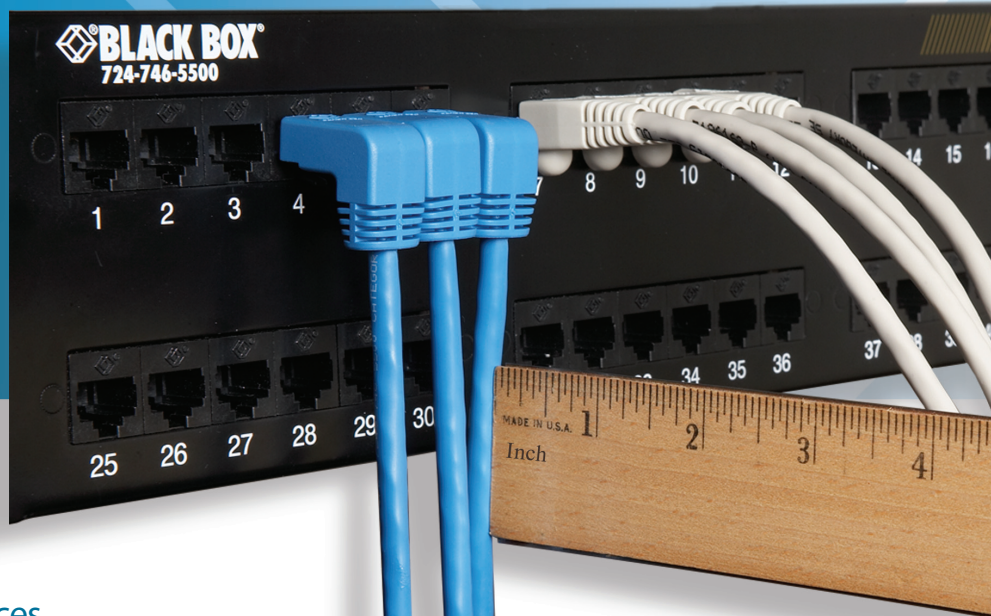# BLACK BOX®
NETWORK SERVICES

Introducing SpaceGAIN—only from Black Box.

Cabinet real estate is expensive.
Gain 10 cm of valuable cabling space with SpaceGAIN.

Unique, space-saving cables and panels for high-density infrastructures, crowded cabinets, and the desktop.

BLACK BOX®
724-746-5500

Turn tight spaces into right spaces.

» 90° Right-Angle Patch Cables

» 48-Port, 1U, High-Density Feed-Through Patch Panels

» 45° Angled-Port Patch Panels

» 128° Angled Patch Panels

» 15 cm Reduced-Length Patch Cables

Reduce cabling space, management, and costs.

Did this ever happen to you?
These cables protrude so much you
can't even close the cabinet door.

Gain up to 10 cm of valuable cabling space and keep cabinet doors
securely locked with SpaceGAIN 90° Right-Angle Patch Cables.

Introducing SpaceGAIN — unique space-saving solutions for highdensity infrastructures, crowded cabinets, and the desktop.

Today, as more and more IT managers move to high-density configurations, space in the data center is becoming more and more valuable. This applies to the desktop, too. Increasingly, people are working with two monitors, a standard keyboard, plus a laptop on their desktop. Space—and cabling—is becoming a real issue.

SpaceGAIN is a new family of patch cables and panels designed to help you create space instead of taking up space in the data cabinet and at the desktop.

Found only at Black Box, SpaceGAIN cables and patch panels will help turn tight spaces into right spaces. You'll gain space for cabling in the closet and reduce cable management, installation time, and costs. At the desktop, you'll tame cable chaos and make much neater cabling connections. Plus, you'll be able to easily make those really tight, hard-to-fit wallplate connections behind desks and furniture.

SpaceGAIN started with some hands-on research. We worked in our data lab and actively developed and tested the SpaceGAIN products. The result is a space-saving solution produced for Black Box customers.

The SpaceGAIN family consists of:
• 90° Right-Angle Patch Cables, pages 3–6 (a Black Box Exclusive)
• 15 cm Reduced-Length Patch Cables, page 7
• Angled Patch Panels, page 8
• 45° Angled-Port Patch Panels, page 9
• 48-Port, 1U, High-Density Feed-Through Patch Panels, page 10 (a Black Box Exclusive)
• Available in Cat5e F/UTP and Cat6 S/FTP

Best of all, SpaceGAIN products are guaranteed for life so you can be assured they'll continue working for you for a long time to come.

