SIEMON

NETWORK CABLING SOLUTIONS

CATALOG

WWW.SIEMON.COM

SIEMON™

LETTER FROM CARL SIEMON

This catalog is a tribute to the thousands of Siemon employees who have contributed to the growth and success of Siemon for more than a century.

As you browse this catalog, you will notice that each section is dedicated to a Siemon office somewhere in the world highlighting our commitment to locally serve our world-wide customers. Since the printing of our last catalog two years ago, new Siemon offices were opened in Germany, Italy, Japan, India, Venezuela, Chile and Argentina.

In July 2004, we replaced the MRP system that had served us well for 15 years with an ERP system that enables global logistics as well as future internet-based transactions and customer support tools.

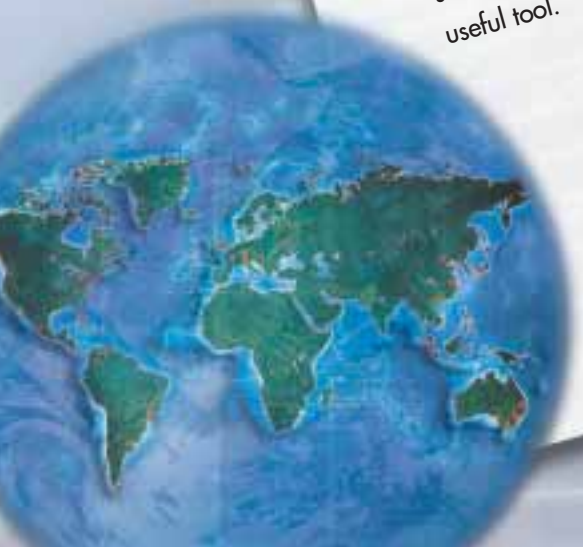
Siemon Labs continues to lead our industry in R&D innovation with the world's first commercially available 10 Gigabit Ethernet products introduced in January of 2003. The 10G ip family of products provides the most comprehensive offering of 10G 6 UTP & Screened, category 7 TERA shielded and XGLO fiber systems guaranteed to support emerging and converging IP applications including 10GBASE-T and beyond. Another example of Siemon innovation is our new BladePatch patch cord with a revolutionary push-pull RJ-45 latch design.

With the many changes in our industry, Siemon remains stable and strong. In September 2004, we added Siemon cable to our open cabling system offering in the US market. Siemon has been selling end-to-end Siemon Cabling Systems outside the US for many years. The addition of Siemon cable in the US gives our US customers a choice to use a recognized Siemon cable ally or to specify a Siemon end-to-end solution.

Wherever you are located, the Siemon staff is committed to bringing value to our partners and end-user customers through training and education, technology differentiation and support services. We thank you for your ongoing support, and we hope you find this catalog to be a useful tool.

Sincerely,

Carl N. Siemon
President



REFERENCE GUIDE

PERFORMANCE MARKINGS

Meets category 3 ANSI/TIA/EIA-568-B.1 & B.2 and class C requirements of ISO/IEC 11801:2002 2nd Edition specifications. Requirements are specified to an upper frequency limit of 16 MHz.

Meets category 5e ANSI/TIA/EIA-568-B.1 & B.2 and class D requirements of ISO/IEC 11801:2002 2nd Edition specifications. Requirements are specified to an upper frequency limit of 100 MHz. This classification is a superset of CATEGORY 5.

Meets category 6 ANSI/TIA/EIA-568-B.2-1 and class E requirements of ISO/IEC 11801:2002 2nd Edition specifications. Requirements are specified to an upper frequency limit of 250 MHz. This classification is a superset of CATEGORY 5e.

Meets category 6 TIA/EIA-568-B.2-10 Draft* and ISO/IEC 11801 Edition 2 proposed amendment 1 draft requirements. Requirements are specified to an upper frequency limit of 500 MHz. This classification is a superset of CATEGORY 6.

Performance exceeds draft category 7 and meets class F ISO/IEC 11801:2002 2nd Edition specifications. Requirements are specified to an upper frequency limit of 600 MHz. This classification is an electrical superset of CATEGORY 6.

*At the time of this catalog printing ANEXT test methods were under study.

SAFETY MARKINGS

Communications Circuit Accessory Listed per Underwriters Laboratories Standard UL 1863 or Secondary Protectors for Communications Circuits Listed per Underwriters Laboratories Standard UL 497A, or non-metallic surface raceway and fittings Listed per UL 5A.

Certification by Underwriters Laboratories to United States Standards and C22.2 Canadian Telecommunications Standards.

Certification by the Canadian Standards Association to C22.2 Canadian Telecommunications Standards.

Electromagnetic Compatibility according to Article 10 of European Council Directive 89/336/EEC.

ORDERING INFORMATION

FOCUS products are the most popular Siemon products and should always be readily available at your local Siemon distributor. FOCUS products are identified by the FOCUS symbol and are also distinguished with red text. If a FOCUS item is not available at your local distributor, please contact Siemon Customer Service for prompt resolution.

Bulk project packs are the most economical and environmentally friendly way to purchase products for large projects. Less packaging means fewer packages to open and less waste to clean up, which saves time and money. Bulk pack products are identified by the bulk pack symbol.

ISO 9001:2002 and 14001

Because we are continuously improving our products, Siemon reserves the right to change specifications and availability without prior notice. For other product options, please call Customer Service.

GLOBAL SOLUTIONS

In business, information is everything. And with each passing day comes a new technological advance, a better, faster, more robust IT application — an application that will help you leave the competition behind. But your IT success comes with a price. With every advance comes an exponential rise in bandwidth and data integrity needs. The application that can carry your organization into the future exists, or soon will. But you must ask yourself — ***is my IT infrastructure ready?***

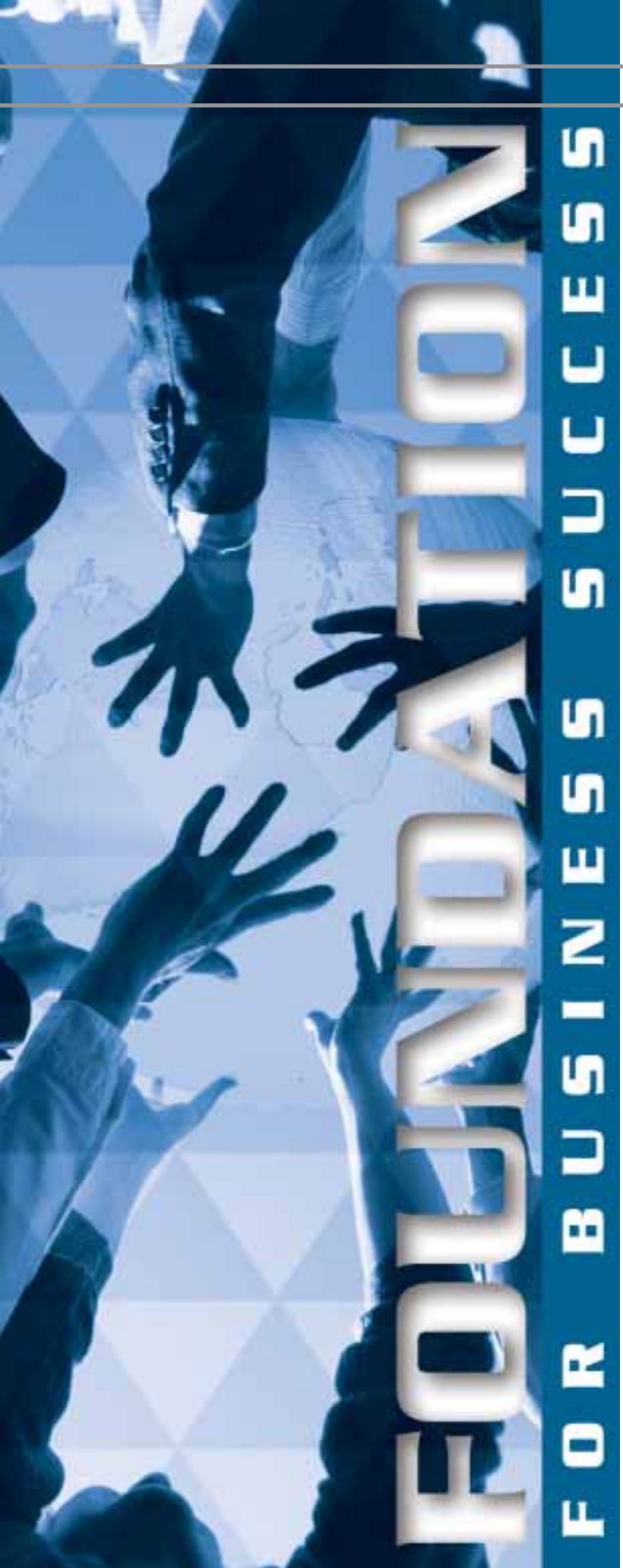
At its most basic and vital stage, an organization's IT infrastructure depends wholly on its structured cabling system. It is the physical link upon which everything else depends. No longer just the foundation of your network, structured cabling is the foundation for business success.

Today, at nearly any point on the globe, there is an increasing necessity for instantly accessible information. The expectation that data, voice and video be perpetually at our fingertips places enormous demand on an organization's cabling system.

Business, like technology, advances. Successful organizations routinely require 100, even 1000 times the bandwidth they did just 10 years ago. Bandwidth intensive internet-based applications like video or voice over IP, combined with forward-looking industry standards, drive speeds of 1Gb/s, 10Gb/s, and beyond.

Now, more than ever before, the successful business must focus on the IT basics — an organization's ability to distribute vital information across the globe is paramount to success, and that ability is only as good as the infrastructure that must bear the load.

With over 100 years of advancements and manufacturing excellence, Siemon continues to globally offer our customers the finest IT infrastructure solutions available.



We design, develop, manufacture and support the products that organizations need to build an IT infrastructure capable of serving strategic business needs today and well into the future. A solid structured cabling system, designed to handle future applications and bandwidth demands, will ensure return on investment, both in the cabling itself, as well as those layers that rely upon it.

To ensure that Siemon remains well ahead of the technological curve, the company participates extensively in the development of industry standards. We do this to guarantee that the standards are both aggressive and forward-looking, so that our valued customers can confidently plan their IT futures. Siemon has earned this position of authority with a world-renowned reputation for quality and advanced performance. It is one of the few manufacturers to hold both the environmental certificate of ISO 14001 and the ISO 9001:2000 certificate.

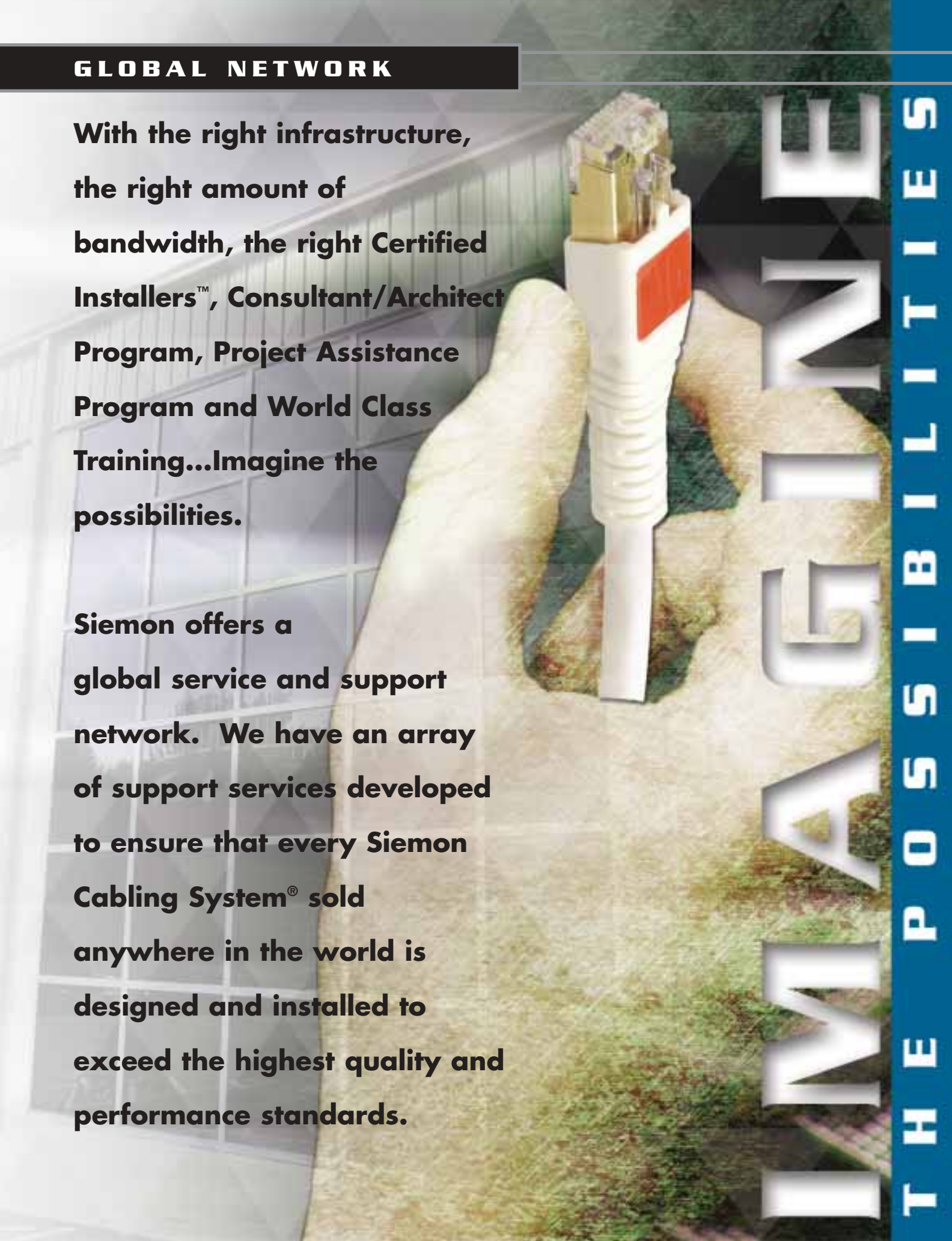
In a critical world, Siemon remains its own most powerful critic. If over 100 years of manufacturing and service has taught us anything, it is that an organization can never rest in its pursuit of excellence. We measure our processes against stringent performance metrics such as on-time delivery, product quality, and forecast accuracy. We continually monitor and adjust these top criteria, all for the goal of measurable customer satisfaction, the world over. With offices and training facilities in every major market worldwide, Siemon is a true global company that will always deliver upon its promise to provide the best network cabling solutions on the market today.

Rely on our experience. Allow Siemon to help you build the foundation for your business success.

GLOBAL NETWORK

With the right infrastructure, the right amount of bandwidth, the right Certified Installers™, Consultant/Architect Program, Project Assistance Program and World Class Training...Imagine the possibilities.

Siemon offers a global service and support network. We have an array of support services developed to ensure that every Siemon Cabling System® sold anywhere in the world is designed and installed to exceed the highest quality and performance standards.



Our global network of certified installers are available worldwide. All of our installers are:

- Highly trained on design, installation, and administration of The Siemon Cabling System®
- Provide consistent high quality installations worldwide
- Supported by a dedicated Siemon Company support team (Training Support Services) on registration, design, warranty, new product development, troubleshooting and project support
- Provide customers with a cabling system that exceeds standard ANSI and ISO requirements.

A simplified Process:

The Siemon Project Assistance team takes the lead to simplify your projects by:

- Providing a single point of contact for referrals
- Pre-qualifying contractors and maintaining a comprehensive global database
- Utilizing our global resources to address international installation requirements
- Ensuring the quality and standardization of your design and installation

By leveraging Siemon internal resources and the resources of our worldwide allies, Siemon's Project Assistance Program provides a referral service so you can be assured of consistent quality installations and the best performing systems — anywhere in the world.

WORLD'S LEADING ORGANIZATIONS SPECIFY SIEMON

BANKING/INSURANCE
ABN AMRO Holding
American Express
AMP
Bank of China
Bank of New York
Bank One
Beijing Financial Bureau
Blue Cross Blue Shield
BMP Paibas
BMW Financial Services
Cendanat
Center Bank
Charles Schwab
Chubb
Citi Group
Commonwealth Bank
Credit Suisse
Czech National Bank
Deloitte & Touche
Deutsch Bank
Discover
Donaldson, Lufkin & Jenrette
Ernst & Young
First Boston
Goldman Sachs
HSBC
ING Group
JP Morgan Chase
Lehman Brothers
Mastercard International
Merrill Lynch
Morgan Stanley
NASDAQ
National Reserve Bank
National Westminster Bank
PacifiCorp
Pricewaterhouse Coopers
Progressive Insurance
Tullet & Tokyo Forex
Washington Mutual
Zurich Financial Services

EDUCATION
Baylor College of Medicine
Brigham Young University
Boston College
Camdon County College
Dartmouth College
Davidson College
East Carolina University
Emory University
Georgetown University
Harvard University
Neyada State College
Oxford University
Princeton University
Rice University
Ramapo College
Rowan University
Salt Lake Community College
Seattle University
Texas Southern University
Tulane University
Thomas Jefferson Library
University of Alabama at Birmingham
University of Florida
University of Madrid
University of Mexico
University of North Carolina/Charlotte
University of Pennsylvania
University of Technology Sydney
University of Utah
Utah Valley State College
Washington and Lee University
Washington University of St. Louis
Western Kentucky University
Westminster College (SLC, UT)
Yale University

GOVERNMENT
BAE Systems
Beijing Water Authority
City of Westminster
City of Wyoming
Civil Aviation Safety Authority
Defense Threat Reduction Center
FBI
IRS
Job Corps
National Guard
National Weather Center
New South Wales Police
Parliament House Australia
Scottish Hydro Electric
State of Connecticut
United Nations
U.S. Army
USDA
U.S. Department of Energy
U.S. Federal Court System
U.S. Coast Guard
U.S. Marine Corps
U.S. Navy
U.S. Post Office
Washington Visitor Center

HEALTHCARE/PHARMACEUTICAL
Abbot Laboratories
Advance PCS
Astra Zeneca
Baylor Medical Center
Children's Hospital Philadelphia
Clinic Leicester Royal Infirmary
Conemaugh Valley Hospital
Deaconess Medical Center
DeKalb Medical Center
Eli Lilly
Gems Metropolitan Family Health
Imperial Cancer Research Fund
Johnson & Johnson
Kaiser Permanente—Kaiser Koolau
Mayo Clinic
Merck
National Institute of Health
Novartis
PaciCare Health Systems
Princeton Medical Center
Sacred Heart Medical Center
Salisbury Health Authority
Sanarfi/Aventis
Tenant Healthcare
Wilcox Memorial Hospital
Yale–New Haven Hospital

MANUFACTURING/INDUSTRIAL
American Electric Power
Archer Daniels Midland
BASF
Beijing National Wealth Plaza
BMW
Ciba Geigy
Cincinnati Milacron
CMS Energy
Coca Cola
Con Edison
Conoco Phillips
Daimler Chrysler
Delphi
Dow Chemical
DuPont
EDS
Exxon
Ford Motor Company
General Electric
General Motors
Georgia Pacific
Halliburton
Hyundai Electronics
LG Electronics
Imation
Ingersol Rand
Johnson & Johnson
Kuala Lumpur City Center
Matsushita
Merck
Microsoft
Midland
Nestlé
Olin
Petronas
PeopleSoft
Ray-O-Vac
Raytheon
Ricoh
Robert Bosch
Royal Dutch Shell Group
Sara Lee
Seagate Malaysia
Sino Chemical Group
Sony
Southern State Power
Sysco
Toyota Motors
Volkswagen
XCEL Energy
Xerox

RETAIL
Ace Hardware
Advanced Autoparts
Albertsons
Amazon.com
Best Buy
Clopay
Circuit City
Coles Myer
Federated Stores
Fujitsu
Hollywood Video
J. Crew
KMart
Lowes
News Corp
Nieman Marcus
Sears
Sotheby's
Staples
Target
Toys "R" Us
Walgreens
Wal*Mart
Woolworths

TELECOMMUNICATIONS
AOL/Time Warner
AT&T
Cellular One
China Telecommunications
Comcast
Computer Sciences Corporation
General DataComm
HBO
Hewlett Packard
Honeywell
IBM
MCI Worldcom
Mitel
Motorola
NEC
NOKIA
Nortel Networks
Qwest
Shanghai Telephone Institute
Siemens Business Communications
Sprint
Telecom Italia
Telestra
Unisys
U.S. West

TRANSPORTATION
Dallas International Airport
Federal Aviation Administration
Japan Tourist Bureau
Long Island Railroad
Malaysian Airlines
Ministry of Railways
Port Authority of New York
Southwest Airlines
Toronto Airport
United Airlines
UPS
Air France Group
Union Pacific

WEB RESOURCES

WWW.SIEMON.COM

Access to a World of Knowledge

www.siemon.com/ru
www.siemon.com/uk
www.siemon.com/de
www.siemon.com/nl
www.siemon.com/fr
www.siemon.com/it
www.siemon.com/es
www.siemon.com/ca
www.siemon.com/us
www.siemon.com/kr
www.siemon.com/cn
www.siemon.com/jp
www.siemon.com/la
www.siemon.com/br
www.siemon.com/sg
www.siemon.com/au

WHAT SYSTEM IS RIGHT FOR YOU?

When designing a cabling infrastructure, a single factor (i.e. — initial cost) is often the deciding characteristic of the system selected. However, once all elements are considered, a design with higher initial cost may have a lower overall cost of ownership. It is important that designers are familiar with capabilities of different solutions available to make the best selection possible.

Bandwidth is only one of many factors driving an organization's decision to install a specific type of cabling — other important factors include its ability to provide a reliable and durable platform for information transfer; accommodate ongoing infrastructure changes; and support a wide array of telecommunications applications and copper equipment.

Over the past several years, industry experts have predicted that twisted-pair would be replaced by fiber. Yet over time, its replacement by fiber for long haul public network connections has been more than offset by its use as the pre-eminent media for IP connections to end-point devices. Twisted-pair cabling owes its staying power to many factors, not least of which is the continuing collaboration between manufacturers that have continued to push performance, reliability and value of this media and associated network equipment to new heights.

The fact is that both copper and fiber have specific advantages and provide unique solutions for today's cabling infrastructure needs. Clearly, optical fiber has a bandwidth advantage, especially for public networks, backbone cabling and data centers. In these places, optical fiber is dominant and will continue to be so because of its ability to provide reach and throughput for applications that are increasingly bandwidth hungry at the core of the network.

For IP connections, copper has been tracking with fiber in terms of throughput, and has been able to retain its cost advantage albeit with greater restrictions on length. Industry standards have locked-in an implementation model for copper that is widely accepted and applicable to the vast majority of installations. The 100-meter channel for horizontal cabling is an important anchor point in a rapidly evolving industry. It provides a solid foundation on which to build technological advancements for twisted-pair cabling and the equipment to which it connects.

WILL YOUR NETWORK BE READY?

Tomorrow's networks will be a conglomeration of data services, voice services, building control and automation, security services, and new visual services for both voice and data, and other transmissions yet to be dreamed. How do you ensure that your network will be able to handle this explosion of information?

At the heart of every network is the structured cabling system. The cabling infrastructure, so often overlooked when designing networks, provides the path on which data is transmitted. Ensuring that your cabling infrastructure is properly installed and maintained, and designing your cabling with sufficient bandwidth to run current and future applications, are the most fundamental means of creating a high-performance network. When planning your network, start with installing a high-quality high performance cabling system. It is the foundation for your business success.

SECTION CONTENTS

COPPER SYSTEMS

FIBER SYSTEMS

TERA®

10G *ip*™

TERA is Siemon's fully shielded 10G *ip*™ solution exceeding ISO/IEC category 7/class F specifications. The TERA connector system can support simultaneous, multiple applications including voice, high-speed LAN services and broadband video — all via a single cable and outlet. TERA's revolutionary compact design and 1-, 2-, and 4-pair modularity enable easy administration of several applications in one 4-pair outlet, allowing significant cost savings in materials and labor.

In addition to supporting 10 Gb/s, TERA provides twice the bandwidth of the category 7/class F specifications — 1.2GHz. over each pair. It is the only non-RJ category 7/class F industry-standard connector recognized within ISO/IEC 11801 Ed. 2.0.

TERA OUTLET (page 1.2, 1.3)

T7F-01-1 . . . . . 4-pair TERA outlet

TERA PLUGS (page 3.2)

T7P4-B(XX)-1 . . . . . 4-pair TERA plug

TERA PATCH CORDS (page 3.3)

T4-(XX)M-B(XX)L . . . . . Cat 7, 4-pair, TERA-to-TERA
T1-(XX)M-B(XX)L . . . . . Cat 7, 1-pair, TERA-to-TERA
T4A-(XX)M-B(XX)L . . . . . Cat 6, 4-pair, TERA-to-MC 6, T568B
T4T-(XX)M-B(XX)L . . . . . Cat 6, 4-pair, TERA-to-MC 6, T568A
T2E2-(XX)M-B(XX)L . . . . . Cat 5e, 2-pair, TERA-to-MC 5, 10/100BASE-T
T2UT-(XX)M-B(XX)L . . . . . Cat 5e, 2-pair, TERA-to-MC 5, Token Ring
T1U1-(XX)M-B(XX)L . . . . . 1-pair TERA-to-6 position plug, Voice

Use 1st (XX) to specify length: 01 = 1m (3.28 ft), 02 = 2m (6.56 ft.), 03 = 3m (9.84 ft.), 05 = 5m (16.4 ft.)

Use 2nd (XX) to specify boot color: 01 = black, 02 = white, 03 = red, 05 = yellow, 06 = blue, 07 = green

TERA VIDEO BALUN CORD (page 3.3)

T1VC-(XX)M-B01L. . . . . 1-pair TERA-to-PAL connector

TERA-MAX® PATCH PANELS, 1RMS (page 2.3)

TM-PNL-16-01 . . . . . 16-port panel, black
TM-PNL-16 . . . . . 16-port panel, metallic
TM-PNL-24-01 . . . . . 24-port panel, black
TM-PNL-24 . . . . . 24-port panel, metallic

MAX FACEPLATES (page 1.13)

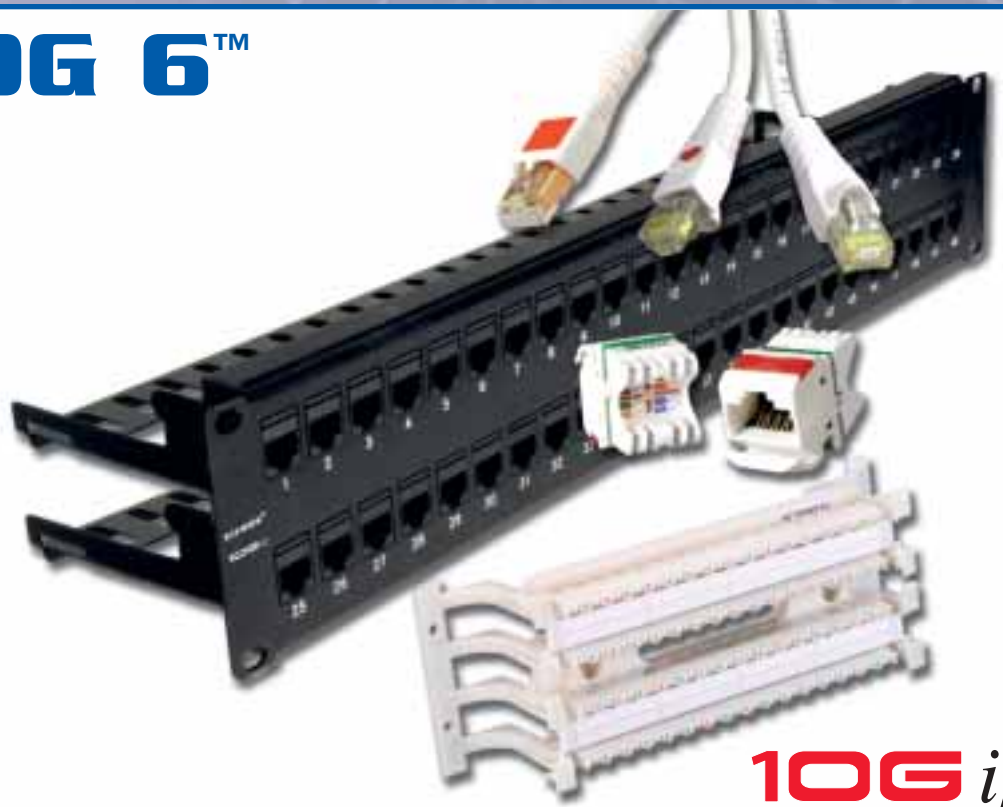
MX-FP-S-01-(XX) . . . . . Single gang, 1-port
MX-FP-S-02-(XX) . . . . . Single gang, 2-port
MX-FP-S-03-(XX) . . . . . Single gang, 3-port
MX-FP-S-04-(XX) . . . . . Single gang, 4-port
MX-FP-S-06-(XX) . . . . . Single gang, 6-port

Use (XX) to specify color: 01 = black, 02 = white, 04 = gray, 20 = ivory, 80 = light ivory

TERA CABLE

For Siemon TERA cable ordering information visit www.siemon.com/go/cable.

10G 6™



10G *ip*™

10G 6 is Siemon's category 6 augmented 10G *ip*™ Solution and the world's most advanced UTP and Screened cabling system. 10GBASE-T is specifically engineered to handle the increasing performance demands of emerging and converging applications such as voice over IP, IP video and building automation systems. 10G 6 provides superior channel performance to at least 500 MHz. It's ability to support 10GBASE-T makes it ideal for delivering the most advanced IP-based applications to the desktop.

10G 6 MAX® MODULES (page 1.4, 1.5)

10GMX-(XX) . . . . . Angled module, T568A/B
10GMX-F(XX) . . . . . Flat module, T568A/B
10GMX-K(XX) . . . . . Keystone module, T568A/B

Use (XX) to specify color: 01 = black, 02 = white, 03 = red, 04 = gray, 05 = yellow, 06 = blue, 07 = green, 09 = orange, 20 = ivory, 25 = bright white, 80 = light ivory, 82 = alpine white

10G 6 BLADEPATCH™ (page 3.4, 3.5)

10GBP-(XX)-(XX). . . . . 10G 6 RJ45 patch cord, T568A/B

Use 1st (XX) to specify cord length: 03 = 0.9m (3 ft.), 05 = 1.5m (5 ft.), 07 = 2.1m (7 ft.), 10 = 3.1m (10 ft.), 15 = 4.6m (15 ft.), 20 = 6.1m (20 ft.)

Use 2nd (XX) to specify color: 01 = black, 02 = white, 03 = red, 04 = gray, 05 = yellow, 06 = blue, 07 = green

10G 6 MC® PATCH CORDS (page 3.6)

10GMC-(XX)-(XX) . . . . . 10G 6 MC, double-ended, color-matching jacket/boot, T568A/B

Use 1st (XX) to specify cord length: 03 = 0.9m (3 ft.), 05 = 1.5m (5 ft.), 07 = 2.1m (7 ft.), 10 = 3.1m (10 ft.), 15 = 4.6m (15 ft.), 20 = 6.1m (20 ft.)

Use 2nd (XX) to specify color: 01 = black, 02 = white, 03 = red, 04 = gray, 05 = yellow, 06 = blue, 07 = green

10G 6 PATCH PANELS (page 2.4)

10GX-24 . . . . . 24-port panel, T568A/B, 1 RMS
10GX-48 . . . . . 48-port panel, T568A/B, 2 RMS

S210® CONNECTING BLOCKS (page 9.2, 9.3)

S210AB2-64FT . . . . . .64-pair, S210 field termination kit
S210AB2-128FT . . . . . 128-pair, S210 field termination kit
S210AB2-192FT . . . . . 192-pair, S210 field termination kit

10G MAX FACEPLATES (page 1.12)

10GMX-FP-S-02-(XX). . . . . Single gang, 2-port
10GMX-FP-S-04-(XX). . . . . Single gang, 4-port
10GMX-FP-D-06-(XX) . . . . Double gang, 6-port
10GMX-FP-D-08-(XX) . . . . Double gang, 8-port

Use (XX) to specify color: 01 = black, 02 = white, 04 = gray, 20 = ivory, 80 = light ivory

10G 6 CABLE

For Siemon 10G 6 cable and qualified cable ally part numbers visit www.siemon.com/go/cableally.

SYSTEM 6®

System 6 represents exceptional value, with margin on all parameters beyond category 6 and Power Sum ACR out to 250 MHz. From the telecommunications room to the work area, all Siemon System 6 products exceed connecting hardware and channel performance specifications set forth for category 6 by the TIA/EIA and ISO/IEC.

MAX® 6 MODULES (page 1.5)

MX6-(XX) . . . . . Angled module, T568A/B
MX6-F(XX) . . . . . Flat module, T568A/B
MX6-K(XX) . . . . . Keystone module, T568A/B

Use (XX) to specify color: 01 = black, 02 = white, 03 = red, 04 = gray, 05 = yellow, 06 = blue, 07 = green, 09 = orange, 20 = ivory, 25 = bright white, 80 = light ivory, 82 = alpine white

MC® 6 MODULAR PATCH CORDS (page 3.7)

MC6-8-T-(XX)-(XX) . . . . . MC 6, double-ended, color-matching jacket/boot, T568A/B

Use 1st (XX) to specify cord length: 03 = 0.9m (3 ft.), 05 = 1.5m (5 ft.), 07 = 2.1m (7 ft.), 10 = 3.1m (10 ft.), 15 = 4.6m (15 ft.), 20 = 6.1m (20 ft.)

Use 2nd (XX) to specify color: 01 = black, 02 = white, 03 = red, 04 = gray, 05 = yellow, 06 = blue, 07 = green

MC6-8T-(XX)-B01IP . . . . . .MC 6 VoIP, double ended, white cord, black boot, T568A/B

Use (XX) to specify cord length: 03 = 0.9m (3 ft.), 05 = 1.5m (5 ft.), 07 = 2.1m (7 ft.), 10 = 3.1m (10 ft.), 15 = 4.6m (15 ft.), 20 = 6.1m (20 ft.)

HD® 6 PATCH PANELS (page 2.5)

HD6-16 . . . . . 16-port panel, T568A/B, 1 RMS
HD6-24 . . . . . 24-port panel, T568A/B, 1 RMS
HD6-32 . . . . . 32-port panel, T568A/B, 2 RMS
HD6-48 . . . . . 48-port panel, T568A/B, 2 RMS
HD6-96 . . . . . 96-port panel, T568A/B, 4 RMS

S210® CONNECTING BLOCKS (page 9.3)

S210AB2-64FT . . . . 64-pair, S210 field termination kit
S210AB2-128FT . . . 128-pair, S210 field termination kit
S210AB2-192FT . . . 192-pair, S210 field termination kit

MAX FACEPLATES (page 1.13)

MX-FP-S-01-(XX) . . . . Single gang, 1-port
MX-FP-S-02-(XX) . . . . Single gang, 2-port
MX-FP-S-03-(XX) . . . . Single gang, 3-port
MX-FP-S-04-(XX) . . . . Single gang, 4-port
MX-FP-S-06-(XX) . . . . Single gang, 6-port

Use (XX) to specify color: 01 = black, 02 = white, 04 = gray, 20 = ivory, 80 = light ivory

SYSTEM 6 CABLE

For Siemon System 6 cable and qualified cable ally part numbers visit www.siemon.com/go/cableally.

PREMIUM 5e®

Premium 5e cabling solution is guaranteed to provide transmission performance margins in excess of industry standards for category 5e parameters, and has been independently verified to perform to 160 MHz, making it ideal for supporting Gigabit Ethernet applications.

MAX® 5e MODULES (page 1.6)

MX5-(XX) . . . . . Angled module, T568A/B
MX5-F(XX) . . . . . Flat module, T568A/B
MX5-K(XX). . . . . Keystone module, T568A/B

Use (XX) to specify color: 01 = black, 02 = white, 03 = red, 04 = gray, 05 = yellow, 06 = blue, 09 = orange, 20 = ivory, 25 = bright white, 80 = light ivory, 82 = alpine white

MC® 5 MODULAR PATCH CORDS (page 3.10)

MC5-8T-(XX)-B(XX)C . . . . . MC 5, double-ended, color-matching jacket/boot, T568A/B

Use 1st (XX) to specify cord length: 03 = 0.9m (3 ft.), 05 = 1.5m (5 ft.), 07 = 2.1m (7 ft.), 10 = 3.1m (10 ft.), 15 = 4.6m (15 ft.), 20 = 6.1m (20 ft.)

Use 2nd (XX) to specify color: 01 = black, 02 = white, 03 = red, 04 = gray, 05 = yellow, 06 = blue, 07 = green

HD5® PATCH PANELS (page 2.6)

HD5-16 . . . . . 16-port panel, T568A/B, 1 RMS
HD5-24 . . . . . 24-port panel, T568A/B, 1 RMS
HD5-32 . . . . . 32-port panel, T568A/B, 2 RMS
HD5-48 . . . . . 48-port panel, T568A/B, 2 RMS
HD5-96 . . . . . 96-port panel, T568A/B, 4 RMS

S110® WIRING BLOCKS (page 9.3)

S210A(X)2-50FT . . . 50-pair, S110 field termination kit
S210A(X)2-100FT . . 100-pair, S110 field termination kit
S210A(X)2-300FT . . 300-pair, S110 field termination kit

66 WIRING BLOCKS (page 11.2, 11.3)

S66-M1-50 . . . . . 50-pair, S66 connecting block

MAX FACEPLATES (page 1.13)

MX-FP-S-01-(XX). . . . Single gang, 1-port
MX-FP-S-02-(XX). . . . Single gang, 2-port
MX-FP-S-03-(XX). . . . Single gang, 3-port
MX-FP-S-04-(XX). . . . Single gang, 4-port
MX-FP-S-06-(XX). . . . Single gang, 6-port

Use (XX) to specify color: 01 = black, 02 = white, 04 = gray, 20 = ivory, 80 = light ivory

PREMIUM 5e CABLE

For Siemon Premium 5e cable and qualified cable ally part numbers visit www.siemon.com/go/cableally.

XGLO™

10G *ip*™

Part of Siemon's 10G *ip*™ solution, the XGLO fiber system is ideal for next generation backbone or fiber-to-the-desk applications. XGLO cable assemblies feature premium fiber meeting IEEE 802.3 10 Gigabit Ethernet Standard as well as IEC-60793-2-10 and TIA-492AAAC specifications for laser bandwidth Differential Mode Delay (DMD) specifications. XGLO utilizes laser-optimized fiber for superior transmission performance for 1G or 10G Ethernet applications.

RACK MOUNT INTERCONNECT CENTER (RIC) (page 4.2, 4.3)

RIC3-24-01 . . . . . 24- to 96-port, 2 RMS, black
RIC3-36-01 . . . . . 36- to 144-port, 2 RMS, black
RIC3-48-01 . . . . . 48- to 192-port, 3 RMS, black
RIC3-72-01 . . . . . 72- to 288-port, 4 RMS, black

LC QUICK-PACK™ ADAPTER PLATES (page 4.6)

RIC-F-LC12-01 . . . . . 6 duplex LC adapters (12 fibers), beige adapters
RIC-F-LC16-01 . . . . . 4 quad LC adapters (16 fibers), beige adapters
RIC-F-LC24-01 . . . . . 6 Quad LC adapters (24 fibers), beige adapters
RIC-F-LCU12-01 . . . . . 6 duplex LC adapters (12 fibers), blue adapters
RIC-F-LCU16-01 . . . . . 8 duplex LC adapters (16 fibers), blue adapters
RIC-F-LCU24-01 . . . . . 12 duplex LC adapters (24 fibers), blue adapters

LC JUMPERS & PIGTAILS (page 5.2, 5.3)

XGLO 50/125µm MULTIMODE DUPLEX JUMPERS

FJ2-LCLC5L-(XX)AQ. . . . . LC to LC aqua duplex jumper

Use (XX) to specify length: 01 = 1m (3.3 ft.), 02 = 2m (6.6 ft.), 03 = 3m (9.8 ft.), 05 = 5m (16.4 ft.)

XGLO 50/125µm MULTIMODE SIMPLEX BUFFERED PIGTAILS

FP1B-LC5L-01AQ . . . . . LC simplex pigtail, 900 micron, aqua, 1m (3.3 ft.)

XGLO SINGLEMODE DUPLEX JUMPERS

FJ2-LCULCUL-(XX) . . . . . LC to LC yellow duplex jumper

Use (XX) to specify length: 01 = 1m (3.3 ft.), 02 = 2m (6.6 ft.), 03 = 3m (9.8 ft.), 05 = 5m (16.4 ft.)

XGLO SINGLEMODE SIMPLEX BUFFERED PIGTAILS

FP1B-LCUL-01 . . . . . LC simplex pigtail, yellow, 900 micron, 1m (3.3 ft.)

LC CONNECTORS (page 5.6)

FC1-LC-MM-B80 . . . . . LC Simplex connector, multimode, buffered fiber, beige boot
FC1-LC-SM-B02 . . . . . LC Simplex connector, singlemode, buffered fiber, white boot

XGLO SC system also available. Contact our Technical Support Department for more information.

XGLO FIBER CABLE

For Siemon XGLO fiber cable and qualified cable ally part numbers visit www.siemon.com/go/cableally.

LIGHTSYSTEM®

LightSystem is ideal for companies that do not yet require a 10 gigabit system, yet need a high-performance system that can support Gigabit Ethernet applications. Assemblies are available in standard lengths of 1, 2, 3, and 5 meters. All jumpers are manufactured using the finest quality connectors and OFNR riser grade fiber. The Rack Mount Interconnect Center provides high-density fiber protection, management and distribution. All products forming Siemon's LightSystem cabling system are designed for ease of installation, optimum reliability, maximum bandwidth and proven transmission distance.

RACK MOUNT INTERCONNECT CENTER (RIC) (page 4.2, 4.3)

RIC3-24-01 . . . . . 24- to 96-port, 2 RMS, black
RIC3-36-01 . . . . . 36- to 144-port, 2 RMS, black
RIC3-48-01 . . . . . 48- to 192-port, 3 RMS, black
RIC3-72-01 . . . . . 72- to 288-port, 4 RMS, black

SC QUICK-PACK™ ADAPTER PLATES (page 4.6)

RIC-F-SC6-01 . . . . . 3 duplex SC adapters (6 fibers)
RIC-F-SC8-01 . . . . . 4 duplex SC adapters (8 fibers)
RIC-F-SC12-01 . . . . . 6 duplex SC adapters (12 fibers)

SC JUMPERS & PIGTAILS (page 5.4, 5.5)

MULTIMODE DUPLEX JUMPERS

FJ2-SCSC(X)MM-(XX) . . . . SC to SC orange duplex jumper

MULTIMODE SIMPLEX PIGTAILS (BUFFERED, 900 MICRON)

FP1B-SC(X)MM-01 . . . . . SC simplex pigtail, orange, 1m (3.3 ft.)

SINGLEMODE DUPLEX JUMPERS

FJ2-SCUSCU-(XX) . . . . . SC to SC yellow duplex jumper

SINGLEMODE SIMPLEX PIGTAILS (BUFFERED, 900 MICRON)

FP1B-SCU-01 . . . . . SC simplex pigtail, yellow, 1m (3.3 ft.)

Use (X) to specify multimode fiber type: "—" = 62.5/125µm fiber (orange), 6 = 62.5/125µm fiber (gray), 5 = 50/125µm fiber (orange)

Use (XX) to specify cable length: 01 = 1m (3.3 ft.), 02 = 2m (6.6 ft.), 03 = 3m (9.8 ft.), 05 = 5m (16.4 ft.)

SC CONNECTORS (page 5.7)

FC2-SC-MM-B80 . . . . . Duplex multimode, buffered fiber, two beige boots
FC2-SC-SM-B02 . . . . . Duplex singlemode, buffered fiber, two white boots

SC adapters are "universal" to support multimode and singlemode.

LightSystem LC, ST and MT-RJ systems also available. Contact our Technical Support Department for more information.

Cost effective Fiber Connect Panel and ValuLight Jumpers also available. See pages 4.8 and 5.5 for more information.

LIGHTSYSTEM FIBER CABLE

For Siemon LightSystem fiber cable and qualified cable ally part numbers visit www.siemon.com/go/cableally.




	TERA® (pages1.2 – 1.3)	MAX® SERIES (pages 1.4 – 1.11)	CT® SERIES (pages 1.16 – 1.21)	SM® SERIES (pages 1.32 – 1.33)
Product Applications	Broadband Video, Date, Voice	Compact design allows modules to be side-stacked in faceplates for maximum density. Ideal solution for any combination of copper, fiber, or coax outlets. Flat MAX modules can also be used in MAX patch panels.	CT Couplers provide a robust solution for medium density work area requirements. Flat couplers can also be mounted in CT patch panels.	Ideal for surface mount work area applications where outlet boxes are not practical. Supports a variety of copper, fiber, and coax outlets.
Connectors		MAX Modules	CT Couplers	MX-SM Bezels, Flat MAX Modules
Media Types	S/FTP (fully shielded)	F/UTP (screened), Coax, Fiber, Video	UTP, Coax, Fiber, Video	UTP, Coax, Fiber, Video
Category	7	3 5e 6 6a	3 5e 6	3 5e 6 6a
Termination Types	Non-Impact	S310, Tool-less, SC, ST, MT-RJ, LC, BNC, F-TYPE, RCA, SVHS, HD15	S110, S310, SC, ST, MT-RJ, LC, BNC, F-Type, RCA, SVHS	S110, SC, ST, MT-RJ, LC, BNC, F-Type, RCA
Mounting Options	Flush, Surface, Rack	Wall, Surface	Wall, Surface	Surface
Capacity (Ports)	Single Gang: 1-6 Double Gang: 1-12	Single Gang: 1-6 Ports Double Gang: 1-12 Ports	Single Gang: 1-4 Ports Double Gang: 1-8 Ports (with dual CT Couplers)	1-6 Ports
Options		Stand-off Rings, Surface Mounting Boxes, Service Fitting Plates, Hinged Doors	Stand-off Rings, Surface Mounting Boxes, Service Fitting Plates, Hinged Doors	Magnets, Shutter Door

Colors

00 01 02 03 04 05 06 07 08 09 20 25 60 80 82

All products not available in all colors.

SECTION CONTENTS

SIEMON-USA

For nearly a third of Watertown's 300-year history, the residents of this town at the edge of Connecticut's picturesque Litchfield Hills have shared their home with the Siemon Company.

Through over 100 years of quality, service, innovation and value, Siemon has grown from the artificial staghorn knife handles of the early years to 30A connecting blocks in the 1920s, to 66 blocks in the 1960s, to the new century's most innovative cabling products.

Holding over 400 patents, Siemon is no stranger to firsts. From the first full-compliant 5e cabling system (4 years before standards ratification), to the first Cat 6/Class E and Cat 7/Class F cabling systems Siemon has continually led the industry, raising every expectation along the way.

That longstanding drive towards innovation has been irreversibly tied to the desire to share the lessons learned and expertise forged. In that spirit, Siemon developed the industry's most comprehensive training program, equipping a wide support network of Certified Installers and consultants.

Siemon Network Cabling Solutions,
The Foundation for Your Business Success

TERA®

10G ip™

Invented in 1999, long before its time and subsequently chosen as an industry standard interface for category 7/class F, the Siemon TERA is by far the highest performing twisted–pair copper connector in the world. When installed as part of a TERA solution, each pair delivers almost 1.2 GHz per pair — twice the bandwidth of category 7/class F specifications. This extra bandwidth is critical for demanding applications like broadband video, with an upper frequency requirement of 862 MHz. Broadband video, high speed data and voice applications can be supported using a single 4-pair fully shielded (S/FTP) cable. TERA patch cords come in 1-, 2-, and 4-pair options to support multiple applications in one 4-pair outlet. TERA outlets can be used in both the work area and in the telecommunications room.

1. **Plug Identification —** Plug-port identification available via colored boots
2. **Fully Shielded —** Terminates category 7/Class F fully shielded (S/FTP) cable — virtually eliminates alien crosstalk
3. **Shielded Termination —** Connector assures proper termination of cable shield — no additional crimping or processes required for grounding cable
4. **Compact Design —** Slim, compact design allows outlets to be side-stacked and inserted from either the front or rear of faceplates
5. **Hinged Door —** Outlets include a hinged door to prevent exposure to dust and other contaminates
6. **Quadrant Isolation —** Shielded quadrant design fully isolates pairs for optimum NEXT performance
7. **Standard Compliant Interface —** TERA's ability to share one 4-pair cable and outlet to support multiple applications can save significant material and installation costs *(see diagram next page)*

Easy Installation

CPT-T tool reduces preparation and termination time to less than three minutes.

Mounting Options

Outlets are compatible with all MAX series mounting hardware.

TERA Patch Cords

TERA patch cords are available in 1-, 2- and 4-pair options to support multiple voice, video and data applications over a single cable/outlet.

TERA® 4-PAIR OUTLET

PATENTED

TERA outlets are the industry's highest performing network cabling connectors. Outlets accept 1-, 2- and 4-pair plugs and terminate fully shielded category 7/class F cables. TERA outlets can be used in both the work area and in the telecommunications room.

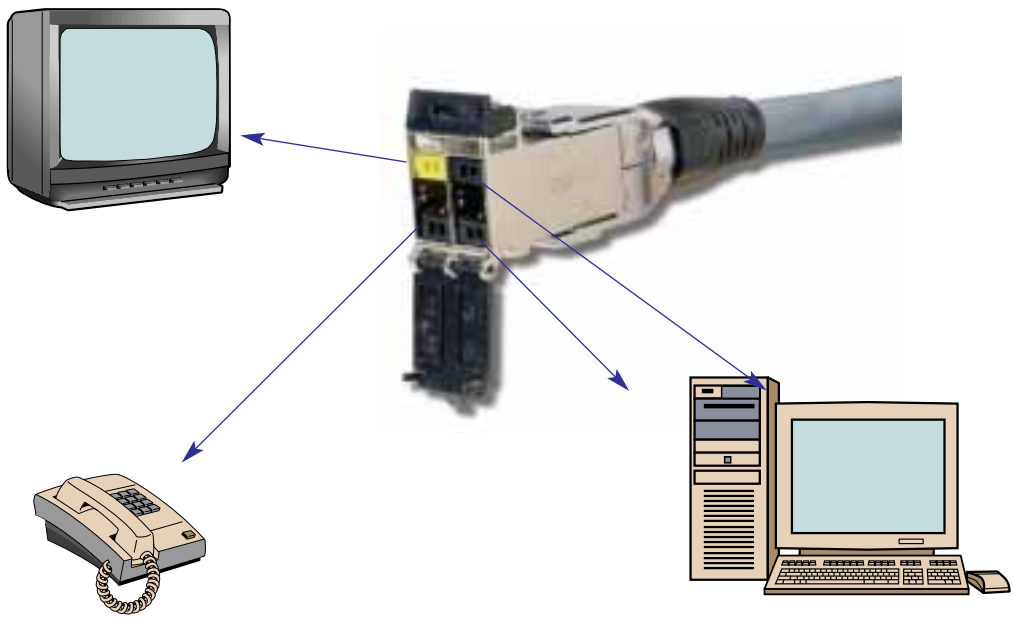
Part #	Description
T7F-01-1	TERA 4-pair outlet with black door, icon and boot

RELATED PRODUCTS

TERA Patch Cords pages 3.2 – 3.3,
TERA Patch Panels pages 2.2 – 2.3,
MAX Faceplates pages 1.12 – 1.15

TERA® CABLE SHARING

Up to four simultaneous applications can be served from a single 4-pair, S/FTP cable and TERA outlet saving significant materials, labor and space. *(Broadband video, voice and high speed data shown).*



ISO 2-PAIR GIGABIT APPLICATION FOR CATEGORY 7/CLASS F CABLING

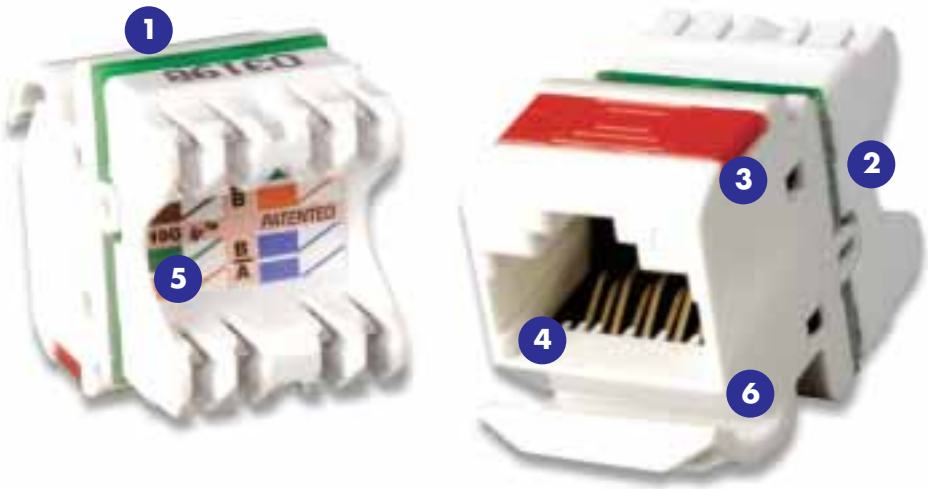
The eagerly anticipated ISO/IEC 14165-114 standard, which defines a 1 Gigabit per second application using a 2-pair transmission scheme over category 7/class F cabling, has been approved for publication. This new standard specifies one pair to transmit and one pair to receive and is intended for operation over 100 meter, 4-connector category 7/class F cabling topologies. With the publication of this application standard, Siemon's TERA solution becomes the world's first and only cabling system capable of supporting two simultaneous Gigabit per second data applications over one 4-pair channel!

10G 6™ MAX® MODULES

10G *ip*™

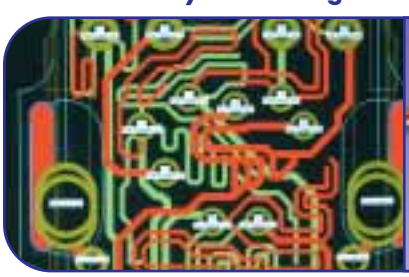
500 MHz Supports 10GBASE-T Application

Part of Siemon's 10G *ip*™ Cabling Solution, 10G 6 MAX modules exceed all category 6 component requirements, and also provides channel performance to 500 MHz for support of the future 10GBASE-T application. This superior level of performance is achieved via an enhanced circuit board design, optimization of jack pin geometry, and stringent inspection and quality control procedures. The end result is the best performing UTP outlet available.



1. **Easy Installation** — Install from either front or rear of faceplate
2. **Easy Termination** — Terminates with standard 110 termination tools
3. **Quick Identification** — Icons provided for port identification
4. **Backward Compatible** — With category 6/class E and lower patch cords
5. **Universal Wiring** — T568A and T568B wiring compatible
6. **Protective Doors** — (not shown) Minimize exposure to dust and other contaminants

Revolutionary PCB Tuning



Circuit board is tuned and balanced using our patent-pending Phase-Delay™ technology to maximize performance to 500 MHz.

Quick Installation

Pyramid wire entry system on S310® blocks separates paired conductors when lacing cables to simplify and reduce installation time.

Superior Performance

For superior performance use 10G 6 modular cords to unlock the performance of 10G 6 MAX modules.

10G 6™ MAX® MODULES

FOCUS PATENTED

10GMX-(XX) . . . . . .
Angled module, T568A/B,
rear strain relief cap and protective
color-matching rubber door

10GMX-F(XX) . . . . . .
Flat module, T568A/B,
and rear strain relief cap

10GMX-K(XX) . . . . . .
Keystone module, T568A/B,
and rear strain relief cap

RELATED PRODUCTS **10G 6 Patch Panels page 2.4, TERA®-MAX® Patch Panels pages 2.2 – 2.3, 10G 6 BladePatch™ and MC® Patch Cords pages 3.5 – 3.6, 10G™ MAX Faceplates page 1.12**

MAX 6 MODULES

FOCUS PATENTED

MX6-(XX) . . . . . .
Angled module, T568A/B,
rear strain relief cap and protective
color-matching rubber door

MX6-F(XX) . . . . . .
Flat module, T568A/B,
and rear strain relief cap

MX6-K(XX) . . . . . .
Keystone module, T568A/B,
and rear strain relief cap

RELATED PRODUCTS **HD® 6 Patch Panels page 2.5, MAX Patch Panels pages 2.8 – 2.9, MC 6 Patch Cords page 3.7, MAX Faceplates pages 1.13 – 1.15**

ORDERING INFORMATION FOR 10G 6 MAX AND MAX 6 MODULES

Angled Modules *include one color-matching, one red, and one blue icon. Door color is clear for red, yellow, blue and orange angled modules.*

Flat Modules *include one color-matching, one red, and one blue icon. Add "-D" for optional color-matching door. Door color is white for red, yellow, blue and orange modules.*

Keystone *version is designed for integration with various international mounting products and is not compatible with MAX mounting hardware.*

Use (XX) to specify color: 01 = black, 02 = white, 03 = red, 04 = gray, 05 = yellow, 06 = blue, 07 = green, 09 = orange, 20 = ivory, 25 = bright white, 80 = light ivory*, 82 = alpine white*

Ⓑ Add "B" to end of part number for bulk project pack of 100 modules (angled and flat modules include icons).

**10G 6 MAX and MAX 6 modules available as FOCUS items.*

MAX® 5e MODULES

FOCUS

Punch-down MAX 5e modules significantly exceed category 5e performance with component and channel performance to 160 MHz*. These modules offer all the functional advantages of our 10G and MAX 6 outlets *(see pages 1.4 – 1.5)* and feature our S310® punch-down block — making termination quick and easy.

160 MHz
Featuring universal T568A/B wiring with component and channel performance to 160 MHz.

MX5-(XX) . . . . . .
Angled module, T568A/B, rear strain relief cap and protective color-matching rubber door

MX5-F(XX) . . . . . .
Flat module, T568A/B, and rear strain relief cap

MX5-K(XX) . . . . . .
Keystone module, T568A/B, and rear strain relief cap

Angled Modules *include one color-matching, one red, and one blue icon. Door color is clear for red, yellow, blue and orange angled modules.*

Flat Modules *include one color-matching, one red, and one blue icon. Add "-D" for optional color-matching door. Door color is white for red, yellow, blue and orange modules.*

Keystone *version is designed for integration with various international mounting products and is not compatible with MAX mounting hardware.*

Use (XX) to specify color: 01 = black, 02 = white, 03 = red, 04 = gray, 05 = yellow, 06 = blue, 07 = green, 09 = orange, 20 = ivory, 25 = bright white, 80 = light ivory, 82 = alpine white

**Performance from 100 – 160 MHz based upon extrapolated TIA/EIA limits.*

Ⓑ *Add "B" to end of part number for bulk project pack of 100 modules (angled and flat modules include icons).*

RELATED PRODUCTS **HD5® Patch Panels page 2.6, MAX Patch Panels pages 2.8 – 2.9, MC® 5 Patch Cords page 3.10, MAX Faceplates pages 1.13 – 1.15**

MAX 3 MODULES

MAX 3 modules provide a cost-effective solution for category 3 applications. These modules utilize our user-friendly S310 termination block, providing the flexibility to wire these jacks for a wide variety of voice and data configurations.

MX3-(XX)-(XX) . . . . . .
Angled module with rear strain relief cap and protective color-matching rubber door

MX3-F-(XX)-(XX) . . . . . .
Flat module with rear strain relief cap

Use 1st (XX) to specify jack option: U3 = 3-pair, 6-position jack USOC; U4 = 4-pair, 8-position jack, USOC

Use 2nd (XX) to specify color: 01 = black, 02 = white, 04 = gray, 20 = ivory, 25 = bright white, 80 = light ivory

Modules include one color-matching, one red, and one blue icon.

TOOL-LESS MAX® MODULES

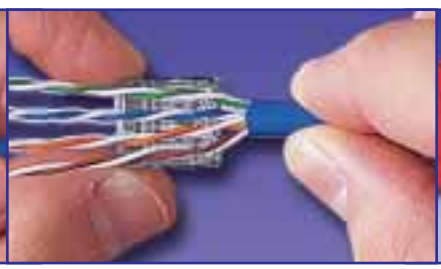
The tool-less MAX module provides category 5e system performance and user-friendly installation features. Our tool-less termination allows all eight conductors to be terminated simultaneously when the termination cap is pressed into place. The compact size provides high-density connectivity in the work area and telecommunications room.

1. **Easy Termination —** No termination tools required
2. **Quick Identification —** Icon tabs available in 13 colors for color-coding
3. **High-density Solutions —** Slim design allows outlet to be side-stackable
4. **Proven Performance —** Patented multi-planar pair balancing technology provides category 5e system performance
5. **Easy Installation —** Flexible mounting tab allows installation from front or rear of faceplate and secures module into the faceplate

Press-fit Termination

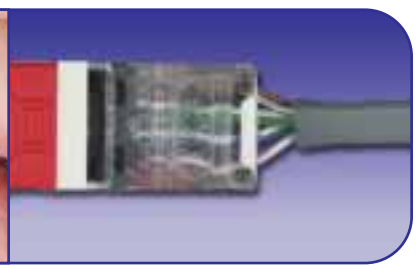
Mass terminate all eight conductors by hand or use a single-position S110® termination tool in the MAX termination cap.

Quick Pair Placement



Conductors can be sequentially placed into termination cap, minimizing cable pair untwist and simplifying termination.

Verify Proper Wiring



The termination cap has a large window for viewing terminations.

TOOL-LESS MAX MODULES

FOCUS PATENTED

MX-C5-(XX) . . . . . .
Angled module,
T568A/B

MX-F-C5-(XX) . . . . . .
Flat module,
T568A/B

MX-K-C5-(XX) . . . . . .
Keystone module,
T568A/B

Keystone version is designed for integration with various international mounting products and is not compatible with MAX mounting hardware.

Use (XX) to specify color: 01 = black, 02 = white, 03 = red, 04 = gray, 05 = yellow, 06 = blue, 09 = orange, 20 = ivory, 25 = bright white, 80 = light ivory, 82 = alpine white

Add "-D" for optional door for angled and flat versions.

Door color is white for red, yellow, blue, and orange flat modules; clear for angled.

Ⓑ *Add "B" to end of part number for bulk project pack of 100 modules.*

Flat and Keystone modules include one color-matching, one red, and one blue icon.

RELATED PRODUCTS

MAX Patch Panels pages 2.8 – 2.9,
MAX Faceplates pages 1.13 – 1.15

TOOL-LESS MAX® 3 MODULES

PATENTED

MAX modules provide a full range of voice and specific data wiring configurations.

MX-(XX)-(XX) . . . . . .
Angled module

MX-F-(XX)-(XX) . . . . . .
Flat module

Use 1st (XX) to specify jack:
U3 = 3-pair, 6-position jack, USOC;
U4 = 4-pair, 8-position jack, USOC
Use 2nd (XX) to specify color:
01 = black, 02 = white, 04 = gray, 20 = ivory, 25 = bright white, 80 = light ivory
Modules include one color-matching, one red, and one blue icon.

MAX FIBER ADAPTER MODULES

FOCUS PATENTED

Siemon MAX fiber adapter modules are compatible with all MAX series faceplates, modular furniture adapters, surface mount boxes and patch panels. All fiber adapters are "universal" to support either multimode or singlemode fiber connections.

MX-F-SA-(XX)* . . . .
Flat module with 1 simplex ST adapter (1 fiber)

MX-SA-(XX) . . . . . .
Angled module with 1 simplex ST adapter (1 fiber)

MX-MT-(XX) . . . . . .
Angled module with 1 duplex MT-RJ adapter (2 fibers)

MX-F-S2-(XX) . . . . .
Flat module with 1 duplex ST adapter (2 fibers)

MX-S2-(XX) . . . . . .
Angled module with 1 duplex ST adapter (2 fibers)

MX-F-MT-(XX)* . . . .
Flat module with 1 duplex MT-RJ adapter (2 fibers)

MX-F-SC-(XX) . . . . .
Flat module with 1 duplex SC adapter (2 fibers)

MX-SC-(XX) . . . . . .
Angled module with 1 duplex SC adapter (2 fibers)

MX-F1-LC(X)-(XX) . . .
Flat module with 1 duplex LC adapter (2 fibers)

Use (X) to specify LC adapter color: blank = beige, U = blue
Use (XX) to specify color: 01 = black, 02 = white, 04 = gray, 20 = ivory, 25 = bright white, 80 = light ivory
Modules include dust caps, one color-matching, one red, and one blue icon per port.
**Compatible with SM® boxes.*

MAX OUTLET BLANKS AND DOORS

FOCUS PATENTED

Blank inserts for unused ports and future growth and doors to protect outlets from outside contaminants.

MX-BL-(XX) . . . . . .
Blank module, bag of 10

MX-FD-(XX) . . . . . .
Door assembly for flat 6- or 8-position MAX modules, bag of 20

MX-AD-(XX) . . . . . .
Door assembly for angled 6- or 8-position MAX modules, bag of 20

Use (XX) to specify color: 00 = clear (MX-AD-XX only), 01 = black, 02 = white, 04 = gray, 20 = ivory, 25 = bright white, 80 = light ivory*
**Angled doors not available in bright white. Recommend using clear or white if required.*

COAX MAX® MODULES

PATENTED

For terminating coaxial cables at the work area or telecommunications room, Siemon's coax MAX modules are available with both BNC and F-type adapters. The F-type is available in both flat and angled while the BNC is available in flat only. They each include a space for using color coded icons to identify type of service.

MX-FA-(XX) . . . . . .
Angled module with 1 F-type adapter, 75 ohms, 2 GHz

MX-F-FA-(XX)* . . . . . .
Flat module with 1 F-type adapter, 75 ohms, 2 GHz

MX-F-BA-(XX)* . . . . . .
Flat module with 1 BNC adapter, 75 ohms

Use (XX) to specify color: 01 = black, 02 = white, 04 = gray, 20 = ivory, 25 = bright white, 80 = light ivory
Modules include one color-matching, one red, and one blue icon.
**Compatible with SM® boxes.*

RELATED PRODUCTS **EZ-Twist page 3.12**

MAX AUDIO/VIDEO MODULES

PATENTED

Siemon audio/video MAX modules provide connectivity for a wide range of applications. Available media types include RCA, SVHS and HD15.

MX-F-RC-(XX)* . . . . . .
Flat module with 1 RCA connector with solder tail

MX-RC-(XX) . . . . . .
Angled module with 1 RCA connector with solder tail

MX-F-VH-(XX) . . . . . .
MAX series SVHS connector, S110® punch-down style
(uses 2-port space in MAX mounting hardware)

MX-D4F-15-(XX) . . . . . .
4-port MAX mounting frame with HD15 female-female adapter installed

MX-D4F-15E-(XX) . . . . . .
4-port MAX mounting frame, HD15 cut-out, empty

Use (XX) to specify color: 02 = white, 20 = ivory, 25 = bright white, 80 = light ivory

Use (XX) to specify color: 01 = black, 02 = white, 04 = gray, 20 = ivory, 25 = bright white, 80 = light ivory
RCA Modules include one color-matching, one red, and one blue icon.
**Compatible with SM boxes.*

ACCESSORIES

Part #	Description
CT-ICON-(XX)	25 colored icon tabs (phone on one side, computer on reverse)
TAB-(XX)	25 colored blank tabs for couplers
CT-ICON-LBL*	10 label sheets for clear tabs that will fit any standard 8.5 x 11 printer, 168 labels per sheet
TW-4	102mm (4 in.) cable tie, bag of 1000

Laser-printed customized tabs now available.

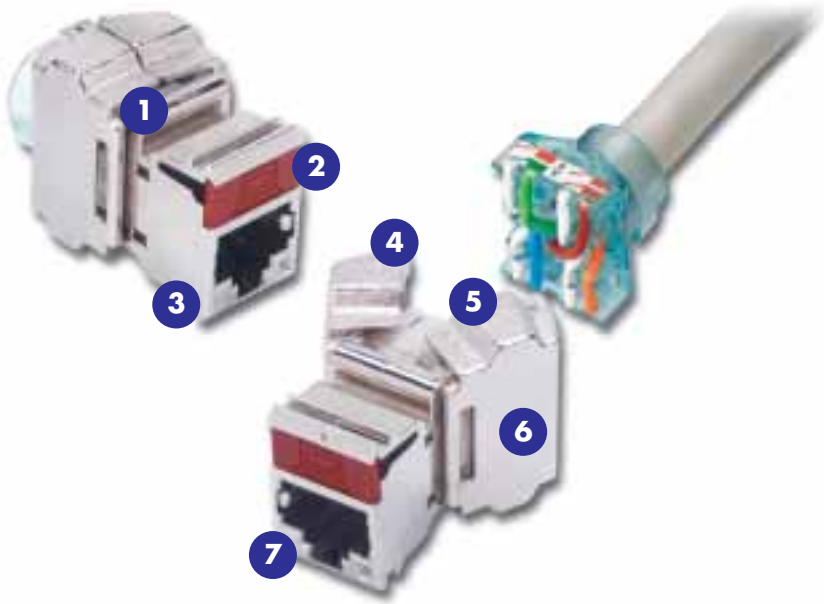
Use (XX) to specify color: 00 = clear (TAB-XX only), 01 = black, 02 = white, 03 = red, 04 = gray, 05 = yellow, 06 = blue, 07 = green, 08 = violet, 09 = orange, 20 = ivory, 25 = bright white, 60 = brown, 80 = light ivory
Ⓑ *Add "B" for bulk pack of 100 icons or tabs.*
**Visit our web site or contact our Technical Support Department for labeling software.*

SCREENED 10G 6™ MAX® MODULES

10G ip™

500 MHz Supports 10GBASE-T Application

The screened MAX module is the cornerstone of our high performance screened cabling systems. This product not only meets all TIA/EIA and IEC 60603-7-5 (draft specifications) component requirements, but also exceeds ISO/IEC 11801 2nd edition and EN50173 2nd edition requirements for transfer impedance and shield effectiveness.



1. **Fully Screened** — Design optimizes shield effectiveness protection from EMI and alien crosstalk
2. **Easy Identification** — Colored icons provided for port identification
3. **Variety** — Angled, flat and keystone outlets available
4. **Rear Shield Protection** — Robust rear shield protects IDC terminations and maintains shield effectiveness
5. **Easy Termination** — Tool-less termination makes termination quick and easy
6. **Universal Compatibility** — Compatible with both T568A/B schemes
7. **Integrated Grounding** — No separate grounding tabs required

TERA-MAX Patch Panel

Use flat MAX screened modules in TERA®-MAX patch panel *(see pages 2.2 – 2.3)* for telecommunications room applications.

Faceplates

Screened MAX modules are compatible with 10G™ MAX faceplates.

Screened 10G 6 MC® Cords

Use with screened 10G 6 MC Cords *(see pages 3.8 – 3.9)* for a complete screened channel solution.

SCREENED 10G 6™ MAX® MODULES

PATENTED

Beyond pure performance, the screened MAX module is packed with time saving features. Our innovative tool-less design allows all 4 pairs to be mass terminated with a pair of channel locks. Use our patented cable preparation tool (CPT-RGTP) and the end result is an outlet that can be terminated quickly and easily while maintaining a full shielded connection for better Electromagnetic Compatibility (EMC) performance. Outlets terminate all shielded and foiled cable constructions 22 – 24 AWG 0.65mm (0.025 in.) size conductors.

Part #	Description
10GMX-FS	Flat screened 10G 6 MAX module, T568A/B
10GMX-S	Angled screened 10G 6 MAX module, T568A/B
10GMX-KS	Keystone screened 10G 6 MAX module, T568A/B

Technical Tip!
Screened MAX modules are not side-stackable in standard MAX faceplates. 10G MAX faceplates are recommended *(see page 1.12)*.

Modules include one red and one blue icon.
Note: Keystone version is designed for integration with various international mounting products and is not compatible with MAX mounting hardware.
Doors available separately, see page 1.8.

RELATED PRODUCTS **AllPrep™ Cable Preparation Tool page 12.10, TERA®-MAX Patch Panels pages 2.2 – 2.3, 10G™ MAX Faceplates page 1.12**

SCREENED MAX® 5e MODULES

PATENTED

Screened MAX 5e modules shatter category 5e performance specifications with 160 MHz of bandwidth while meeting industry standards for shield effectiveness. Modules can terminate any screened or fully shielded cable. Termination is quick and easy — both cable preparation and module termination can be completed in less than 2 minutes.

Part #	Description
MX5-FS	Flat screened MAX 5e module, T568A/B
MX5-S	Angled screened MAX 5e module, T568A/B
MX5-KS	Keystone screened MAX 5e module, T568A/B

Technical Tip!
Screened MAX modules are not side-stackable in standard MAX faceplates. 10G MAX faceplates are recommended *(see page 1.12)*.

Modules include one red and one blue icon.
Note: Keystone version is designed for integration with various international mounting products and is not compatible with MAX mounting hardware.
Doors available separately, see page 1.8.

RELATED PRODUCTS **AllPrep™ Cable Preparation Tool page 12.10, TERA-MAX Patch Panels pages 2.2 – 2.3, 10G MAX Faceplates page 1.12**

MAX®
MODULAR FACEPLATES

The MAX modular faceplates combine high capacity with aesthetics providing a fresh look to match today's technologies. The faceplates are designed to be used with angled or flat MAX modules. Its durable finish masks minor scuffs that may occur during daily usage.

