

Frequently Asked Questions

N-SERIES TERAFRAME™ NETWORK CABINET



Q. Why should I use an N-Series TeraFrame™ Network Cabinet instead of a standard TeraFrame Cabinet to store network switches and equipment?

A. The N-Series TeraFrame™ Network Cabinet has extra interior space along both sides of the frame for network cables and an optional Network Switch Exhaust Duct for network switches that require side-to-side airflow. Also, the recessed frame design makes it easier to move, add or change cables.

Q. What is a recessed frame design and how is it different than a standard server cabinet design?

A. In a recessed frame design, the doors and side panels are offset from the cabinet frame. Cables are routed in the space between the cabinet frame and the doors/side panels. In a standard server cabinet design, the doors and side panels attach directly to the cabinet frame. Cables are routed through the frame in the space between the frame and the equipment mounting rails. Recessed frames are a better choice for networking cabinets where connections are located at the front of the cabinet. Server cabinets have the extra rail-to-rail depth needed for deeper server equipment.

Q. How are the doors and side panels supported from the frame on the N-Series TeraFrame Network Cabinet?

A. There are cast aluminum Standoff Brackets at each corner of the frame that support the doors and side panels away from the frame.



Standoff Bracket
in cabinet
(Patent Pending)

Q. Are the doors reversible to open from the right or left?

A. The front door is hinged on the right side. The front door swing is reversible, but reversing the door requires a separate accessory - the Right Hand Door Latch Kit (P/N 34684-C02). The rear door is a double door and is not reversible.

Q. Is there a baying kit for N-Series TeraFrame Network Cabinets?

A. Yes, N-Series TeraFrame Network Cabinets can be bayed side-by-side into multi-cabinet rows when side panels are not installed. Cabinets must be the same height and depth to be connected together with the Baying Kit (P/N 34682-C01). All cabinets should be securely fastened to the floor.

Q. Is there a baying kit for N-Series TeraFrame Network Cabinets and standard TeraFrame Cabinets?

A. No, N-Series TeraFrame Network Cabinets and standard TeraFrame Cabinets that are the same overall height and depth can be placed side-by-side into multi-cabinet rows; however, there is no baying kit to connect these cabinets. All cabinets should be securely fastened to the floor.

Q. Can CPI Cable Runway be attached to the top of the N-Series TeraFrame Network Cabinet?

A. Yes, the top of the cabinet frame is pre-punched along the sides and front with J-bolt mounting holes for 12" wide Cable Runway. Wider runway may be attached in parallel orientation (side-to-side) if the cabinet frame has sufficient depth to support the full width of the runway.



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Q. When should I select the Network Switch Exhaust Duct option?

A. Select the Network Switch Exhaust Duct option to facilitate side-to-side airflow for Cisco 6500 series switches and/or 9500 series directors. The Network Switch Exhaust Duct is pre-installed on the left side of the cabinet. It includes adjustable panels that seal the space between the exhaust vents on the network switch and the duct. The duct guides hot exhaust air from the side of the switch out the rear door. No fan is required; the equipment fans in the switch move the air. The duct helps channel cold-to-hot airflow through the cabinet. Without the duct, hot air is exhausted into the cabinet and will re-circulate through equipment raising air temperatures and reducing the overall cooling effect. The Network Switch Exhaust Duct helps maintain front-to-rear airflow for network equipment deployed in hot aisle/cold aisle environments.

Q. How many Network Switch Exhaust Duct Panels are included with each Network Switch Exhaust Duct?

A. Network Switch Exhaust Duct Panels are adjustable panels used to seal the open spaces between the Network Switch Exhaust Duct and switches. There are three different size panels. Each panel adjusts in height to fill several RMU. Each duct includes enough panels to seal all but 9 RMU of the open space on the duct. The size and quantity of Network Switch Exhaust Duct Panels included with each cabinet are listed in the table below.

Number of Network Switch Exhaust Duct Panels Included With Each Network Switch Exhaust Duct			
Cabinet Height (RMU)	Area (in ²)	Area (mm ²)	Cat 5e
42 RMU to 44 RMU	2	2	1
45 RMU to 51 RMU	2	3	1

Q. Are N-Series TeraFrame Network Cabinets Cisco Compatible?

A. Yes, certain part numbers are. The following N-Series TeraFrame Network Cabinets are Cisco Compatible and meet the Cisco compatibility guidelines for housing Catalyst 6500E network switches and MDS 9500 series SAN directors. Cisco Compatible cabinets are similar to other N-Series cabinets that include ducts (CPI P/N NF1K-) but include a special Network Switch Exhaust Duct, two power supply exhaust ducts and an ESD wrist strap attachment point.

