

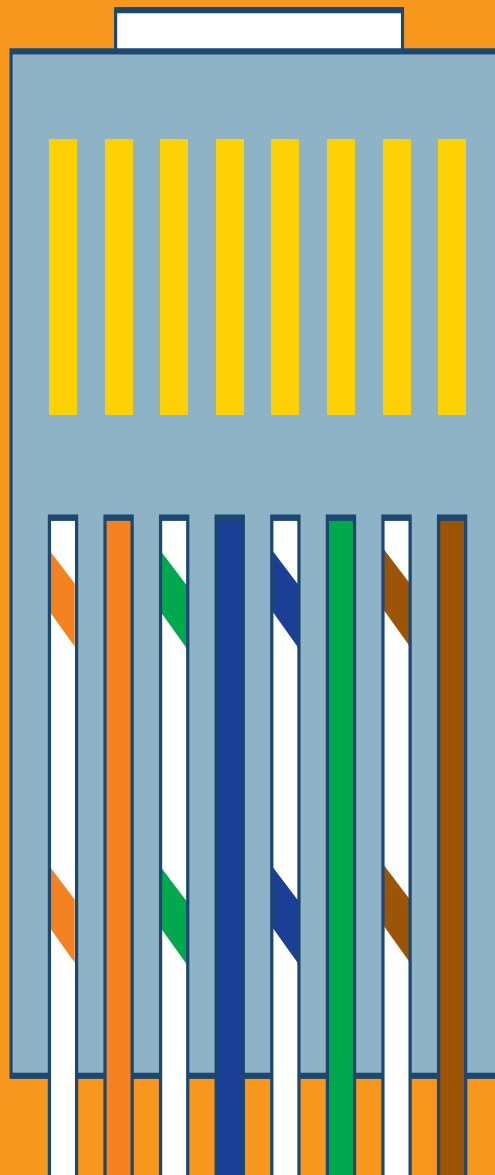
Cat5e and Cat6

Patch Cord

C A T A L O G



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We manufacture, service and manage custom cable solutions and we guarantee our work for all of the above.

Whatever the job,
whatever the requirements,
whatever the demands.

We deliver quality, precision and performance.

Promise.

If it can be done, Custom Cable can do it.

Our solutions feature the latest innovations in technology, engineering and design.

Telecom and Data Assemblies

from *standard* to *custom*, we help people make good connections

OEM Assemblies

from *basic* to *specialized*, we help Original Equipment Manufacturers deliver the goods

Custom Kits

from *simple* to *complex*, we help clients stay on track (and on time)