1. **Quick Identification —** Slide-in color-coded icons allow users to instantly identify different types of devices or applications
2. **Variety —** Faceplates available in black, white, bright white, gray, ivory, light ivory, and stainless steel
3. **Multimedia —** Complete multimedia support
4. **Density Options —** Single and double gang faceplates available
5. **Labels —** Sheets of designation labels can be ordered for use with printers

Installation Flexibility

Flexible mounting tab on MAX modules allows installation from front or rear of faceplate.

Superior Density

Fits up to 6 outlets in a single gang or 12 in a double gang faceplate.

Labeling

Faceplates include pressure-release designation label covers for quick, tool-less removal.

RELATED PRODUCTS Modular Furniture Brackets page 1.24, MAX Modules pages 1.4 – 1.9

10G™ MAX FACEPLATES

FOCUS 10G ip™ cULus

Siemon's 10G MAX faceplates are designed to provide optimal outlet separation to reduce alien crosstalk (ANEXT) between 10G 6™ MAX modules. They are also ideal for use with Siemon's screened MAX modules.

10GMX-FPS02-(XX)
Single gang 10G faceplate for two 10G 6 or screened MAX modules

10GMX-FPS04-(XX)
Single gang 10G faceplate for four 10G 6 or screened MAX modules

10GMX-FPD06-(XX)
Double gang 10G faceplate for six 10G 6 or screened MAX modules

10GMX-FPD08-(XX)
Double gang 10G faceplate for eight 10G 6 or screened MAX modules

Use (XX) to specify color: 01 = black, 02 = white, 04 = gray,* 20 = ivory, 80 = light ivory*

Faceplates include designation labels, clear label covers, and mounting screws.

Ⓑ *Add "B" to end of part number for bulk project pack of 100 faceplates.**

**Black and gray color options and bulk project packs available for single gang faceplates only.*

MAX® MODULAR FACEPLATES

FOCUS

MX-FP-S-01-(XX) . . . . . Single gang faceplate for one MAX module

MX-FP-S-02-(XX) . . . . . Single gang faceplate for two MAX modules

MX-FP-S-03-(XX) . . . . . Single gang faceplate for three MAX modules

MX-FP-S-04-(XX) . . . . . Single gang faceplate for four MAX modules

MX-FP-S-06-(XX) . . . . . Single gang faceplate for six MAX modules

MX-FP-D-06-(XX) . . . . . Double gang faceplate for six MAX modules

MX-FP-D-08-(XX) . . . . . Double gang faceplate for eight MAX modules

MX-FP-D-12-(XX) . . . . . Double gang faceplate for twelve MAX modules

Use (XX) to specify color: 01 = black, 02 = white, 04 = gray,* 20 = ivory, 80 = light ivory*

Faceplates include designation labels, clear label covers, and mounting screws.

*Ⓑ Add "B" to end of part number for bulk project pack of 100 faceplates.**

**Black and gray color options and bulk project packs available for single gang faceplates only.*

TAMPER-PROOF MAX FACEPLATE

Siemon's tamper-proof MAX faceplates provide a secure, low profile solution for mounting our complete line of MAX modules. The design features a one-piece base which accepts up to six angled MAX modules and is secured by a solid cover and a choice of tamper-proof star or standard slotted head screw. The base mounts to any single gang outlet (including Siemon's fiber outlet box *see page 1.28)*.

Part #	Description
MX-TFP-S-06-(XX)	Single gang, tamper-proof faceplate for six angled MAX modules

Use (XX) to specify color: 01 = black, 02 = white, 04 = gray, 20 = ivory, 25 = bright white, 80 = light ivory

STAINLESS STEEL MAX FACEPLATES

Single and double gang stainless steel MAX faceplates for use with flat and angled MAX modules. Brushed finish on plates mask minor scratches and scuffs that may occur during day-to-day usage.

MX-FP-S-(XX)-SS-L . . . . . Single gang stainless steel faceplate with labels and label holder

MX-FP-S-(XX)-SS . . . . . Single gang stainless steel faceplate

Use (XX) to specify number of ports: 01 = 1-port, 02 = 2-port, 03 = 3-port, 04 = 4-port, 06 = 6-port

Faceplates include mounting screws.

MX-FP-D-(XX)-SS-L . . . . . Double gang stainless steel faceplate with labels and label holder

MX-FP-D-(XX)-SS . . . . . Double gang stainless steel faceplate

Use (XX) to specify number of ports: 06 = 6-port, 08 = 8-port, 12 = 12-port

Faceplates include mounting screws.

MAX® DUPLEX AND DESIGNER® FACEPLATES

The MAX Duplex and Designer faceplates are designed for use with Siemon's MAX series mounting frames. They are ideal for today's small office, home office, or residential environment. Faceplates include designation labels and color-matching label covers for circuit identification.

DP-S-(XX) . . . . . .
Single gang, plastic Duplex faceplate

DR-S-(XX) . . . . . .
Single gang, plastic Designer faceplate

DRE-D-(XX) . . . . . .
Double gang Designer/Duplex faceplate

DR-D-(XX) . . . . . .
Double gang Designer faceplate

Use (XX) to specify color: 02 = white, 20 = ivory, 25 = bright white, 80 = light ivory

RELATED PRODUCTS
MAX Modules pages 1.4 – 1.9

MAX MODULAR MOUNTING FRAMES

ENHANCED

Siemon's MAX mounting frames provide a solution for installing MAX modules in an environment where electrical Duplex or Designer style faceplates are desired. They are compatible with any Duplex or Designer style faceplate. The frames have recently been enhanced with mounting ears to keep frames flush. The ears can also be detached and used as spacers between the frames and mounting boxes.

DUPLEX MOUNTING FRAMES

MX-E2F-(XX) . . . . .
Duplex mounting frame, accepts two flat MAX modules

MX-E2A-(XX) . . .
Duplex mounting frame, accepts two angled MAX modules

MX-E4F-(XX) . . . .
Duplex mounting frame, accepts four flat MAX modules

MX-E4A-(XX) . . .
Duplex mounting frame, accepts four angled MAX modules

DESIGNER MOUNTING FRAMES

MX-D1-(XX) . . . .
Designer mounting frame, accepts one flat or angled MAX module

MX-D2-(XX) . . . .
Designer mounting frame, accepts two flat or angled MAX modules

MX-D4-(XX) . . . .
Designer mounting frame, accepts four flat or angled MAX modules

MX-D6F-(XX) . . . .
Designer mounting frame, accepts six flat MAX modules

Use (XX) to specify color: 02 = white, 04 = gray, 20 = ivory, 25 = bright white, 80 = light ivory

RELATED PRODUCTS **HD15 Mounting Frame page 1.9**

WALL PHONE FACEPLATES

FOCUS

WPJP . . . . . .
Plastic Wall Phone Faceplate with 4-pair USOC jack included

MX-WP-(XX) SS . . . . . .
MAX Series Stainless Steel Wall Phone Faceplate with keystone MAX module included

Use (XX) to specify wiring option:
K6 = category 6, T568A/B;
K5 = category 5e, T568A/B;
U3 = 3-pair, 6-position USOC;
U4 = 4-pair, 8-position USOC

MAX® SERVICE FITTING PLATES

MAX Service Fitting Plates are used to mount flat MAX modules directly onto Walker 500 series service fittings. These MAX series plates are constructed of aluminum and are available in 2-, 4- and 6-port options. Mounting screws included.

Part#	Description
MX-SFP-(X)	MAX series service fitting plate

*Use (X) to specify number of ports: 2 = 2-ports, 4 = 4-ports, 6 = 6-ports**

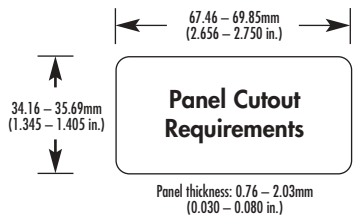
**Shielded MAX modules are not side stackable. Maximum density is 4 shielded modules in the 6-port plate. MAX blanks can be used as a spacer.*

MAX MODULAR FURNITURE ADAPTERS

FOCUS

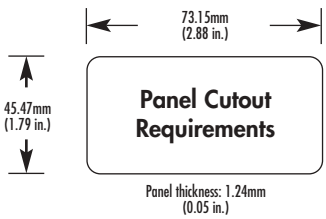
The MAX modular furniture adapters will accept four MAX angled or flat modules and snaps directly into communication outlet openings* in most major modular furniture systems, including Steelcase, Hon Industries, Haworth and Kimball. Adapters include designation label and clear label cover to allow for circuit identification.

MAX Modular Furniture adapters mount into modular furniture openings, providing superior density with proper circuit designation.



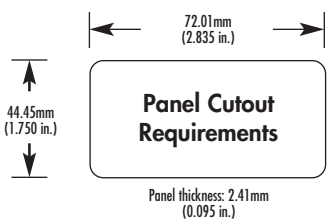
MX-MFP-(XX) . . . . . .

Modular furniture adapter for standard openings including steelcase



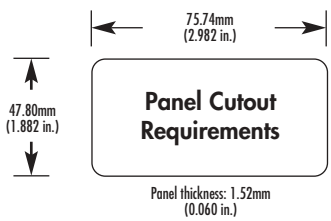
MX-MFP-KNL-(XX) . . . . . .

Modular furniture adapter for Knoll Group openings (not available in white or ivory)



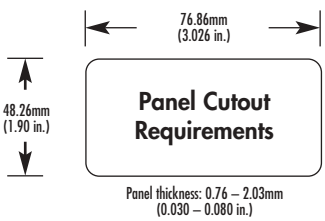
MX-MFP-HME-(XX) . . . . . .

Modular furniture adapter for Herman Miller Ethospace Beltline openings (not available in white or ivory)



MX-MFP-HMA-(XX) . . . . . .

Modular furniture adapter for Herman Miller Action Office Series 2 and Ethospace base openings



MX-MFP-AO3-(XX) . . . . . .

Modular furniture adapter for Herman Miller Action Office Series 3 base opening

Use (XX) to specify color: 01 = black, 02 = white, 04 = gray, 20 = ivory, 80 = light ivory

Note: For Herman Miller Action Office Series 3 152mm (6 in.) vertical panel, use our MX-FP-S-(XX)-(XX) to mount up to six MAX modules.

**Furniture outlet openings, panel thickness, and raceway clearance may vary. Please consult furniture manufacturer for actual dimensions to determine compatibility.*

ACCESSORIES

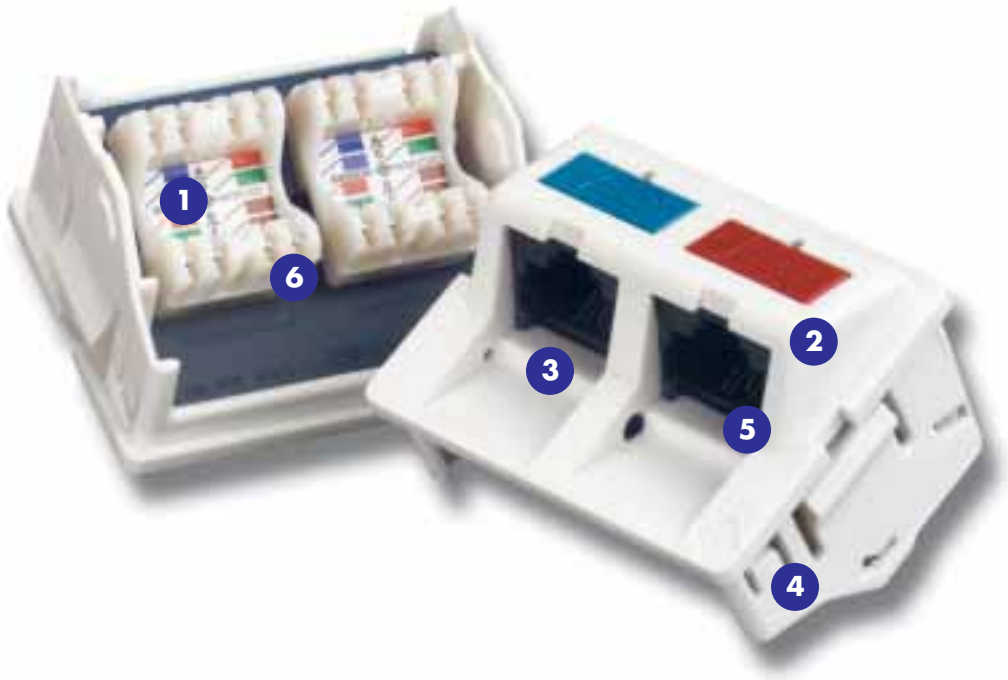
Part #	Description
CT-FP-LBL-104*	10 sheets of labels for faceplates that will fit any standard 8.5 x 11 printer, 104 labels/sheet
MX-FP-CVR-(XX)	Bag of 100 label covers for MAX faceplates

Use (XX) to specify color: 00 = clear, 01 = black, 02 = white, 20 = ivory, 25 = bright white, 80 = light ivory

**Visit our web site or contact our Technical Support Department for labeling software.*

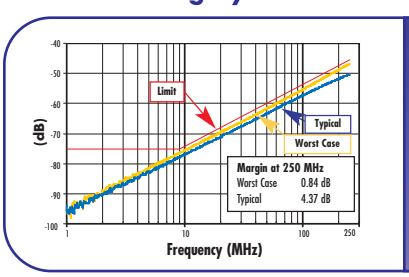
CT® 6 COUPLERS

The unique Siemon engineering innovations used in the design of the CT 6 couplers enables full compliance with category 6 connecting hardware specifications for all pair combinations up to 250 MHz.



1. **Universal Wiring —** All outlets are compatible with both T568A and T568B wiring options
2. **Superior Design —** Patented "gravity feed" design on angled couplers controls bend radius of mated modular cord and physically protects the connection point from being disturbed
3. **Spring Door Option —** Angled CT 6 Couplers are available with optional spring doors to protect modular jacks from outside contaminants
4. **Easy Installation —** Snaps quickly into CT faceplates or patch panels and can be easily removed using a small screwdriver
5. **Backward Compatibility —** Can be used with MC® 5 modular cords for category 5e compatibility
6. **Familiar Terminations —** Utilizes standard 110 termination tools

Exceeds Category 6



Patented Tri-Balance™ Technology ensures full compliance with category 6 specifications.

Quick Termination

Pyramid™ Wire Entry System on new S310® blocks separates paired conductors when lacing cables to simplify and reduce installation time.

Superior Performance

Use MC 6 modular cords to unlock the performance of Siemon CT® 6 modules.

ANGLED CT® 6 COUPLERS

PATENTED

Siemon's patented gravity-feed jack controls the bend radius of the mated modular cords to ensure the integrity of the transmission channel, while physically protecting the connection from incidental contact at the work area. This angled shroud creates a slim profile, perfect for installations in shallow raceways and modular furniture.

CT-C6-C6-(XX) . . . . . .
Angled, double coupler, T568A/B

CT-C6-(XX) . . . . . .
Angled, single coupler, T568A/B

Technical Tip!
Angled couplers are recommended for work area applications.

Use (XX) to specify color: 01 = black, 02 = white, 04 = gray, 20 = ivory, 80 = light ivory, 82 = alpine white
Add "-D" for spring door option.
Ⓑ Add "B" to end of part number for bulk project pack of 100 couplers.
(Bulk option includes couplers, icons, and termination caps. Cable ties are available separately, see page 1.21).
Couplers include one color-matching icon (clear for black) and one termination cap per port, plus one red and one blue icon.

RELATED PRODUCTS **CT Faceplates pages 1.22 – 1.25, Palm Guard page 12.8, MC® 6 Patch Cords page 3.7**

FLAT CT 6 COUPLERS

PATENTED

Flat CT 6 couplers are designed for use in flush mount applications and are also recommended for use with CT patch panels.

CT-F-C6-C6-(XX) . . . . .
Flat, double coupler, T568A/B

CT-F-C6-(XX). . . . . .
Flat, single coupler, T568A/B

Technical Tip!
Flat couplers are recommended for patch panel applications.

Use (XX) to specify color: 01 = black, 02 = white, 04 = gray, 20 = ivory, 80 = light ivory, 82 = alpine white
Ⓑ Add "B" to end of part number for bulk project pack of 100 couplers.
(Bulk option includes couplers, icons, and termination caps. Cable ties are available separately, see page 1.21).
Couplers include one color-matching icon (clear for black) and one termination cap per port, plus one red and one blue icon.

RELATED PRODUCTS **CT Patch Panels pages 2.10 – 2.12, Palm Guard page 12.8, MC® 6 Patch Cords page 3.7**

CT® 5e COUPLERS

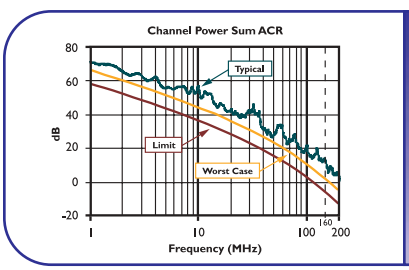
The engineering innovations used in the design of the CT 5e couplers ensure full-featured, end-to-end category 5e connectivity. The couplers feature universal T568A/B wiring and comply fully with all applicable ISO and TIA specifications for all pair combinations.

160 MHz
Featuring universal T568A/B wiring with component and channel performance to 160 MHz.

1. **Minimize Termination Time —** Patented compliant pin technology allows use of Siemon's 4-pair impact tool
2. **Circuitry Protection —** Clear plastic cover protects circuitry from accidental damage
3. **Quick Identification —** Snap-in color-coding icons are included (red, blue, and matching) allowing users to instantly identify different types of services
4. **Strain Relief —** Cable-tie anchor points provide effective strain relief for cables entering from top or bottom of coupler
5. **Spring Door Option —** Angled CT 5e Couplers are available with optional spring doors to protect modular jacks from outside contaminants

The most economical way to order CT couplers is with the (B) Bulk project pack option.

Superior Performance



Patented "reactive balance" technology provides exceptional category 5e transmission performance.

Angled Coupler

Pyramid wire entry system on S310® blocks separates paired conductors when lacing cables to simplify and reduce installation time.

Easy Installation

Snaps quickly into CT faceplates or patch panels and can be easily removed using a small screwdriver to access terminated cable.

RELATED PRODUCTS CT Patch Panels pages 2.10 – 2.12, CT Faceplates pages 1.22 – 1.25, S110® Multi-Pair Termination Tool pages 12.6 – 12.7

CT® 5e COUPLERS

PATENTED

ANGLED COUPLERS

CT-C5-C5-(XX) . . . . . .
Angled, double coupler, universal T568A/B

CT-C5-(XX) . . . . . .
Angled, single coupler, universal T568A/B

Use (XX) to specify color: 01 = black, 02 = white, 04 = gray, 20 = ivory, 80 = light ivory, 82 = alpine white
Add "-D" for spring door option.

FLAT COUPLERS

CT-F-C5-C5-(XX) . . . . . .
Flat, double coupler, universal T568A/B

CT-F-C5-(XX) . . . . . .
Flat, single coupler, universal T568A/B

Use (XX) to specify color: 01 = black, 02 = white, 04 = gray, 20 = ivory, 80 = light ivory, 82 = alpine white

Technical Tip!
Angled couplers are recommended for work area applications and flat couplers are recommended for patch panel applications.

Ⓑ *Add "B" to end of part number for bulk project pack of 100 couplers.*
(Bulk option includes couplers and icons only — termination caps and cable ties are available separately, see page 1.21).
Couplers include one color-matching icon (clear for black), 2 termination caps, and one cable tie per port, plus one red and one blue icon.

FLAT CT 3 COUPLERS

PATENTED

Flat CT 3 couplers provide a full range of voice wiring configurations. They are available with single or double modular jacks.

DOUBLE COUPLERS

CT-(XX)-(XX)-(XX) . . . . . .
Flat, double coupler

Use 1st (XX) to specify jack A (see below)
Use 2nd (XX) to specify jack B (see below)
Use 3rd (XX) to specify color: 01 = black, 02 = white, 04 = gray, 20 = ivory, 80 = light ivory, 82 = alpine white

SINGLE COUPLERS

CT-(XX)-(XX) . . . . . .
Flat, single coupler

Use 1st (XX) to specify jack option (see below)
Use 2nd (XX) to specify color: 01 = black, 02 = white, 04 = gray, 20 = ivory, 80 = light ivory, 82 = alpine white

Jack Options: *U3 = 3-pair, 6-position jack, USOC; U4 = 4-pair jack, USOC*

Ⓑ *Add "B" to end of part number for bulk project pack of 100 couplers.*
(Bulk option includes couplers and icons only — termination caps and cable ties are available separately, see page 1.21).
Couplers include one color-matching icon (clear for black, 2 termination caps, and one cable tie per port, plus one red and one blue icon.

FIBER ADAPTER CT® COUPLERS

PATENTED

The CT fiber coupler line consists of MT-RJ, LC, SC, ST and SC/ST hybrid adapters available in 2 and 4 fiber versions. Angled versions are available with our patented gravity-feed design for controlling the bend radius of fiber cables at the work area. All fiber adapters are "universal" to support either multimode or singlemode fiber connections.

CT-MT-(XX)
Flat coupler with 1 duplex MT-RJ adapter (2 fibers)

CT-MT-MT-(XX)
Flat coupler with 2 duplex MT-RJ adapters (4 fibers)

CT-A-MT-(XX)
Angled coupler with 1 duplex MT-RJ adapter (2 fibers)

CT-A-MT-MT-(XX)
Angled coupler with 2 duplex MT-RJ adapters (4 fibers)

CT-LC(X)-(XX)
Flat coupler with 1 duplex LC adapter (2 fibers)

CT-LC(X)-LC(X)-(XX)
Flat coupler with 2 duplex LC adapters (4 fibers)

CT-A-LC(X)-(XX)
Angled coupler with 1 duplex LC adapter (2 fibers)

CT-A-LC(X)-LC(X)-(XX)
Angled coupler with 2 duplex LC adapters (4 fibers)

CT-SC-SC-(XX)
Flat coupler with 1 duplex SC adapter (2 fibers)

CT-SC-4-(XX)
Flat coupler with 2 duplex SC adapters (4 fibers)

CT-A-SC-SC-(XX)
Angled coupler with 1 duplex SC adapter (2 fibers)

CT-SA-SA-(XX)
Flat coupler with 1 duplex ST adapter (2 fibers)

CT-SA-4-(XX)
Flat coupler with 2 duplex ST adapters (4 fibers)

CT-A-SA-SA-(XX)
Angled coupler with 1 duplex ST adapter (2 fibers)

CT-AC-AC-(XX)
Flat coupler with 1 duplex ST-to-SC adapter (front side = SC) (2 fibers)

CT-AC-4-(XX)
Flat coupler with 2 duplex ST-to-SC adapters (front side = SC) (4 fibers)

CT-A-AC-AC-(XX)
Angled coupler with 1 duplex ST-to-SC adapter (front side = SC) (2 fibers)

Use (X) to specify LC adapter color: blank = beige, U = blue
Use (XX) to specify color: 01 = black, 02 = white, 04 = gray, 20 = ivory, 80 = light ivory
Couplers include one color-matching icon (clear for black); plus one red and one blue icon.

RELATED PRODUCTS **CT-MMO page 1.28, CT Patch Panels pages 2.10 – 2.11, CT Fiber Management Tray page 4.9**

COAX CT® COUPLERS

CT-BA-(XX)
Flat coupler with 1 BNC adapter

CT-A-BA-(XX)
Angled coupler with 1 BNC adapter

CT-FA-(XX)
Flat coupler with 1 F-type adapter

CT-A-FA-(XX)
Angled coupler with 1 F-type adapter

CT-BA-BA-(XX)
Flat coupler with 2 BNC adapters

CT-A-BA-BA-(XX)
Angled coupler with 2 BNC adapters

CT-FA-FA-(XX)
Flat coupler with 2 F-type adapters

Technical Tip!
Angled coax couplers are recommended for work area applications and flat coax couplers are recommended for patch panel applications.

Use (XX) to specify color: 01 = black, 02 = white, 04 = gray, 20 = ivory, 80 = light ivory
Couplers include one color-matching icon (clear for black); one red and one blue icon.

VIDEO AND OTHER CT COUPLERS

CT-RC-RC-(XX)
Flat coupler with 2 RCA connectors with solder tails

CT-A-RC-RC-(XX)
Angled coupler with 2 RCA connectors with solder tails

CT-RA-(XX)
Flat coupler with 1 RCA adapter

CT-RA-RA-(XX)
Flat coupler with 2 RCA adapters

CT-VH-(XX)
Flat coupler with 1 SVHS connector with solder tail

CT-VA-(XX)
Flat coupler with 1 SVHS adapter

CT-AUD-(XX)
Flat coupler with 2 audio connectors

CT-BLNK-(XX)
Flat blank coupler

Use (XX) to specify color: 01 = black, 02 = white, 04 = gray, 20 = ivory, 80 = light ivory
RCA couplers include one color-matching icon (clear for black); one red and one blue icon.

ACCESSORIES

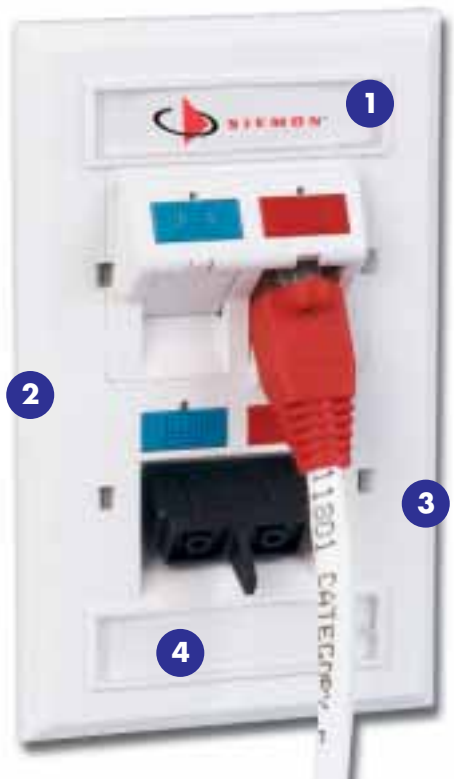
Part #	Description
CT-ICON-(XX)	25 colored icon tabs (phone on one side, computer on reverse)
TAB-(XX)	25 colored blank tabs for couplers
CT-ICON-LBL*	10 label sheets for clear tabs that will fit any standard 8.5 x 11 printer, 168 labels per sheet
TW-4	102mm (4 in.) cable ties, bag of 1000
S110-TC-2P	2-pair S110® termination caps, bag of 500

Laser-printed customized tabs now available.

Use (XX) to specify color: 00 = clear (TAB-XX only), 01 = black, 02 = white, 03 = red, 04 = gray, 05 = yellow, 06 = blue, 07 = green, 08 = violet, 09 = orange, 20 = ivory, 25 = bright white, 60 = brown, 80 = light ivory
Ⓑ *Add "B" for bulk pack of 100 icons or tabs.*
**Visit our web site or contact our Technical Support Department for labeling software.*

CT® FACEPLATES

At the work area, Siemon CT faceplates offer a sleek, clean appearance for mounting CT couplers. Designation labels cover the mounting screws (included) and provide ample circuit identification.



1. **Identification** – Write-on circuit designation labels protected by clear plastic cover located over the mounting screws
2. **Variety** – Faceplates and CT couplers are available in white, ivory, light ivory, gray and black. Stainless steel versions are also available
3. **Durability** – UV resistant, high impact plastic prevents color fading and provides added durability
4. **Labeling** – Sheets of designation labels can be ordered for use with desktop printers

The most economical way to order CT faceplates is with the Ⓑ Bulk project pack option.

Easy Installation

Couplers can be easily snapped out of the front of faceplates, making moves, adds, and changes quick and easy.

Flexibility

Cutouts allow couplers to pass through plates enabling mounting of faceplates after cables are terminated.

Labeling

Faceplates include quick pressure-release designation label covers for quick, tool-less removal.

CT® FACEPLATES

PATENTED

CT2-FP-(XX) . . . . . .
Single gang plastic faceplate for one coupler

CT4-FP-(XX) . . . . . .
Single gang plastic faceplate for two couplers

CT8-FP-(XX) . . . . . .
Double gang plastic faceplate for four couplers

CT2-HFPA-(XX)* . . . . . .
Single gang plastic horizontal faceplate for one coupler with screw caps (#6-32 screws)

Use (XX) to specify color: 01 = black, 02 = white, 04 = gray, 20 = ivory, 80 = light ivory

Faceplates include designation label(s), label cover(s) and screws.

Ⓑ *Add "B" to end of part number for bulk project pack, (includes 100 CT2 or CT4 faceplates or 50 CT8 faceplates, screws, designation labels, and label covers).*

**Not available in bulk project pack.*

STAINLESS STEEL CT FACEPLATES

PATENTED

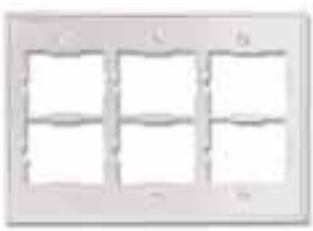
CT4-FP-SS-L . . . . . .
Single gang stainless steel faceplate for two couplers with labels and label holders

CT8-FP-SS-L . . . . . .
Double gang stainless steel faceplate for four couplers with labels and label holders

CT4-FP-SS . . . . . .
Single gang stainless steel faceplate for two couplers

CT8-FP-SS . . . . . .
Double gang stainless steel faceplate for four couplers

CT12-FP-SS . . . . . .
Triple gang stainless steel faceplate for six couplers



ACCESSORIES

Part #	Description
CT-FP-LBL-104*	10 sheets of labels for faceplates that will fit any standard 8.5 x 11 printer, 104 labels per sheet
CT-FP-CVR.	Bag of 100 clear label covers for CT faceplates

**Visit our web site or contact our Technical Support Department for labeling software.*

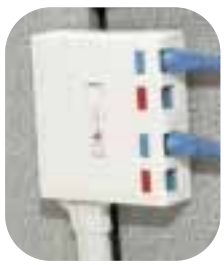
MODULAR FURNITURE BRACKETS

These modular furniture brackets provide a solution for mounting faceplate surface mounting boxes or SM® series 4- or 6-port surface mount boxes onto modular furniture systems.

MFB-1 . . . . . .
Bracket for Steelcase 9000, Haworth, Knoll Morrison, Allsteel, and Westinghouse furniture systems

MFB-2 . . . . . .
Bracket for Herman Miller Ethospace, Steelcase Avenir, and DRG furniture systems

MFB-3 . . . . . .
Brackets for Herman Miller Action Office Furniture Systems



Note: Furniture panel openings may vary. Please consult furniture manufacturer for actual dimensions to determine compatibility.

RELATED PRODUCTS **Faceplate Surface Mounting Boxes page 1.25, MX-SM Surface Mount Boxes pages 1.32 – 1.33**

CT® SERVICE FITTING PLATES

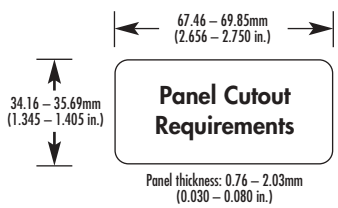
The CT service fitting plates mount directly onto Walker 500 Series service fittings. Mounting screws are included.

CT-SFP-S . . . . . .
Plate with one coupler opening

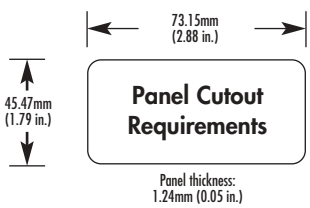
CT-SFP-D . . . . . .
Plate with two coupler openings

CT MODULAR FURNITURE ADAPTERS

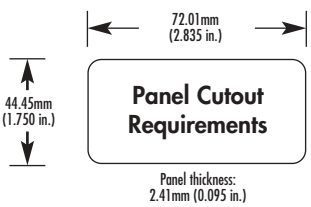
The CT modular furniture adapter will accept any CT coupler and snaps directly into communication outlet openings* in most major modular furniture systems, including Steelcase, Hon Industries, Haworth and Kimball.



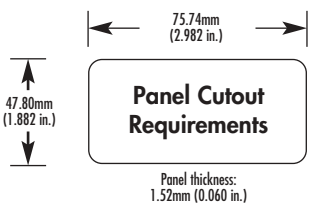
CT-MFP-(XX) . . . . . .
Adapter for standard openings including steelcase (accepts one CT coupler)



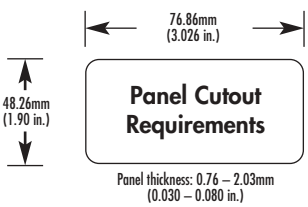
CT-MFP-KNL-(XX) . . . . . .
Adapter for Knoll Group openings (accepts one CT coupler — not available in white or ivory)



CT-MFP-HME-(XX) . . . . . .
Adapter for Herman Miller Ethospace Beltline openings (accepts one CT coupler — not available in white or ivory)



CT-MFP-HMA-(XX) . . . . . .
Adapter for Herman Miller Action Office Series 2 and Ethospace base openings (accepts two CT couplers)



CT-MFP-AO3-(XX) . . . . . .
Adapter for Herman Miller Action Office Series 3 base opening (accepts one CT coupler)

Use (XX) to specify color: 01 = black, 02 = white, 04 = gray, 20 = ivory, 80 = light ivory

For Herman Miller Action Office Series 3 152mm (6 in.) vertical panel, use our standard CT4-FP to mount two CT couplers (see page 1.23).

**Furniture outlet openings, panel thickness, and raceway clearance may vary. Please consult furniture manufacturer for actual dimensions to determine compatibility.*

SURFACE MOUNTING BOXES FOR MAX® AND CT® FACEPLATES

FOCUS

These boxes offer a surface mounting option for MAX or CT single and double gang faceplates. These boxes are perfect for installations where the work area outlet cannot be recessed into a wall or floor box. The boxes are also compatible with our stand-off rings if extra depth is required behind the faceplate. Mounting hardware not included.

CT4-BOX-(XX) . . . . . .
Surface mount box for single gang MAX or CT faceplate
height: 119.3mm (4.70 in), width: 74.8mm (2.95 in), depth: 40.6mm (1.60 in)

CT8-BOX-(XX) . . . . . .
Surface mount box for double gang MAX or CT faceplate
height: 119.3mm (4.70 in), width: 120.8mm (4.76 in), depth: 40.6mm (1.60 in)

AB . . . . . .
Adhesive backing (package of 10)

MB . . . . . .
Magnetic backing (package of 10)

Note: Two magnetic or adhesive backings required for double gang boxes.

Use (XX) to specify color: 01 = black, 02 = white, 04 = gray, 20 = ivory, 80 = light ivory

RELATED PRODUCTS

MAX Faceplates pages 1.12 – 1.15, CT Faceplates pages 1.22 – 1.25

STAND-OFF RINGS FOR MAX AND CT FACEPLATES

Stand-off rings are a mounting option for installations that need extra depth behind the faceplate. They are compatible with both MAX and CT faceplates. The 25.4mm (1.00 in.) ring is especially useful to ensure the proper bend radius for optical fiber or other multimedia applications (faceplate not included).

Part #	Description
CT4-RING-050-(XX)	12.7mm (0.50 in.) stand-off ring for single gang MAX or CT faceplate
CT4-RING-100-(XX)	25.4mm (1.0 in.) stand-off ring for single gang MAX or CT faceplate
CT8-RING-050-(XX)	12.7mm (0.50 in.) stand-off ring for double gang MAX or CT faceplate
CT8-RING-100-(XX)	25.4mm (1.0 in.) stand-off ring for double gang MAX or CT faceplate

Use (XX) to specify color: 01 = black, 02 = white, 04 = gray, 20 = ivory, 80 = light ivory

RELATED PRODUCTS **MAX Faceplates pages 1.12 – 1.15, CT Faceplates pages 1.22 – 1.25**

SHEETROCK RING FOR FACEPLATES

c UL us

Sheetrock rings are designed for installations where wall openings have been inadvertently cut too large and standard single or double gang faceplates do not provide sufficient wall coverage. They mount directly behind MAX or CT faceplates and offer an additional 6.4mm (0.25 in.) of coverage on each side of the faceplate.

SR-1-(XX) . . . . . .
Single gang ring

SR-2-(XX) . . . . . .
Double gang ring

Use (XX) to specify color: 01 = black, 02 = white, 20 = ivory

RELATED PRODUCTS **CT Faceplates pages 1.22 – 1.25, MAX Faceplates pages 1.12 – 1.15**

MAX® BRITISH FACEPLATES

MAX British faceplates are compatible with British standards (85mm x 85mm). The faceplate is designed to accept up to six angled or flat MAX modules. Faceplates include designation label(s), clear label cover(s), and mounting screws.

MX-BFP-S-01-(XX) . . . .
Single gang faceplate for one MAX module

MX-BFP-S-02-(XX) . . . .
Single gang faceplate for two MAX modules

MX-BFP-S-03-(XX) . . . .
Single gang faceplate for three MAX modules

MX-BFP-S-04-(XX) . . . .
Single gang faceplate for four MAX modules

MX-BFP-S-06-(XX) . . . .
Single gang faceplate for six MAX modules

Use (XX) to specify color: 02 = white, 25 = bright white, 82 = alpine white

MAX AUSTRALIAN/ITALIAN FACEPLATES

MX-HFP-01-(XX) . . . . . .
Single gang horizontal Australian/Italian faceplate for one MAX module

MX-HFP-03-(XX) . . . . . .
Single gang horizontal Australian/Italian faceplate for three MAX modules

MX-HFP-02-(XX) . . . . . .
Single gang horizontal Australian/Italian faceplate for two MAX modules

MX-HFP-04-(XX) . . . . . .
Single gang horizontal Australian/Italian faceplate for four MAX modules

Use (XX) to specify color: 02 = white, 20 = ivory, 80 = light ivory

Note: Faceplates include designation label(s), color-matching and clear label covers, and color-matching screw covers.

MAX INTERNATIONAL ADAPTERS

These adapters allow two MAX modules to be mounted into standard openings.

MX-45-01-(XX) . . . . . .
45mm x 45mm 1-port adapter
Use (XX) to specify color: 02 = white, 25 = bright white, 82 = alpine white

MX-45-02-(XX) . . . . . .
45mm x 45mm 2-port adapter
Use (XX) to specify color: 02 = white, 25 = bright white, 82 = alpine white

MX-A-(XX) . . . . . .
50mm x 50mm adapter. Includes designation label and clear label covers.
Use (XX) to specify color: 01 = black, 02 = white, 82 = alpine white

MX-RFP-S-02-(XX) . . . . . .
45mm x 50mm adapter
Use (XX) to specify color: 02 = white

Contact our Technical Support Department for questions on mounting dimensions.

BRITISH CT® FACEPLATES

The CT series British faceplates are compatible with British standards (85mm x 85mm) and are designed to work with our complete line of CT couplers.

CTE2-FP-(XX) . . . . . .
Single gang British style faceplate for one CT coupler

CTE4-FP22-(XX) . . . .
Single gang British style faceplate for two CT couplers

CTE4-FP-(XX) . . . . . .
Double gang British style faceplate for two CT couplers

Use (XX) to specify color: 02 = white, 82 = alpine white

BRITISH SURFACE MOUNT BOXES

The CTE2 and CTE4 boxes offer surface mount capabilities for the British MAX and CT series faceplates featured previously.

CTE2-BOX-02 . . . . . .
Single gang surface mount box for British CT faceplates, white

CTE4-BOX-02 . . . . . .
Double gang surface mount box for British CT faceplates, white

CT INTERNATIONAL FACEPLATES

CT-FP-DKIT-(XX) . . . . . .
Single gang German faceplate kit for one CT coupler. Includes faceplate, mounting ring and stand-off frame

CT2-HFP-(XX) . . . . . .
Horizontal Australian/Italian faceplate for one CT coupler

Use (XX) to specify color: 02 = white, 80 = light ivory

CT INTERNATIONAL ADAPTERS

CTE-A-(XX) . . . . . .
50mm x 50mm adapter for one CT coupler
Use (XX) to specify color: 02 = white, 82 = alpine white

CTE-45-(XX). . . . . .
45mm x 45mm adapter for one CT coupler
Use (XX) to specify color: 02 = white, 82 = alpine white

CT-RFP-02. . . . . .
White 45mm x 50mm adapter for one CT coupler

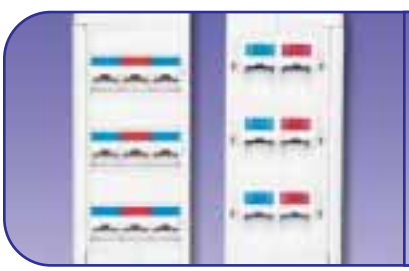
Contact our Technical Support Department for questions on mounting dimensions.

MULTI-USER TELECOMMUNICATIONS OUTLET ASSEMBLY (MUTOA)

This low-profile multi-user/multimedia surface mount box is unsurpassed in features and flexibility, and is ideal for use as a multi-user telecommunications outlet assembly (MUTOA) as specified in ANSI/TIA/EIA-568-B.1. It provides storage area for up to 12m (39.4 ft.) of buffered optical fiber cable using our optional fiber management tray and at least 2m (6.6 ft.) of 4-pair twisted pair cable in the base, while maintaining a minimum bend radius of 30mm (1.2 in.).

1. **Storage Capacity —** Provides TIA compliance for cable slack while maintaining minimum bend radius requirements
2. **Entries —** Breakout on four sides for cable/raceway entry
3. **Fiber Management —** Space for optional fiber management tray
4. **Housing Snaps Together —** A captive screw is included for added security
5. **Cable Tie Anchor Points —** For cable management
6. **Versatility —** MAX® MUTOA accommodates any combination of up to 18 ports of mixed media or up to 36 fiber ports
7. **US and European Compatible —** Compatible with any standard single or double gang electrical box including European standards. Screws and adhesive-backed tape included; magnets optional
8. **Durability —** UV resistant, high impact plastic prevents color fading and provides added durability
9. **Quick Identification —** Write-on surface for additional identification

Installation Options



Available in both MAX and CT® versions for greater flexibility. The MAX MUTOA accepts up to 18 modules.

Fiber Management

Optional fiber management trays enable isolation and proper routing of optical fiber cabling.

Innovative Labeling

Hideaway labeling system flips down to reveal a designation area that utilizes standard size faceplate designation labels.

MAX® MUTOA

FOCUS PATENTED

Part #	Description
MX-MMO-(XX)	Multi-user/telecommunications outlet box with cable ties, mounting screws and adhesive tape *height: 200.2mm (7.88 in.),* *width: 200.2mm (7.88 in.),* *depth: 57.0mm (2.25 in.)* *Optional fiber management tray sold separately (see below).*

Use (XX) to specify color: 02 = white, 20 = ivory, 80 = light ivory

RELATED PRODUCTS **MAX Modules pages 1.3 – 1.9**

CT® MUTOA

PATENTED

Part #	Description
CT-MMO-(XX)	Multi-user/telecommunications outlet box with cable ties, mounting screws and adhesive tape *height: 200.2mm (7.88 in.),* *width: 200.2mm (7.88 in.),* *depth: 57.0mm (2.25 in.)* *Optional fiber management tray sold separately (see below).*

Use (XX) to specify color: 02 = white, 20 = ivory, 80 = light ivory

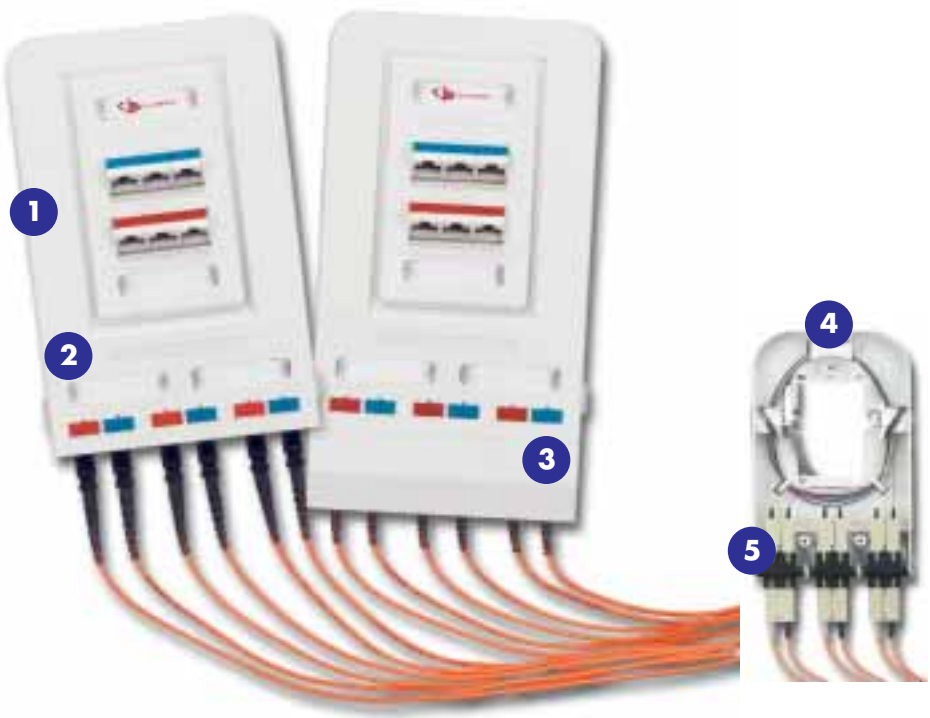
RELATED PRODUCTS **CT Couplers pages 1.16 – 1.21**

ACCESSORIES

Part #	Description
CT-MMO-MAG	Set of 3 magnets for mounting MAX or CT MUTOA
FMT	Clear fiber management tray for MAX or CT MUTOA

FIBER OUTLET BOX (FOB2)

Siemon's low-profile Fiber Outlet Box (FOB2) is the optimal solution for bringing fiber to the desk. The FOB2 offers a well-defined method for managing fiber cabling at the work area by providing a connection point for up to 12 fibers (or 6 coaxial) connectors utilizing slide-in bezels. A single gang faceplate is mounted to the FOB2 base and accommodates up to six MAX® modules or two CT® couplers.



1. **Low Profile —** Slim, tapered design hugs the wall, minimizing disturbance
2. **Easy Access —** Cover snaps on and off of the base. Screw holes are provided (concealed beneath identification labels) to secure cover to base, if desired
3. **Extended Cover Version —** Conceals and protects the externally mated fiber connectors
4. **Fiber Managers —** Angled/arched slots in fiber managers fully retain the fibers strands while facilitating loading
5. **Slide-in Adapter Bezels —** Allow for easy installation and removal and are polarized to assure that adapter keyways are always facing up

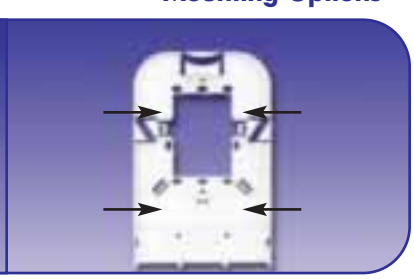
Innovative Cable Access

The unique design allows snap-on cover to be removed to access fiber connections without disturbing the faceplate connections (and vice versa).

Fiber Management

The base of the FOB2 provides storage and management for up to 1 meter of slack for as many as 6 fibers.

Mounting Options



Mounting holes allow FOB2 to be mounted to both single and double gang U.S. wall outlets as well as single gang European outlets.

FIBER OUTLET BOX (FOB2)

FOCUS PATENTED

FOB2-(XX) . . . . . Includes base, cover, designation labels, clear label covers, mounting hardware, cable ties, icons, and three blank bezels

FOB2-GRD-(XX) . . . . . Includes base, extended cover, designation labels, clear label covers, mounting hardware, cable ties, icons, and three blank bezels

Use (XX) to specify color: 01 = black, 02 = white, 80 = light ivory

RELATED PRODUCTS **CT® Faceplates pages 1.22 – 1.25, MAX® Faceplates pages 1.13 – 1.15**

FIBER BEZELS

FOCUS PATENTED

FOB-BZL-MT1-01 . . . . .
1 Duplex MT-RJ adapter, (2 fibers)

FOB-BZL-LC(X)1-01 . . . .
1 Duplex LC adapter, (2 fibers)

FOB-BZL-SC-01 . . . . . .
Duplex SC adapter, (2 fibers)

FOB-BZL-MT-01 . . . . . .
2 Duplex MT-RJ adapters, (4 fibers)

FOB-BZL-LC(X)-01 . . . . .
2 Duplex LC adapters, (4 fibers)

FOB-BZL-SA-01 . . . . . .
Duplex ST adapters, (2 fibers)

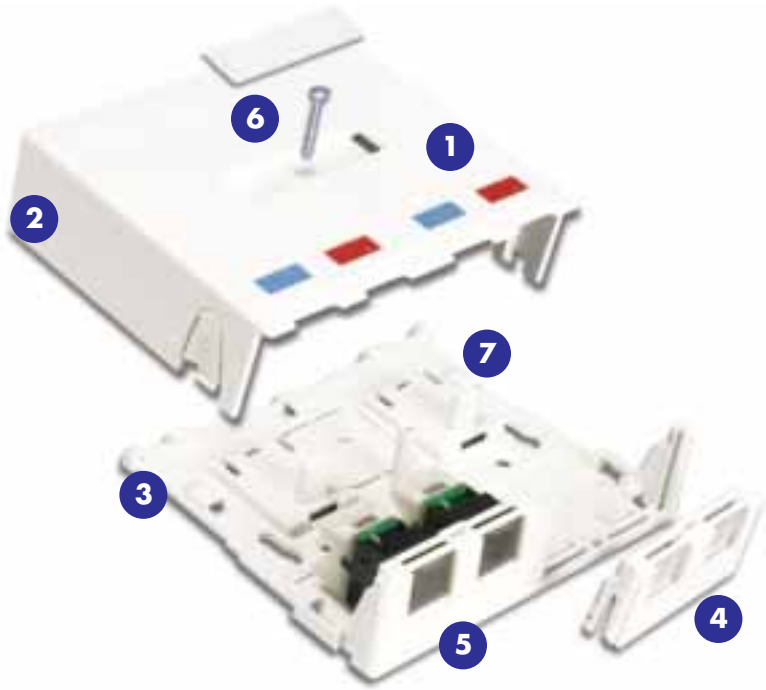
FOB-BZL-BL-01 . . . . . .
Blank bezel

Use (X) to specify LC adapter color: blank = beige, U = blue

Note: All fiber adapters are "universal" to support both multimode and singlemode fiber connections.

MX-SM® SURFACE MOUNT BOXES

Surface mount boxes feature a sleek compact, easy-to-install design. UTP, Screened, fiber, video, and coax MAX® modules can be quickly installed into the base. Multiple cable management features provide a high performance and well organized installation.



1. **Snap-on Cover with Designation Areas —** For color-coded icons/tabs and write-on labels
2. **Cable/Raceway Entry —** Breakouts on three sides and bottom
3. **Cable Tie Anchor Points —** Facilitates strain relief for cable
4. **MAX Bezels Included —** Allows flat MAX modules to be secured in place
5. **Optional Spring-loaded Shutter Doors —** Shutter doors offer added protection from dust and other contaminants
6. **Label Cover —** Conceals screw for added security if desired
7. **Cable Management —** Built-in cable management features ensure proper bend radius for copper or fiber

Cable Entry Point

One port box has predefined opening for routing cable into the rear of the box.

Quick Cover Release

Left and right thumb release allow the cover to be easily removed.

Optional Magnets

Magnets are designed to sit flush within the base of the box to optimize cable routing above it.

RELATED PRODUCTS Flat MAX Modules pages 1.4 – 1.11, TERA 4-pair Outlet page 1.3

MX-SM® SURFACE MOUNT BOXES

FOCUS PATENTED NEW

Field-assembled surface mount boxes with MAX bezels. Accepts flat MAX modules ordered separately.

MX-SM1-(XX) . . . . . .
1-port box with cover, base, one single port MAX bezel, cable ties, and screws

MX-SM2-(XX) . . . . . .
2-port box with cover, base, one (2-port) MAX bezel, cable ties, screws, and designation labels

MX-SM4-(XX) . . . . . .
4-port box with cover, base, two (2-port) MAX bezels, cable ties, screws, and designation labels

MX-SM6-(XX) . . . . . .
6-port box with cover, base, three (2-port) MAX bezels, cable ties, screws, and designation labels

Use (XX) to specify color: 01 = black, 02 = white, 20 = ivory, 80 = light ivory.
Add "-D" for optional spring shutter doors.
Add "-M" for optional magnets.
Add "-MD" for optional doors and magnets.

MAX bezels are compatible with all single port, flat MAX modules see pages 1.4 – 1.11. For LC, SC duplex fiber adapters and TERA options, see MX-SM multimedia bezels below.

MX-SM MULTIMEDIA BEZELS AND COMPONENTS

MX-SMB-MM-(XX). . . . . .
Multimedia 2-port bezel

MX-SMB-SC-(XX) . . . . . .
Bezel with duplex multimode/singlemode SC adapter

MX-SM-BLNK-(XX). . . . . .
A single blank insert for an unused port. May be used with MAX or multimedia bezels

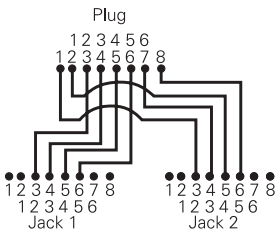
Note: Multimedia bezels accommodate TERA outlets (see page 1.3) and flat MAX simplex LC adapters (see page 1.8). They are also compatible with all other single port flat MAX modules, but require the use of icons to secure modules into bezel.

Use (XX) to specify color: 01 = black, 02 = white, 20 = ivory, 80 = light ivory.

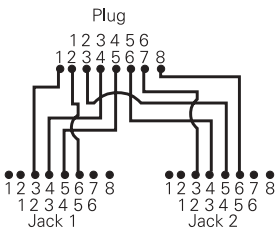
MODULAR Y-ADAPTERS

Y-adapters are available as "splitters" which convert one 4-pair jack into two jacks. The Y-adapters utilize Siemon's patented UP-2468 plug which allows adapters to be used in 6- or 8-position jacks. The adapter body can be rotated 180° to view either the colored icons or the Y-adapter pinouts, which are printed on the opposite side.

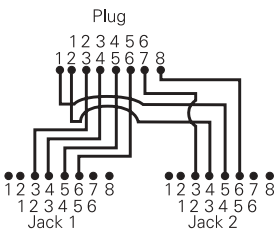
YU4-U2-U2 . . . . . .
Splits a 4-pair USOC jack for Token Ring or voice applications at either jack



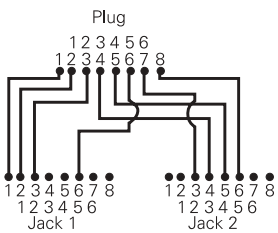
YA4-U2-U2. . . . . .
Splits a 4-pair T568B jack for Token Ring or voice applications at either jack



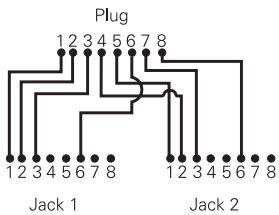
YT4-U2-U2 . . . . . .
Splits a 4-pair T568A jack for Token Ring or voice applications at either jack



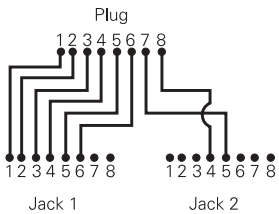
YT4-E2-U2 . . . . . .
Splits a 4-pair T568A/B jack for 10BASE-T and Token Ring or voice applications



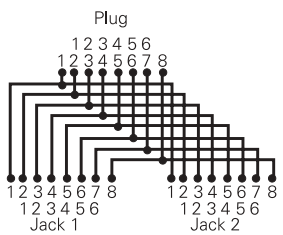
YT4-E2-E2 . . . . . .
Splits a 4-pair T568A/B jack for 10BASE-T applications at either jack



YA4-A3-U1. . . . . .
Splits a 4-pair T568B jack for 1-, 2- or 3-pair voice and 1-pair voice/modem



Y-BRIDGE. . . . . .
Bridges all jack pairs. Compatible with any jack wiring. Provides an additional 4-pair jack with the same wiring.

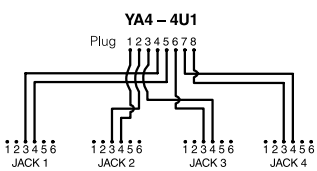


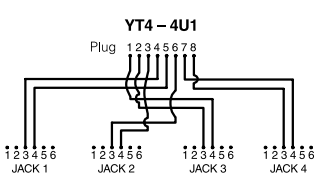
Note: These modular adapters meet category 3 transmission specifications.

MODULAR 4-WAY SPLITTER

Siemon's modular 4-way splitter provides provides access to each individual pair of a 4-pair modular outlet. The splitter converts a single 4-pair outlet to 4 individual 1-pair, 6-position outlets to enable four unique modular connections. The universal plug design enables compatibility with both 6- and 8-position outlets.

YA4-4U1 . . . . . Modular 4-way splitter, T568B
YT4-4U1 . . . . . Modular 4-way splitter, T568A





6-PORT SP5 SURFACE PACK MODULE

PATENTED

This 6-port SP5 Surface Pack is designed to provide high performance modular connectivity and category 5e transmission performance for mobile, surface mount applications. The module fits through 57.15mm (2.25 in.) diameter openings for easy relocation and can be mounted using either mounting screws (not provided) or optional internal mounting magnets. Cable tie strain relief points and tapered entrance secures and protects cables.

Part #	Description
SP5-C5	6-port, surface pack module, T568A/B. Includes icon label holder, label, and cable tie

Add "-M" for optional mounting magnets.

HARMONICA

This outlet converts 25-pair feeder cable into modular jack ports to serve work areas. The Harmonica has one 25-pair male connector and can accommodate up to 12 modular jacks, depending on the pair count of the jack. It allows easy moves and changes for stations using multiple voice and data ports. It comes equipped with Siemon's patented universal connector holddown.

Part #	Description
H50M-12MJ4	12, 2-pair, 8-position jacks, USOC
H50M-12MJ4-ETH	12, 2-pair, 8-position jacks, 10BASE-T
H50M-8MJ6	8, 3-pair, 6-position jacks, USOC
H50M-6MJ8	6, 4-pair jacks, USOC
H50M-6MJ8-ATT	6, 4-pair jacks, T568B
H50M-6MJ8-TIA	6, 4-pair jacks, T568A

MODULAR RS232 KIT

These DB-to-modular adapters are used to connect equipment to wall outlets via modular cords. They convert the connector on the station equipment — either a DB25 or DB09 — to a single 4-pair non-keyed modular jack. The jack is pre-terminated to RS232-type poke-through pins, and the pin-out is field configurable.

Part #	Description
DB09(X)-MJ8K	DB09 to 8-position, 8-conductor modular jack adapter
DB25(X)-MJ8K	DB25 to 8-position, 8-conductor modular jack adapter

Use (X) to specify DB gender: M = male, F = female




	TERA®-MAX PANELS (pages 2.2 – 2.3)	10G 6™ AND HD® PANELS (pages 2.4 – 2.7)	MAX® PANELS (pages 2.8 – 2.9)	CT® PANELS (pages 2.10 – 2.12)
Product Applications	Modular patch panel for TERA, Flat Screened MAX or Flat UTP 10G 6 MAX Modules	High density, high performance modular patching for UTP	Multimedia (used in conjunction with MAX 5e and MAX 6 modules at work area)	Multimedia (used in conjunction with CT couplers at work area)
Connectors	TERA Outlets, MAX Modules	Integral	MAX Modules	CT Couplers
Media Types	F/UTP, S/FTP, UTP	UTP	UTP, Coax, Fiber, Video	UTP, Coax, Fiber, Video
Category	5e 6a 7	5e 6 6a	3 5e 6	3 5e 6
Termination Types	Tool-less	S310®, S110®, 25-Pair	S310, Tool-less, SC, ST, MT-RJ, LC, BNC, F-Type, RCA, SVHS	S310, S110, SC, ST, MT-RJ, LC, BNC, F-Type, RCA, SVHS
Capacity (Ports)	16, 24	12 (on 89D Bracket), 16, 24, 32, 48, 96	12 (on 89D Bracket), 16, 24, 48	16, 24, 32, 48, 64, 96
Included Accessories	Cable Ties, Mounting Hardware	Rear Cable Management Bar, Icon/Label Holders (HD only), Designation Labels, Cable Ties, Mounting Hardware	Rear Cable Management Bar, Designation Labels, Cable Ties, Mounting Hardware	Mounting Hardware

SECTION CONTENTS

SIEMON-UK

1991 marks an important date in Siemon's century long history. It is in 1991, 88 years after Carl F. Siemon opened our doors, that Siemon established its first international office, in Woking, southwest of London. Enjoying outstanding growth over the next decade, the Siemon UK office became the EMEA (Europe, Middle East and Africa) headquarters, central in the creation and management of all EMEA regional offices. In 2004 Siemon UK moved its based of operations from Woking to a new larger facility in Chertsey.

Recognizing that increasing bandwidth needs are of global concern, the UK office continues to grow by providing and supporting EMEA structured cabling needs and providing forward-looking solutions. A continually trained sales staff, certified installer program and plain old British determination, buttresses this dedication to world-class support!

Siemon UK has certainly helped clear the way in the continuous drive to be the best total cabling solution provider — anywhere!

Siemon Network Cabling Solutions,
The Foundation for Your Business Success

TERA®-MAX® PATCH PANELS

10G ip™

TERA-MAX 19 inch patch panels harness unprecedented performance and reliability in a shielded, high-density modular solution. Any combination of TERA, flat screened MAX and flat UTP 10G 6 MAX modules can be configured in TERA-MAX panels. As outlets are snapped into place, resilient ground tabs and ground lugs assure that each outlet and cable is properly grounded for maximum protection from outside interference. No secondary grounding operations are required, reducing the overall termination time. Built-in cable management and strain relief are integrated onto the rear of panel.

1. **Installer Friendly —** Panels can be mounted directly on standard 19 inch relay rack or cabinet
2. **Durability —** Lightweight, high strength brushed aluminum or black anodized protective finish
3. **Installation Friendly —** Individual modules snap into place from front or rear of panel
4. **Port Identification —** Bold port numbering enables quick identification of outlets

Modular Flexibility

Use 1- or 2-pair TERA cable assemblies for sharing multiple applications over each 4-pair cable/outlet.

Slim Design

Use TERA, flat screened MAX modules or flat UTP 10G 6 MAX modules in TERA-MAX patch panel for telecommunications room applications.

Mitigates Alien Crosstalk

Optimized spacing of outlets mitigates alien crosstalk between adjacent ports.

TERA®-MAX® PATCH PANELS

Part #	Description	RMS
TM-PNL-16-01	16-port TERA-MAX panel, black	1 RMS
TM-PNL-16	16-port TERA-MAX panel, metallic	1 RMS

TM-PNL-24-01	24-port TERA-MAX panel, black	1 RMS
TM-PNL-24	24-port TERA-MAX panel, metallic	1 RMS

Technical Tip!
Utilize TERA-MAX patch panels with flat UTP 10G 6 MAX modules for improved alien crosstalk performance.

Panels include mounting hardware.
Note: 1 RMS = 44.5mm (1.75 in.)

RELATED PRODUCTS **TERA 4-pair Outlet page 1.3, Flat Screened MAX Modules pages 1.10 – 1.11, Flat UTP 10G 6 MAX Modules page 1.5**

HD5® SCREENED PATCH PANELS

PATENTED

The HD5 screened patch panel provides a high density modular solution for termination of 4-pair screened cable. The HD5 screened panel provides transmission performance that meets category 5e system requirements and is fully compliant with shielding effectiveness as defined by the CENELEC and ISO/IEC standards. Siemon compliant pin technology allows the use of Siemon's multi-pair impact tool to minimize termination time. Shield continuity can be achieved by using either ground clip or spade. Two ground lugs are provided (one on each side of panel) for attaching 4.115mm (6 AWG) ground wire to ground and connecting multiple panels together. Built-in cable management and strain relief are integrated on rear of panel. Optional rear cable management bracket is available to properly guide cables to and from the back side of panel.

Part #	Description
HD5-S-24	Screened 24-port HD5 panel, T568A/T568B, 1 RMS
HD5-RWM	Rear cable management bracket for HD5-S-24

Panels include designation labels, cable ties and mounting hardware.
Note: 1 RMS = 44.5mm (1.75 in.)

RELATED PRODUCTS **HD® Panel Accessories page 2.7**

10G 6™ PATCH PANELS

10G *ip*™

500 MHz
Supports 10GBASE-T Application

Part of Siemon's 10G *ip*™ Cabling Solution, the 10G 6 modular patch panel far exceeds all category 6 component and channel requirements. This superior level of performance is achieved via a completely new circuit board design, optimization of jack pin geometry, and stringent inspection and quality control procedures. When used with a 10G 6 MC® patch cord or BladePatch, the result is a solution with typical NEXT margin of 10 dB across the category 6 frequency range from 1 – 250 MHz, and channel performance to 500 MHz — necessary for next generation applications including 10GBASE-T.

1. **Superior Performance —** For interconnect, cross-connect or consolidation point applications
2. **Backward Compatible —** With category 6 and lower patch cords
3. **Familiar Termination —** Terminates with standard 110 termination tools
4. **Aesthetics —** Black anodized finish, rolled edges and screw-free front surface provide an aesthetically pleasing appearance
5. **Universal Wiring —** T568A and T568B wiring compatible modular patch panel

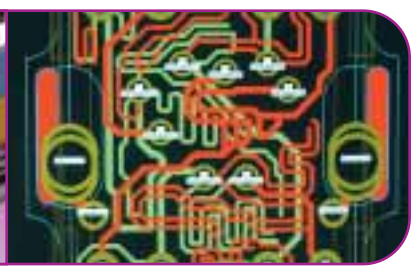
Reduced Alien Cross-talk

Alien crosstalk is minimized by maximizing port-to-port space.

Easy Punch-down Terminations

Optimized design of rear cable manager accommodates cable management and S310 terminations without interference of cable management bar.

Revolutionary PCB Tuning



Circuit board is tuned and balanced using our patent-pending phase-delay technology to maximize margin beyond category 6.

10G 6 PATCH PANELS

FOCUS PATENTED 6a

Part #	Description	RMS
10GX-24	24-port panel, T568A/B	1
10GX-48	48-port panel, T568A/B	2

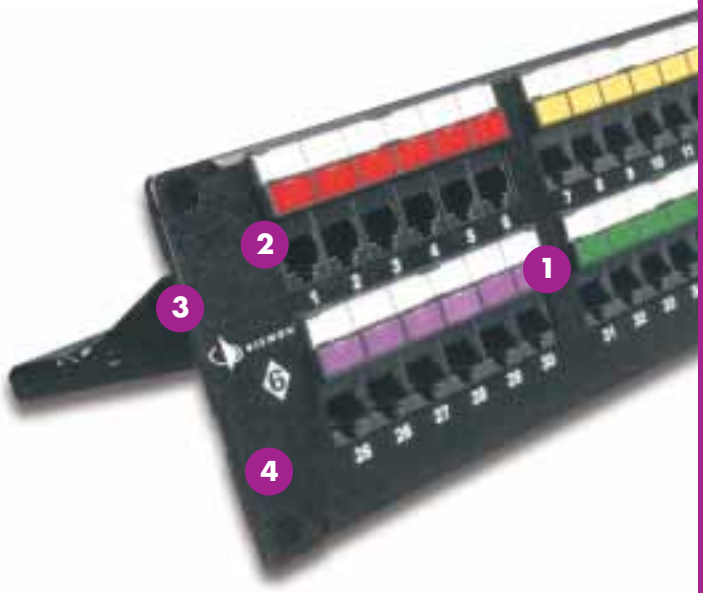
Panels include rear cable manager, cable ties, and mounting hardware.
Ⓑ Add "B" for bulk project pack of 5 panels (rear cable managers not included but can be ordered separately, see page 2.7).
Notes: 1 RMS = 44.5mm (1.75 in.),
S310® termination blocks and are not compatible with S110® multi-pair termination tools.

RELATED PRODUCTS **10G 6 BladePatch™ and MC® Patch Cords pages 3.5 – 3.6, 10G 6 MAX® Modules pages 1.4 – 1.5, 10G MAX Faceplates page 1.12**

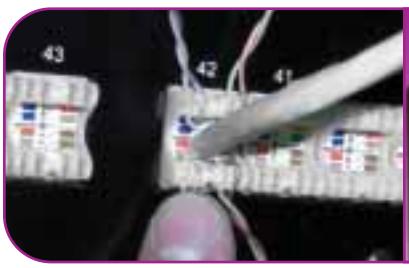
HD® 6 PATCH PANELS

A breakthrough in patch panel performance. Siemon's HD 6 was the industry's first patch panel to exceed category 6 connecting hardware specifications for all pair combinations up to 250 MHz. Get revolutionary performance and user-friendly termination, labeling, and cable management features with Siemon's popular HD 6 patch panel.

1. **Universal Wiring** — HD 6 Patch Panels feature universal wiring for both T568A and T568B
2. **Installer Friendly** — Black anodized panels can be mounted directly to an EIA standard 19 inch relay rack or cabinet
3. **Aesthetics** — Front surface is uninterrupted by screw heads for a clean appearance
4. **Quick Identification** — Icon label holders and designation labels included



Pyramid™ Wire Entry System

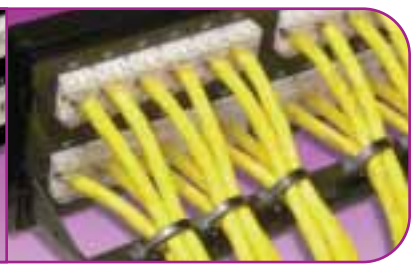


Pyramid wire entry system on S310® blocks separates paired conductors when lacing cables to reduce installation time.

Circuit Protection

Rear metal enclosure protects printed circuitry.

Built-in Cable Manager



Includes rear cable manager to properly guide cables to point of termination.

HD 6 PATCH PANELS

FOCUS PATENTED

Part #	Description	RMS
HD6-16	16-port panel, T568A/B	1
HD6-24	24-port panel, T568A/B	1
HD6-32	32-port panel, T568A/B	2
HD6-48	48-port panel, T568A/B	2
HD6-96	96-port panel, T568A/B	4

Panels include rear cable manager, icon label holders, designation labels, cable ties, and mounting hardware.

Ⓑ Add "B" for bulk project pack of 5 panels (rear cable managers not included but can be ordered separately, see page 2.7).

Notes: 1 RMS = 44.5mm (1.75 in.),

S310® termination blocks and are not compatible with S110® multi-pair termination tools.

RELATED PRODUCTS MC® 6 Patch Cords page 3.7, MAX® 6 Modules page 1.5, MAX Faceplates page 1.13, HD® Panel Accessories page 2.7

12-PORT HD® 6 MOUNTED ON S89D BRACKET

The HD6-89 offers an economical solution for small applications and is ideal for retrofitting S66™ punch down blocks to a high performance modular design.

Part #	Description
HD6-89D-12	12-port HD 6 panel, T568A/B, mounted on S89D bracket

height: 254.0mm (10.0 in),
width: 85.9mm (3.38 in),
depth: 60.2mm (2.37 in)

HD5® PATCH PANELS

FOCUS PATENTED

HD5 series patch panels offer the most robust patching solution in the industry. HD5 panels feature universal T568A/B wiring and exceed category 5e requirements with component and channel performance patented to 160 MHz. Compliant pin technology enables the use of multipair S110 punch-down tools to reduce termination time.

160 MHz
Featuring universal T568A/B wiring with component and channel performance to 160 MHz.

Part #	Description	RMS
HD5-16	16-port panel	1
HD5-24	24-port panel	1
HD5-32	32-port panel	2
HD5-48	48-port panel	2
HD5-96	96-port panel	4

Panels include rear cable manager, icon/label holders, designation labels, cable ties, and mounting hardware.
Ⓑ Add "B" for bulk project pack of 5 panels (rear cable managers not included but can be ordered separately).
Note: 16- and 32-port HD5 panels feature S310® termination blocks and are not compatible with S110® multi-pair termination tools.
Note: 1 RMS = 44.5mm (1.75 in.)

RELATED PRODUCTS **HD® Panel Accessories** ***see next page***

12-PORT HD5® MOUNTED ON S89D BRACKET

The HD5-89 offers an economical solution for small applications and is ideal for retrofitting S66™ punch down blocks to a modular design.

Part #	Description
HD5-89D-12	12-port HD5 panel, T568A/B, mounted on S89D bracket

height: 254.0mm (10.0 in.),
width: 85.9mm (3.38 in.),
depth: 47.8mm (1.88 in.)

HD5® QUICK-PATCH™ PANEL

PATENTED

Siemon's HD5 Quick-Patch panel provides a quick and easy category 5 channel patching solution for 10/100BASE-T hubs with 25-pair connectors. The HD5 Quick-Patch Panel incorporates many user-friendly features and benefits, including rear connectors that are staggered to enable easy routing of 25-pair cable to the connection point and a rear metal enclosure that protects printed circuitry. The black anodized panel can be mounted directly to a standard 19 inch rack or cabinet with the mounting hardware included. Icon/label holders and designation labels included.

Part #	Description
HD5-QP-48	48-port 10/100BASE-T panel (Active pins 1, 2, 3 & 6 only), four 25-pair connectors (female), 2 RMS

Panel includes icon/label holders, designation labels, and mounting hardware.
Note: 1 RMS = 44.5mm (1.75 in.)