Number of Network Switch Exhaust Duct Panels Included With Each Network Switch Exhaust Duct		
Part Number	Description	Shipping Weight
NF2K-113-C42	For Cisco 6506, 6509*, 6513, 9509	400 lb (181.4 kg)
45 RMU to 51 RMU	For Cisco 9513	400 lb (181.4 kg)

*A Network Switch Exhaust Duct is not required for the Cisco 6509-NEBS switch.

Q. Are the equipment mounting rails different in cabinets that include the Network Switch Exhaust Duct?

A. Yes, cabinets equipped with the Network Switch Exhaust Duct option have a fixed pair of front equipment mounting rails (replacement P/N 34626-0XX or P/N 34667-0XX) that attach to the front uprights on the cabinet frame and do not adjust in depth. The rear pair of mounting rails in cabinets equipped with the Network Switch Exhaust Duct and both pairs of mounting rails in cabinets that do not include the duct (replacement P/N 33408-0XX or P/N 33409-0XX) attach to the side of the frame and adjust in depth.



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Q. What is difference between square-punched and threaded equipment mounting rails?

A. Square-punched equipment mounting rails accept cage nut hardware allowing the threads to be changed to match equipment requirements at each RMU. Threaded equipment mounting rails have tapped #12-24 holes that accept screws which speeds installation of panel mount equipment, like patch panels and fiber enclosures. Both mounting rails are punched with the 19" wide EIA-310-D compliant Universal hole pattern and have marked and numbered RMU spaces. Cabinets include one package of equipment mounting hardware that matches the mounting rail style. Additional hardware is available as an accessory.

Q. Are there other door styles available for the N-Series Teraframe Network Cabinet?

A. No, other door styles are not available for the cabinet. The cabinet has perforated front and rear doors to allow front-to-rear airflow in support of hot aisle/cold aisle data center environments.

Q. Are there other door latches available for the N-Series TeraFrame Network Cabinet?

A. No, because of the recessed frame design, cabinets require a two-point latch on the front and rear door. A choice of keyed or combination and keyed locks is available.

Q. Are fans available for the doors, side panels or top panel of the N-Series TeraFrame Network Cabinet?

A. No, the N-Series TeraFrame Network Cabinet offers a CPI Passive Cooling™ Solution. Additional fans are not needed on the cabinet doors, side panels or top panel. Air flows front-to-rear through the perforated (mesh) doors. The optional Network Switch Exhaust Duct isolates and guides heated air away from the side of network switches. Vented side panels are also available.



Top panel shown on cabinet

Q. Can the top panel be removed from the cabinet?

A. Yes, the top panel is a five-piece panel – a single solid central panel that goes over the cabinet frame and four perimeter panels. All of the panels can be removed from the cabinet. However, the front and rear perimeter panels must remain on the cabinet when the cabinet is placed into operation because the doors are secured on these panels. The central, front and rear panels attach directly to the cabinet frame. The side perimeter panels attach to the front and rear perimeter panels.

Q. How many cables can enter the top of the cabinet?

A. There are two types of cable access ports in the top panel. The center top panel has four round 2.75" (70 mm) diameter grommet-protected ports located close to the corners of the frame. The perimeter panels have several 3.1" x 5.3" (79 mm x 135 mm) cable knockouts. There are four cable knockouts on the front and rear perimeter top panels and three on the side perimeter top panels for 650 mm and 675 mm deep cabinet frames (950 mm and 975 mm deep cabinets). There are four cable knockouts on the side perimeter top panels for 700 mm to 825 mm deep cabinet frames (1000 mm to 1125 mm deep cabinets), and five on the side perimeter top panels for 850 mm to 900 mm deep cabinet frames (1150 mm to 1200 mm deep cabinets). Additionally, the side perimeter top panels can be removed to provide full cable access. The cable fill area of each top panel opening and estimated cable fills are listed in the table below.

Top Panel Opening	Cable Fill Area		Cable Fill (50%)		
	Area (in ²)	Area (mm ²)	Cat 5e	Cat 6	Cat 6a
Top Grommet	5.9	3810	58	37	23
Top Knockout	16.4	10 580	161	104	64

Note: Based on .220" (6 mm) OD Cat 5e, .275" (7 mm) OD Cat 6, .350" (9 mm) OD Cat 6a 4-pair UTP cable.

The number of knockouts for each cabinet depth is listed below:

Number of Knockouts in Perimeter Top Panels		
Frame Depth	Front/Rear (each)	Side (each)
650 mm to 675 mm D	4	3
700 mm to 825 mm D	4	4
850 mm to 900 mm D	4	5

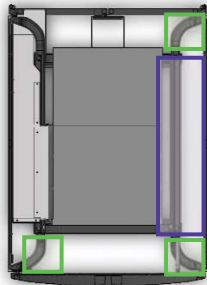


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Q. What is the vertical cable management capacity of the cabinet?