Certifications and Associations

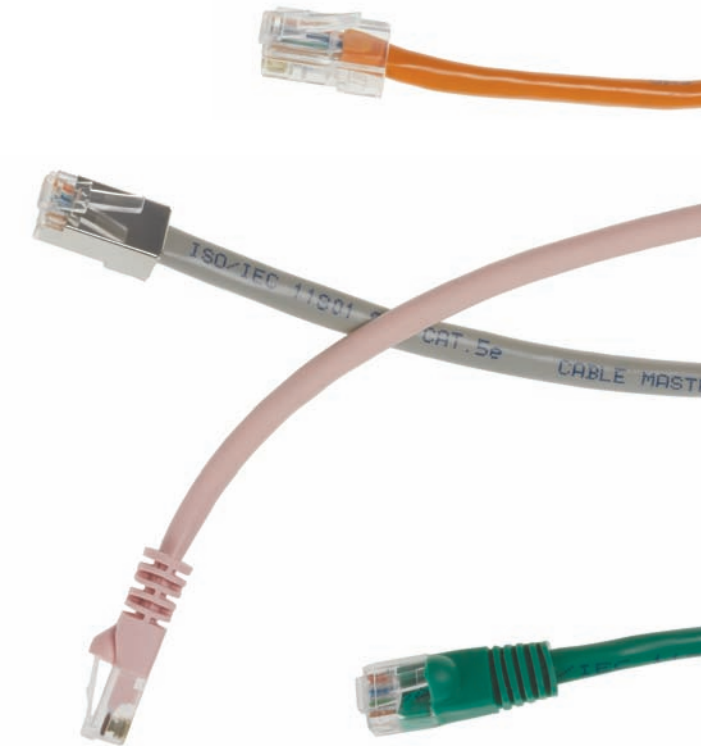
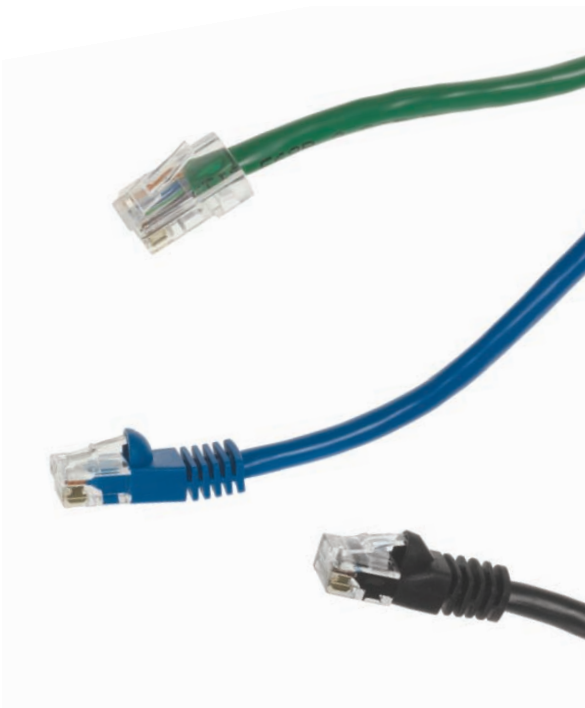
We demonstrate our commitment to quality and precision by adhering to the highest standards in the industry and qualifying for the most demanding certifications.



Patch Cord Catalog

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Cat5e and Cat6 Patch Cords—part number scheme

PC

5

B

2

1

BLU

010

Item
Patch Cord



Category
5 = Cat5e
6 = Cat6

Cable Type
1 = stranded UTP
2 = stranded STP
w/ shielded RJ45s
3 = solid UTP
4 = solid STP
w/ shielded RJ45s

Cable/Boot Color
BLK = black
BLU = blue
GRN = green
GRY = gray
ORN = orange
PNK = pink
RED = red
VIO = violet
WHT = white
YEL = yellow

Length in Feet
three digits,
for example:
010 = 10 feet

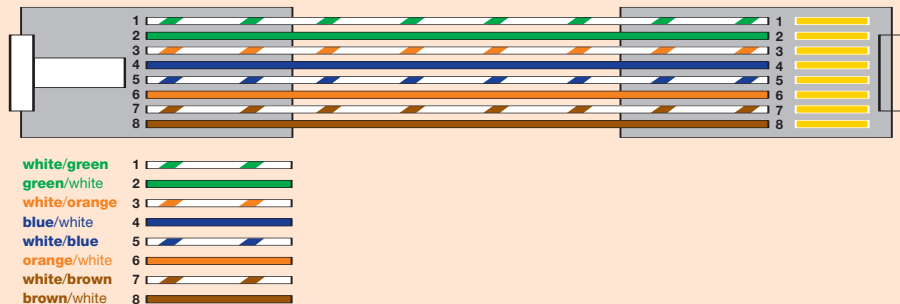
Boot Style:
0 = No boot
2 = Bubble boot,
snagless,
flush molded



