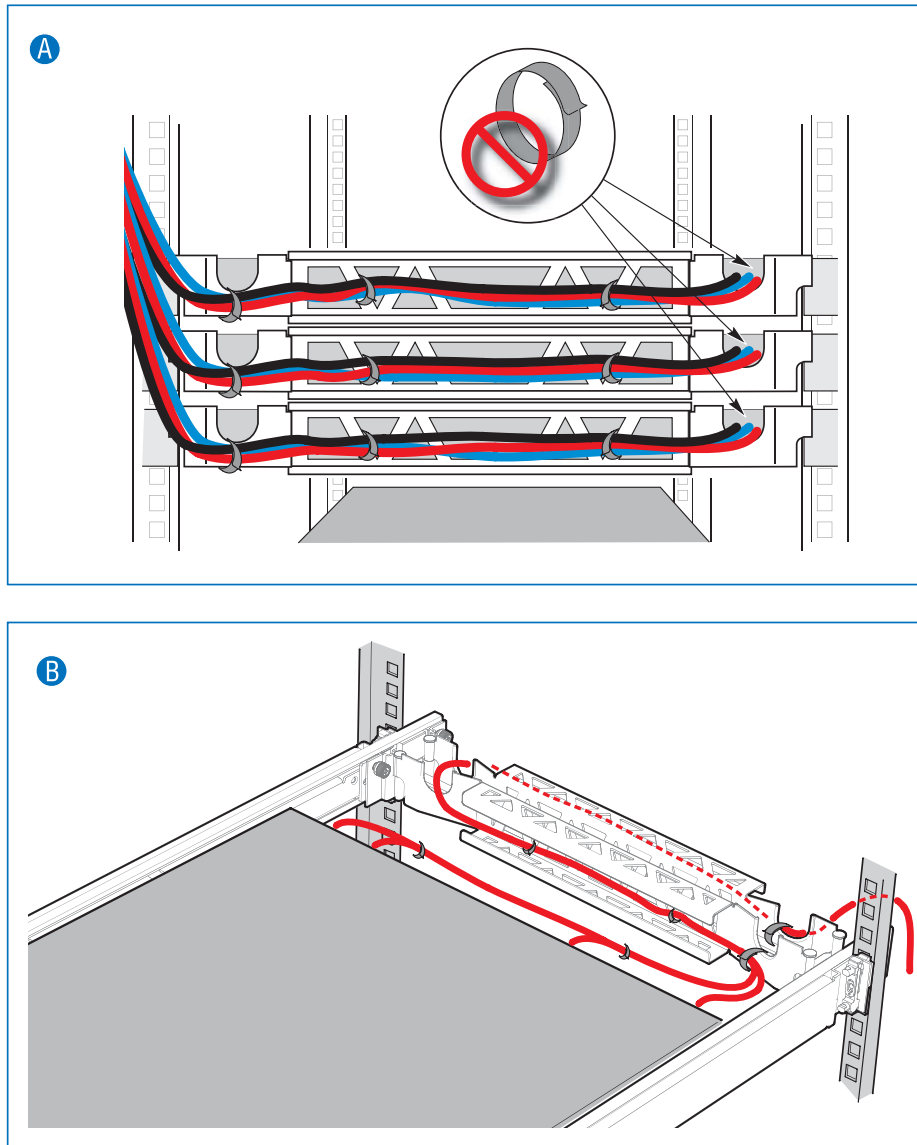


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Figure 2. Extended View Cabling Details

## Final Views of CMA Routing

1. See letter “A” in [Figure 3](#) for a back view of three servers installed in a rack with recommended cable installation and routing.
2. See letter “B” in [Figure 3](#) for an “inside the rack” view of recommended cable installation and routing.



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**Figure 3. CMA Routing Final View**

*Cable Management Arm Cable Routing Reference*