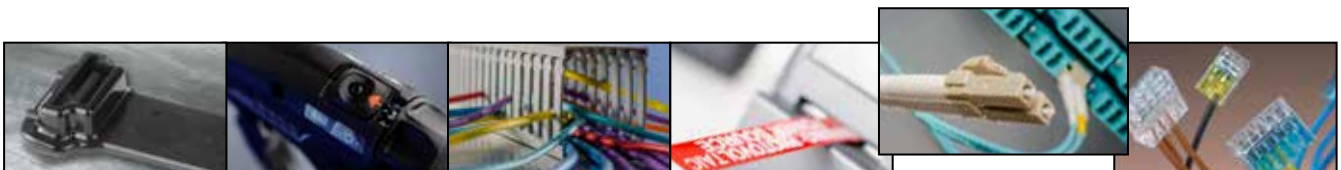# HellermannTyton

Data Center Solutions

HellermannTyton is a leading global manufacturer of network cabling solutions which connect, manage and identify cable and components. Located in over 30 countries, HellermannTyton utilizes global resources channeled to local implementations to offer its customers an integrated approach to design, operation and delivery. Flexibility, agility and the ability to create value-added, market-driven results are the hallmarks of every HellermannTyton company across the world.

No matter the complexity of a project, whether it entails global or local management, HellermannTyton is uniquely poised to bring high-performance solutions and service to the data center.

WE ARE FLEXIBLE AND FAST

HellermannTyton is structured to address any cabling need within a data center, no matter the scale. We can assist quickly and easily with every step of the process and always lend the support required for meeting mission critical deadlines. As the original provider of pre-terminated Category 6 copper solutions, we know how important it is to be flexible in order to meet changing deadlines. We recognize the significance of accommodating for the different configurations essential to meet a precise need. And, our communication style is constant and straightforward, so the product is delivered as specified and on time. Our knowledge and experience provide the peace of mind our customers need, so they can focus their time and effort on other challenges.

CUSTOM IS THE STANDARD

This catalog is only one small portion of what we offer our customers. At HellermannTyton, "custom is the standard." Not every data center connector or cable requirement can be found in our catalog, as we are more than an "off-the-shelf" supplier. If you need to add to an existing infrastructure or want to implement something new, contact us. Sure, we want your business, but we do more than take orders. We discuss the need, provide options and supply samples, when requested, to assure a customer that we have the optimal solution to the challenge.

PERSONALIZED TECHNICAL LEADERSHIP

At HellermannTyton, we utilize the current and emerging standards required to guide any data center project, regardless of scale. We have built our reputation, as evidenced by our repeat customers and their referrals, on personalized technical leadership to ensure the cabling infrastructure performs as expected and meets the installation deadline. Our sales engineers are experienced in identifying the correct solution for the specified need and will assist in designing the cabling requirements for the particular environment, whether it is for today's application or decades down the road. No fears. No worries. Just the personalized technical leadership every customer receives from HellermannTyton.

THE HELLERMANNTYTON ADVANTAGE

PERSONAL ASSISTANCE

We offer personalized technical leadership to ensure a project's success. We are true partners in the design, measurement, and implementation of data center cabling.

DRAWINGS

If layouts or other drawings are needed to determine the course of your project, HellermannTyton will provide you with what you require.

EXPERIENCE

HellermannTyton was the first to introduce a package of copper and fiber pre-terminated solutions to the marketplace. Many variables need to be considered when delivering an exceptional pre-terminated solution on-time and to specification. Our experience is invaluable in delivering you the product you need, when you need it – exceeding your expectations.

HellermannTyton also serves on TIA/EIA standards committees, so we are able to help you interpret current and future standards and their applicability to you.

ASSURANCE

Each RapidNet port is factory tested and verified to ensure performance levels exceed current TIA/EIA standards. Test results are included with each shipment. A 25-year warranty is offered to registered RapidNet projects.

PACKAGING

The specially designed RapidNet packaging maintains critical bend radius requirements and protects the cassette ends.

UNIQUE DESIGN

RapidNet's patented cassette is tough. It thoroughly protects the cable and terminations from initial installation through moves, adds, and changes. HellermannTyton's other products also feature design differences which make our products easier to install, perform better, and last longer than other choices in the market.

LABELING

RapidNet comes to you pre-labeled for easier administration. Leaders in data center identification, HellermannTyton also offers RapidNet with customized labeling upon request. In addition, HellermannTyton offers stand-alone labeling solutions which increase productivity and produce highly-legible text.

Its real.

CONCENTRIC
TECH SOLUTIONS

Gentlemen,

I write this note in great satisfaction with the superlative efforts of our HellermannTyton sales engineer. He deserves strong praise. He has consistently provided superior support, information, and communication throughout our purchasing process and I am considerably impressed. The products supplied are second to none and allow my company to provide an excellent installation experience for my customer.

The project, in which our sales engineer played an instrumental role, was for a government agency with a crushing schedule and a number of external groups who exist, it seems, to only frustrate progress. Without his involvement, this project was headed directly for disaster.

Thank you for having such a positive, professional, intelligent ambassador to your company available to us. He continues to impress us and we look forward to a long and fruitful relationship with HellermannTyton.