RELATED PRODUCTS **Category 5e 25-Pair Cable Assemblies page 3.12**

OPTIONAL HD® PANEL ACCESSORIES

FOCUS

Part #	Description
10GX-RWM	Rear cable management bracket for 10G 6 patch panels
HD-RWM	Rear cable management bracket for HD patch panels *(not compatible with HD5-S-24 or 10GX-(XX) patch panels)*
HD5-ICON6	Adhesive-backed strips in a package of 8 for color-coding and port designation for 24-, 48-, or 96-port panels (icons not included)
HD5-ICON6-LBL	10 sheets of labels for HD5-ICON6 for laser printing (16 labels per sheet)*
HD5-ICON8	Adhesive-backed strips in a package of 4 for color-coding and port designation for 16-, or 32-port panels (icons not included)
HD5-ICON8-LBL	20 sheets of labels for HD5-ICON8 for laser printing (8 labels per sheet)*
HD5-LBL-ID	Adhesive designation strips in a package of twenty for 24-, 48-, or 96-port panels
HD5-LBL-480	Adhesive strips for sequentially numbering panel ports 1 through 480 for 24-, 48-, or 96-port panels
HD5-LBL-2	White removable designation strips in a package of fifty for all versions of HD panels
HD5-LBL6-(X)	Removable designation strips in a package of eight for 24-, 48-, or 96-port panels

10GX-RWM

HD-RWM

HD5-ICON6

HD5-ICON8

HD5-LBL-ID

HD5-LBL-480

HD5-LBL-2

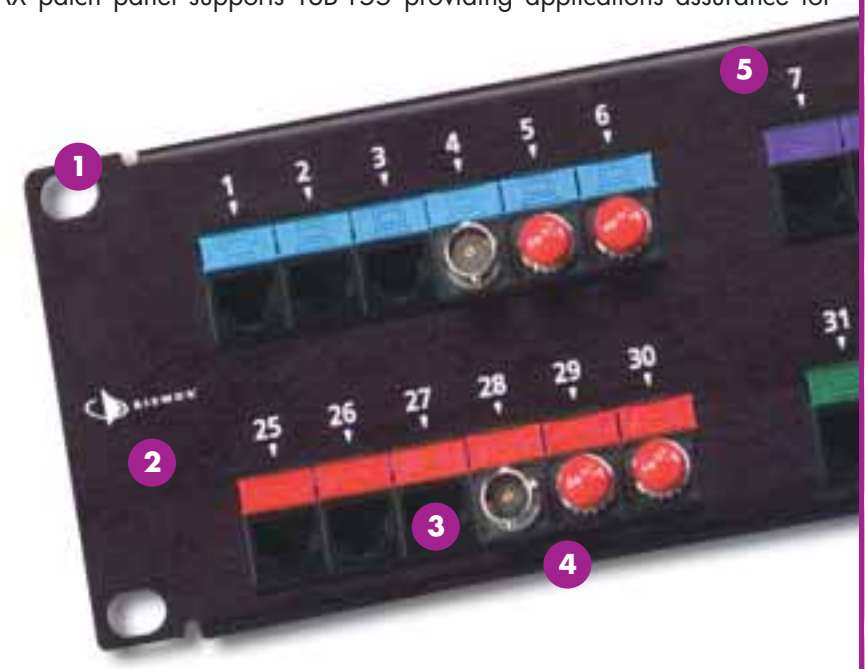
HD5-LBL6-(X)

Use (X) to specify color: 2 = white, 5 = yellow, 6 = blue
**Visit our web site or contact our Technical Support Department for labeling software.*

RELATED PRODUCTS **Colored Icons page 1.9**

MAX® PATCH PANELS

MAX patch panels provide a flexible, high density termination solution for the telecommunications room. Using the full line of MAX modules (available separately), the panel can be configured for a variety of multimedia applications. Blank modules can be used to reserve ports for future capacity. When used as a part of System 6 warranty the MAX patch panel supports TSB-155 providing applications assurance for 10GBASE-T up to 55 meters.



Technical Tip!
Use flat MAX modules for patch panel applications.

1. **Installer Friendly —** Panels can be mounted directly on standard 19 inch relay rack or cabinet
2. **Durability —** Lightweight, high strength brushed aluminum with black anodized protective finish
3. **Multimedia Capability —** Mix and match a variety of RJ-45, fiber and coax MAX modules
4. **Versatility —** Combines modular design with high density for ultimate flexibility
5. **Quick Identification —** Bold port numbering enables quick identification of outlets

Modularity

Individual modules snap into place from front or rear of panel for added installation flexibility.

Port Identification

Removable designation labels can be laser printed and enable proper circuit identification for each port.

Cable Management

Rear cable management bar included for routing horizontal cables to terminations.

RELATED PRODUCTS MAX Modules pages 1.4 – 1.11, MC® Patch Cords pages 3.6 – 3.10, Fiber Management Tray page 4.9, MAX Faceplates page 1.13

MAX® PATCH PANELS

FOCUS PATENTED UL

Part #	Description	RMS
MX-PNL-16	16-port panel	1

Part #	Description	RMS
MX-PNL-24	24-port panel	1

Part #	Description	RMS
MX-PNL-48	48-port panel	2

Part #	Description	RMS
MX-PNL-72	72-port panel	2

Panels include rear cable manager, designation labels, cable ties, and mounting hardware.
MAX Panels not compatible with screened MAX modules. Use the TERA®-MAX panel (see pages 2.2 – 2.3).
Note: 1 RMS = 44.5mm (1.75 in.)

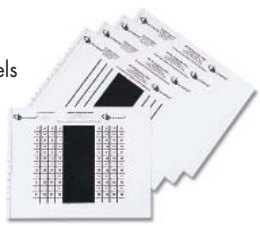
12-PORT MAX PANEL MOUNTED ON S89D BRACKET

The MAX S89D offers an economical solution for smaller applications while allowing for a range of different media using the full line of MAX modules.

Part #	Description
MX-89D-12	12-port MAX panel mounted on an 89D bracket *height: 254.0mm (10.0 in.),* *width: 85.9mm (3.38 in.),* *depth: 47.8mm (1.88 in.)*

OPTIONAL ACCESSORIES

MX-PNL-LBL4*
10 sheets of laser printable labels for 16-port MAX panel



MX-PNL-LBL6*
10 sheets of laser printable labels for 24- and 48-port MAX panels

**Visit our web site or contact our Technical Support Department for labeling software.*

CT® PATCH PANELS

CT panels complement our CT work area products and offer a feature-rich and flexible patching solution. Flat CT couplers are ordered separately and quickly snap into black anodized patch panels. This modular capability allows custom configuration of panels to suit a variety of applications. Low cost blank couplers are available to fill unused ports and can be replaced with active couplers when the need arises.

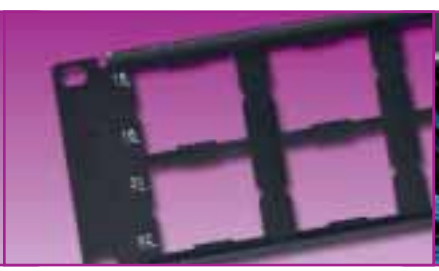
1. **Installer Friendly —** Couplers can be easily removed from the panel making moves, adds, and changes quick and easy
2. **Easy Coupler Installation —** Cutouts allow terminated couplers to pass through panels from front to back or back to front
3. **EIA Standard Mounting —** Black anodized aluminum panels can be mounted directly to an EIA standard 19 inch relay rack or cabinet

Note: use optional fiber management tray when mixing copper and fiber in CT panel (see page 4.9).

Multimedia Capability

For optimum flexibility, the CT Panel accepts a wide variety of CT couplers, including UTP, fiber, and coax.

Rear Labeling System



CT Panels are labeled on rear to assist in cable identification while terminating.

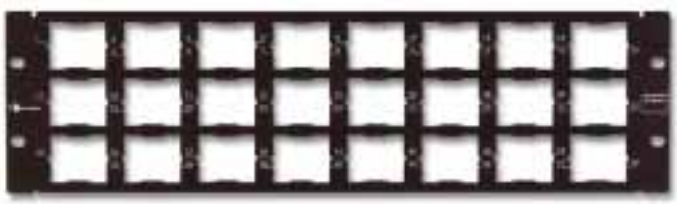
Rear Cable Management

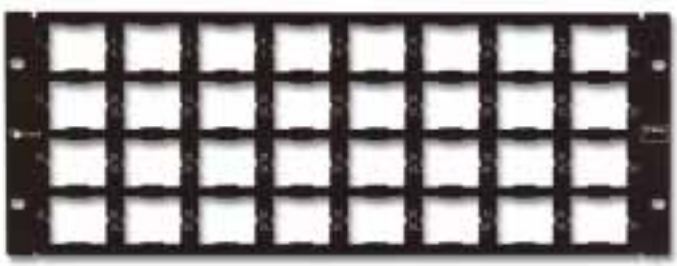
Siemon offers a wide range of rear cable management products to encompass a wide range of rack sizes and cable routing methods — see page 6.10 for more information.

RELATED PRODUCTS CT Couplers pages 1.16 – 1.21, Fiber Management Tray page 4.9

CT® PATCH PANELS

Part #	Description*	RMS	Maximum Quantity of CT Couplers
CT-PNL-16	16-port panel	1	8
CT-PNL-24	24-port panel	2	12
CT-PNL-32	32-port panel	2	16
CT-PNL-48	48-port panel	3	24
CT-PNL-64	64-port panel	4	32
CT-PNL-96	96-port panel	6	48





Technical Tip!
Flat couplers are recommended for patch panel applications.

**Number of ports when configured with two-port CT couplers.*
Note: 1 RMS = 44.5mm (1.75 in.)

OVERSIZED CT® PANELS

Oversized CT panels are available for applications that require additional labeling space. They provide the same flexibility as our standard CT panels and feature a write-on designation surface above each coupler opening that may also be used as a space for adhering your own label. Siemon offers adhesive-backed label holders with replaceable write-on labels that mount above the entire row of CT couplers.

Part #	Description*	RMS	Maximum Quantity of CT Couplers
CT-PNL-16-ID	16-port panel	2	8

Part #	Description*	RMS	Maximum Quantity of CT Couplers
CT-PNL-24-ID	24-port panel	3	12

Part #	Description*	RMS	Maximum Quantity of CT Couplers
CT-PNL-32-ID	32-port panel	3	16

Part #	Description*	RMS	Maximum Quantity of CT Couplers
CT-PNL-48-ID	48-port panel	4	24

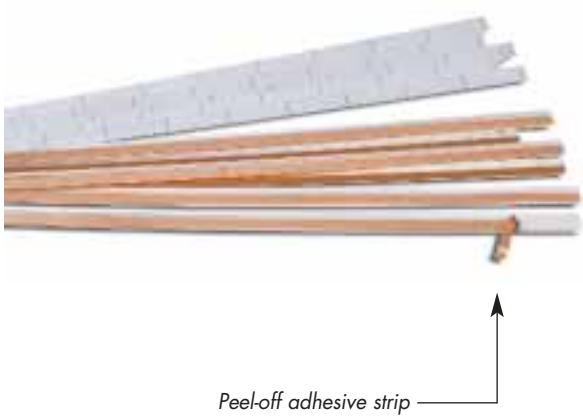
Part #	Description*	RMS	Maximum Quantity of CT Couplers
CT-PNL-96-ID	96-port panel	7	48

**Number of ports when configured with two-port CT couplers.*
Note: 1 RMS = 44.5mm (1.75 in.)

CT-DK DESIGNATION KIT

The CT-DK designation kit is a plastic, self-adhesive designation label holder with paper inserts designed for use with our ID series of oversized CT panels. Each kit comes with six label holders and six paper inserts.

Part #	Description
CT-DK	Bag of 6 adhesive backed, clear plastic holders with paper designation strips



MODULAR PATCH BLOCKS®

PATENTED

Our economical Modular Patch Blocks provide a convenient 24-port modular cross-connect field for equipment with 25-pair female connector input. They are excellent for use with voice, broadcast, or alarm systems. The blocks fit a standard 66M block footprint for backboard or rack mounting applications.

Part #	Description
SPB-V1	One, 25-pair connector wired to 24, 1-pair 6-position modular jacks, USOC. Black universal hold-down
SPB-V2	Two, 25-pair connectors, each wired to 24, 2-pair 6-position modular jacks, USOC. One black, one blue universal hold-down
SPB-V4	Four, 25-pair connectors, each wired to 24, 4-pair modular jacks, USOC. Black, blue, red, and green universal hold-downs
SPB-V4-ATT	Four, 25-pair connectors, each wired to 24, 4-pair modular jacks, T568B. Black, blue, red, and green universal hold-downs

BLANK FILLER PANELS

FOCUS

Blank filler panels are ideal for installations where open or expansion rack space is to be covered. Panels are blank on one side and feature the Siemon logo on the other side.

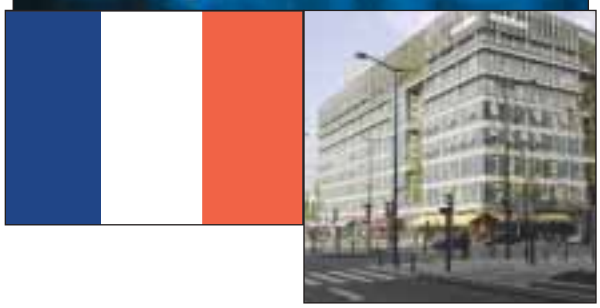
Part #	Description
PNL-BLNK-(X)	Blank filler panel for 19 inch rack

Use (X) to specify rack mount space height of panel: 1 = 1 RMS, 2 = 2 RMS, 3 = 3 RMS, 4 = 4 RMS
Note: 1 RMS = 44.5mm (1.75 in)




	TERA® (pages 3.2 – 3.3)	MC® MODULAR CORDS (pages 3.6 – 3.9)	SOLID IC CABLE ASSEMBLIES (pageS 3.7 & 3.10)	CABLE ASSEMBLY COMPONENTS (page 3.11)
Product Applications	Broadband Video, Data, Voice	Work Area, Telecommunications Room	Consolidation Point, Telecommunications Room	Field Termination
Connector Type	TERA	Modular	Modular (single ended)	Modular
Media Types	S/FTP	F/UTP, UTP	UTP	UTP
Category	7	5e 6 6a	5e 6	3 5e
Conductor Types	Stranded	Stranded	Solid	Stranded
Cable Colors	Ivory	Black, White, Red, Gray, Yellow, Blue, Green	Gray (non-plenum), Blue (plenum)	White

SECTION CONTENTS



SIEMON-FRANCE

In January 2002, Siemon France opened its doors in the City of Lights. Located beside the famed Bibliotheque Nationale in the core of France's cultural and industrial center, the office has grown significantly to fully support all Siemon efforts within the country. Their impressive list of significant account wins further solidifies Siemon's presence in Europe.

With an excellent foundation of certified installers, Siemon France provides a full service outlet for Siemon's total cabling solutions. Their technical and customer services, sales and marketing combine to form a team modeled in the 100 year spirit of Siemon, with an unbending commitment to quality, service, innovation and value.

Solutions de câblage informatique Siemon,
la raison de la réussite de votre entreprise

TERA® PATCH CORDS

10G *ip*™

Part of the TERA 10G *ip*™ cabling solution, the TERA-to-TERA patch cords deliver twice the bandwidth of category 7/class F specifications when combined with the TERA outlet. While current specifications characterize connector performance up to 600 MHz, TERA delivers up to 1.2 GHz of bandwidth per pair. This extra bandwidth is critical for demanding applications like broadband video, with an upper frequency requirement of 862 MHz, or the convergence of video, voice and data onto a single 4-pair cable and outlet.

1. **Terminates Category 7/Class F Fully Shielded (S/FTP) Cable —** No additional crimping or processes required for grounding cable
2. **Various Plug Options —** Allow multiple applications to be serviced from a single 4-pair outlet
3. **Common Plug Termination —** Fast and easy installation with a single tool to prepare and terminate cable
4. **Proper Termination —** Connector assures proper termination of cable shield
5. **Patented Shield Design —** Quadrant design isolates pairs, virtually eliminating crosstalk
6. **Standard Compliant Interface —** Recognized within ISO/IEC 11801 Ed. 2.0

Cable Sharing

Multiple applications can be run over one 4-pair cable and outlet, saving significant material and installation cost.

Easy Installation

CPT-T Tool reduces preparation and termination time to approximately three minutes.

TERA Patch Cords

TERA patch cords are available in 1-, 2- and 4-pair options to support voice, video and data applications.

TERA 4-PAIR PLUGS

PATENTED

TERA 4-pair plugs can be used to terminate horizontal cable in consolidation point applications. Plugs terminate fully shielded category 7/class F cable. 4-pair TERA plugs are designed specifically for the most demanding high-speed data applications.

Part #	Description
T7P4-B(XX)-1	4-pair TERA plug with colored boot. Compatible with 0.64 – 0.55mm (22 – 23 AWG) solid S/FTP cable

Use (XX) to specify boot color: 01 = black, 02 = white, 03 = red, 05 = yellow, 06 = blue, 07 = green

TERA® PATCH CORDS

PATENTED

Unleash the power and flexibility of your TERA cabling with a variety of TERA patch cords designed to meet your bandwidth requirements today and tomorrow. Both TERA-to-TERA and TERA-to-modular plug cord options are available. 1- and 2-pair plug modularity allows multiple applications to be served from a single 4-pair outlet.

T4-(XX)M-B(XX)L . . . . . .
Category 7 compatible, 4-pair TERA-to-TERA LS0H cable assembly, ivory jacket, colored boot

T1-(XX)M-B(XX)L . . . . . .
Category 7 compatible, 1-pair TERA-to-TERA LS0H cable assembly, ivory jacket, colored boot

T4A-(XX)M-B(XX)L . . . . . .
Category 6 Augmented, 4-pair TERA-to-Screened MC 6 modular plug LS0H cable assembly, ivory jacket, colored boot, T568B

T4T-(XX)M-B(XX)L. . . . . .
Category 6 Augmented, 4-pair TERA-to-Screened MC 6 modular plug LS0H cable assembly, ivory jacket, colored boot, T568A

T2E2-(XX)M-B(XX)L. . . . . .
Category 5e, 2-pair TERA-to-Screened MC 5 modular plug LS0H cable assembly, ivory jacket, colored boot, 10/100BASE-T

T2UT-(XX)M-B(XX)L. . . . . .
Category 5e, 2-pair TERA-to-Screened MC 5 modular plug LS0H cable assembly, ivory jacket, colored boot, Token Ring

T1U1-(XX)M-B(XX)L . . . . . .
1-pair UTP TERA-to-6 position modular plug LS0H cable assembly, ivory jacket, colored boot, Voice

Use 1st (XX) to specify length: 01 = 1m (3.28 ft), 02 = 2m (6.56 ft.), 03 = 3m (9.84 ft.), 05 = 5m (16.4 ft.)
Use 2nd (XX) to specify boot color: 01 = black, 02 = white, 03 = red, 05 = yellow, 06 = blue, 07 = green
Note: Field termination of TERA-to-modular plug patch cords is not recommended and is not compliant with Siemon warranty.
CMX cords also available. Contact our Customer Service Department for more information.

TERA VIDEO BALUN CORD

The TERA CATV patch cord provides the optimum solution for the transmission of TV or CATV signals over structured cabling historically limited to voice and data transmission. This is made possible by the integrated balun which ensures the conversion of the unbalanced TV signals designed for coaxial cabling (75 Ω impedance) to balance signals (100 Ω impedance) as required for the transmission over twisted pair (balanced) cabling. The TERA CATV adapter is specified and useable to 862MHz.

Part #	Description
T1VC-(XX)M-B01L.	1-pair TERA-to-PAL connector, LS0H cable assembly, ivory jacket

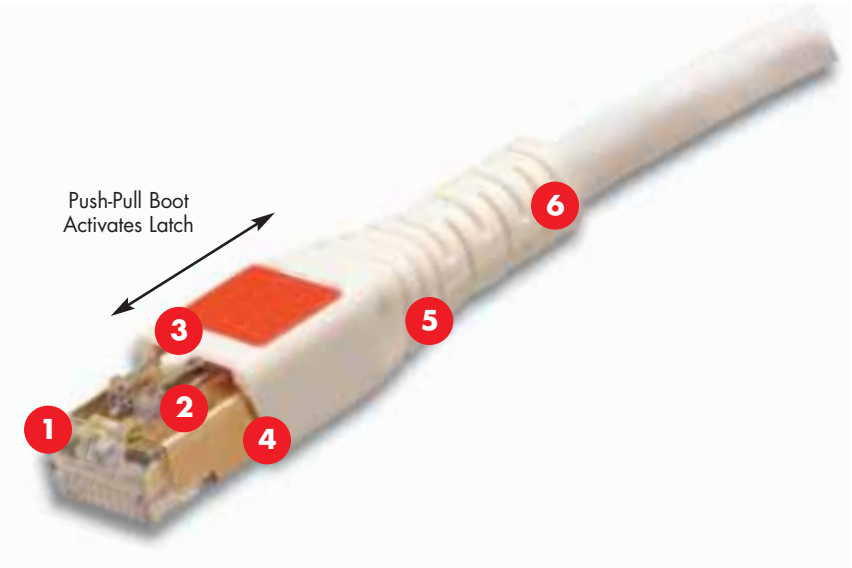
Use (XX) to specify length: 01 = 1m (3.28 ft), 02 = 2m (6.56 ft.), 03 = 3m (9.84 ft.), 05 = 5m (16.4 ft.)

BLADEPATCH™

10G ip™

500 MHz Supports 10GBASE-T Application

Siemon's new BladePatch patch cord offers a unique solution for high-density patching environments. It features an innovative push-pull boot design to control the latch, enabling easy access and removal of the cord in tight-fitting areas. The BladePatch cord is ideal for patching high density blade servers, patch panels, or any equipment with RJ-45 outlets.

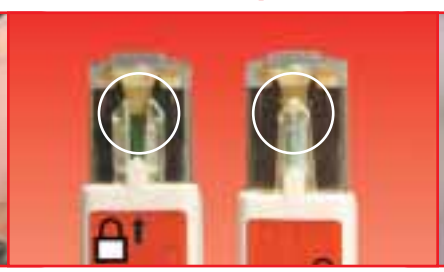


1. **Revolutionary Design —** Push-pull latch design eliminates need to defeat thumb latch used in standard modular plug designs
2. **Easy Access and Removal —** RJ-45 patch cord with patent-pending push-pull latch design enables easy access and removal in high density patching environments
3. **Snagless —** Push-pull design eliminates external thumb latch which can snag and break
4. **Low Profile Boot Design —** Optimizes side-stackability of patch cords and allows use in even the most dense equipment
5. **High Density —** Ideal for high density data center applications and today's high-density blade servers
6. **Backwards Compatible —** For use with category 5e/class D and category 6/class E systems

Universal Compatibility

Fits within any standard RJ-45 opening.

Revolutionary Latch



Simply push the boot forward to latch into the outlet and pull back to release.

High Density

The push-pull design enables easy access and removal via the boot in tight-fitting areas.

BLADEPATCH™ 10G 6™ UTP

FOCUS PATENT PENDING

Combine the BladePatch with Siemon's new 10G 6 MAX® modules and 10G 6 patch panels for a complete 10G 6 channel solution. This superior 10G 6 cabling system delivers unparalleled network performance today and supports emerging Internet Protocol (IP) like Voice Over IP (VoIP), IP video and 10GBASE-T applications. These cords are also backwards compatible with lower category connecting hardware.

Part #	Description
10GBP-(XX)-(XX)	10G 6 UTP BladePatch RJ-45 patch cord with push-pull latching design, color matching cord/boot, T568A/B

Use 1st (XX) to specify cord length:
03 = 0.9m (3 ft.), 05 = 1.5m (5 ft.), 07 = 2.1m (7 ft.),
10 = 3.1m (10 ft.), 15 = 4.6m (15 ft.), 20 = 6.1m (20 ft.)
Use 2nd (XX) to specify color:
01 = black, 02 = white, 03 = red, 04 = gray, 05 = yellow, 06 = blue, 07 = green
Ⓑ Add "B" for bulk project pack of 100 modular cords.

Screened 10G 6 BladePatch coming soon.

BLADEPATCH 6 UTP

FOCUS PATENT PENDING

All Siemon BladePatch modular cords are assembled using premium stranded cable that meets all category 6 specifications. These cords are available in several colors with or without a colored boot.

Part #	Description
BP6-(XX)-(XX)	Category 6 UTP BladePatch, RJ-45 patch cord with push-pull latching design, color matching cord/boot, T568A/B

Use 1st (XX) to specify cord length:
03 = 0.9m (3 ft.), 05 = 1.5m (5 ft.), 07 = 2.1m (7 ft.),
10 = 3.1m (10 ft.), 15 = 4.6m (15 ft.), 20 = 6.1m (20 ft.)
Use 2nd (XX) to specify color:
01 = black, 02 = white, 03 = red, 04 = gray, 05 = yellow, 06 = blue, 07 = green
Ⓑ Add "B" for bulk project pack of 100 modular cords.

BLADEPATCH 5e SCREENED

PATENT PENDING

Siemon screened modular cords are assembled using premium stranded cable that meets all category 5e specifications.

Part #	Description
BP5S-(XX)M-(XX)L	Category 5e Screened BladePatch, RJ-45 patch cord with push-pull latching design, color matching cord/boot, T568A/B

Use 1st (XX) to specify cord length:
01 = 1m (3.3 ft.), 02 = 2m (6.6 ft.), 03 = 3m (9.8 ft.), 05 = 5m (16.4 ft.)
Use 2nd (XX) to specify color:
01 = black, 02 = white, 03 = red, 04 = gray, 05 = yellow, 06 = blue, 07 = green
Ⓑ Add "B" for bulk project pack of 100 modular cords.

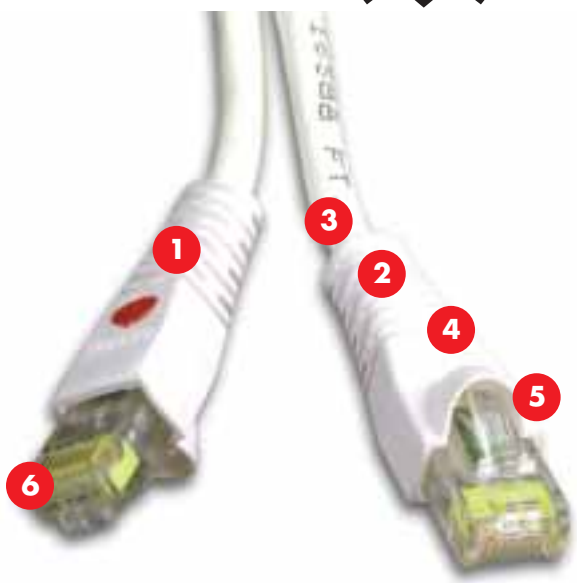
10G 6™ MC® MODULAR CORDS

10G *ip*™

500 MHz Supports 10GBASE-T Application

Siemon takes patch cord performance to the next level with our 10G 6 MC modular patch cords. Part of Siemon's 10G *ip*™ Cabling Solutions, these next generation cords exceed all category 6 component requirements and provide channel performance to 500 MHz. A variety of plug and cable enhancements contribute to the cord's ground-breaking performance — including a patented cross-pair isolator.

1. **Easy Identification —** Optional color-coded icons available for port identification
2. **Exceeds Category 6 —** 10G 6 stranded cordage far exceeds category 6 performance specifications
3. **Superior Quality —** Internal stranded cordage isolator provides extended flex life and maintains ideal pair geometry
4. **Innovative Strain Relief —** 360 degree crimp provides excellent plug-to-cable strain relief without causing pair deformation
5. **Latch Guard —** Slide on boots feature a latch guard to protect plug from snagging when pulling through pathways or cable managers
6. **Durability —** High quality modular plugs provide long-term resistance to corrosion, humidity, extreme temperatures and airborne contaminants



Metallic Isolator

Patented metallic isolator shields pairs inside plug for optimum NEXT performance.

Excellent Bend Relief

37mm (1.4 in.) boot ensures excellent bend relief, critical for category 6 and higher performance.

Exceeds Category 6

100% transmission testing ensures margin well beyond category 6 modular cord specifications and guarantees optimum field performance.

10G 6 MC MODULAR CORDS

FOCUS PATENTED

Part #	Description
10GMC-(XX)-(XX)	10G 6 MC, double-ended, 4-pair UTP stranded modular cord, T568A/B, color matching jacket/boot

Use 1st (XX) to specify cord length: 03 = 0.9m (3 ft.), 05 = 1.5m (5 ft.), 07 = 2.1m (7 ft.), 10 = 3.1m (10 ft.), 15 = 4.6m (15 ft.), 20 = 6.1m (20 ft.)

Use 2nd (XX) to specify color: 01 = black, 02 = white, 03 = red, 04 = gray, 05 = yellow, 06 = blue, 07 = green

Ⓑ *Add "B" for bulk project pack of 100 modular cords.*

MC® 6 MODULAR CORDS

FOCUS PATENTED

Siemon's MC 6 modular cords are the key to unlocking the next generation performance of System 6® (MAX® 6, CT® 6, and HD® 6) products. MC 6 modular cords utilize patented, metallic isolator shields for optimum NEXT performance and a slide-on boot to ensure proper bend relief. All Siemon factory assembled MC 6 cords are 100% factory transmission tested to 250 MHz.

Part #	Description
MC6-8-T-(XX)-(XX)	MC 6, double-ended, 4-pair UTP stranded modular cord, T568A/B, color matching jacket/boot

Technical Tip!
Factory terminated and tested modular cords are required to achieve consistent category 5e or 6 channel performance. Field termination is not recommended.

Use 1st (XX) to specify cord length: 03 = 0.9m (3 ft.), 05 = 1.5m (5 ft.), 07 = 2.1m (7 ft.), 10 = 3.1m (10 ft.),15 = 4.6m (15 ft.), 20 = 6.1m (20 ft.)

Use 2nd (XX) to specify color: 01 = black, 02 = white, 03 = red, 04 = gray, 05 = yellow, 06 = blue, 07=green

Ⓑ Add "B" for bulk project pack of 100 modular cords.

Custom lengths are available upon request. Contact our Customer Service Department for more information.

MC 6 VoIP CORDS

PATENTED

Siemon's MC 6 VoIP modular cords are designed for compatibility with today's VoIP phones. The cords feature a new low-profile strain relief boot designed to minimize bend radius and interference when connecting into traditional VoIP work area phones. All cords are 100% factory transmission tested to 250 MHz.

Part #	Description
MC6-8T-(XX)-B01IP	MC 6, double ended, 4 pair UTP stranded modular cord, T568A/B, white cord, black boot

Use (XX) to specify cord length:
03 = 0.9m (3 ft.), 05 = 1.5m (5 ft.), 07 = 2.1m (7 ft.),
10 = 3.1m (10 ft.),15 = 4.6m (15 ft.), 20 = 6.1m (20 ft.)

Custom lengths and jacket options are available upon request.
Contact our Customer Service Department for more information.

Technical Tip!
For category 5e VoIP applications use MC5 cords without boots *(see page 3.10).*

SOLID IC6 SINGLE-ENDED MODULAR CORDS

PATENTED

Siemon's IC6 solid single-ended modular cords are designed for use in category 6 applications requiring a consolidation point (CP) or cross-connect (as an equipment cord). The IC6 cords are 100% factory transmission tested to 250 MHz and feature the same plug construction used in MC 6 modular cords. These cords are available in plenum and non-plenum versions and are single-ended for direct termination.

Part #	Description
IC6-8A-(XX)-B(XX)	IC6, single-ended, non-plenum, 4-pair UTP solid modular cord, T568B, gray jacket with colored boot
IC6-8T-(XX)-B(XX)	IC6, single-ended, non-plenum, 4-pair UTP solid modular cord, T568A, gray jacket with colored boot
IC6-8A-(XX)-B(XX)P	IC6, single-ended, plenum, 4-pair UTP solid modular cord, T568B, blue plenum jacket with colored boot
IC6-8T-(XX)-B(XX)P	IC6, single-ended, plenum, 4-pair UTP solid modular cord, T568A, blue plenum jacket with colored boot

Use 1st (XX) to specify cord length: 10 = 3.1m (10 ft.), 20 = 6.1m (20 ft.), 30 = 9.1m (30 ft.), 40 = 12.2m (40 ft.), 50 = 15.2m (50 ft.), 60 = 18.3m (60 ft.)

Use 2nd (XX) to specify color of boot: 01 = black, 02 = white, 03 = red, 04 = gray, 05 = yellow, 06 = blue, 07 = green

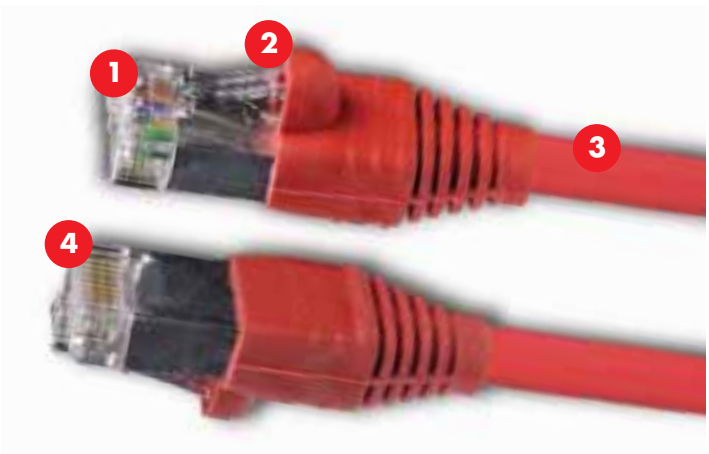
Custom lengths and jacket options are available upon request. Contact our Customer Service Department for more information.

SCREENED 10G 6™ MC® MODULAR PATCH CORDS

10G *ip*™

500 MHz Supports 10GBASE-T Application

Siemon uses the highest quality components combined with stringent manufacturing processes to produce the best performing, most durable modular patch cords available. Part of Siemon's 10G *ip*™ Cabling Solution, screened 10G 6 MC patch cords exceed all category 6 component requirements, and also provide channel performance to 500 MHz. The end result is a patch cord that is capable of supporting next generation applications including 10GBASE-T and beyond.



1. **Universal Wiring —** Compatible with T568A/B wiring schemes
2. **Latch Guard —** Boots feature a latch guard to protect plug from snagging when pulling through pathways or cable managers
3. **High Performance —** 10G 6 MC cords feature category 7/class F S/FTP stranded cable for optimal transmission performance while eliminating alien crosstalk
4. **Superior Quality —** Quality plug components ensure long term resistance to corrosion from humidity, extreme temperatures, and airborne contaminants

Technical Tip!
Factory terminated and tested modular cords are required to achieve consistent category 5e or higher compatibility. Field termination is not recommended and is not compliant with Siemon warranty.

100% Factory-tested

Cords are 100% transmission tested to ensure compliance with applicable standards requirements.

Compliance

- Plug geometry meets TIA-968-A and IEC 60603-7 specifications for modular plugs
- Exceeds ISO/IEC 11801:2002 requirements for transfer impedance, coupling attenuation and shield effectiveness
- Stranded Cable: IEC 61156-6 Compliant
- LSOH Cordage: IEC 60332: Part 1, IEC 60754, and IEC 61034 compliant

Excellent Bend Relief

Boot ensures proper bend relief, critical for 10G 6 performance.

SCREENED 10G 6™ MC® MODULAR PATCH CORDS

PATENTED

Choose Siemon Screened MC modular cords for a perfectly matched, end-to-end 10G 6 channel solution capable of supporting next generation networking applications including 10GBASE-T.

Part #	Description
10GMCS-(XX)M-(XX)L	Screened category 6, double-ended, 4-pair, stranded LS0H modular cord, T568A/B, color matching jacket/boot

Use 1st (XX) to specify length: 01 = 1m (3.3 ft.), 02 = 2m (6.6 ft.), 03 = 3m (9.8 ft.), 05 = 5m (16.4 ft.)
Use 2nd (XX) to specify color: 01 = black, 02 = white, 03 = red, 04 = gray, 05 = yellow, 06 = blue, 07 = green
Ⓑ Add "B" to end of part number for bulk project pack of 100 cords.
Note: Screened 10G 6 MC Patch Cords can be used for both 10G 6 or System 6® Screened installations.

SCREENED MC 5 MODULAR PATCH CORDS

Siemon's Screened MC5 modular cords are manufactured using stranded screened cable that meets all category 5e specifications. Modular plugs have an overall shield and meet TIA-968-A and IEC 60603-7 specifications. T568A/B wired assemblies include colored strain-relief boots and are available in a wide range of lengths. Shielded modular plugs are also available separately *(see page 3.11)*.

Part #	Description
MC5S-(XX)M-(XX)L	Screened category 5e, double ended, 4-pair, stranded LS0H modular cord, T568A/B, color matching jacket/boot

Use 1st (XX) to specify length: 01 = 1m (3.3 ft.), 02 = 2m (6.6 ft.), 03 = 3m (9.8 ft.), 05 = 5m (16.4 ft.)
Use 2nd (XX) to specify color: 01 = black, 02 = white, 03 = red, 05 = yellow, 06 = blue, 07 = green
Ⓑ Add "B" to end of part number for bulk project pack of 100 cords.

MC® 5 MODULAR CORDS

FOCUS

All Siemon MC 5 modular cords are assembled using premium stranded cable that meets all category 5e specifications. MC 5 modular cords are available in several colors with or without a colored boot.

WITH BOOT

Part #	Description
MC5-8T-(XX)-B(XX)C	MC 5 Double-ended, 4-pair UTP modular stranded cord, T568A/B, color matching jacket/boot

WITHOUT BOOT

Part #	Description
MC5-8-T-(XX)-(XX)	MC 5 Double-ended, 4-pair UTP modular stranded cord, T568A/B, no boot

Use 1st (XX) to specify cord length: 03 = 0.91m (3 ft.), 05 = 1.52m (5 ft.), 07 = 2.13m (7 ft.), 10 = 3.05m (10 ft.), 15 = 4.57m (15 ft.), 20 = 6.10m (20 ft.)

Use 2nd (XX) to specify color: 01 = black, 02 = white, 03 = red, 04 = gray, 05 = yellow, 06 = blue, 07 = green

Add "B" for bulk project pack of 100 modular cords.

Custom lengths are available upon request.
Contact our Customer Service Department for more information.

MC-BOOT-(XX)-100 . . . . . Color Boots (pack of 100)

Use (XX) to specify boot color: 01 = black, 02 = white, 03 = red, 04 = gray, 05 = yellow, 06 = blue, 07 = green

Technical Tip!
Note: Category 6 and 10G 6 products are backward compatible with our MC 5 (category 5e compatible) modular cords. For example when a MC 5 modular cord is used in a System 6® channel with MAX 6 modules, Siemon guarantees category 5e system performance.

SOLID IC5 SINGLE-ENDED MODULAR CORDS

Siemon's solid, single-ended IC5 cable assemblies are designed for patching between the consolidation point and the work area (CMP) or as equipment cords in cross-connect applications (CMR). These assemblies are constructed using cable that exceeds all category 5e specifications.

Part #	Description
IC5-8T-(XX)	IC5, single-ended, 4-pair UTP solid cable assembly, T568A, gray jacket, CMR, no boot
IC5-8A-(XX).	IC5, single-ended, 4-pair UTP solid cable assembly, T568B, gray jacket, CMR, no boot
IC5-8T-(XX)-B(XX)P	IC5, single-ended, 4-pair UTP solid cable assembly, T568A, blue jacket, CMP, with colored boot
IC5-8A-(XX)-B(XX)P	IC5, single-ended, 4-pair UTP solid cable assembly, T568B, blue jacket, CMP, with colored boot

Use 1st (XX) to specify cord length: 10 = 3.1m (10 ft.), 20 = 6.1m (20 ft.), 30 = 9.1m (30 ft.), 40 = 12.2m (40 ft.), 50 = 15.2 (50 ft.), 60 = 18.3m (60 ft.)

Use 2nd (XX) to specify boot color: 02 = white, 06 = blue

Custom lengths and jacket options are available upon request. Contact our Customer Service Department for more information.

UNIVERSAL MODULAR PLUG

PATENTED

Our patented "universal" modular plug eliminates the need to stock more than one size modular plug. The UP-2468 permits field-termination of modular cords in 2-, 3-, or 4-pair increments and terminates twisted pair cable with 26 – 22 AWG (0.40mm – 0.64mm) solid or 7-strand conductors with insulated conductor diameter of 0.86 – 0.99mm (0.034 – 0.039 in.). Plug contacts have 50 microinches minimum of gold plating over nickel and meet TIA-968-A and IEC 60603-7 specifications.

Part #	Description
UP-2468	"Universal" modular plug fits 6 or 8-position RJ outlets

RELATED PRODUCTS **AllPrep™ Cable Preparation Tool page 12.10, PT-908 Crimp Tool page 12.11**

MODULAR PLUGS

We offer modular plugs in standard configurations to terminate modular cords for patching or work area applications. Modular plugs can be terminated to the exact cable length needed in order to maintain a neater, more organized installation. The plugs terminate twisted-pair cable with 26 – 22 AWG (0.40mm – 0.64mm) solid or 7-strand conductors with an insulated conductor diameter of 0.86 – 0.99mm (0.034 – 0.039 in.). All plug contacts have 50 microinches minimum of gold plating over nickel and meet TIA-968-A and IEC 60603-7 specifications.

P-8-8 . . . . . .
8-position modular plug with 8 contacts (compatible with Siemon and Tyco crimp tools)

P-6-6 . . . . . .
6-position modular plug with 6 contacts*

P-8-8SS . . . . . .
8-position modular plug with 8 contacts (compatible with Siemon and Stewart crimp tools)

P-6-4 . . . . . .
6-position modular plug with 4 contacts*

PS-8-8 . . . . . .
8-position shielded modular plug with 8 contacts (compatible with Siemon and Tyco crimp tools)

**Siemon 6-position plugs provide empty slots in the outer positions to prevent deformation of jack pins 1 & 8 when inserted into an 8-position modular jack.*

Technical Tip!
Factory terminated and tested modular cords are required to achieve consistent channel performance. Field termination is not recommended.

RELATED PRODUCTS **AllPrep Cable Preparation Tool page 12.10, PT-908 Crimp Tool page 12.11**

CATEGORY 5e AND 3 25-PAIR CABLE ASSEMBLIES

Our 25-pair cable assemblies are factory-tested for opens, shorts, and continuity. They feature TIA-968-A compliant gold plated contacts for extended reliability over time. Category 3 connector ends are available in single-ended male or female, double-ended male or female, or one male/one female configurations. All 25-pair cable assemblies are made with TIA/EIA-568-B.2 category 5e or 3 compliant cable.

CATEGORY 5e CABLE ASSEMBLIES

QP25M-AA-(XX) . . . . . 25-pair, double ended 110-to-110, cable assembly with male connectors

CATEGORY 3 CABLE ASSEMBLIES

A25B-DE-(XX) . . . . . 25-pair, double-ended, cable assembly with female connectors

A25B-SE-(XX). . . . . 25-pair, single-ended, cable assembly with one female connector

B25A-(XX). . . . . 25-pair, double-ended, cable assembly with one male and one female connector

B25B-DE-(XX). . . . . 25-pair, double-ended, cable assembly with male connectors

B25B-SE-(XX) . . . . . 25-pair, single-ended, cable assembly with one male connector

Use (XX) to specify length: 05 = 1.52m (5 ft.), 10 = 3.05m (10 ft.), 15 = 4.57m (15 ft.), 25 = 7.62m (25 ft.)

Category 5e

Category 3

EZ-TWIST® CONNECTOR

PATENTED

Dramatically reduce coax cable termination time with Siemon's new EZ-Twist connector. No tools or crimping are required. To terminate, simply twist the connector onto the cable for a secure, high performance connection. EZ-Twist also eliminates screw-on connections to outlets. Simply push the connector onto an outlet to lock it in place, pull to remove. This feature is ideal in high-density installations where space is limited and conventional connectors are difficult to secure to outlets.

Part #	Description
HC-EZ-(X)-(X)	EZ-Twist coax connector, bag of 50

Use 1st (X) to specify cable type: 5 = RG59, 6 = RG6
Use 2nd (X) to specify shield type: T = Tri-shield, Q = Quad-shield

RG6 F-TYPE COAX CONNECTOR

The RG6 connector is a high quality coaxial connector designed to terminate RG6 coaxial cable that has a standard diameter over jacket (DOJ) of 6.9mm (0.27 in). The connector meets SCTE and Bellcore specifications and is constructed of high quality brass with corrosion-resistant plating. The long ribbed ferrule ensures maximum connector/cable retention.

Part #	Description
RG6	RG6 F-type connector

RELATED PRODUCTS **Coaxial Crimp Tool page 12.11, AllPrep™ Cable Preparation Tool (CPT-RGTP) page 12.10**

CATEGORY 6 CROSS-CONNECT WIRE

Siemon's category 6 cross-connect is ideal for cross-connect applications up to 5 meters. It can be used for category 6 or category 5e installations using S66,™ S110® and S210® wiring blocks.

Part #	Description
CJ6-W4-1000	Category 6, 4-pair 24 AWG (0.51mm), cross-connect wire, pair colors blue/orange/green/brown, 305m (1,000 ft.) spool

RELATED PRODUCTS **Cross-Connect Wire Dispenser see below, S210 Connecting Blocks page 9.3**

CATEGORY 5e CROSS-CONNECT WIRE

Siemon's cross-connect wire utilizes a unique "webbing" manufacturing process which binds conductors of a twisted-pair together to maintain consistent conductor spacing and pair twists that will not loosen during cross-connect installation. This high performance product exceeds category 5e specifications and is ideal for use with our S66 and S110 wiring blocks.

Part #	Description
CJ5-W2-1000	Category 5e, 2-pair 24 AWG (0.51mm) webbed cross-connect wire, pair colors blue/orange, 305m (1,000 ft.) spool
CJ5-W2-1000-07	Category 5e, 2-pair 24 AWG (0.51mm) webbed cross-connect wire, pair colors orange/green, 305m. (1,000 ft.) spool
CJ5-W1-1000-03	Category 5e, 1-pair 24 AWG (0.51mm) webbed cross-connect wire with red/white conductors, 305m (1,000 ft.) spool
CJ5-W1-1000-06	Category 5e, 1-pair 24 AWG (0.51mm) webbed cross-connect wire with blue/white conductors, 305m (1,000 ft.) spool

RELATED PRODUCTS **Cross-Connect Wire Dispenser see below, S110 Connecting Blocks page 10.3, S66 Connecting Blocks pages 11.2 – 11.3**

Technical Tip!
Use the Siemon cable preparation tool CPT-WEB *(see page 12.10)* to quickly separate CJ5 webbed conductors prior to termination.

CROSS-CONNECT WIRE DISPENSER

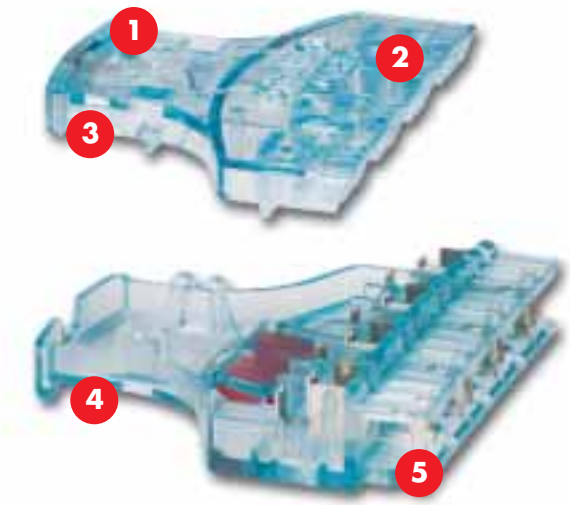
Siemon's cross-connect wire dispenser mounts to standard 19 in. (482.6mm) racks to facilitate quick and easy dispensing of cross-connect wire. The dispenser has 431.8mm (17.0 in.) of horizontal capacity for loading up to five (5) spools of 1-pair cross-connect wire and can also accommodate other configurations. The dispenser bar is supported by open-end brackets on each side for easy access when reloading spools.

Part #	Description
CWD-19	19 in. (482.6mm) cross-connect wire dispenser

S210® PATCH PLUGS

10G ip™

Siemon technology delivers the world's most advanced connection system. The S210 patch plug utilizes internal pair isolation, pair-to-pair compensation and layered contacts to improve crosstalk performance so that the mated plug and connecting block far exceed category 6 connecting hardware transmission requirements. The clear housing keeps the conductor colors/positions visible to aid matching termination positions on the other end.



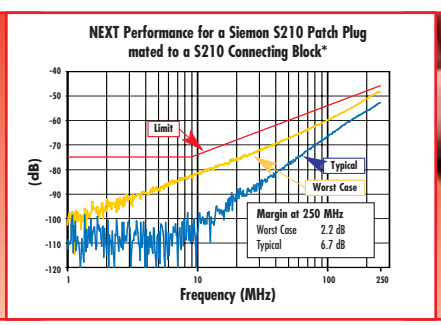
1. **Proper Orientation** — Directional arrow provided to assist in proper insertion orientation
2. **Tapered Lacing** — Enable easy field termination
3. **Ergonomic Handle** — Aids insertion and removal of patch plug
4. **Clear Housing** — Durable, flame-retardant, clear thermoplastic housing keeps conductors visible during and after termination
5. **Polarization** — Each plug housing includes polarization features to ensure proper orientation of the plug when connecting to the S210 connecting block

Technical Tip!
S210 to MC® cable assemblies can be configured in the field, Siemon 10G 6 MC or MC 6 modular cords can be purchased *(see pages 3.6 – 3.7)* and cut in half. The cut end of the cord can then be field terminated to the S210P patch plug while the factory terminated and tested modular plug end remains undisturbed.

Field Installable

Siemon is the only company to offer a field installable category 6 patching solution.

Performance



The S210 4-pair plug provides unparalleled performance, with 6.7 dB NEXT (typical) and 2.2 dB NEXT (worst case) at 250 MHz.

Easy Termination

Simply snap the base and cover together to mass terminate all conductors.

S210® PATCH PLUGS

FOCUS PATENTED

S210 patch plugs can be field-terminated to 23 – 26 AWG (0.40mm – 0.51mm) solid or 7-strand twisted-pair cable.

S210P4 . . . . . 4-pair, field-terminated, S210 patch plug

S210P2 . . . . . 2-pair, field-terminated, S210 patch plug

S210P1 . . . . . 1-pair, field-terminated, S210 patch plug

S210 CABLE ASSEMBLIES

PATENTED

The S210 cable assemblies utilize Siemon's S210P4 patch plugs for easy and reliable connections between S210 termination fields. These assemblies use high performance stranded cable which exceeds category 6 specifications and are 100% factory transmission tested to ensure optimum category 6 channel performance. Colored icons are available for color-coding S210 plugs.

Part #	Description
S210P4-P4-(XX)	4-pair, double-ended, S210 stranded cable assembly, white jacket
S210P2-P2-(XX)	2-pair, double-ended, S210 stranded cable assembly, white jacket
S210P1-P1-(XX)	1-pair, double-ended, S210 stranded cable assembly, white jacket

Use (XX) to specify cord length: 03 = 0.9m (3 ft.), 05 = 1.5m (5 ft.), 07 = 2.1m (7 ft.), 10 = 3.1m (10 ft.), 15 = 4.6m (15 ft.), 20 = 6.1m (20 ft.)

Custom lengths available upon request. Contact our Customer Service Department for more information.

S210 TO MC® CABLE ASSEMBLIES

PATENTED

The S210 to MC cable assemblies combine Siemon's latest and highest performing plugs for patching network equipment to S210 connecting blocks or providing test access to S210 termination fields. The combination of plugs, high performance cable and 100% factory transmission testing ensures performance is compatible with category 6 channel specifications.

Part #	Description
S210P4A4-(XX)-(XX)	4-pair, S210P4 to MC 6 stranded cable assembly, T568B, color matching jacket/boot
S210P4T4-(XX)-(XX)	4-pair, S210P4 to MC 6 stranded cable assembly, T568A, color matching jacket/boot
S210P2E2-(XX)-B(XX)	2-pair, S210P2 to MC 6 stranded cable assembly, 10/100BASE-T, white jacket with colored boot

Use 1st (XX) to specify cord length: 03 = 0.9m (3 ft.), 05 = 1.5m (5 ft.), 07 = 2.1m (7 ft.), 10 = 3.1m (10 ft.), 15 = 4.6m (15 ft.), 20 = 6.1m (20 ft.)

Use 2nd (XX) to specify color: 01 = black, 02 = white, 03 = red, 04 = gray, 05 = yellow, 06 = blue, 07 = green

Custom lengths available upon request. Contact our Customer Service Department for more information.

ACCESSORIES

Part #	Description
ICON-OVAL-(XX)	25 Colored oval icons for 1-pair S210 patch plugs
CT-ICON-(XX)	25 Colored icon tabs for 2- and 4-pair S210 patch plugs (phone on one side, computer on reverse)
TAB-(XX)	25 Colored blank tabs for 2- and 4-pair S210 patch plugs

Use (XX) to specify color: 00 = clear (TAB-(XX) only), 01 = black, 02 = white, 03 = red, 04 = gray, 05 = yellow, 06 = blue, 07 = green, 08 = violet, 09 = orange, 20 = ivory, 25 = bright white, 60 = brown, 80 = light ivory*

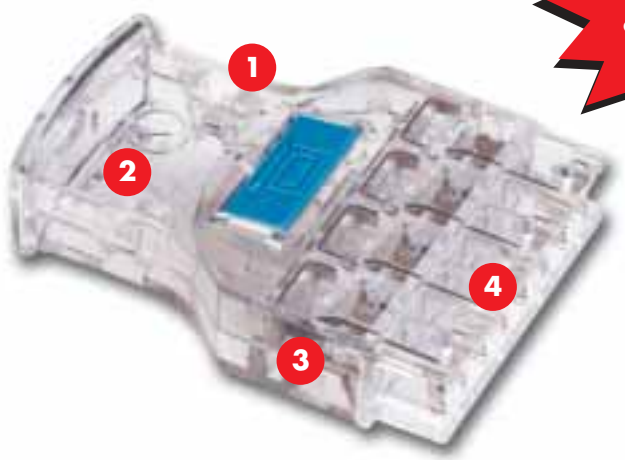
Ⓑ Add "B" for bulk pack of 100 *Not available for ICON-OVAL-(XX)*

Laser-printed customized tabs now available. Contact our Customer Service Department for ordering information.

S110®
PATCH PLUG

The first of its kind that is category 5e compliant and can be field-terminated to either solid or stranded cable. The S110 patch plug utilizes internal pair isolation to provide improved crosstalk performance so that the mated plug and connecting block far exceed category 5e transmission performance.

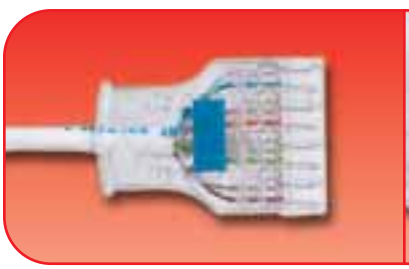
160 MHz
Mated 4-pair S110 patch plug and connecting block delivers component and channel performance to 160 MHz



1. **Ergonomic Handle —** Aids insertion and removal of patch plug from 110 connect block
2. **Directional Arrow —** Provided to assist in proper insertion orientation
3. **Ready Verification —** Clear plastic housing allows the conductor colors and positions to be visible for matching termination positions on the opposite end
4. **Polarization —** Each plug housing includes built-in polarization features to ensure proper tip-ring orientation during connection

Technical Tip!
S110-to-modular plug cable assemblies can be configured in the field, Siemon MC® 5 modular cords can be purchased *(see page 3.10)* and cut in half. The end of the cord can then be field terminated to the S110P patch plug while the factory terminated and tested modular end remains undisturbed.

Field Installable



Terminates 24 – 26 AWG (0.40mm – 0.51mm) solid or 7-strand twisted-pair cable.

Performance

Staggered contacts in bi-directional planes provide excellent pair-to-pair isolation, delivering component and channel performance to 160 MHz.

Easy Termination

Simply snap the base and cover together to mass terminate all conductors.

S110® PATCH PLUGS

FOCUS PATENTED

Siemon S110 patch plugs are both category 5e compliant and can be field-terminated to either solid or stranded cable. 4-pair S110 patch plugs employ a patented design to improve electrical isolation between pairs, enhancing crosstalk performance so that the mated plug and connecting block significantly exceed TIA/EIA-568-B category 5e transmission requirements.

S110P4 . . . . . 4-pair, field-terminated, S110 patch plug

S110P2 . . . . . 2-pair, field-terminated, S110 patch plug

S110P3 . . . . . 3-pair, field-terminated, S110 patch plug

S110P1* . . . . . 1-pair, field-terminated, S110 patch plug

Add "-B" to end of part number for bulk project pack of 100 patch plugs.

**S110P1 includes protective insert for use with single pair cross-connect wire (see page 3.13).*

Colored icons are not included. See accessories below.

S110 CABLE ASSEMBLIES

PATENTED

The S110 cable assemblies utilize Siemon's S110P4 patch plugs for easy and reliable connections between S110 termination fields. These assemblies use high performance stranded cable which exceeds category 5e specifications and are 100% factory transmission tested to ensure optimum category 6 channel performance. Colored icons are available for color-coding S110 plugs.

Part #	Description
S110P4-P4-(XX)	4-pair, double-ended S110 patch cord
S110P2-P2-(XX)	2-pair, double-ended S110 patch cord
S110P1-P1-(XX)	1-pair, double-ended S110 patch cord

Use 1st (XX) to specify length: 03 = 0.91m (3 ft.), 05 = 1.5m (5 ft.), 07 = 2.13m (7 ft.), 10 = 3.05m (10 ft.), 15 = 4.57m (15 ft.), 20 = 6.10m (20 ft.)

Custom lengths and wiring configurations are available upon request. Contact our Customer Service Department for more information.

S110 TO MC® CABLE ASSEMBLIES

PATENTED

The S110 to MC cable assemblies combine Siemon's latest and highest performing plugs for patching network equipment to S110 connecting blocks or providing test access to S110 termination fields. The combination of plugs, high performance cable and 100% factory transmission testing ensures performance is compatible with category 5e channel specifications.

Part #	Description
S110P4-A4-(XX).	4-pair, S110-to-modular plug, T568B
S110P4-T4-(XX)	4-pair, S110-to-modular plug, T568A
S110P2-UT-(XX)	2-pair, S110-to-modular 8-position plug, Token Ring, T568A
S110P2-E2-(XX)	2-pair, S110-to-modular 8-position plug, 10/100BASE-T, T568B
S110P1-U1-(XX).	1-pair, S110-to-modular 6-position plug, USOC
S110P1-U4-(XX).	1-pair, S110-to-modular 8-position plug, USOC

Use 1st (XX) to specify length: 03 = 0.91m (3 ft.), 05 = 1.5m (5 ft.), 07 = 2.13m (7 ft.), 10 = 3.05m (10 ft.), 15 = 4.57m (15 ft.), 20 = 6.10m (20 ft.)

Custom lengths and wiring configurations are available upon request. Contact our Customer Service Department for more information.

ACCESSORIES

Part #	Description
ICON-OVAL-(XX)	25 Colored oval icons for 2 and 3-pair S110 patch plugs
CT-ICON-(XX)	25 Colored icon tabs for 4-pair S110 patch plugs (phone on one side, computer on reverse)
TAB-(XX)	25 Colored rectangular tabs for 4-pair S110 patch plugs

Use (XX) to specify color: 00 = clear (TAB-(XX) only), 01 = black, 02 = white, 03 = red, 04 = gray, 05 = yellow, 06 = blue, 07 = green, 08 = violet, 09 = orange, 20 = ivory, 25 = bright white, 60 = brown, 80 = light ivory

Other icon colors available. Contact our Customer Service Department for more information

*Add "B" for bulk pack of 100**

**Not available for ICON-OVAL-(XX)*




	RACK MOUNT INTERCONNECT CENTER (RIC3) (pages 4.2 – 4.3)	WALL MOUNT INTERCONNECT CENTER (SWIC3) (pages 4.4 – 4.5)	FIBER CONNECT PANEL (FCP3) (pages 4.8 – 4.9)	FIBER MANAGEMENT TRAY (FMT) (page 4.9)
Product Applications	High density, low-to-high fiber count, feature-rich rack mounting solution	High density, low-to-medium fiber count, wall mount	High density, low profile, economical enclosure ideal for low-to-medium fiber count, rack mount applications.	Standard density low cost enclosure for use with CT® or MAX® patch panels to accommodate fiber or mixed media applications.
Mounting Space	2-4 RMS	Wall	1 RMS	1 RMS
Adapters	Quick-Pack™ Adapter Plates	Quick-Pack Adapter Plates	Quick-Pack Adapter Plates	CT Couplers or MAX Modules

Note: 1 RMS = 44.5mm (1.75 in.)

MAXIMUM FIBER CAPACITY

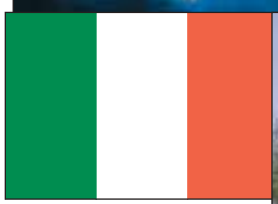
# FIBERS PER QUICK-PACK	ADAPTER OPTIONS	FCP3	SWIC3-M	SWIC3	RIC24	RIC36	RIC48	RIC72
6	ST, SC, ST/SC, FC	18	12	24	24	36	48	72
8	ST, SC, ST/SC, FC	24	16	32	32	48	64	96
12	ST, SC, MT-RJ, LC	36	24	48	48	72	96	144
16	MT-RJ, LC	48	32	64	64	96	128	192
24	MT-RJ, LC	72	48	96	96	144	192	288

MAXIMUM SPLICING CAPACITY

SPLICE TYPE	FCP3	SWIC3-M	SWIC3	RIC24	RIC36	RIC48	RIC72
Fusion	72	N/A[1]	48	96	96	96	144
Mechanical	36	N/A[1]	24	48	48	48	72

[1]*SWIC3-M does not accept splice trays*

SECTION CONTENTS



SIEMON-ITALY

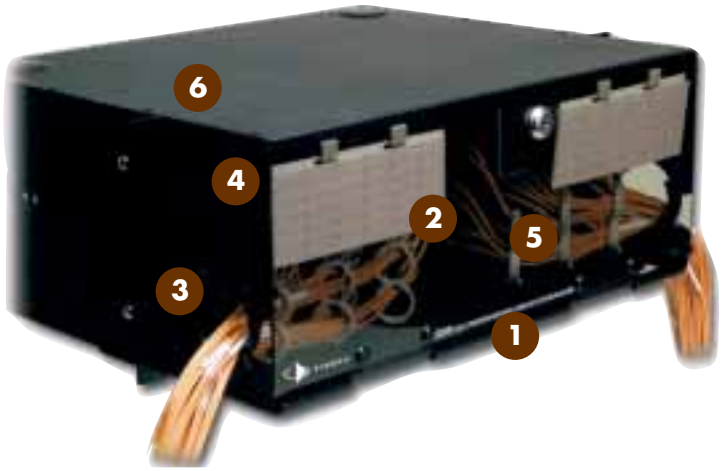
Since September of 2002, Milan has been known for more than just fashion. As the home of Siemon's Italian office, it is now the center of Italy's structured cabling market! Located at an important transportation hub, Siemon Italy covers the entire country with the help of a satellite office in Rome.

Siemon Italy's efforts have provided the region with a well-trained and geographically well-positioned certified installer network, ensuring that our Italian customers experience the full benefit of the world's premier structured cabling solution. Their technical support and customer service are unmatched in the region — a group clearly embracing the Siemon tradition!

Soluzioni di Cablaggio Siemon,
le Basi del Vostro Successo

RACK MOUNT INTERCONNECT CENTER (RIC3)

The RIC3 provides the best overall value for exceptional fiber management. The RIC3 enclosure offers superior fiber density (up to 288 fibers in just 4 RMS) without sacrificing fiber protection and accessibility. Features include a fully removable tray, improved labeling, standard front and rear door locks, and single-finger door latches. With superior cable management, port identification, fiber accessibility and security, the RIC3 is the best way to protect mission critical fiber connections.



1. **Quick-Release Hinges —** Spring loaded quick-release hinges enable easy removal of front and rear doors for complete access to fiber connections
2. **Enhanced Labeling —** Label virtually any port configuration with our hinged labels. The labels hang on the front door for improved visibility. When the door is opened, labels flip down allowing ready viewing of the label and corresponding ports
3. **Rotating Grommets —** Patented rotating grommets facilitate loading and retention of jumpers and fiber while minimizing microbending stress when using the sliding tray
4. **Complete Access —** Management tray has a positive stop in both front and rear working positions providing complete access for moving, adding, changing, or cleaning of fiber connections
5. **Maximum Capacity —** The RIC3 enables a maximum amount of fibers to be patched or patched and spliced in a 2, 3, and 4 RMS enclosure without compromising the accessibility. This allows more efficient utilization of rack space
6. **Superior Design —** Top and bottom access holes located at the rear of the enclosure allow fibers to be routed between tandem enclosures without having to run fibers outside of the enclosure

Removable Tray

The RIC3 cable management tray is now completely removable from the front or rear of the enclosure, allowing the entire tray to be moved to a work table for more convenient loading of adapter plates, pigtails and splice trays.

Improved Door Latching and Locking

The RIC3 features a single-finger latch on both front and rear doors. Included door locks prevent unauthorized access for enhanced security.

Quick-Pack™ Adapter Plates

Never fumble with clumsy latches in a densely packed fiber enclosure again! Siemon Quick-Pack adapter plates can be inserted or removed with a single-finger for quick and easy access to fiber connections.

RACK MOUNT INTERCONNECT CENTER (RIC3)

FOCUS PATENTED

Siemon RIC3 enclosures are designed for enhanced fiber management and ease of use. They are compatible with an array of Siemon fiber Quick-Pack™ adapter plates for your choice of fiber adapters and port density *(see page 4.6)*.

Part # **Description**

RIC3-24-01 . . . . . 24- to 96-port Rack Mount Interconnect Center, 2 RMS, black

height: 86.6mm (3.41 in.), width: 432mm (17.00 in.), depth: 380mm (14.95 in.)

Part # **Description**

RIC3-36-01 . . . . . 36- to 144-port Rack Mount Interconnect Center, 2 RMS, black

height: 86.6mm (3.41 in.), width: 432mm (17.00 in.), depth: 380mm (14.95 in.)

RIC3-48-01 . . . . . 48- to 192-port Rack Mount Interconnect Center, 3 RMS, black

height: 133mm (5.25 in.), width: 432mm (17.00 in.), depth: 380mm (14.95 in.)

RIC3-72-01 . . . . . 72- to 288-port Rack Mount Interconnect Center, 4 RMS, black

height: 178mm (7.00 in.), width: 432mm (17.00 in.), depth: 380mm (14.95 in.)

Note: 1 RMS = 44.5mm (1.75 in.)

Note: All RIC products include laser-printable labels, cable ties, rack-mounting hardware, and pre-installed fiber management clips.*

**Visit our web site or contact our Technical Support Department for labeling software.*

RELATED PRODUCTS **Quick-Pack Adapter Plates page 4.6, Splice Trays page 4.10, Fiber Jumpers and Pigtails pages 5.2 – 5.5**

FIBER STORAGE CENTER (FSC3)

The Siemon 3 RMS rack mount Fiber Storage Center (FSC3) is typically utilized in tandem with a Rack Mount Interconnect Center (RIC3). Fiber jumpers exiting the front of the RIC3 are routed into the FSC3 for slack storage. The design features bend radius compliant managers which facilitate loading of jumpers and a single-finger latch on the door for easier access.

Part # **Description**

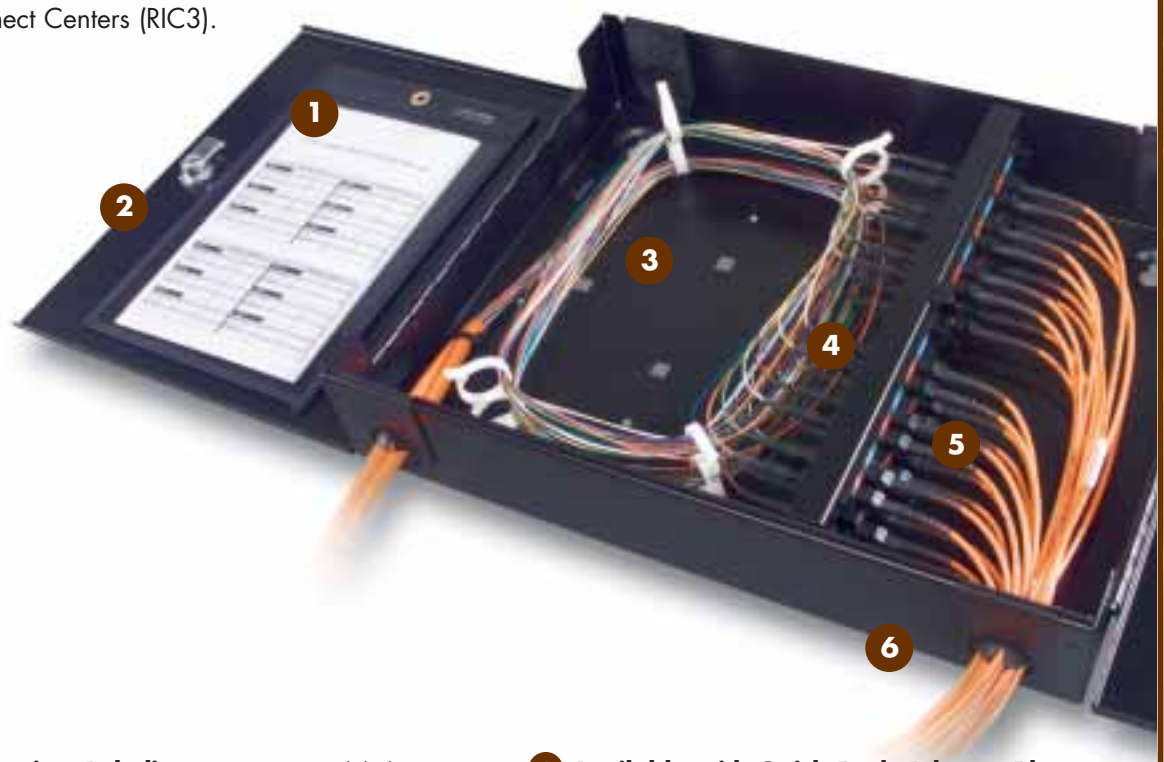
FSC3-01 . . . . . Fiber Storage Center, 3 RMS, black

height: 133mm (5.25 in.), width: 432mm (17.00 in.), depth: 380mm (14.95 in.)

Note: 1 RMS = 44.5mm (1.75 in.)

WALL MOUNT INTERCONNECT CENTER (SWIC3)

The Wall Mount Interconnect Center (SWIC3) is a cost-effective fiber enclosure designed to manage and protect up to 96 fiber connections. The low-profile, compact design makes it ideal for telecommunications closets or other installation areas where wall space is a premium. The adapter mounting method is standardized on the same snap-in Quick-Pack™ adapter plates used in our family of Rack Mount Interconnect Centers (RIC3).



1. **Convenient Labeling —** Convenient labeling system includes removable clear label holders for storing and protecting fiber documentation
2. **Door Options —** Doors on enclosure and jumper guard can be ordered with independent key lock or latching options
3. **Optional Splice Tray Bracket —** Optional bracket available for mounting multiple splice trays *(not shown)*
4. **Available with Quick-Pack Adapter Plates —** Quick-Pack adapter plates are available with SC, ST, FC, MT-RJ, or LC adapters *(see page 4.6)*
5. **Fiber Jumper Guard —** Integrated hinged fiber guard provides jumper protection and management
6. **Accessories —** Dust-proofing grommets included

Easy Access

Doors on enclosures and jumper guard swing open a full 180° to provide complete front and side access.

Dual-Level Fiber Managers

Incorporates two independent levels of storage to enable the fiber to be routed at levels that correspond to the adapters.

Snap-in Adapter Plates

Utilizes same Quick-Pack adapter plates as RIC3 enclosures with integrated latches for snap-in installation and single-finger removal.

WALL MOUNT INTERCONNECT CENTER (SWIC3)

FOCUS PATENTED

Part #	Description
SWIC3-(X)-01	24- to 96-port Wall Mount Interconnect Center, black. Includes dual-level fiber managers, port designation labels and removable pocket, dust-proofing grommets, strain relief hardware, cable ties, and mounting hardware. *height: 311mm (12.25 in.), width: 311mm (12.25 in.), depth: 82.6mm (3.25 in)*

Use (X) to specify type of lock on the enclosure: A = key lock C = thumb-turn latch

Part #	Description
SWIC3G-(X)(X)-01	24- to 96-port Wall Mount Interconnect Center with integrated jumper guard, black. Includes dual-level fiber managers, port designation labels and removable pocket, dust-proofing grommets, strain relief hardware, cable ties, and mounting hardware. *height: 311mm (12.25 in.), width: 406mm (16 in.), depth: 82.6mm (3.25 in)*

Use 1st (X) to specify type of lock on the enclosure (left) door: A = key lock, C = thumb-turn latch

Use 2nd (X) to specify type of lock on the guard (right) door: A = key lock, C = thumb-turn latch

Part #	Description
TRAY-B-01	Bracket for mounting up to 4 mini splice trays to SWIC3 base

RELATED PRODUCTS **Quick-Pack™ Fiber Adapter Plates page 4.6, Splice Trays page 4.10, Fiber Jumpers and Pigtails pages 5.2 – 5.5**

MINI WALL MOUNT INTERCONNECT CENTER

FOCUS PATENTED

The SWIC3 enables the economical interconnection of fiber in locations where wall space is limited while still providing many of the popular, installer-friendly features of the SWIC3. By accepting two flat Quick-Pack™ adapter plates, the SWIC3 can accommodate from 12-48 fibers. Also included are dust-proofing grommets to provide protection from contaminants and bend radius guides to ensure proper storage of fiber slack.