BLACK BOX
NETWORK SERVICES
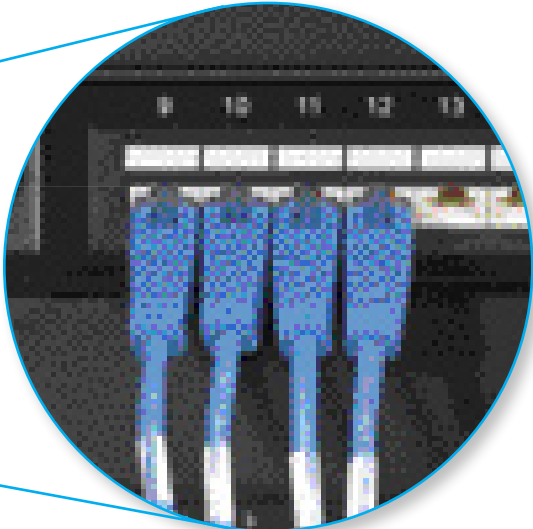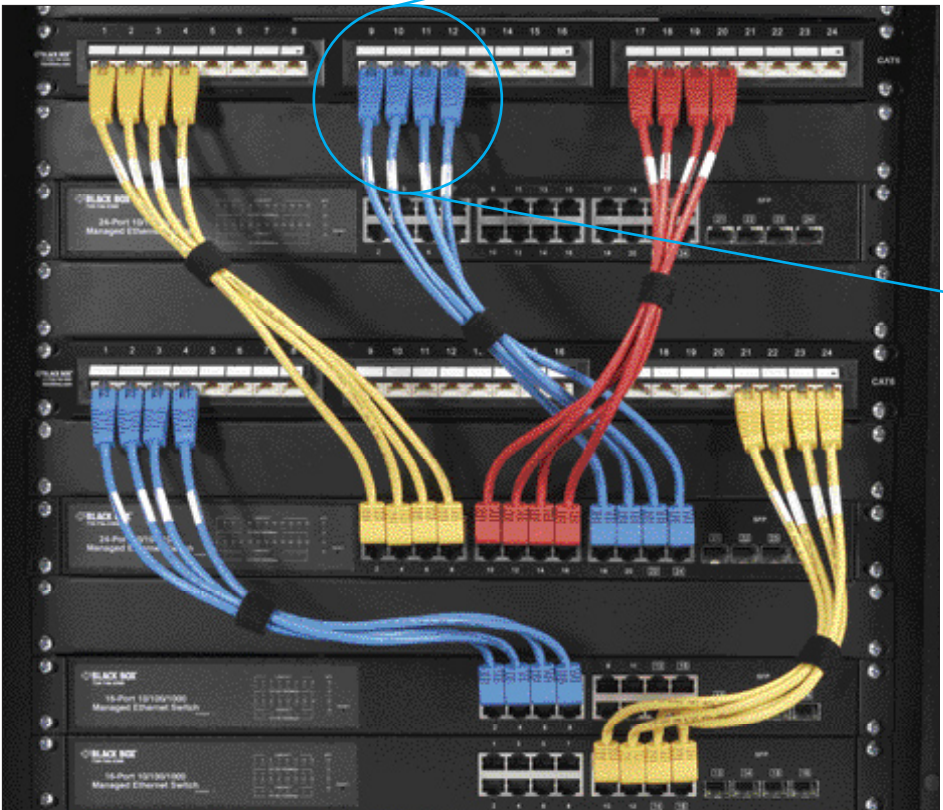
Cables flow downward—not out—saving even more space with our award-winning SpaceGAIN 45° Angled-Port Patch Panels.

Gain more cabling space and make neater cabinet connections with the ingenious duo of SpaceGAIN 45° Angled-Port Patch Panels and 90° Right-Angle Patch Cables.

A Black Box Exclusive

Reduce cabling space, management, and costs.

The inspiration behind SpaceGAIN: the data center mistake I made only once.

"SpaceGAIN cables and panels are for people like me. Once, when designing a data center, I made a mistake I'll never make again.

"When ordering new data cabinets, I carefully took into account the measurements of the new, deeper equipment to make sure it would fit. I left room for cable on the sides of the cabinet. I ordered cable managers. What I didn't do was account for 10 cm of cabling volume in front of the equipment.

"Once everything was installed, the cables stuck out so far, I couldn't close the cabinet doors. Boy, was my face red. I ended up ordering custom cabinet doors that protruded 15 cm to accommodate the cabling. It was a very expensive mistake.

"The only good that came out of the whole unfortunate episode was the inspiration for SpaceGAIN. If I had this problem, I was sure other people did, too. I talked to product development, and the result is presented here for you.

"As an avid angler, I know SpaceGAIN gives a whole new meaning to the phrase 'angling for space'."

Andrew Schmeltzer, Cabling Product Manager

BLACK BOX
NETWORK SERVICES

CAT5e and CAT6 90° Right-Angle Patch Cables
Tight fit? These cables have the "right angle" to save space.
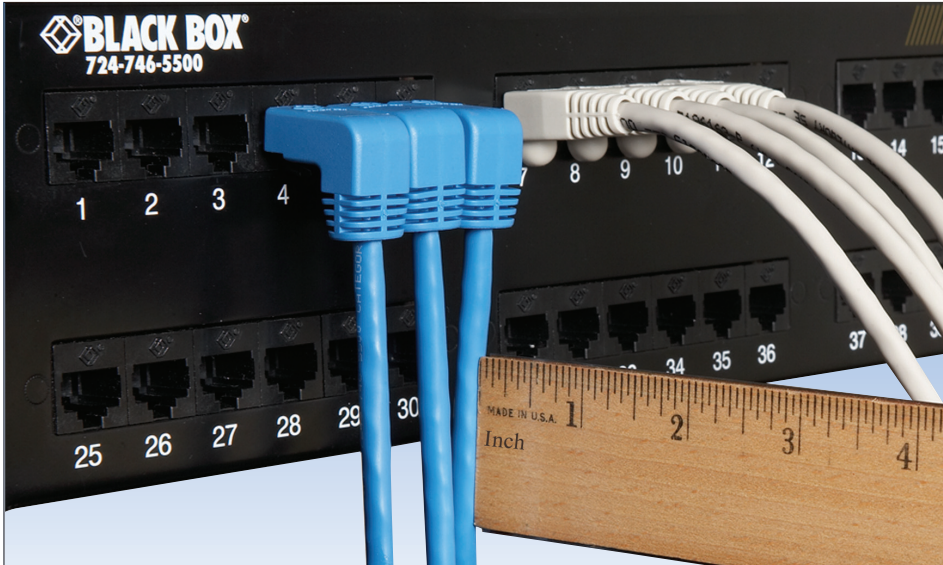
A Black Box Exclusive