Best regards,
Joe Sladek
CEO | Concentric Technical Solutions

5

As the need for data center capacity increases, so do the internal demands on the data center. The data center now faces a number of issues that impact its success, profitability and operational effectiveness, including:

- Data storage capacity
- Speed of return on investment
- Infrastructure performance
- Power consumption
- Temperature control
- On-site security
- Environmental impact

Reduce Installation Times

Speed of installation is one of the most important factors in data center applications. With mission critical and time sensitive deadlines, cabling infrastructure schedules are often compressed. The quicker the infrastructure is up and running, the quicker it is ready for use.

Through RapidNet, the pre-terminated and pre-tested solution from HellermannTyton, it is possible to reduce installation times by up to 85% with copper and 95% with fiber compared to traditional field terminated systems.

Through identification, HellermannTyton enables better administration and deployment. HellermannTyton's systems help you better organize your cabling infrastructure so you easily know "what goes where."

By using TagPrint® Pro labeling software, Excel database files can be opened directly into the program and then printed on labels using a HellermannTyton portable thermal

transfer, laser or ink jet printer. Using an existing database reduces keyboard entry errors, automates the transfer of data to printed labels and can save hundreds of labor hours. In addition, entire identifier libraries can be emailed to a job site and then printed on demand as the drops are labeled and installed. TagPrint Pro is compatible with any database format, but also will support the ANSI/TIA/EIA-606-B requirements for general infrastructure and data centers.

Space Efficiency

Space within a data center comes at a premium. It is important to use the available space as effectively and efficiently as possible. The more space and connectivity that can be offered within any rack space is a clear benefit.

HellermannTyton offers many products that address the issue of space within a data center - from the 1U 48 port high-density patch panel to MTP Fiber RapidNet cassettes, RapidNet Distribution Chassis and RapidNet Auxillary Rails for Cabinets.

Performance Readiness

Our cabling solution is the best end-to-end structured cabling system in the industry today for data center applications. Our Category 6A system can support a large enterprise data center with extra headroom. Our standard Category 6 system performance exceeds the TIA/EIA 568-C.0, C.1 cabling standards and ISO Class E standards which offers high-quality network infrastructure for a typical Class 1 and 2 data center installation.

The 40Gbps and 100Gbps standards were ratified in June 2010 by the IEEE 802.3ba task force. As the line transmission rates are increased from 10Gbps to 40Gbps to 100Gbps, HellermannTyton is ready to support the physical layer connectivity with high-performance, multi-lane distribution of OM3 and OM4 and OS2 fiber optic components that enable next generation fiber-optic telecommunications and data communications networks. HellermannTyton offers a broad portfolio of high speed fiber optic MTP® devices including pre-

terminated MTP connector cables, adapters, bend insensitive fiber with MTP connectors, and high-density MTP communication adapters.

HellermannTyton labels are UL recognized for indoor and outdoor use and offer superior abrasion and chemical resistance. High carbon inks mean that printed text will not fade and disappear over time.

On-site Security

In addition to the reduced installation times seen with the RapidNet system, minimized security risks are realized. Fewer personnel are required in the data center, and they are on-site for reduced periods of time.

Environmental Impact

At HellermannTyton, we work hard to be a greener company. In addition to achieving ISO:14001 accreditation for environmental management, we continually assess our performance as a business and the impact our business has on the environment.

The HellermannTyton RapidNet solution carries its very own **environmental credentials** as a pre-terminated system. At the factory, each cable is pre-terminated and cut to its specified length, minimizing bulk cable waste up to 40%. The RapidNet pre-terminated system is a lean, clean, and efficient method of cabling in the data center, streamlining processes, and improving quality. In addition, HellermannTyton thermal transfer labels are wound on recyclable cardboard cores - no plastic or electronic RFID chips to worry about during disposal.

MTP is a registered trademark of US Conec Ltd.

Aimed at the data center designer, TIA-942 addresses data center infrastructure, site and space layout, cabling infrastructure, tiered responsibility, and environmental considerations.

SITE AND SPACE LAYOUT

When allocating space within a data center, it is important to consider the flexibility to accommodate future relocation and expansion requirements. The data center should be designed with consideration toward the space needed now and flexible "white space" for the future which will allow room for additional racks and cabinets.

The TIA-942 standard also recommends the specific functional areas as listed below and in the following illustration. These areas should be designed to anticipate growth and create an environment where equipment can be upgraded with minimal disruption and downtime.

Entrance Room (ER)
Main Distribution Area (MDA)
Equipment Distribution Area (EDA)
Zone Distribution Area (ZDA)
Horizontal Distribution Area (HDA)

CABLING INFRASTRUCTURE

TIA recommends the use of laser optimized OM3 multimode fiber for any backbone cabling because of its capability to support higher network speeds and bandwidth over longer distances while being more cost effective to implement than single mode fiber.

For horizontal cabling, the TIA-942 standard recommends installing the highest capacity media available to reduce or avoid the need for re-cabling in the future. A high-quality Category 6 system will provide adequate performance in most situations but consideration should be given to the 10 Gb performance of a Category 6 Augmented system (CAT 6A) for the horizontal cabling.

TIERED RELIABILITY

In order to determine specific data center needs, the TIA-942 standard defines data center availability tiers which have been based upon information provided from the Up-Time Institute.