Part #	Description
SWIC3-M-01	12- to 48-port Mini Wall Mount Interconnect Center, black *height: 218.4mm (8.6 in.), width: 185.4mm (7.3 in.), depth: 82.6mm (3.25 in.)*

FLAT QUICK-PACK™ ADAPTER PLATES

FOCUS PATENTED

Siemon Quick-Pack adapter plates feature a patent pending integrated latch, which provides single-finger access to fiber even in fully populated enclosures. Choose from our wide variety of singlemode and multimode plate options.

RIC-F-SC6-01
3 duplex SC adapters (6 fibers)

RIC-F-SC8-01
4 duplex SC adapters (8 fibers)

RIC-F-SC12-01
6 duplex SC adapters (12 fibers)

RIC-F-SA6-01
3 duplex ST adapters (6 fibers)

RIC-F-SA8-01
4 duplex ST adapters (8 fibers)

RIC-F-SA12-01
6 duplex ST adapters (12 fibers)
Only recommended for push-pull design connectors due to access constraints

RIC-F-LC12-01
6 duplex LC adapters (12 fibers), beige adapters

RIC-F-LCU12-01
6 duplex LC adapters (12 fibers), blue adapters *(not shown)*

RIC-F-LC16-01
4 quad LC adapters (16 fibers), beige adapters

RIC-F-LCU16-01
8 duplex LC adapters (16 fibers), blue adapters *(not shown)*

RIC-F-LC24-01
6 quad LC adapters (24 fibers), beige adapters

RIC-F-LCU24-01
12 duplex LC adapters (24 fibers), blue adapters *(not shown)*

RIC-F-MT12-01
6 duplex MT-RJ adapters (12 fibers)

RIC-F-MT16-01
8 duplex MT-RJ adapters (16 fibers)

RIC-F-MT24-01
12 duplex MT-RJ adapters (24 fibers)

RIC-F-AC6-01
3 duplex ST-SC adapters (6 fibers, front side = SC)

RIC-F-AC8-01
4 duplex ST-SC adapters (8 fibers, front side = SC) *(not shown)*

RIC-F-FC6-01
6 FC adapters (6 fibers)

RIC-F-FC8-01
8 FC adapters (8 fibers) *(not shown)*

RIC-F-BLNK-01
Blank adapter plate

Each adapter plate with icon pockets includes red, blue, black, and clear icons with paper labels.
All SC and ST adapters are "universal" to support multimode and singlemode.

PRE-LOADED RIC3 ENCLOSURES

Need to reduce backbone installation time yet maintain superior quality? Siemon offers the perfect solution with our pre-terminated RIC3 fiber enclosures. Choose from RIC3 enclosures with a variety of connector interfaces pre-loaded with adapters and pigtails for patch and splice applications. All solutions feature Siemon high quality factory fiber terminations, which guarantee significant margin over TIA/EIA and ISO/IEC specifications. Siemon offers a choice of two grades of fiber for these pre-loaded enclosures — LightSystem® (for Gigabit Ethernet) or XGLO™ (10 Gigabit Ethernet). To order pre-loaded RIC3 enclosures, use the part numbering matrix below, or call Customer Service for assistance.

R 2 4 - J B 0 2 4 J - 0 1

Enclosure:
24 = RIC3-24
36 = RIC3-36
48 = RIC3-48
72 = RIC3-72

Connector/ Adapter Type:

Singlemode
A = SCUPC
B = SCAPC
C = STUPC
D = LCUPC

Multimode
J = SC
K = ST
L = LC

Color:
B = Black

# of Fibers Terminated:
for example:
024 = 24 fibers
036 = 36 fibers
048 = 48 fibers
144 = 144 fibers
See fiber enclosure capacity chart on page 4.0

Cable Type:

Singlemode
A = pigtail, buffered, XGLO
D = pigtail, buffered, LightSystem

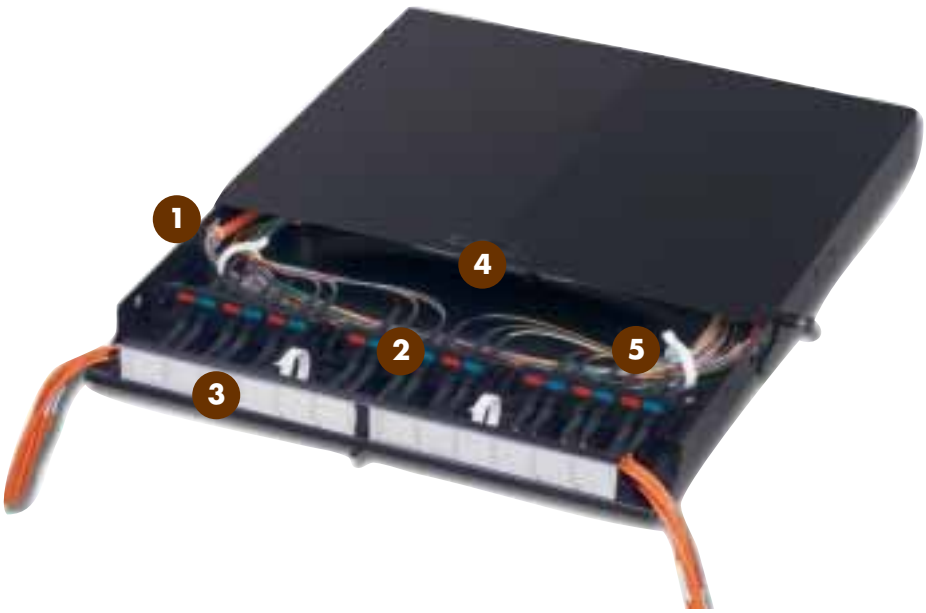
Multimode
F = 50/125µm pigtail, buffered, XGLO
H = 50/125µm pigtail, buffered, LightSystem
J = 62.5/125µm pigtail, buffered, LightSystem

Pigtail Length in Meters:
for example:
01 = 1 meter

RELATED PRODUCTS Splice Trays page 4.10, Heat Shrink Sleeves page 4.10, ULTRAsplice® page 4.11, ULTRAsleeve® page 4.11, Fiber Jumpers pages 5.2 – 5.5

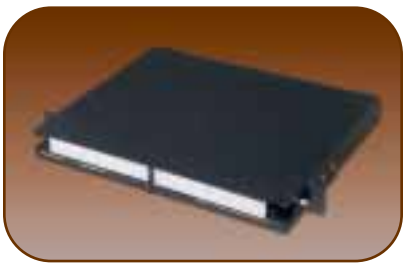
FIBER CONNECT PANEL (FCP3)

Siemon Fiber Connect Panels (FCP3-DWR and FCP3-RACK) economically connect, protect, and manage up to 72 fibers within one Rack Mount Space. It accepts Siemon's Quick-Pack™ adapter plates with patented single-finger access. The FCP3-DWR makes access to the connections easy via a tray that slides out the front or the rear.



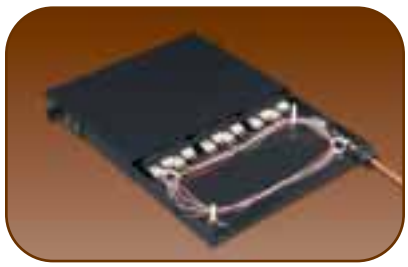
1. **Lanced Tabs —** Provide convenient cable anchor points for incoming jacketed fiber cable
2. **Front Fiber Clips —** Manage up to 36 duplex fiber jumpers (72 fibers total)
3. **Label Holder —** Protects fiber jumpers and is readily removable via release of factory-installed snap-latches
4. **Up to 3 Optional Splice Trays —** Can be mounted to manage and protect either mechanical or fusion splices
5. **Rear Fiber Clips —** Manage cable slack while maintaining minimum bend radius requirements

High Density



FCP3 enclosures accommodate up to 72 fibers in only 1 RMS on a 19 inch rack.

Sliding Tray



The FCP3-DWR (drawer version) features a tray that slides out from the front or rear, providing easy access to fiber connections even on fully loaded racks and allowing for removal of the entire tray to be placed on a worktable for more convenient termination.

FIBER CONNECT PANEL (FCP3)

FOCUS PATENTED

Part #	Description
FCP3-DWR	6- to 72-port Fiber Connect Panel with sliding tray. Includes mounting brackets, housing/tray, fiber managers, grommets, label holders, and labels, black *height: 43.2mm (1.7 in.), width: 482.6mm (19.0 in.), depth: 355.6mm (14.0 in.)*
FCP3-RACK	6- to 72-port Fiber Connect Panel with fixed tray. Includes mounting brackets, housing/cover, fiber managers and grommet, black *height: 43.2mm (1.7 in.), width: 482.6mm (19.0 in.), depth: 241.3mm (9.5 in.)*

FCP3-RACK

RELATED PRODUCTS **Fiber Jumpers and Pigtails pages 5.2 – 5.5, Quick-Pack Adapter Plates page 4.6, Compression Fittings see below, Splice Trays page 4.10**

COMPRESSION FITTINGS

Compression fittings are utilized as an enhanced method for securing cables to FCP3 fiber enclosures. Acme threads on the body prevent skipping, allowing for faster installations of lock-nuts.

Part #	Description
CF-(XX)	Compression fitting

Use (XX) to specify fiber diameter:
40 = 5.8 – 3.9mm (0.23 – 0.55 in.),
51 = 11.4 – 18.0mm (0.45 – 0.71 in.),
60 = 15.0 – 25.4mm (0.59 – 1.00 in.)

FIBER MANAGEMENT TRAY (FMT)

PATENTED

The Siemon Fiber Management Tray (FMT) is an economical solution for managing fiber cable slack and splice trays. The management tray has been designed to easily retrofit any standard 1 RMS CT® or MAX® Series Patch Panel and can organize up to 32 fibers. The tray is only 254mm (10 in.) deep, allowing it to readily fit into cabinet enclosures. Each enclosure can accept up to two fiber splice trays.

Part #	Description	RMS
CT-FMT-16	Fiber tray for 1 RMS CT or MAX Panel	1

Note: 1 RMS = 44.5mm (1.75 in.)

RELATED PRODUCTS **CT Patch Panels pages 2.10 – 2.12, CT Couplers pages 1.16 – 1.21, MAX Patch Panels pages 2.8 – 2.9, MAX Modules pages 1.4 – 1.9, Fiber Splice Trays page 4.10**

SPLICE TRAYS

These aluminum trays can be ordered with either fusion, mechanical or fusion with sleeve splice holders and come with a clear, snap-on polycarbonate cover. The standard tray holds up to 24 splices. For tight areas, a mini-tray is available which accommodates up to 12 splices. Trays can be stacked for high-density applications. The splice trays are compatible with RIC, SWIC, FCP and CT-FMT fiber enclosures.

Part #	Description
TRAY-1	Standard splice tray for up to 24 bare fusion splices
TRAY-2	Standard splice tray for up to 12 ULTRAsplice® mechanical splices
TRAY-3	Standard splice tray for up to 24 fusion splices with sleeve protection
TRAY-M-1	Mini splice tray for up to 12 bare fusion splices
TRAY-M-2	Mini splice tray for up to 6 ULTRAsplice mechanical splices
TRAY-M-3	Mini splice tray for up to 12 fusion splices with sleeve protection
TRAY-R-4	Mass or ribbon splice tray for up to 144 fibers Compatible with Siemon MASSsleeve® splice protectors

TRAY-3

TRAY-M-2

Standard Tray Dimensions
height: 103mm (4.07 in.), width: 298mm (11.75 in.), depth: 8.13mm (0.32 in.)

Mini Tray Dimensions
height: 103mm (4.07 in.), width: 179mm (7.06 in.), depth: 8.13mm (0.32 in.)

Mass/Ribbon Tray Dimensions
height: 103mm (4.07 in.), width: 179mm (7.06 in.), depth: 8.13mm (0.32 in.)

TRAY-R-4

Fusion with sleeve splice holders can accommodate sleeve diameters from 1.5mm (0.059 in.) to 3mm (0.117 in.). Standard Fusion splice holders are designed for 900 micron buffered fibers or 250 micron coated fibers.

HEAT SHRINK SLEEVES

Heat shrink sleeves provide a safe and efficient method for protecting fusion splices on either 250 or 900 micron coated fibers. Heat shrink sleeves are threaded on to fibers prior to fusion splicing and then positioned directly over splice and heated via an oven or heat gun*.

Part #	Description
HT-40	40mm (1.57 in.) heat shrink sleeve
HT-60	60mm (2.36 in.) heat shrink sleeve

Technical Tip!
For cleave lengths greater than 12mm (0.47 in.), HT-60 sleeves are recommended.

**Heating times may vary depending on heat source.*

ULTRASPLICE®

PATENTED

The patented ULTRAsplice is a high performance, cost effective, mechanical fiber optic splice that is reusable and easy to install for emergency or permanent installations. The splice features a patented glass capillary alignment tube, pre-loaded with index matching gel, to allow inspection of fiber location during installation. Additionally, the collet locking nuts allow users to tune and secure the fiber for optimum alignment and retention.

Part #	Description
US-126	Singlemode, yellow
US-128	Multimode, 125 micron, orange

By utilizing a VFL during installation, fiber misalignment can easily be detected and corrected.

ULTRAsplice connectors accommodate fiber buffer sizes from 250-900 microns.

The glass capillary allows inspection of fiber misalignments. Using the Visual Fault Locator (P/N: FT-VFL), a light will amplify the fiber misalignment point and allow the user to fine tune the splice.

When fibers are properly aligned, no light will be visible. This feature allows the installer to obtain a low loss splice quickly and efficiently.

ULTRASLEEVE®

PATENTED

Dramatically reduce fiber splicing installation time and cost with Siemon's innovative ULTRAsleeve splice cover. Simply load the fused fiber and close the sleeve — no heat shrink, curing, crimping or gluing required. ULTRAsleeve features an acrylic foam tape, which seals the sleeve and protects the splice from damage. The ULTRAsleeve fusion splice protector can accept a range of fiber buffer sizes from 250-900 microns for a single fiber or up to a 4 strand mass or ribbon fiber (singlemode or multimode).

Part #	Description
FS-40	40mm (1.57 in.) fusion splice protection sleeve
FS-60	60mm (2.36 in.) fusion splice protection sleeve

Technical Tip!
For cleave lengths greater than 12mm (0.47 in.), FS-60 sleeves are recommended.

MASSSLEEVE®

PATENTED

The MASSsleeve provides the same time-saving advantages as the ULTRAsleeve, but for mass or ribbon fiber. This protective fusion splice sleeve can accept 2-12 strand mass or ribbon fiber (singlemode or multimode).

Part #	Description
MFS	40mm (1.57 in.), fusion splice protection cover for fused ribbon fiber
MFSCT	MASSsleeve closing tool *length: 115mm (4.5 in.), width: 51mm (2.0 in.), height: 25mm (1.0 in.)*

The MASSsleeve fusion splice protector can accept 2-12 fused ribbon fiber.

MASSsleeve closing tool is required to insure proper installation. The tool's soft form holder and alignment pins assure accurate alignment.

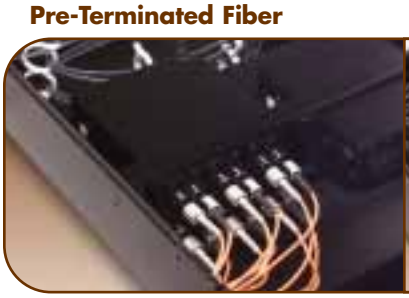
PLUG AND PLAY FIBER PRODUCTS

Siemon offers a solution for streamlining fiber installation and termination — the fiber Plug and Play system. This system reduces the labor and logistics of standard fiber installations by providing a pre-terminated, pre-tested fiber optic connection system.

Other plug and play options available.
Contact Siemon Customer Service for availability.

1. **Quick Connections —** Are completed by plugging 6- or 12-fiber MPO connectors in Plug and Play modules which can be snapped into wall or rack mount enclosures
2. **Factory Termination —** Significantly reduces labor costs during installation and ensures high performance and reliability of the installed system
3. **Multiple Interfaces —** In both standard and laser optimized 50/125µm and 62.5/125µm fiber with LC, SC and ST connections
4. **Turn-Key Solution —** No connectors, termination kits or consumables required

Pre-Terminated Fiber



All fiber connections are factory-terminated and tested, enabling faster installation to meet tight deadlines.

Plug and Play Modules

Modules feature integrated latches for snap-in installation and single-finger removal.

Wall or Rack Mount Solutions

Siemon's Plug and Play modules can be used with any Siemon fiber enclosure (RIC3, SWIC3, FCP3).

PLUG AND PLAY MODULES

The Plug and Play modules snap into any Siemon enclosure (RIC3, SWIC3, FCP3) to provide individual port access when transitioning from MPO connectors at the rear. The modules are factory-terminated and tested for 100% guaranteed performance with SC and ST interfaces. Installer-friendly snap-in design ensures fast and reliable installation.

6-Port SC Module

Part #	Description
PP6-SA(X)MM-01	6-port, multimode ST Plug and Play module, black
PP6-SC(X)MM-01	6-port, multimode SC Plug and Play module, black
PP12-SC(X)MM-01	12-port, multimode SC Plug and Play module, black
PP12-LC(X)MM-01	12-port, multimode LC Plug and Play module, black
PP24-LC(X)MM-01	24-port, multimode LC Plug and Play module, black

Use (X) to specify fiber type: 5 = 50/125µm multimode, 6 = 62.5/125µm multimode, 5L = Laser Optimized, 50/125 (300 meters)

Note: Laser optimized fiber is only available in LC versions.

RELATED PRODUCTS **RIC3 Enclosures pages 4.2 – 4.3, SWIC3 Enclosures pages 4.4 – 4.5, FCP3 Enclosures pages 4.8 – 4.9, Fiber Jumpers pages 5.2 – 5.5**

PLUG AND PLAY REEL AND EXTENDER SYSTEM

The cable for the Plug and Play system is provided on cable reels with 6- or 12-fiber MPO connectors on each end. The cable is available in 50/125µm or 62.5/125µm riser and plenum grade fiber cable and can be ordered in any length. A cable pulling eye on one end protects the fiber during installation and facilitates fast installation. Cable extenders are also available to add onto existing Plug and Play reels and include an adapter to join the extender to the cable reel.

Part #	Description
FR6-(X)MM(X)-(XXX)	MPO-to-MPO Plug and Play reel, 6-fiber, with pulling eye
FR12-(X)MM(X)-(XXX)	MPO-to-MPO Plug and Play reel, 12-fiber, with pulling eye
FE6-(X)MM(X)-(XXX)	MPO-to-MPO Plug and Play fiber extender, 6-fiber, with adapter and pulling eye
FE12-(X)MM(X)-(XXX)	MPO-to-MPO Plug and Play fiber extender, 12-fiber, with adapter and pulling eye

Use (X) to specify fiber jacket type: 5 = 50/125µm multimode, 6 = 62.5/125µm multimode, 5L = Laser Optimized, 50/125 (300 meters)

Use (XX) to specify fiber material: R = riser, P = plenum

Use (XXX) to specify length in meters (last X to be "0" or "5" only)

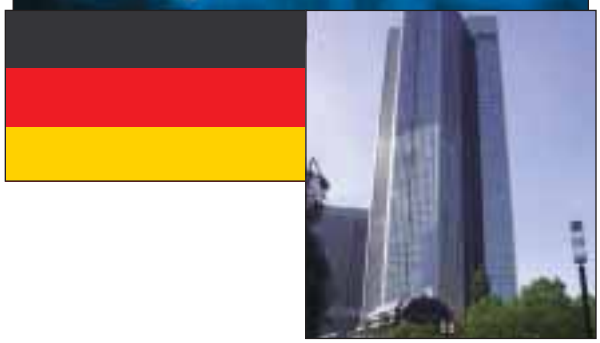
PARAMETER	62.5/125µm (850nm/1300nm)	50/125µm (850nm/1300nm)
Max. Attenuation (dB/Km)	3.5/1.0	3.5/1.0
Min. Bandwidth (MHz-Km)	200/500	500/500
Min. Gigabit Transmission Distance (m)	275/550	550/550



	XGLO™ JUMPERS AND PIGTAILS (pages 5.2 – 5.3)	LIGHTSYSTEM® JUMPERS AND PIGTAILS (page 5.4)	VALULIGHT™ JUMPERS AND PIGTAILS (page 5.5)
Product Applications	10G Applications	1G Applications	1G Applications
Maximum Insertion Loss	**MULTIMODE** 0.50 (0.10 Typical) **SINGLEMODE** 0.40 (0.10 Typical)	**MULTIMODE** 0.65 (0.15 Typical) **SINGLEMODE** 0.40 (0.25 Typical)	**MULTIMODE** 0.75 (0.15 Typical) **SINGLEMODE** 0.75 (0.25 Typical)
Minimum Return Loss	**MULTIMODE** 30 (35 Typical) **SINGLEMODE** 55 (60 Typical)	**MULTIMODE** 25 (30 Typical) **SINGLEMODE** 55 (57 Typical)	**MULTIMODE** 20 (25 Typical) **SINGLEMODE** 50 (55 Typical)

**For bandwidth specifications, please refer to applicable performance charts on relevant pages.*

SECTION CONTENTS



SIEMON-GERMANY

To keep pace with its impressive European expansion, Siemon opened its German offices in Frankfurt. Long known for exacting standards and accuracy, Frankfurt's industrial focus made it perfect for a company like Siemon, itself known for unbending quality standards. Responsible for Germany, Austria, Switzerland and the Czech Republic, they support these culturally varying customers with Siemon's universal standard of quality, service, innovation and value.

As Germany's customer base has grown, so has the organization. Focused on comprehensive training, Siemon Germany's sales channel and certified installers are experts in the field of structured cabling, meeting and exceeding the region's demands for forward-compatible cabling.

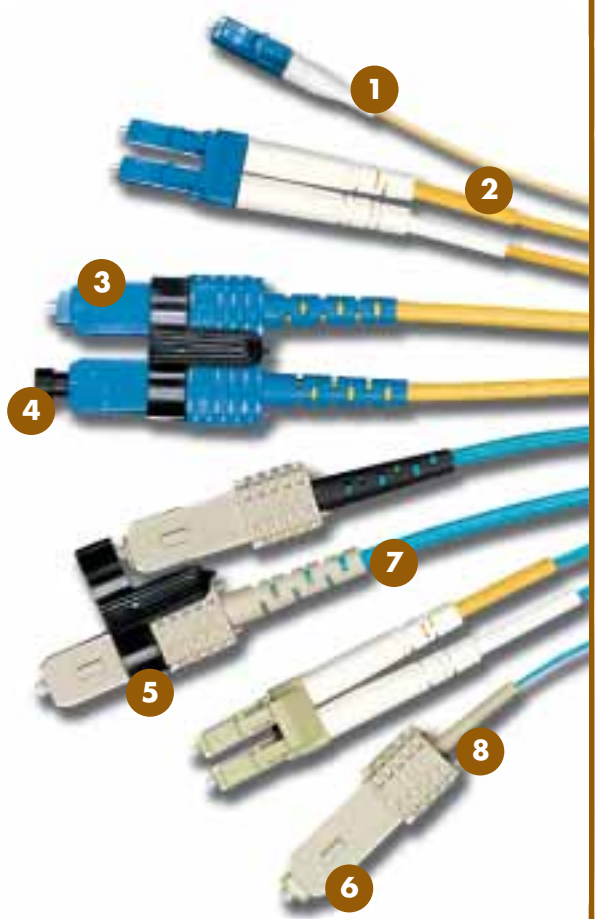
Siemon Verkabelungslösungen,
Die Grundlage für Ihren Geschäftserfolg

XGLO™ JUMPERS AND PIGTAILS

10G *ip*™

Supports 10 Gigabit Ethernet

Part of Siemon's 10G *ip*™ Cabling Solution, XGLO fiber optic cable assemblies are ideal for next generation backbone or fiber-to-the-desk applications. XGLO cable assemblies feature premium fiber that meets IEEE 802.3 10 Gigabit Ethernet Standard as well as IEC-60793-2-10 and TIA-492AAAC specifications for laser bandwidth Differential Mode Delay (DMD) specifications. In addition, these assemblies offer a superior connector polish that exceeds all ANSI/TIA/EIA and ISO/IEC insertion loss and return loss requirements.

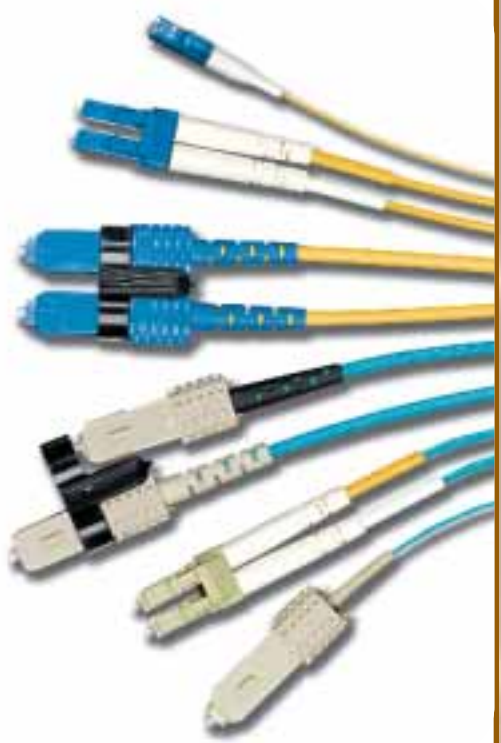


1. **Robust Performance —** Laser bandwidth optimized cable reduces impurities in the core of fiber, ensuring robust 10 Gigabit Ethernet transmission
2. **Standard Lengths —** Jumpers available in 1, 2, 3, and 5 meter standard lengths
3. **Easy Identification —** Connectors color coded per ANSI/TIA/EIA-568-B.3
4. **Dust Caps —** Dust caps included to protect polished ferrule from dirt and damage
5. **Polarity Connection —** SC duplexing clip allows for polarity correction
6. **Durable —** Exceeds TIA/EIA and ISO/IEC requirements for aging, exposure to humidity, temperature extremes, impact, vibration, coupling strength, and cable resistance to stress and strain
7. **Multimode and Singlemode —** 50/125µm multimode and singlemode assemblies available
8. **Pigtails —** Available in 1 meter lengths

XGLO™ JUMPERS AND PIGTAILS

FOCUS

These precision cable assemblies are warranted for 20 years and ensure optimum applications support for 10 Gigabit Ethernet serial transmission when installed in a qualified XGLO system. SC, LC and SC-LC hybrids available.



XGLO 50/125µm MULTIMODE DUPLEX JUMPERS

FJ2-SCSC5L-(XX)AQ . . . . . SC to SC aqua duplex jumper
FJ2-LCLC5L-(XX)AQ. . . . . LC to LC aqua duplex jumper
FJ2-LCSC5L-(XX)AQ . . . . . LC to SC aqua duplex jumper
Use (XX) to specify length: 01 = 1m (3.3 ft.), 02 = 2m (6.6 ft.), 03 = 3m (9.8 ft.), 05 = 5m (16.4 ft.)

XGLO 50/125µm MULTIMODE SIMPLEX PIGTAILS

FP1B-SC5L-01AQ . . . . . SC simplex pigtail, 900 micron, aqua, buffered, 1m (3.3 ft.)
FP1B-LC5L-01AQ . . . . . LC simplex pigtail, 900 micron, aqua, buffered, 1m (3.3 ft.)

XGLO SINGLEMODE DUPLEX JUMPERS

FJ2-SCUSCUL-(XX) . . . . . SC to SC yellow duplex jumper
FJ2-LCULCUL-(XX) . . . . . LC to LC yellow duplex jumper
FJ2-LCUSCUL-(XX). . . . . LC to SC yellow duplex jumper
Use (XX) to specify length: 01 = 1m (3.3 ft.), 02 = 2m (6.6 ft.), 03 = 3m (9.8 ft.), 05 = 5m (16.4 ft.)

XGLO SINGLEMODE SIMPLEX PIGTAILS

FP1B-SCUL-01 . . . . . SC simplex pigtail, yellow, 900 micron, buffered, 1m (3.3 ft.)
FP1B-LCUL-01 . . . . . LC simplex pigtail, yellow, 900 micron, buffered, 1m (3.3 ft.)

PERFORMANCE SPECIFICATIONS

	50/125µm Multimode			Singlemode
	850nm	1300nm	850nm*	n/a
Min. Cable Bandwidth (MHz km)	1500	500	2000	n/a
Max. Insertion Loss (dB)	0.50 (0.10 Typical)			0.40 (0.10 Typical)
Min. Return Loss (dB)	30 (35 Typical)			55 (60 Typical)

**Laser Bandwidth*

LIGHTSYSTEM® JUMPERS AND PIGTAILS

FOCUS

Supports Gigabit Ethernet

Siemon offers a comprehensive line of fiber jumpers for connecting fiber links. Choose from multimode or singlemode jumpers and pigtails. Assemblies are available in standard lengths of 1, 2, 3, and 5 meters. Custom lengths are also available. Each and every terminated connector is optically tested so that you can be assured that 100% of Siemon-built cable assemblies meet stringent performance specifications (shown below). All jumpers are manufactured using the finest quality connectors and OFNR riser grade fiber.

MULTIMODE DUPLEX JUMPERS

FJ2-SCSC(X)MM-(XX) . . . . SC to SC orange duplex jumper
FJ2-SASA(X)MM-(XX) . . . . ST to ST orange duplex jumper
FJ2-SASC(X)MM-(XX) . . . . ST to SC orange duplex jumper
FJ2-LCLC(X)MM-(XX) . . . . . LC to LC orange duplex jumper
FJ2-LCSC(X)MM-(XX) . . . . . LC to SC orange duplex jumper
FJ2-LCSA(X)MM-(XX) . . . . . LC to ST orange duplex jumper
FJ2R-MTMT(X)MM-(XX) . . . MT-RJ to MT-RJ orange duplex jumper
FJ2R-MTSC(X)MM-(XX) . . . MT-RJ to SC orange duplex jumper
FJ2R-MTSA(X)MM-(XX) . . . MT-RJ to ST orange duplex jumper

MULTIMODE SIMPLEX PIGTAILS

FP1B-SC(X)MM-01 . . . . . SC simplex pigtail, orange, 900 micron, buffered, 1m (3.3 ft.)
FP1B-SA(X)MM-01 . . . . . ST simplex pigtail, orange, 900 micron, buffered, 1m (3.3 ft.)
FP1B-LC(X)MM-01 . . . . . LC simplex pigtail, orange, 900 micron, buffered, 1m (3.3 ft.)

Use (X) to specify multimode fiber type/jacket color: "–" = 62.5/125µm fiber, orange jacket, 5 = 50/125µm fiber, orange jacket

SINGLEMODE DUPLEX JUMPERS

FJ2-SCUSCU-(XX) . . . . . SC to SC yellow duplex jumper
FJ2-SAUSAU-(XX) . . . . . ST to ST yellow duplex jumper
FJ2-SAUSCU-(XX) . . . . . ST to SC yellow duplex jumper
FJ2-LCULCU-(XX) . . . . . LC to LC yellow duplex jumper
FJ2-LCUSCU-(XX) . . . . . LC to SC yellow duplex jumper
FJ2-LCUSAU-(XX) . . . . . LC to ST yellow duplex jumper

SINGLEMODE SIMPLEX PIGTAILS

FP1B-SCU-01 . . . . . SC simplex pigtail, yellow, 900 micron, buffered, 1m (3.3 ft.)
FP1B-SAU-01 . . . . . ST simplex pigtail, yellow, 900 micron, buffered, 1m (3.3 ft.)
FP1B-LCU-01 . . . . . LC simplex pigtail, yellow, 900 micron, buffered, 1m (3.3 ft.)

Use (XX) to specify cable length: 01 = 1m (3.3 ft.), 02 = 2m (6.6 ft.), 03 = 3m (9.8 ft.), 05 = 5m (16.4 ft.)
Custom lengths are available upon request. Contact our Customer Service Department for more information.

PERFORMANCE SPECIFICATIONS

	50/125µm Multimode		62.5/125µm Multimode		Singlemode
	850nm	1300nm	850nm	1300nm	n/a
Min. Cable Bandwidth (MHz km)	500	500	200	500	n/a
Max. Insertion Loss (dB)	0.65 (0.15 Typical)				0.40 (0.25 Typical)
Min. Return Loss (dB)	25 (30 Typical)				55 (57 Typical)

VALULIGHT™ JUMPERS AND PIGTAILS

FOCUS

Siemon is pleased to announce its new ValuLight line of fiber cable assemblies. These jumpers and pigtails provide exceptional value at a very competitive cost. ValuLight fiber cable assemblies meet TIA/EIA-568-B.3 and ISO/IEC 11801 specifications for insertion loss and return loss. They are ideal for commercial cabling data applications up to and including 1 gigabit. Cords are available in popular connector types in both multimode and singlemode fiber versions.

MULTIMODE DUPLEX JUMPERS

J2-SCSC(X)-(XX) . . . . . SC to SC duplex jumper
J2-SASA(X)-(XX) . . . . . ST to ST duplex jumper
J2-SASC(X)-(XX) . . . . . ST to SC duplex jumper
J2-MTMT(X)-(XX) . . . . . MT-RJ to MT-RJ duplex jumper
J2-LCLC(X)-(XX) . . . . . LC to LC duplex jumper
J2-MTSC(X)-(XX) . . . . . MT-RJ to SC duplex jumper
J2-MTSA(X)-(XX) . . . . . MT-RJ to SA duplex jumper
J2-LCMT(X)-(XX) . . . . . LC to MT-RJ duplex jumper
J2-LCSC(X)-(XX) . . . . . LC to SC duplex jumper
J2-LCSA(X)-(XX) . . . . . LC to SA duplex jumper

Use (X) to specify fiber type: 5 = 50/125µm, 6 = 62.5/125µm
Use (XX) to specify length: 01 = 1m (3.3 ft.), 02 = 2m (6.6 ft.), 03 = 3m (9.8 ft.), 05 = 5m (16.4 ft.)

MULTIMODE PIGTAILS

P1B-SC(X)-01 . . . . . SC simplex pigtail, orange, 900 micron, buffered, 1m (3.3 ft.)
P1B-SA(X)-01. . . . . ST simplex pigtail, orange, 900 micron, buffered, 1m (3.3 ft.)
P2B-MT(X)-01 . . . . . MT-RJ duplex pigtail, orange, 900 micron, buffered, 1m (3.3 ft.)
P1B-LC(X)-01 . . . . . LC simplex pigtail, orange, 900 micron, buffered, 1m (3.3 ft.)

Use (X) to specify fiber type: 5 = 50/125µm, 6 = 62.5/125µm

SINGLEMODE DUPLEX JUMPERS

J2-SCSCP-(XX) . . . . . SC to SC yellow duplex jumper
J2-SASAP-(XX) . . . . . ST to ST yellow duplex jumper
J2-SASCP-(XX) . . . . . ST to SC yellow duplex jumper
J2-LCLCP-(XX) . . . . . LC to LC yellow duplex jumper
J2-LCSCP-(XX) . . . . . LC to SC yellow duplex jumper
J2-LCSAP-(XX) . . . . . LC to SA yellow duplex jumper

Use (XX) to specify length: 01 = 1m (3.3 ft.), 02 = 2m (6.6 ft.), 03 = 3m (9.8 ft.), 05 = 5m (16.4 ft.)

SINGLEMODE PIGTAILS

P1B-SCP-01 . . . . . SC simplex pigtail, yellow, 900 micron, buffered, 1m (3.3 ft.)
P1B-SAP-01 . . . . . ST simplex pigtail, yellow, 900 micron, buffered, 1m (3.3 ft.)
P1B-LCP-01. . . . . LC simplex pigtail, yellow, 900 micron, buffered, 1m (3.3 ft.)

PERFORMANCE SPECIFICATIONS

	50/125µm Multimode		62.5/125µm Multimode		Singlemode
	850nm	1300nm	850nm	1300nm	n/a
Min. Cable Bandwidth (MHz km)	500	500	200	500	n/a
Max. Insertion Loss (dB)	0.75 (0.15 Typical)				0.75 (0.25 Typical)
Min. Return Loss (dB)	20 (25 Typical)				50 (55 Typical)

LC FIELD-INSTALLABLE CONNECTORS

FOCUS

Siemon LC products offer all the benefits of SC and ST connections in a Small Form Factor (SFF), high-density design. LC adapter products are compatible with our popular MAX,® CT,® FOB, and SM® work area and telecommunications room products, providing a wide variety of installation options. LC connectors take just 2 minutes to terminate, using the Siemon *LightSpeed*® Termination Kit.

MULTIMODE

FC1-LC-MM-B80 . . . . . LC Simplex connector, multimode, buffered fiber, beige boot

FC2-LC-MM-J80 . . . . . LC Duplex connector, multimode, jacketed fiber, beige boots

SINGLEMODE

FC1-LC-SM-B02 . . . . . LC Simplex connector, singlemode, buffered fiber, white boot

FC1-LC-SM-J02 . . . . . LC Simplex connector, singlemode, jacketed fiber, white boot

Note: Siemon LC jacketed fiber connectors require the use of 1.6mm jacketed fiber cables.

Ⓑ *Add "-B" to the end of part number for bulk pack (simplex: 100/box, duplex: 50/box).*

RELATED PRODUCTS ***LightSpeed*** **Termination Kit page 5.8, LC Upgrade Kit page 5.8**

MT-RJ FIELD-INSTALLABLE CONNECTORS

Siemon MT-RJ connectors pack all the benefits of duplex fiber optic performance into a compact "RJ" style design. Terminations are quick and easy, utilizing a proven no epoxy/no polish method, which takes less than 2 minutes total — less than one minute minute per fiber! Siemon MT-RJ connectors feature two fibers factory-terminated to the ferrule with protruding stubs engaged within a pre-installed splice mechanism. Just prep the cable and insert the fibers into the connecter to complete termination. No epoxy or polish is necessary.

Part #	Description
FC2-MT6MM	MT-RJ duplex connector with pins (male), multimode 62.5/125µm, beige
FC2-MT5MM	MT-RJ duplex connector with pins (male), multimode 50/125µm, black

Note: Siemon MT-RJ connectors include black boots and are compatible with 3.0mm round duplex jacketed or buffered fiber cables.

RELATED PRODUCTS **MT-RJ Termination Kit page 5.8**

SC AND ST CONNECTORS

FOCUS

SC DUPLEX CONNECTORS

SC connectors have a duplexing clip, which allows each connector to be removed individually. In the event fiber polarity is reversed during termination, there's no need to discard the connector. Simply remove connectors from the clip and switch to correct the mistake, saving valuable installation time and money. The duplexing clip also speeds troubleshooting. In the event there's a fault with a single connection, an individual connector can be removed from the clip and re-terminated without disturbing the adjacent connector.

MULTIMODE

FC2-SC-MM-J . . . . . Duplex, jacketed fiber, one black boot and one beige boot

FC2-SC-MM-B80 . . . . . Duplex, buffered fiber, two beige boots

FC2-SC-MM . . . . . Duplex, jacketed/buffered fiber, one black and one beige jacketed boot, two beige buffered boots

SINGLEMODE

FC2-SC-SM-J(XX) . . . . . Duplex, jacketed fiber

FC2-SC-SM-B(XX) . . . . . Duplex, buffered fiber

Use (XX) to specify boot color: 02 = white, 06 = blue

Ⓑ *Add "-B" to the end of part number for bulk pack (50/box).*

SC SIMPLEX CONNECTORS

SC simplex connectors employ an outer housing that is color-coded in accordance with TIA/EIA-568-B.3 and ISO/IEC 11801 Ed2.0 requirements (beige for multimode and blue for singlemode).

MULTIMODE

FC1-SC-MM-J80 . . . . . Simplex, jacketed fiber, beige boot

FC1-SC-MM-J01 . . . . . Simplex, jacketed fiber, black boot

FC1-SC-MM-B80 . . . . . Simplex, buffered fiber, beige boot

FC1-SC-MM-01 . . . . . Simplex, jacketed/buffered fiber, one black jacketed boot and one beige buffered boot

FC1-SC-MM-80 . . . . . Simplex, jacketed/buffered fiber, one beige jacketed boot and one beige buffered boot

SINGLEMODE

FC1-SC-SM-J(XX) . . . . . Simplex, jacketed fiber

FC1-SC-SM-B(XX) . . . . . Simplex, buffered fiber

FC1-SC-SM-(XX) . . . . . Simplex, jacketed/buffered fibers, one jacketed boot, one buffered boot

Use (XX) to specify boot color: 02 = white, 06 = blue

Ⓑ *Add "-B" to the end of part number for bulk pack (100/box).*

ST SIMPLEX CONNECTORS

The ST connector employs a rugged metal bayonet coupling ring with radial ramps which facilitate engagement to the studs of the mating adapter. Two ST connectors are available for jacketed fiber, one with a beige boot and one with a black boot. The two colors enable easy identification of the fibers when terminating individual connectors to form a duplex jumper.

MULTIMODE

FC1-SA-MM-J80 . . . . . Jacketed fiber, beige boot

FC1-SA-MM-J01 . . . . . Jacketed fiber, black boot

FC1-SA-MM-B80 . . . . . Buffered fiber, beige boot

FC1-SA-MM-01 . . . . . Jacketed/Buffered fiber, black jacketed boot and beige buffered boot

FC1-SA-MM-80 . . . . . Jacketed/Buffered fiber, beige jacketed boot and beige buffered boot

SINGLEMODE

FC1-SA-SM-J(XX) . . . . . Jacketed fiber

FC1-SA-SM-B(XX) . . . . . Buffered fiber

FC1-SA-SM-(XX) . . . . . Jacketed/Buffered fiber, one jacketed boot, one buffered boot

Use (XX) to specify boot color: 02 = white, 06 = blue

Ⓑ *Add "-B" to the end of part number for bulk pack (100/box).*

LIGHTSPEED® ST, SC FIBER TERMINATION KIT

FOCUS

Achieve faster fiber terminations and higher performance with Siemon's *LightSpeed* Termination Kit. The Siemon fiber termination kit contains all the tools required for termination of multimode or singlemode ST or SC connectors — packaged in a rugged canvas carrying case. Use the optional LC Upgrade Kit *(see below)* for LC connector terminations. All consumables, tools and other termination products supplied with the kit can be ordered separately.

Part #	Description
FTERM-L2	*LightSpeed* Fiber Termination Kit for ST and SC multimode connectors*

**All consumables including primer, adhesive and polishing films are contained in the consumables kit and must be ordered separately.*

LC FIBER TERMINATION UPGRADE KIT

FOCUS

The Siemon LC upgrade kit is used in conjunction with the *LightSpeed* Termination Kit (FTERM-L2) and has all the accessories to terminate LC connectors using Siemon's exclusive *LightSpeed* adhesive. The kit includes an LC microscope head (that attaches to the microscope included with the FTERM-L2), an LC polishing puck and a micro-torch* (to shrink the color-coded LC crimp sleeve tubings).

Part #	Description
FTERM-LC	LC Fiber Termination Upgrade Kit (used in conjunction with FTERM-L2)

Note: Contents of FTERM-LC are also available individually.
Contact our Customer Service Department for more information.
**Butane fuel not included.*

MT-RJ FIBER TERMINATION KIT

The Siemon MT-RJ termination kit makes field termination of MT-RJ connectors quick and easy. MT-RJ duplex connectors can be terminated in less than 2 minutes, which equates to less than 1 minute per fiber. The kit employs proven no-epoxy/no-polish termination technology. All tools required to terminate MT-RJ connectors are included in a durable canvas carrying case.

Part #	Description
FTERM-MT	MT-RJ Fiber Termination Kit
FT-VFL	Dual source visual fault locator

Note: Contents of FTERM-MT are also available individually.
Contact our Customer Service Department for more information.

LIGHTSPEED® FIBER CONSUMABLES KIT

FOCUS

The termination kit includes Siemon's *LightSpeed* adhesive system, which features a 30-second cure time. The adhesive is tinted green to provide an easy visual indication during the termination process and has an extended 1-year shelf life.

Part #	Description
FT-CKIT-L2*	Consumables kit for use with fiber termination kit (FTERM-L2). Includes enough consumables to perform a minimum of 200 multimode or singlemode terminations
FT-PRBOT-L	Primer bottle (3.5mL)
FT-ADH-L*	Adhesive Syringe (5cc)
FT-ALPAD	Alcohol pads
FT-WIPES	Dry lint-free wipes
FT-SYRMTIP	Syringe tip needles w/covers
FT-PF12	12µm air polish film, gray
FT-PF3	3µm air polish film, pink
FT-PF1	1µm air polish film, purple
FT-FF	Finishing film, white
FT-PF6**	6µm recovery film, bronze

**This product contains material with a time and temperature sensitive shelf life. Store between 40 – 100 degrees F (4.4 – 38.5°C) and verify expiration date marked on product prior to use (1 year from date of purchase from Siemon.)*

***This recovery film is optional and not included with the consumables kit.*

REPLACEMENT TOOLS FOR FIBER TERMINATION KIT

Siemon's offers a full line of replacement tools in the event that a tool is lost or has used up its life expectancy. The tools available are a complete contents list of the exact tools provided in our fiber termination kit.

Part #	Description
FT-MS400	400X power microscope
FT-SCRIBE	Double bladed fiber cleaver
CI-SCISSORS	Electrician scissors
FT-CRIMP	Crimp tool w/3-position die for ST/SC/LC
FT-PAD	152.4mm (6 in.) x 152.4mm (6 in.) polishing pad
FT-PUCK	SC/ST compatible polishing puck
FT-TMPL	Template for SC/ST and LC connectors
FT-JSTRP	Jacket stripper
FT-BSTRP	Buffer stripper



	RS3 RACK SYSTEM (pages 6.2 – 6.3)	RS RACK SYSTEM (pages 6.4 – 6.5)	EXTENDED DEPTH RS RACK SYSTEM (page 6.5)
Vertical Side Rail Capacity	117mm x 152mm (4.6 in. x 6.0 in.)	76mm x 152mm (3.0 in. x 6.0 in.)	76mm x 370mm (3.0 in. x 14.5 in.)
Cable Manager Covers	Multi-piece snap-on	None	None
Accessories	Rack Top Cable Tray, Power Strip, RS3 Series Horizontal Cable Managers, Rear Cable Managers	Rack Top Cable Tray, Power Strip, RS Series Horizontal Cable Managers, Vertical Patching Channels, Vertical Cable Managers, Rear Cable Managers	Power Strip, RS Series Horizontal Cable Managers, Vertical Patching Channels, Vertical Cable Managers, Rear Cable Managers

CABLE MANAGER CAPACITY TABLE

The following capacity table is provided for planning purposes. The values shown reflect a combination of actual and calculated capacity and represent a 100% fill. These values were derived using properly dressed cables and can be adversely affected by poor cable routing practices.

PART NUMBER	CATALOG PAGE NUMBERS	CABLE DIAMETER (SQ. IN.) 0.15	0.17	0.19	0.21	0.23	0.25
HORIZONTAL MANAGERS							
PH-3	6.10	283	220	176	144	120	101
RS3-RWM-2	6.3	332	258	207	169	141	119
RS3-RWM-2DS (Front/Rear)	6.3	332	258	207	169	141	119
RWM-1	6.9	122	95	76	62	51	43
RWM-1DS (Front/Rear)	6.9	122	95	76	62	51	43
RS-RWM-2	6.5	332	258	207	169	141	119
RS-RWM-2DS	6.5	332	258	207	169	141	119
S110-RWM-(XX)	6.9	126	98	78	64	53	45
S110-RWM2-(XX)	6.9	306	238	190	156	130	110
S143	6.13	99	77	62	50	42	35
S144	6.13	203	158	126	103	86	73
S145	6.13	422	328	263	215	179	152
S146	6.13	737	574	459	376	313	265
S147	6.13	1159	902	722	591	493	417
WM-143-5	6.8	99	77	62	50	42	35
WM-144-5	6.8	203	158	126	103	86	73
WM-145-5	6.8	422	328	263	215	179	152
RACKS & VERTICAL CABLE MANAGERS							
RS (Channel)	6.4 – 6.5	496	386	309	253	210	178
RS (Front)	6.4 – 6.5	283	220	176	144	120	101
RS3 (Channel)	6.2 – 6.3	834	649	519	425	354	300
RS3 (Front)	6.2 – 6.3	527	410	329	269	224	190
RS-CH	6.8	283	220	176	144	120	101
RS-CNL	6.7	1292	1006	805	659	549	465
RS-CNL3	6.7	832	647	518	424	353	299
RS-E (Channel)	6.5	1488	1158	927	759	633	535
RS-E (Front)	6.5	283	220	176	144	120	101
VPC-6 (Front)	6.6 – 6.7	975	759	607	497	414	351
VPC-6 (Rear)	6.6 – 6.7	1292	1006	805	659	549	465

SECTION CONTENTS

SIEMON-SHANGHAI

Located in downtown Shanghai, an emerging economic center of the Asia Pacific region, Siemon AP, was established in 2000. With their dedicated and steadily growing staff, Siemon AP provides a strong support channel in this globally significant territory, offering a hub for sales development, marketing, technical support and customer service.

As the Siemon Asia Pacific headquarters, the Shanghai office manages activity in Great China, Singapore, Australia, and New Zealand. The AP network includes three additional China offices in Beijing, Chengdu and Guangzhou, as well as three Australia locations in Sydney, Brisbane and Melbourne.

Siemon AP's training and education programs extend the industry-best Siemon support channel through its continual training of Sales reps and certified installers in India, the Philippines and S outh Korea.

Siemon Network Cabling Solutions,
The Foundation for Your Business Success

RS3 CABLE MANAGEMENT RACK SYSTEM

NEW

Siemon's new RS3 series cable management rack system provides high capacity cable management for routing of both horizontal/backbone cabling and patch cords. Vertical channels with hinged cable manager covers conceal and route patch cables for a clean, professional installation.

1. **High Capacity —** 76mm x 152mm (3 in. x 6 in.) front vertical managers provide capacity for approximately 190 category 6 patch cords
2. **Cable Tray Compatibility —** Header bars incorporate unique slotted holes for securing cable trays routed perpendicular or parallel with RS3 racks
3. **Side Stackable —** RS3 design allows racks to be side-stacked without interference between adjacent racks
4. **Deeper Channels —** 116.8mm x 152.4mm (4.6 in. x 6 in.) vertical side rails provide higher cable capacity over standard rack designs
5. **Flexible Management —** Side rails compatible with Siemon's quarter-turn hook and loop cable managers for proper management of cable bundles
6. **Cable Access Holes —** Access holes on side rails allow cables to be routed between adjacent racks
7. **Modular Power —** Mounting holes on rear of RS3 accommodate Siemon's vertical power strip (p/n RS-P04) to provide power to active equipment mounted in rack
8. **Anchoring —** Mounting holes provided for anchoring racks to floor

Hinged Front Covers

Front covers fully conceal all vertical patch cord routing through an easy to use, modular design. Each section can be individually hinged in either direction to facilitate quick and easy changes. Covers include positive securing snap latches for trouble-free fastening.

Rounded Managers

The individual managers on the vertical channels are rounded to allow patch cords to seamlessly enter and exit the managers without risk of cable deformation.

Matching Horizontal Managers

Siemon's new RS3 series horizontal cable managers provide a fully integrated appearance and same hinging design for comprehensive management of patch cords.

RELATED PRODUCTS RS3 Series Horizontal Cable Managers page 6.3, Rack Accessories page 6.8

RS3 CABLE MANAGEMENT RACK SYSTEM

FOCUS NEW

Part #	Description
RS3-07	2.1m x 0.48m (7 ft. x 19 in.) aluminum enhanced cable management rack system, 45 RMS. Includes rack assembly hardware, vertical cable management channels with hinged covers, and ground lug

height: 2.1m (7 ft.),
width: 685.0mm (27 in.),
depth: 457.2mm (18 in.)

Add "-S" for steel.

Note: Aluminum racks are intended for use with connecting hardware and cable managers only. For mounting of active equipment, steel racks are recommended.

Note: 1 RMS = 44.5mm (1.75 in.)

See Cable Management Capacity Table on page 6.0

RS3 SERIES HORIZONTAL CABLE MANAGERS

FOCUS NEW

These new horizontal cable managers are designed for use with Siemon's RS3 series racks and use the same covered design as the vertical managers. The hinged front cover snaps easily over cable managers and provides a concealed routing patch into the vertical cable management of the RS3 providing a clean patching environment.

Part #	Description
RS3-RWM-2	Single-sided 19 in. cable manager, 2 RMS

height: 88.9mm (3.5 in.),
width: 0.48m (19 in.),
depth: 101.6mm (4 in.)

RS3-RWM-2

Part #	Description
RS3-RWM-2DS	Double-sided 19 in. cable manager, 2 RMS

height: 88.9mm (3.5 in.),
width: 0.48m (19 in.),
depth: 203.2mm (8 in.)

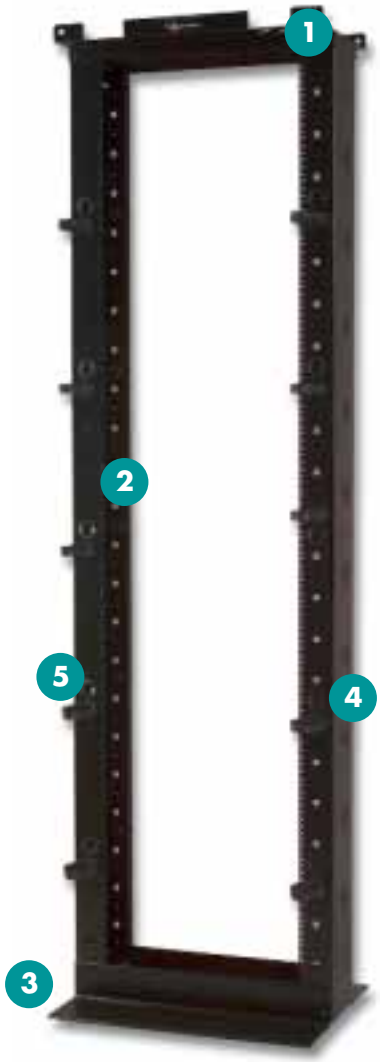
RS3-RWM-2DS

Note: 1 RMS = 44.5mm (1.75 in.)

See Cable Management Capacity Table on page 6.0

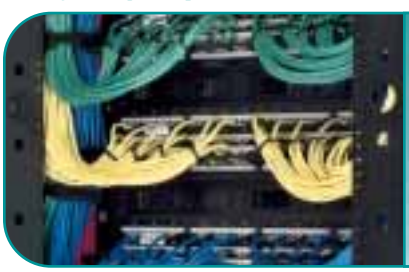
RS RACK SYSTEM

Siemon's RS series cable management rack system combines a 2.1 meter (7 ft.) x 19 inch black rack with cable management accessories to provide a complete cable management solution. Ideal for all size installations, the rack features fully usable 45 RMS capacity.



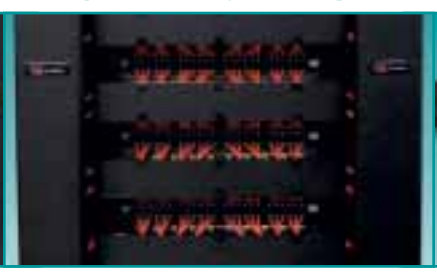
1. **Cable Tray Compatibility —** Header bars incorporate unique slotted holes for securing cable trays routed perpendicular to or parallel with RS racks
2. **Modular Management —** Mounting holes for twist-lock cable managers are located in many positions on the front, side, back, and within channel for maximum flexibility
3. **Anchoring —** Mounting holes provided for anchoring rack to floor
4. **Modular Power —** An optional 1.2m (4 ft.) power strip is available and mounts directly to rear of rack for providing power to active electronics mounted in rack
5. **Twist-Lock Cable Managers —** High capacity twist-lock cable managers lock into place quickly without use of screws or mounting tools and can be easily located in a wide range of mounting holes to provide customized cable management

High Capacity Side Rails



76mm (3 in.) x 152mm (6 in.) vertical side rail channels on rack provide large area for routing high volumes of horizontal or backbone cables.

Complete Management System



Fully comprehensive cable management can be created using Siemon's new Vertical Patching Channel *(page 6.6)* and RS Series Horizontal Cable Managers *(page 6.5)*.

Optional Vertical Cable Channels

Optional vertical cable management channels allow a high volume of patch cords to be routed between two racks or within a single rack *(see page 6.7)*.

RELATED PRODUCTS RS Series Horizontal Cable Managers page 6.5, Vertical Patching Channel pages 6.6 – 6.7, Vertical Cable Managers page 6.7, Rack Accessories page 6.8

RS RACK SYSTEM

FOCUS

Part #	Description
RS-07	2.1m x 0.48m (7 ft. x 19 in.) aluminum cable management rack system. Includes: rack assembly hardware, 10 high-capacity cable managers, 10 hook and loop cable managers, grommets, and ground lug *height: 2.1m (7 ft.),* *width: 609.6mm (24 in.),* *depth: 457.2mm (18 in.)*

Add "-S" for steel

Note: Aluminum racks are intended for use with connecting hardware and cable managers only. For mounting of active equipment, steel racks are recommended.

See Cable Management Capacity Table on page 6.0

EXTENDED DEPTH RS RACK SYSTEM

Siemon has developed a rack for managing extra large volumes of horizontal cables. The new extended depth rack features vertical channels which are 0.37m (14.5 in.) deep. These channels include multiple mounting holes allowing the user to configure Siemon's twist-lock hook and loop cable managers for properly managing large individual bundles of cables. The footers have also been designed to retain the 0.61m (24 in.) footprint.

Part #	Description
RS-07E	2.1m x 0.48m (7 ft. x 19 in.) aluminum extra-deep (0.37m [14.5 in]) cable management rack system. Includes rack assembly hardware, 19 high-capacity cable managers, 10 hook and loop managers, grommets and ground lug. *height: 2.1m (7 ft.),* *width: 609.6mm (24 in.),* *depth: 609.6mm (24 in.)*

See Cable Management Capacity Table on page 6.0

RS SERIES HORIZONTAL CABLE MANAGERS

NEW

Siemon's new RS series cable managers are designed for use with Siemon's new vertical patching channel *(see pages 6.6 – 6.7)*. The hinged cover extends across the vertical channels to fully conceal patch cords into the VPC.

RS-RWM-2

RS-RWM-2DS

Part #	Description
RS-RWM-2	Single-sided 19 in. cable manager, 2 RMS *height: 88.9mm (3.5 in.),* *width: 0.48m (19 in.),* *depth: 101.6mm (4 in.)*
RS-RWM-2DS	Double-sided 19 in. cable manager, 2 RMS *height: 88.9mm (3.5 in.),* *0.48m (19 in.),* *depth: 203.2mm (8 in.)*

See Cable Management Capacity Table on page 6.0

VPC VERTICAL PATCHING CHANNEL

NEW

Siemon's new Vertical Patching Channel (VPC) sets a new standard for cable management systems by improving appearance, accessibility and cable routing on both the front and rear of the rack. Designed as a stand-alone manager to be mounted between adjacent racks the VPC features a full length, hinged door on the front to conceal patch cord routing. The rear manager is open for ready routing of large bundles of horizontal/backbone cabling. With its easy access design, high capacity and professional appearance, the VPC is ideal for both installers and end users alike.

1. **Cable Access Holes —** Allow cables to route easily between the front and rear of the channel
2. **Rounded Managers —** All of the cable routing points on the vertical channels are rounded to allow patch cords to seamlessly enter and exit the managers without risk of cable deformation
3. **Full Length Hinged Covers —** With an easy turn of a single knob, the full-length cover hinges in either direction to provide access to the entire vertical channel
4. **Open Compatibility —** Mounting holes on side of VPC provides compatibility with common 76mm and 152mm (3 in. and 6 in.) industry racking systems including Siemon's RS-07 and XLBET frames as well as Siemon's extended depth RS rack system
5. **Add-on Management —** Optional quarter-turn cable managers can be mounted within vertical channels for additional management such as segregation of application specific cords

Hinged Managers

Rear channel retainers can be hinged in either direction and are removable enabling relocation to any position along the rear vertical channel.

Side Stackable

The VPC is fully side stackable for use in ultra high density environments. The doors can be individually opened 60° or adjacent doors can be manually opened for full access.

High Capacity

The 6 in. x 6 in. front vertical managers feature 36 sq. in. of space providing capacity for approximately (350) category 6 patch cords to meet the rigorous demands of today's high density environments. The rear channel features the same capacity with an open design to facilitate easy routing to termination fields.

VPC VERTICAL PATCHING CHANNEL

FOCUS NEW

Part #	Description
VPC-6	2.1m x 152mm (7 ft. x 6 in.) vertical patching channel. Includes front cover, 6 rear channel retainers and mounting hardware

height: 2.1m (7.0 ft.),
width: 152.4mm (6.0 in.),
depth: 300.8m (12.0 in.)

RS-07 shown with two VPC-6's

RELATED PRODUCTS

RS Rack System pages 6.4 – 6.5,
Extended Depth RS Rack System page 6.5,
RS Series Horizontal Cable Managers page 6.5,
XLBET Frames pages 10.8 – 10.9

Note: 1 RMS = 44.5mm (1.75 in.)

See Cable Management Capacity Table on page 6.0

VERTICAL CABLE MANAGEMENT CHANNELS

PATENTED

Siemon's single-sided vertical cable management channels provide an economic solution for managing large cable bundles between adjacent racks. They feature an open design with six easily configured dual-hinge managers (additional managers available separately) that enable customized management of patch cords. Cable access holes allow cords to be routed between the front and rear of the channel. Mounting holes within the channel accommodate Siemon's quarter-turn cable managers (p/n RS-CH) and quarter-turn hook and loop cable managers (p/n RS-VCM) for further customization of cable routing. The channels are available in both 76mm (3 in.) and 152mm (6 in.) depths for use with standard 76mm (3 in.) racks or 152mm (6 in.) deep cable management racks such as Siemon's RS-07. Alternately, the 76mm (3 in.) deep channels can be stacked back to back with the deeper cable management racks to optimize management of cables on both sides of the channel.

RS-CNL . . . . . .
2.1m x 152mm (7 ft. x 6 in.) vertical cable management channel for mounting between 152mm (6 in.) deep racks (includes mounting hardware)

RS-CNL3 . . . . . .
2.1m x 76mm (7 ft. x 3 in.) vertical cable management channel for mounting between 76mm (3 in.) deep racks (includes mounting hardware)

Two RS-07's shown with three RS-CNL's

RELATED PRODUCTS

RS Rack System pages 6.4 – 6.5,
Extended Depth RS Rack System page 6.5,
XLBET Frames pages 10.8 – 10.9

See Cable Management Capacity Table on page 6.0

RACK ACCESSORIES

Siemon offers a full range of accessories to allow further customization of Siemon racking systems.

RS-CH. . . . . .
Box of 10 quarter-turn cable managers

RS-VCM. . . . . .
Box of 10 quarter-turn hook and loop cable managers [includes roll of 10 457.2mm (18 in.) hook and loop black cable managers and 10 quarter-turn mounting clips]

RS-P04 . . . . . .
1.2m (4 ft.) power strip for rear of rack, ten 15A outlets resettable fuse (includes mounting hardware)

PATENTED

RS-CNL-MGR. . . . . .
Box of 10 channel retainers for use with VPC, RS-CNL and RS-CNL3

SCREW-1224. . . . . .
#12-24 Slotted head screws with washers, black, bag of 200

RS-TRAY . . . . . .
Rack top cable tray [includes roll of 9 black 457.2mm (18 in.) hook and loop cable managers and 9 quarter-turn mounting clips]

Note: Not compatible with Siemon's extended depth RS series racks.

RS-TRAY mounted on top of RS-07

WM SERIES HORIZONTAL CABLE MANAGERS

FOCUS

The WM series cable managers provide increased strength and do not interfere with panels mounted above or below. They are a popular and economical solution for providing a clean and simple means of organizing small-to-large bundles of cables and patch cords.

WM-143-5

WM-144-5

WM-145-5

Part #	Description	RMS
WM-143-5	Horizontal cable manager with five S143 hangers	1
WM-144-5	Horizontal cable manager with five S144 hangers	2
WM-145-5	Horizontal cable manager with five S145 hangers	2

Note: 1 RMS = 44.5mm (1.75 in.)

See Cable Management Capacity Table on page 6.0

RWM SERIES HORIZONTAL CABLE MANAGERS

The multi-access horizontal cable managers are designed to provide both front and rear cable management in a compact, 1 RMS space The managers feature high capacity slots for entering and exiting cables, removable covers to conceal patch cords, and an innovative cable retention design to prevent patch cords from falling out when the covers are removed. The rear of the RWM-1 features attachments for using Siemon's hook and loop cable managers *(see page 6.13)*.

RWM-1

RWM-1DS

Part #	Description
RWM-1	Single-sided horizontal cable manager with cover
RWM-1DS	Double-sided horizontal cable manager with covers

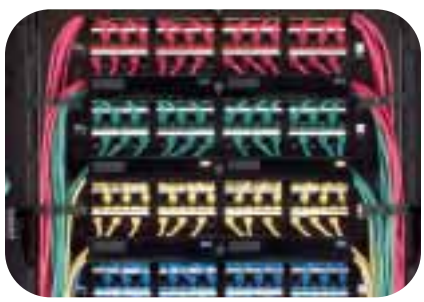
Note: 1 RMS = 44.5mm (1.75 in.)

See Cable Management Capacity Table on page 6.0

S110®/S210® HORIZONTAL CABLE MANAGERS

FOCUS

The S110/S210 cable managers provide an economical, superior cable management solution in a compact space. Their 1 RMS and 2 RMS size and large capacity provide excellent cable management for 19 inch rack mount installations.



Covers are included with the cable managers to provide a clean patching appearance.

Part #	Description	RMS
S110-RWM-01	S110/S210 horizontal cable manager with covers, black	1
S110-RWM-02	S110/S210 horizontal cable manager with covers, white	1
S110-RWM2-01	S110/S210 horizontal cable manager with covers, black	2
S110-RWM2-02	S110/S210 horizontal cable manager with covers, white	2

Note: 1 RMS = 44.5mm (1.75 in.)

See Cable Management Capacity Table on page 6.0

PANEL ACCESS HINGE

FOCUS

Siemon's panel access hinge allows 2 RMS wall or rack-mounted 19 inch patch panels to rotate forward, providing access to the termination field on the back of panels. Once mounted, the panel can be hinged in either the 90° or 120° position to facilitate the use of a single-position or multi-pair impact tool. The integrated 1 RMS cable manager has removable cable managers to prevent interference when hinging stacked units. This innovative design is compatible with 19 inch free standing racks, wall-mount racks and stand-off brackets.

Part #	Description
PH-3	3 RMS panel access hinge includes integral 1 RMS panel with 5 removable cable managers and accepts one 2 RMS or two 1 RMS patch panels

PH-3 closed

PH-3 hinged open

Note: 1 RMS = 44.5mm (1.75 in.)

See Cable Management Capacity Table on page 6.0

RACK HINGE

Siemon rack hinges are designed to allow rack mounted patch panels to swing out (horizontally) from the rack. The hinges are available in 2 and 3 RMS sizes which can be combined to mount 4 and 6 RMS panels. The 2 RMS hinge is capable of mounting one 2 RMS or two 1 RMS panels.

Part #	Description	RMS
RHNG-2	Rack hinge	2
RHNG-3	Rack hinge	3

Note: 1 RMS = 44.5mm (1.75 in.)

19 TO 23 INCH PANEL ADAPTERS

These adapters allow 19 inch panels to be mounted to 23 inch racks. The adapters are designed so the panels fit flush with other 23 inch products when mounted (screws included). They can be end-stacked to support larger panel sizes.

Part #	Description
1923-(X)	19 to 23 inch panel adapter (set of 2)

Use (X) to specify adapter size: 2 = 2 RMS, 3 = 3 RMS, 4 = 4 RMS, 5 = 5 RMS, 6 = 6 RMS
Note: 1 RMS = 44.5mm (1.75 in.)

DOUBLE-SIDED HEAVY DUTY 19 INCH EQUIPMENT SHELF

Siemon's double-sided 19 inch equipment shelf is designed to support heavy equipment loads up to 68.1 kg (150 lbs.). The shelf is designed for use with any 152mm (6 in.) deep rack and is secured to the front and rear of the rack channels. Shelf accommodates equipment up to 432mm (17 in.) wide.

Part #	Description
SH-D19-01	19 inch double-sided equipment shelf for 152mm (6 in.) deep racks, solid, 3 RMS *height: 133mm (5.25 in.), width: 483mm (19 in.), depth: 457mm (18 in.)*

Note: 1 RMS = 44.5mm (1.75 in.)

SINGLE-SIDED 19 INCH EQUIPMENT SHELVES

These 19 inch single-sided solid or vented equipment shelves are ideal for mounting telecommunications devices in 19 inch racks or cabinets. The sturdy 2.5mm (0.1 in.) thick aluminum construction supports up to 22.7kg (50 lbs.). The vented design features air flow perforations to provide additional ventilation for telecommunications equipment. Shelves accommodate equipment up to 438mm (17.25 in.) wide.

SH-S19-01

SH-S19V-01

Part #	Description
SH-S19-01	19 inch single-sided equipment shelf, solid, 3 RMS *height: 133mm (5.25 in.), width: 483mm (19 in.), depth: 381mm (15 in.)*
SH-S19V-01	19 inch single-sided equipment shelf, vented, 3 RMS *height: 133mm (5.25 in.), width: 483mm (19 in.), depth: 381mm (15 in.)*

Note: 1 RMS = 44.5mm (1.75 in.)

MAX® ZONE UNIT ENCLOSURE

The MAX zone unit enclosure is an economical, high-density solution designed for use with low-profile sub-floor applications including Flexspace Cablefloor® and Haworth Nexus™. Enclosures are available to accommodate up to 48 ports of media using flat MAX series modules and feature a 44.5 x 101.6mm (1.8 x 4.08 in.) opening for cable entry. Cable tie anchor points (hook and loop cable managers included) and fiber managers are conveniently located within the enclosure for proper routing and securing of cabling.

The enclosures are constructed of durable 16 gauge steel and feature a simple two piece design with a base and cover secured by four #6-32 screws. There are four mounting holes in the base for securing the enclosure to a mounting surface. The 48-port version includes internal support posts to provide additional structural support.

Part #	Description
ZU-MX-48	48-port MAX zone unit enclosure *height: 44.5mm (1.8 in.), width: 254.0mm (10 in.), depth: 377.8mm (14.9 in.)*
ZU-MX-24-0515*	24-port MAX zone unit enclosure *height: 44.5mm (1.8 in.), width: 114.3mm (4.5 in.), depth: 377.8mm (14.9 in.)*

**0515 denotes approximate width and depth in inches.*

RELATED PRODUCTS MAX Modules pages 1.4 – 1.11

STAND-OFF BRACKETS

FOCUS

Siemon hinged stand-off brackets can be mounted to a wall with the hinge on either side for convenient access to the back of the panel. The sides of the brackets will accept our S144 or S145 cable hangers *(see next page)* for external cable management. The brackets accept any combination of Siemon patch panels and rack-mount cable management. Mounting hardware included.

Part #	RMS
SBH-2	2
SBH-3	3
SBH-4	4
SBH-6*	6

height: see RMS information, width: 483mm (19 in.), depth: 152mm (6 in.)
**Add -2 for (3) independent 2 RMS hinges (instead of a single 6 RMS hinge).*
Note: 1 RMS = 44.5mm (1.75 in.)

REAR CABLE MANAGERS

Siemon offers rear cable management products to encompass a wide range of rack sizes and cable routing methods. They provide strain relief anchor points and organization of horizontal cables being routed to the back of a patch panel.

WM-3A AND WM-6A

The WM-3A and WM-6A feature an innovative, angled "V-shaped" design which provides direct and smooth routing of cables to the patch panel from either above or below. There are cable eyelets for securing cable ties (included) and cutouts for inserting our hook and loop cable managers (available separately). The designs keep the wire manager at an adequate distance from the panel to provide proper space to route cables.

WM-BK

The WM-BK can be mounted to the back side of a double-sided 19 inch rack, or can be mounted between a patch panel and the front face of the rack, using the same screws that hold the patch panel to the rack and the hex nuts provided.

ANGLED REAR CABLE MANAGERS

WM-3A . . . . . Angled rear cable manager for 76mm (3 in.) channel racks
Includes eight 190mm (7.5 in.) cable ties and mounting hardware.

WM-6A . . . . . Angled rear cable manager for 152mm (6 in.) channel racks
Includes eight 190mm (7.5 in.) cable ties and mounting hardware.

FLAT REAR CABLE MANAGERS

WM-BK . . . . . Rear cable manager with mounting screws and hex nuts

RACK-IT™

Siemon's Rack-IT vertical mounting brackets can be wall mounted to accommodate a wide range of rack mount equipment. The brackets can also mount any combination of Siemon patch panels and rack-mount cable management. Slotted openings allow mounting of network equipment at various depths.

Part #	Description
HC-RI-5	Vertical mounting bracket, 5 RMS

Note: 1 RMS = 44.5mm (1.75 in.)

REUSABLE HOOK AND LOOP CABLE MANAGERS

These cable managers are simple, yet extremely effective when used to bundle cables. To accommodate different sized bundles, they are available in 152mm (6 in.), 305mm (12 in.), or 457mm (18 in.) lengths. They can be easily loosened and removed to service cable and then tightened and reinstalled when the cables are rebundled. The handy dispenser rolls/spools are neat, convenient and quick. Adjustable tension prevents "over-cinched" conditions. A mounting hole in each hook and loop manager enables the manager to be mounted to a wall or rack.