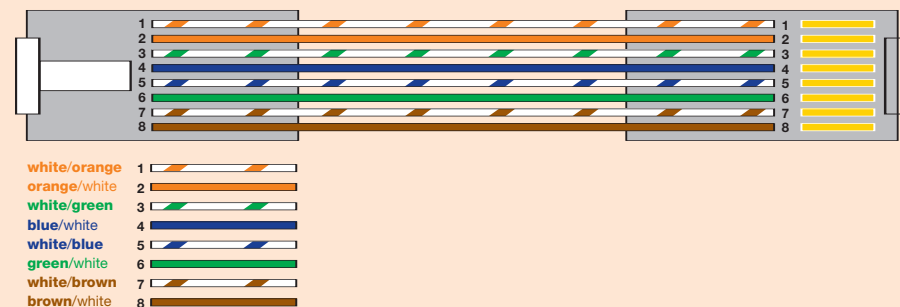
Configuration:

A = 568A
B = 568B
X = 4 Pair
Ethernet
Crossover

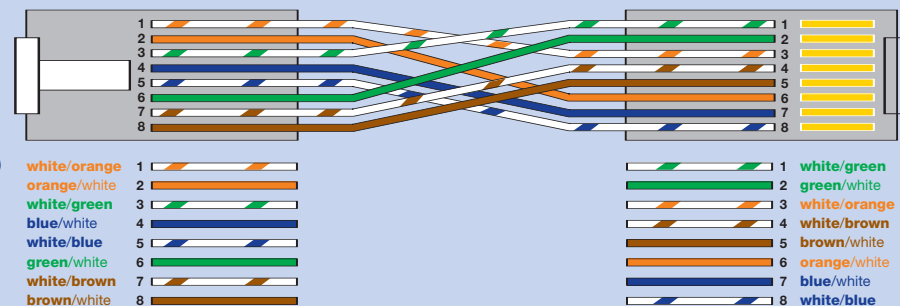
568A
Straight
Configuration



568B
Straight
Configuration
(most common)



4 Pair
Ethernet
Crossover
Configuration
(10/100/1000base-T)



Ethernet Maximum Lengths and Typical Applications

Maximum Lengths (Based on ANSI/TIA/EIA-568-B.1)

Longer lengths may be used for other applications.

Patch Cords				Installed Cable
24 AWG Stranded (unshielded or shielded)		26 AWG Stranded (shielded)		24 AWG Solid (unshielded or shielded)
"To user" patch cord	All combined patch cords	"To user" patch cord	All combined patch cords	Horizontal Cable Plant
16 ft. (5m)	33 ft. (10m)	13 ft. (4m)	26 ft. (8m)	295 ft. (90m)
30 ft. (9m)	46 ft. (14m)	23 ft. (7m)	35 ft. (11m)	279 ft. (85m)
44 ft. (13m)	59 ft. (18m)	35 ft. (11m)	49 ft. (15m)	262 ft. (80m)
57 ft. (17m)	72 ft. (22m)	46 ft. (14m)	59 ft. (18m)	246 ft. (75m)
72 ft. (22m)	89 ft. (27m)	56 ft. (17m)	70 ft. (21m)	230 ft. (70m)

Typical Applications—568B and 568A Straight Configurations

Computer to:

- Network outlet
- VoIP phone
- Patch panel
- Switch

VoIP phone to:

- Network outlet
- Computer

Printer to:

- Network outlet

Network outlet to:

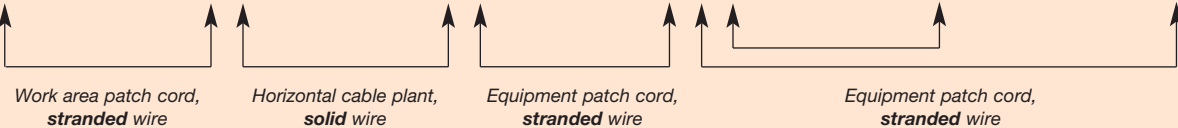
- Patch panel
- Computer
- VoIP phone
- Printer

Patch panel to:

- Patch panel
- Switch
- Server

Switch to:

- Computer
- Server
- Transceiver
- Router



Typical Applications—Crossover Configuration*

Computer to:

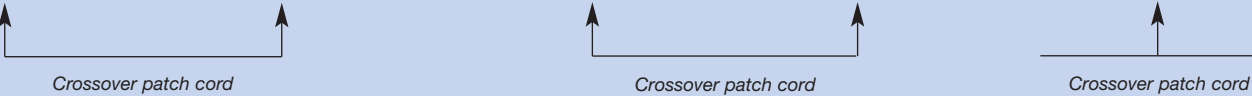
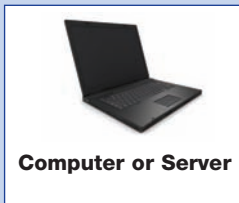
- Computer
- Server
- Transceiver

Switch to:

- Switch

Transceiver to:

- Computer
- Server
- Transceiver
- Router



* Many devices are now "auto-sensing," so a crossover patch cord may not be needed. Please consult the manufacturer's installation manual for the required configuration.

** Product photos courtesy of Cisco Systems, Inc. Unauthorized use not permitted.

Cat5e Compliant Patch Cords—part numbers

Many Cat5e 350 MHz patch cord colors and lengths are in stock and available to ship today. Some of the most common patch cords are listed below. Additional custom lengths and configurations are also available via quick delivery. All patch cords are RoHS compliant and have a **lifetime warranty**.

If you do not see the patch cord you need, contact your Customer Experience Team and use the *Part Number Scheme* on page 2 to determine the part number.

Patch cord options:

- 568B, 568A, or crossover
- Stranded or solid wire
- PVC or Plenum
- Stock and custom lengths
- With or without boots
- Shielded or unshielded
- Multiple colors

Cat5e—568B Configuration

No boot—unshielded twisted pair

Length	Colors:	Gray	Blue	White
3 ft.		PC5B-01-GRY-003	PC5B-01-BLU-003	PC5B-01-WHT-003
5 ft.		PC5B-01-GRY-005	PC5B-01-BLU-005	PC5B-01-WHT-005
7 ft.		PC5B-01-GRY-007	PC5B-01-BLU-007	PC5B-01-WHT-007
10 ft.		PC5B-01-GRY-010	PC5B-01-BLU-010	PC5B-01-WHT-010
15 ft.		PC5B-01-GRY-015	PC5B-01-BLU-015	PC5B-01-WHT-015
25 ft.		PC5B-01-GRY-025	PC5B-01-BLU-025	PC5B-01-WHT-025
50 ft.		PC5B-01-GRY-050	PC5B-01-BLU-050	PC5B-01-WHT-050
100 ft.		PC5B-01-GRY-100	PC5B-01-BLU-100	PC5B-01-WHT-100



Cat5e—568B Configuration

Flush molded snagless bubble boot—unshielded twisted pair

Length	Colors:	Gray	Blue	White
3 ft.		PC5B-21-GRY-003	PC5B-21-BLU-003	PC5B-21-WHT-003
5 ft.		PC5B-21-GRY-005	PC5B-21-BLU-005	PC5B-21-WHT-005
7 ft.		PC5B-21-GRY-007	PC5B-21-BLU-007	PC5B-21-WHT-007
10 ft.		PC5B-21-GRY-010	PC5B-21-BLU-010	PC5B-21-WHT-010
15 ft.		PC5B-21-GRY-015	PC5B-21-BLU-015	PC5B-21-WHT-015
25 ft.		PC5B-21-GRY-025	PC5B-21-BLU-025	PC5B-21-WHT-025
50 ft.		PC5B-21-GRY-050	PC5B-21-BLU-050	PC5B-21-WHT-050
100 ft.		PC5B-21-GRY-100	PC5B-21-BLU-100	PC5B-21-WHT-100