Tier 1 – Basic:
99.671% availability

Tier 2 – Redundant Components:
99.741% availability

Tier 3 – Concurrently Maintainable:
99.982% availability

Tier 4 – Fault Tolerant: 99.995% availability

The standard describes each of the four tiers detailing architectural, security, electrical, mechanical, and telecommunications recommendations. The higher the tier, the higher the availability. Tier descriptions also include information such as raised floor heights, watts per square foot and points of failure.

ENVIRONMENT

The TIA-942 standard makes several environmental considerations. These include fire suppression, humidity levels, operating temperatures and architectural, electrical and mechanical system requirements, some of which are dependent on the desired reliability tier above.

Entrance Room (ER) The Entrance Room is the location for access provider equipment and demarcation points as well as the interface with campus cabling systems. The entrance room can be located either inside or outside the computer room (the area of the data center that houses data processing equipment) however, for security, the standard recommends that the entrance and computer rooms remain separate. Larger data centers may provide multiple entrance rooms to their providers.

Main Distribution Area (MDA) The MDA is a centrally-located area that houses the main cross-connect as well as core routers and switches for LAN and SAN infrastructures. The MDA can include a horizontal cross-connect to a nearby EDA (equipment distribution area). Standard compliance requires at least one MDA and also specifies separate racks for fiber and copper.
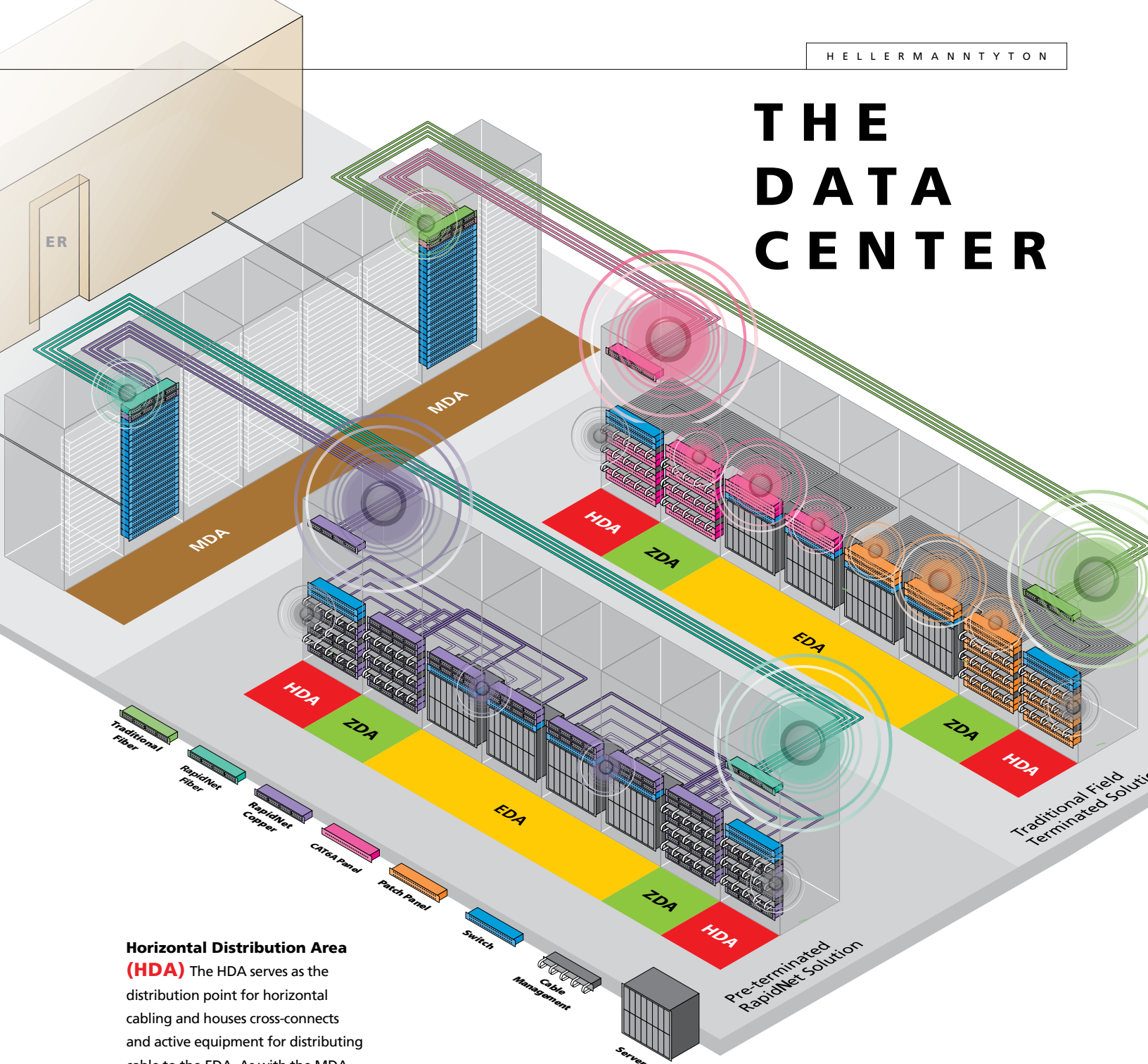
Equipment Distribution Area (EDA) The EDA is where equipment cabinets and racks house the switches and servers and where the horizontal cabling from the HDA is terminated at patch panels. In the EDA, racks and cabinets should be arranged in a hot aisle/cold aisle configuration to encourage airflow and reduce heat.