Wrap-around cable managers offer a simplified approach to cable management... secure it to a single cable and then wrap it around the entire bundle.

Part#	Description
VCM-25-(XX)-(XX)	Roll of 25 cable managers
VCM-250-(XX)-(XX)	Spool of 250 cable managers

Technical Tip!
Hook and loop cable managers are recommended as an alternate to plastic cable ties for the reduction of alien crosstalk in 10G 6 UTP installations.

Hook and Loop cable managers have a large head for added strength and a mounting hole is included for securing to a wall or rack.

Use 1st (XX) to specify length:
06 = 152mm (6 in.), holds 51mm (2 in.) diameter cable bundle
12 = 305mm (12 in.), holds 102mm (4 in.) diameter cable bundle
18 = 457mm (18 in.), holds 153mm (6 in.) diameter cable bundle
Use 2nd (XX) to specify color: 01 = black, 02 = white, 03 = red, 04 = gray, 05 = yellow, 06 = blue

See Cable Management Capacity Table on page 6.0

CABLE HANGERS

The cable hanger design features structural integrity and sleek appearance. These cable hangers are ideal for routing small to very large quantities of cables. The durable plastic design ensures reliability for any application.

Part #	Height	Width	Depth
S143*	44mm (1.73 in.)	38mm (1.50 in.)	89mm (3.35 in.)
S144*	87mm (3.43 in.)	57mm (2.25 in.)	74mm (2.90 in.)
S145*	87mm (3.43 in.)	57mm (2.25 in.)	125mm (4.93 in.)
S146	151mm (5.95 in.)	63mm (2.50 in.)	130mm (5.15 in.)
S147	254mm (10.00 in.)	63mm (2.50 in.)	130mm (5.15 in.)

**Add "-A" for optional adhesive backing.*

See Cable Management Capacity Table on page 6.0




	INDUSTRIAL MAX® OUTLETS (pages 7.2 – 7.3)	INDUSTRIAL MAX PLUGS (page 7.3)	INDUSTRIAL PATCH CORDS (page 7.4)	INDUSTRIAL LC FIBER (pages 7.6 – 7.7)
Media Types	UTP, Screened	UTP, Screened	UTP, Screened	Fiber
Connector Type	RJ-45	RJ-45	RJ-45	LC
Performance Grade	5e 6	5e	5e 6	Multimode, Singlemode

The International Protection (IP) code defines an interfaces resistance to both liquid and solid particles. Siemon's Industrial MAX connector features an IP66/IP67 rated seal ensuring continued operation in today's most demanding environments.

IP CODE

INDEX FIGURE	DEGREE OF PROTECTION	
0	No Protection	No protection against accidental contact, no protection against foreign bodies
1	Protection against large foreign bodies	Protection against contact with a large area by hand and against large solid bodies Ø> 50mm
2	Protection against medium sized foreign bodies	Protection against contact with fingers, protection against small foreign solid bodies with Ø> 12mm
3	Protection against small solid foreign bodies	Protection against tools, wires, or similar objects with 2.5 mm protection against small foreign bodies with Ø>2.5 mm
4	Protection against grainshaped foreign bodies	Protection against foreign bodies with Ø>1mm
5	Protection against deposits of dust	Full protection against contact. Protection against interior equipment damage due to dust deposits
6	Protection against ingress of dust	Total protection against contact and protection against penetration of dust.

DEGREE OF PROTECTION		INDEX FIGURE
No Protection against water	No Protection	0
Protection against vertical water drips	Drip-Proof	1
Protection against water drips (up to a 15° angle)	Drip-Proof	2
Protection against water drips (up to a 60° angle)	Spray-Proof	3
Protection against splashed water from all directions	Spray-Proof	4
Protection against splashed water (out of a nozzle) from all directions	Hose-Proof	5
Protection against temporary flooding	Protected against flooding	6
Protected against temporary immersion	Protected against immersion	7
Protected against water pressure	Water-tight	8

SECTION CONTENTS

SIEMON-CHINA

Established in 1995, Siemon China in Beijing was Siemon's first China office. Steady growth in China, built on Beijing's trailblazing efforts, lead to offices in Chengdu, Guangzhou and the AP hub in Shanghai.

Siemon China offers dedicated technical support, customer service, sales and marketing throughout the world's most populous nation, both through internal staff and an extensive certified installer group. They also provide excellent media coverage throughout China. These efforts have gone far to promote Siemon's well-deserved image as the territories premier supplier of total cabling solutions.

Siemon China stands in this seminal market as a shining example of the Siemon permanent commitment to quality, service, innovation and value.

西蒙网络布线解决方案是您事业成功的基石

INDUSTRIAL MAX® 6 CONNECTIVITY

Siemon is well-known for its industry leading category 6 products. Now those same high performance products are available with our patent-pending Industrial MAX housings. Industrial MAX 6 outlets and modular patch cords provide an IP66/IP67-rated seal, protecting plug and jack contacts from dust, moisture, vibration, and common cleaning chemicals. The Industrial MAX 6 solution is ideal for protecting valuable connections in laboratory environments, hospitals, food processing plants and other harsh environments.

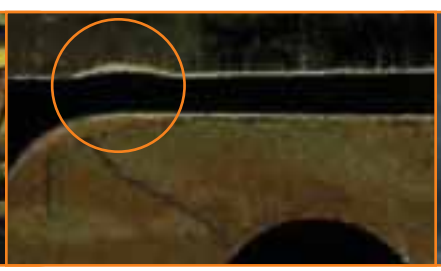
Pyramid Wire Entry System on S310® blocks separates paired conductors when lacing cables to simplify and reduce installation time.

1. **Standardized Interface —** The Industrial MAX Connector has been recognized by the Open DeviceNet Vendor Association (ODVA), TIA/EIA TR 42.9 and IEC PAS 61076-3-111
2. **Easy Termination —** The UTP Industrial MAX outlet utilizes a standard 110 tool for quick and easy punch-down termination
3. **Universal Wiring —** Each outlet is compatible with both T568A and T568B wiring options
4. **Ensures Proper Seal —** Bayonet-style mating ensures proper plug depth into the outlet and an IP66/IP67 rated seal

Meets Harsh Demands of the Environment

Specially designed Industrial MAX 6 connectors can withstand humidity, dust and vibration.

Vibration Causes Pitting In Typical Outlets



Seen under a microscope after exposure to extreme vibration, contact between a typical modular plug and outlet can pit the contact pins, causing intermittent transmission problems.

Humidity Affects Typical Outlets

Humidity corrodes contact pins inside typical outlets. Repeated exposure can eventually destroy the contact pins, rendering the outlet unusable. The Industrial MAX outlet's special housing prevents this corrosion.

INDUSTRIAL MAX® 6 OUTLETS

FOCUS PATENTED 6

The Industrial MAX outlet features an unshielded (UTP) category 6 MAX module housed in a protective shell. The outlet's outer housing is made of durable, chemical-resistant, industrial-grade thermoplastic and features Siemon's patent-pending bayonet-style mating design. Category 6 performance is guaranteed in harsh environments.

The industrial connector's bayonet-style mating prevents over-tightening which could damage contact pins inside the outlet or under-tightening which prevents a proper seal.

Part #	Description
X6	Category 6 UTP, industrial outlet, T568A/B
X6S	Category 6 Screened, industrial outlet, T568A/B

INDUSTRIAL MAX 5e OUTLETS

FOCUS PATENTED 5e

The Industrial MAX outlet features a category 5e MAX module housed in a protective shell. The outlet's outer housing is made of durable, chemical-resistant, industrial-grade thermoplastic and features Siemon's patent-pending bayonet-style mating design. Guaranteed category 5e performance to 160 MHz* even in the most punishing environments.

Part #	Description
X5	Category 5e UTP, industrial outlet, T568A/B
X5S	Category 5e Screened, industrial outlet, T568A/B
X5SM	Category 5e Screened, industrial outlet, metal housing, T568A/B *(screened only)*

**Performance from 100 – 160 MHz based upon extrapolated TIA/EIA limits.*

INDUSTRIAL MAX 5e PLUGS

FOCUS PATENTED 5e

The Industrial MAX Plug features a category 5e modular plug contained in Siemon's industrial-grade housing with patent-pending bayonet-style mating design. The plug can be terminated in the field, allowing custom lengths to be assembled quickly on site in the event a cable is cut or damaged. It terminates twisted-pair cable with 22 – 26 AWG (0.64 – 0.40mm) solid or 7-strand conductors with an insulated conductor diameter of 0.86 – 0.99mm (0.034 – 0.039 in.).

Part #	Description
XP85	Category 5e UTP, industrial plug, 8-position, 8-contacts
XP85S	Category 5e Screened, industrial plug, 8-position, 8-contacts
XP85SM	Category 5e Screened, metal industrial plug, 8-position, 8-contacts

INDUSTRIAL MAX® 6 MODULAR PATCH CORDS

FOCUS PATENTED

Industrial modular patch cords combine the high performance and quality that Siemon cords are known for with a protective industrial-grade plug housing. These assemblies feature standard MC® 6 cordage with a MC 6 plug on one end and an industrial plug on the other.

Part #	Description
XC6-(XX)	Category 6 UTP, industrial plug-to-industrial plug
XC6-(XX)-B05	Category 6 UTP, industrial plug-to-modular RJ-45 plug, yellow boot

Use (XX) to specify length: 03 = 0.9m (3 ft.), 05 = 1.5m (5 ft.), 07 = 2.1m (7 ft.), 10 = 3.1m (10 ft.), 15 = 4.6m (15 ft.)

INDUSTRIAL MAX 5e PATCH CORDS

FOCUS PATENTED

Designed to withstand the rigors of a factory floor environment, our industrial category 5e stranded cordage is petroleum and UV resistant, is not effected by common chemicals and water, operates in a wider temperature range, and provides a longer flex life than normal cords.

A variety of cord options are available to meet a variety of customer needs — UTP, screened category 5e industrial plug to standard RJ-45, and more. Choose the industrial modular cord that best suits your needs for a complete end-to-end Siemon channel solution.

Part #	Description
XC5-(XX)	Category 5e UTP, industrial plug-to-industrial plug
XC5-(XX)-B05	Category 5e UTP, industrial plug-to-modular RJ-45 plug, yellow boot
XC5S-(XX)	Category 5e Screened, industrial plug-to-industrial plug
XC5SM-(XX)	Category 5e Screened, metal industrial plug-to-metal industrial plug
XC5S-(XX)-B05	Category 5e Screened, industrial plug-to-modular RJ-45 plug, yellow boot
XC5SM-(XX)-B05	Category 5e Screened, metal industrial plug-to-modular RJ-45 plug, yellow boot

Use (XX) to specify length: 03 = 0.9m (3 ft.), 05 = 1.5m (5 ft.), 07 = 2.1m (7 ft.), 10 = 3.1m (10 ft.), 15 = 4.6m (15 ft.), 20 = 6.1m (20 ft.)

INDUSTRIAL MAX DUST CAPS

The Industrial MAX dust caps are the ideal way to protect your investment in your industrial cabling system. Outlet dust caps can be used to protect unused outlets or to seal an outlet during wash down periods when the outlet and plug may be disconnected. Plug dust caps protect Industrial MAX patch cords from exposure to elements or accidental damage when not mated to an outlet.

Dust caps are constructed of industrial-grade thermoplastic or robust zinc die cast metal for superior protection and durability. Additionally, outlet and plug dust caps feature a retention chain, which prevents them from being misplaced when not in use.

XP-CAP
Industrial plug dust cap with retention chain

X-CAP
Industrial outlet dust cap with retention chain

XPM-CAP
Metal industrial plug dust cap with retention chain

XM-CAP
Metal industrial outlet dust cap with retention chain

INDUSTRIAL SURFACE MOUNT BOX

PATENT PENDING

The Siemon Industrial Surface Mount Box (IBOX) mounts either Siemon copper or fiber industrial outlets. Boxes provide an IP66/IP67 (NEMA 4X) seal and can be mounted on virtually any flat surface. Available in 1, 2, 3, and 4-port versions. Compression fittings provided for cable entry.

X-IBOX-01 . . . . . .

Industrial surface mount box, 1-port, supplied with 1 cable entry compression fitting

X-IBOX-02 . . . . . .

Industrial surface mount box, 2-port, supplied with 2 cable entry compression fittings

X-IBOX-03 . . . . . .

Industrial surface mount box, 3-port, supplied with 3 cable entry compression fittings

X-IBOX-04 . . . . . .

Industrial surface mount box, 4-port, supplied with 4 cable entry compression fittings

Technical Tip!
Contact Technical Support for punch tool to create industrial knockouts for custom mounting.

INDUSTRIAL MAX® STAINLESS STEEL FACEPLATES

FOCUS

Mount Siemon's Industrial MAX outlets into these stainless steel faceplates for a protective seal from moisture and debris. The faceplates are available in 1-, 2- and 4-port options with a rear sealing gasket and carry an IP44 rating.

XFP-S-01-SS . . . . . .

Single gang faceplate, 1-port, stainless steel

XFP-S-02-SS . . . . . .

Single gang faceplate, 2-port, stainless steel

XFP-D-04-SS . . . . . .

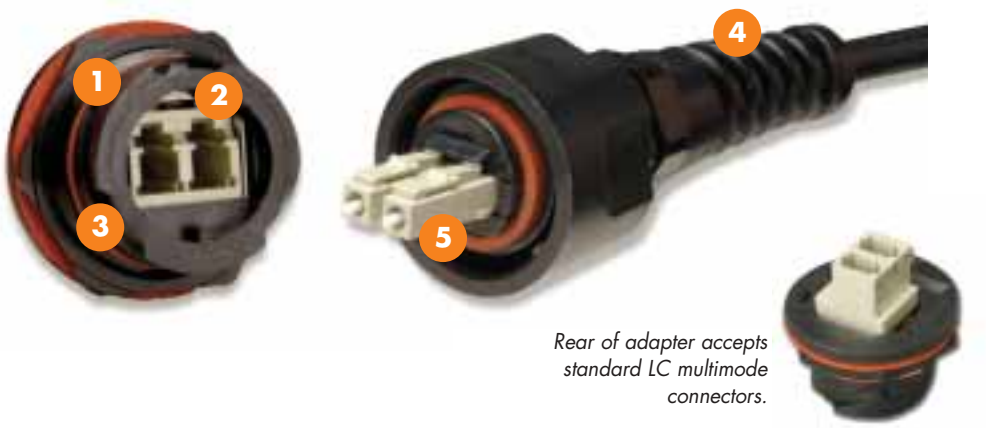
Double gang faceplate, 4-port, stainless steel

Faceplates include mounting screws with sealed screw head.

INDUSTRIAL LC FIBER CONNECTIVITY

Introducing another first from Siemon — the Industrial LC Fiber system. The Siemon Industrial LC Fiber solution provides a robust fiber connection with an IP66/FP67-rated seal and is ideal for protecting valuable connections in laboratory environments, hospitals, food processing plants and other harsh environments.

The Siemon Industrial Fiber solution is ideal for installations requiring extended distances (up to 300 meters), in close proximity to heavy sources of EMI, or where fiber active equipment is used.



Rear of adapter accepts standard LC multimode connectors.

1. **Robust Design —** Protects fiber connections in virtually any harsh environment
2. **High Performance —** Meets ANSI/TIA/EIA-568-B.3, ISO/IEC 11801 Ed 2.0, and Siemon LightSystem® specifications for multimode components
3. **Proper Seal —** Bayonet-style mating ensures proper fiber alignment and an IP66/IP67 rated seal
4. **Specialized Bend Relief —** Compression fitting provides a superior rear seal and ensures fiber meet minimum bend radius requirements
5. **Field-Termination —** Plug includes two industrial qualified multimode LC connectors that accepts 2 strand, round, breakout style fiber optic cable

Precision Performance

R&D labs develop, design and implement rigorous testing programs using sophisticated instrumentation. The Industrial LC provides reliability with leading edge technology for applications where highly accurate performance is critical.

Robust and Reliable

Industrial Fiber connections help to streamline operations, improve product availability, and reduce costs in manufacturing environments.

Meets Harsh Demands of the Environment

The Industrial LC connector is ideal in areas where chemicals, corrosive gases and liquids are commonplace.

INDUSTRIAL LC FIBER PLUG AND OUTLET

FOCUS PATENT PENDING

Part #	Description
XPLC2-MM	Industrial LC fiber plug, multimode, duplex. Includes two multimode LC connectors
XLC-MM	Industrial LC fiber adapter, multimode, duplex
XPM-CAP	Industrial LC plug dust cap with chain
X-CAP	Industrial outlet dust cap with chain

Note: Industrial LC fiber plug accepts 2 strand, round, breakout style fiber optic cable with O.D. ranges from 5mm – 8mm with two 2.4mm – 3.0mm jacketed subunits.

FIELD-INSTALLABLE LC FIBER CONNECTOR

FOCUS

Siemon multimode LC buffered connectors have been qualified for use in Siemon's industrial fiber system. Use these connectors to terminate 62.5/125 or 50/125 multimode fiber and plug into the rear of the Industrial LC outlet.

Part #	Description
FC1-LC-MM-B80	LC simplex connector, multimode, buffered fiber beige boot
FC2-LC-MM-J80	LC duplex connector, multimode, jacketed fiber beige boot

INDUSTRIAL LC FIBER UPGRADE KIT

Use the Industrial LC Upgrade Kit for Industrial LC connector terminations. The kit contains a dual LC polishing puck, which decreases polish time by 50%. Also included is a dual microscope adapter, which allows inspection of the fibers after the connector has been terminated.

Part #	Description
FTERM-XLC	Industrial LC fiber termination kit used in conjunction with FTERM-L2 includes dual polishing puck and microscope adapter
FT-LC2PUCK	Dual LC polishing puck
FT-MSLC2HEAD	Dual LC microscope adaptor

RELATED PRODUCTS *LightSpeed*® Termination Kit page 5.8




	MapIT™ HD® 6 PATCH PANELS (pages 8.4 – 8.5)	MapIT MC® 6 PATCH CORDS (page 8.5)	MapIT RIC FIBER ENCLOSURES (page 8.7)	MapIT FIBER JUMPERS (page 8.7)
Connectors	RJ-45	RJ-45	SC or LC Adapters	SC, LC, MT-RJ
Media Types	UTP	UTP	MMF, SMF	MMF, SMF
Category	6	6	Universal	LightSystem, XGLO
Capacity (Ports)	24, 48	N/A	SC = 96 LC = 192	N/A
Included Accessories	Rear Cable Managers, Designation Labels, Cable Ties, Mounting Hardware	N/A	Labels, Cable Ties, Rack-Mounting Hardware, Pre-installed Fiber Management Clips	N/A

SECTION CONTENTS

SIEMON-AUSTRALIA

In April 1993, Siemon opened its first Australian office in the beautiful city of Sydney. While the city may be best known for it's soaring opera house, it is a thriving technological and business center, with ever increasing IT needs and bandwidth hunger. It is upon these market needs that Siemon Australia has grown, expanding from Sydney to offices in Brisbane and Melbourne, and supporting New Zealand and Fiji.

Modeled after Siemon's worldwide commitment to provide and faithfully support the industry's premier structured cabling system, Siemon Australia offers a committed and enthusiastic technical and customer service group, as well as a substantial troop of Certified Installers, consultants and salespeople.

With the solid leadership of Siemon Australia, Siemon is on top down under!

Siemon Network Cabling Solutions,
The Foundation for Your Business Success

MapIT™ SYSTEM

MapIT is an intelligent cabling infrastructure that manages and protects your IT investment. It continuously monitors connections between the cabling system and active equipment in real time. This powerful combination of Siemon MapIT connecting hardware and iTRACS® software provides a whole new dimension of network management capability. Siemon provides all the necessary components required to configure your MapIT system. A simplified diagram is shown below with the various required system components. A wide variety of configurations are possible. Consult with an authorized MapIT installer on your particular installation needs.

- Monitor cabling connections in real time
- Discover and document cabling connections and active equipment
- Streamline troubleshooting and resolution of cabling/network issues
- Enhance security by monitoring/preventing network access of unauthorized devices
- Maximize network utilization via identification of unused ports
- Self-identification of network assets improves tracking and reporting

iTRACS Software

iTRACS is the software partner of the Siemon MapIT System.

CAD View

iTRACS software provides an easy to use graphical view of the network.

Accessibility

Software is accessible via the Web, LAN or PDA.

MapIT™ SYSTEM CABLES

MapIT system cables connect analyzers to other system elements such as patch panels, enclosures and sensor strips. Single ended cables can be cut to length eliminating excess slack. All single-ended assemblies are constructed using 26 AWG solid, non-plenum cable.

M-A-IDC

Part #	Description
M-A-IDC-(XX)	Single-ended analyzer cable; connects analyzer to patch panel or fiber enclosure
M-A-PCB-(XX)	Analyzer to PCB sensor strip cable
M-MA-IDC-(XX)	Single-ended mini-analyzer cable; connects mini-analyzer to to patch panel or fiber enclosure
M-MA-PCB-(XX)	Mini-analyzer to PCB sensor strip cable
M-LINK-(XX)	Link cable, connects master analyzer to link analyzer

Use (XX) to specify length: 03 = 0.91m (3 ft.), 07 = 2.13m (7 ft.),10 = 3.05m (10 ft.), 15 = 4.57m (15 ft.), 20 = 6.10m (20 ft.), 25 = 7.6m (25 ft.), 50 = 15.2m (50 ft.)

MapIT SENSOR STRIPS*

MapIT sensor strips are mounted to active equipment blades to track LAN connections.

PCBSS-24

Part #	Description
PCBSS-24-(XX)	Rigid PCB Sensor Strip for mounting above LAN equipment ports, 24-port version
Use (XX) to designate equipment type: 01 = Cisco 4000 and 6000, 48-port blades, 02 = Cisco 3500, 48-port blades, 03 = Cisco 3500, 24-port blades	
PCBSS-16-(XX)	Rigid PCB Sensor Strip for mounting above LAN equipment ports, 16-port version
Use (XX) to designate equipment type: 01 = Cisco 16-port GBIC blade	

**Other options may be available. Contact our Technical Support Department for more information.*

MapIT ANALYZERS

MapIT analyzers provide the link between the network cabling system and the iTRACS® software. They are available in multiple sizes and options to provide a cost-effective solution for any size installation.

M-A-1U

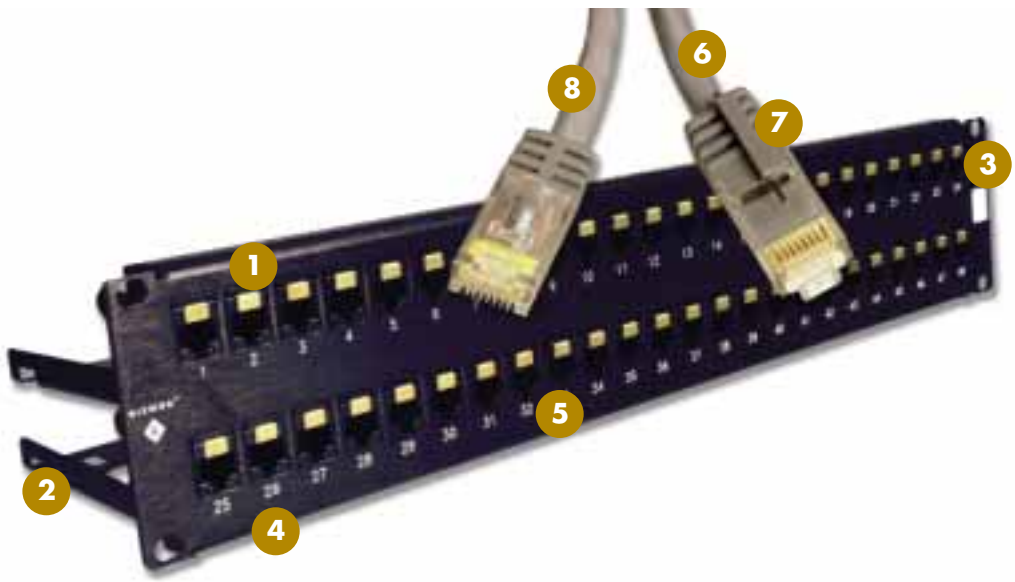
M-A-6U

Part #	Description
M-A-1U	MapIT 1U Master Analyzer, manages 240 ports/120 channels, 1 RMS
M-A-6U	MapIT 6U Master Analyzer, manages 480 ports/240 channels with expansion capabilities, 6 RMS
M-SA-1U	MapIT 1U Standalone Analyzer, manages 240 ports/120 channels, no expansion capabilities, 1 RMS
M-SA-6U	MapIT 6U Standalone Analyzer, manages 480 ports/240 channels, with expansion capabilities, 6 RMS
M-LA-1U	MapIT 1U Link Analyzer, manages 240 ports/120 channels, must be used with Master Analyzer, 1 RMS
M-LA-6U	MapIT 6U Link Analyzer, manages 480 ports/240 channels, must be used with Master Analyzer, 6 RMS
M-EC-6U	MapIT expansion card for 6U Master and Link analyzers, 240 port/120 channel capacity
M-MINI-1U	MapIT 1U Mini Analyzer, manages 128 ports/64 channel capacity, no expansion capabilities, 1 RMS

Note: 1 RMS = 44.5mm (1.75 in.)

SYSTEM 6® MapIT™ POWERED BY iTRACS®

Since launching System 6, the world's first category 6 solution in 1998, Siemon has continued to improve performance and functionality of the system. Siemon MapIT is the latest evolution of our most popular cabling system. MapIT is an intelligent infrastructure cabling system which manages and protects your IT investment. The system features iTRACS sensor technology embedded in HD® 6 patch panels and MC® 6 modular cords. When combined with iTRACS software, this powerful combination of products provides a whole new dimension of network management capability.



1. **"Intellitab" Sensor Pads —** Robust brass sensor pads feature 50 microinches of gold over nickel for long-term reliability and resistance to corrosion
2. **Rear Cable Manager —** Included to properly guide cables to point of termination
3. **Panel Identification —** Designation labels provided
4. **Versatility —** Can be configured for either interconnect or cross-connect applications
5. **Exceeds Category 6 —** Exceeds TIA/EIA and ISO/IEC component requirements for category 6
6. **Sensor Pin —** Spring loaded sensor pins ensure reliable connection within sensor pads and are accessible at the rear of the boot for test and mapping purposes
7. **Innovative Strain Relief —** Over-molded boots provide excellent plug to cable strain relief and retention of sensor pins
8. **Superior Cord Performance —** T568A/B patch cords exceed category 6 TIA/EIA patch cord component requirements

Simple I/O Connections

Versatile 110 style punch-down for analyzer I/O connections.

High Performance Patch Cords

Patented metallic isolator shields pairs inside plug for optimum NEXT performance.

High Density

Offset Pogo pin position optimized for stacked switch applications.

MapIT™ HD® 6 PATCH PANELS

PATENTED

MapIT HD 6 patch panels provide superior performance and quality with embedded iTRACS® sensor technology. Siemon MapIT panels feature robust "intellitab" sensor pads, constructed of brass with 50 microinches of gold over nickel plating on the contact surface. The entire panel, including sensor components, is guaranteed for 20 years when installed as part of a warranted System 6® installation. The rear of the panel features 110 style punch-down connections for termination of I/O and horizontal cables. This allows single-ended analyzer I/O connection cables to be cut to length in the field, reducing part numbers and enabling a cleaner, neater installation.

Part #	Description
M-HD6-24	MapIT HD 6 24-port panel, T568A/B, 1 RMS

M-HD6-48 . . . . . MapIT HD 6 48-port panel, T568A/B, 2 RMS

Panels include rear cable manager, designation labels, cable ties, and mounting hardware.
Note: 1 RMS = 44.5mm (1.75 in.)

MapIT MC® 6 PATCH CORDS

PATENTED

MapIT MC 6 modular patch cords retain all the critical elements of the MC 6 line: 100% transmission testing, superior NEXT performance and patented plug design. These advanced cords also feature patented iTRACS technology: a 9th wire and 50 microinch gold-plated sensor pins contained in a robust over-molded boot. This embedded sensor technology enables tracking of connections between patch panel and LAN equipment.

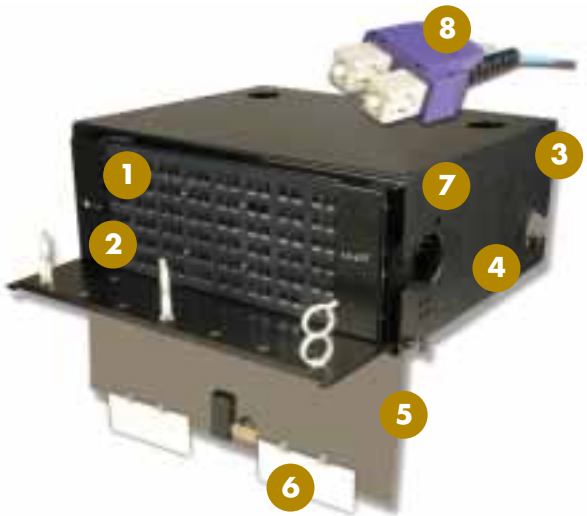
Part #	Description
M-MC6-(XX)-(XX)	MapIT MC 6 double-ended, 4-pair stranded modular cord, T568A/B, color matching jacket/boot

Use 1st (XX) to specify cord length: 03 = 0.91m (3 ft.), 05 = 1.52m (5 ft.), 07 = 2.13m (7 ft.), 10 = 3.05m (10 ft.), 15 = 4.57m (15 ft.), 20 = 6.10m (20 ft.)
Use 2nd (XX) to specify jacket/boot color: 04 = gray, 06 = blue

MapIT™ FIBER SYSTEMS POWERED BY iTRACS®

An enterprise's fiber backbone is the lifeblood of its business. A single bad connection can bring operations to a grinding halt. Siemon has partnered with iTRACS Corporation to create a fiber system with proactive management of critical fiber connections: Siemon MapIT, an intelligent cabling infrastructure which manages and protects your IT investment.

This powerful combination of high performance Siemon fiber hardware and iTRACS software provides a whole new level of network management capability.



1. **Pre-loaded Panels** – Panels are pre-loaded with a choice of SC or LC adapters
2. **High Capacity** – 96 SC ports or 192 LC ports
3. **Reliable Interface** – S110 Blocks provided for connections to analyzer I/O cables
4. **Professional Appearance** – Black anodized finish and rolled steel edges provide a durable, aesthetic appearance
5. **Quick-Release Hinges** – Spring loaded quick-release hinges enable easy removal of front and rear doors for complete access to fiber connections
6. **Enhanced Labeling** – Label virtually any port configuration with our hinged labels, which hang on the front door for optimum visibility. When the door is opened, labels flip down letting the label and corresponding ports be viewed together
7. **Rotating Grommets** – Protect fiber entering or exiting the enclosure
8. **Superior Performance** – Jumpers exceed TIA/EIA and ISO/IEC requirements

Removable Tray

The cable management tray is completely removable from the front or rear of the enclosure, allowing the entire tray to be moved to a work table for more convenient loading of pigtails and splice trays.

Single Finger Latch

Enclosures feature a single-finger latch on both front and rear doors. Included door locks prevent unauthorized access for enhanced security.

Robust Sensor Technology

MapIT enclosures and jumpers feature gold-plated sensor pads/pins for long term resistance to galvanic corrosion and contact wear.

MapIT™ RIC FIBER ENCLOSURES

PATENTED

Siemon MapIT fiber enclosures retain many of the most popular features of our RIC product line: superior labeling, sliding/removable tray, rotating grommets and removable plexiglas doors with locks.

Siemon MapIT panels also feature patented iTRACS® sensor technology, which can track connections between ports in real time when used as part of a complete Siemon MapIT system. Sensor pads feature a robust gold-plated surface and are covered for 20 years when installed as part of a warranted installation.

Part #	Description
M-RIC-SC96-01	MapIT 96-port RIC SC fiber enclosure, 4 RMS, black
M-RIC-LC192-01	MapIT 192-port RIC LC fiber enclosure, 4 RMS, black

Note: 1 RMS = 44.5mm (1.75 in.)

MapIT XGLO™ FIBER JUMPERS

10G ip™

XGLO jumpers are built to be the best. These assemblies are constructed with premium fiber that meets IEEE, IEC and TIA specifications for 10 Gigabit Ethernet serial transmission. These advanced cords are now available with patented iTRACS sensor technology — gold-plated sensor pins retained in robust molded connector clips. These jumpers enable tracking of port connections between MapIT fiber enclosures and LAN equipment.

MapIT XGLO MULTIMODE DUPLEX JUMPERS

M-J2-SCSC5L-(XX) . . . . . MapIT SC-SC duplex jumper, XGLO 50/125 multimode fiber
M-J2-LCLC5L-(XX) . . . . . MapIT LC-LC duplex jumper, XGLO 50/125 multimode fiber
M-J2-LCSC5L-(XX) . . . . . MapIT LC-SC duplex jumper, XGLO 50/125 multimode fiber
Use (XX) to specify length: 01 = 1m (3.3 ft.), 03 = 3m (9.8 ft.), 05 = 5m (16.4 ft.)

MapIT XGLO SINGLEMODE DUPLEX JUMPERS

M-J2-SCUSCUL-(XX) . . . . . MapIT SC-SC duplex jumper, XGLO singlemode fiber
M-J2-LCULCUL-(XX) . . . . . MapIT LC-LC duplex jumper, XGLO singlemode fiber
M-J2-LCUSCUL-(XX) . . . . . MapIT LC-SC duplex jumper, XGLO singlemode fiber
Use (XX) to specify length: 01 = 1m (3.3 ft.), 03 = 3m (9.8 ft.), 05 = 5m (16.4 ft.)

MapIT LIGHTSYSTEM® FIBER JUMPERS

PATENTED

MapIT LightSystem jumpers enable connections to active equipment featuring MT-RJ interfaces for Gigabit applications. The jumpers meet TIA/EIA and ISO/IRC requirements for both insertion loss and return loss.

MapIT LIGHTSYSTEM MULTIMODE DUPLEX JUMPERS

M-J2-MTSC(X)-(XX) . . . . . MapIT MTRJ-SC duplex jumper, multimode fiber
M-J2-MTLC(X)-(XX) . . . . . MapIT MTRJ-LC duplex jumper, multimode fiber

Use (X) to specify fiber type: blank = 62.5/125µm fiber, orange jacket;
5 = 50/125µm fiber, orange jacket
Use (XX) to specify length: 01 = 1m (3.3 ft.), 03 = 3m (9.8 ft.), 05 = 5m (16.4 ft.)




	S210® CONNECTION SYSTEM (pages 9.2 – 9.3)	S210 TOWER SYSTEM (pages 9.4 – 9.5)	S210 FIELD TERMINATED 19 INCH PANELS (pages 9.6 – 9.7)	VERTICALLY MOUNTED S210 BLOCKS (page 9.7)
Product Applications	High performance connectivity for telecommunications rooms or consolidation points.	Medium to high density applications requiring superior cable management.	Rack mounting of blocks eliminates need for separate wall fields and enables patching to active equipment.	Mounts on S89D brackets, ideal for category 6 system upgrades from S66 fields.
Mounting Options	Wall	Wall	19 Inch Rack	89D Bracket (Wall)
Capacity	64-192 Pair	192-320 Pair	64-192 Pair	32-48 Pair

SECTION CONTENTS

SIEMON-SINGAPORE

Located just minutes from Singapore's booming central business district and Changi International Airport, Siemon's Southeast Asia office is strategically situated both in physical location and economic presence. As the managing location for Singapore, India, Indonesia, Malaysia, Mauritius, Taiwan, Thailand, and The Philippines, Siemon SEA has grown significantly since its inception in 1995.

By continuously promoting end-to-end solutions and carrying Siemon's tradition of unparalleled support to the Asian market, they have established the brand as a premier total cabling solution. With a solid certified installer program, the well-trained Siemon SEA channel is growing right along with the region's explosive economy, earning significant inroads to Asia's global 500 companies.

Siemon Network Cabling Solutions, The Foundation for Your Business Success

Indonesia (Bahasa Indonesia):
Solusi Jaringan Kabel Siemon Adalah Dasar Bagi Kesuksesan Bisnis Anda

Philippines:
Siemon Network Cabling Solutions, Ang Pundasyon ng inyong Tagumpay sa Negosyo

Thailand/Thai:
ซีมอนเน็ตเวิร์คเคเบิลโซลูชั่น
รากฐานแห่งความสำเร็จของธุรกิจ

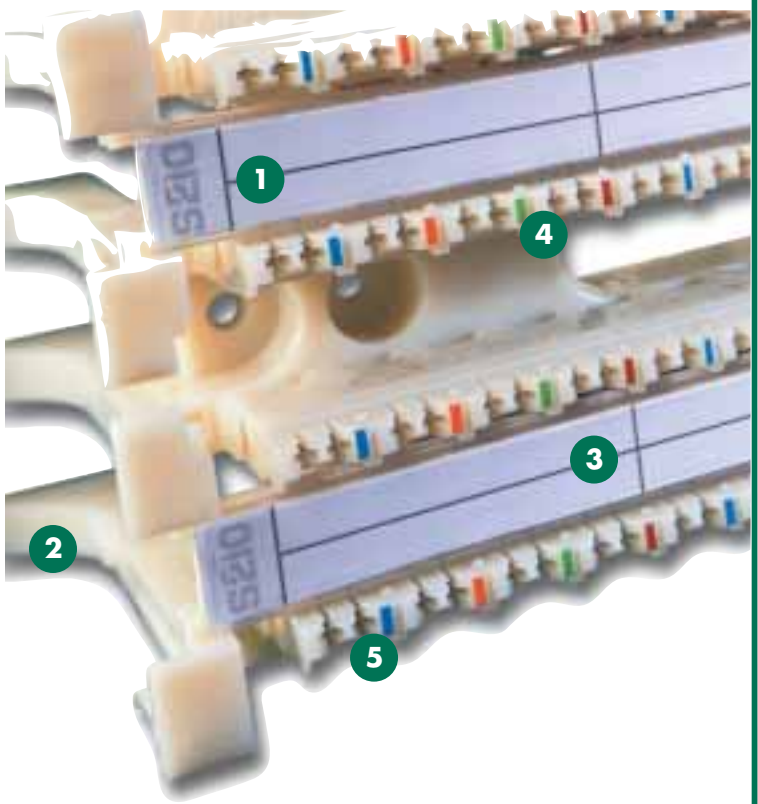
Taiwan:
西蒙網路佈線解決方案是您事業成功的基礎

S210® CONNECTION SYSTEM

10G ip™

The Siemon S210 offers the best connecting block performance in the telecommunications industry. Known as the stealth™ block, its NEXT performance is so good that it is virtually invisible when used as a consolidation point in a standard or augmented category 6 channel.

The Siemon S210 block is the ideal migration path for Voice over IP (VoIP) applications. It can be used to support existing cross-connects for standard phone systems today and enables upgrades to a category 6 rated solution for a seamless network transition. The S210's inherent high performance helps to maximize throughput, thereby improving the overall Quality of Service (QoS) required for VoIP.

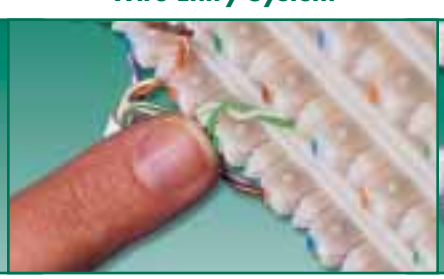


1. **Colored Labels —** Designation strip with interchangeable colored labels can be mounted between each row of connecting blocks
2. **Stand-off Legs —** Patented stand-off legs may be detached from the block before, during, or after installation on 64-pair version
3. **Superior Design —** Cable entering through access openings in base is concealed by designation labels
4. **Compatibility —** Utilizes same wiring base footprint as standard S110® products to be fully compatible with existing S110 mounting and cable management solutions
5. **Easy Termination —** Utilizes same termination practices as existing S110 product and is compatible with all single-position S110 termination tools

Internal Crosstalk Barriers

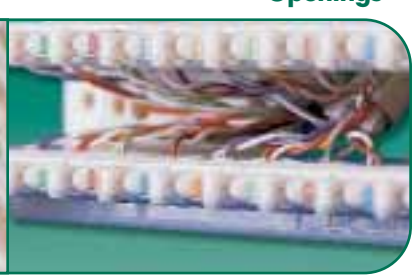
Provide superior NEXT performance (13 dB NEXT margin over category 6 specifications) via 360° pair isolation.

Pyramid™ Wire Entry System



Separates paired conductors when lacing cables to simplify and reduce installation time.

Cable Access Openings



Allow cables to be routed through the rear of the block directly to the point of termination.

S210® FIELD TERMINATION KITS

FOCUS PATENTED

Complete S210 installation kits include S210 wiring blocks with detachable legs*, S210 connecting blocks, and label holders with white designation labels.

Part#	Description
S210AB2-64FT	64-pair, S210 field termination kit *height: 91.4mm (3.60 in.), width: 272mm (10.71 in.), depth: 82.8mm (3.26 in.)*
S210AB2-128FT	128-pair, S210 field termination kit *height: 182.9mm (7.20 in.), width: 272mm (10.71 in.), depth: 82.8mm (3.26 in.)*
S210AB2-192FT	192-pair, S210 field termination kit *height: 275mm (10.81 in.), width: 272mm (10.71 in.), depth: 82.7mm (3.26 in.)*

**Legs detachable on 64-pair version only.*

RELATED PRODUCTS

S110®/S210 Multi-Pair Impact Tool page 12.7,
S210 Patch Plugs pages 3.14 – 3.15,
S210 Cable Assemblies page 3.15,
Category 6 Cross-Connect Wire page 3.13

4-pair S210 impact tool seats S210 connecting blocks and terminates and trims wires on both the cable and cross-connect side of the connecting blocks.

S210 CONNECTING BLOCK

PATENTED

Siemon S210 blocks terminate 22 – 26 AWG (0.64mm – 0.40mm) solid or 7-strand wires. They also incorporate markings to designate tip and ring conductors, color-coded pairs on each block and Siemon's patent-pending Pyramid™ wire entry system to expedite lacing of pairs.

Part #	Description
S210C-4	4-pair, S210 connecting block

S210 DESIGNATION LABELS

Siemon S210 wiring blocks allow for designation labels to be mounted between each row of connecting blocks. S210 designation labels feature S210 listings on the side to clearly identify the termination type, 4-pair markings and can also be used for color-coding.

Part #	Description
S110-HLDR	Transparent plastic label holders, bag of 6
S210-LBL-2	4-pair S210 marked white labels, bag of 6

S110/S210 DESIGNATION LABEL SHEETS

Siemon's S110/S210 designation label sheets provide the ability to custom print labels used on S110 or S210 blocks.*The sheets can be used to print 2-, 3-, 4-, or 5-pair labels and eliminate the need to order separate sheets for different configurations. There are 20 labels per side and both sides are marked so they can be reversed and re-printed in case of an error.

Part #	Description
S110-SHT-(X)	S110/S210 Designation label sheets, package of 6

Use (X) to specify color: 2 = white, 3 = red, 4 = gray, 5 = yellow, 6 = blue, 7 = green, 8 = violet, 9 = orange, 60 = brown
**Visit our web site or contact our Technical Support Department for labeling software.*

S210® TOWER® SYSTEM

10G ip™

The S210 Tower System provides a modular, high-density, cross-connect, and cable management system. The Towers are available in 192-, 256-, and 320-pair sizes. Towers and vertical cable managers are completely modular and can be vertically stacked to accommodate a higher capacity in a single column. The modular design of the large-scale vertical cable managers allow a technician to easily install a high-density cross-connect system without spending valuable time laying out a termination field.

1. **Complete Kit —** Each Tower comes complete with the appropriate quantity of S210 connecting blocks and mounting hardware
2. **Integrated Management —** Includes S110B1RMS cable managers with covers for horizontal cable distribution
3. **Optional Vertical Managers —** Can be mounted between towers and provide greater access to cables
4. **Optional Cable Duct —** Available for providing a single, large pathway at base of Tower for routing cables horizontally
5. **Easy Identification —** Designation label holders with white designation strips are provided for circuit identification

S210 Block

Features Siemon's high performance S210 block for performance far exceeding category 6 specifications.

Vertical Cable Management

Tower assembly provides pathways for routing and protecting cables from entry all the way to the point of termination.

Robust Design

Screws are used to secure wiring bases and cable managers tower frame.

RELATED PRODUCTS S110/S210 Designation Label Sheets page 9.3, S210 Cable Assemblies page 3.15

S210® TOWER® FIELD TERMINATION KITS

PATENTED

Part #	Description
S210MB2-192FT	192-pair, S210 Tower field termination kit *height: 406mm (16 in.), width: 216mm (8.50 in.), depth: 152mm (6 in.)*
S210MB2-256FT	256-pair, S210 Tower field termination kit *height: 541mm (21.31 in.), width: 216mm (8.50 in.), depth: 152mm (6 in.)*
S210MB2-320FT	320-pair, S210 Tower field termination kit *height: 676mm (26.62 in.), width: 216mm (8.50 in.), depth: 152mm (6 in.)*

Each kit includes adequate connecting blocks to fully populate tower.

LARGE-SCALE VERTICAL CABLE MANAGERS

The S188 large scale vertical cable manager for the S110®/S210 Towers accommodates our quarter-turn RS-CH cable managers. With the RS-CH managers installed, additional vertical channels can be integrated into the main channel to segregate patch cables and cross-connect wire.

Part #	Description
S188-300	Large-scale vertical cable manager for use with 192-pair S210 Tower *height: 406mm (16 in.), width: 216mm (8.50 in.), depth: 152mm (6 in.)*
S188-400	Large-scale vertical cable manager for use with 256-pair S210 Tower *height: 541mm (21.31 in.), width: 216mm (8.50 in.), depth: 152mm (6 in.)*
S188-500	Large-scale vertical cable manager for use with 320-pair S210 Tower *height: 676mm (26.62 in.), width: 216mm (8.50 in.), depth: 152mm (6 in.)*

RELATED PRODUCTS **RS-CH Quarter Turn Cable Managers page 6.8**

SMALL-SCALE VERTICAL CABLE MANAGERS

Part #	Description
S110M-WM-300	Small-scale vertical cable manager, for use with 192-pair S210 Tower *height: 406mm (16 in.), width: 76.2mm (3.0 in.), depth: 152mm (6 in.)*
S110M-WM-400	Small-scale vertical cable manager, for use with 256-pair S210 Tower *height: 541mm (21.31 in.), width: 76.2mm (3.0 in.), depth: 152mm (6 in.)*
S110M-WM-500	Small-scale vertical cable manager, for use with 320-pair S210 Tower *height: 676mm (26.62 in.), width: 76.2mm (3.0 in.), depth: 152mm (6 in.)*

S210 TOWER OPTIONAL ACCESSORIES

Part #	Description
S188-WD	Metal duct for additional horizontal cable management at base of S210 Tower *height: 114.3mm (4.50 in.), width: 215.9mm (8.50 in.), depth: 203.2mm (8 in.)*
S188-GND	Ground kit consists of one, 3-position grounding busbar *height: 9.0mm (.35 in.), width: 50.8mm (2.0 in.), depth: 12.3mm (.49 in.)*

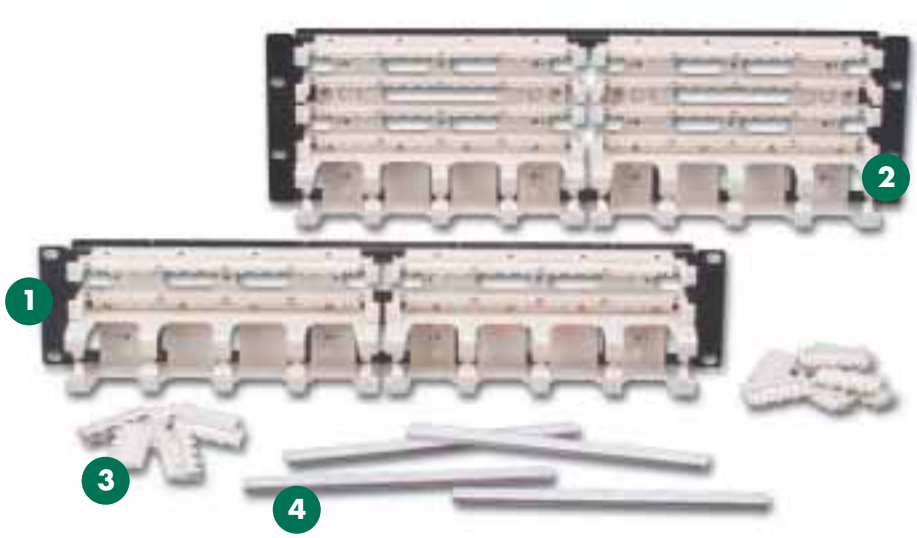
S188-WD

S188-GND

S210® FIELD TERMINATED 19 INCH PANELS

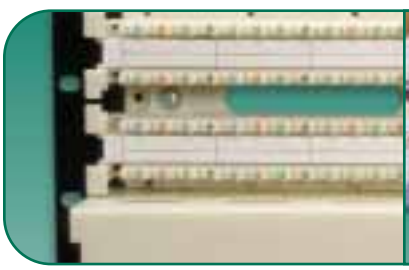
10G ip™

S210 panels allow Siemon's S210 wiring blocks to be mounted directly to a 19 inch EIA rack. These panels represent the ultimate "universal" category 6 rack mount connecting hardware solution as they readily support both voice and data connectivity. Each location can be cross-connected for voice applications or patched to adjacently mounted active equipment to support data applications including VoIP.



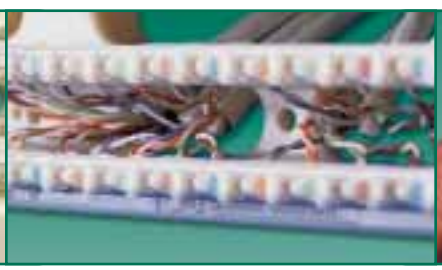
1. **19" Compatible —** Black anodized panels can be mounted directly to a 19 inch EIA standard rack or cabinet
2. **Optional Integrated Managers —** Field-terminated panels are available with or without S110®/S210 cable managers and covers
3. **High Performance —** Features Siemon's S210 connecting blocks for ultimate performance far exceeding category 6 specifications
4. **Complete Kit —** Each panel comes complete with the appropriate quantity of S210 connecting blocks, mounting hardware, and label holders with white designation labels

Covers Included



Panels with cable managers include covers to hide cables and provide a clean appearance.

Superior Cable Routing



Patented cable access openings in base allow cables to be routed from behind the panel directly to the point of termination.

Pyramid™ Wire Entry System

Separates paired conductors when lacing cables to simplify and reduce installation time.

RELATED PRODUCTS S210 Designation Labels page 9.3, S110/S210 Horizontal Cable Managers page 6.9

S210® FIELD TERMINATED 19 INCH PANELS

PATENTED

Part #	Description	RMS
S210DB2-64RFT	64-pair, 19 inch S210 field termination kit	1
S210DB2-128RFT	128-pair, 19 inch S210 field termination kit	2
S210DB2-192RFT	192-pair, 19 inch S210 field termination kit	3

Note: 1 RMS = 44.5mm (1.75 in.)
Each kit includes adequate connecting blocks to fully populate panel.

S210 FIELD TERMINATED 19 INCH PANELS WITH CABLE MANAGERS

PATENTED

Part #	Description	RMS
S210DB2-64RWM	64-pair, 19 inch S210 field termination kit with cable managers and covers	2
S210DB2-128RWM	128-pair, 19 inch S210 field termination kit with cable managers and covers	3

Note: 1 RMS = 44.5mm (1.75 in.)
Each kit includes adequate connecting blocks to fully populate panel.

VERTICALLY MOUNTED S210 FIELD TERMINATION KITS

PATENTED

These 32-pair or 48-pair S210 blocks can be mounted on the same S89B or S89D brackets that hold our S66™ blocks. The high density 48-pair kit provides category 6 performance in the same footprint as a standard M1-50 66 block. Field-termination kits include the S210 connecting blocks, designation labels and label holders.

Part #	Description
S210DB1-48FT-89	48-pair S210 field termination kit on an 89-type retainer*
S210DB1-32FT-89	32-pair S210 field termination kit on an 89-type retainer*

S210DB1-48FT-89

S210DB1-32FT-89

**S89 brackets are not included and must be ordered separately (see page 11.9).*

WALL MOUNT S110®/S210® CABLE MANAGERS

The Siemon S110/S210 cable managers are the foundation of a series of cable management products that are designed to support S110 or S210 cross-connects and patch panel applications. They can be ordered individually for field assembly in wall-mount applications. The cable managers are manufactured with high-strength, flame-retardant thermoplastic, and have been designed for easy cable insertion or withdrawal. The 2 RMS cable manager provides additional capacity for high-density patching applications. Siemon S110/S210 covers can be snapped on to provide color-coding and keep cables hidden.

CABLE MANAGERS WITHOUT LEGS

S110B1RMS. . . . . .
1 RMS white cable manager without legs

S110B1RMS-01 . . . . . .
1 RMS black cable manager without legs

S110B2RMS. . . . . .
2 RMS white cable manager without legs

S110B2RMS-01 . . . . . .
2 RMS black cable manager without legs

CABLE MANAGERS WITH LEGS

S110A1RMS . . . . . .
1 RMS white cable manager with legs

S110A1RMS-01 . . . . . .
1 RMS black cable manager with legs

S110A2RMS . . . . . .
2 RMS white cable manager with legs

S110A2RMS-01 . . . . . .
2 RMS black cable manager with legs

Note: 1 RMS = 44.5mm (1.75 in.)

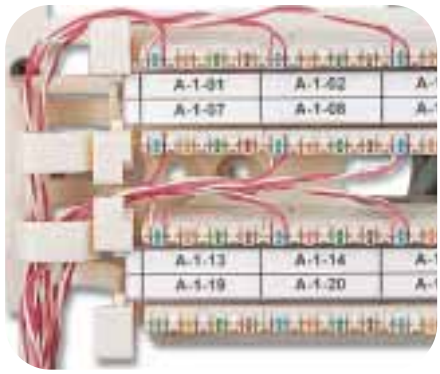
RELATED PRODUCTS **S210 Field-Termination Kits page 9.3, S110 Field-Termination Kits page 10.3, S110/S210 Covers page 9.9**

See Cable Management Capacity Table on page 6.0

S100A2 WIRE MANAGER

PATENTED

The S100A2 wire manager snaps onto the legs of the S110® or S210® blocks/legs to provide a channel for routing cross-connect wire or patch cords. One S100A2 is designed to be used with each 100-/64-pair leg (2 for 200-/128-pair, 3 for 300-/192-pair) to allow space to access the wires. The S100A2 can also be mounted side-by-side. The outside edges are flared and tapered for smoother wire entry and exit and preventing damage to the conductor insulation.



Part #	Description
S100A2	Snap-on S110/S210 wire manager, white
S100A2-01	Snap-on S110/S210 wire manager, black

S110/S210 COVERS

PATENTED

The Siemon Company S110/S210 covers are available in 50- and 100-pair sizes (32- and 64-pair for S210). The cover easily snaps on and off wiring blocks and S110/S210 cable managers, and enhances the appearance of the S110/S210 installation. Removable icon tabs provide color-coding on the front for compliance with the ANSI/TIA/EIA-606-A administration standard.

Part #	Description
S110-CVR-50-(XX)	50-pair S110 cover/32-pair S210 cover
S110-CVR-100-(XX)	100-pair S110 cover/64-pair S210 cover

Use (XX) to specify color: 00 = clear, 01 = black, 20 = ivory

Clear covers protect connections yet allow full viewing of circuits and individual station ID's.

	S110® FIELD TERMINATION KITS (page 10.3)	PRE-WIRED S110® BLOCKS (pages 10.10 – 10.11)	S110® MODULAR JACK BLOCKS (pages 10.12 – 10.13)
Product Applications	Connectivity for horizontal, backbone and consolidation points.	Pre-wired blocks are ideal for connecting to equipment with 25-pair connectors.	Modular "RJ" style connections make these blocks ideal for applications requiring frequent changes.
Category	5e	3	5e compatible
Mounting Options	Wall, 89D, Tower, 19 Inch Panel, XLBET	Wall, 19 Inch Panel	Wall, 89D, Tower, 19 Inch Panel
Capacity	25-10,800 Pair	25-300 Pair	6-36 Ports

SECTION CONTENTS

SIEMON-BRAZIL

Since its inception in 2000, Siemon Brazil has supported the main business areas of Rio de Janeiro, Minas Gerais, Brasilia and Salvador and the rest of the nation from its main office in Sao Paulo. Offering more than just excellent coffee and beautiful beaches, Brazil's 178 million people run 4.5 million companies — many in need of a secure structured cabling solution for their growing IT needs.

Siemon Brazil makes daily strides in leading these companies to the unmatched quality and support offered by Siemon. With an expanding certified installer and consultant base, they service the growing trend towards Category 6 and fiber solutions among large Brazilian facilities.

In addition to the country of Brazil, this office manages Siemon operations in countries throughout South, Central and Latin America and the Caribbean. Like all Siemon locations, the scope and quality of their efforts are a credit to our worldwide presence.

Soluções de Cabeamento da Siemon,
A Fundação para o Sucesso de seu Negócio

S110® WIRING BLOCKS

Siemon S110 field termination kits combine category 5e performance with unparalleled installation features. Each kit includes connecting blocks to complete each 25-pair termination strip on the S110 wiring block (e.g. S110AB2-100FT includes five 4-pair and one 5-pair connecting block per 25-pair termination strip, or a total of twenty 4-pair and four 5-pair connecting blocks).

*Performance from 100 – 160 MHz based upon extrapolated TIA/EIA limits.

1. **Durable Design —** Rugged high impact, flame-retardant polycarbonate easily withstands force of impact tools
2. **Multi-Application Support —** Ideal for use in cross-connect and consolidation point applications
3. **Block Markings —** Termination strips on the base are marked in 5-pair increments. Connecting blocks are color-coded

Rear Cable Access Openings

Patented openings between rows allow horizontal cables to be routed from behind the panel and enter the block from the rear, helping maintain cable geometry and outer jacket up to the point of termination, ensuring optimum category 5e performance.

Detachable Blocks

Another patented Siemon innovation allows 50- and 100-pair wiring blocks to be detached from their mounting legs providing easy access to cables before, during or after installation.

Labeling

Designation strips with interchangeable colored labels can be mounted in the center and/or outside positions of the wiring block.

RELATED PRODUCTS
S110 Patch Plugs pages 3.16 – 3.17,
S110 Cable Assemblies page 3.17,
S110/S210 Covers page 10.14,
S110 Designation Labels page 10.15

S110® FIELD TERMINATION KITS

FOCUS PATENTED

Complete S110 installation kits include S110 wiring blocks with detachable legs*, S110 connecting blocks, and clear label holders with white designation labels.

Part#	Description
S110A(X)1-50FT	50-pair S110 field termination kit *height: 45.7mm (1.80 in.), width: 272mm (10.71 in.), depth: 82.8mm (3.26 in.)*
S110A(X)2-100FT	100-pair S110 field termination kit *height: 91.4mm (3.60 in.), width: 272mm (10.71 in.), depth: 82.8mm (3.26 in.)*
S110A(X)2-300FT*	300-pair S110 field termination kit *height: 274mm (10.80 in.), width: 272mm (10.71 in.), depth: 82.8mm (3.26 in.)*

Use (X) to specify the connecting blocks: A = 5-pair, B = 4-pair

**Legs detachable on 50- and 100-pair version only.*

S110 CONNECTING BLOCKS

FOCUS PATENTED

Siemon category 5e S110C blocks terminate 22-26 AWG (0.64mm-0.40mm) solid or 7-strand wires. They also offer markings to designate tip and ring conductors and color-coded pairs on each block and a patented single-piece, robust construction.

S110C-2A
2-pair connecting block, blue/orange

S110C-3
3-pair connecting block, blue/orange/green

S110C-4
4-pair connecting block, blue/orange/green/brown

S110C-5
5-pair connecting block, blue/orange/green/ brown/slate

S110 WIRING BLOCKS

PATENTED

WIRING BLOCKS WITH LEGS

S110AW1-50
50-pair, 110 wiring block with legs
height: 45.7mm (1.80 in.), width: 272mm (10.71 in.), depth: 82.8mm (3.26 in.)

S110AW2-100
100-pair, 110 wiring block with legs
height: 91.4mm (3.60 in.), width: 272mm (10.71 in.), depth: 82.8mm (3.26 in.)

S110AW2-200
200-pair, 110 wiring block with legs
height: 182.9mm (7.20 in.), width: 272mm (10.71 in.), depth: 82.8mm (3.26 in.)

S110AW2-300
300-pair, 110 wiring block with legs
height: 274.3mm (10.80 in.), width: 272mm (10.71 in.), depth: 82.8mm (3.26 in.)

WIRING BLOCKS WITHOUT LEGS

S110DW1-25
25-pair, 110 wiring block without legs
height: 16.0mm (0.63 in.), width: 216mm (8.50 in.), depth: 35.8mm (1.41 in.)

S110DW1-50
50-pair, 110 wiring block without legs
height: 42.4mm (1.67 in.), width: 216mm (8.50 in.), depth: 35.8mm (1.41 in.)

S110DW2-100
100-pair, 110 wiring block without legs
height: 88.1mm (3.47 in.), width: 216mm (8.50 in.), depth: 35.8mm (1.41 in.)

S110® TOWER® SYSTEM

The S110 Tower System provides a modular high-density cross-connect cable management system. It is designed to be wall mounted and is available with S110 field-terminated blocks or modular jack panels. S110 Tower Systems are shipped unassembled to simplify field assembly and termination.

1. **Robust Design —** Screws secure wiring bases and cable managers to tower frame
2. **Horizontal Cable Distribution —** Includes S110B1RMS cable managers with covers
3. **Vertical Cable Managers —** Optional small and large scale vertical cable managers available (large-scale version shown) to facilitate routing of patch cords and cross-connect wire
4. **Circuit Identification —** Designation label holders with white designation strips are included
5. **Optional Horizontal Ducts —** Properly route large quantities of cable between vertical towers

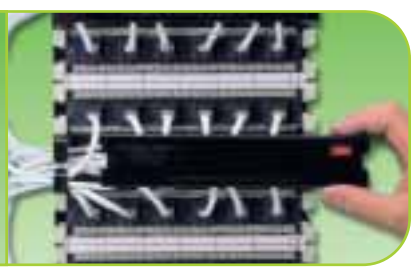
Modular, Flexible Design

The S110 Tower Systems are modular and can be stacked to create 300- to 1000-pair (or larger) configurations. Additional blocks can be added as needed for growth.

Enclosed Cable Routing

Tower assembly provides pathways for routing and protecting cables from entry all the way to the point of termination.

Horizontal Cable Managers and Covers Included



All S110 Tower Systems include cable managers and covers to route and protect horizontal cables providing a clean appearance.

RELATED PRODUCTS S110/S210 Designation Labels page 10.15, S110 Patch Plugs pages 3.16 – 3.17, S110 Cable Assemblies page 3.17

S110® TOWER® FIELD TERMINATION KITS

Part #	Description
S110M(X)2-300FT	300-pair S110 Tower field termination kit *height: 406.4mm (16 in.), width: 215.9mm (8.5 in.), depth: 152.6mm (6 in.)*
S110M(X)2-400FT	400-pair S110 Tower field termination kit *height: 541.3mm (21.3 in.), width: 215.9mm (8.5 in.), depth: 152.6mm (6 in.)*
S110M(X)2-500FT	500-pair S110 Tower field termination kit *height: 676.1mm (26.6 in.), width: 215.9mm (8.5 in.), depth: 152.6mm (6 in.)*

Use (X) to specify the connecting blocks: A = 5-pair, B = 4-pair

S110 TOWER MODULAR JACK PANELS

Part #	Description
S110MB5-(XXX)JP	S110 Tower modular jack panel kit, T568A/B

Use (XXX) to specify port counts:
300 = 36 ports, height: 406.4mm (16.0 in.), width: 215.9mm (8.5 in.), depth: 152.6mm (6.0 in.)
400 = 48 ports, height: 541.3mm (21.3 in.), width: 215.9mm (8.5 in.), depth: 152.6mm (6.0 in.)
500 = 60 ports, height: 676.1mm (26.6 in.), width: 215.9mm (8.5 in.), depth: 152.6mm (6.0 in.)

See pages 10.12 – 10.13 for further information on S110 Modular Jack Blocks.

S110 TOWER OPTIONAL ACCESSORIES

S188-300 . . . . . .
Large-scale vertical cable manager for use with 300-pair Tower
height: 406.4mm (16.0 in.), width: 215.9mm (8.5 in.), depth: 190.5mm (7.5 in.)

S188-400 . . . . . .
Large-scale vertical cable manager for use with 400-pair Tower
height: 541.3mm (21.3 in.), width: 215.9mm (8.5 in.), depth: 190.5mm (7.5 in.)

S188-500 . . . . . .
Large-scale vertical cable manager for use with 500-pair Tower
height: 676.1mm (26.6 in.), width: 215.9mm (8.5 in.), depth: 190.5mm (7.5 in.)

S188-WD. . . . . .
Metal duct for additional horizontal cable management at base of Tower units
height: 114.3mm (4.5 in.), width: 215.9mm (8.5 in.), depth: 203.2mm (8.0 in.)

S110M-WM-300. . . . . .
Small-scale vertical cable manager for use with 300-pair Tower
height: 406.0mm (16.0 in.), width: 76.2mm (3.0 in.), depth: 153.0mm (6.1 in.)

S110M-WM-400. . . . . .
Small-scale vertical cable manager for use with 400-pair Tower
height: 541.2mm (21.3 in.), width: 76.2mm (3.0 in.), depth: 153.0mm (6.1 in.)

S110M-WM-500. . . . . .
Small-scale vertical cable manager for use with 500-pair Tower
height: 675.9mm (26.6 in.), width: 76.2mm (3.0 in.), depth: 153.0mm (6.1 in.)

S188-GND . . . . . .
Ground kit consists of one, 3-position grounding busbar
height: 9.0mm (0.4 in.), width: 50.8mm (2.0 in.), depth: 12.3mm (.5 in.)

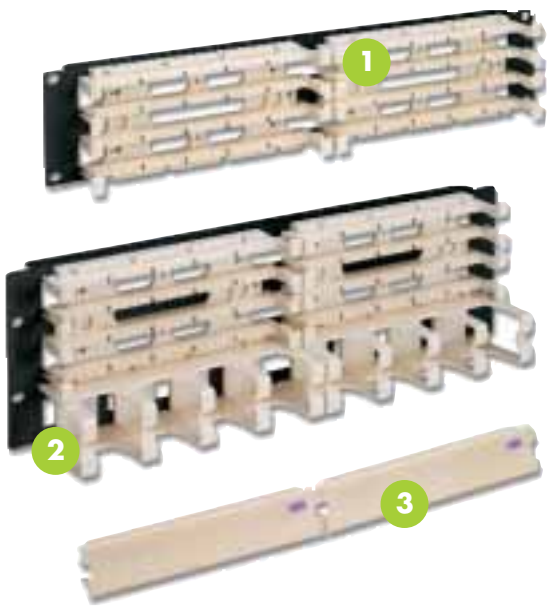
S188

S188-WD

S110M-WM

S110® FIELD TERMINATED 19 INCH PANELS

S110 panels allow wiring blocks to be mounted directly to a 19 inch EIA rack. Each panel includes connecting blocks to complete each 25-pair termination strip on the S110 block (e.g. S110DB1-100RFT would include five 4-pair and one 5-pair connecting block per 25-pair termination strip, or a total of twenty 4-pair and four 5-pair connecting blocks).

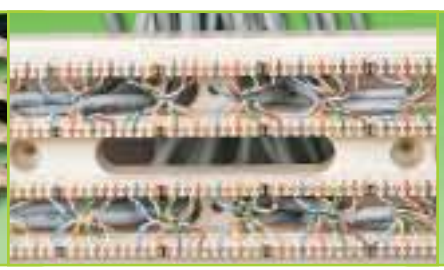


1. **Color Coding —** Color-coded pairs on each S110 connecting block
2. **Optional Wire Managers —** Field terminated panels can be ordered with or without S110 wire managers and covers
3. **Covers Included —** 19 inch panels with cable managers include covers to provide a clean appearance for the patching environment

Mounts to 19" Racks

Black anodized panels can be mounted directly to 19" EIA racks or cabinets, ideal for installations where wall mounting space is not available.

Rear Cable Access Openings



Patented openings between rows allow horizontal cables to be routed from behind the panel and enter the block from the rear, helping maintain cable geometry and outer jacket up to the point of termination, ensuring optimum category 5e performance.

Horizontal Cable Managers and Covers

Panels are available with S110 cable managers and covers for superior horizontal cable management and a clean appearance.

RELATED PRODUCTS S110/S210 Horizontal Cable Managers page 6.9

S110® FIELD TERMINATED 19 INCH PANELS

FOCUS PATENTED

Part #	Description	RMS
S110D(X)1-100RFT.	100-pair, 19 inch panel, S110 field termination kit	1
S110D(X)1-200RFT.	200-pair, 19 inch panel, S110 field termination kit	2
S110D(X)1-300RFT.	300-pair, 19 inch panel, S110 field termination kit	3

Use (X) to specify the connecting blocks: A = 5-pair, B = 4-pair
Note: 1 RMS = 44.5mm (1.75 in.)

RELATED PRODUCTS

S110/S210 Horizontal Cable Managers page 6.9

FIELD TERMINATED S110 19 INCH PANELS WITH CABLE MANAGERS

FOCUS PATENTED

Part #	Description	RMS
S110D(X)2-100RWM	100-pair, 19 inch panel, S110 field termination kit with cable managers and covers	2
S110D(X)2-200RWM	200-pair, 19 inch panel, S110 field termination kit with cable managers and covers	3

See Cable Management Capacity Table on page 6.0

Use (X) to specify the connecting blocks: A = 5-pair, B = 4-pair
Note: 1 RMS = 44.5mm (1.75 in.)

VERTICALLY MOUNTED S110 BLOCKS

PATENTED

This 50-pair S110 block can be mounted on the same S89B or S89D brackets that hold our S66 blocks. The wiring base is available separately or as part of a field-terminated kit that includes the 4- or 5-pair connecting blocks and designation strips.

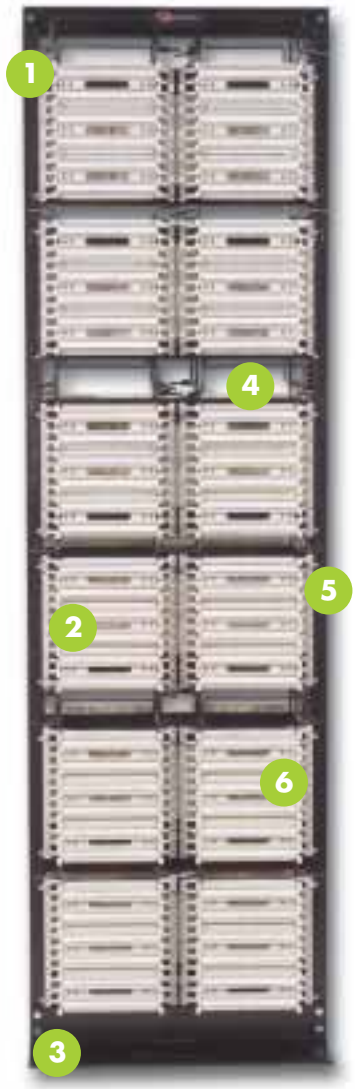
Part #	Description
S110DW1-50-89	50-pair S110 wiring base on an 89-type retainer.* S110 connecting blocks are not included *height: 254.0mm (10.0 in.),* *width: 85.9mm (3.4 in.),* *depth: 86.6mm (3.4 in.)* *(dimensions include S89 bracket)*
S110D(X)1-50FT-89	50-pair S110 field termination kit on an 89-type retainer.* Includes S110 connecting blocks and designation strips *height: 254.0mm (10.0 in.),* *width: 85.9mm (3.4 in.),* *depth: 86.6mm (3.4 in.)* *(dimensions include S89 bracket)*

Shown with optional S89D bracket

Use (X) to specify connecting blocks: A = 5-pair, B = 4-pair
**S89 brackets are not included and must be ordered separately (see page 11.9).*

XLBET FRAME

The Siemon XLBET (Extra Large Building Entrance Terminal) frames are designed for use in large installations where space is a premium. Compatible with Siemon's vertical patching (VPC-6) and cable management (RS-CNL) channels.



1. **ANSI Compatible —** Standard rack mounting per ANSI/EIA-310-C
2. **Single and Double Sided Options —** S110® bases can be mounted on one or both sides for additional capacity
3. **Concrete Mounting Kits —** Optional kits are available for securing frames to concrete floors
4. **Integrated Cable Routing —** Innovative horizontal and vertical cable managers provide cable paths for routing of large quantities of cross-connect wires
5. **Multiple Sizes —** Frames are available in 23 in. (.58m) or 35 in. (.89m) widths
6. **High Capacity —** Configurable up to 10,800-pairs

Wide Vertical Channels

Vertical side channels are 6 in. (152mm) deep to accommodate large cable bundles.

Pre-installed Bases

Frames can be ordered with standard S110 bases factory mounted to save installation time.

Pre-wired and Custom Versions

Cut installation time with Siemon pre-wired XLBET frames. A wide variety of custom configurations are available. Contact our Technical Support Department for more information.