Cat5e—4 Pair Ethernet Crossover Configuration

No boot—unshielded twisted pair

Length	Colors:	Gray	Red	Yellow
3 ft.		PC5X-01-GRY-003	PC5X-01-RED-003	PC5X-01-YEL-003
5 ft.		PC5X-01-GRY-005	PC5X-01-RED-005	PC5X-01-YEL-005
7 ft.		PC5X-01-GRY-007	PC5X-01-RED-007	PC5X-01-YEL-007
10 ft.		PC5X-01-GRY-010	PC5X-01-RED-010	PC5X-01-YEL-010
15 ft.		PC5X-01-GRY-015	PC5X-01-RED-015	PC5X-01-YEL-015
25 ft.		PC5X-01-GRY-025	PC5X-01-RED-025	PC5X-01-YEL-025



Cat6 Compliant Patch Cords—part numbers

Many Cat6 patch cord colors and lengths are in stock and available to ship today. Some of the most common patch cords are listed below. Additional custom lengths and configurations are also available via quick delivery. All patch cords are RoHS compliant and have a **lifetime warranty**.

If you do not see the patch cord you need, contact your Customer Experience Team and use the *Part Number Scheme* on page 2 to determine the part number.

Patch cord options:

- 568B, 568A, or crossover
- Stranded or solid wire
- PVC or Plenum
- Stock and custom lengths
- With or without boots
- Shielded or unshielded
- Multiple colors

Cat6—568B Configuration

No boot—unshielded twisted pair

Length	Colors:	Gray	Blue	White
3 ft.		PC6B-01-GRY-003	PC6B-01-BLU-003	PC6B-01-WHT-003
5 ft.		PC6B-01-GRY-005	PC6B-01-BLU-005	PC6B-01-WHT-005
7 ft.		PC6B-01-GRY-007	PC6B-01-BLU-007	PC6B-01-WHT-007
10 ft.		PC6B-01-GRY-010	PC6B-01-BLU-010	PC6B-01-WHT-010
14 ft.		PC6B-01-GRY-014	PC6B-01-BLU-014	PC6B-01-WHT-014
20 ft.		PC6B-01-GRY-020	PC6B-01-BLU-020	PC6B-01-WHT-020
25 ft.		PC6B-01-GRY-025	PC6B-01-BLU-025	PC6B-01-WHT-025
50 ft.		PC6B-01-GRY-050	PC6B-01-BLU-050	PC6B-01-WHT-050
100 ft.		PC6B-01-GRY-100	PC6B-01-BLU-100	PC6B-01-WHT-100



Cat6—568B Configuration

Flush molded snagless bubble boot—unshielded twisted pair

Length	Colors:	Gray	Blue	White
3 ft.		PC6B-21-GRY-003	PC6B-21-BLU-003	PC6B-21-WHT-003
5 ft.		PC6B-21-GRY-005	PC6B-21-BLU-005	PC6B-21-WHT-005
7 ft.		PC6B-21-GRY-007	PC6B-21-BLU-007	PC6B-21-WHT-007
10 ft.		PC6B-21-GRY-010	PC6B-21-BLU-010	PC6B-21-WHT-010
14 ft.		PC6B-21-GRY-014	PC6B-21-BLU-014	PC6B-21-WHT-014
20 ft.		PC6B-21-GRY-020	PC6B-21-BLU-020	PC6B-21-WHT-020
25 ft.		PC6B-21-GRY-025	PC6B-21-BLU-025	PC6B-21-WHT-025
50 ft.		PC6B-21-GRY-050	PC6B-21-BLU-050	PC6B-21-WHT-050
100 ft.		PC6B-21-GRY-100	PC6B-21-BLU-100	PC6B-21-WHT-100