Zone Distribution Area (ZDA) The ZDA sits between the horizontal distribution areas and equipment distribution areas. The ZDA is optional design in the location of a zone outlet or consolidation point in horizontal cabling, accommodating both copper and fiber between the HDA and EDA.
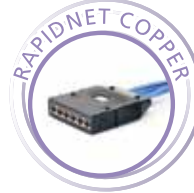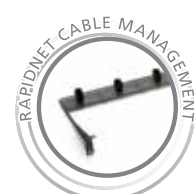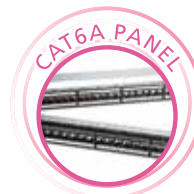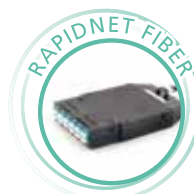
THE DATA CENTER

ER

MDA

MDA

HDA

ZDA

EDA

EDA

ZDA

HDA

ZDA

HDA

HDA

ZDA

EDA

Traditional Fiber

RapidNet Fiber

RapidNet Copper

CAT6A Panel

Patch Panel

Switch

Cable Management

Server

Traditional Field Terminated Solution

Pre-terminated RapidNet Solution
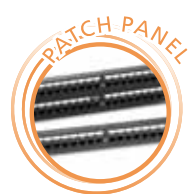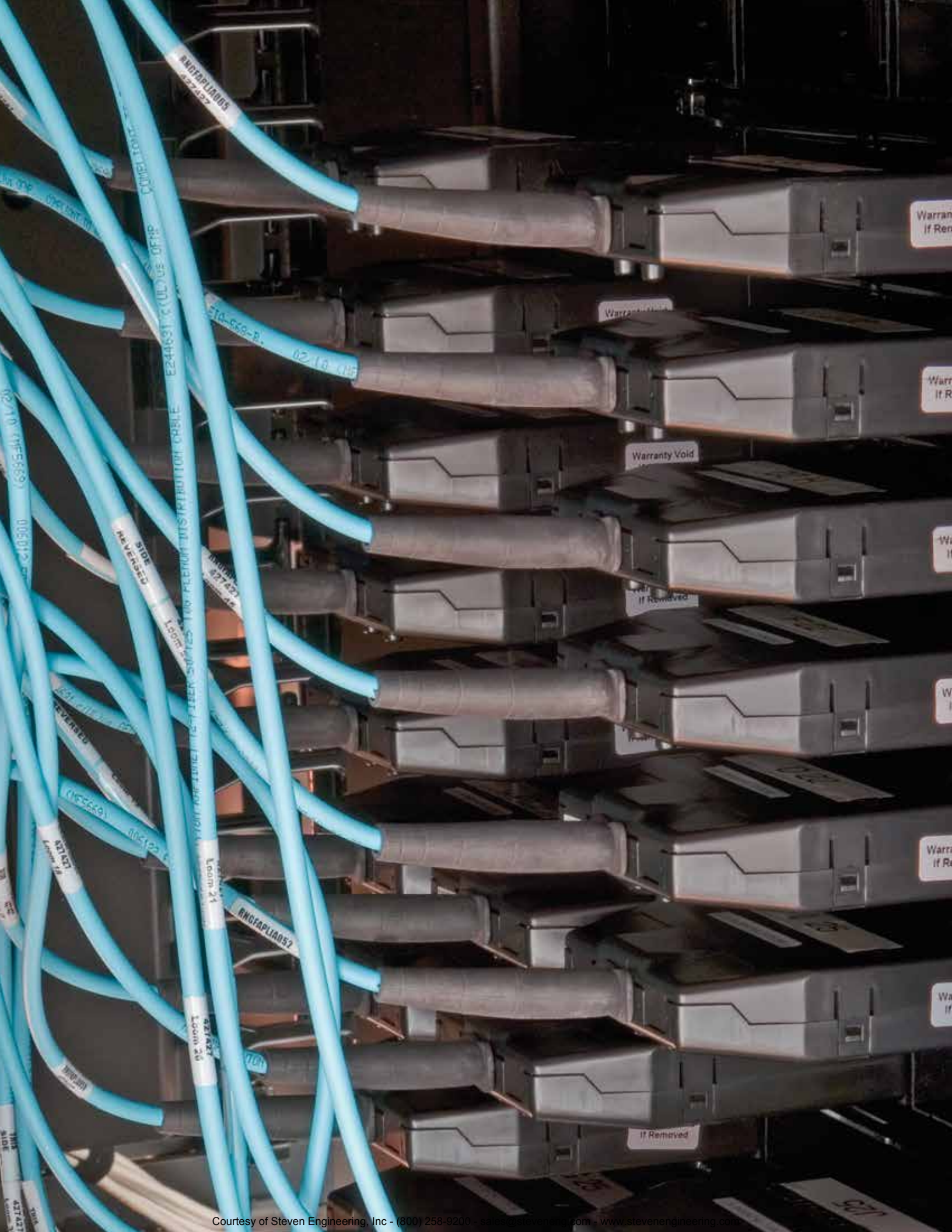
Horizontal Distribution Area

(HDA) The HDA serves as the distribution point for horizontal cabling and houses cross-connects and active equipment for distributing cable to the EDA. As with the MDA, the standard specifies that fiber and copper are installed in separate racks. The standard also recommends locating switches and patch panels close to each other to minimize patch cord lengths. An HDA is limited to 20,000 points/connections and the number of HDAs in a data center is determined largely by the size of the data center.