Gain up to 10 cm of valuable space in crowded data cabinets with SpaceGAIN 90° Right-Angle Patch Cables.

Shown: SpaceGAIN 90° Right-Angle Patch Cable, Down–Down (EVNSL21E-0001-90DD)

- Save up to 10 cm of space in crowded cabinets.
- Make tight wallplate connections behind furniture and equipment.
- Tame cable chaos on your desktop.
- For the perfect fit, choose from a whole family of cables with up, down, left, and right angled connectors.
- Meet or exceed CAT5e or CAT6 specifications.
- Available in Cat5e F/UTP and Cat6 S/FTP
- Avoid excessive bends and reduce stress on the cable.
- Feature four 24 AWG unshielded twisted pairs, RJ-45 connectors, molded boots, and a PVC jacket.
- Connectors have gold-plated contacts.
- ✦✦ WARRANTY — Lifetime

FREE, Live, 24/7 Tech Support
We're here to help! If you have any questions about our products, contact Black Box Network Services and talk to Tech Support in your own language.

Retrofitting a cabinet?
Installing newer, deeper equipment?
Want to make sure your cabinet door closes?

In high-density configurations, cabinet space is becoming an increasingly scarce commodity. Gain space in your cabinets (and ensure the door will close) by using our exclusive SpaceGAIN 90° Patch Cables. You can save up to 10 cm of space in front of your patch panels and rack-mounted equipment. That's significant when every cm counts in today's high-density data centers.
If you've ever retrofitted cabinets or installed extra-

deep equipment, you've probably run into the problem of not being able to close the cabinet door. SpaceGAIN solves the problem. Better yet, you'll save both time and money by eliminating cable managers.

The down and up cables are ideal for data center applications. Use them for high-density patch panel connections. Tame the cable chaos on your desk with the right and left cables. Use them for quick laptop connects and disconnects. They're also ideal for tight wallplate connections behind desks and other furniture.
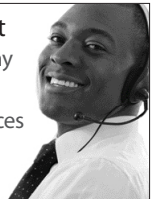
Connector combinations
Down and up cables
  –90° down to a 180° straight connector
  –90° down to a 90° down connector
  –90° down to a 90° up connector
Left and right cables
  (not to be used in patch panel and switch applications)
  –90° left to a 180° straight connector
  –90° right to a 180° straight connector
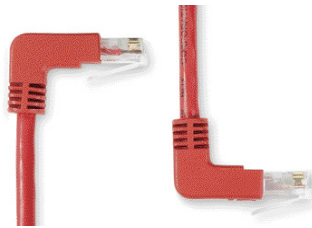
BLACK BOX
NETWORK SERVICES

The "Ups" and "Downs" of SpaceGAIN 90° Right-Angle Patch Cables.

SpaceGAIN 90° Angle CAT5e/CAT6 Patch Cables come with up, down, left, and right-angled connectors, as well as straight connectors. What you choose depends on your application.

Down–Down Cable

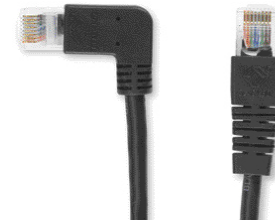The clip is on the bottom and the cable runs down.
Shown: EVNSL21E-0003-90DD

Down–Up Cable

The down clip faces down and the cable runs down. The up clip faces down and the cable runs up.
Shown: EVNSL23E-0003-90DU

Right–Straight Cable

The clip is on the bottom and the connector faces right.
Shown: EVNSL21E-0003-90RS

Left–Straight Cable

The clip is on the bottom and the connector faces left.
Shown: EVNSL27E-0003-90LS

Up and down.

Choose the up and down cables to save space when making patch panel, switch, or other equipment connections in your cabinets and racks. They're also great for connections on the back of equipment sitting at the edge of desks or counters.

The up–down cables come in a variety of configurations: down–down, up–down, down–straight, and up–straight.

Right and left.

To save space at the desktop, choose our left and right cables, which are ideal for laptop or docking station connections. They're also extremely useful for making tight wallplate connections behind furniture. These cables come in right–straight and left–straight configurations.

For complete 90° angle selection information, see pages 5–6.

The move to high-density infrastructures: survey results.

With high-density infrastructures and larger, deeper networking equipment becoming the norm, space in the data center is at a premium.

In recent surveys* of IT professionals around the globe, 85% said they were moving to high-density deployments. Respondents indicated they required higher density to reduce costs and simplify operations.

The top reasons were:
– 50%: Save cabinet/rack space.
– 47%: Lower costs.
– 45%: Lower energy consumption.
– 39%: Save floor space.
– 38%: Cable management.