Cat6—4 Pair Ethernet Crossover Configuration

Flush molded snagless bubble boot—unshielded twisted pair

Length	Colors:	Gray	Red	Yellow
3 ft.		PC6X-21-GRY-003	PC6X-21-RED-003	PC6X-21-YEL-003
5 ft.		PC6X-21-GRY-005	PC6X-21-RED-005	PC6X-21-YEL-005
7 ft.		PC6X-21-GRY-007	PC6X-21-RED-007	PC6X-21-YEL-007
10 ft.		PC6X-21-GRY-010	PC6X-21-RED-010	PC6X-21-YEL-010
15 ft.		PC6X-21-GRY-015	PC6X-21-RED-015	PC6X-21-YEL-015
25 ft.		PC6X-21-GRY-025	PC6X-21-RED-025	PC6X-21-YEL-025



Related Products—cables

Along with Cat5e and Cat6 patch cords, Custom Cable offers a wide range of stock and custom cables to meet all of your connectivity needs.

Copper options:

- Custom molded connector types
- Assembled connector types
- Stock and custom lengths

Fiber options:

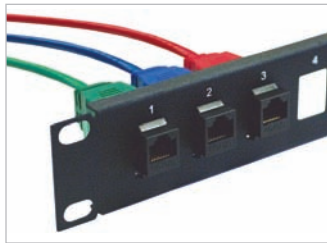
- Multiple connector types
- PC, UPC, APC and Precision Alignment
- Multiple fiber counts
- Stock and custom lengths

Molded—copper patch cords

Angled boots for unique fit requirements



RJ45 Keystone



RJ45 Jacks



Assembled—copper patch cords

Industrial Sealed RJ45 Patch Cords and Jacks



110 Patch Cords



Fiber—patch cords and multiple-count cables

Multimode



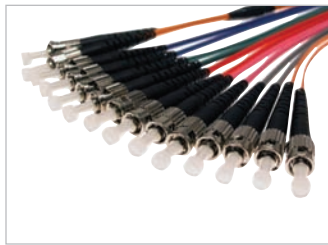
Singlemode



Ribbon



Breakout



Related Products—materials

Custom Cable provides hardware and materials to organize your equipment closet. We also provide bulk cable, components and tooling.

Organize:

- 19" and 23" racks and shelves
- Vertical and horizontal cable management
- Cable fasteners

Connect:

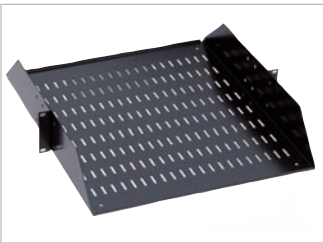
- Standard and custom panels
- Standard and special jacks
- Bulk cable and components
- Tools, polishers and testers

Organize—hardware and cable management

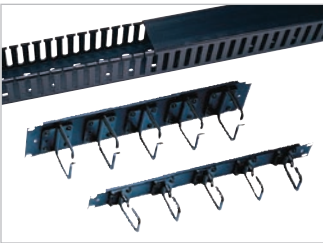
Racks



Rack Shelves



Cable Management



Cable Fasteners



Connect—panels and outlets

Patch Panels



Network Outlets



Special Jacks



Custom Panels



Connect—bulk cable, components and tools

Cat5e and Cat6



Fiber



RJ45s and Boots



Tools



Reference

Cable Configuration

Specifies each conductor connection made within a cable assembly—may also specify the wire and connectors used. Cable configuration is also known as cable pinout.

Cat5e or Cat6 Compliant

A Cat5e or Cat6 compliant assembly is manufactured from components that meet or exceed TIA/EIA Cat5e or Cat6 specifications. All component manufacturer assembly instructions are followed to ensure the highest quality and best performance possible.

Cat5e vs. Cat6

Cat5e standards specify performance up to 100MHz. Cat5e is an enhancement of Cat5, adding specifications for far-end crosstalk. Cat5e is suitable for 10base-T, 100base-Tx, 100base-T4, 155 Mbps ATM, and will also support 1000base-T, VoIP, and PoE.

Cat6 standards specify performance up to 250MHz. Cat6 features more stringent specifications for crosstalk and system noise, providing a greater bandwidth than Cat5e. Cat6 is ideal for 1000base-T and is backward compatible with all Cat5e applications.