PATCH PANEL

RAPIDNET FIBER

CAT6A PANEL

RAPIDNET CABLE MANAGEMENT

TRADITIONAL CABLE MANAGEMENT

RAPIDNET COPPER

TRADITIONAL FIBER

PRODUCT INDEX

RapidNet® Network Cabling System

RapidNet is HellermannTyton's patented pre-terminated "connect and go" system which offers high performance in copper and fiber solutions within the same footprint. Our pre-terminated solutions do not require on-site termination or certification testing so installations are completed in record time while quality and performance are never compromised. Our RapidNet solutions address the critical issues for cabling installations such as minimizing network downtime and disruption to business, increased quality control, consistent repeatable terminations, enhanced security, dramatically reduced installation time and the human resource required on site to complete a successful project on time and within budget. Cut to customer specified lengths, each individual link is terminated, tested and labeled by HellermannTyton before being delivered to the site.

Applications

- Mission Critical Data Centers

- Enterprise Data Centers

- Disaster Recovery

- Storage Area Networks

- Redundancy Planning

- Central Office

- Temporary Networks

- Server Farms

- Cloud Computing

- Colocation Facilities

Material	Packaging Options
Copper	Box up to 75 ft* / Reel from 76-295 ft
Fiber	Box up to 200 ft* / Reel 201+ ft

*Duplicate, shorter lengths packaged in multiples to condense materials on jobsite.

Copper Cabling Solutions:
CAT 6 UTP, CAT 6A F/UTP, CAT 6A UTP

Fiber Cabling Solutions:
62.5/125µm (OM1), 50/125µm (OM2), Multimode 50/125µm (OM3), 50/125µm (OM4) and Single Mode (OS2)

Whether your copper or fiber solution arrives on site in a box or on a reel, the integrity of the product is never compromised.

Once RapidNet® arrives on site, all you need to do is "plug it in." It's that easy!

RNG Solutions

RNC & RNS Solutions

RapidNet® Series Cassette

The cassette is the heart of the RapidNet system, allowing for fast installations and full protection of the terminations. Our RapidNet Series cassette has been designed to provide a jack life of a minimum of 1000 insertions. The cassette is manufactured with a simple push clip mechanism and alignment guides to prevent incorrect insertion. Rear cable management is provided within the RapidNet cassette with the integral strain relief which provides protection to all the cables and their terminations.

Product Features

- Release Mechanism:
  a quick-release lever that makes the insertion and release of the cassette easier

- Alignment Guides - ensure the cassette is properly inserted into the panel

- Large Cassette - allows the higher density options for fiber in a 1U footprint; up to 96 fibers/48 ports in 1U

- Modular Panel - accepts both copper and fiber solutions in the same footprint

- RNC/RNS cassettes allow for color coding of the jacks for defining networks

Copper Cassette

Quick-Release Mechanism
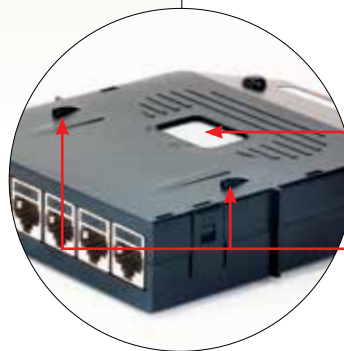
Integral earthing system in the cassette that connects to springs in the panel, applies to CAT 6A F/UTP solution only

Alignment Guides

Fiber Cassette
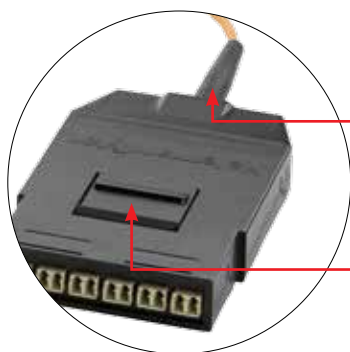
Grommet provides additional strain-relief for direct connect solutions

Single-Release Lever

Up to 24 fibers / 12 duplex ports

MTP® *(12 fiber connector)* options

MTP is a registered trademark of US Conec Ltd.

14

Product Features

- Cassette design features single-release lever

- Cassettes are manufactured from high-strength, light-weight thermoplastic material

- Integral grounding system in the cassette connects to springs in the panel to ensure effective grounding of system

- Exceeds ANSI/TIA-568-C Category 6A and ISO/IEC 11801:2002 / Amd 2, Class EA

- Category 6A cassette loaded with HellermannTyton Category 6A modular jacks

- Alignment guides located on the top of the cassette to ensure the correct orientation in the modular panel (RNGSPP1U)

- Available in lengths from 10 ft - 295 ft

- Permanent Link test results included with all looms/orders

- Made in the USA

RNG Series RapidNet® Category 6A Copper F/UTP Solutions

HellermannTyton's Deca10 Series RapidNet is a Category 6A solution that offers uncompromised support for 10 Gigabit Ethernet. The shielded construction aids higher performance by eliminating the effect of alien crosstalk and external interference, making this an ideal solution for 10 Gigabit Ethernet applications. RapidNet utilizes a bundled cable with six high-performance Category 6A F/UTP cables bound together with a Kevlar binder. The Category 6A cassette is populated with six HellermannTyton Category 6A shielded modular jacks whose die-cast body fully encloses the PCB and cable terminations. The new cassette design offers an integral grounding system in the cassette that connects to springs in the modular panel. The cassette is equipped with a single-lever release mechanism that makes the insertion and release of the cassette easier to use.