SpaceGAIN can help you do all the above.

If you're moving to a higher-density infrastructure, planning a new data center, or are retrofitting existing cabinets, consider SpaceGAIN.

It will give you the assurance that you'll have enough room to accommodate high-density cabling without excessive cabling volume. That's extremely important when it comes to proper cabinet and data center planning. More cable volume means less space for cool air. More cool air means better energy efficiency and lower energy costs—a plus in going green.

In addition, SpaceGAIN cables and panels can enhance system maintenance and management. By routing cables directly into patch panels and other equipment, you eliminate cable management equipment, costs, and a lot of time in installation and maintenance to work around them.

* "Innovating in a Time of Change: Investment and Technical Trends in the Data Center." CommScope, Sept. 2009
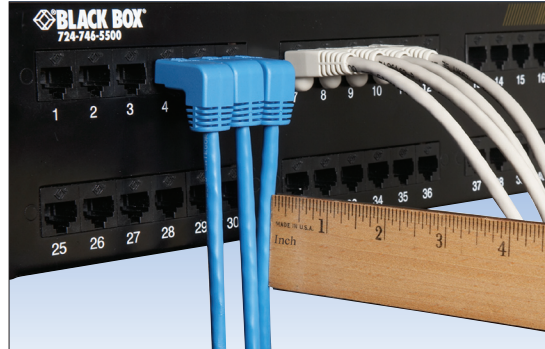
Make tight spaces right spaces with SpaceGAIN.

Save space in crowded cabinets.

In the data center.

SpaceGAIN cables give you an ingenious new way to save space in high-density configurations. Streamline panel and switch connections and gain up to 10 cm of valuable space in crowded cabinets. You'll never have to worry about closing cabinet doors again.
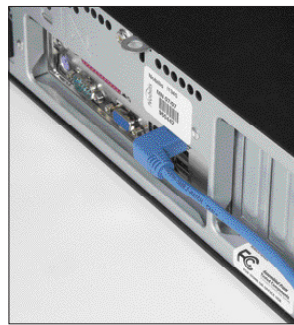

Down cable: cable clip faces down and the cable angles down. Shown: EVNSL21E-0001-90DD

## Save space at the desktop.

In the office.

SpaceGAIN cables make the perfect desktop companion, especially if you use both a full-size monitor and a laptop. SpaceGAIN cables will keep those chaotic cable connections under control. They're also great for countertop, display, and point-of-sale connections.

Right cable: Cable clip faces down and the cable exits to the right. Shown: EVNSL21E-0003-90RS

Right cable: Cable clip faces up and the cable exits to the left. Shown: EVNSL21E-0003-90RS
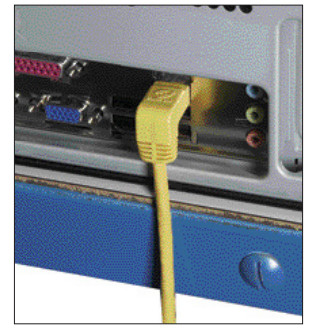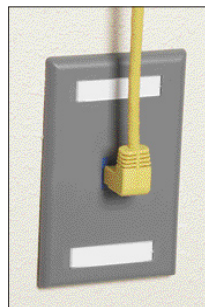

Down cable: Cable clip faces down and the cable angles down. Shown: EVNSL24E-0003-90DS

Save space behind furniture.

At the wallplate.

Ever try to push furniture against the wall, but couldn't because of cables sticking out? Now you can without worrying about damaging the connector or accidentally dislodging the cable. SpaceGAIN cables are perfect for those tight wallplate connections.

Up cable: Cable clip faces down and the cable angles up. Shown: EVNSL24E-0003-DU
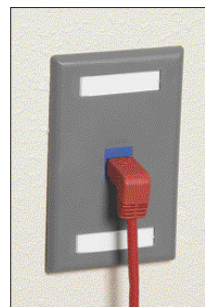
Down cable: Cable clip faces down and the cable angles down. Shown: EVNSL23E-0003-DS
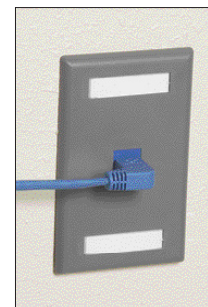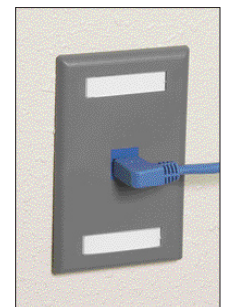

Left cable: Cable clip faces down and the cable angles left. Shown: EVNSL21E-0003-90LS

Right cable: Cable clip faces down and the cable angles right. Shown: EVNSL21E-0003-90RS

BLACK BOX
NETWORK SERVICES

Save even more space with this exclusive SpaceGAIN combo:
90° Patch Cables and 48-Port, 1U, High-Density Feed-Through Patch Panels.

Retrofitting a cabinet?
Installing newer, deeper equipment?
Want to make sure your cabinet door closes?

In high-density configurations, cabinet space is becoming an increasingly scarce commodity. Gain space in your cabinets (and ensure the door will close) by using our exclusive SpaceGAIN 90° Right-Angle Patch Cables with our 48-Port, 1U, High-Density Feed-Through Patch Panel (page 10).