The general practice is to purchase the highest performing wire that fits within your budget to provide the longest life possible for your investment before future applications require cable replacement. This is especially true when selecting cable for horizontal cable plant.

Equipment Closet

Area or room containing some combination of network servers, network switches, phone switches, routers, equipment racks, patch panels and punch down blocks. Also known as phone closet or server room.

568B vs. 568A

568B and 568A are both TIA/EIA standard wiring color code and pairing schemes released to differentiate network cables from the older telephone company standard USOC (Universal Service Ordering Code). 568B is the most common.

When selecting a 568B or 568A straight patch cord, it is best to choose the one that matches the horizontal cable plant. If you are not sure the horizontal cable plant is wired to 568B or 568A, either patch cord will work. As long as both ends of the same patch cord or cable are wired to the same standard, the patch cords are interchangeable.

4 Pair Ethernet Crossover

Crossover patch cords cross-transmit and receive signals to connect Ethernet MDI to MDI ports or MDIX to MDIX ports. Two Ethernet crossover configurations are standard: two pair and four pair. The two pair version is created by wiring one end of the patch cord to 568B and the other end to 568A and is suitable for 10/100base-T. The four pair version is created by crossing all four pairs, is backward compatible with the two pair version, and is suitable for 10/100/1000base-T.

Most of today's Ethernet equipment will automatically detect when a crossover configuration is required and make internal changes, so a straight patch cord can be used (see 568B and 568A). Consult the equipment manufacturer's installation manual to determine the required configuration.

Horizontal Cable Plant

Network or telephone wiring installed under raised floors, within walls, ceiling space, or risers between floors. Horizontal cable plant typically connects network outlets, patch panels, and punch-down blocks.

MDI vs. MDIX

Medium Dependent Interface refers to the wiring of the RJ45 Ethernet port on equipment. MDI and MDIX ports have crossed "transmit" and "receive" signals, so they connect with a straight-through 568B or 568A patch cord. A crossover patch cord may be required when connecting MDI to MDI port or MDIX to MDIX port (see 4 Pair Ethernet Crossover).

Computers, routers, and transceivers are typically MDI. Switches are typically MDIX. Many devices have auto-sensing MDI/MDIX ports, allowing them to detect the style of port they are connected to and cross their own transmit/receive.

Mbps

Megabits per second. 1000Mbps is one gigabit per second.

Network Outlet

A point in the work area that provides connection to the horizontal cable plant. Common examples are wall plates and modular furniture face plates.

PoE

Power over Ethernet supplies data and low voltage power over the same Ethernet twisted pair cable. PoE is commonly used to power VoIP phones, cameras, and wireless LAN access points, eliminating the need to supply separate electrical outlets for some devices.

PVC vs. Plenum

The material making up a cable's jacket and insulation over the conductors. Polyvinyl chloride (PVC) is more popular and less expensive. Plenum is a fire-rated, low-smoke choice made with Teflon®. Plenum may be required if the cable is being installed in a ceiling, raised floor, between floors, through walls, or if specific regulations apply.

RoHS

Restrictions of Hazardous Substances is a directive aimed at protecting the environment by limiting the amounts of lead, mercury, cadmium and other hazardous materials a product may contain. Custom Cable is dedicated to protecting the environment through programs such as RoHS.

Shielded vs. Unshielded

Shielded cable has a metal foil and/or braid surrounding the conductors and unshielded cable does not. The shield protects the cable from outside electromagnetic interference (EMI) and radio frequency interference (RFI). Additionally, the shield protects other cables or devices from any EMI/RFI that the shielded cable may create. Unshielded cable usually has a lower cost and is slightly more flexible than shielded.

If there is sufficient EMI/RFI, shielded cable should be used. Any equipment or cable using electricity will emit some EMI. Fluorescent lighting, electric motors, and air conditioners produce significant EMI within close proximity.