FIXED			VARIABLE – Select the following				
Prefix	Cable Bundle	Cable Type	Cable Flame Rating	Cable Color	Termination End 1	Termination End 2	Length
RNGC	6	C CAT 6A F/UTP	P Plenum R Riser*	B Blue	C Cassette	C Cassette J Jack-Pair Stagger Right K Jack-Pair Stagger Left L Jack-Stagger Right M Jack-Stagger Left N Jack-Inline (no stagger) P Plug-Pair Stagger Right Q Plug-Pair Stagger Left R Plug-Stagger Right S Plug-Stagger Left T Plug-Inline (no stagger)	10' - 295'

Pair Stagger Right = 1/2 longest, 3/4 next, 5/6 last and shortest pair.

*Option available with longer lead times and minimum order requirements.

c(UL)us LISTED

Example Model Number:

RNGC	6	C	P	B	C	C	65
Prefix	Cable Bundle	Cable Type	Cable Flame Rating	Cable Color	Term. End 1	Term. End 2	Length
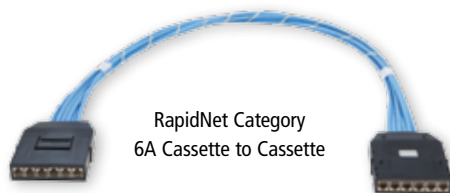
RapidNet Category 6A Cassette to Cassette
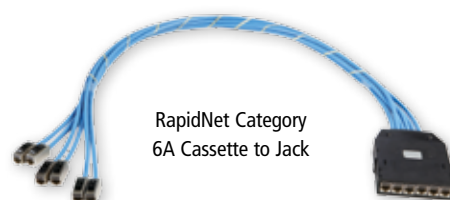
RapidNet Category 6A Cassette to Jack

RNC Series RapidNet® 6A UTP

Category 6A UTP RapidNet is designed to drastically reduce alien crosstalk (AXT) and to extend usable bandwidth up to 500 MHz for 10Base-T applications. Central to the system is the performance optimized PCB and contact set design of the Category 6A GST jack, which provides the necessary inherent performance to deliver a component compliant solution to ANSI/TIA-568-C.2.

The patented contact set is designed to cancel near-end crosstalk (NEXT) at the point of insertion by providing capacitive compensation through a flexible PCB mounted onto the contact set. The jacks are pre-terminated and populated in our RapidNet cassettes, making installation a quick and simple insertion. Fully compatible with RNG Series panels and accessories.

RapidNet Features

- Exceeds ANSI/TIA-568-C Category 6A and ISO/IEC 11801:2002 / Amd 2, Class EA

- Jack is component compliant performance to ANSI/TIA-568-C.2-2009 Category 6A standard

- Category 6A UTP cassette loaded with HellermannTyton Category 6A GST modular jacks

- Alignment guides located on the top of the cassette to ensure the correct orientation in the modular panel (RNGPP1U)

- Available in lengths from 15 ft - 295 ft

Jack termination

Available Colors (Ordering code in red)

BLK	YEL	RED	GRN	BLU
K	Y	R	G	B

FIXED			VARIABLE – Select the following						
Prefix	Cable Bundle	Cable Type	Cable Flame Rating	Cable Color	Termination End 1	Color Termination* End 1	Termination End 2	Color Termination* End 2	Length
RNC	6	B CAT 6A UTP	P CMP R CMR	B Blue W White	C Cassette	K Black B Blue G Green R Red Y Yellow	C Cassette J Jack - Pair Stagger Right K Jack - Pair Stagger Left L Jack - Stagger Right M Jack - Stagger Left N Jack - Inline (no stagger)	K Black B Blue G Green R Red Y Yellow	15' - 295'

Example Model Number:

RNC	6	B	P	B	C	B	C	B	30
Prefix	Cable Bundle	Cable Type	Cable Flame Rating	Cable Color	Term. End 1	Color Term. End 1	Term. End 2	Color Term. End 2	Length

Pair Stagger Rgt = 1/2 longest, 3/4 next, 5/6 last and shortest pair.

*Color Termination standard is black. Other colors are available with longer lead times.

16

RNS Series Short Body RapidNet® Category 6A UTP

The Short Body RapidNet cassette has been specifically designed to be used with angled RapidNet panels, but is fully compatible with other standard RapidNet panels and accessories.

RNS cassettes provide 6 ports per cassette or 24 ports in 1U. The ports come standard in black but are available in a choice of colors to help define network features such as routes, services, hierarchies or security levels. In addition, the colors can be used to define connections within a shared space such as in colocation data centers.