To fit 48 ports in only 1U, the patch panel connectors face up on the top row and down on the bottom row as indicated by the tab area. To achieve the tight, neat configuration as shown to the right, use 90° Down Cables for both rows. This may seem counter intuitive. But the "Down" cable has a clip facing down. Just use it upside down for the top row of the patch panel.

Also available in
Cat5e F/UTP
Cat6 S/FTP

The high-density SpaceGAIN solution. Use our 90° Down Patch Cables (EVNSL21E-0001-90DD) and High-Density Feed-Through Patch Panels (p. 10).

TECH SPECS

CAT6:
ACR (Minimum) — -1.1 dB/100 m
Attenuation — 23.8 dB/100 m (328.1 ft.) @ 100 MHz; 39.4 dB/100 m (328.1 ft.) @ 250 MHz
ELFEXT — 27.8 dB/100 m (328.1 ft.) @ 100 MHz; 19.8 dB/100 m (328.1 ft.) @ 250 MHz
Frequency — Up to 250 MHz
NEXT — 42.3 dB/100 m (328.1 ft.) @ 100 MHz; 36.3 dB/100 m (328.1 ft.) @ 250 MHz
Propagation Delay — 536 dB/100 m (328.1 ft.) @ 250 MHz
PS-ELFEXT — 24.8 dB/100 m (328.1 ft.) @ 100 MHz; 16.8 dB/100 m (328.1 ft.) @ 250 MHz
PS-NEXT — 42.3 dB/100 m (328.1 ft.) @ 100 MHz; 36.3 dB/100 m (328.1 ft.) @ 100 MHz
Return Loss — 19.0 dB/100 m (328.1 ft.) @ 100 MHz; 15.6 dB/100 m (328.1 ft.) @ 250 MHz

CAT5e:
Attenuation — 26.4 dB/100 m (328.1 ft.) @ 100 MHz
ELFEXT — 26.4 dB/100 m (328.1 ft.) @ 100 MHz
Frequency — Up to 100 MHz
NEXT — 35.3 dB/100 m (328.1 ft.) @ 100 MHz
Propagation Delay — 538 dB/100 m (328.1 ft.) @ 100 MHz
PS-ELFEXT — 20.8 dB/100 m (328.1 ft.) @ 100 MHz
PS-NEXT — 32.3 dB/100 m (328.1 ft.) @ 100 MHz
Resistance — 45 ohms/1000 ft.
Return Loss — 19.0 dB/100 m (328.1 ft.) @ 100 MHz
Structural Return Loss — 16.0 dB/100 m (328.1 ft.) @ 100 MHz

CAT6 and CAT5e:
Delay Skew — 45 ns/100 m
Impedance — 100 ± 15 ohms
Mutual Capacitance — 15 pF/ft.

Item	Code
SpaceGAIN 90° Right-Angle Patch Cables (UTP) Down–Up Series, 24 AWG, Stranded	

CAT5e 100-MHz

		Code
1-ft.	(0.3-m)	EVNSLXXE-0001-90YY
3-ft.	(0.9-m)	EVNSLXXE-0003-90YY
6-ft.	(1.8-m)	EVNSLXXE-0006-90YY
10-ft.	(3.0-m)	EVNSLXXE-0010-90YY
15-ft.	(4.5-m)	EVNSLXXE-0015-90YY

CAT6 250-MHz

		Code
1-ft.	(0.3-m)	EVNSLXXX-0001-90YY
3-ft.	(0.9-m)	EVNSLXXX-0003-90YY
6-ft.	(1.8-m)	EVNSLXXX-0006-90YY
10-ft.	(3.0-m)	EVNSLXXX-0010-90YY
15-ft.	(4.5-m)	EVNSLXXX-0015-90YY

To order, replace the "X"s with the number assigned to each color.
CAT5e: Blue = 21   Red = 23   Yellow = 24
Black = 27
CAT6: Blue = 216   Red = 236   Yellow = 246
Black = 276
Then replace the "YY" with the letters assigned to each connector.
90° Down–180° Straight = DS
90° Down–90° Up = DU
90° Down–90° Down = DD

Example: EVNSL21E-0001-90DS signifies a CAT5e blue, 1-foot, 90° down connector to a straight connector cable.

Item	Code
SpaceGAIN 90° Right-Angle Patch Cables (UTP) Left–Right Series, 24 AWG, Stranded	

CAT5e 100-MHz

		Code
3-ft.	(0.9-m)	EVNSLXXE-0003-90YY
6-ft.	(1.8-m)	EVNSLXXE-0006-90YY
10-ft.	(3.0-m)	EVNSLXXE-0010-90YY

CAT6 250-MHz

		Code
3-ft.	(0.9-m)	EVNSLXXX-0003-90YY
6-ft.	(1.8-m)	EVNSLXXX-0006-90YY
10-ft.	(3.0-m)	EVNSLXXX-0010-90YY