RELATED PRODUCTS
Vertical Patching Channels (VPC-6) pages 6.6 – 6.7
Vertical Cable Management Channels (RS-CNL) page 6.7

XLBET FRAME

FOCUS

Part #	Description
XL-(XX)00	7 ft. x 35 in. XLBET frame. Includes rack, wire management and mounting hardware. S110® wiring blocks not included *height: 2133.6mm (84.00 in.),* *width: 617.5mm (24.31 in.),* *depth: 406.4mm (16.00 in.)*

Use (XX) to specify pair count: 36 = 3600-pair, 72 = 7200-pair

Part #	Description
XL35-(XXX)00	7 ft. x 23 in. XLBET frame. Includes rack, wire management and mounting hardware. S110 wiring blocks not included *height: 2133.6mm (84.00 in.),* *width: 922.3mm (36.31 in.),* *depth: 406.4mm (16.00 in.)*

Use (XXX) to specify pair count: 54 = 5400-pair, 108 = 10,800-pair

XLBET FRAME WITH S110 WIRING BLOCKS

FOCUS

Part #	Description
XL-(XX)00-W	7 ft. x 23 in. XLBET frame. Includes rack, wire management, S110 wiring blocks, clear designation holders, labels, and mounting hardware (S110 connecting blocks not included)

Use (XX) to specify pair count: 36 = 3600-pair, 72 = 7200-pair

Part #	Description
XL35-(XXX)00-W	7 ft. x 35 in. XLBET frame. Includes rack, wire management, S110 wiring blocks, clear designation holders, labels, and mounting hardware (S110 connecting blocks not included)

Use (XXX) to specify pair count: 54 = 5400-pair, 108 = 10,800-pair

OPTIONAL ACCESSORIES

Part #	Description
XL-CK	Concrete mounting kit. Includes hardware to secure one 23 or 35 inch XLBET frame to a concrete floor
XL-(X)-3600	S110 connecting block kit. Includes the appropriate number of 4- or 5-pair connecting blocks to fully populate a 3600-pair frame. Two kits can be ordered for 7200-pair frames
XL-(X)-5400	S110 connecting block kit. Includes the appropriate number of 4- or 5-pair connecting blocks to fully populate a 5400-pair frame. Two kits can be ordered for 10,800-pair frames
XL-K23	23 in. (.58m) rack conversion kit. Converts one side of a standard 23 inch rack to an XLBET frame. Two kits are required to utilize both sides of a 23 inch rack. Includes wire managers, mounting bars and mounting hardware. Rack, S110 wiring blocks, clear designation holders and labels not included
XL-K35	35 in. (.89m) rack conversion kit. Converts one side of a standard 35 inch rack to an XLBET frame. Two kits are required to utilize both sides of a 35 inch rack. Includes wire managers, mounting bars and mounting hardware. Rack, S110 wiring blocks, clear designation holders and labels not included

Use (X) to specify connecting blocks: A = 5-pair, B = 4-pair

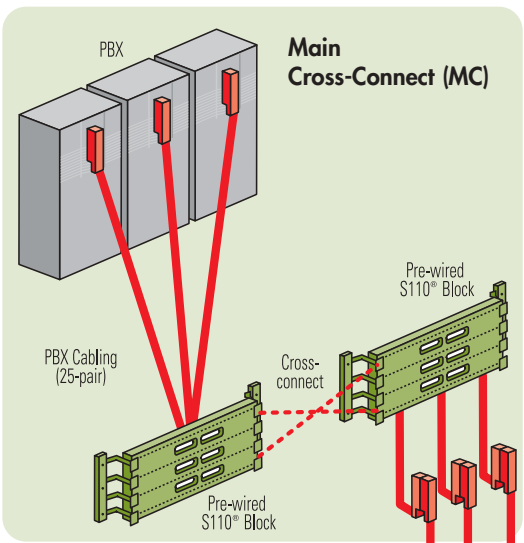
PRE-WIRED S110® BLOCKS

For quick, simple connection to phone equipment, the pre-wired S110 blocks provide connectorized 25-pair tails wired to 100- or 300-pair bases. The standard 6 in. (152mm) tails can be ordered extending from the top or bottom of the block with male or female connectors. Contact Customer Service for custom tail lengths.

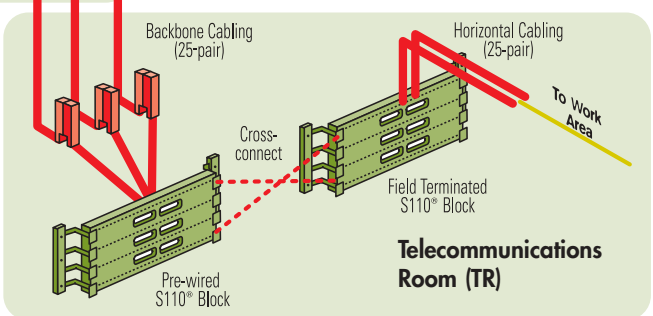
S110A(X)-100(XXX)-(X) . . .
100-pair S110 pre-wired block

S110A(X)-300(XXX)-(X) . . .
300-pair S110 pre-wired block

Use 1st (X) to specify connecting block subassembly: A = 5-pair, B = 4-pair
Use (XXX) to specify connector type:
CT = connectorized top (female),
CTM = connectorized top (male),
CB = connectorized bottom (female),
CBM = connectorized bottom (male)
Use 2nd (X) to specify cable length:
Blank = standard 152mm (6 in.) tail,
(X) = custom length, in feet



The pre-wired S110 block is ideal for use with phone systems due to its ability to easily accommodate connectorized 25-pair cables for fast and simple setup. In addition, the use of 25-pair cable for backbone cabling allows the pre-wired S110 block to provide an easy interface with your phone system all the way to the telecommunications room where connections can be made to the work area.



PRE-WIRED S110® BLOCKS

PATENTED

Siemon's S700 series blocks provide a simple interface method between 25-pair assemblies and punchdown fields using easily accessible connections. The blocks feature both fields on the face of the block eliminating the need to trace cables or access the rear of the block when making connections. Each block comes with label holders and white designation labels as well as hook and loop hold-downs to secure the 25-pair connectors.

Part #	Description
S700A110-B1-50	50-pair pre-wired S110 block with legs *height: 91.4mm (3.60 in.),* *width: 272mm (10.71 in.),* *depth: 82.8mm (3.26 in.)*

PRE-WIRED S110 PANELS

S110 pre-wired panels mount directly to a 19 inch EIA rack. The panels are available in either 100-, 200-, or 300-pair configurations pre-wired to female 25-pair connectors with black universal connector hold-downs. For optimum transmission performance, pre-wired blocks may be ordered with the pair twisting maintained between the wiring block and the connector. Each panel comes complete with mounting hardware, label holders, and white designation labels.

Part #	Description	RMS
S110D(X)(Y)-100RCT	100-pair pre-wired S110 panel, with 25-pair connectors	1
S110D(X)(Y)-200RCT	200-pair pre-wired S110 panel, with 25-pair connectors	2
S110D(X)(Y)-300RCT	300-pair pre-wired S110 panel, with 25-pair connectors	3

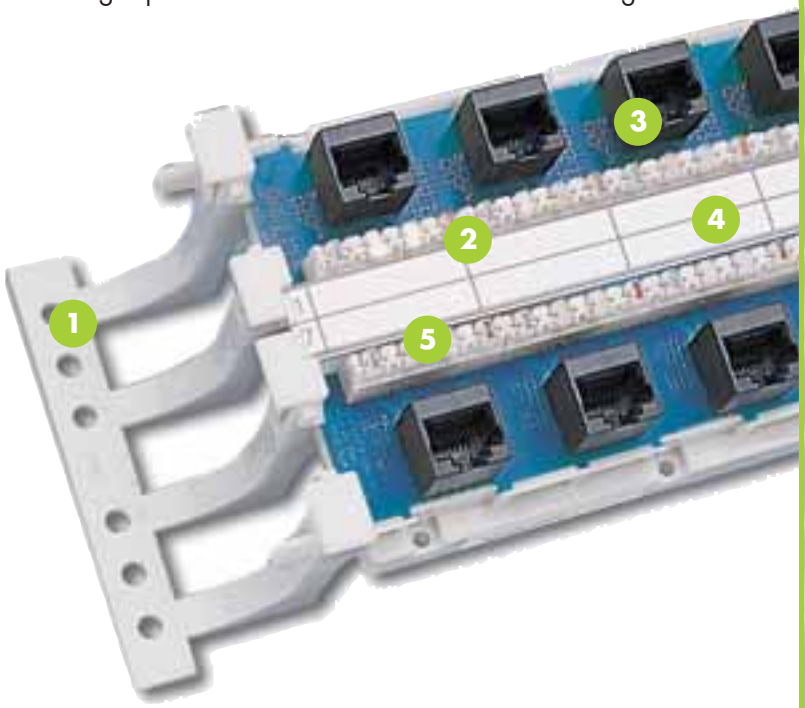
Use (X) to specify the connecting blocks: A = 5-pair, B = 4-pair
Use (Y) to specify twisted-pair option: 1 = without twisted-pairs, T = twisted-pairs
Note: 1 RMS = 44.5mm (1.75 in.)

RELATED PRODUCTS

S110/S210 Horizontal Cable Managers page 6.9

S110®
MODULAR JACK BLOCKS

The S110 modular jack block provides a pre-wired distribution solution for network applications. The modular jack block can be wall mounted and is typically used to connect horizontal cabling to network equipment. Connections are made by terminating 4-pair horizontal cables to S110 connecting blocks and patching to active equipment.



1. **Detachable Legs —** 6- and 12- port panels may be detached from stand-off legs before, during or after installation
2. **Faster Termination —** Multi-pair punch-down tool can be used to reduce termination time *(see page 12.6)*
3. **IEC Compliant Jacks —** Modular jacks are IEC 60603-7 compliant and have 50 microinches minimum hard gold plating over nickel
4. **Clean Appearance —** Cables entering through access openings in bases are hidden by designation labels to provide a clean appearance
5. **Universal Wiring —** S110 4-pair connecting blocks feature "universal" wiring for compatibility with both T568A and T568B wiring configurations

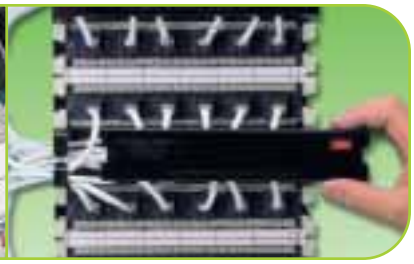
Economical

Cost effective modular patching solution for small to medium size LANs.

Easy Port Access

Modular outlets and S110 terminations are located on front of panels for easy access.

Tower Option



Also available mounted to S110 Tower which includes cable managers and covers to route and protect horizontal cables for a clean appearance *(see page 10.5).*

RELATED PRODUCTS MC® 5 Patch Cords page 3.10

S110® MODULAR JACK WALL MOUNT BLOCKS

PATENTED

Part # S110AB5-50JP . . . . . **Description** 6-port, T568A/B, with detachable legs

height: 45.7mm (1.80 in.), width: 272mm (10.71 in.), depth: 82.8mm (3.26 in.)

Part # S110AB5-100JP . . . . . **Description** 12-port, T568A/B, with detachable legs

height: 91.4mm (3.60 in.), width: 272mm (10.71 in.), depth: 82.8mm (3.26 in.)

Part # S110AB5-200JP . . . . . **Description** 24-port, T568A/B, with permanent legs

height: 183mm (7.20 in.), width: 272mm (10.71 in.), depth: 82.8mm (3.26 in.)

Part # S110AB5-300JP . . . . . **Description** 36-port, T568A/B, with permanent legs

height: 274.3mm (10.8 in.), width: 272mm (10.71 in.), depth: 82.8mm (3.26 in.)

RACK MOUNT PANELS

Part # S110DB5-24RJP . . . . . **Description** 24-port jack panel, on a 19 inch panel, T568A/B, 2 RMS

Note: 1 RMS = 44.5mm (1.75 in.)

RELATED PRODUCTS

S110/S210 Horizontal Cable Managers page 6.9

VERTICAL MOUNT PANELS

Part # S110DB5-50JP89 . . . . . **Description** 6-port, T568A/B for mounting on S89 bracket*

height: 254.0mm (10.00 in.),
width: 85.9mm (3.38 in.),
depth: 86.6mm (3.41 in.)
(dimensions include S89 bracket)

**S89 brackets are not included and must be ordered separately (see page 11.9).*

WALL MOUNT S110®/S210® CABLE MANAGERS

The Siemon S110/S210 cable managers are the foundation of a series of cable management products designed to support S110 or S210 cross-connects and patch panel applications. They may be ordered individually for field assembly in wall-mount applications. The cable managers are manufactured with high-strength, flame-retardant thermoplastic, and are designed for easy cable insertion or withdrawal. The 2 RMS cable manager provides additional capacity for high-density patching applications. Siemon S110/S210 covers may be snapped on to provide color-coding and keep cables hidden.

CABLE MANAGERS WITHOUT LEGS

S110B1RMS-(XX) . . . . . .
1 RMS cable manager without legs

S110B2RMS-(XX) . . . . . .
2 RMS cable manager without legs

CABLE MANAGERS WITH LEGS

S110A1RMS-(XX) . . . . . .
1 RMS cable manager with legs

S110A2RMS-(XX) . . . . . .
2 RMS cable manager with legs

Use (XX) to specify color: blank = white, 01 = black
Note: 1 RMS = 44.5mm (1.75 in.)

See Cable Management Capacity Table on page 6.0

RELATED PRODUCTS

S210 Field-Termination Kits page 9.3, S110 Field-Termination Kits page 10.3, S110/S210 Covers see below

S100A2 WIRE MANAGER

PATENTED

The S100A2 wire manager snaps onto the legs of the S110 or S210 blocks/legs to provide a channel for routing cross-connect wire or patch cords. One S100A2 is designed to be used with each 100-/64-pair leg (2 for 200-/128-pair, 3 for 300-/192-pair) to allow space to access the wires. The S100A2 can also be mounted side-by-side. The outside edges are flared and tapered for smoother wire entry and exit and preventing damage to the conductor insulation.

Part#	Description
S100A2.	Snap-on S110/S210 wire manager, white
S100A2-01	Snap-on S110/S210 wire manager, black

S110®/S210 COVERS

PATENTED

The Siemon Company S110/S210 covers are available in 50- and 100-pair sizes (32- and 64-pair for S210). The cover easily snaps on and off wiring blocks and S110/S210 cable managers, and enhances the appearance of the S110/S210 installation. Removable icon tabs provide color-coding on the front for compliance with the ANSI/TIA/EIA-606-A administration standard.

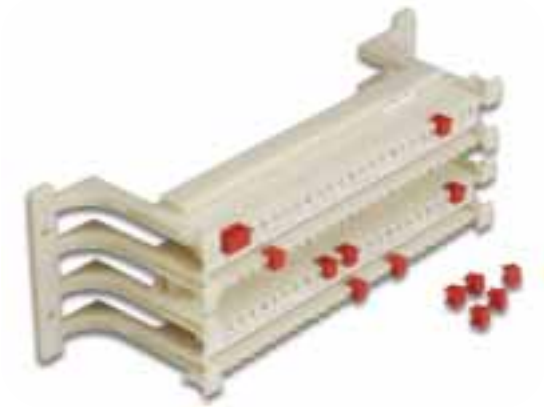
Part#	Description
S110-CVR-50-(XX)	50-pair S110 cover/32-pair S210 cover
S110-CVR-100-(XX)	100-pair S110 cover/64-pair S210 cover

Use (XX) to specify color: 00 = clear, 01 = black, 20 = ivory

SPECIAL SERVICE MARKERS

PATENTED

These red plastic markers can be inserted onto S110® blocks to identify connections be noted as special circuits.



Part #	Description
S110-TC-1P-03	1-pair S110 service markers, red

S110/S210 DESIGNATION LABEL SHEETS

Siemon S110/S210 designation label sheets provide the ability to custom print labels used on S110/S210 blocks. The sheets may be used to print 2-, 3-, 4-, or 5-pair labels and eliminate the need to order separate sheets for different pair configurations. There are 20 labels per side and both sides are marked so they may be reversed and re-printed in case of error. They are available in nine colors and are compatible with all Siemon S110/S210 products.

Visit our web site or contact our Technical Support Department for labeling software.

Part #	Description
S110-SHT-(X)	S110/S210 Designation label sheets, package of 6

Use (X) to specify color: 2 = white, 3 = red, 4 = gray, 5 = yellow, 6 = blue, 7 = green, 8 = violet, 9 = orange, 60 = brown

S110 DESIGNATION LABELS

Siemon S110 wiring blocks allow designation labels to be mounted between each row of connecting blocks. Each label has 2-, 3-, 4-, and 5-pair markings and may be used for color-coding services in accordance with TIA/EIA-606-A.

Part #	Description
S110-HLDR	Transparent plastic label holders, bag of 6
S110-LBL-(X)	2-, 3-, 4-, and 5-pair marked colored labels, bag of 6

Use (X) to specify color: 2 = white, 3 = red, 4 = gray, 5 = yellow, 6 = blue, 7 = green, 8 = violet, 9 = orange, 60 = brown

	M SERIES S66™ (pages 11.2 – 11.7)	B SERIES S66 (page 11.8)
Product Applications	Voice and Data, Voice Over IP	Voice Only
Category (Field-Terminated)	5e	5
Category (Connectorized)	3 with Twisted-Pair Wiring	N/A
Category (With Modular Jacks)	3	N/A
Mounting Options	Wall, Frame, Rack	Wall
Capacity	12-100 Pair	2-125 Pair
Accessories	Bridging Clips, Covers, Designation Strips, Stand-off Brackets, Cross-connect Frames, Labels, Metal Housings, Over Voltage Protection	Bridging Clips, Covers, Designation Strips, Stand-off Brackets, Metal Housings

SECTION CONTENTS

SIEMON-MEXICO

Established in 2002 in one of the world's largest cities, Siemon Mexico supports the country from its central offices in Mexico City. Thanks to the industrial explosion throughout Mexico, the country's need for solid structured cabling has grown exponentially. Siemon Mexico has capitalized on that need, continually increasing market share through superior support and sales programs.

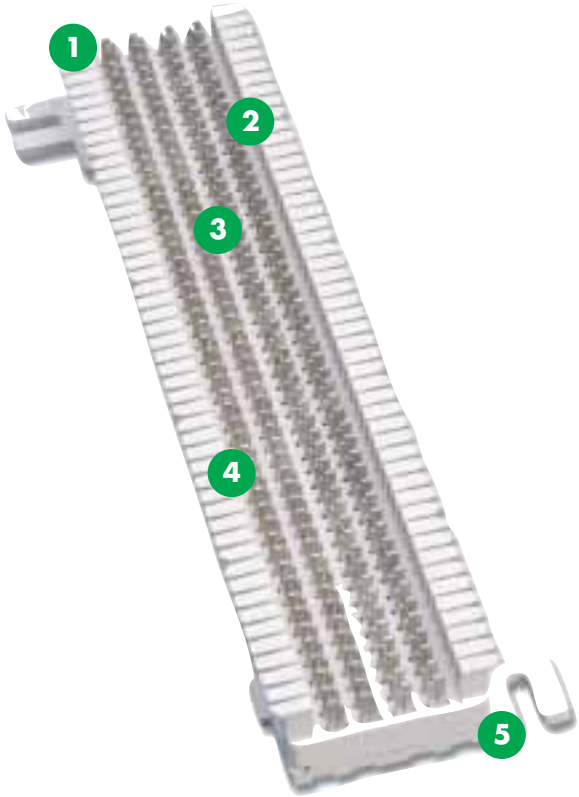
With significant wins with G500 companies and a growing network of Certified Installers, Siemon Mexico is poised to continue their impressive growth. Their enthusiasm and professionalism are a credit to Siemon worldwide.

Soluciones de Cableado de Red,
La base para el exito de su negocio

S66M1-50 BLOCK

PATENTED

The S66M1-50 is a proven, economical connecting block solution for category 5e network cabling. These features make this block an ideal choice for supporting today's high bandwidth technologies such as Voice over IP (VoIP) and Gigabit ethernet. It is fully compatible with all industry standard accessories and includes a wide range of available mounting accessories that allows the S66M1-50 to be installed in almost any environment.

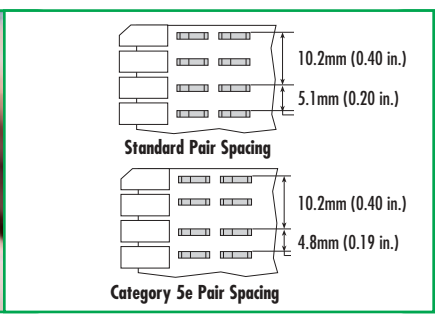


1. **VoIP and 1000BASE-T Ready —** Ideal for use with all category 5e applications including VoIP and Gigabit ethernet
2. **Wide AWG Range —** Terminates 22 – 26 AWG (0.81 – 0.41mm) solid insulated cable or 18 – 19 AWG (1.02 – 0.91mm) solid stripped cable
3. **Durable Design —** High impact flame retardant thermoplastic
4. **Integral Jumper Management —** Fanning strips provide management for horizontal cabling and cross-connect jumper wires and provides a labeling surface for circuit identification
5. **S89 Compatible —** Mounts to S89 series stand-off brackets to provide space for routing cables behind each block

Compatible with All 66 Accessories

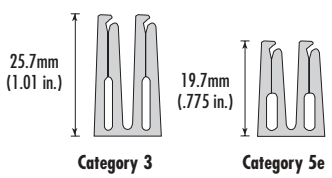
The category 5e S66 block uses the same center spacing between pairs as voice grade blocks and is fully compatible with all industry standard 66 accessories (such as tools, test adapters, mounting brackets, bridging clips, etc.).

Improved NEXT



Each pair of S66 clips is slightly closer together, creating additional space between conductors of adjacent pairs for reduced Near-End Crosstalk.

Patented Clip Design



Category 5e rated S66 quick clip reduces reactive coupling between positions, improving Near-End Crosstalk (NEXT) performance.

RELATED PRODUCTS
Stand-off Mounting Brackets page 11.9,
Lasting Hinge Covers page 11.13,
Pico Protector® pages 11.16 – 11.17

FIELD-TERMINATED M SERIES S66™ BLOCKS

4 X 50 BLOCKS

S66M1-25. . . . . .
Pair Capacity: 25,
Quick Clip: 569

height: 254mm (10 in.),
width: 86.4mm (3.4 in.),
depth: 30.5mm (1.2 in.)

S66M1-50. . . . . .
Pair Capacity: 50,
Quick Clip: 500

height: 254mm (10 in.),
width: 86.4mm (3.4 in.),
depth: 24.6mm (1.0 in.)

S66M1-100. . . . . .
Pair Capacity: 100,
Quick Clip: 279MS*

height: 254mm (10 in.),
width: 86.4mm (3.4 in.),
depth: 30.5mm (1.2 in.)

4 X 25 BLOCKS

S66M4-12. . . . . .
Pair Capacity: 12,
Quick Clip: 569

height: 127mm (5 in.),
width: 53.3mm (2.1 in.),
depth: 30.5mm (1.2 in.)

S66M4-24. . . . . .
Pair Capacity: 24,
Quick Clip: 571

height: 127mm (5 in.),
width: 53.3mm (2.1 in.),
depth: 30.5mm (1.2 in.)

S66M4-50. . . . . .
Pair Capacity: 50,
Quick Clip: 279MS*

height: 127mm (5 in.),
width: 53.3mm (2.1 in.),
depth: 30.5mm (1.2 in.)

6 X 25 BLOCKS

S66M6-24. . . . . .
Pair Capacity: 24,
Quick Clip: 843

height: 127mm (5 in.),
width: 71.1mm (2.8 in.),
depth: 30.5mm (1.2 in.)

S66M6-36. . . . . .
Pair Capacity: 36,
Quick Clip: 842

height: 127mm (5 in.),
width: 71.1mm (2.8 in.),
depth: 30.5mm (1.2 in.)

S66M6-75. . . . . .
Pair Capacity: 75,
Quick Clip: 279MS*

height: 127mm (5 in.),
width: 71.1mm (2.8 in.),
depth: 30.5mm (1.2 in.)

**All connecting blocks that use the 279MS quick clip have a tail pin that protrudes 3.3mm (0.13 in.) below the retainer base.*
Note: Center-to-center vertical spacing between rows of clips is 6.4mm (0.25 in.).

PRE-WIRED M SERIES

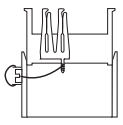
PATENTED

General Reference Information for all Siemon Pre-wired Blocks

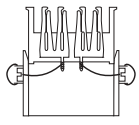
- Female 25-pair connectors are oriented for top cable entry and male 25-pair connectors are oriented for bottom cable entry.
- All 25-pair connectors are equipped with Siemon's patented universal connector holddown. The connector holddown is black.
- Custom configurations available. Please contact our Customer Service Department for information and minimum order quantities.

PRE-WIRED M2 SERIES

S66M2-3W . . . . . .
Pair Capacity: 25
One female 25-pair connector



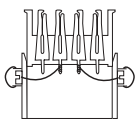

S66M2-5W . . . . . .
Pair Capacity: 50
Two female 25-pair connectors



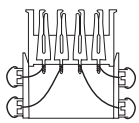

Add "B" for back mounted connector (not shown), add "M" for male connector. Please call for connector/block compatibility.
Note: all connector options not available for all blocks.

PRE-WIRED M4 SERIES

S66M4-2W . . . . . .
Pair Capacity: 50 (bridged)
Two female 25-pair connectors



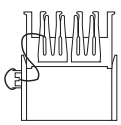

S66M4-4W . . . . . .
Pair Capacity: 100 (unbridged)
Four female 25-pair connectors




Add "B" for back mounted connector (not shown), add "M" for male connector. Please call for connector/block compatibility.
Note: all connector options not available for all blocks.

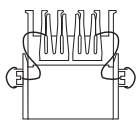
PRE-WIRED 157 SERIES

157A . . . . . .
Pair Capacity: 25
One male 25-pair connector




157B . . . . . .
Pair Capacity: 50 (unbridged)
Two male 25-pair connectors

157C . . . . . .
Pair Capacity: 50 (unbridged)
Two female 25-pair connectors




MODULAR JACK BLOCKS

S66M2-5T-68L . . . . . .
Six 8-position, 4-pair modular jacks, T568B

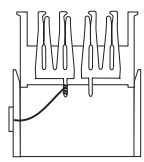
S66M2-5T-84L . . . . . .
Eight 6-position, 2-pair modular jacks, USOC

S66M2-5T-86L . . . . . .
Eight 6-position, 3-pair modular jacks, USOC

S66M2-5T-124LR. . . . . .
Twelve 6-position, 2-pair modular jacks, USOC

S66M2-5T-128LR. . . . . .
Twelve 8-position, 4-pair modular jacks, T568B

End view of blocks with modular jacks



PRE-WIRED MODULAR JACK BLOCKS

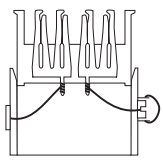
S66M2-5T-68L-125R . . . .
Six 4-pair modular jacks, one 25-pair female connector, T568B

S66M2-5T-84L-125R . . . .
Eight 6-position, 2-pair modular jacks, one 25-pair female connector, USOC

S66M2-5T-86L-125R . . . .
Eight 6-position, 3-pair modular jacks, one 25-pair female connector, USOC

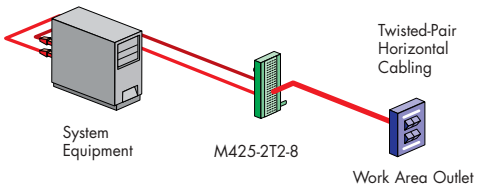
S66M25T-124LR-125R . . .
Twelve 6-position, 2-pair modular jacks, one 25-pair female connector, USOC

End view of blocks with modular jacks and a 25-pair connector



S66M425-2T2-8

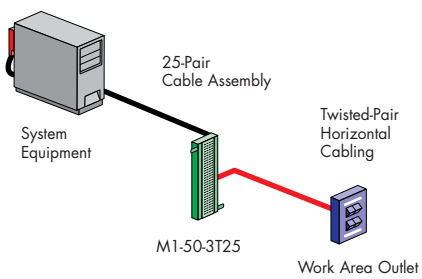
This block is pre-wired to eight 6-position, 2-pair modular cords, each 0.61m (2 ft) long, and it is also equipped with an S89E bracket, clear plastic cover, and designation labels. It is ideal for use with 2-pair key systems that have modular jacks. Two-pair station cables are punched down on the face of the block and the modular cords are plugged into the ports of the key service unit.



S66M1-50-3T25

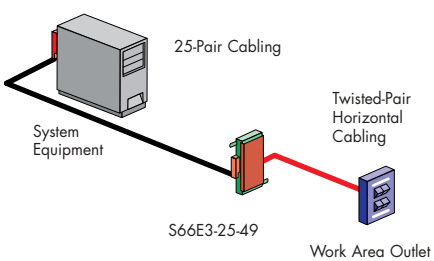
Designed for use with key systems that have a 25-pair male connector, this block is also ideal for 10BASE-T hubs that have a 25-pair male connector. It provides a 0.91m (3 ft) long, high-performance 25-pair cable (female) that is category 3 compliant, punched down to Row D. Also comes with a protective cover and labels for 2- and 3-pair systems.

Add "M" for male connector.



S66E3-25-49

Originally designed to connect 1A2-type 6- or 10-button phones to horizontal wiring, this block is also suitable for use with systems that have a 25-pair connector output (e.g., key systems). This 25-pair block comes with a gray cosmetic plastic cover for wall-mounting in public areas.



NETWORK INTERFACE BLOCKS

Siemon's S66 network interface blocks are ideally suited as an RJ21X interface between service providers (SPs) and the customer premise.

S66M1-50R

The M1-50 block with one female 25-pair connector is oriented for bottom cable entry and pre-wired to Row D. Uses S89D bracket (included) and blue/white wiring between 25-pair connector and S66 quick clip. Orange hinged cover included.

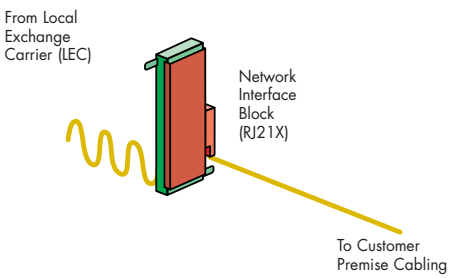
Add "M" for male connector.

S66M1-50R

700A-66-B1-25

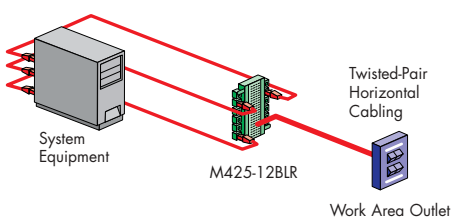
Same as S66M1-50R except it uses S89B bracket and color-coded 25-pair cable between 25-pair connector and S66™ quick clips.

700A-66-B1-25



S66M425-128LR

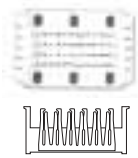
Designed for use with 4-pair key systems with modular jack connectors on the equipment. This block has twelve, 4-pair modular jacks wired to T568B specifications. It is also useful for 10BASE-T systems that use modular jack outputs. Jacks and the S66 block are mounted on a printed circuit board and are clearly labeled. The block is mounted on an S89E bracket and can be removed for cable management.



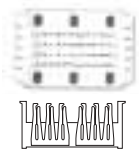
FIELD-TERMINATED B SERIES S66™ BLOCKS

6 X 4 BLOCKS

S66B4-2 . . . . . .
Pair Capacity: 2,
Quick Clip: 848



S66B3-4 . . . . . .
Pair Capacity: 4,
Quick Clip: 843



height: 48.3mm (1.9 in.),
width: 71.1mm (2.8 in.),
depth: 30.5mm (1.2 in.)

6 X 6 BLOCKS

S66B4-3 . . . . . .
Pair Capacity: 3,
Quick Clip: 848

S66B3-6 . . . . . .
Pair Capacity: 6,
Quick Clip: 843
Includes CV-6 cover
(see page 11.13)

height: 61.0mm (2.4 in.),
width: 71.1mm (2.8 in.),
depth: 30.5mm (1.2 in.)

6 X 12 BLOCKS

S66B1-6 . . . . . .
Pair Capacity: 6,
Quick Clip: 848

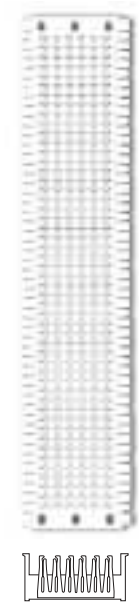
S66B1-12 . . . . . .
Pair Capacity: 12,
Quick Clip: 843

height: 99.1mm (3.9 in.),
width: 71.1mm (2.8 in.),
depth: 30.5mm (1.2 in.)

6 X 50 BLOCKS

height: 340.0mm (13.4 in.),
width: 71.1mm (2.8 in.),
depth: 30.5mm (1.2 in.)

S66B4-25 . . . . . .
Pair Capacity: 25,
Quick Clip: 848



S66B3-50 . . . . . .
Pair Capacity: 50,
Quick Clip: 843

S66B3-75 . . . . . .
Pair Capacity: 75,
Quick Clip: 842

Note: Center-to-center vertical spacing between rows of clips is 6.4mm (0.25 in.).

STAND-OFF BRACKETS FOR S66™ BLOCKS

All of our brackets are designed to create clean, efficient, and space-saving installations when used with S66 connecting blocks. They are open-ended to enable installers to lay in cable before snapping a block into place. 25-pair connectors and/or modular components can be mounted on the sides or back of the brackets. The brackets are molded from flame retardant thermoplastic.

Which bracket do you need?

It depends on the block you're ordering ...

Block Type	Bracket
M4 X 50*	S89B or S89D
M4 X 25	S89E
M6 X 25	S89F
B6 X 50	SB6
All other B-type	SB8-10

**The M1-100 can only be used with the S89D bracket.*

The stand-off brackets (S89D shown) allow cables to be routed behind blocks and provide a means to route cables to the front of the block for termination.

S89D . . . . . .

Use with all M4 X 50 blocks. Can mount two 25-pair connectors on each side and four on the back

PATENTED

S89B . . . . . .

Use with M1-25 or M1-50 blocks. Can mount one 25-pair connector on each side

PATENTED

S89E. . . . . .

Use with all M4 X 25 blocks. Can mount one 25-pair connector on each side and two on the back

S89F. . . . . .

Use with all M6 X 25 blocks. Can mount one 25-pair connector on each side and three on the back

SB6 . . . . . .

Use with all B6 X 50 series blocks. Can mount three 25-pair connectors on each side and six on the back

SB8-10 . . . . . .

Use for mounting all sizes of S66B blocks

Technical Tip!

When mounting blocks end-to-end using SB8-10 brackets, use three brackets for two blocks, four brackets for three blocks and so on.

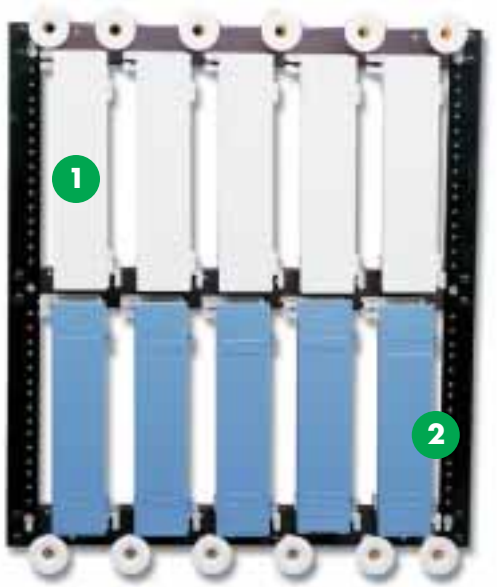
CROSS-CONNECT FRAMES FOR S66™ BLOCKS

PATENTED

Siemon preassembled cross-connect (CC) frames offer multiple configurations to provide consistent spacing of S66M series blocks. The frames are versatile in design to accommodate both field terminated and prewired blocks with varying cable management options.

CC-2015-TB-DC. . . . . .
height: 311.2mm (12.25 in.), width: 514.4mm (20.25 in.), depth: 94.0mm (3.70 in.)

CC-2025-TB-DC. . . . . .
height: 577.9mm (22.75 in.), width: 514.4mm (20.25 in.), depth: 94.0mm (3.70 in.)



1 **S66M Compatible** — Mounts all standard S66M series connecting blocks and wire management accessories

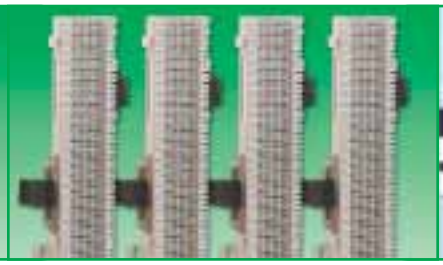
2 **Flexible Mounting** — Frames mount on 19 inch relay racks or walls (mounting hardware is provided for both)

Technical Tip!
Use high-density prewired S66 blocks with rear-mounted connectors and CC Frame stand-off brackets to get the highest density and best cable management.

Higher Density

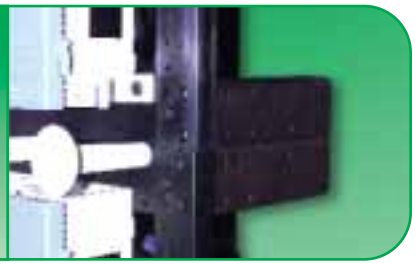
Frames designed for five blocks across accept field terminated or prewired blocks with connectors mounted on the back.

Easier Access



Frames designed for four blocks across accept prewired blocks or our Modular Patch Blocks with two side-mounted connectors (e.g. S66M2-5W or 157C, *see page 11.4*). Additional spacing is provided between blocks to enable better access.

Optional Stand-off Brackets



Stand-off brackets are available to provide 152.4mm (6 in.) of additional space behind the frame for enhanced cable access and management.

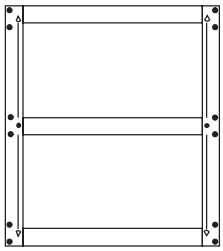
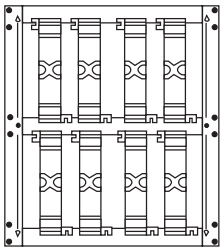
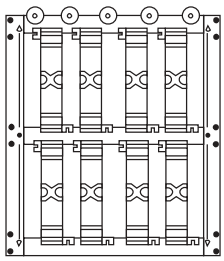
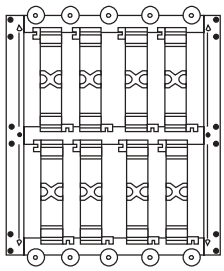
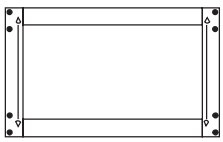
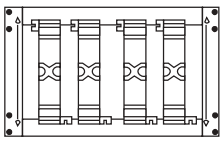
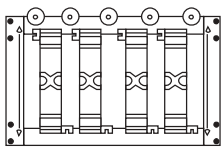
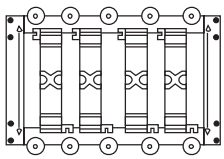
CC FRAME STAND-OFF BRACKETS

Constructed of the same lightweight, high-strength black anodized aluminum as the CC Frames, these stand-off brackets mount on the back of the CC Frame to allow 152.4mm (6 in.) clearance for cable feeds.

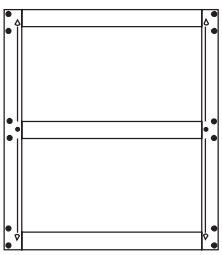
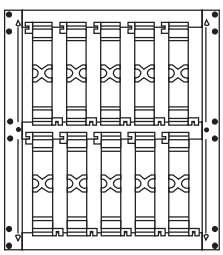
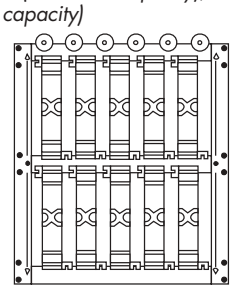
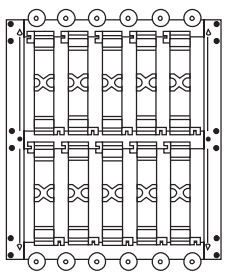
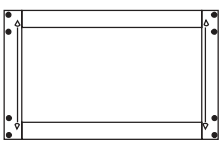
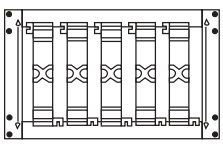
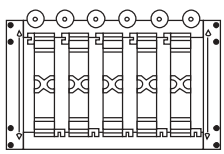
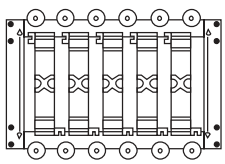
Part #	Description
SOB-CC	Stand-off bracket kit (two brackets) for CC Frames. Two kits are required to mount half-size frame, three kits to mount full-size frame and one kit for the wire hanger assembly. Includes mounting hardware.

Technical Tip!
Use stand-off brackets to get higher density and improved cable management.

CROSS-CONNECT (CC) FRAMES

Frames Only	Frames with Brackets	Frames with Brackets and Top Spools	Frames with Brackets and Top and Bottom Spools
			
CC-2024-NS-NB	CC-2024-NS-DC	CC-2024-TS-DC	CC-2024-TB-DC
			
CC-2014-NS-NB	CC-2014-NS-DC	CC-2014-TS-DC	CC-2014-TB-DC

Bracket type: DC = S89D; NB = No Bracket
Spool location: NS = No Spool; TS = Top Spool; TB = Top & Bottom
Frame size: 2014 = Half size frame (4 Bracket capacity);
2024 = Full size frame (8 Bracket capacity)

			
CC-2025-NS-NB	CC-2025-NS-DC	CC-2025-TS-DC	CC-2025-TB-DC
			
CC-2015-NS-NB	CC-2015-NS-DC	CC-2015-TS-DC	CC-2015-TB-DC

Bracket type: DC = S89D; NB = No Bracket
Spool location: NS = No Spool; TS = Top Spool; TB = Top & Bottom
Frame size: 2015 = Half size frame (5 Bracket capacity);
2025 = Full size frame (10 Bracket capacity)

CC FRAME CABLE MANAGER ASSEMBLIES

For mid-to-large cross-connect installations these cable manager assemblies provide efficient and effective wire management on the CC Frames. They may be mounted either flush to a wall or on a relay rack. To order individual cable managers see page 6.13.

Part #	Description	RMS
CC-2005-144. . . .	Cable manager with five S144 managers. . . .	2
CC-2005-145. . . .	Cable manager with five S145 managers. . . .	2
CC-2005-146. . . .	Cable manager with five S146 managers. . . .	2

Note: 1 RMS = 44.5mm (1.75 in.)

METAL HOUSINGS

Metal housings protect blocks and connections from damage when installed in "high risk" areas such as on a wall in a warehouse or factory. Our housings are manufactured from durable 18 gauge steel with a gray or beige finish. We provide two options — you can purchase housings with the blocks already assembled or just the housings to install your own blocks. These metal housing are not weatherproof and are recommended for indoor use only.

Part #	Description
MH-25-49	Housing for one 6 X 50 B block or one 4 X 50 M block, gray *height: 442mm (17.40 in.),* *width: 137mm (5.40 in.),* *depth: 45.7mm (1.80 in.)*
MH-50-49	Housing for two 6 X 50 B blocks or two 2 X 50 M blocks, gray *height: 442mm (17.40 in.),* *width: 229mm (9.03 in.),* *depth: 45.7mm (1.80 in.)*

HOUSING WITH BLOCKS

(Blocks shown on pages 11.3 and 11.8)

Part #	Description
S66M1-25MH-49	One S66M1-25 block in a MH-25 gray metal housing
S66M1-50MH-49	One S66M1-50 block in a MH-25 gray metal housing
S66M1-100MH-49	Two S66M1-50 blocks in a MH-50 gray metal housing
S66B4-25MH-49	One S66B4-25 block in a MH-25 gray metal housing
S66B4-50MH-49	Two S66B4-25 blocks in a MH-50 gray metal housing
S66B3-50MH-49	One S66B3-50 block in a MH-25 gray metal housing
S66B3-100MH-49	Two S66B3-50 blocks in a MH-50 gray metal housing

SNAP-ON COVERS

These economical snap-on covers protect S66™ quick clips while providing a clear view of the wiring terminations. Made of flame-retardant plastic.

Part #	For Use With
MC4	M4 X 50

Part #	For Use With
BC612	B6 X 12

Part #	For Use With
MC425	M4 X 25

Part #	For Use With
BC6	B6 X 50

LASTING HINGE COVERS

Use these lasting hinge covers and you'll save up to 90% of the cost of a colored backboard system — and with colored covers, the planner or installer can color-code individual blocks instead of working in groups of four or eight.

Made from flame-retardant thermoplastic, the covers protect the quick clips and provide a convenient surface for marking circuit designations.

Each cover is hinged and can be easily removed and replaced. There are two depths for the covers; the standard-profile allows for standard plug-on accessories, and the high-profile cover allows for larger accessories such as the Colored Bridging Clips *(see page 11.14)*.

Part #	Description
MC425LH-(X)	Cover for M425-type block
Use (X) to specify color: 6 = blue, 9 = orange	
MC4LH-(X)	Cover for M450-type block
Use (X) to specify color: 2 = white, 3 = red, 4 = gray, 5 = yellow, 6 = blue, 7 = green, 8 = violet, 9 = orange	
MC4LH-HP-9	High-profile orange cover for M450-type block

LABELS

These adhesive backed, lined labels allow technicians to write and maintain circuit information on the MC4 plastic snap-on cover.

Part #	Description
MC4-LBL-25	Label for MC4 cover, numbered 1-25

DESIGNATION STRIPS

Designation strips mount quickly and easily on the fanning strips of both M and B series S66 blocks. The strips provide a convenient labeling surface for circuit identification.

For M Blocks

D10 . . . . . White lined designation strip

For B Blocks

D13 . . . . . White lined designation strip

BRIDGING CLIPS

PATENTED

These industry standard bridging clips are used to connect adjacent quick clips on S66™ blocks. The clips are easy to remove *(see page 12.9 for information on our handy PROBE-PIC)* for isolating and testing incoming pairs from outgoing pairs and are reusable. Available in either tin-plated grade A copper alloy (voice and data) or stainless steel (voice only).

Tin-plated Copper Alloy Clips

SA1-(XXXX) . . . . . 2-position clip

Stainless Steel Clips*

SA1-SS-(XXXX) . . . . . 2-position clip, stainless steel

Use (XXXX) to specify quantity: 100 = 100/bag, 1000 = 1000/bag

**Not recommended for use with data applications.*

COLORED BRIDGING CLIPS

PATENTED

Designed to fit the 66M type connecting block, each of these plug-on adapters contain two standard SA-1 bridging clips, so they actually bridge a complete pair when installed, not just a single wire. The plastic housings are color-coded and serve to protect the quick clip. Technicians can test lines with the clips in place by using our TPE in-line test probe.

SMBC-2-(X) . . . . . Bridging clip

TPE . . . . . Test probe/extractor

Use (X) to specify color: 2 = white, 3 = red, 5 = yellow, 6 = blue, 7 = green, 8 = violet

SPECIAL SERVICE MARKERS

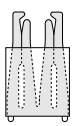
These red plastic markers slide over S66 quick clips and terminated wires and are ideal for marking special circuits on blocks.

Part #	Description
S-857-916	2-position red marker

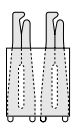
CAPACITY EXPANDING ADAPTERS

These adapters create additional capacity on S66 blocks by plugging directly onto the S66 quick clips — with or without wires punched down. The adapters come with either one or two additional quick clips. Use a high-profile lasting hinge cover to fit over the adapters *(see page 11.13)*. The adapters are top and bottom stackable, but not side-by-side stackable. Not designed for use on category 5e S66M1-50 blocks.

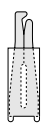
SA2. . . . . Adapter with 1 double quick clip



SA2-1 . . . . . Adapter with 2 single quick clips



SA3. . . . . Adapter with 1 single quick clip



ORGANIZER RINGS

These plastic rings snap directly onto the side of an S89-type mounting bracket to organize, position, and retain cable and cross-connect wire. They also work well as a patch cord manager when used with our Modular Patch Blocks *(see page 2.13)*.

Part #	Description
S606P	Organizer ring

WIRE DISTRIBUTION SPOOLS

All of these high-impact plastic spools are used to neatly guide and retain cable or jumper wires. Cabling is held in place by the spool's rim to allow easy access for changes or modifications. The S20A and S20B are white and can be used with either a main cross-connect frame or backboard. The S20C is black to match our CC frames *(see page 11.11)* and modular patch panels, and screws directly into the mounting holes of a standard 19 or 23 inch relay rack.

S20A
White spool without screw
height: 42.7mm (1.68 in.), width: 42.7mm (1.68 in.), depth: 74.9mm (2.95 in.)

S20B
White spool with captive (#10) wood screw
height: 42.7mm (1.68 in.), width: 42.7mm (1.68 in.), depth: 74.9mm (2.95 in.)

S20C
Black spool with captive (#12-24) machine screw
height: 42.7mm (1.68 in.), width: 42.7mm (1.68 in.), depth: 74.9mm (2.95 in.)

Technical Tip!
We recommend a (#10) wood screw for wall mount applications and a (#12-24) machine screw for rack mount applications.

TAP® ADAPTERS

PATENTED

The TAP is a flexible modular connecting adapter designed to access 66M connecting blocks. When installed, the TAP permits customer administration of moves and changes using modular cords, and provides test access. The TAP is designed in 1-, 2-, 3-, and 4-pair configurations and can be end-stacked (except TAP-2) or mounted side by side on a 66M block.

Part #	Description
TAP-2	1-pair, 6-position adapter, USOC
TAP-4	2-pair, 6-position adapter, USOC
TAP-6	3-pair, 6-position adapter, USOC
TAP-8	4-pair, 8-position adapter, T568B

RELATED PRODUCTS **TESTAR S66 Test Adapters page 12.5**

SMAK® KIT

PATENTED

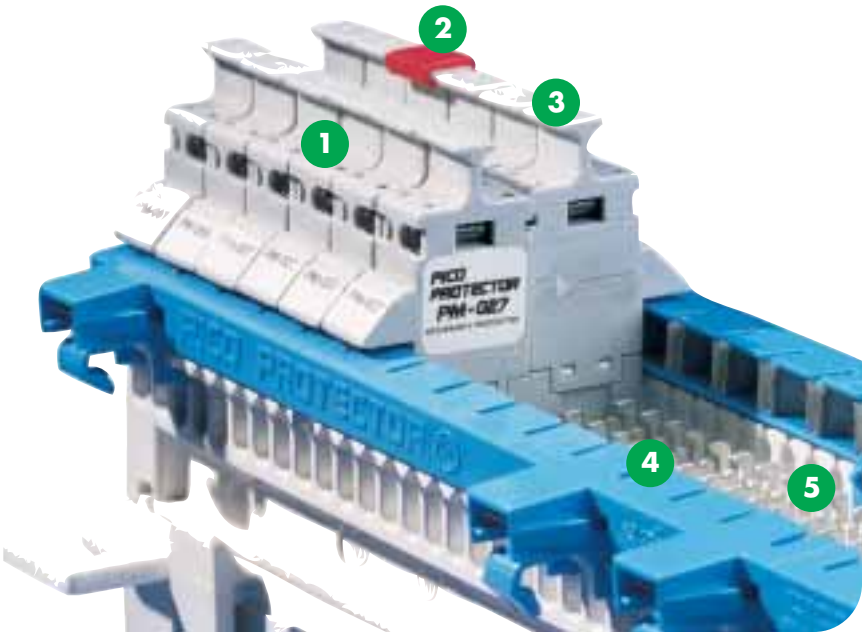
Our SMAK Kits allow you to add modular components to a S66™ block in the field. Designed to mount on the sides of S66 stand-off brackets *(see page 11.9)*, each kit contains a one-piece plastic yoke, two self-tapping screws, and three or four modular components.

Part #	Description
SMAK-2	Four, 1-pair 6-position modular jacks and 1 yoke
SMAK-4	Four, 2-pair 6-position modular jacks and 1 yoke
SMAK-6	Four, 3-pair 6-position modular jacks and 1 yoke
SMAK-8	Three, 4-pair modular jacks and 1 yoke

PICO PROTECTOR® MODULE

Designed for use as secondary protection (to supplement primary protection). Each Pico® module provides both overvoltage and "sneak current" protection on 66M blocks in one pair increments. The Pico uses very high-speed, solid-state technology for voltage protection and fuses for current protection. The Pico Protector provides an effective and economical way to protect expensive and sensitive electronic equipment.

The system consists of two components: a protector module and a ground kit. Ground kits are available and consist of a snap-on ground plate or "bus bar" and jumpers to safely divert surge energy to ground.



1. **Easy Access —** Molded handle for easy installation and removal
2. **Priority Circuit Identification —** Special red designation caps are available to label priority circuits
3. **Side Stackable —** Protects 1-pair each and can be end- or side-stacked
4. **No Additional Space Requirements —** Plugs directly onto 66 clips over existing cabling
5. **Multi-Pair Protection —** Provide up to 50-pair protection on a standard M1-100 block

Surge Protection

Pico Protector provides low cost wiring surge protection for system or station equipment. A necessity for areas with high electric storm activity.

Replaceable Fuses

Fuses can be easily replaced if necessary, eliminating costs of replacement modules.

In-Line Testing

TP-4P test probe allows you to attach test equipment to the 66 block without removing the Pico Protector. This handy adapter can also be used to easily remove protector modules from quick clips.

Guidelines for choosing the correct voltage level for Pico Protectors®

1 Measure the operating DC signal voltage of your equipment.
For example: 48Vdc

2 Measure the peak AC voltage of your equipment, (RMS voltage x 1.41).
For example:
90Vac x 1.41 = 127Vpeak

3 Add together the voltage values determined by steps 1 and 2 above:
48Vdc + 127V = 175Vpeak

4 Select the Pico® module rated for the stand-off voltage nearest to, but not below, the value determined by step 3. For this example: the PM-230 module is the best selection since its stand-off voltage is 180V

PICO PROTECTOR MODULE

PATENTED

Part #	DC Breakover Voltage (±15%)	Stand-off Voltage (Vso)
PM-007	7.0 volts	5.4 volts
PM-027	27.0 volts	19.0 volts
PM-068	68.0 volts	50.0 volts
PM-140	140.0 volts	102.0 volts
PM-180	180.0 volts	131.0 volts
PM-230*	230.0 volts	180.0 volts

**For protecting equipment that is connected to Central Office (voice, fax, modem, etc.) lines, the PM-230 module is always recommended.*

Technical Tip!
You can retrofit Pico Protectors on an installed M1-50 block. The ground bar mounts inside the fanning strip (as shown here) allowing the Pico module to be plugged into the center rows of an M1-50 block.

DEFINITIONS

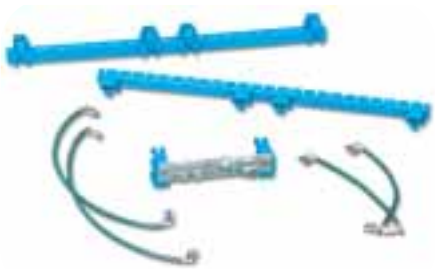
DC breakover voltage: *The voltage range at which a given module will activate to divert surge energy to ground.*

Stand-off voltage: *The maximum voltage level of the Pico® module under no-surge conditions that will keep it from interfering with normal operation of the circuit.*

Note: Frequency bandwidth limitations may apply. Contact our Technical Support Department.

GROUND KITS

Part #	Description
PG-06	6-pair kit includes snap-on ground plate and six 203mm (8 in.), female-ended, quick-connect jumpers
PG-25	25-pair retrofit kit for a pre-installed M1-50 block includes bus bar assembly, snap-on ground plate, and two 102mm (4 in.), female-ended, quick-connect jumpers
PG-50	50-pair retrofit kit for a pre-installed M1-100 block includes two bus bar assemblies, snap-on ground plate, two 102mm (4 in.) and two 203mm (8 in.) female-ended, quick-connect jumpers
PK-25	25-pair kit includes M1-50 block, S89D bracket, snap-on ground plate, two 102mm (4 in.) female-ended, quick-connect jumpers, and one bus bar assembly
PK-50	50-pair kit includes M1-100 block, S89D bracket, snap-on ground plate, two 102mm (4 in.) female-ended, quick-connect jumpers, two 203mm (8 in.) quick-connect jumpers, and two bus bar assemblies



CURRENT PROTECTION MODULE

PATENTED

Our CPM-2PLUS® prevents cable and equipment damage due to "sneak currents" (continuous foreign current levels exceeding 0.350 amperes). Sneak currents are not high enough to trigger overvoltage protectors but can pose fire hazards and cause damage to sensitive electronic equipment. They may be caused by direct or indirect contact with power lines, a low impedance connection to earth ground, or by a short circuit somewhere on the line.

Each Current Protection Module contains two fuses in a clear plastic carrier. They are installed across two adjacent pairs of 66 quick clips, establishing solid contact with the clips. When the module is activated, the fuse opens, cutting off the flow of excessive current, preventing fire risk and shock hazards on data and voice transmission lines.

The modules are side- and end-stackable, allowing up to 50-pair protection on a standard M1-100 block or 25-pair protection in a standard M1-50 block. Use Siemon part number TP-4P *(see below)* to test block wiring without removing the protection module. Also use the TP-4P to easily extract CPM-2PLUS modules from the block. Red plastic caps are available to designate priority circuits.

Part #	Description
CPM-2PLUS.	Current protection module with two replaceable fuses

RELATED PRODUCTS **S66 Blocks pages 11.2 – 11.8**

ACCESSORIES

PATENTED

These accessories compliment Siemon's Protection products. They are compatible for use with both Pico and CPM-2PLUS modules.

TP-4P . . . . . Adapter for test access and removal of modules and fuses

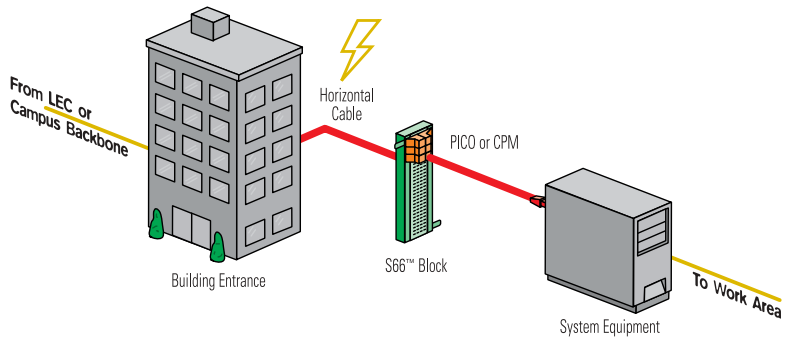
SF-035. . . . . 350 mA replacement fuse

CP-675-C . . . . . Red designation caps for ready identification of special services

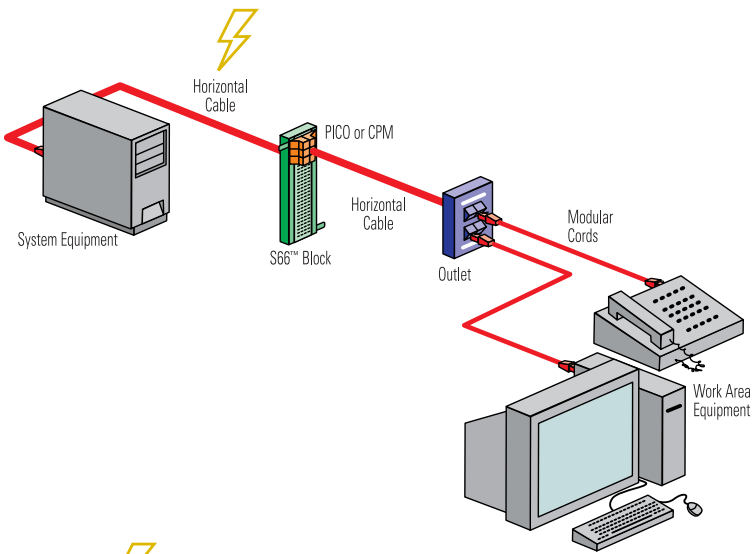
PROTECTION SOLUTIONS

Siemon's solid-state and sneak current secondary protection products can save your voice and data equipment from damage caused by direct or indirect contact with lightning, power lines, or electrostatic discharge. Primary protection devices are designed to protect people and buildings and are usually installed on the regulated side of a network by the local exchange carrier. Primary protection activates when lightning strikes, power lines cross, or when other situations that create high voltage occur, triggering the device to divert the surge energy to ground. However, primary protection devices do not respond fast enough and their clamping levels are not exact enough to protect today's sensitive electronic equipment. Secondary protection installed behind primary protection will stop any damaging surges or currents that get past your primary protection.

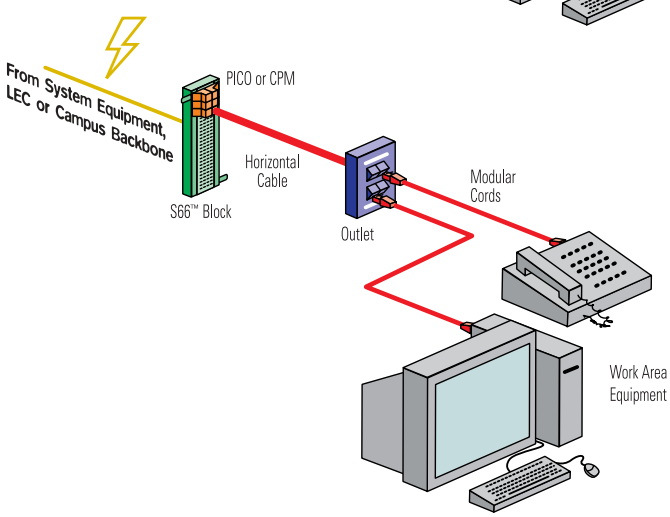
1. To protect the system equipment from surges introduced between the building entrance and the system equipment, install the Pico Protector® or CPM-2PLUS® between those two points and as close as possible to the equipment being protected.



2. To protect the system equipment from surges introduced between the system equipment and the work area, install the Pico Protector or CPM-2PLUS between those two points and as close as possible to the equipment being protected.



3. To protect the work area equipment that is connected to the Local Exchange Carrier (eg. Centrex Lines), Campus Backbone Cabling or System Equipment. If the work area equipment operates over more than one-pair, install the Pico Protector or CPM-2PLUS as close as possible to the equipment being protected.



	STM-8 AND STM-8-S (pages 12.2 — 12.3)	MT-5000 (page 12.4)
Media Types	UTP, Screened	UTP
Cable Size	1-4 Pair	1-4, 25 Pair
Distance	900m (2950 ft.)	762m (2500 ft.)
Additional Accessories	Identifiable Passive Remotes, Active Remotes	Universal Plug-Ended Modular Cords

SECTION CONTENTS

SIEMON-JAPAN

With 30% of the G500 headquarters located on the island, Japan presents a unique opportunity for Siemon. With its sights set firmly on penetrating this substantial market, Siemon opened its Japan offices in April 2003.

Located in central Tokyo, Siemon Japan provides not only sales and customer service, but also expert technical service through its own staff and network of certified installer, consultant and distributor partners. Based upon a solid team, strong partnerships and Siemon's premier structured cabling solutions, Siemon Japan continues its steady climb.

In a culture which places the highest of priorities on quality, Siemon's longstanding commitment to quality, service, innovation and value will continue to resonate.

ビジネス成功の基盤
シーモン ネットワークケーブリングソリューション

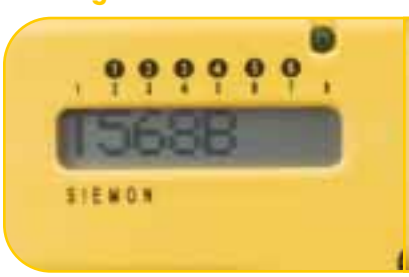
STM-8

PATENTED

The STM-8 is an economical and versatile hand-held tester designed for the testing of UTP and screened cable for opens, shorts, reversals, miswires, split pairs and cable length. Its rugged, state-of-the-art construction, easy-to-read LCD display and multiple remotes allow one person to quickly test and identify up to four different cable runs from one location.

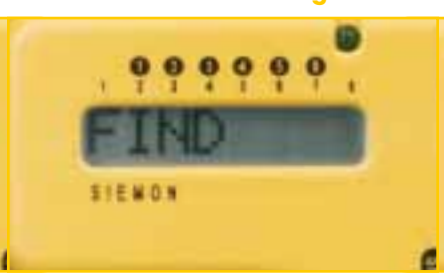
1. **Extended Battery Life —** A low battery status indication is provided, as well as automatic shut-off
2. **Long Length Testing —** Test cable runs up to 900m (2950 ft.)
3. **Easy Reference —** Indications for 6- and 8-position jacks
4. **Line Voltage Indicator —** The presence of line voltage is indicated on the display to help prevent accidental damage to the unit
5. **Multi-Location Testing —** Additional remotes can be purchased separately
6. **Universal Compatibility —** The UTP modular cords are equipped with patented "universal" plugs, *(see page 3.11)* that fit into any standard 6- or 8-position modular jack

Tests All Wiring Configurations



Tests T568A, T568B, USOC, 10BASE-T, Token Ring, and TP-PMD wiring configurations.

Determines Unknown Wiring



In FIND mode, the STM-8 will detect and identify which wiring scheme is present in the cable being tested.

Determines Cable Length

In the LENGTH mode, the STM-8 will determine the distance measurements on any given cable up to 900m (2950 ft.). This feature may be used with all four identifiable remotes.

RELATED PRODUCTS MODAPT® page 12.4, S110® Test Adapter page 12.5, TESTAR® page 12.5

STM-8 AND STM-8-S

PATENTED

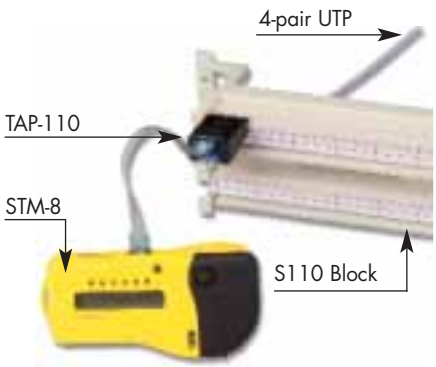
Part # **Description**

STM-8 . . . . . UTP (unshielded, twisted-pair) cable tester. Includes carrying case, remote "A", two universal plug-ended modular cords, wiring guide, 9V alkaline battery, instructions, and warranty card

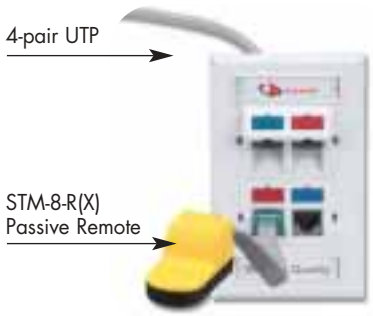
MC-8-005 . . . . . Universal plug-ended modular replacement cord

Horizontal Cross-Connect

The S110® Test Adapter can be used to test horizontal cabling that is terminated on 110-type connecting blocks



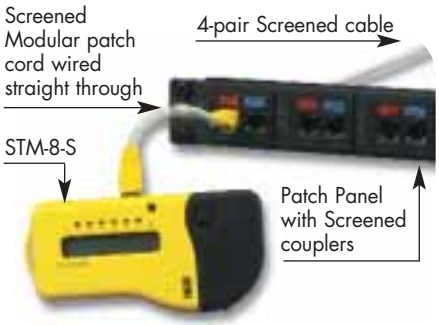
Work Area Outlet



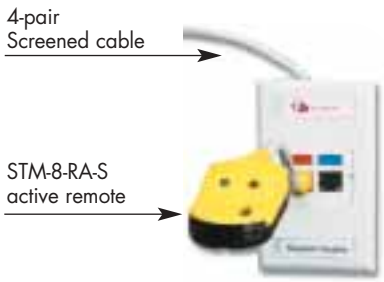
STM-8-S . . . . . Screened twisted-pair cable tester. Includes carrying case, active remote, two screened modular cords, wiring guide, 9V alkaline battery, instructions, and warranty card

MC5-S-8-005 . . . . . Screened modular replacement cord

Horizontal Cross-Connect



Work Area Outlet



ACCESSORIES

PATENTED CE

Siemon's active remote utilizes a shielded jack for testing both UTP and shield continuity of screened cabling. LEDs on remote indicate test results after each test cycle; solid green LED flash for pass and solid red LED flash for fail. Identifiable passive remotes are also available for testing multiple locations.

STM8-RA-S . . . . . .

Active remote for UTP/Screened with two screened modular cords, instructions, 3V lithium battery, and warranty card

STM8-R(X). . . . . .

Additional identifiable UTP passive remotes

Use (X) to specify remote identity:
A = remote A,
3 = kit of remotes B, C, and D

MT-5000

The MT-5000 is a versatile, hand-held cable tester — it is fast, reliable, and durable. It tests opens, shorts, and miswires from 1- to 25-pairs and can accommodate a combination of 25-pair and modular jack terminations. For instance, using the 25-pair test adapter *(see below),* the remote unit can be attached to a 66 block that is connected to multiple horizontal cable runs in the equipment closet. Then, using the modular jack in the master unit, one person can test up to six 4-pair station cables in the work area. Cable runs of up to 762m (2,500 ft.) can be tested with accuracy.

The MT-5000 tests individual conductors, not pairs. This allows testing of all wiring configurations including USOC, T568A, and T568B.

The MT-5000 consists of a master and a remote unit. The master controls all of the test functions, so one person can perform testing. Test results are reported on a large, easy-to-read LCD display. Each unit has both male and female 25-pair connectors, one 6-position (1-, 2- or 3-pair) modular jack, and one 8-position (4-pair) keyed modular jack. The unit also features a low-battery status indicator, a power input jack, and a power saving auto-off switch. It comes in a padded, nylon carrying case with batteries included.

Part #	Description
MT-5000	Cable tester (master and remote) with case and two universal plug-ended modular cords

25-PAIR TEST ADAPTERS

PATENTED

Siemon 25-pair test adapters are designed for accessing all 25 pairs on a 66M connecting block. A positive connection ensures accurate testing with easy installation and removal. They can also be used to field-connectorize 66M blocks. Available with either male or female 25-pair connectors.

TAP-50

Part #	Description
TAP-50F	25-pair S66™ test adapter with female connector
TAP-50M	25-pair S66 test adapter with male connector

MODAPT®

PATENTED

This modular adapter allows in-line testing for any plug/jack combination. It includes two 4-pair jacks plus a 152mm (6 in.) modular cord terminated with our patented 4-pair "universal" plug for accessing any standard 6- or 8-position jack *(see page 3.11).* Individual conductors are broken out by pin number and correspond to eight separate test pads. Test equipment can be securely attached to the test pads using alligator clips. For quick reference in the field, USOC, T568A, and T568B wiring charts are printed right onto the MODAPT body. When used with Siemon's TESTAR® adapter and S110® test adapter *(see next page),* the MODAPT can be used to test connections on S66M and S110 blocks.

Part #	Description
MODAPT	Test adapter with one 152mm (6 in.) 4-pair universal plug-ended modular cord

TESTAR®

PATENTED

The TESTAR creates easy test access to 66 quick clips. It plugs directly onto the S66™ block, establishing a positive connection and providing a 4-pair modular jack for plugging in test equipment. The body is molded in blue plastic and has molded-in finger grips for easy handling.

Part #	Description
TESTAR-8T-C5	Category 5e compatible, 4-pair, 8-position, TESTAR, T568A
TESTAR-8A-C5	Category 5e compatible, 4-pair, 8-position, TESTAR, T568B

OTHER TESTARS

The positive connection made by the TESTAR eliminates possible problems associated with handling alligator clips or test probes such as accidental shorting across terminals or intermittent test connections. Test equipment is inserted into the TESTAR through a 1-, 2-, 3-, or 4-pair modular jack. To utilize equipment requiring alligator clips, our MODAPT® adapter *(see previous page)* can be plugged into the TESTAR.

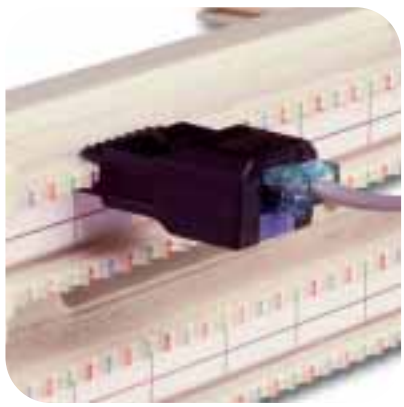
Part #	Description
TESTAR-2	1-pair, 6-position, TESTAR, USOC
TESTAR-4	2-pair, 6-position, TESTAR, USOC
TESTAR-6	3-pair, 6-position, TESTAR, USOC
TESTAR-8R1	4-pair, 8-position, TESTAR, USOC
TESTAR-8	4-pair, 8-position, TESTAR, T568B
TESTAR-8T	4-pair, 8-position, TESTAR, T568A

1-pair *2-pair* *3-pair* *4-pair*

S110® TEST ADAPTERS

PATENTED

Siemon's 1-, 2-, 3-, and 4-pair S110 test adapters provide a convenient way to test 110-type connecting blocks. These adapters plug directly onto any 110-type connecting block and provide a modular jack for connection to test equipment or patch cords. It is the only 110 style test adapter that can be attached to both terminated and unterminated 110-type connecting blocks. The 2-, 3-, and 4-pair adapters are end-stackable, and are polarized to prevent incorrect insertion.