A. Cables can be managed in the corners or along the sides of the cabinet, but cables must not block airflow to equipment. The cable fill areas and estimated cable fills are listed in the table below.



Cable Space	Cable Fill Area		Cable Fill (50%)		
	in ²	mm ²	Cat 5e	Cat 6	Cat 6a
Corner, *each	28.7	18 520	283	182	112
Side, 650 mm D	76.3	49 230	752	484	298
Side, 675 mm D	79.8	51 480	787	507	311
Side, 700 mm D	83.3	53 740	822	529	325
Side, 725 mm D	86.5	55 810	853	549	337
Side, 750 mm D	90.0	58 060	888	572	351
Side, 775 mm D	93.5	60 320	922	594	365
Side, 800 mm D	97.0	62 580	957	616	378
Side, 825 mm D	100.5	64 840	991	638	392
Side, 850 mm D	104.0	67 100	1026	661	406
Side, 875 mm D	107.1	69 100	1056	680	418
Side, 900 mm D	110.6	71 350	1091	702	432

Note: Based on .220" (6 mm) OD Cat 5e, .275" (7 mm) OD Cat 6, .350" (9 mm) OD Cat 6a 4-pair UTP cable. Reduce corner fill values by 50% at standoff brackets.

Q. Can cables enter the bottom of the cabinet?

A. Yes, the bottom of the cabinet is open.

Q. What vertical cable management accessories are available for the N-Series TeraFrame Network Cabinet?

A. Each cabinet that includes a Network Switch Exhaust Duct contains one Cable Management Fingers Kit. Cabinets that do not include a Network Switch Exhaust Duct contain two Cable Management Fingers Kits. Additional kits (P/N 34680-0XX) can be attached to each corner of the cabinet frame. The kit is comprised of several composite T-shaped cable guides that connect to the front of the frame upright and five cable spools

that attach to the side of the frame upright. The T-shaped cable guides have 1 RMU high cable openings that align with each RMU on the mounting rails. The openings will pass up to 48 Cat 6a cables. Cables are routed vertically along the frame upright. The spools help control cable as it turns up or down.

Fiber management accessories for Corning Cable Systems LANscape® Pretium™ Solutions Plug and Play™ Universal System and Zero-U System are also available. See the CPI Fiber Management for TeraFrame™ Family of Cabinets data sheet.

Q. What horizontal cable management accessories are available for the N-Series TeraFrame Network Cabinet?

A. Any 19" EIA rack-mount cable manager that projects less than 7" (180 mm) in front of the equipment mounting rails can be used in the N-Series TeraFrame Network Cabinet. CPI recommends the Universal Horizontal Cable Manager in between patch panels so that there is at least 1 RMU of horizontal cable management for every 2 RMU of connectivity. CPI recommends the Upper Jumper Tray above and below network switches and at the top and middle of racks for side-to-side cable cross over.

Q. Can the cabinet support rack-mount shelves?

A. Yes, single-sided 19" EIA rack-mount shelves and 19" EIA four-post (cabinet) shelves can be mounted in the cabinet when there is sufficient RMU space and depth for the shelf and the cabinet's mounting rails can be positioned to support the shelf.

Q. Can TeraFrame Cabinet System accessories be used in the N-Series TeraFrame Network Cabinet?

A. The N-Series TeraFrame Network Cabinet can use the Vertical Power Strip Managers and Vertical Power Cord Managers for the 600 mm wide TeraFrame Cabinet as long as there is sufficient depth inside the cabinet to mount the accessories with required mounting rail setbacks. Standard TeraFrame thermal management accessories, side panels, top panels, caster kits and baying kits are not compatible with N-Series TeraFrame Network Cabinet.



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Q. Is equipment mounting hardware (rack-mount hardware) included with the cabinet?

A. Yes, cabinets equipped with square-punched rails include 25 each M6 cage nuts and screws, and cabinet equipped with tapped rails include 50 each #12-24 screws. Additional equipment mounting hardware can be ordered separately.

Q. Are leveling feet included with the cabinet?

A. Yes, the cabinet includes leveling feet and floor anchor brackets that can be used to attach the leveling feet to the floor with floor-mount hardware.

Q. Are casters included with the cabinet?

No, but the Caster Kit is available as an accessory (P/N 34628-C01).

Q. I have questions about the assembly of components and/or installation of the cabinet?

The N-Series TeraFrame Network Cabinet User Manual, which includes a complete installation guide, is available for download on the CPI Website at www.chatsworth.com/n-series.

Q. I did not find the answer to my question. Who do I contact for assistance?

Please contact CPI Technical Support (800-834-4969 or techsupport@chatsworth.com) for assistance.



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