To order, replace the "X"s with the number assigned to each color.
CAT5e: Blue = 21   Black = 27
CAT6: Blue = 216   Black = 276
Then replace the "YY" with the letters assigned to each connector.
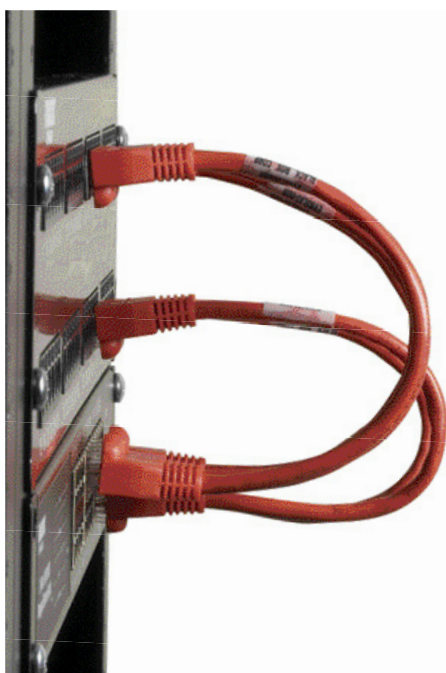90° Right–180° Straight = RS
90° Left–180° Straight = LS

Example: EVNSL21E-0003-90RS signifies a CAT5e blue, 3-foot, 90° right connector to a straight connector cable.
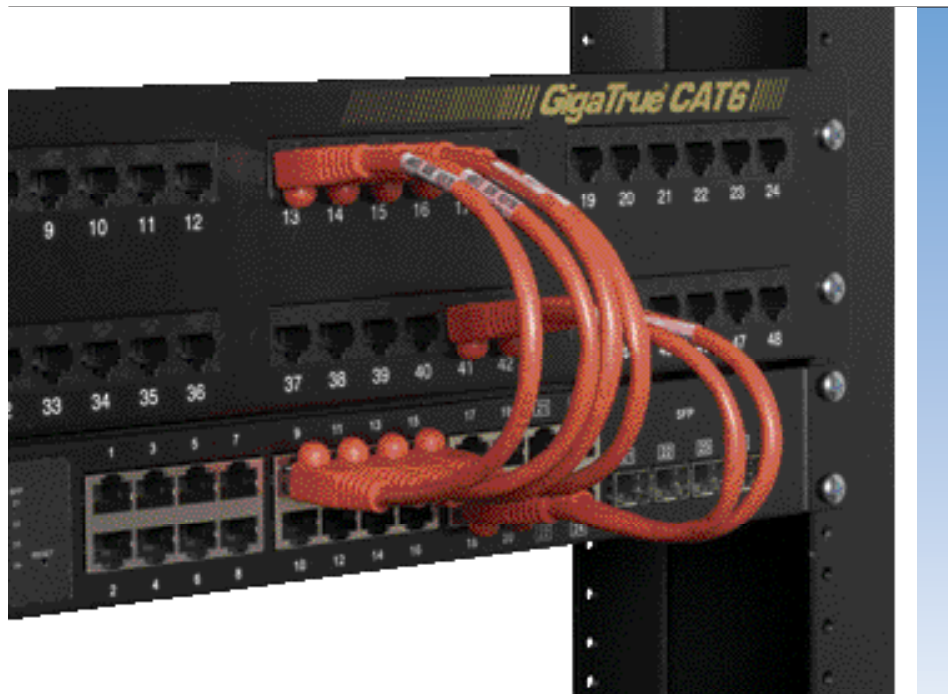
Also available in Cat5e F/UTP and Cat6 S/FTP

SpaceGAIN CAT5e and CAT6 Reduced-Length Patch Cables
Save money by eliminating the need for horizontal cable management.

No need for horizontal cable management.

Shown: CAT6 Reduced-Length Cable (EVNSL643-006IN) connecting our GigaTrue® CAT6 48-Port Patch Panel (JPM612A-R6) with the 24-Port Managed Back Office Switch (LGB2003A-R2).

Cable is 15 cm long; 23 cm overall including connectors.

- Eliminate the time and money needed to buy and install horizontal cable managers.
- Cable is 15 cm long with 8 cm of connectors, for a 23 cm overall length.
- Great for connecting a patch panel to a patch panel, or a patch panel to a network switch.
- Use these reduced-length patch cables for super-easy connections in relay racks and cabinets.
- CAT5e cable is rated at 350 MHz.
- CAT6 cable is rated at 550 MHz.
- All feature stranded, 24 AWG conductors, 4 pairs, and a PVC jacket.
- Available in six colors to help you further organize your cabinet.
- ✦✦ WARRANTY — Lifetime

Choose from six colors!

Gray Blue Green Red Yellow Black

TECH SPECS
Bend Radius (Min.) — 1.0" (2.54 cm)
Conductors — 8 (4 pair)
Conductor Gauge — 24 AWG, stranded copper
Jacket — PVC
Standards — CAT5e, CAT6: TIA/EIA 568C.2
Tensile Strength (Max.) — 25 lb. pulling tension
Temperature Rating — 167° F (75° C)
Wiring — T568B
Size — 9" (22.9 cm) including connectors

Item	Code
SpaceGAIN CAT5e 350-MHz Reduced-Length Patch Cables	
6-in. (15.2 cm)	EVNSLXX-06IN

To order, replace the "XX" with the number assigned to each color.
Gray = 80   Green = 82   Yellow = 84
Blue = 81   Red = 83   Black = 87

SpaceGAIN CAT6 550-MHz Reduced-Length Patch Cables	
6-in. (15.2 cm)	EVNSLXXX-06IN

To order, replace the "XXX" with the number assigned to each color.
Gray = 640   Green = 642   Yellow = 644
Blue = 641   Red = 643   Black = 647

BLACK BOX
NETWORK SERVICES

www.black-box.eu

SpaceGAIN Angled Patch Panels
Free up valuable space—angled design eliminates the need for horizontal cable managers.