The 4-pair test adapters have an area for a colored icon (a blue and red icon are included) for additional identification. The 4-pair adapter is available in T568A and T568B wiring configurations and is category 5e compatible for high-performance link testing.

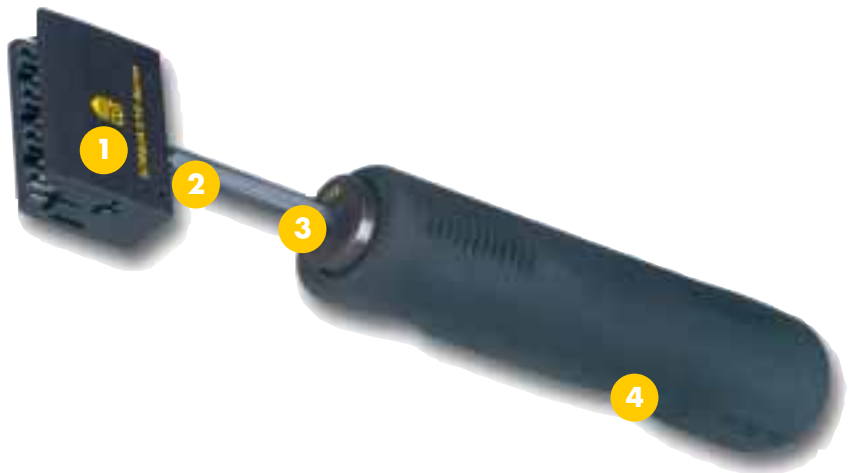
Part #	Description
TAP-110-U1	1-pair, 6-position, test adapter, USOC
TAP-110-UT	2-pair, 8-position, test adapter, Token Ring/USOC
TAP-110-U3	3-pair, 6-position, test adapter, USOC
TAP-110-U4	4-pair, 8-position, test adapter, USOC
TAP-110-T4	Category 5e compatible, 4-pair, 8-position, test adapter, T568A
TAP-110-A4	Category 5e compatible, 4-pair, 8-position, test adapter, T568B

Technical Tip!
The adapters utilize a unique, spring-loaded contact design to ensure a reliable connection without disturbing existing cross-connect terminations. This also extends the life-cycle of the test adapter.

1-pair *2-pair* *3-pair* *4-pair*

S110®/S210® MULTI-PAIR TERMINATION TOOL

The Siemon S110/S210 multi-pair termination tool is a versatile impact tool designed to terminate and cut UTP cable, and seat connecting blocks. The impact mechanism and termination blades have been designed to reliably terminate and cut UTP cable the first time, every time. The tool features an easy to hold, ergonomically designed handle that helps reduce fatigue when trimming wire or seating connecting blocks to the wiring base.



1. **Ready Orientation —** Clearly displayed "CUT" designation for proper orientation during termination
2. **Interchangeable Heads —** Tool accommodates both S110 and S210 heads
3. **Long Term Reliability —** Reliable impact mechanism
4. **Ergonomic Design —** Ergonomically designed rubber handle with ribbed edge provides no-slip grip

Technical Tip!
Termination blades for Siemon punch down tools are reversible — one end terminates and cuts off the excess wire, the other end terminates without cutting.

Multi-Function Tool

Seats conductors and trims wires on both the cable side and the cross-connect side of connecting blocks. It also seats S110 or S210 clips onto base.

Use in Work Area and Telecommunication Room

The 4-pair S110 multi-pair tool can also be used with dual, flat 5e CT® couplers and HD5® patch panels.

Compatible with All S110 Products

Slimmer termination tool head works with S110 modular jack panels.

S110®/S210® MULTI-PAIR TERMINATION TOOLS

PATENTED

S788J4-210 . . . . . .
4-pair S210 termination tool

S788J4B-210 . . . . . .
4-pair S210 replacement cutting blade and insertion assembly

S788J4H-210 . . . . . .
4-pair S210 replacement head for impact tool, including housing, cutting blade and insertion assembly

S788J4 . . . . . .
4-pair S110 termination tool

S788J4B . . . . . .
4-pair S110 replacement cutting blade and insertion assembly

S788J4H . . . . . .
4-pair S110 replacement head for impact tool, including housing, cutting blade and insertion assembly

S788J5 . . . . . .
5-pair S110 termination tool

S788J5B . . . . . .
5-pair S110 replacement cutting blade and insertion assembly

S788J5H . . . . . .
5-pair S110 replacement head for impact tool, including housing, cutting blade and insertion assembly

S814 IMPACT TOOL

The S814 impact tool terminates wires on 66 and 110 clips. The tool is spring-loaded and fully adjustable; a helpful feature when working with wires of varying thicknesses. The bayonet-style mount allows the blades to be changed quickly and easily, and a compartment in the handle stores an extra blade.

Part #	Description
S814	Tool body only
S814-66	Tool body with 66 termination blade
S814-110	Tool body with 110 termination blade
S81401-66	66 termination blade
S81401-110-88 . . .	110 termination blade

Technical Tip!
Termination blades for Siemon punch down tools are reversible — one end terminates and cuts off the excess wire, the other end terminates without cutting.

PALM GUARD

PATENTED

The Siemon palm guard has been ergonomically designed to provide a safe and convenient means of terminating our UTP and screened flat or angled CT® couplers and MAX® modules. The palm guard absorbs the impact of termination while securing the connector to prevent movement. Includes an adjustable elastic strap and a removable insert, which can be used to hold MAX modules while terminating on flat surfaces.

Part #	Description
PG	Palm guard with MAX insert
PG-MX6	Palm guard insert for all punch-down MAX modules

PG

PG with PG-MX6

PG-MX6

CI-KIT

The CI-KIT provides all the tools that a telecommunications technician needs for day-to-day activities. Included in the kit is an S814 impact tool with 66 and 110 termination blades, a probe pic, electrician's scissors, mini flathead screwdriver, and a CPT-WEB cable preparation tool. These tools are stored in a handy, lightweight clip-on pouch which allows the installer to cut, strip, and terminate cabling without having to carry separate tools or larger tool kits.

Part #	Description
CI-KIT	Clip-on tool kit with S814 impact tool (with 66 and 110 termination blades), probe pic, electrician's scissors, mini flathead screwdriver, and CPT-WEB tool
CI-POUCH	Clip-on CI-KIT tool pouch only

CI-KIT2

Siemon's CI-KIT2 includes all the components of the standard CI-KIT, with the addition of our popular AllPrep™ cable preparation tool *(see page 12.10)* in place of the CPT-WEB tool. Also, a "D-Ring" has been added to carry additional tools. These tools are stored in a handy, lightweight, clip-on pouch which allows the installer to cut, strip and terminate cabling without having to carry separate tools or larger tool kits.

Part #	Description
CI-KIT2	Clip-on tool kit with S814 impact tool, (with 66 and 110 termination blades), probe pic, electrician's scissors, mini flathead screwdriver, and AllPrep cable preparation tool
CI-POUCH2	Clip-on CI-KIT2 tool pouch only

"D-Ring"

PROBE-PIC

The PROBE-PIC is an excellent multi-purpose tool for positioning, tracing, separating, and removing cut pieces of insulation and wire. It can also be used to remove bridging clips and wire from S66™ quick clips.

Part #	Description
PROBE-PIC	Multi-use wire tool

CUTTER

These cutters provide an excellent flush cut when precision is needed. They are ideal for trimming of conductors with our Tool-less MAX® Modules and TERA® outlets/plugs as well as S110® and S210® patch plugs. The cutters are forged from high quality alloy steel for maximum strength and durability. The cutting edges are machine ground and electronically hardened for extended life and the steel joint maintains a perfect cutting edge and tip alignment for excellent consistency. Handle coil springs and cushioned grips allow faster action and greater comfort with reduced user fatigue.

Part #	Description
CI-CUTTER	Tapered revived diagonal cutter

ELECTRICIAN'S SCISSORS

Cable preparation is made easy with this cutting tool. Our durable scissors are great all purpose scissors for cutting cable, removing cable jackets, trimming kevlar, or any other daily requirement of today's installers. They are constructed from tempered steel and feature a nickel plated finish to prevent corrosion. The upper blade has notches for stripping 19 and 23 AWG wire and there is a scraper and file on the outside of both blades.

Part #	Description
CI-SCISSORS	All purpose electrician's scissors

ALLPREP™ CABLE PREPARATION TOOL

PATENTED

The AllPrep cable preparation tool provides a robust and reliable method of preparing both coaxial and twisted-pair cable for termination. The tool features two color-coded dies that are interchangeable for each media type. The coaxial die strips RG59 and RG6 coaxial cable and the twisted-pair die strips a wide variety of UTP, screened and fiber cables.

Part #	Description
CPT-RGTP	AllPrep cable preparation tool for coax/twisted pair cables
CPT-DIE-RG	Replacement coax die (black)
CPT-DIE-TP	Replacement twisted-pair die (yellow)
CPT-DIE-EZ	Replacement EZ Twist die (blue)

TERA® CABLE PREPARATION TOOL

PATENTED

The TERA cable preparation tool uses a patent pending process to significantly reduce the time required to prepare fully shielded (S/FTP) cable. The tool includes an insert die with a blade, which is specifically designed to accurately strip the jacket and foil from 4-pair fully shielded cable without damaging the conductors. A template is also included to pre-align cable pairs and ensure proper pair positioning during termination.

Part #	Description
CPT-T	TERA preparation tool. Includes CPT-DIE-T4 and TERA cable preparation template
CPT-DIE-T4	Replacement TERA cable die (red)

RELATED PRODUCTS TERA Outlets pages 1.2 – 1.3, TERA Plugs pages 3.2 – 3.3

CPT

The CPT provides a simple and effective method to remove the outer cable jacket from 2-, 3-, or 4-pair cables without damaging the inner conductor insulation. The CPT is recommended for use with any round cable with an exterior diameter from 2.54 – 6.35mm (0.100 – 0.250 in.) and an outer jacket thickness from 0.380 – 0.635mm (0.015 – 0.025 in.).

Part #	Description
CPT	Cable preparation tool

CPT-WEB

PATENTED

The CPT-WEB is designed to easily strip the outer cable jacket, flatten and separate the webbed conductors of Siemon's category 5 cross-connect jumper wire and other UTP cable with webbed conductor pairs.

Part #	Description
CPT-WEB	Webbed cable preparation tool

PT-908 CRIMP TOOL

This 3-in-1 ratchet-style crimp tool cuts, strips, and crimps modular plugs on either round or flat cables. The parallel action design maintains accurate alignment of the die with the plug for a precision crimp every time. The PT-908 comes with a padded carrying case which includes a storage compartment for carrying spare dies, replacement stripper blades, and modular plugs, and will attach to a technician's belt.

PT-908 . . . . . .
Crimp tool with built-in round cable cutter/stripper, 8-position die set and padded nylon carrying case

PT-908-D . . . . . .
Crimp tool with built-in round cable cutter/stripper, 8-position die set packaged in a clear plastic display case

PT-DIE-8 . . . . . .
Replacement 8-position die set

PT-DIE-6 . . . . . .
6-position die set

Technical Tip!
Siemon does not recommend field termination of modular cords. We recommend the use of factory-terminated and tested modular cords for any category 5e or higher application.

COAXIAL CRIMP TOOL

The RG-T coax crimp tool's dual crimp design allows for the proper termination of both RG59, 8.2mm (0.32 in.) and RG6, 9.1mm (0.36 in.) F-type connectors onto coaxial cable without having to change the crimping jaws. The ratchet design ensures proper crimping of the connector without damage to the cable. The tool is constructed using high carbon steel and features an ergonomically designed handle for a comfortable grip.

Part #	Description
RG-T	Coax crimp tool
RG-T-DIE	Replacement RG59/RG6 die

RELATED PRODUCTS **Coaxial Connector page 3.12, AllPrep™ Cable Preparation Tool page 12.10**

SIEMON GUIDELINES TO INDUSTRY STANDARDS

Since the first release of the Commercial Building Telecommunications Cabling Standard (ANSI/TIA/EIA-568 in 1991), the volume of standards information available to the end-user community has increased substantially. As a result, Siemon has focused efforts on educating our customers on the importance of generic, standards-based components and system requirements. The following information has been condensed from a compilation of relevant national and international telecommunications standards and provides a reference to the most commonly used information. Our active involvement in standards development provides us with advance information on emerging standards requirements for both the premises cabling and the applications that the cabling is intended to support. We have also included a preview of pending standards projects.

SECTION CONTENTS

SECTION CONTENTS

AN OVERVIEW OF CABLING STANDARDS

ANSI/TIA/EIA-568-B AND ISO/IEC 11801:2002 2ND ED. 2002-09, IEC 61156-5, -6

The latest edition of the Commercial Building Telecommunications Cabling Standard is ANSI/TIA/EIA-568-B. The Telecommunications Industry Association (TIA) TR-42 Technical Committee has broken the standard into a series of documents known as B.1, B.2 and B.3. The '568-B.1 document contains the information needed for designing, installing, and field testing a generic structured cabling system. The '568-B.2 and '568-B.3 documents contain manufacturing and component reliability test specifications for cable, patch cords and connecting hardware. The '568-B.3 document was published in April 2000 and is applicable to optical fiber components. The '568-B.2 document specifies the electrical and mechanical requirements of unshielded (UTP) and screened (F/UTP) balanced twisted-pair components. The standard addresses requirements for category 3 and 5e cabling and component requirements. Both '568-B.1 and '568-B.2 were published in June 2001.

Also, the International Organization for Standardization (ISO) JTC1 SC 25/WG 3 Working Group on telecommunications cabling has published the second edition of the ISO/IEC 11801 standard. The standard addresses class E and F cabling and category 6 and 7 connecting hardware and cables. Items of interest unique to the '11801 standard are the work area interface for category 7 and coupling attenuation for copper systems. In optical fiber, the document has standardized on three classes of optical fiber cabling to service existing and future networking applications for channel lengths of 300m, 500m and 2000m.

For component requirements, '11801:2002 references the IEC cable specifications for horizontal (IEC 61156-5) and work area (IEC 61156-6). With a few exceptions detail in the cable clause of '11801:2002, all requirements for cable can be found in these two specifications. '11801:2002 references the IEC 60603-7-X series (x = 1, 2, . . . 7) for the RJ-45 style outlets and IEC 61076-3-104 for the new RJ-45 outlets (TERA® type connectors).

ISO/IEC 15018 edition 1, cabling for the home references the same IEC cables and connectors as '11801:2002 for information and communication technology (ICT) applications. For broadcast communications technology, it references the IEC 1200 MHz cable specifications, IEC 61196-7 and for the primary outlet IEC 61076-3-104.

Following are highlights of the '568-B series standard which has incorporated Telecommunications System Bulletins (TSB's) TSB 67, TSB 72, TSB 75, TSB 95, Addendum's TIA/EIA-568-A-1, 'A-2, 'A-3, 'A-4, and 'A-5 and TIA/EIA/IS-729. For clarity and consistency, '568-B based terminology is used in the following overview with notes on differences in terminology and technical requirements with respect to '11801:2002.

ADDENDA TO THE '568B STANDARD

TIA/EIA-568-B.1-1 (Addendum 1) — Minimum 4-pair UTP and 4-pair ScTP patch cable bend radius

TIA/EIA-568-B.1-2 (Addendum 2) — Grounding and bonding specifications for screened balanced twisted-pair horizontal cabling

TIA/EIA-568-B.1-3 (Addendum 3) — Supportable distances and channel attenuation for optical fiber applications by fiber type

TIA/EIA-568-B.1-4 (Addendum 4) — Recognition of category 6 and 850 nm laser-optimized 50/125µm multimode optical fiber cabling

TIA/EIA-568-B.1-5 (Addendum 5) — Telecommunications cabling for telecommunications enclosures

TIA/EIA-568-B.2-1 (Addendum 1) — Transmission performance specifications for 4-pair 100 Ω category 6 cabling

TIA/EIA-568-B.2-2 (Addendum 2) — The purpose of this addendum is to release sub-clauses 4.3.4.8, 4.4.4.4.1, 4.4.4.9 and 5.4.3 of TIA/EIA-568-B.2

TIA/EIA-568-B.2-3 (Addendum 3) — Additional considerations for insertion loss and return loss pass/fail determination

TIA/EIA-568-B.2-4 (Addendum 4) — Solderless connection reliability requirements for copper connecting hardware (Addendum 4)

TIA/EIA-568-B.2-5 (Addendum 5) — Corrections to TIA/EIA-568-B.2

TIA/EIA-568-B.2-6 (Addendum 6) — Category 6 related component test procedures TIA/EIA-568-B.2 The purpose of this addendum is to revise sub-clauses 4.3-4.8, 4.4-4.4.1, 4.4.4.9 and 5.4.3 of TIA/EIA-568-B.2

TIA/EIA-568-B.3-1 (Addendum 1) — Additional transmission testing performance specifications for 50/125µm optics fiber cables.

ANSI/TIA/EIA-568-B ANNEX CONTENT INFORMATION

B.1

A. Centralized optical fiber cabling (Normative).
B. Shared sheath guidelines for multi-pair UTP cables (Informative).
C. Other cable specifications (Informative)
D. Category 5 cabling transmissions (Informative).
E. Optical fiber applications support information (Informative).
F. Bibliography (Informative).

B.2

A. Reliability testing of connecting hardware used for 100 Ω balanced twisted-pair cabling (Normative).
B. Test equipment overview (Normative).
C. Testing of cable (Normative).
D. Testing of connecting hardware (Normative).
E. Testing of cabling (Normative).
F. Testing of patch cords (Normative).
G. Multi-port measurement considerations (Normative).
H. Measurement accuracy (Informative).
I. Test instruments (Normative).
J. Comparison measure procedures (Normative).
K. 100 Ω screened twisted-pair (F/UTP) cabling (Normative).
L. Derivation of propagation delay from insertion loss equation (Informative).
M. 150 Ω shielded twisted-pair cabling (Normative).
N. Category 5 cabling (Informative).
O. Development of channel and component return loss limits (Informative).
P. Bibliography (Informative).

B.3

A. Optical fiber connector performance specifications (Normative).
B. Bibliography and references (Informative).

SIEMON'S PREFERRED CABLE TERMINOLOGY

Siemon UTP (Categories 3, 5e, and 6):

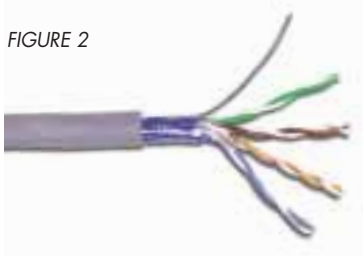
UTP cable constructions feature unshielded twisted-pairs enclosed within an overall thermoplastic jacket as shown in figure 1. UTP cables are compatible with Siemon MAX®, CT®, HD®, S210®, S110®, and S66™ product lines.

FIGURE 1

Siemon F/UTP (Categories 5e and 6):

F/UTP cable constructions feature unshielded twisted-pairs surrounded by an overall conductive mylar-backed aluminum foil shield and enclosed within an overall thermoplastic jacket as shown in figure 2. F/UTP cables are compatible with Siemon screened MAX® and screened HD5® product lines. TIA and legacy Siemon materials referred to this cable type as "ScTP" or "FTP".

FIGURE 2



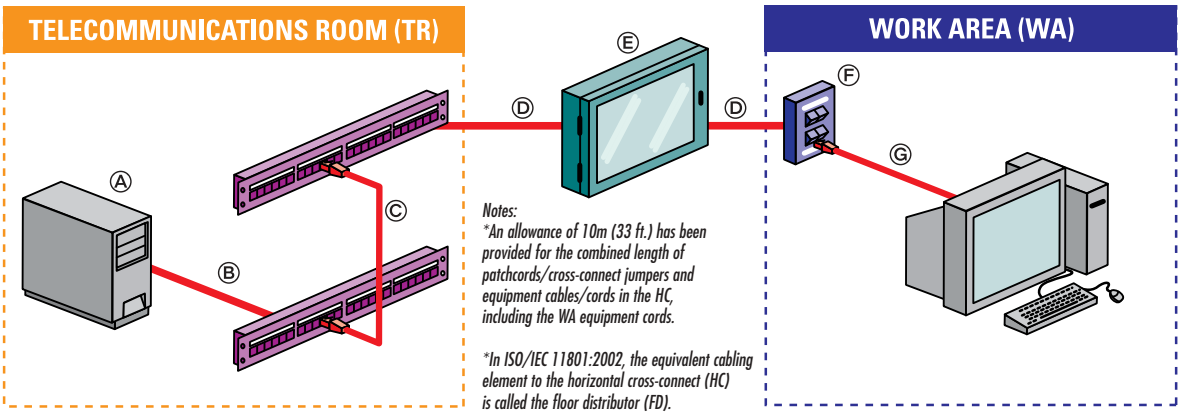
Siemon S/FTP (Categories 6 and 7):

S/FTP cable constructions feature individually foil-shielded twisted-pairs surrounded by an overall braid and enclosed within an overall thermoplastic jacket as shown in figure 3. S/FTP cables are compatible with Siemon TERA® and screened MAX® product lines. Legacy Siemon materials referred to this cable type as "PiMF", "STP", or "SSTP".

FIGURE 3

HORIZONTAL CABLING SYSTEM STRUCTURE

The horizontal cabling system extends from the telecommunications outlet in the work area to the horizontal cross-connect in the telecommunications room. It includes the telecommunications outlet, an optional consolidation point or transition point connector, horizontal cable, and the mechanical terminations and patch cords (or jumpers) that comprise the horizontal cross-connect.



A Customer Premises Equipment
B HC Equipment Cord
C Patchcords/cross-connect jumpers used in the HC, including equipment cables/cords, should not exceed 5m (16 ft.)

Note: ISO/IEC 11801:2002 specifies a max. patchcord/cross-connect length of 5m (16.4 ft.), which does not include equipment cables/cords.

D Horizontal cable 90m (295 ft.) max. total
E TP or CP (optional)
F Telecommunications outlet/connector (TO)
G WA Equipment cord

Note: An allowance is made for WA equipment cords of 5m (16 ft.).

SOME POINTS SPECIFIED FOR THE HORIZONTAL CABLING SUBSYSTEM INCLUDE:

- Recognized Horizontal Cables:

  4-pair 100 Ω unshielded twisted-pair (UTP) or screened twisted-pair (F/UTP).

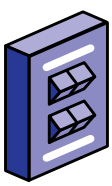
  

  4-pair 100 Ω fully shielded twisted-pair (S/FTP) (ISO/IEC 11801:2002 only).

  2-fiber (duplex) 62.5/125µm or 50/125µm multimode optical fiber.

- Multi-unit cables are allowed, provided that they satisfy the hybrid/bundled cable requirements of TIA/EIA-568-B.2, ISO/IEC 11801:2002.
- Grounding shall conform to applicable building codes and the requirements of ANSI-J-STD-607-A.



- A minimum of two telecommunications outlets are required for each individual work area.

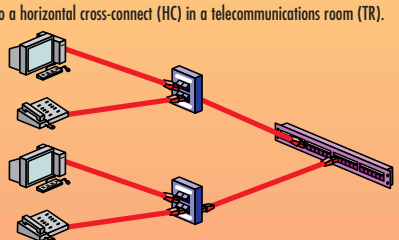
  First outlet: 100 Ω twisted-pair (category 6 is recommended).

  Second outlet: 100 Ω twisted-pair or two-fiber multimode optical fiber either 62.5/125µm or 50/125µm.

- One transition point (TP) or Consolidation Point (CP) is allowed. The term "transition point" was removed from the second edition of ISO/IEC 11801:2002. Under carpet cabling is no longer recognized by that standard.
- Additional outlets may be provided. These outlets are in addition to, and may not replace, the minimum requirements of the standard.
- Bridged taps and splices are not allowed for copper-based horizontal cabling. (Splices are allowed for fiber.)
- Application specific components shall not be installed as part of the horizontal cabling. When needed, they must be placed external to the telecommunications outlet or horizontal cross-connect (eg. splitters, baluns).
- The proximity of horizontal cabling to sources of electromagnetic interference (EMI) shall be taken into account.

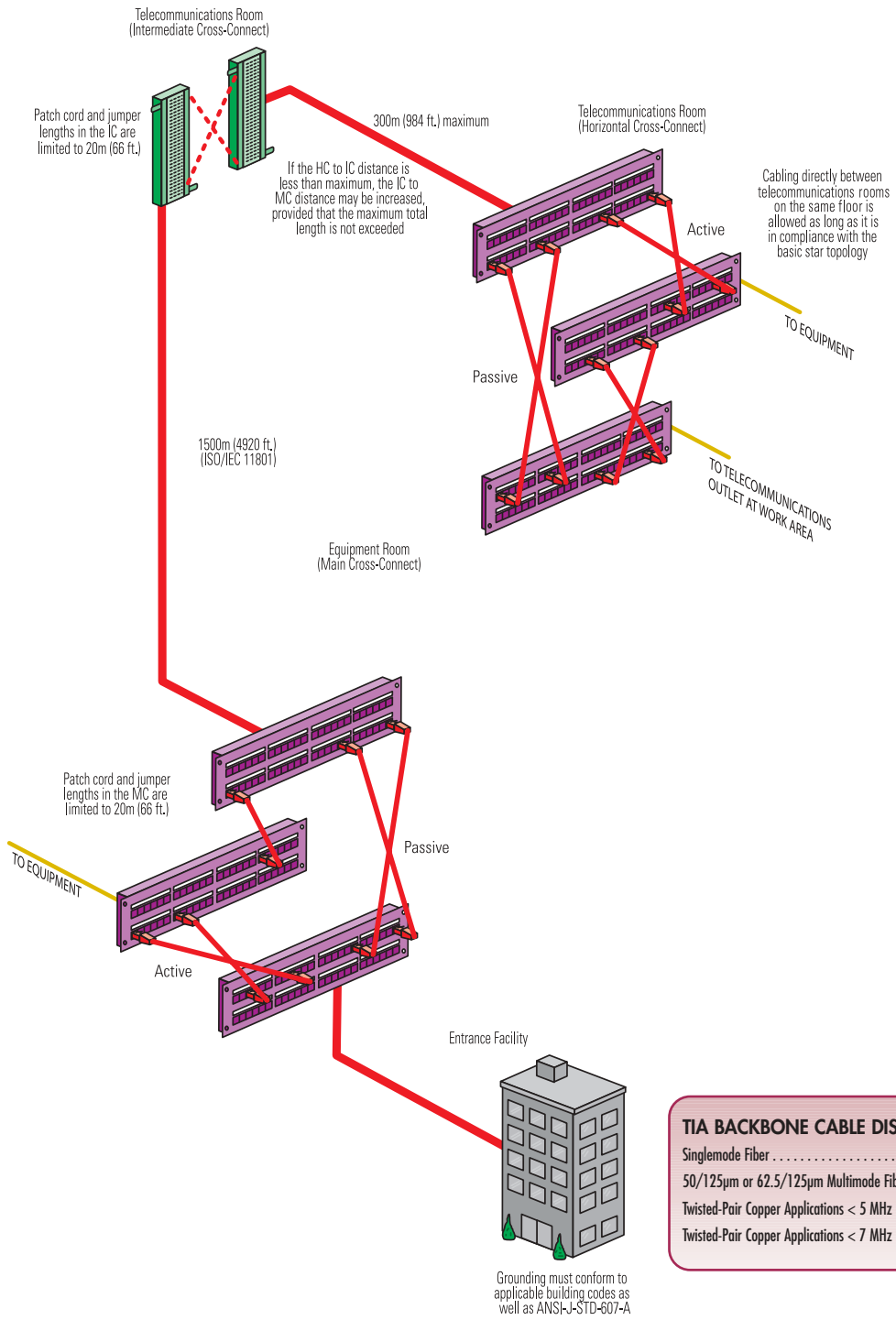
Topology

The horizontal cabling shall be configured in a star topology; each work area outlet is connected to a horizontal cross-connect (HC) in a telecommunications room (TR).



BACKBONE CABLING SYSTEM STRUCTURE

The backbone cabling system provides interconnections between telecommunications rooms, equipment rooms, main terminal space, and entrance facilities. It includes backbone cables, intermediate and main cross-connects, mechanical terminations, and patch cords or jumpers used for backbone-to-backbone cross-connections. The backbone also extends between buildings in a campus environment.



TIA BACKBONE CABLE DISTANCES (MC TO HC)

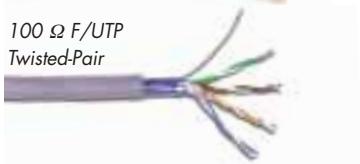
Singlemode Fiber	3000m (9840 ft.)
50/125µm or 62.5/125µm Multimode Fiber	2000m (6560 ft.)
Twisted-Pair Copper Applications < 5 MHz	800m (2625 ft.)
Twisted-Pair Copper Applications < 7 MHz	100m (328 ft.)

SOME POINTS SPECIFIED FOR THE BACKBONE CABLING SUBSYSTEM INCLUDE:

- Equipment connections to backbone cabling should be made with cable lengths of 30m (98 ft.) or less.
- The backbone cabling shall be configured in a star topology. Each horizontal cross-connect is connected directly to a main cross-connect or to an intermediate cross-connect, then to a main cross-connect.
- The backbone is limited to no more than two hierarchical levels of cross-connects (main and intermediate). No more than one cross-connect may exist between a main and a horizontal cross-connect and no more than three cross-connects may exist between any two horizontal cross-connects.
- A total maximum backbone distance of 90m (295 ft.) is specified for high bandwidth capability over copper. This distance is for uninterrupted backbone runs. (No intermediate cross-connect).
- The distance between the terminations in the entrance facility and the main cross-connect shall be documented and should be made available to the service provider.
- Recognized media may be used individually or in combination, as required by the installation. Quantity of pairs and fibers needed in individual backbone runs depends on the area served. Recognized backbone cables are:

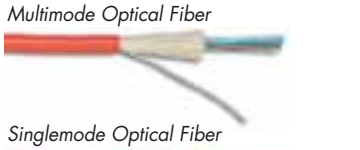
100 Ω UTP Twisted-Pair

100 Ω F/UTP Twisted-Pair

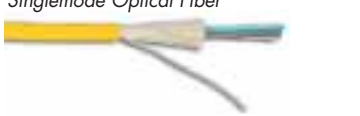


100 Ω S/FTP Twisted-Pair

50/125µm or 62.5/125µm Multimode Optical Fiber



Singlemode Optical Fiber

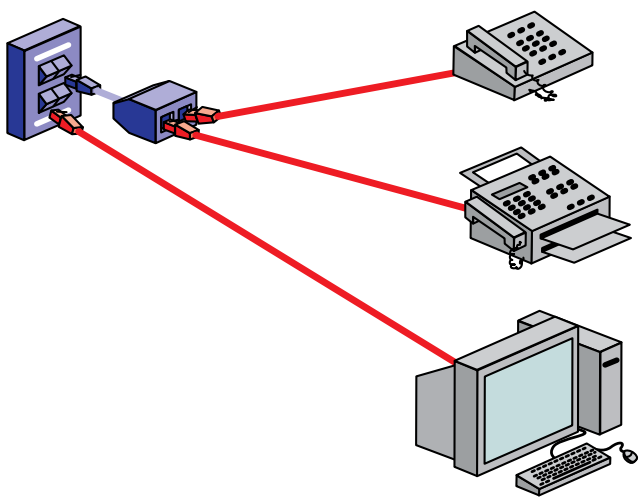


- Multi-pair cable is allowed, provided that it satisfies the power sum crosstalk requirements.
- The proximity of backbone cabling to sources of electromagnetic interference (EMI) shall be taken into account.
- Cross-connects for different cable types shall be located in the same facilities.
- Bridged taps and splitters are not allowed.

Notes: In ISO/IEC 11801:2002, the equivalent cabling elements to the main cross-connect (MC) and intermediate cross-connect (IC) are called the campus distributor (CD) and building distributor (BD) respectively.

WORK AREA

The telecommunications outlet serves as the work area interface to the cabling system. Work area equipment and cables used to connect to the telecommunications outlet are now included within the scope of '568-B.1 and '11801:2002.



SOME SPECIFICATIONS RELATED TO WORK AREA CABLING INCLUDE:

- Equipment cords are assumed to have the same performance category as the horizontal cable to which they connect.
- When used, adapters are assumed to be compatible with the transmission capabilities of the equipment to which they connect.
- ISO/IEC 11801:2002 allows for any cord to be longer if the horizontal is shorter. See open office cabling.

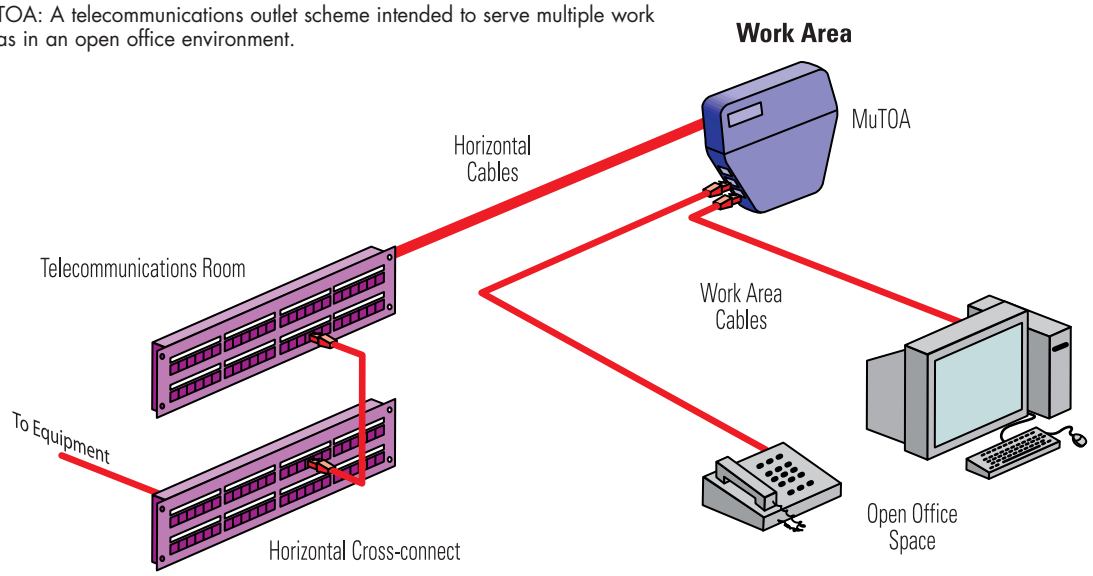
Note: For establishing maximum horizontal link distances, a combined maximum length of 10m (33 ft.) is allowed for patch cables (or jumpers) and for equipment cables in the work area and the telecommunications room.

OPEN OFFICE CABLING

Additional specifications for horizontal cabling in areas with moveable furniture and partitions have been included in TIA/EIA-568-B.1. Horizontal cabling methodologies are specified for "open office" environments by means of multi-user telecommunications outlet assemblies and consolidation points. These methodologies are intended to provide increased flexibility and economy for installations with open office work spaces that require frequent reconfiguration.

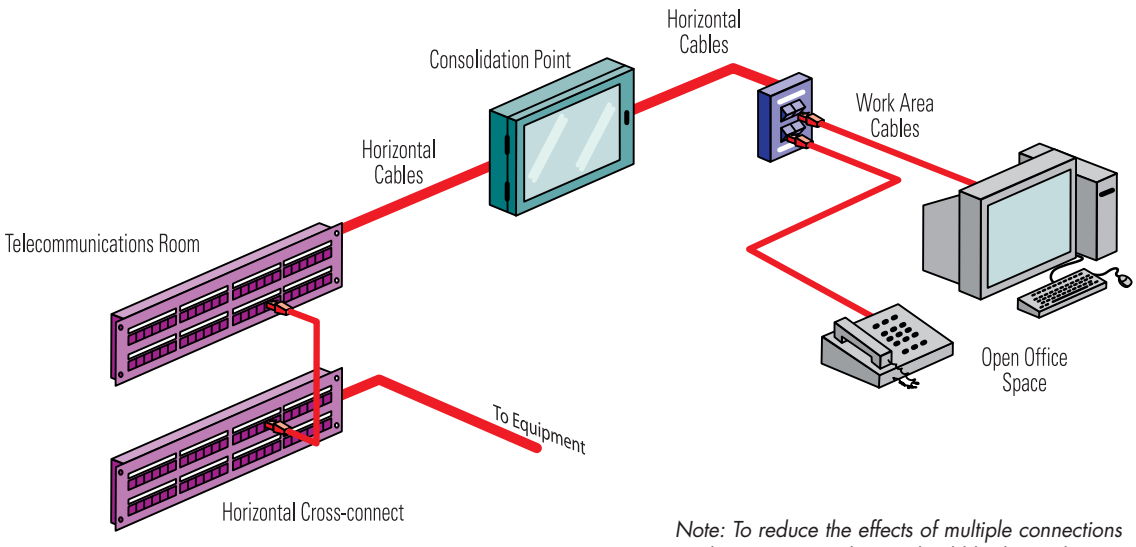
THIS IS AN EXAMPLE OF OPEN OFFICE IMPLEMENTATION USING THE MuTOA — MULTI-USER TELECOMMUNICATIONS OUTLET ASSEMBLY

MuTOA: A telecommunications outlet scheme intended to serve multiple work areas in an open office environment.



THIS IS AN EXAMPLE OF OPEN OFFICE IMPLEMENTATION USING A CONSOLIDATION POINT CONNECTOR

Consolidation Point: An interconnection scheme that connects horizontal cables from building pathways to cables that extend to TOs through open office pathways.



Note: To reduce the effects of multiple connections in close proximity, the CP should be located at least 15m (50 ft.) from the HC (FD).

HORIZONTAL DISTANCES OF COPPER LINKS (OPEN OFFICE)

The table entries assume that there is a total of 5m (16 ft.) of patch and equipment cables in the telecommunications room. Table 1 shows the application of these formulae assuming the use of 24 AWG cable. The length of work area cables shall not exceed 22m (72 ft.) per TIA/EIA 568-B, 20m (66 ft.) per ISO/IEC 11801:2002. The MuTOA shall be marked with the maximum allowable work area cable length.

LENGTH OF HORIZONTAL CABLE	MAXIMUM LENGTH OF WORK AREA CABLE 24 AWG (20%)	MAXIMUM LENGTH OF WORK AREA CABLE 26 AWG (50%)
H m (ft.)	W m (ft.)	W m (ft.)
90 (295)	5 (16)	4 (13)
85 (279)	9 (30)	7 (23)
80 (262)	13 (44)	11 (35)
75 (246)	17 (57)	14 (46)
70 (230)	22 (72)	17 (56)

TABLE 1 — MAXIMUM LENGTH OF WORK AREA CABLE

**Note: The preceding equation and table are based on patch cables having 20% more attenuation than horizontal cables. If higher gauge (e.g. 26 AWG) cables are used that have 50% higher attenuation than solid, as allowed by ISO/IEC 11801:2002, these lengths must be reduced accordingly.*

HORIZONTAL DISTANCES OF OPTICAL FIBER LINKS (LONG WORK AREA CABLES)

For optical fiber cables, any length combination of horizontal cables and work area cables is acceptable, as long as the total combined length of the horizontal channel does not exceed 100m (328 ft.). When deploying a centralized fiber cabling topology, the general guidelines of 568-B.1 shall be followed.

ADVANTAGES AND FEATURES

- It is preferable to use MuTOAs only when the entire length of the work area cord is accessible to facilitate tracing and to prevent erroneous disconnection. Up to 22m (72 ft.) of work area cable is allowed.
- MuTOAs are subject to the same interface requirements specified for each media type.
- Consolidation point requirements are performance based. There is no physical interface requirement for the CP except those required to meet functional requirements.
- Implementations using either MuTOAs or CPs are subject to the same end-to-end performance requirements.
- Consolidation points have advantage in that they deliver dedicated TOs to individual work areas and do not require provisions for extended cord lengths.

TELECOMMUNICATIONS ROOM

Telecommunications Rooms (TR) are generally considered to be floor serving facilities for horizontal cable distribution. They may also be used for intermediate and main cross-connects.

SOME SPECIFICATIONS RELATED TO THE TELECOMMUNICATIONS ROOM:

- (TR's) shall be designed and equipped in accordance with TIA-569-B.
- Cable stress from tight bends, cable ties, staples, and tension should be avoided by well-designed cable management.
- Only standards-compliant connecting hardware shall be used.
- Application-specific electrical components shall not be installed as part of the horizontal cabling.
- Horizontal cable terminations shall not be used to administer cabling system changes. Instead, jumpers patch cords, or equipment cords are required for re-configuring cabling connections.

The two types of schemes used to connect cabling subsystems to each other and to equipment are known as interconnections and cross-connections.

Note: A "cross-connect" (a.k.a. distributor) is a facility, whereas a "cross-connection" is a connection scheme. Cross-connections are typically used to provide a means of configuring individual port connections between the cabling and equipment with multiport outputs (i.e., 25-pair connectors). Interconnections may be used with equipment that has individual output ports. A cross-connect facility (a.k.a. distributor) may house interconnections, cross-connections, or both.

TR42.1.1 NETWORK DISTRIBUTION NODES

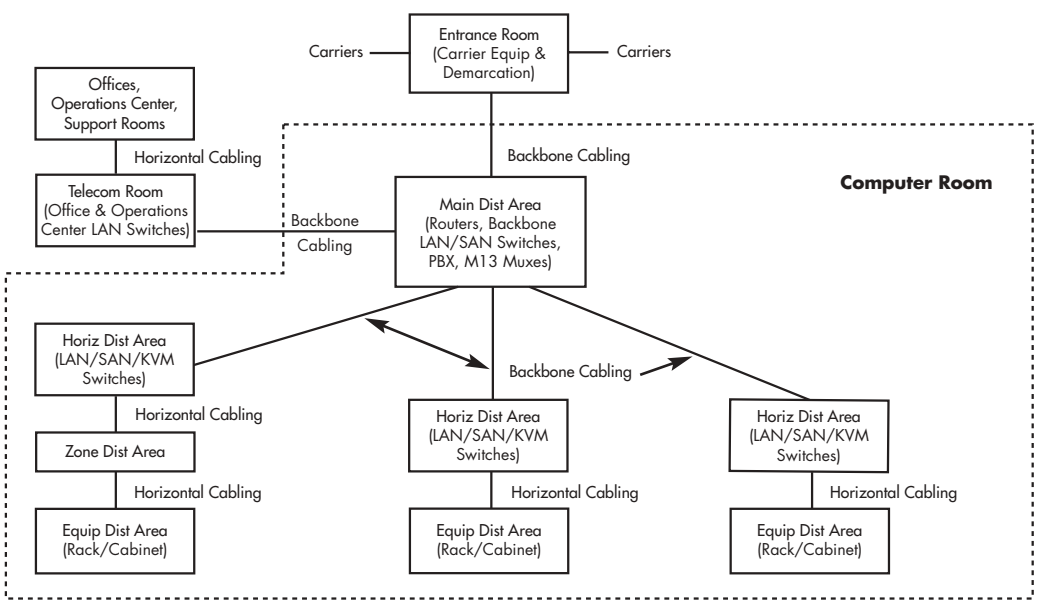
TR-42.1.1 was tasked to create a new standard for Application Spaces such as Internet Data Centers, Service Distribution Nodes, and Storage Area Networks. The scope of the group was to develop cabling topology, recognized media types, cabling requirements, and requirements for pathways & spaces for the above application spaces and inter/intra-node connections.

TIA-TR-42.1.1 is expected to release the standard in June 2005. Draft 5 SP-3-0092 was released June 17, 2004, including considerations for telecommunication infrastructure, spaces, pathways, redundancy and new terminology.

The standard will address infrastructure standards for data centers and computer rooms of all types and sizes, including small server rooms within an office building to large multi-floor data centers. The standard will be constructed so that the topology described will be adaptable to any size data center.

The standard will recognize two categories of data centers. The private domain ("enterprise") consists of private corporations, government agencies, or the establishment of other intranets or extranets, while public domain ("internet") consists of traditional telephone service providers, unregulated competitive service providers and related commercial operators.

FIGURE: GENERIC DATA CENTER TOPOLOGY



TWISTED-PAIR (BALANCED) CABLING

The categories of transmission performance specified by Siemon for cables, connecting hardware links and channels are:

DESIGNATION	TRANSMISSION CHARACTERISTICS	DESCRIPTION
3	Transmission characteristics are specified up to 16 MHz.	Meets applicable category 3 and class C requirements of ISO/IEC 11801:2002, ANSI/TIA/EIA-568-B.1 & B.2. Requirements are specified to an upper frequency limit of 16 MHz.
5e	Transmission characteristics are specified up to 100 MHz.	Performs to category 5e of '568-B.1 & B.2 and additional class D requirements of ISO/IEC 11801:2002. Requirements are specified to an upper frequency limit of 100 MHz.
6	Transmission characteristics are specified up to 250 MHz.	Performs to category 6 of '568-B.2-1 TIA-TSB-155 draft, and class E requirements of ISO/IEC 11801:2002. Requirements are specified to an upper frequency limit of 250 MHz. This classification is a superset of 5e.
6a	Transmission characteristics are specified up to 500 MHz.	Performs to category 6 of '568-B.2-1 and '568-B.2-10 and class E of ISO/IEC 11801:2002 and amendment NBS 1 to ISO/IEC 11801. Requirements are specified to an upper frequency limit of 500 MHz. This classification is specified with the additional requirements of TSB-155 to support the operation of 10GBASE-T over 4-connector channel to typologies over distances from at least 55m up to 100m. *Note: Augmented category 6 draft requirements are still in development and are intended to be published before 2006.*
7	Transmission characteristics are specified up to 1.0 GHz.	Performs to category 7 and class F requirements of ISO/IEC 11801:2002. Requirements are specified to an upper frequency limit of 600 MHz. This classification is an electrical superset of 6a. Supports all parameters to 1.0 GHz for compliance to ISO/IEC 15018 and ISO/IEC 11801 Ed. 2, Amd. 1st draft.

Terminology and classifications specified in ISO/IEC 11801:2002 for cabling links differ slightly from TIA categories (see page 13.22). Components and installation practices are subject to all applicable building and safety codes that may be in effect.

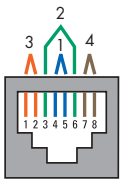
INDUSTRIAL ETHERNET CONNECTIVITY AND APPLICATIONS

There are several standards bodies around the world currently working towards Industrial premise cabling standards. Some of the more prominent committees are the TIA (Telecommunications Industry Association), IEC (International Electrotechnical Commission), and the ODVA (Open DeviceNet Vendor Association).

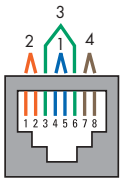
These committees are establishing the standards for both connectivity requirements that are needed within harsh industrial environments, as well as the applications that will need to be supported. The TIA and the ODVA are recommending an Ethernet platform for easier integration of information into the office environment. The IEC has released a Publicly Available Specification (IEC/PAS 61076-3-111 Ed.1) covering connectors to 250 MHz in the Industrial environment. The Siemon Industrial MAX® plug and outlet are specified as connector variant 1 in the standard and the IEC 61076-3-106 draft industrial connector specification.

UTP AND SCREENED TELECOMMUNICATIONS OUTLET/CONNECTOR

- 8-position modular jack per IEC 60603-7 ('568-B.1 states that all 4 pairs must be connected).
- Pin/pair assignment: T568A (US federal government publication NCS, FTR 1090-1997 recognizes designation T568A only).
- Optional assignment to accommodate certain systems: T568B.
- Durability rating 750 mating cycles minimum.
- Backward compatibility and interoperability is required.



T568A



T568B


Example UTP Outlet


Example Screened Outlet

FULLY SHIELDED TELECOMMUNICATIONS OUTLET/CONNECTOR

- Entirely new interface design to support class F cabling per IEC 61076-3-104.
- Transmission measurement methods for category 7 and class F specified by ISO/IEC 11801:2002 and 1.0 GHz per ISO/IEC 15018 and ISO/IEC 11801 Ed.2, Amd. 1st draft.
- Durability rating 750 mating cycles minimum.

UTP LINK PERFORMANCE MARKING AND IDENTIFICATION

- Link category marking should be clearly visible on both ends (component markings are not sufficient).
- Labeling, markings, and color-coding shall be provided in accordance with ANSI/TIA/EIA-606-A.

SCREENED CABLING (F/UTP)

As a result of the release of TIA/EIA/IS-729 and the maturity of the '568-B and '11801:2002 standards, telecommunications groups recognize the presence of an overall shield over four twisted-pairs; a media termed Screened Twisted-Pair. This cabling type is recognized as F/UTP, which stands for a foil applied over unshielded twisted-pairs.

F/UTP CABLE:

- Color-coding:
  Pair 1 = White/Blue – Blue
  Pair 2 = White/Orange – Orange
  Pair 3 = White/Green – Green
  Pair 4 = White/Brown – Brown
- 0.51mm (24 AWG) 100 Ω 4-pair enclosed by a foil shield.
- A copper conductor drain wire of .040mm (26 AWG) or larger shall be provided.
- Should be marked "100 Ω ScTP" or "100 Ω F/UTP", in addition to any safety markings required by local or national codes.
- Same mechanical and transmission requirements apply to backbone and horizontal cables.
- Additional performance requirements, including surface transfer impedance, is specified in TIA/EIA-568-B.2 and ISO/IEC 11801:2002.

SCREENED CONNECTORS:

- Interface and pair assignments same as IEC 60603-7 ('568-B.1 states that all 4 pairs must be connected).
- Additional transfer impedance and shield mating interface requirements specified in IEC 60603-7-3 and IEC 60603-7-5.

F/UTP PATCH CORDS:

- Specifications call for 26 AWG (7 strands @ 0.15mm) or 24 AWG (7 strands @ 0.20mm) stranded conductors.
- Allows for an overall shield.
- Allows for 50% more attenuation than horizontal cable.

F/UTP INSTALLATION PRACTICES:

- Shield shall be bonded at both ends at the "Telecommunication Grounding Busbar".
- The difference between the two grounds shall be no more than 1.0 V RMS.

FULLY SHIELDED CABLING (S/FTP)

Fully shielded cabling requirements have been developed by ISO and IEC. Cable and connector specifications extend to 600 MHz and support class F cabling requirements. (An ISO/IEC project has been started to create amendment 1 of Ed. 2 of ISO/IEC 11801, which extends class F to 1.0 GHz). This cabling type is recognized as S/FTP, which stands for a foil and braided overall shield applied over individually foil shielded twisted-pairs.

FULLY SHIELDED CABLE:

- Color-coding:
  Pair 1 = White/Blue – Blue
  Pair 2 = White/Orange – Orange
  Pair 3 = White/Green – Green
  Pair 4 = White/Brown – Brown
- Four 0.51mm (24 AWG) or larger 100 Ω twisted-pairs each enclosed by an individual foil shield with an overall shield provided over the four-pairs.
- Mechanical and transmission requirements developed by ISO and IEC.

FULLY SHIELDED CONNECTORS:

- Cabling interface and pair assignments specified by ISO/IEC 11801:2002.
- Mechanical and transmission requirements specified in IEC 60603-7-7 and IEC/PAS 61076-3-104.

FULLY SHIELDED PATCH CABLES:

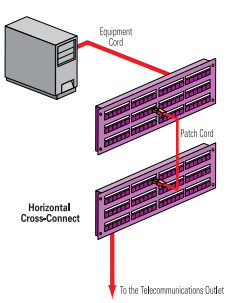
- Mechanical and transmission requirements are specified in IEC 61156-5 and IEC 61156-6.

FULLY SHIELDED INSTALLATION PRACTICES:

- Installation Practices developed by ISO/IEC.

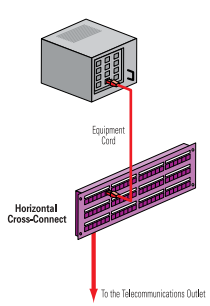
CROSS-CONNECT

A connection scheme using patch cords or jumpers that attach to connecting hardware on each end.



INTERCONNECT

A connection scheme that provides for direct connections to building cabling from equipment without a patch cord.



TRANSMISSION PERFORMANCE SPECIFICATIONS FOR FIELD TESTING OF BALANCED CABLING SYSTEMS

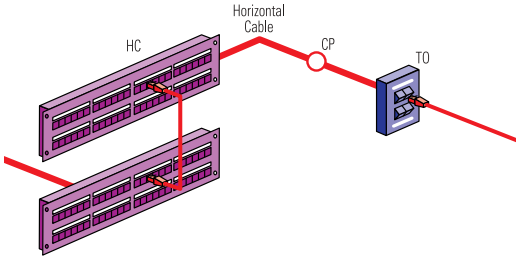
This document provides users with the opportunity to use comprehensive test methods to validate the transmission performance characteristics of installed category 7, 6, 5e and lower grade twisted-pair cabling systems. The categories of balanced cabling systems in this bulletin correspond with the balanced cabling categories of ANSI/TIA/EIA-568-B.1, ANSI/TIA/EIA-568-B.2-1, and ISO/IEC 11801:2002.

HORIZONTAL CHANNEL (COPPER)

Performance Specified in:

TIA/EIA-568-B.1 (category 5e), TIA/EIA-568-B.2-1 (category 6), and proposed TIA/EIA-568-B.2-10 (augmented category 6)

ISO/IEC 11801:2002 2nd Edition (classes D, E and F) and proposed amendment 1 to ISO/IEC 11801:2002



TRANSMISSION PERFORMANCE COMPARISON @ 100 MHZ

Cabling Type	Channel Insertion Loss (dB)	Channel NEXT (dB)	Channel ELFEXT (dB)	Channel Return Loss (dB)	Channel *ACR (dB)
Category 5e/Class D (@ 100 MHz)	24.0	30.1	17.4	10.0	6.1
Category 6/Class E (@ 100 MHz)	21.7	39.9	23.3	12.0	18.2
Class 7/Class F (@ 100 MHz)	20.8	62.9	44.4	12.0	42.1

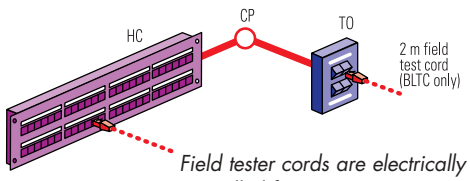
**Not specified by TIA*

LINK TEST CONFIGURATION

Performance Specified in:

TIA/EIA-568-B.1 (category 5e), TIA/EIA-568-B.2-1 (category 6), and proposed TIA/EIA-568-B.2-10 (augmented category 6)

ISO/IEC 11801:2002 2nd Edition (classes D, E and F) and proposed amendment to ISO/IEC 11801'2002



Field tester cords are electrically cancelled from test

TRANSMISSION PERFORMANCE COMPARISON @ 100 MHZ

Cabling Type	Permanent Link Insertion Loss (dB)	Permanent Link NEXT (dB)	Permanent Link ELFEXT (dB)	Permanent Link Return Loss (dB)	Permanent Link *ACR (dB)
Category 5e/Class D (@ 100 MHz)	20.4	32.3	18.6	12.0	11.9
Category 6/Class E (@ 100 MHz)	18.5	41.8	24.2	14.0	23.3
Class 7/Class F (@ 100 MHz)	17.7	65.0	46.0	14.0	47.3

**Not specified by TIA*

Class D attenuation values are calculated based on 90 meters horizontal cable plus two connectors (no flexible cord contribution) that meet ISO/IEC 11801:2002. Class D NEXT values are based on voltage summation of the near-end connector and horizontal cable.

SOME POINTS SPECIFIED FOR TRANSMISSION FIELD TESTING FOR TWISTED-PAIR CABLING SYSTEMS:

- Twisted-Pair cabling systems are comprised of cables and connecting hardware specified in TIA/EIA-568-B.2 and ISO/IEC 11801:2002.
- Required test parameters include wire-map, length, insertion loss, and pair-to-pair NEXT loss, powersum NEXT loss, ELFEXT, powersum. ELFEXT, return loss, propagation delay, and delay skew.
- Two levels of pass or fail are indicated, depending on measured margin compared to minimum specifications. Testing of NEXT loss is required in both directions.
- Requirements are intended for performance validation and are provided in addition to '568-B.1 & B.2 requirements on components and installation practices. Level III field test accuracy required for category 6/class E.

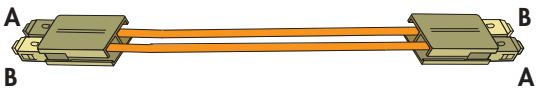
OPTICAL FIBER CABLING

The '568-B.3 specification on optical fiber cabling consists of one recognized cable type for horizontal subsystems and two cable types for backbone subsystems:

Horizontal – 50/125µm or 62.5/125µm multimode (two fibers per outlet).
Backbone – 50/125µm or 62.5/125µm multimode or singlemode.
All optical fiber components and installation practices shall meet applicable building and safety codes.

OPTICAL FIBER PATCH CORDS:

- Shall be a two-fiber (duplex) cable of the same type as the cables to which they connect.
- Shall be configured so that "A" connects to "B" and "B" connects to "A".



INSTALLATION OF OPTICAL FIBER CONNECTING HARDWARE:

- Connectors shall be protected from physical damage and moisture.
- Optical fiber cable connecting hardware should incorporate high-density termination to conserve space and provide for ease of optical fiber cable and patch cord management upon installation.
- Optical fiber cable connecting hardware should be designed to provide flexibility for mounting on walls, in racks, or on other types of distribution frames and standard mounting hardware.

OPTICAL FIBER CABLING INSTALLATION:

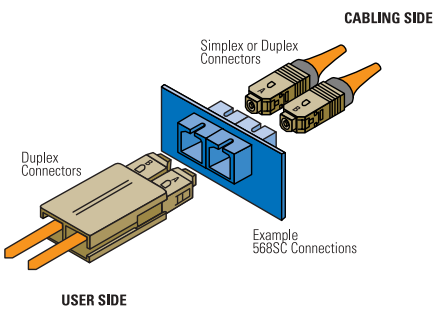
- Siemon recommends that a minimum of 1m (3.28 ft.) of two-fiber cable (or two buffered fibers) be accessible for termination purposes.
- Testing is recommended to assure correct polarity and acceptable link performance. Clause 11 of '568-B.1 provides recommended optical fiber link performance testing criteria.

OPTICAL FIBER CONNECTIONS:

- Connector designs shall meet the requirements of the corresponding TIA FOCIS documents.
- Telecommunications outlet/connector boxes shall be securely mounted at planned locations.
- The telecommunications outlet/connector box shall have:
  - Cable management means to assure a minimum bend radius of 25mm (1 in.) and should have slack storage capability.
  - Provisions for terminating and housing a minimum of two optical fibers.
- Identification of fiber types:
  - Multimode connector or a visible portion of it and adapters shall be identified with the color beige.
  - Singlemode connector or a visible portion of it and adapters shall be identified with the color blue.
- The two positions in a duplex connector are referred to as "position A" and "position B".

SMALL FORM FACTOR (SFF) CONNECTORS:

- Qualified SFF duplex and multi-fiber connector designs may be used in the main cross-connect, intermediate cross-connect, horizontal cross-connect, consolidation points and work area.
- A TIA Fiber Optic Connect Intermateability Standard (FOCIS) shall describe each SFF design.
- The SFF design shall satisfy the requirements specified in Annex A of the '568-B.3 standard.
- Some advantages of SFF connectors include compact size, modular compatibility with the eight position modular copper interface, and adaptability to high-density network electronics.



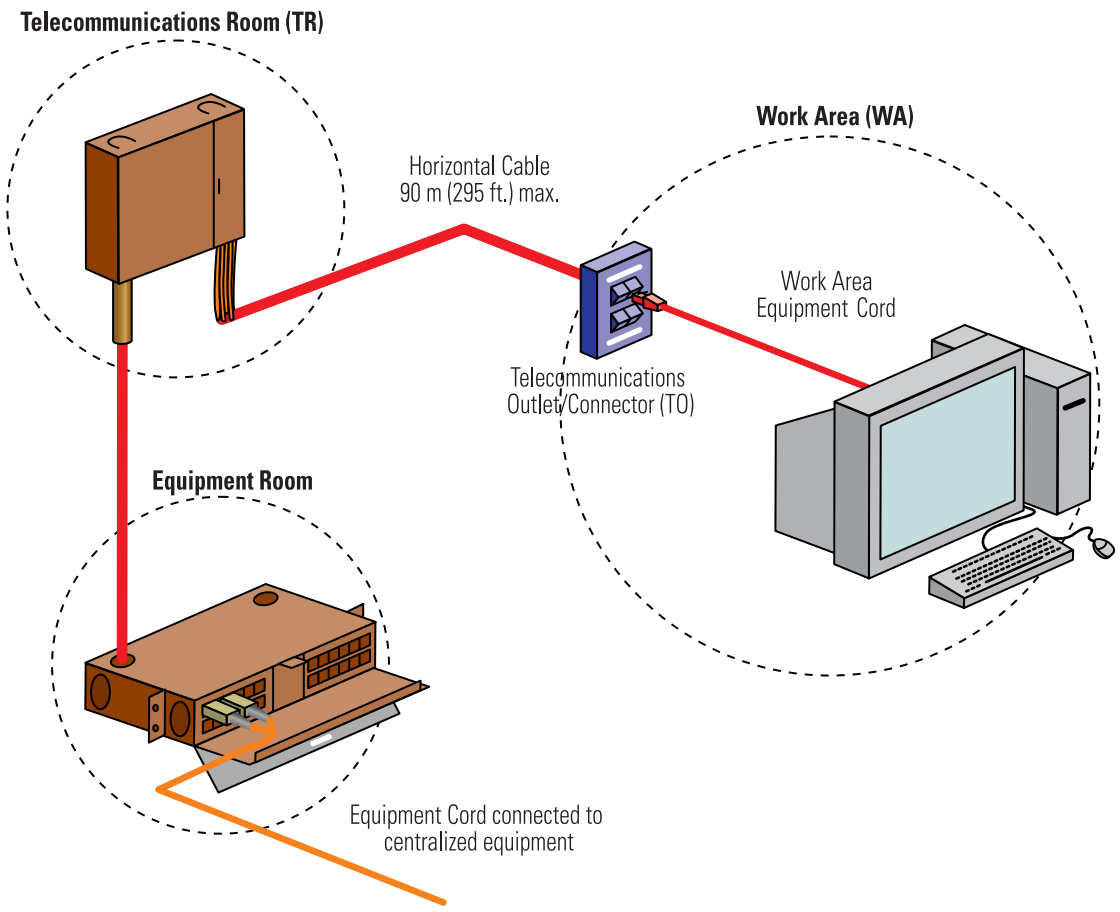
See page 13.20 for information on optical fiber cabling classes OF-300, OF-500 and OF-2000, as specified in ISO/IEC 11801:2002.

568-B.1 AND ISO/IEC 11801:2002

CENTRALIZED OPTICAL FIBER CABLING:

Centralized optical fiber cabling provides the user with the flexibility of designing an optical fiber cabling system for centralized electronics in single tenant buildings. It contains information and guidelines for design and installation requirements.

TYPICAL SCHEMATIC FOR CENTRALIZED OPTICAL FIBER CABLING USING AN INTERCONNECTION



SOME POINTS SPECIFIED FOR A CENTRALIZED OPTICAL FIBER CABLING SYSTEM INCLUDE:

- Intended for single-tenant users who desire centralized vs. distributed electronics.
- Implementation allows cables to be spliced or interconnected at the telecommunications room such that cables can be routed to a centralized distributor for total channel lengths of 300m (984 ft.) or less, including patch cords or jumpers.
- Allows for migration from an interconnection or splice to a cross-connection scheme that can also support distributed electronics.
- Pull-through implementations are allowed when total length between the telecommunications outlet/connector and centralized cross-connect is 90m (295 ft.) or less.
- Connecting hardware required to:
  - join fibers by re-mateable connectors or splices,
  - provide for simplex or duplex connection of optical fibers,
  - provide means of circuit identification,
  - allow for addition and removal of optical fibers.

Note: Some multimode fiber implementations may be limited to an operating range of 220m to support 1000BASE-SX. The use of laser optimized 50 micon multimode fiber is required to support 300m of 10GBASE-SX.

HYBRID AND BUNDLED CABLES

As a result of the demand for open office architecture and the need to support multiple telecommunications applications in a shared sheath, performance specifications for hybrid cables have been revised. A new term called "bundled cables" has been introduced to describe 4-pair cable assemblies that are not covered by an overall sheath (as specified for hybrid cables), but by any generic binding method such as "speed-wrap" or "cable-ties."

The new hybrid and bundled cable requirements state that power sum NEXT loss between all non-fiber cable types within the cable shall be 3 dB better than the specified pair-to-pair NEXT loss for each cable type. *See figure 1.*

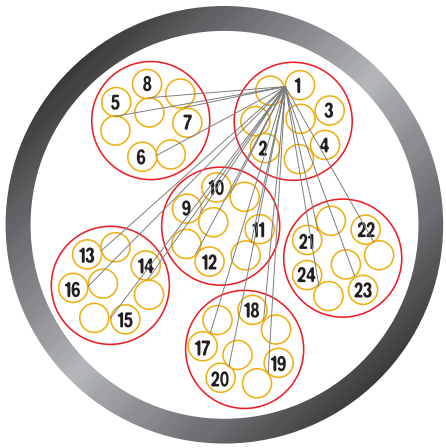
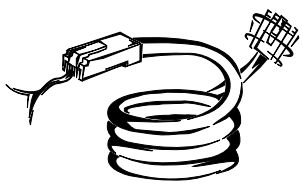


FIGURE 1:
Pair-to-Pair measurements required to calculate power sum NEXT loss for pair 1 of a 24-pair hybrid cable.

PRODUCTION MODULAR CORD NEXT LOSS TEST METHOD AND REQUIREMENTS FOR UNSHIELDED TWISTED PAIR CABLING

TIA/EIA-568-B.2 and TIA/EIA-568-B.2-1 defines a generic and non-destructive methodology for NEXT loss testing of modular plug cords respectively. The methodology described in the Standard contains the detailed NEXT loss calculations (which are based upon patch cable NEXT loss, test head NEXT loss, and cable and connector attenuation contributions) for the determination of the NEXT loss limits for any category 5e (TIA/EIA-588-B.2) or category 6 (TIA/EIA-568-B.2-1) patch cord and suitably designed test head.



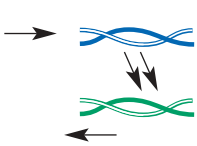
CROSSTALK NOISE

NEXT — Near-end Crosstalk — Signal coupling between pairs in the same cable when the disturbing signal is sent from the same end as the receiver.

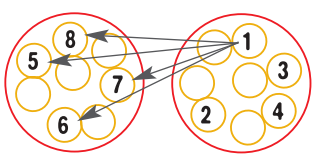
FEXT — Far-end Crosstalk — Signal coupling between pairs in the same cable when the disturbing signal is sent from the opposite end as the receiver.

Alien Crosstalk — A measure of the unwanted signal coupling between pairs in adjacent cabling.

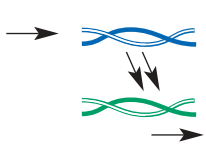
Power Sum Alien Crosstalk — A combination of the unwanted signal cabling between all pairs in adjacent cabling.



Near-end Crosstalk



Alien Crosstalk



Far-end Crosstalk

NEXT GENERATION CABLING

CATEGORY 6/CLASS E ('568-B.2-1 AND '11801:2002)

Category 6/class E standards describe a new performance range for unshielded and screened twisted-pair cabling. Category 6/class E specifies the best performance that UTP and F/UTP (screened) cabling solutions can be designed to deliver based on current technology. Category 6/class E is specified in the frequency range of at least 1-250 MHz. For category 6/class E, the 8-position modular jack interface will be mandatory at the work area. Category 6/class E is backward compatible meaning that applications running on lower categories/classes will also be supported. If different category/class components are to be mixed with category 6/class E components, the combination shall meet the transmission requirements of the lowest performing category/class component.

TIA, ISO, CENELEC, and others have collaborated closely on the development of category 6 and class E standards and their requirements are well harmonized.

Augmented category 6/Class E, Edition 2.1 (proposed TIA/EIA 568-B.2-10) and amendments 1 to ISO/IEC 11801 2002. This standard will document the additional requirements necessary to support the operation of 10GBASE-T over 100-meter, 4-connector augmented category 6 and class E, edition 2.1 cabling.

Note: Augmented category 6 draft requirements are still in development and are intended to be published in 2006.

CATEGORY 7/CLASS F ('11801:2002)

Category 7/class F describes a new performance range for fully shielded (i.e., overall shield and individually shielded pairs) twisted-pair cabling. Category 7/class F is specified in the frequency range of 1-600 MHz. Even though these requirements are supported by a new interface design, category 7/class F will be backward compatible meaning that applications running on lower categories/classes will also be supported.

IEC 60603-7-7 and IEC/PAS 61076-3-104 specify two compliant interface designs. TIA is not actively developing a standard for category 7/class F.

ISO/IEC 11801:2002 2ND EDITION

The performance specifications in ISO/IEC11801:2002 2nd Edition provide new requirements for return loss and ELFEXT loss to complement the existing ISO class D requirements. The new specified return loss and ELFEXT loss requirements are in harmony with the values in '568-B.1 & B.2. The 2nd Edition of '11801 also includes propagation delay and delay skew requirements for channels and permanent links that are in harmony with the requirements of TIA/EIA-568-B.1.

The requirements of the 2nd Edition to ISO/IEC 11801 are normative and this document has become the governing international standard for cabling installations.

The first amendment to ISO/IEC 11801:2002 is being drafted and includes increasing class F/category 7 frequency range to 1.0 GHz. The first amendment to IEC 61076-3-104 is also being drafted and will be increased to 1.0 GHz to support the ISO/IEC 11801 amendment.

STANDARDS UPDATE

ISO/IEC 15108 INFORMATION TECHNOLOGY — GENERIC CABLING FOR HOMES

This Standard recognizes the Siemon TERA® connector as an approved balanced cabling interface for all referenced home cabling communication applications. The specific home applications referenced in the Standard are:

Information and communications technology (ICT),
Broadcast communications technologies (BCT), and
Commands, controls and communication in buildings (CCCB).

The technical requirements of the Standard address cabling structure and topology, minimum configuration, link and channel performance, interfaces, and coexistence with other services. A summary of key media and interface criteria is shown in the table below:

	ICT CABLING	BCT CABLING	CCCB CABLING
Type of media:	Balanced cables, optical fibers	Balanced cables, coaxial cables	Balanced cables
Typical frequency range	Up to 100 MHz	Up to 3 GHz	Up to 100 kHz
Channel classes according to ISO/IEC 11801:2002:	Class D	N/A	N/A
Interface at device:	Balanced or optical fiber connectors per ISO/IEC 11801 Ed. 2.0	Balanced connector per IEC 61076-3-104 (Siemon TERA) or coaxial connectors: IEC 61169-2 or IEC 61169-24 ("F type") or	Fixed connection, CCCB connector(s) including balanced or optical fiber connectors per ISO/IEC 11801 Ed. 2.0

While the IEC 61076-3-104 Siemon TERA interface is recognized for use in all three home cabling applications, it is important to note that the TERA interface is the primary balanced twisted-pair cabling interface recognized to support BCT cabling applications. This connector is the most recognized commercially available interface for ISO/IEC category 7/class F applications.

ISO/IEC TR 24704 INFORMATION TECHNOLOGY CUSTOMER PREMISES CABLING FOR WIRELESS ACCESS POINTS

This Technical Report addresses planning considerations for future connection to wireless access points that supplement the existing copper and fiber optic premises cabling system infrastructure specifications of ISO/IEC11801 Ed. 2.0. Specified infrastructure guidelines are intended to support an array of coverage areas that form a wireless network grid within a building. The Report specifies ISO/IEC 11801 compliant horizontal cabling design considerations and guidelines for wireless access planning in the following areas:

- minimum configuration, structure and topology,
- performance requirements for permanent links and channels,
- coverage and location of telecommunications outlets,
- interfaces to wireless access points, and
- power delivery over balanced cabling.

It is important to note that information and guidance related to the placement and security of wireless access points are not addressed in the content of this Report, although recommendations related to the placement of telecommunications outlets (TOs) are provided to support flexible deployment of wireless services.

IEC 61076-3-104 DETAIL SPECIFICATION FOR 8-WAY, SHIELDED FREE AND FIXED CONNECTORS FOR DATA TRANSMISSIONS WITH FREQUENCIES UP TO 600 MHZ MINIMUM

The IEC 61076-3-104 standard describes requirements for a non-RJ 45 category 7 telecommunications connecting hardware interface that is based on the TERA plug/outlet interface developed by Siemon. This represents the first time in history that a non-RJ style connector interface has been internationally standardized for four-pair connections in a structured cabling system.

During the interface selection process conducted by ISO/IEC, an independent panel was asked to judge six different non-RJ-style connector proposals. Based on forty-eight separate criteria, including size, complexity, manufacturability, user-friendliness and transmission performance, the TERA interface was ranked the best overall choice for delivering the demanding bandwidth specified in the Standard. This new interface Standard was endorsed by eighteen countries and represents a significant achievement for structured cabling. The international support for approval of the TERA interface and its associated Standard confirms its status as a non-proprietary solution.