Common shielding types are Shielded Twisted Pair (STP), Foil Shielded Twisted Pair (FTP), Screened Twisted Pair (ScTP, usually referring to 100 ohm STP cable), and Unshielded Twisted Pair (UTP).

Stranded vs. Solid Wire

Stranded conductors are made up of multiple smaller strands of wire. Solid conductors are a single strand of wire.

Stranded wire is more flexible and is typically used for shorter lengths in a work area or equipment closet. Stranded wire has a higher attenuation than solid, so the overall length of stranded wire in a given network connection should be kept to a minimum to prevent signal loss. Stranded wire should be terminated with RJ45 male plugs. Few patch panels or network outlets are designed to accept stranded wire on the back/punch down side.

Solid wire is less flexible, but has lower attenuation and usually a lower cost than stranded. Solid wire is designed to be used for horizontal cable plant, which is typically the longer length in a given network connection and is rarely moved, so flexibility is less of an issue. Solid wire should be terminated to the back/punch down side of patch panels, network outlets, or punch down blocks. TIA/EIA specifications do not recognize terminating RJ45 male plugs on solid wire; however, many people do use solid wire patch cords to link long home run connections from users to a switch when patch panels are not being utilized.

See "Typical Applications" section for length limitations and the relationships between the stranded and solid wire used in a given network connection.

10/100/1000base-T

An abbreviated way of writing multiple Ethernet speeds. 10/100base-T refers to both 10base-T and 100base-T. 10/100/1000base-T refers to 10base-T, 100base-T, and 1000base-T. 10base-T has a base bandwidth of 10Mbps. 100base-T has a base bandwidth of 100Mbps and is also known as Fast Ethernet. 1000base-T has a base bandwidth of 1000Mbps (1Gbps) and is also known as Gigabit Ethernet.

Trademarked Listings (in this catalog)

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User

Any device or individual connected to the network in the work area.

VoIP

Voice over Internet Protocol is a technology utilizing a network connection to carry telephone voice signals. A VoIP system offers flexibility in moving individuals in an office without the labor or cost of changing the telephone cross connection.

Work Area

A location where individuals work. Typically containing desks and/or modular furniture.

Complete Solutions

Custom Cable's wide range of capabilities enables us to deliver complete connectivity solutions.

Cable Assemblies

Custom Cable offers stock and custom cables and harnesses. Assembled or molded connector ends are available in industry standard, custom or build-to-print configurations. We also offer kitting and staging for your logistical needs.

We service the telecommunication, original equipment manufacturer, medical, government, automotive, education, entertainment, hospitality and financial industries.

Standard and Custom Assemblies



Cat5e and Cat6 Patch Cords



Fiber Cables, Adapters, Attenuators



Central Office Twisted Pair and Coax



Innovative Patch Panels



OEM Harnesses



Logistic Kitting and Staging



Professional Services

Custom Cable has the network and telephone expertise to help you create a new network or add to an existing one.

We supply and install VoIP phones, VoIP phone switches, network wireless access points, switches, routers, and firewall protection to provide you a high performance network that is reliable and secure.

VoIP Phone Switch



VoIP Phone



Network Switch



Wireless Access Point



Network Router



Network Firewall



Six product photos (above) courtesy of Cisco Systems, Inc. Unauthorized use not permitted.

Cabling Installations

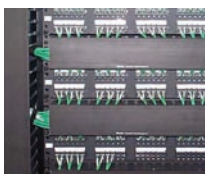
Custom Cable provides indoor/outdoor cable installations and wireless solutions. We install cabling within ceilings, raised floors, modular furniture, riser channels and outdoor aerial or buried environments.

Our products include, but are not limited to, patch panels, punch down blocks, network outlets, racks and wireless access points.

Professional Installs



Patch Panels and Wire Management



Racks and Ladder Racking



Complete Data/Phone Closets



DS3 Coax Installs



Pre-terminated Zone Cabling