JPM624-ANG: front view

CAT6
CAT5e

JPM624-ANG: rear view

JPM5E48-ANG

Save time and money by routing cables directly into ports and eliminating cable managerment.

- 128° forward angle provides better cable organization.
- Angled design eliminates the need for horizontal cable managers.
- Enable cables to flow from vertical cable management channels in an organized fashion.
- Route cables directly into the ports.
- Free up valuable rack space.
- Ideal for high-density applications.
- Meet or exceed all CAT6 and CAT5e standards.
- 100% factory tested.
- Rolled-edge, 16-gauge steel construction provides superior strength to eliminate flexing during termination.
- Support T568A and T568B for universal wiring.
- Meet the EIA/TIA-310-D rackmount standard.
- Include (4) 10-32 and (4) 12-24 screws.
- Choose from CAT6 and CAT5e panels with 24 or 48 ports.
- Made in the USA.
- ✦✦ **WARRANTY** — Lifetime

TECH SPECS
Connectors — Front: (24) or (48) RJ-45;
    Rear: (24) or (48) 110 punchdown contacts
Construction — 16-gauge cold, rolled steel
Nose Contact Material — Beryllium copper with precious metal plating and nickel under-plating
Wiring — T568A or T568B, 22 to 26 AWG, solid or stranded
Size — JPM624-ANG, JPM5E24-ANG:
    1.75"H (1U) x 19"W x 5"D (4.4 x 48.3 x 12.7 cm);
    JPM648-ANG, JPM5E48-ANG: 3.5"H (2U) x
    19"W x 5"D (8.8 x 48.3 x 12.7 cm)
Weight — JPM624-ANG, JPM5E24-ANG:
    1.4 lb. (0.6 kg);
    JPM648-ANG, JPM5E48-ANG:
    2.5 lb. (1.1 kg)

Meets standards for:

CAT6
- CAT6 component performance (EIA/TIA-568-C.2);
- CAT6 channel performance (ISO 11801 Class EA);
- PoE and PoE+ operation (IEEE 802.3at).

CAT5e
- CAT5e component performance (EIA/TIA-568-C.2);
- CAT5e channel performance (ISO 11801 Class D);
- PoE and PoE+ operation (IEEE 802.3at).

Item	Code
SpaceGAIN Angled Patch Panels	
CAT6	
24-Port	JPM624-ANG
48-Port	JPM648-ANG
CAT5e	
24-Port	JPM5E24-ANG
48-Port	JPM5E48-ANG

SpaceGAIN 45° Angled-Port Patch Panels
Go down, not out—save up to 10 cm by angling cables at 45°.

CAT5e   **CAT6**

45° angled ports allow for patch cables to drape down, freeing up to 10 cm of cabinet depth.
You'll also save time and money by eliminating horizontal cable managers in front of the panel.
Shown: JPM648-45ANG

- Close quarters? This patch panel features 45° angled connector modules to conserve space.

- Gain up to 10 cm in front of every panel.

- Save time and money by eliminating horizontal cable managers in front of the panel.

- Ideal for retrofitting data cabinets.

- Features angled RJ-45 connectors on one side and straight Krone/110 dual IDC connectors on the other.

- Great for strain relief and maintaining bend radius.

- Rolled-metal construction provides strength for repeated punches.

- Meets or exceeds CAT6 or CAT5e requirements.

- Choose from 24- or 48-port models.

- ✦✦ **WARRANTY** — Lifetime

JPM5E24-45ANG

JPM5E48-45ANG

Save space and time in the data center with these 45° Angled-Port Patch Panels. The connectors tilt downward at a 45° angle making patching easier. Because the cables flow smoothly downward and don't protrude, you can save 5 or 10 cm—or more—in front of every panel. You'll especially appreciate those extra centimeters when retrofitting cabinets with newer, deeper equipment. If you've run into situations where cabinet doors don't close or need to be removed to accommodate cable, you'll never go back to straight panels again!

Plus, because there is a nice downward cable flow, you can eliminate horizontal cable managers, saving a bundle of time and money. You also get the bonus of not having to worry about bend radius and strain relief.