TIA/EIA-862 BUILDING AUTOMATION SYSTEMS CABLING STANDARD FOR COMMERCIAL BUILDINGS

Building automation encompasses control systems such as security and monitoring (i.e. CCTV), safety systems such as fire alarm, environmental conditioning systems such as heating, ventilation, and air conditioning (HVAC), and energy management systems such as internal and external lighting. The TIA/EIA-862 Standard specifies generic cabling

topology, architecture, design, installation practices, test procedures, and coverage areas to support building automation systems (BAS) used in commercial buildings. Since, historically, providers of these building automation services specified their own proprietary equipment, cables, interface connections, and topology, this new Standard offers the distinct advantage of being able to support multi-product and multi-vendor environments using one generic structured cabling system.

It is important to note that other "low voltage systems" (e.g., audio/video paging, service/equipment alarms, non-voice/data communications, wireless access points) are also supported by the telecommunications cabling infrastructure requirements of this Standard.

IEEE 802.3AF POWER OVER ETHERNET

This Standard was approved for publication in June of 2003 and describes means to economically provide power over a twisted-pair link segment to a single Ethernet device by specifying the voltage and minimum and maximum current and wattage necessary to provide power concurrently with 10BASE-T, 100BASE-TX, and 1000BASE-T signaling. Although the Standard specifies compatibility with category 3 and category-5e structured cabling, supplying power over Ethernet is recognized to also be compatible with category 6 and category 7 cabling. The specified methodology is compatible and interoperable with compliant RJ- 45 MDI (media-dependent interface) Ethernet devices including switch-to-switch connections (both supplying power), cross-over cables, and common mode termination implementations. The following applications directly benefit from power application over MDIs:

- IP Telephony
- Web Cameras
- Wireless Access Points
- Industrial Automation
- Home Automation
- Security Access Control and Monitoring Systems
- Point of Sale Terminals
- Lighting Control
- Gaming and Entertainment Equipment
- Building Management

There are two locations where power can be introduced: endpoint or mid-span. Endpoint power (a.k.a. phantom power) is introduced via the active equipment as shown in figure 1 below.

Mid-span power is introduced in the Telecommunications Room (TR) between the patch panel and switch as shown in figure 2 below.

Power may be applied over the pairs in one of three possible schemes as shown in table below.

Conductor	Alternative A (MDI-X)	Alternative A (MDI)	Alternative B (All)
1	– VPort	+ VPort	
2	– VPort	+ VPort	
3	+ VPort	– VPort	
4			+ VPort
5			+ VPort
6	+ VPort	– VPort	
7			– VPort
8			– VPort

IEEE 802.3af Powering Options

Endpoint power can be applied using alternatives A, B or both. It is important to note that, while active equipment may be capable of both alternatives A and B, they are not to operate both alternative A and alternative B on the same link segment simultaneously. Mid-span power application is limited to alternative B and 10/100 applications only. Refer to the Siemon Q&A entitled, "Powered Ethernet" for additional information.

Recent developmental work within the IEEE committee supports expansion of the original scope of this Standard to evaluate proposals that will result in increased power carrying capability over the cabling infrastructure.

PROPOSED IEEE 802.3AN 10GBASE-T

This pending applications standard is anticipated to publish in July of 2006. Based upon the IEEE 802.3 Ethernet frame format, this new high-speed data application will support a full-duplex transmission rate of 10 Gb/s over 4-pair structured cabling (2.5 Gb/s throughput per pair). Installed, legacy category 6 cabling is anticipated to support the 10GBASE-T application over 4-connector structured topologies up to at least 55 meters in length. The pending augmented category 6 (proposed TIA/EIA-568-B.2-10) cabling requirements will be specified to support the 10GBASE-T application over 4-connector, 100 meter structured topologies.

ISO/IEC 14165-114: INFORMATION TECHNOLOGY — FIBRE CHANNEL — PART 114: 100 MBIT/S COPPER PHYSICAL INTERFACE (FC-100-DF).

This application Standard defines a 1 Gigabit per second signaling protocol using a 2-pair transmission scheme. The Standard specifies one pair to transmit and one pair to receive and is intended only for operation over 100 meter, 4-connector category 7/class F cabling topologies. With the publication of this application standard, Siemon's TERA® solution becomes the world's first and only cabling system capable of supporting two simultaneous Gigabit per second data applications over one 4-pair channel.

COMPARISON OF '568-B SERIES VERSUS '11801:2002 2ND EDITION FIBER CABLING PERFORMANCE SPECIFICATIONS

OPTICAL FIBER CABLING AND COMPONENT SPECIFICATIONS:

'568-B Series

Horizontal Link Insertion Loss ≤ 2.0 dB at 850nm or 1300nm

Horizontal Link With CP Insertion Loss ≤ 2.75dB @ 850nm or 1300nm

Centralized Link Insertion Loss ≤ 3.3 dB @ 850nm or 1300nm based on three connector pairs

Centralized Plus Open Office CP Link Insertion Loss ≤ 4.1 dB @ 850 or 1300nm based on three connector pairs

Backbone Link Insertion Loss = Cable Atten + Connector Insertion Loss + Splice Insertion Loss

Connector Insertion Loss ≤ 0.75 dB

Splice Insertion Loss ≤ 0.3 dB

Cable Atten ≤ 3.5 dB/km at 850nm for 62.5/125µm and 50/125µm

Cable Atten ≤ 1.5 dB/km at 1300nm for 62.5/125µm and 50/125µm

Cable Atten ≤ 0.5 dB/km for singlemode outside plant cable

Cable Atten ≤ 1.0 dB/km for singlemode inside plant cable

'11801:2002 2nd Edition

CHANNEL ATTENUATION dB

Channel	Multimode		Singlemode	
	850nm	1300nm	1310nm	1550nm
OF-300	2.55	1.95	1.80	1.80
OF-500	3.25	2.25	2.00	2.00
OF-2000	8.50	4.50	3.50	3.50

Connector Atten ≤ 0.75 dB

Splice Atten ≤ 0.3 dB

Cable Atten ≤ 3.5 dB/km at 850nm for 62.5/125µm and 50/125µm

Cable Atten ≤ 1.5 dB/km at 1300nm for 62.5/125µm and 50/125µm

Cable Atten ≤ 1.0 dB/km for singlemode (no differentiation between inside and outside plant cables)

MULTIMODE OPTICAL FIBER MODAL BANDWIDTH (OVERFILLED LAUNCH):

'568-B Series

Bandwidth ≥ 160 MHz-km at 850nm for 62.5/125µm

Bandwidth ≥ 500 MHz-km at 850nm for 50/125µm

Bandwidth ≥ 500 MHz-km at 1300nm for 62.5/125µm and 50/125µm

Note: Additional performance specifications for 50/125µm cables are provided in ANSI/TIA/EIA-568-B.3-1. These requirements are harmonized with fiber type 'OM3' as specified in ISO/IEC 11801:2002 2nd Edition.

'11801:2002 2nd Edition

Bandwidth ≥ 200 MHz-km at 850nm for 62.5/125µm and 50/125µm (OM1)

Bandwidth ≥ 500 MHz-km @ 850nm for 62.5/125µm and 50/125µm (OM2)

Bandwidth ≥ 1500 MHz-km @ 850nm for 62.5/125µm and 50/125µm (OM3)

Bandwidth ≥ 500 MHz-km at 1300nm for 62.5/125µm and 50/125µm (OM1, OM2 and OM3)

Note: Fiber type OM3 specified in ISO/IEC 11801:2002 2nd Edition, requires laser launch bandwidth of 2000 MHz-km at 850nm. This requirement is assured by testing differential modal delay (DMD).

CABLING SPECIFICATIONS CROSS-REFERENCE CHART (ANSI/TIA/EIA-568-B SERIES AND ISO/IEC 11801) 2ND EDITION

ANSI/TIA/EIA-568-B SERIES COMMERCIAL BUILDING TELECOMMUNICATIONS CABLING STANDARD	ISO/IEC 11801:2002 2ND EDITION GENERIC CABLING FOR CUSTOMER PREMISES
TERMINOLOGY	**TERMINOLOGY**
Cross-connect (a facility enabling the termination of cable elements and their connection by patch cord or jumper).	Distributor (a facility enabling the termination of cable elements and their connection by patch cord or jumper).
MC (Main Cross-connect)	CD (Campus Distributor)
IC (Intermediate Cross-connect)	BD (Building Distributor)
HC (Horizontal Cross-connect)	FD (Floor Distributor)
TO (Telecommunications Outlet/connector)	TO (Telecommunications Outlet)
CP (Consolidation Point) An interconnection scheme that connects horizontal cables that extend from building pathways to horizontal cables that extend into work area pathways	Consolidation Point, a location in the horizontal cabling where a cable may end, which is not subject to moves and changes, and another cable starts leading to the TO which adapts to changes – or – a location for interconnection between horizontal cables extending from building pathways and horizontal cables extending into furniture pathways
Intrabuilding Backbone	Campus Backbone
Interbuilding Backbone	Building Backbone
HORIZONTAL MEDIA CHOICES	**HORIZONTAL MEDIA CHOICES**
4-pair 100 Ω unshielded twisted-pair (UTP or F/UTP)	4-pair 100 Ω balanced cable (UTP or F/UTP)
Two fiber, 50/125µm or 62.5/125µm optical fiber	Optical fiber (50µm, 62.5µm or singlemode permitted)
BACKBONE MEDIA CHOICES	**BACKBONE MEDIA CHOICES**
100 Ω balanced twisted-pair (UTP or F/UTP)	100 Ω balanced twisted-pair (UTP or F/UTP)
50/125µm or 62.5/125µm optical fiber	62.5/125µm or 50/125µm optical fiber
Singlemode optical fiber	Singlemode optical fiber
BEND RADIUS	**BEND RADIUS**
Horizontal ≥ 4 times cable O.D. no load for UTP, 8 times cable O.D. for ScTP no load* Backbone ≥ 10 times cable O.D.	Horizontal ≥ 4 times cable O.D. Backbone ≥ 6 times cable O.D. ≥ 8 times cable O.D. while pulling cables

**See ANSI/TIA/EIA-568-B.1-1 for specifications on patch cable band radius.*

CABLING SPECIFICATIONS CROSS-REFERENCE CHART (ANSI/TIA/EIA-568-B SERIES AND ISO/IEC 11801) 2ND EDITION *(CONTINUED)*

ANSI/TIA/EIA-568-B SERIES	ISO/IEC 11801:2002 2ND EDITION
COMMERCIAL BUILDING TELECOMMUNICATIONS CABLING STANDARD	**GENERIC CABLING FOR CUSTOMER PREMISES**
ENGINEERING APPROACH	**ENGINEERING APPROACH**
Not applicable. Field testing for verification only.	Link performance determines compliance.
DESIGN APPROACH	**DESIGN APPROACH**
Design constraints, component specifications, and installation methods determine compliance.	Design constraints, component specifications, and installation methods determine an alternate means of compliance.
CONNECTOR TERMINATION	**CONNECTOR TERMINATION**
All pairs shall be terminated at the outlet.	Partial termination at the 100 Ω or 120 Ω outlet is permitted.
Pair untwist shall not exceed 13mm (0.5 in.) for category 5e or higher cables. Pair-untwist for category 3 shall be within 75mm (3 in.) from the point of termination.	In accordance with manufacturer's guidelines.
CATEGORIES OF CABLING PERFORMANCE	**CATEGORIES OF CABLING PERFORMANCE**
Category 3 is specified to 16 MHz	Class C is specified to 16 MHz
Category 5e is specified to 100 MHz	Class D is specified to 100 MHz An Optical Class is also specified.
Category 6 is specified to 250 MHz	Class E is specified to 250 MHz
Augmented category 6 will be specified to 500 MHz	Class E, edition 2.1 will be specified to 500 MHz Class F is specified to 600 MHz

Note: For TIA standards, the term "category" is used to specify both components and cabling performance. For ISO/IEC, CENELEC and other cabling standards outside of the U.S. and Canada, the term "category" is used to describe component performance (i.e., cable and connecting hardware). The term "class" is used to describe cabling (i.e., link and channel) performance.

PERFORMANCE SPECIFICATION	PERFORMANCE SPECIFICATION
Stranded Cable Attenuation = 20% worse than solid requirements for UTP, 50% worse for F/UTP.	Stranded Cable Attenuation = 50% worse than solid requirements for both UTP and F/UTP.
Hybrid requirements call for power sum NEXT loss margin + 3dB over pair-to-pair NEXT loss limit.	Hybrid requirements call for 6 dB better PSNEXT loss between cable units than the PSNEXT loss specified for the cable.

HORIZONTAL TWISTED-PAIR CABLE

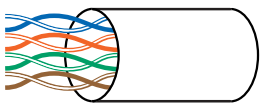
- Solid 4-pair 0.51mm (24 AWG) specified [0.64mm (22 AWG) solid also allowed]. An overall shield is optional.
- Performance marking should be provided to show the applicable performance category. These markings do not replace safety markings.

- Color-coding:
  white/blue – blue
  white/orange – orange
  white/green – green
  white/brown – brown

TWISTED-PAIR PATCH CORDS AND CROSS-CONNECT JUMPERS

- Patch cords should use stranded cable for adequate flex-life.
- Stranded cables must meet the minimum performance requirements for horizontal cable except that 20 percent more attenuation for UTP is allowed by '568-B.2 and 50 percent more attenuation is allowed by '11801:2002 for UTP and F/UTP.
- Color-code for cross-connect jumpers: One conductor white, the other a visibly distinct color such as red or blue.
- Performance markings should be provided to show the applicable transmission category in addition to safety markings.
- Insulated O.D. of stranded wires should be 0.8mm (0.032 in.) to 1mm (0.039 in.) to fit into a modular plug.
- Production performance specifications for plug cord assemblies are addressed in '568-B.2.
- Color Codes for Stranded, 100 Ω Patch Cord:

OPTION 1		OPTION 2
white/blue – blue	pair 1	green – red
white/orange – orange	pair 2	black – yellow
white/green – green	pair 3	blue – orange
white/brown – brown	pair 4	brown – slate



Note: Because of their identical pair groupings, patch cords terminated with either T568A or T568B pair assignments may be used interchangeably, provided that both ends are terminated with the same pin/pair scheme.

MULTI-PAIR CABLE

- Performance markings should be provided to show the applicable performance category. These markings do not replace safety markings.
- Services with incompatible signal levels should be partitioned into separate binder groups. Guidelines for shared sheaths are provided in Annex B of '568-B.1.
- Transmission requirements are equivalent to horizontal cables except that hybrid requirements apply when multiple cable units are contained within the same sheath.
- Note: Tip conductors have colored insulation that corresponds to that of the binder group. Ring conductors have colored insulation that corresponds to that of the pair.
- Backbone twisted-pair cables consist of solid 0.51mm (24 AWG) cables that contain more than four pairs (typically multiples of 25-pairs are used). An overall shield is optional.
- Color-coding (specified by reference to ICEA: *see chart to right).*

COLOR-CODING (SPECIFIED BY REFERENCE TO ICEA)

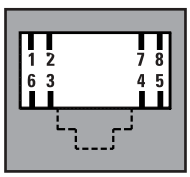
TIP		RING
white/blue	pair 1	blue/white
white/orange	pair 2	orange/white
white/green	pair 3	green/white
white/brown	pair 4	brown/white
white/slate	pair 5	slate/white
red/blue	pair 6	blue/red
red/orange	pair 7	orange/red
red/green	pair 8	green/red
red/brown	pair 9	brown/red
red/slate	pair 10	slate/red
black/blue	pair 11	blue/black
black/orange	pair 12	orange/black
black/green	pair 13	green/black
black/brown	pair 14	brown/black
black/slate	pair 15	slate/black
yellow/blue	pair 16	blue/yellow
yellow/orange	pair 17	orange/yellow
yellow/green	pair 18	green/yellow
yellow/brown	pair 19	brown/yellow
yellow/slate	pair 20	slate/yellow
violet/blue	pair 21	blue/violet
violet/orange	pair 22	orange/violet
violet/green	pair 23	green/violet
violet/brown	pair 24	brown/violet
violet/slate	pair 25	slate/violet

Insulation Marking

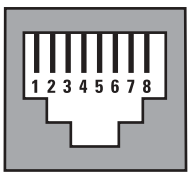
MODULAR WIRING REFERENCE

MODULAR JACK STYLES:

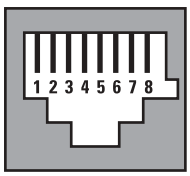
There are four basic modular jack styles. The 8-position modular outlets are commonly and incorrectly referred to as "RJ45". The 6-position modular jack is commonly referred to as an RJ11. Using these terms can sometimes lead to confusion since the RJ designations actually refer to very specific wiring configurations called Universal Service Order Code (USOC). The designation 'RJ' means Registered Jack. Each of these basic jack styles can be wired for different RJ configurations. For example, the 6-position jack can be wired as an RJ11C (1-pair), RJ14C (2-pair), or RJ25C (3-pair) configuration. An 8-position jack can be wired for configurations such as RJ61C (4-pair) and RJ48C. The keyed 8-position jack can be wired for RJ45S, RJ46S, and RJ47S.



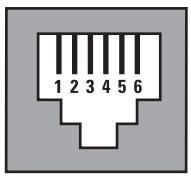
8-position class F



8-position



8-position keyed

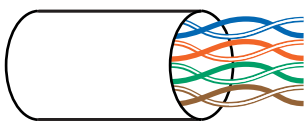


6-position

Note: The Siemon Company has developed a guide to modular hardware pin/pair assignments. Visit our website for a free copy.

MODULAR PLUG PAIR CONFIGURATIONS

It is important that the pairing of wires in the modular plug match the pairs in the modular jack as well as the horizontal and backbone wiring. If they do not, the data being transmitted may be paired with incompatible signals. Modular cords wired to the T568A color scheme on both ends are compatible with T568B systems and vice versa.



white/blue – blue
white/orange – orange
white/green – green
white/brown – brown

UTP Horizontal Cable (solid 24 AWG)

8-position T568A/T568B

8-position USOC

6-position USOC

STRAIGHT-THROUGH OR REVERSED?

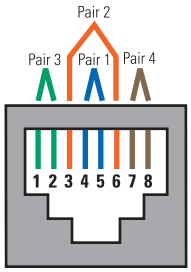
Modular cords are used for two basic applications. One application uses them for patching between modular patch panels. When used in this manner modular cords should always be wired "straight-through" (pin 1 to pin 1, pin 2 to pin 2, pin 3 to pin 3, etc.). The second major application uses modular cords to connect the workstation equipment (PC, phone, FAX, etc.) to the modular outlet. These modular cords may either be wired "straight-through" or "reversed" (pin 1 to pin 6, pin 2 to pin 5, pin 3 to pin 4, etc.) depending on the system manufacturer's specifications. This "reversed" wiring is typically used for voice systems. The following is a guide to determine what type of modular cord you have.

HOW TO READ A MODULAR CORD

Align the plugs side-by-side with the contacts facing you and compare the wire colors from left to right. If the colors appear in the same order on both plugs, the cord is wired "straight-through". If the colors appear reversed on the second plug (from right to left), the cord is wired "reversed".

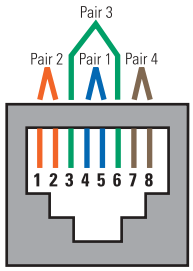
COMMON OUTLET CONFIGURATIONS

Two wiring schemes have been adopted by the '568-B.1 and '11801:2002 standards. They are nearly identical except that pairs two and three are reversed. T568A is the preferred scheme because it is compatible with 1 or 2-pair USOC systems. Either configuration can be used for Integrated Services Digital Network (ISDN) and high speed data applications. Transmission categories 3, 5e, and 6 are only applicable to this type of pair grouping.



T568A

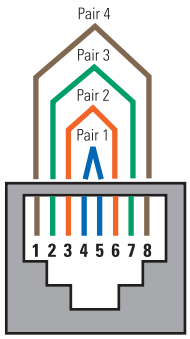
Pair ID	PIN #
T1	5
R1	4
T2	3
R2	6
T3	1
R3	2
T4	7
R4	8



T568B

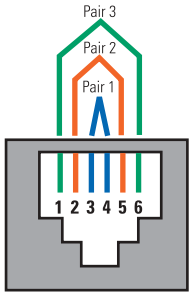
Pair ID	PIN #
T1	5
R1	4
T2	1
R2	2
T3	3
R3	6
T4	7
R4	8

USOC wiring is available for 1-, 2-, 3-, or 4-pair systems. Pair 1 occupies the center conductors, pair 2 occupies the next two contacts out, etc. One advantage to this scheme is that a 6-position plug configured with 1, 2, or 3 pairs can be inserted into an 8-position jack and still maintain pair continuity. A note of warning though, pins 1 and 8 on the jack may become damaged from this practice. A disadvantage is the poor transmission performance associated with this type of pair sequence. None of these pair schemes is cabling standard compliant.



USOC 4-pair

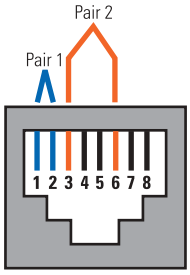
Pair ID	PIN #
T1	5
R1	4
T2	3
R2	6
T3	2
R3	7
T4	1
R4	8



USOC 1-, 2- or 3-pair

Pair ID	PIN #
T1	4
R1	3
T2	2
R2	5
T3	1
R3	6

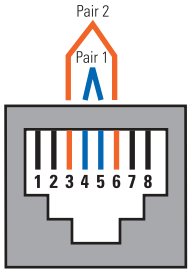
10BASE-T and 100BASE-TX wiring specifies an 8-position jack but uses only two pairs. These are pairs two and three of T568A and T568B schemes.



10/100BASE-T (802.3)

Pair ID	PIN #
T1	1
R1	2
T2	3
R2	6

Token Ring wiring uses either an 8-position or 6-position jack. The 8-position format is compatible with T568A, T568B, and USOC wiring schemes. The 6-position is compatible with 1- or 2-pair USOC wiring.

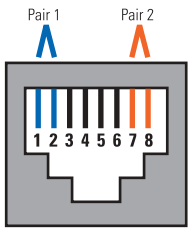


Token Ring (802.5)

Pair ID	PIN #
T1	5
R1	4
T2	3
R2	6

1000BASE-T and 10GBASE-T wiring specifies an 8-position jack. Can be either the T568A or T568B configuration.
(See above)

ANSI X3T9.5 TP-PMD uses the two outer pairs of an 8-position jack. These positions are designated as pair 3 and pair 4 of the T568A wiring scheme. This wiring scheme is also used for ATM.



TP-PMD (X3T9.5) **and ATM**

Pair ID	PIN #
T1	1
R1	2
T2	7
R2	8

RECOMMENDED CABLING PRACTICES

DO'S:
- ✔ Terminate each horizontal cable on a dedicated telecommunications outlet.
- ✔ Locate the main cross-connect near the center of the building to limit cable distances.
- ✔ Maintain the twist of horizontal and backbone cable pairs up to the point of termination.
- ✔ Tie and dress horizontal cables neatly and with a minimum bend radius of 4 times the cable diameter.
- ✔ Use hook and loop tie wraps.

DON'TS:
- ✘ Do not use connecting hardware that is of a lower category than the cable being used.
- ✘ Do not create multiple appearances of the same cable at several distribution points (called bridged taps).
- ✘ Do not over-tighten cable ties, use staples, or make sharp bends with cables.
- ✘ Do not place cable near equipment that may generate high levels of electromagnetic interference.

TWISTED-PAIR CONNECTOR TERMINATIONS

- Pair twists shall be maintained as close as possible to the point of termination.
- Untwisting shall not exceed 75mm (3.0 in) for category 3 links and 13mm (0.5 in) for category 5e and higher links.
- Connecting hardware shall be installed to provide well-organized installation with cable management and in accordance with manufacturer's guidelines.
- Strip back only as much jacket as is required to terminate individual pairs.

APPLICATION-SPECIFIC PAIR ASSIGNMENTS FOR THE 100 OHM CABLING

APPLICATION	PINS 1-2	PINS 3-6	PINS 4-5	PINS 7-8
ISDN	Power	TX	RX	Power
Analog Voice	—	—	TX/RX	—
802-3 (10BASE-T)	TX	RX	—	—
802-5 (Token Ring)	—	TX	RX	—
FDDI (TP-PMD)	TX	Optional[1]	Optional[1]	RX
ATM User Device	TX	Optional[1]	Optional[1]	RX
ATM Network Equip.	RX	Optional[1]	Optional[1]	TX
10GBASE-T (802.3an)	Bi	Bi	Bi	Bi
1000BASE-T (802.3ab)	Bi	Bi	Bi	Bi
1000BASE-TX (TIA/EIA 854)	TX	RX	TX	RX
100BASE-VG (802.12)	Bi	Bi	Bi	Bi
100BASE-T4 (802.3u)	TX	RX	Bi	Bi
100BASE-TX (802.3u)	TX	RX	—	—
1000BASE-TX2/4	TX	RX	—	—

**Bi = bi-directional*
TX = Transmit
RX = Receive

[1]*Optional terminations may be required by some manufacturers' active implementations.*

RECOMMENDED COLOR-CODING SCHEME

SIEMON COLOR #	COLOR CODE	
02	white □	1st Level Backbone (MC/IC or MC/TC Terminations)
03	red ■	Key Telephone Systems
04	gray ■	Second Level Backbone (IC/TC Terminations)
05	yellow ■	Miscellaneous (Auxiliary, Security, Alarms, etc.)
06	blue ■	Horizontal Cable Terminations (a.k.a. Station Cable)
07	green ■	Network Connections (customer side of demarc)
08	purple ■	Common Equipment (PBX, Host, LANs, Muxes)
09	orange ■	Demarcation Point (Central Office Terminations)
60	brown ■	Interbuilding Backbone (Campus Cable Terminations)

TWISTED-PAIR CABLING INSTALLATION PRACTICES

- To avoid stretching, pulling tension should not exceed 110N (25 lb*f*) for 4-pair cables.
- Installed bend radii shall not exceed:
  - 4 times the cable diameter for horizontal UTP cables under no load conditions.
  - 8 times the cable diameter for horizontal ScTP cables.
  - 10 times the cable diameter for multi-pair backbone twisted-pair cables under no load conditions.
- Horizontal cables should be used with connecting hardware and patch cords (or jumpers) of the same performance category or higher.
- Avoid cable stress, as caused by:
  - cable twist during pulling or installation
  - tension in suspended cable runs
  - tightly cinched cable ties or staples
  - tight bend radii
- Important Note: Installed twisted-pair cabling shall be classified by the least performing component in the link.

TIA-569-B*

COMMERCIAL BUILDING STANDARD FOR TELECOMMUNICATIONS PATHWAYS AND SPACES

The TIA TR42.3 Working Group on Telecommunications Pathways & Spaces published the TIA-569-B ('569-B) Standard in 2004.

FOLLOWING ARE HIGHLIGHTS OF THE '569-B STANDARD:

PURPOSE:

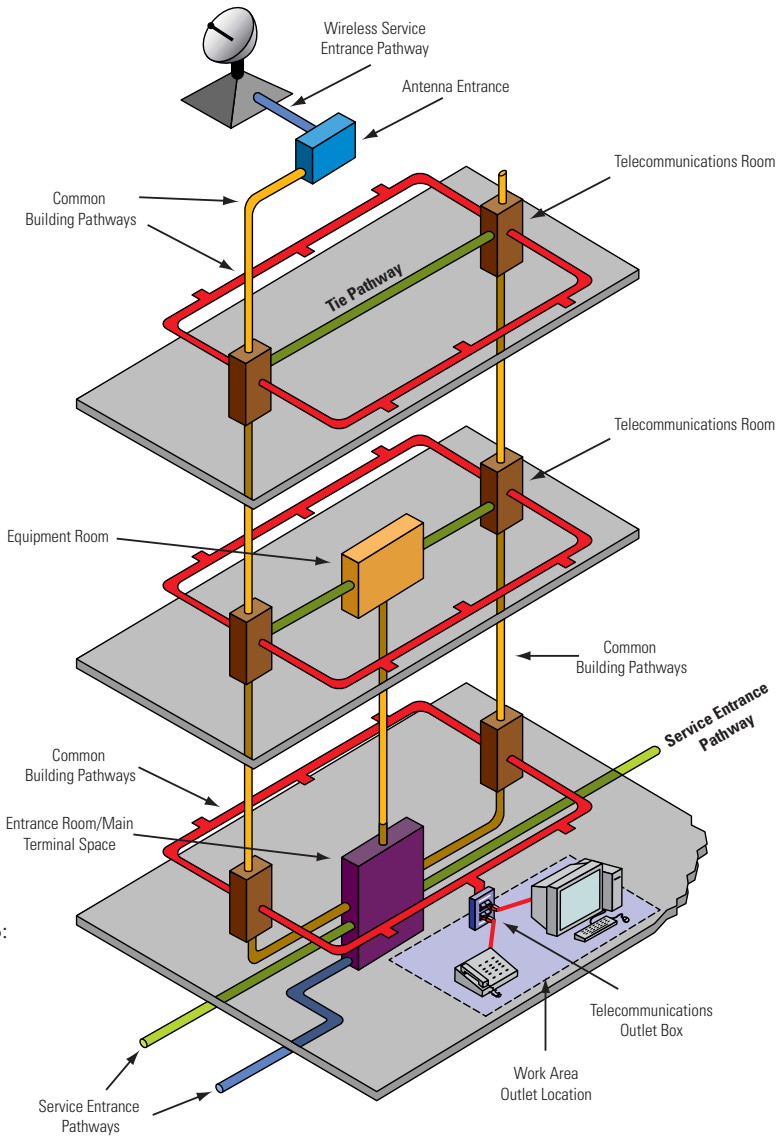
- Standardize design and construction practices for telecommunications pathways and spaces.
- Provides a telecommunications support system that is adaptable to change during the life of the facility.

SCOPE:

- Pathways and spaces in which telecommunications media are placed and terminated, including wireless.
- Telecommunications pathways and spaces within and between buildings.
- Commercial building design for both single and multi-tenant buildings.

ELEMENTS:

- Horizontal
- Backbone
- Work Area
- Telecommunications Room
- Equipment Room
- Main Terminal Space
- Entrance Facility
- Telecommunications Enclosures



ANNEX INFORMATION:

The following normative and informative annexes are provided in TIA-569-B:

A. Firestopping (Normative)
B. Additional section information (Informative)
C. Noise reduction guidelines (Informative)
D. Bibliography and references (Informative)

**ANSI approval pending.*

BUILDING AND BACKBONE INCLUDES:

PATHWAY TYPES:

- **CEILING —** Open environment above accessible ceiling tiles and frame work.
- **ACCESS FLOOR —** Raised modular floor tile supported by pedestals, with or without lateral bracing or stringers.
- **TRAY & RUNWAY —** Prefabricated rigid structures for pulling or placing cable.
- **CONDUIT —** Metallic and nonmetallic tubing of rigid or flexible construction permitted by applicable electrical code.
- **FURNITURE —** Modular systems of furniture containing pathways/raceways for concealing cable and terminating outlets.
- **IN-FLOOR —** Network of raceways embedded in concrete consisting of distribution and header ducts, trenches, and cellular systems.
- **PERIMETER —** Surface, recessed, molding, and multi-channel raceway systems for wall mounting around rooms or along hallways.
- **VERTICAL PATHWAYS —** Sleeve or conduit and slot penetrations for access to other floors.
- **UTILITY COLUMNS —** Vertical channel for cable access to work area locations.
- **PARTITION CABLING —** Where demountable partitions are used to conceal cables.
- **IN-WALL CABLING —** Where cables pass through stud openings.

SPACE TYPES:

- **ENTRANCE FACILITIES —** Telecommunications service entrance to the building including entrance through the wall.
- **ACCESS PROVIDER/SERVICE PROVIDE —** Spaces location of transmission, reception and support equipment.
- **MULTI-TENANT BUILDING SPACES —** Includes common Equipment Room and column Telecommunications Room.
- **BUILDING SPACES —**
  - Outlet box/bracket/poke-thru
  - Multi-user telecommunications outlet assembly
  - Consolidation Point
  - Splice box/zone box
  - Telecommunications Enclosure
  - Telecommunications Room
  - Equipment Room
  - Entrance Room

DESIGN CONSIDERATIONS:

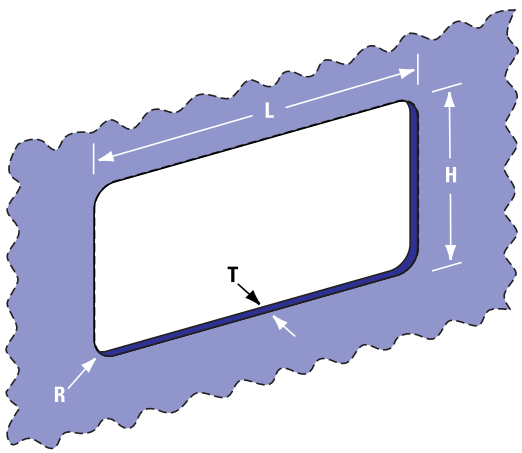
- Grounded per code and ANSI-J-STD-607-A ('607-A)
- Designed to handle recognized media as specified in ANSI/TIA/EIA-568-B series
- Not allowed in elevator shafts
- Accommodate seismic zone requirements
- Installed in dry locations

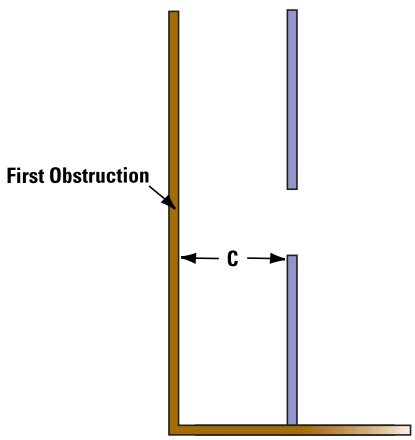
WORK AREA

Primary location where the building occupants interact with dedicated telecommunications equipment.

DESIGN CONSIDERATIONS:

- At least one telecommunication outlet box location shall be planned for each work area.
- This location should be coordinated with the furniture plan. A power outlet should be nearby. Height coordinated power outlet.
- Control center, attendant, and reception areas shall have direct and independent pathways to the serving telecommunications room.
- Furniture System Design:
  - Cable access via walls, columns, ceilings, or floors. Fittings that transition between building and furniture pathways require special planning.
  - Furniture pathway fill capacity is effectively reduced by furniture corners, and connectors mounted within the furniture pathway systems.
  - Furniture pathways bend radius shall not force the installed cable to a bend radius of less than 25mm (1 in.).
  - Furniture spaces designed to house slack storage, consolidation points, or multi-user telecommunications outlet assemblies shall provide space for strain relieving, terminating, and storing slack for the horizontal cables.
  - Slack storage and furniture pathway fill, shall not affect the bend radius and termination of the cable to the connector.
  - Furniture pathway openings shall comply with either of two sizes:
- Standard NEMA opening (NEMA OS 1, WD-6)
- Alternate opening:



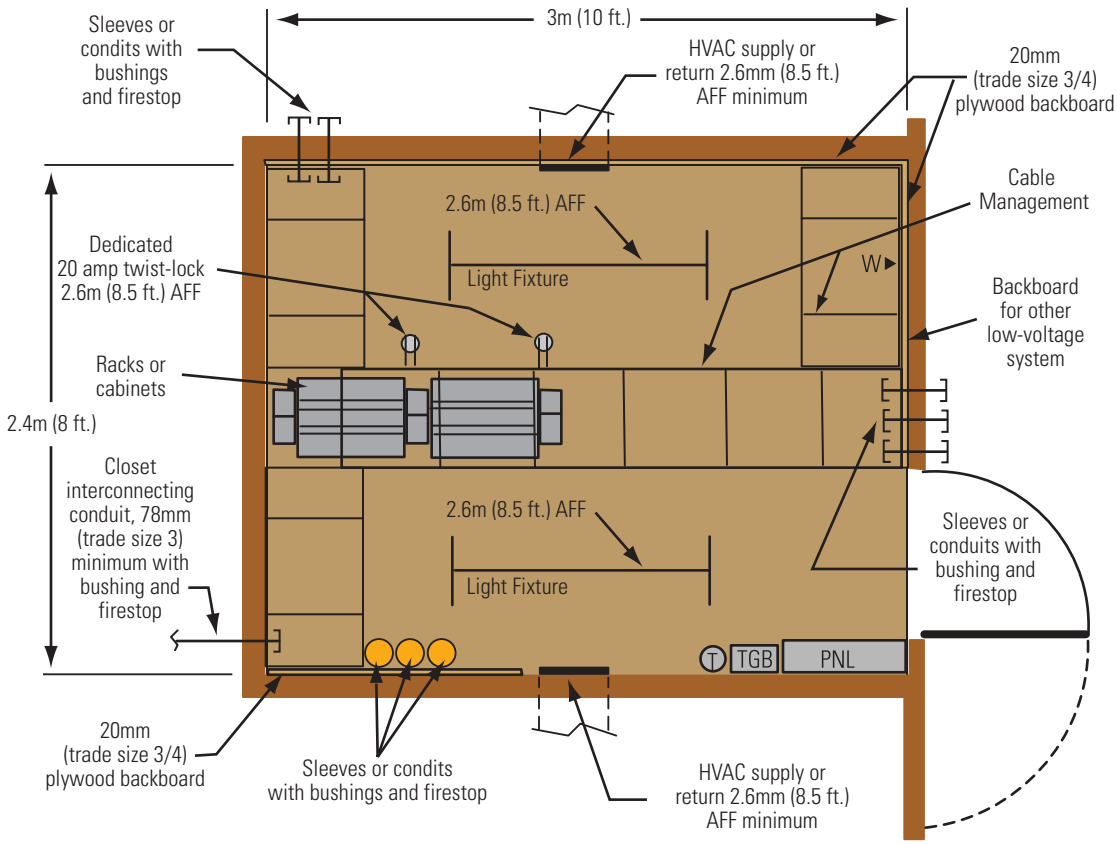


	DIMENSION	TOLERANCE
L (length)	68.8mm (2.71 in.)	1.02mm (0.040 in.)
H (height)	35.1mm (1.38 in.)	0.90mm (0.035 in.)
T (depth)	1.40mm (0.055 in.)	0.64mm (0.025 in.)
R (corner radius)	4.06mm (0.160 in.) max.	—
C (distance to 1st obstruction)	30.5mm (1.2 in.) min.	—

Power/telecommunication separation requirements are governed by applicable electrical code for safety. Minimum separation requirements of Article 800-52 of ANSI/NFPA 70 (National Electric Code) shall be applied.

TELECOMMUNICATIONS ROOM

Recognized location of the common access point for backbone and horizontal pathways.



T = Thermostat
AFF = Above finshed floor
HVAC = Heating, ventilating, and air-conditioning
PNL = Panel
TGB = Telecommunications grounding busbar
W = Wall outlet

DESIGN:

- Dedicated to telecommunications function.
- Equipment not related to telecommunications shall not be installed, pass through or enter the telecommunications room.
- Multiple closets on the same floor shall be interconnected by a minimum of one 78mm (trade size 3) conduit, or equivalent pathway.
- Minimum floor loading 2.4 kPA (50 lbf/ft^2).

DESIGN CONSIDERATIONS:

- Minimum one closet per floor to house telecommunications equipment/cable terminations and associated cross-connect cable and wire.
- Located near the center of the area being served.
- Horizontal pathways shall terminate in the telecommunications room on the same floor as the area served.
- Accommodate seismic zone requirements.
- One wall should have 20mm (0.75 in.) A-C plywood 2.4m (8 ft.) high.
- Lighting shall be a minimum of 500 lx (50 foot candles) at 1m (3 ft.) above finished floor (AFF).
- False ceilings shall not be provided.
- Minimum door size 910mm (36 in.) wide and 2000mm (80 in.) high without sill, hinged to open outwards, or slide side-to-side or removable, and fitted with a lock.
- Minimum of two dedicated 120V nominal non-switched duplex electrical outlet receptacles or equivalent, each on separate branch circuits.
- Additional convenience duplex outlets placed at 1.8m (6 ft.) intervals around perimeter, 150mm (6 in.) above floor.
- Access to the telecommunications grounding system as specified by ANSI-J-STD-607-A.
- HVAC requirements to maintain temperature the same as adjacent office area. A positive pressure shall be maintained with a minimum of one air change per hour or per code.

EQUIPMENT ROOM

A centralized space for telecommunications equipment that serves specific occupants of the building. Any or all of the functions of a telecommunications room or entrance facility may alternately be provided by an equipment room.

LOCATION:

- Site locations should allow for expansion.
- Accessible to the delivery of large equipment.
- Not located below water level.
- Away from sources of EMI.
- Safeguards against excessive vibration.
- Sizing shall include projected future as well as present requirement.
- Equipment not related to the support of the equipment room shall not be installed in, pass through, or enter the equipment room.

DESIGN CONSIDERATIONS:

- Minimum clear height of 2.4m (8 ft.) without obstruction.
- Protected from contaminants and pollutants.
- Access to backbone pathways.
- HVAC provided on a 24 hours-per-day, 365 days-per-year basis.
- Temperature and humidity controlled range 18° C (64° F) to 24°C (75° F) with 30% to 55% relative humidity measured 1.5m (5 ft.) above floor level.
- Separate power supply circuit shall be provided and terminated in its own electrical panel.
- Minimum lighting 500 lx (50 foot candles). Switch location shall be near entrance door to room.
- One wall should have 20mm (0.75 in.) A-C plywood 2.4m (8 ft.) high.
- Minimum door same as telecommunications room. Double doors without center post or sill is recommended.
- Access to ground per ANSI-J-STD-607-A.

ENTRANCE FACILITY

Consists of the telecommunications service entrance to the building and backbone pathways between buildings.

LOCATION:

- Providers of all telecommunications services shall be contacted to establish requirements.
- Location of other utilities shall be considered in locating the entrance facility.
- Alternate entrance facility should be provided where security, continuity or other special needs exist.
- Equipment not related to the support of the entrance facility should not be installed in, pass through, or enter the telecommunications entrance facility.
- Dry location not subject to flooding and close as practicable to building entrance point and electrical service room.
- Wireless transmission/reception shall be located close to wireless field.

DESIGN CONSIDERATIONS:

- Accommodate the applicable seismic zone requirements.
- A service entrance pathway shall be provided via one of the following entrance types: Underground, Buried, Aerial, Tunnel.
- Minimum one wall should be covered with rigidly fixed 21mm (0.75 in.) A-C plywood.
- Minimum lighting same as telecommunication room.
- False ceilings shall not be provided.
- Minimum door same as telecommunications room.
- Electrical power same as telecommunications room. No convenience receptacles mentioned.
- Grounding same as telecommunications room.

MISCELLANEOUS

- Fire stopping per applicable code
- Horizontal pathway separation from Electromagnetic interference (EMI) sources:
  - Separation between telecommunications and power cables (Article 800.52 of ANSI/NFPA 70)
  - Building protected from lightning (ANSI/NFPA 780 (Ref D.4)
  - Surge protection (Article 280 of ANSI/NFPA 70 and 9.11 of ANSI/IEEE 1100 [Ref D.1])
  - Grounding (ANSI/TIA/EIA-607)
  - Corrected faulty wiring (Section 7.5 of ANSI/IEEE 1100)
- Reducing noise coupling:
  - Increase separation from noise sources
  - Electrical branch circuit line, neutral, and grounding conductors should be maintained close together
  - Use of surge protectors in branch circuits
  - Use fully enclosed grounded metallic raceway or locate cabling near grounded metallic surface

Note: Common equipment rooms & telecommunications rooms are made available in multi tenant environments and controlled by building owner or agent.

Air Blown Fiber (ABF) Small, flexible plastic microduct tubing installed prior to the installation of individual or multiple optical fibers that are "blown in" through the microduct using compressed air.

Asynchronous Transfer Mode (ATM) Technology selected by the International Telecommunications Union (ITU, formerly CCITT) for broadband ISDN. This communications protocol is also specified by the ATM Forum (Foster City, CA) for 155 Mb/s transmission over twisted-pair cable and various bit rate optical fiber cabling applications.

Attenuation A reduction in power or amplitude of the transmitted signal. In cables, it is generally expressed in decibels per unit length.

Attenuation to Crosstalk Ratio (ACR) The difference between attenuation and crosstalk measured in decibels.

Auxiliary Disconnect Outlet (ADO) A device usually located within the tenant or living unit used to terminate the ADO cable or backbone cable.

Auxiliary Disconnect Outlet (ADO) Cable In residential applications, the cable from the auxiliary telecommunications disconnect outlet/connector or the distribution device in a customer's premises to the backbone facility or the point of demarcation.

Backbone Cabling Cable and connecting hardware that comprise the main and intermediate cross-connects, as well as cable runs that extend between telecommunications rooms, equipment rooms and entrance facilities.

Balance An indication of signal voltage equality and phase polarity on a conductor pair. Perfect balance occurs when the signals across a twisted-pair are equal in magnitude and opposite in phase with respect to ground.

Balanced Signal Transmission Two voltages, equal and opposite in phase with respect to each other, across the conductors of a twisted-pair (commonly referred to as tip and ring).

Balun An impedance matching transformer used to convert unbalanced coaxial signals to balanced signals.

Bandwidth A range of frequencies, usually the difference between the upper and lower limits of the range, typically expressed in megahertz (MHz). It is used to describe the information-carrying capacity of a medium. In copper and optical fibers, the bandwidth decreases with increasing length. Optical fiber bandwidth is specified in megahertz kilometers (MHz-km).

Bonding The permanent joining of metallic parts to form an electrically conductive path that will assure electrical continuity and the capacity to conduct safely any current likely to be imposed on it.

Break Test Access Method of disconnecting a circuit that has been electrically bridged to allow testing on either side of the circuit without disturbing cable terminations. Devices that provide break test access include: disconnect blocks, bridge clips, plug-on protection modules, and plug-on patching devices.

Bridged Tap The multiple appearances of the same cable pair or fiber at several distribution points. Also known as parallel connections.

Bridging A means of providing through connections between conductors or pairs that are terminated on connecting blocks. These through connections are commonly provided by means of individual metallic "bridging" clips or multiple "bridging" clips that are housed in a plastic insulator.

Building Distributor (BD) The international term for intermediate cross-connect. A distributor in which the building backbone cable(s) terminates and at which connections to the campus backbone cable(s) may be made.

Bundled Cable An assembly of two or more cables continuously bound together to form a single unit prior to installation (sometimes referred to as loomed, speed-wrap or whip cable constructions).

Bus Topology A linear configuration where all network devices are placed on a single length of cable. It requires one backbone cable to which all network devices are connected.

Cabling A combination of cables, wire, cords and connecting hardware used in the telecommunications infrastructure.

Campus Backbone Cabling between buildings that share telecommunications facilities.

Campus Distributor (CD) The international term for main cross-connect. The distributor from which the campus backbone cable emanates.

Category

1. ANSI/TIA/EIA-568-B series of documents, the North American standards for cabling describes mechanical properties and transmission characteristics of unshielded twisted-pair (UTP) cables and screened twisted-pair (ScTP) cables and assigns a unique number classification (category 3, category 5e, and category 6).
2. ISO/IEC IS 11801 2nd edition, the international standard for cabling and local standardization documents define cabling component categories based on transmission performance parameters such as attenuation and NEXT loss, over a specified frequency range. Component categories category 5, category 6 and category 7.

Channel The end-to-end transmission path connecting any two points at which application specific equipment is connected. Equipment and work area cables are included in the channel.

Classification Application classes for cabling have been identified for the purpose of the ISO/IEC 11801 standard;

– Class A: cabling is characterized up to 100 kHz
– Class B: cabling is characterized up to 1 MHz
– Class C: cabling is characterized up to 16 MHz
– Class D: cabling is characterized up to 100 MHz
– Class E: cabling is characterized up to 250 MHz
– Class F: cabling is characterized up to 600 MHz
– Optical Class: optical fiber links are characterized from 10 MHz and above.

Collapsed Backbone A centralized network contained in one device. The network is said to be collapsed and made to fit into a box. Individual networks are connected to this central device and can then communicate with one another.

Common Mode Transmission A transmission scheme where voltages appear equal in magnitude and phase across a conductor pair with respect to ground. May also be referred to as longitudinal mode.

Consolidation Point (CP) A location for interconnection between horizontal cables that extend from building pathways and horizontal cables that extend into work area pathways.

Cross-connect A facility enabling the termination of cables as well as their interconnection or cross-connection with other cabling or equipment. Also known as a distributor.

Cross-connection A connection scheme between cabling runs, subsystems and equipment using patch cords or jumpers that attach to connecting hardware on each end.

Crosstalk Noise or interference caused by electromagnetic coupling from one signal path to another. Crosstalk performance is generally expressed in decibels.

Decibel (dB) A standard unit for expressing transmission gain or loss as derived from a ratio of signal voltages or power.

Delay Skew The difference in propagation delay between the fastest and slowest pair in a cable or cabling system.

Demarcation Point (DP) A point at which two services may interface and identify the division of responsibility.

Differential Mode Transmission A transmission scheme where voltages appear equal in magnitude and opposite in phase across a twisted-pair with respect to ground. May also be referred to as balanced mode.

Distributor The term used for the functions of a collection of components (e.g. patch panels, patch-cords) used to interconnect cables.

Ducting See Pathway.

Electromagnetic Compatibility (EMC) The ability of a system to minimize radiated emissions and maximize immunity from external noise sources.

Electromagnetic Interference (EMI) The interference in signal transmission or reception caused by the radiation of electrical and magnetic fields.

Electronic Industries Alliance (EIA) An organization that sets standards for interfaces to ensure compatibility between data communications equipment and data terminal equipment.

Electronic Industries Association A standards organization that specializes in the electrical and functional characteristics of interface equipment. The organization sets standards for interfaces to ensure compatibility between data communications equipment and data terminal equipment.

Entrance Facility (EF) An entrance to a building for both public and private network service cables (including antennae), including the entrance point at the building wall and continuing to the entrance room or space. Entrance facilities are often used to house electrical protection equipment and connecting hardware for the transition between outdoor and indoor cable.

Entrance Facility, Telecommunications An entrance to a building for both public and private network service cables (including antennae) beginning with the entrance point at the building wall and continuing to the entrance room or space.

Entrance Point, Telecommunications The point of emergence of telecommunications conductors through an exterior wall, a concrete floor slab, or from a rigid metal conduit or intermediate metal conduit.

Equal Level Far-end Crosstalk (ELFEXT) Crosstalk measured at the opposite end from which the disturbing signal is transmitted, normalized by the attenuation contribution of the cable or cabling.

Equipment Cable A cable or cable assembly used to connect telecommunications equipment to horizontal or backbone cabling.

Equipment Room (ER) A centralized space for telecommunications equipment that serves the occupants of the building or multiple buildings in a campus environment. An equipment room is considered distinct from a telecommunications room because it is considered to be a building or campus serving (as opposed to floor serving) facility and because of the nature or complexity of the equipment that it contains.

Equipment Room, Telecommunications A centralized space for telecommunications equipment that serves the occupants of the building. An equipment room is considered distinct from the telecommunications room because of the nature and complexity of the equipment it houses.

Far-end Crosstalk (FEXT) Crosstalk measured at the opposite end from which the disturbing signal is transmitted.

FC Connector A type of optical fiber connector identifiable by its round, screw-operated locking nut. It is usually metal. Its ruggedness leads it to be widely used in test equipment.

Fiber Distributed Data Interface (FDDI) Operates at 100 megabits per second (Mb/s). Developed by the ANSI X3T9.5 committee. This is a token-passing, dual-ring architecture that provides redundancy using fiber optic cable with transmission up to 2 kilometers.

Fiber Optic Transmission A communications scheme whereby electrical data is converted to light energy and transmitted through optical fibers.

Firestop A material, device, or assembly of parts installed in a cable pathway at a fire-rated wall or floor to prevent passage of flame, smoke or gases through the rated barrier (e.g., between cubicles or separated rooms or spaces).

Floor Distributor (FD) The international term for horizontal cross-connect. The distributor used to connect between the horizontal cable and other cabling subsystems or equipment.

Ground A conducting connection, whether intentional or accidental, between an electrical circuit (telecommunications) or equipment and earth, or to some conducting body that serves in place of the earth.

Hertz (Hz) A measure of frequency as defined in units of cycles per second.

Home-run Cabling A distribution method in which individual cables are run directly from the horizontal cross-connect to each telecommunications outlet. This configuration is also known as star topology.

Horizontal Cabling The cabling between and including the telecommunications outlet and the horizontal cross-connect.

Horizontal Cross-connect (HC) A cross-connect of horizontal cabling to other cabling, e.g., horizontal, backbone, or equipment.

Hub Equipment that serves as the centralized connection point for a network or portion thereof. Hubs are used for multiplexing, multi-port bridging functions, switching and test access. They can be either passive or active and are not considered to be part of the cabling infrastructure.

Hybrid cable An assembly of two or more cables, of the same or different types or categories, covered by one overall sheath.

Insertion loss

1. The loss resulting from the insertion of a device in a transmission line, expressed as the reciprocal of the ratio of the signal power delivered to that part of the line following the device to the signal power delivered to that same part before insertion.
2. In an optical fiber system, the loss of optical power caused by inserting a component, such as a connector, coupler or splice, into a previously continuous optical path.

Insulation Displacement Connection (IDC) A wire connection device that penetrates the insulation of a copper wire when it is being inserted (punched-down) into a metal contact, allowing the electrical connection to be made.

Intelligent Hub A hub that performs bridging and routing functions in a collapsed backbone environment.

Interbuilding Backbone Telecommunications cable(s) that are part of the campus subsystem that connect one building to another.

Interconnection A connection scheme that provides direct access to the cabling infrastructure and the ability to make cabling system changes using equipment cords.

Intermediate Cross-Connect (IC) The connection point between a backbone cable that extends from the main cross-connect (first-level backbone) and the backbone cable from the horizontal cross-connect (second-level backbone).

Intermediate Distribution Frame (IDF) In a central office or customer premises, a frame that (a) cross connects the user cable media to individual user line circuits and (b) may serve as a distribution point for multipair cables from the main distribution frame (MDF) to individual cables connected to equipment in areas remote from these frames.

Intrabuilding Backbone Telecommunications cable(s) that are part of the building subsystem that connect one equipment room to another.

Jumper Wire An assembly of twisted-pairs without connectors on either end used to join telecommunications links at a cross-connect.

Link An end-to-end transmission path provided by the cabling infrastructure. Cabling links include all cables and connecting hardware that comprise the horizontal or backbone subsystems. Equipment and work area cables are not included as part of a link.

Local Area Network (LAN) A geographically limited data communications system for a specific user group consisting of a group of interconnected computers, sharing applications, data and peripheral devices such as printers and CD-ROM drives intended for the local transport of data, video, and voice.

Local Exchange Carrier (LEC) The local regulated provider of public switched telecommunications services.

Longitudinal Conversion Loss (LCL) A measure (in dB) of the differential voltage induced on a conductor pair as a result of subjecting that pair to longitudinal voltage. LCL is considered to be a measure of circuit balance.

Main Cross-connect (MC) A cross-connect for first level backbone cables, entrance cables, and equipment cables.

MAU

1. Multi-station Access Unit in reference to Token Ring.
2. Medium Attachment Unit in reference to Ethernet A wiring concentrator used in Local Area Networks. A device that allows terminals, PCs, printers, and other devices to be connected in a star-based configuration to Token Ring or Ethernet LANs. MAU hardware can be either active or passive and is not considered to be part of the cabling infrastructure.

Modular Jack A telecommunications outlet/connector for wire or cords as defined in the FCC Part 68 Subpart F. Modular jacks can have 4, 6 or 8 contact positions, but not all the positions need be equipped with contacts.

Modular Plug A telecommunications connector for wire or cords as defined in the FCC Part 68 Subpart F. Modular plugs can have 4, 6 or 8 contact positions, but not all the positions need be equipped with contacts.

Multimedia

1. An application that communicates to more than one of the human sensory receptors.
2. Applications that communicate information by more than one means or cabling media.

Multimode Optical Fiber An optical fiber that will allow many bound modes to propagate. The fiber may be either a graded-index or step-index fiber. Multimode optical fibers have a much larger core than singlemode fibers. See also Optical Fiber Cable.

Multi-user Telecommunications Outlet Assembly (MuTOA) A grouping in one location of several telecommunications/outlet connectors.

Nanosecond (ns) One billionth of a second (10^{-9} seconds).

Near-end Crosstalk (NEXT Loss) The undesired coupling of a signal from one pair of wires to another. Signal distortion as a result of signal coupling from one pair to another at various frequencies.

Network Demarcation Point The point of interconnection between the local exchange carrier's telecommunication facilities and the telecommunications systems wiring and equipment as the end user's facility. This point shall be located on the subscriber side of the telephone company's protector or the equivalent thereof in cases where a protector is not required.

Open Office Cabling The cabling that distributes from the telecommunications closet to the open office area utilizing a consolidation point or multi-user telecommunications outlet assembly.

Outlet, Telecommunications A fixed connecting device where the horizontal cable terminates. The telecommunications outlet provides the interface to the work area cabling. Sometimes referred to as a telecommunications outlet/connector.

Outlet/Connector, Telecommunications A connecting device in the work area on which horizontal cable terminates.

Patch Cord A length of cable with connectors on one or both ends used to join telecommunications links at a cross-connect.

Patch Panel Connecting hardware that typically provides means to connect horizontal or backbone cables to an arrangement of fixed connectors that may be accessed using patch cords or equipment cords to form cross-connections or interconnections.

Pathway A facility (i.e., conduit) for the placement and protection of telecommunications cables. Same as raceway or ducting.

Plenum A compartment or chamber to which one or more air ducts are connected and that forms part of the air distribution system.

Private Branch Exchange (PBX) A private switching system usually serving an organization, such as a business, located on the customer's premises. It switches calls both inside a building or premises and outside to the telephone network, and can sometimes provide access to a computer from a data terminal.

Propagation Delay The amount of time that passes between when a signal is transmitted and when it is received at the opposite end of a cable or cabling.

Punch Down A method for securing wire to a quick clip in which the insulated wire is placed in the terminal groove and pushed down with a special tool. As the wire is seated, the terminal displaces the wire insulation to make an electrical connection. The punch down operation may also trim the wire as it terminates. Also called cut down.

Quick Clip An electrical contact used to provide an insulation displacement connection to telecommunications cables.

Raceway See Pathway.

Return Loss Noise or interference caused by impedance discontinuities along the transmission line at various frequencies. Return loss is expressed in decibels.

Ring Conductor A telephony term used to describe one of the two conductors in a cable pair used to provide telephone service. This term was originally coined from its position as the second (ring) conductor of a tip-ring-sleeve switchboard plug.

Screened twisted-pair (ScTP) A balanced twisted-pair cable surrounded by metallic braid, foil (screen) or both and bound in a single cable sheath.

Shielded twisted-pair (SSTP) A cable surrounded by a metallic braid, foil or both and bound in a single plastic sheath containing balanced twisted-pair conductors that are individually shielded.

Singlemode Optical Fiber An optical fiber that will allow only one mode to propagate; this fiber is typically a step-index fiber.

Small Form Factor An optical fiber connector and adapter that provide for two strands of fiber in a surface area similar to an unshielded twisted-pair (RJ-style) plug and socket.

Sneak Current A low-level current that is of insufficient strength to trigger electrical surge protectors and, therefore, is able to pass through them undetected. These currents may result from contact between communications lines and AC power circuits or from power induction, and may cause equipment damage unless secondary protection is used.

Star Topology

1. A method of cabling each telecommunications outlet/connector directly to a cross-connect in a horizontal cabling subsystem.
2. A method of cabling each cross-connect (HC and IC) to the main cross-connect (MC) in a backbone cabling subsystem.

Surge A rapid rise in current or voltage, usually followed by a fall back to a normal level. Also referred to as transient.

Telecommunications Any transmission, emission or reception of signs, signals, writings, images, sounds or information of any nature by cable, radio, visual, optical or other electromagnetic systems.

Telecommunications Room (TR) An enclosed space for housing telecommunications equipment, cable terminations and cross-connect cabling used to serve work areas located on the same floor. The telecommunications closet is the typical location of the horizontal cross-connect and is considered distinct from an equipment room because it is considered to be a floor serving (as opposed to building or campus serving) facility.

Telecommunications Industry Association (TIA) An organization that sets standards for cabling, pathways, spaces, grounding, bonding, administration, field testing and other aspects of the telecommunications industry.

Tip Conductor A telephony term used to describe the conductor of a pair that is grounded at the central office when the line is idle. This term was originally coined from its position as the first (tip) conductor of a tip-ring-sleeve switchboard plug.

Topology The physical or logical layout of links and nodes in a network. These include star, ring and bus configurations.

Transfer Impedance A measure (in Ω) of shield effectiveness.

Transition Point (TP) A location in the horizontal cabling subsystem where flat under carpet cabling connects to round cabling.

Trunk A communication line between two switching systems. The term "switching systems" typically includes equipment in a central office (the telephone company) and PBXs. A tie trunk connects PBXs. Central office trunks connect a PBX to the switching system at the central office.

Twisted-Pair Physical Media Dependent (TP-PMD) Technology under review by the ANSI X3T9.5 working group that allows 100 Mb/s transmission over twisted-pair cable. Also referred to as CDDI or TPDDI.

Twisted-Pair Distributed Data Interface (TP-DDI) Trademark of 3COM Corporation. (See Twisted-pair Physical Media Dependent.)

Unshielded Twisted-Pair (UTP) A cable with multiple pairs of twisted insulated copper conductors bound in a single sheath.

Webbed Conductors The manufacturing process that physically binds the conductor insulation of the wire pairs of an unshielded twisted-pair cable.

Work Area The area where horizontal cabling is connected to the work area equipment by means of a telecommunication outlet. A station/desk which is served by a telecommunications outlet. Sometimes referred to as a work station.

Work Area Cable A cable assembly used to connect equipment to the telecommunications outlet in the work area. Work area cables are considered to be outside the scope of cabling standards.

Acronyms & Abbreviations

ACR	Attenuation-to-crosstalk ratio
ADO	Auxiliary disconnect outlet
ADSL	Asynchronous Digital Subscriber Line
ANSI	American National Standards Institute
ATM	Asynchronous transfer mode
AWG	American wire gauge
BD	Building distributor
BER	Bit Error Rate
BFOC	Bayonet Fiber Optic Connector
b/s	Bits per second
CD	Campus distributor
CDDI®	Copper Distributed Data Interface
CM	Common mode
CP	Consolidation point
CPE	Customer premises equipment
CSA	Canadian Standards Association
dB	Decibel
DD	Distribution device
EF	Entrance facility
EIA	Electronic Industries Alliance
ELFEXT	Equal level far-end crosstalk
EMC	Electromagnetic compatibility
EMI	Electromagnetic interference
EMR	Electromagnetic radiation
ER	Equipment room
FCC	Federal Communications Commission
FD	Floor distributor
FDDI®	Fiber Distributed Data Interface
ft.	Feet
FEXT	Far-end crosstalk
FIPS PUB	Federal Information Processing Standard Publication
FTP	Foil twisted-pair
Gb/s	Gigabit per second
GHz	Gigahertz
HC	Horizontal cross-connect
HVAC	Heating, ventilation and air conditioning
Hz	Hertz
IC	Intermediate cross-connect
IDC	Insulation displacement connection
IDF	Intermediate Distribution Frame
IEC	International Electrotechnical Commission
IEEE®	Institute of Electrical and Electronic Engineers®
ISDN	Integrated Services Digital Network
ISO	International Standards Organization
JTC	Joint technical committee
Kb/s	Kilobit per second
Km	Kilometer
KTS	Key telephone system
LAN	Local area network
lbf	Pounds force
lx	Lux
LEC	Local exchange carrier
LED	Light emitting diode
m	Meter
µm	Micron; one millionth of a meter (0.000001); also micrometer

Mb/s . . . . . Megabits per second
MC . . . . . Main cross-connect
MDF . . . . . Main distribution frame
MHz . . . . . Megahertz
MHz*km . . . . . Megahertz kilometer
mm . . . . . Millimeter
MT-RJ . . . . . Mechanical Transfer Registered Jack
MuTOA . . . . . Multi-user Telecommunications Outlet Assembly
NEC® . . . . . National Electrical Code®
NEMA® . . . . . National Electrical Manufacturers Association®
NEXT . . . . . Near-end crosstalk
NFPA® . . . . . National Fire Protection Association®
Ω . . . . . Ohm
nm . . . . . Nanometer
PBX . . . . . Private branch exchange
PVC . . . . . Polyvinyl chloride
RF . . . . . Radio frequency
RMS . . . . . Rack mount space
SC . . . . . Subscriber connector
ScTP . . . . . Screened twisted-pair
SOHO . . . . . Small office home office
STP . . . . . Shielded twisted-pair
TIA . . . . . Telecommunications Industry Association
TO . . . . . Telecommunications outlet
TP . . . . . Transition point
TP-PMD . . . . . Twisted-Pair Physical Media Dependent
TPDDI® . . . . . Twisted-Pair Distributed Data Interface
TSB . . . . . Telecommunications System Bulletin
UL® . . . . . Underwriters Laboratories Inc.®
UPS . . . . . Uninterruptible power supply
USOC . . . . . Universal Service Order Code
UTP . . . . . Unshielded twisted-pair
Vrms . . . . . Volts root mean square
WA . . . . . Work area

METRIC CONVERSION CHART

English-to-Metric. . . . . Metric-to-English

DISTANCE

To convert:	Into:	Multiply by:	To convert:	Into:	Multiply by:
Inches (in.)	Millimeters (mm)	25.4	Millimeters (mm)	Inches (in.)	0.039
	Centimeters (cm)	2.54		Feet (ft.)	0.003
	Meters (m)	0.0254			
Feet (ft.)	Centimeters (cm)	30.48	Centimeters (cm)	Inches (in.)	0.394
	Meters (m)	0.3048		Feet (ft.)	0.033
Yards (yd.)	Centimeters (cm)	91.4	Meters (m)	Feet (ft.)	3.281
	Meters (m)	0.914		Yards (yd.)	1.093
Miles (mi.)	Kilometers (km)	1.609	Kilometers (km)	Miles (mi.)	0.621

WEIGHT

To convert:	Into:	Multiply by:	To convert:	Into:	Multiply by:
Ounces (oz.)	Grams (gm)	28.35	Grams (gm)	Ounces (oz.)	0.035
	Kilograms (kg)	0.028		Pounds (lb.)	0.002
Pounds (lb.)	Kilograms (kg)	0.454	Kilograms (kg)	Pounds (lb.)	2.203

FORCE

To convert:	Into:	Multiply by:	To convert:	Into:	Multiply by:
Foot Pounds (lb-ft)	Newton Meters (N-m)	1.36	Newton Meters (N-m)	Foot Pounds (lb-ft)	0.738

TEMPERATURE

To convert:	Into:	Multiply by:	To convert:	Into:	Multiply by:
Fahrenheit (˚F)	Celsius (˚C)	0.56, then subtract 18	Celsius (˚C)	Fahrenheit (˚F)	1.8, then add 32

VOLUME

To convert:	Into:	Multiply by:	To convert:	Into:	Multiply by:
Quarts (qt.)	Liters (L)	0.946	Liters (L)	Quarts (qt.)	1.057
Gallons (gal.)	Liters (L)	3.785		Gallons (gal.)	0.264

For a complete list of industry terminology, visit ***www.bicsi.org/Resources/Dictionary/Index.aspx***

WARRANTY

Siemon delivers a full range of product and system warranty programs:

- A one (1) year repair or replace warranty on Tools and Testers
- A five (5) year repair or replace warranty for all Siemon Products (cabling system connecting hardware) when not installed in a certified Siemon Cabling System®
- An extended Siemon Cabling System Warranty covering application assurance, product, cable, and labor for installations designed and installed by Siemon Certified Installer℠ which are registered with Siemon.

Please contact your local Siemon Company sales office or visit Siemon's website for more information.

LIMITED FIVE (5) YEAR PRODUCT WARRANTY

Siemon warrants its products to be free from defects in material and workmanship. Should any product fail to conform, Siemon will, upon written notice from Distributor of such non-conforming product, within five (5) years after date of purchase, either replace it F.O.B. original point-of-delivery, or refund the purchase price, at Siemon's option, and shall have the right to require Distributor to return the defective product to Siemon's plant unless such return is impracticable. The remedies provided herein shall be Buyer's sole and exclusive remedies, and no statement or recommendation not contained herein shall have any force or effect unless in writing and signed by an authorized officer of Siemon. Siemon makes no warranty, expressed or implied, as to merchantability or fitness for a particular purpose of any product sold. In no event will Siemon be liable for any special incidental, or consequential damages, where asserted in contract, tort, or otherwise. This warranty applies only to those cabling products that are used to terminate or cross-connect telecommunications cabling. Warranty terms for other categories of cabling products (e.g., tools, test equipment, protection apparatus, etc.) may vary.

PRODUCT INDEX

1

10G

7

A

B

C

D

F

H

I

J

M

P

Q

R

S

T

U

V

W

X

Y

Z

WORLDWIDE LOCATIONS

The Americas

Siemon – USA
101 Siemon Company Drive
Watertown, CT 06795-0400 USA
Tel: (1) 866 474 1197
Customer Service Direct:
Tel: (1) 866 548 5814
Fax: (1) 860 945 4225
info@siemon.com

Siemon CALA– Latin America
2121 Ponce de Leon Blvd.
Suite 1130
Coral Gables, Florida
Tel: (1) 305 446 9150
Fax: (1) 305 446 4586
info_latinamerica@siemon.com

Siemon – Andean Region
Calle.77 No. 11-19, Oficina 601
Bogota, Colombia
Tel: (571) 317 2121
Fax: (571) 313 3617
info_andino@siemon.com

Siemon – Canada
71 Rossland Road East, Suite 357
Whitby, Ontario
L1N 9K3
Tel: (1) 888 425 6165
Fax: (1) 860 945 8503
info_canada@siemon.com

Siemon – Brasil
Av. Dr. Chucri Zaidan, 920 - 9°
Andar - Sala 9 - Morumbi
Edifício Market Place - Torre I
04583-904 São Paulo/SP, Brasil
Tel: (55) 11 3048 4094
Fax: (55) 11 3048 4099
info_brasil@siemon.com

Siemon – Mexico
Blvd. Manual Avila Camacho
No. 36 Piso 10 Lomas de
Chapultepec
Mexico, D.F., 11000
Mexico
Tel: (52) 55 91 71 16 24
Fax: (52) 55 52 84 22 23
info_mexico@siemon.com

Europe, Middle East, and Africa

Siemon – UK
36-48 Windsor Street
Chertsey, Surrey
KT16 8AX
Tel: (44) (0) 1932 571771
Fax: (44) (0) 1932 575070
info_uk@siemon.com

Siemon – Germany
Mainzer Landstrasse 16
60325 Frankfurt
Germany
Tel: (49) (0) 69 97168 184
Fax: (49) (0) 69 97168 304
info_deutsch@siemon.com

Siemon – France
Paris Axe France
ZAC Paris Rive Gauche
118-122 Avenue de France
75013 Paris, France
Tel: (33) 1 46 46 11 85
Fax: (33) 1 46 46 10 00
info_france@siemon.com

Siemon – Italy
Via Senigallia 18/2
20161 Milano
Italy
Tel: (39) 02 64 672 209
Fax: (39) 02 64 672 400
info_italia@siemon.com

Asia Pacific

Siemon – Australia (Sydney)
Unit 9/252 Allambie Road
Allambie Heights
NSW 2100
Sydney, Australia
Tel: (61) 2 8977 7500
Fax: (61) 2 8977 7501
info_asiapacific@siemon.com

Siemon – Australia (Melbourne)
Unit 6
109 Whitehorse Road
Blackburn Vic 3130
Melbourne, Australia
Tel: (61) 3 9894 4111
Fax: (61) 3 9894 3446
info_asiapacific@siemon.com

Siemon – China (Guangzhou)
Rm. 1104,
Middle Tower, Times Square
28 Tianhebei Road
Guangzhou, 510620, P.R. China
Tel: (86) 20 3882 0055
Fax: (86) 20 3882 0575
info_china@siemon.com

Siemon – Australia (Brisbane)
Level 1
360 St. Pauls Terrace
Fortitude Valley QLD 4006
Brisbane, Australia
Tel: (61) 07 3854 1200
Fax: (61) 07 3854 1077
info_asiapacific@siemon.com

Siemon – China (Shanghai)
Rm. 3407 - 3408,
Hong Kong Square S.
No. 283, Huai Hai Road
Shanghai, 200021, P.R. China
Tel: (86) 21 6390 6778
Fax: (86) 21 6384 0167
info_china@siemon.com

Siemon – China (Chengdu)
Rm. 1209-1210
Western China Business Tower
No. 19,4 Section, Renminan Road
Chengdu, Sichuan 610041, P.R. China
Tel: (86) 28 6680 1100
Fax: (86) 28 6680 1096

Siemon – Southeast Asia
46 East Coast Road
#07-01/02 East Gate
Singapore 428766
Tel: (65) 6345 9119
Fax: (65) 6345 1120
info_singapore@siemon.com

Siemon – China (Beijing)
Suite 1108 SCITECH Tower
22 Jianguomenwai Avenue
Beijing 100004, P.R. China
Tel: (86) 10 6559 8860
Fax: (86) 10 6559 8867
info_china@siemon.com

Japan

Siemon — Japan
3F 32Mori Bldg.
3-4-30 Shiba koen,
Minato-ku,
Tokyo 105-0011 Japan
Tel: 03-5405-7650
Fax: 03-5405-3619
info_japan@siemon.com

SIEMON™

101 Siemon Company Drive
Watertown, CT 06795-0400 USA

CHANGE SERVICE REQUESTED

Bound Printed Matter
Bulk Rate
U.S. Postage
PAID
Siemon