TECH SPECS

Connectors — (24) or (48) RJ-45 to (24) or (48) Krone/IDC 110
Wiring — T568A or T568B, 22 to 26 AWG, solid or stranded
Size — JPM624-45ANG, JPM5E24-45ANG: 1.75"H (1U) x 19"W x 1.1"D (4.4 x 48.3 x 2.8 cm); JPM648-45ANG, JPM5E48-45ANG: 3.45"H (2U) x 19"W x 1.1"D (8.8 x 48.3 x 2.8 cm)
Weight — JPM624-45ANG, JPM5E24-45ANG: 1.12 lb. (0.5 kg); JPM648-45ANG, JPM5E48-45ANG: 2 lb. (0.9 kg)
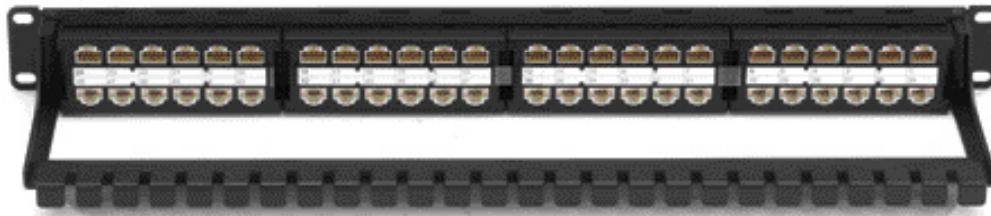
Item	Code
SpaceGAIN 45° Angled-Port Patch Panels	
CAT6	
24-Port	JPM624-45ANG
48-Port	JPM648-45ANG
CAT5e	
24-Port	JPM5E24-45ANG
48-Port	JPM5E48-45ANG

BLACK BOX
NETWORK SERVICES

SpaceGAIN CAT5e/CAT6 High-Density Feed-Through Patch Panels
Fit 48 ports into only 1U of rack space and no punchdowns needed!

A Black Box Exclusive

JPM810A-HD: front view

JPM810A-HD: rear view

- Save space in crowded data cabinets.
- Feature 48 easy-to-use RJ-45 to RJ-45 feed-through ports — all in 1U!
- Use this sturdy panel for high-density applications in all 19" relay racks or communications cabinets.
- Provide patching without punching down the wires to the ports.
- Meet or Category 6 or Category 5e performance requirements.
- Choose from shielded or unshielded models.
- Cable management bar helps support cables attached to the rear of the panel.
- ✦✦ WARRANTY — Lifetime

What's included:
- SpaceGAIN High-Density Feed-Through Patch Panel
- (4) 10-32 cuphead screws
- (4) 12-24 cuphead screws
- (8) cable ties
- (8) station ID labels

TECH SPECS
Connectors — (48) RJ-45 front; (48) RJ-45 rear
Standards — CAT6 and CAT5e: TIA/EIA-568-C.2
Wiring — T568A or T568B
Size — 1.75"H (1U) x 19"W x 6"D
    (4.4 x 48.3 x 15.3 cm)
Weight — JPM816A-HD, JPM806A-HD:
    3.8 lb. (1.7 kg);
    JPM820A-HD, JPM810A-HD: 2.4 lb. (1.1 kg)

Item	Code
SpaceGAIN High-Density Feed-Through Patch Panels	
CAT6	
Shielded	JPM816A-HD
Unshielded	JPM820A-HD
CAT5e	
Shielded	JPM806A-HD
Unshielded	JPM810A-HD

Save even more space with this SpaceGAIN combo: 48-Port, 1U High-Density Feed-Through Patch Panels and 90° Patch Cables.

Retrofitting a cabinet?
Installing newer, deeper equipment?
Want to make sure your cabinet door closes?

In high-density configurations, cabinet space is becoming an increasingly scarce commodity. Gain space in your cabinets (and ensure the door will close) by using our exclusive SpaceGAIN 90° Patch Cables with your new High-Density Feed-Through Patch Panel.

To fit 48 ports in only 1U, the patch panel connectors face up on the top row and down on the bottom row as indicated by the tab area. To achieve the tight, neat configuration as shown to the right, use 90° Down Cables for
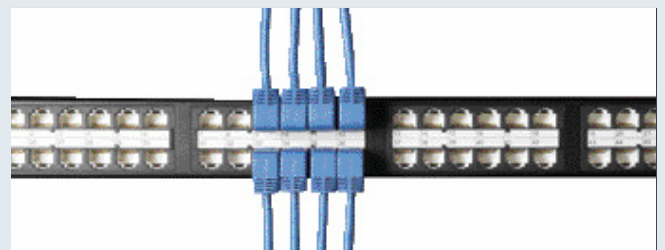
Use the High-Density Feed-Through Patch Panels (above) with our 90° Down Patch Cables (EVNSL21E-0001-90DD) (pp. 3–6).

both rows. This may seem counter intuitive. But the "Down" cable has a clip facing down. Just use it upside down for the top row of the patch panel.

You'll find it at Black Box.

The right products, the right support and the right prices

More than 10.000 Networking Products

Get the industry-leading technology you want, the expert technical advice you need, and the pricing that meets your budget.

Black Box Network Services is the industry's source
for the latest technology as well as hard-to-find and legacy products.
With more than 10.000 selections, you'll find everything you need to take your network from the data center to the desktop.

- Cabinets & Racks
- Cabling & Infrastructure Hardware
- Data Communications
- Data Extenders & Sharers
- Digital Signage & Multimedia
- Environmental Monitoring & Control

- KVM ServSwitch™
- Monitoring & Security
- Interface & Protocol Converters
- Networking
- Network Security
- Power & Surge Protection

- Peripheral Switching & Sharing
- Switches
- T1/E1/G.703/DDS/ISDN
- Voice Communications
- Testers & Tools
- Wireless

FREE, Live, 24/7 Tech Support
We're here to help! If you have any questions about our products, contact Black Box Network Services and talk to Tech Support in your own language.

Go to
BLACK-BOX.EU
for your nearest office

www.black-box.eu