RapidNet Features

- Short body length for areas with limited space or restricted access

- Versatile product offering allows customization for structured cabling requirements

- When used in angled panels, the design provides increased rack capacity by eliminating the need for horizontal cable management
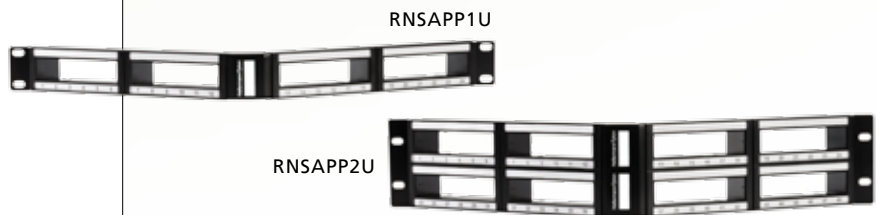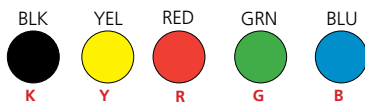
ACCESSORY		
Part No.	Description	Port Count
RNSAPP1U	RNS Series Angled Modular Panel - 1U - RNS Series Only	24 UTP copper ports
RNSAPP2U	RNS Series Angled Modular Panel - 2U - RNS Series Only	48 UTP copper ports

RNSAPP1U

RNSAPP2U

Available Colors *(Ordering code in red)*

BLK	YEL	RED	GRN	BLU
K	Y	R	G	B

FIXED			VARIABLE – Select the following						
Prefix	Cable Bundle	Cable Type	Cable Flame Rating	Cable Color	Termination End 1	Color Termination* End 1	Termination End 2	Color Termination* End 2	Length
RNS	6	B CAT 6A UTP	P CMP R CMR	B Blue W White	C Cassette	K Black B Blue G Green R Red Y Yellow	C Cassette J Jack - Pair Stagger Right K Jack - Pair Stagger Left L Jack - Stagger Right M Jack - Stagger Left N Jack - Inline (no stagger)	K Black B Blue G Green R Red Y Yellow	15' - 295'

Example Model Number:	RNS	6	B	P	B	C	K	C	K	20
	Prefix	Cable Bundle	Cable Type	Cable Flame Rating	Cable Color	Term. End 1	Color Term. End 1	Term. End 2	Color Term. End 2	Length

Pair Stagger Rgt = 1/2 longest, 3/4 next, 5/6 last and shortest pair

*Color Termination standard is black. Other colors are available with longer lead times.

RapidNet® 12 Port
Copper Cassette

In response to the ever-increasing demand for space within cabinets, communications rooms and data centers, HellermannTyton has developed a 12 port cassette for increasing port density and cable management capability within a data center to achieve 48 copper ports in 1U of rack space. This 12 port cassette is perfect for meeting the challenge of maximizing valuable data center floor and rack space.

Ideal for installations where quality and speed are fundamental, this HellermannTyton copper solution delivers a time savings up to 85% when compared to traditional field terminated systems. Networks can be up and running quickly because this high-density cassette is pre-terminated and pre-tested, not only reducing onsite labor but overall costs as well. With the 12 port copper cassette there is the combined benefit of optimum reliability and maximized space for cabinets and racks.

Factory termination and testing provides assurance of performance on site, ensures rapid installation, minimizes network downtimes and business disruptions, and allows for retained control.

Product Features

- Doubles the density of standard RapidNet and traditional 24 port 1U panels

- Accepts four high-density cassettes, achieving 48 ports in 1U of space when fully populated

- Utilizes two of our six bundled cable 5 around 1 (5A1) design for eliminating potential crosstalk issues

- For use with the 1U 48 port high-density panel designed for the 12 port high-density copper cassette

- Pre-terminated and 100% tested in a controlled factory environment

- Increased flexibility when combining the high-density copper and fiber RapidNet using the RapidNet Hybrid Panel

- Permanent Link test results included with all looms/orders

- Made in the USA

Product Benefits

- This high-density solution offers better cabling efficiencies and reduces installation time up to 85%

- Pre-terminated solution reduces personnel access, thus minimizing security risks

- Waste generated from field terminations is reduced

Configuration 1
RNGPP1UHD-HHSS
Front View

18

RapidNet 12 Port
Copper Cassette

Alignment Guides

The label sits between
the two rows of the RJ45
connectors, so one label
identifies two ports

To aid identification, the
ID window has a built-in
magnification lens

RNGPP1UHD

Quick-Release Mechanism

The front presentation is two
rows of 6 RJ45 connectors
mirroring each other

ACCESSORY	
Part No.	**Description**
RNGPP1UHD	Modular Patch Panel, RNG Series HD Cassette only, 1U, Black
RNGPP1UHD-HHSS	RapidNet Hybrid Panel 2 x 12 Port Copper, 2 x STD RNG Cassette
RNGPP1UHD-HSHS	RapidNet Hybrid Panel 2 x 12 Port Copper, 2 x STD RNG Cassette Alternating Openings
RNAD-BLANK	12 Port HD RapidNet Blank
RNRCMHD	Rear Cable Manager for High-Density Copper Panel

FIXED			VARIABLE – Select the following				
Prefix	Cable Bundle	Cable Type	Cable Flame Rating	Cable Color	Termination End 1	Termination End 2	Length
RNGC	12	A CAT 6 UTP	P CMP R CMR	B Blue W White	H High-Density Cassette	H High-Density Cassette Z Split Cassette J Jack - Pair Stagger Right K Jack - Pair Stagger Left L Jack - Stagger Right M Jack - Stagger Left N Jack - Inline (no stagger) P Plug - Pair Stagger Right Q Plug - Pair Stagger Left R Plug - Stagger Right S Plug - Stagger Left T Plug - Inline (no stagger)	20' - 140'

Example Model Number:

RNGC	12	A	R	W	H	H	20
Prefix	Cable Bundle	Cable Type	Cable Flame Rating	Cable Color	Term. End 1	Term. End 2	Length

Pair Stagger Rgt = 1/2 longest, 3/4 next, 5/6 last and shortest pair

RNG Series RapidNet®
Category 6 Copper UTP Solutions

RNG Series RapidNet Category 6 is an ideal solution for high-performance cabling requirements, such as Gigabit Ethernet. RapidNet utilizes a unique six-cable bundle that eliminates potential alien crosstalk issues. A Kevlar® binding ensures a high-quality, well-managed installation. Cut to the customer-specified length at HellermannTyton, each 6 port loom is supplied terminated at both ends to at least one of the patented RapidNet cassettes. Lengths up to 75 feet are supplied in the RapidNet box; lengths from 76-295 feet are supplied on the RapidNet reel.

Product Features

- Positive PSACR over 350 MHz and a typical worst-case margin or 15 dB at 250 MHz

- Exceeds ANSI/TIA-568-C specifications

- Permanent Link test results included with all looms/orders

- Cassettes are manufactured from high-strength, light-weight thermoplastic material

- Cassette design features single-release mechanism

- Alignment guides are located on the top of the cassette to ensure the correct orientation in the modular panel (RNGPP1U)

- Available in lengths from 10 ft - 295 ft

- Made in the USA

FIXED			VARIABLE – Select the following				
Prefix	Cable Bundle	Cable Type	Cable Flame Rating	Cable Color	Termination End 1	Termination End 2	Length
RNGC	6	A CAT 6 UTP	P Plenum R Riser	B Blue W White	C Cassette	C Cassette J Jack-Pair Stagger Right K Jack-Pair Stagger Left L Jack-Stagger Right M Jack-Stagger Left N Jack-Inline P Plug-Pair Stagger Right Q Plug-Pair Stagger Left R Plug-Stagger Right S Plug-Stagger Left T Plug-Inline D Pod O Open	10' - 295'

Kevlar is a registered trademark of DuPont

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Example Model Number:

RNGC	6	A	R	W	C	C	65
Prefix	Cable Bundle	Cable Type	Cable Flame Rating	Cable Color	Term. End 1	Term. End 2	Length

Each pre-labeled 6 port cassette snaps easily into the modular panel. Removal of the cassette is just as easy with the release mechanism.

C

J
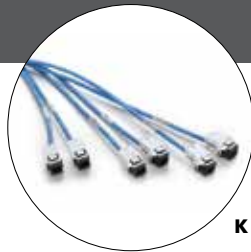
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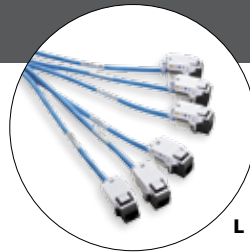
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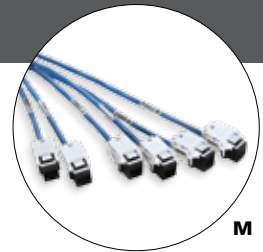
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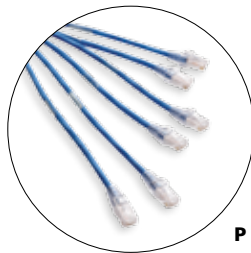
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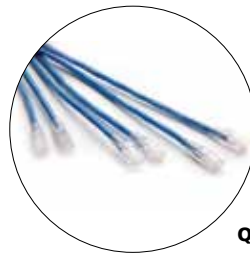
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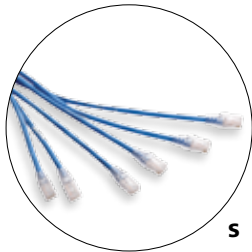
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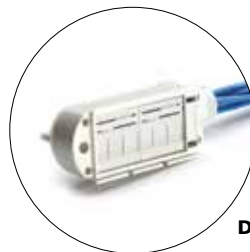
D

RNC Series RapidNet®
Category 6 UTP

New RNC Series RapidNet Category 6 is an ideal solution for high performance cabling requirements such as Gigabit Ethernet. The RNC Series utilizes individual jacks to allow for color coding within a standard size RapidNet cassette. The ports come standard in black, but are available in a choice of colors, to help define network features such as routes, services, hierarchies or security levels. In addition, colors can be used to define connections within a shared space such as in colocation data centers.

RapidNet is HellermannTyton's patented pre-terminated "connect and go" system that offers high performance copper and fiber solutions for data centers and storage area network applications. These pre-terminated solutions do not require on-site termination or certification testing, which dramatically reduces installation time – by up to 85%.

Product Features

- Versatile product offering allows customization for structured cabling requirements

- Exceeds ANSI/TIA-568-C specifications

- Factory terminated and 100% tested for consistent performance

- Patented cassette design allows copper and fiber solutions within the same footprint

The RNC Series solution is fully compatible with RNG Series RapidNet panels and accessories.

Plug termination

Jack termination

Available Colors *(Ordering code in red)*

BLK	YEL	RED	GRN	BLU
K	Y	R	G	B

FIXED			VARIABLE – Select the following						
Prefix	Cable Bundle	Cable Type	Cable Flame Rating	Cable Color	Termination End 1	Color Termination* End 1	Termination End 2	Color Termination* End 2	Length
RNC	6	A CAT 6 UTP	P CMP R CMR	B Blue W White	C Cassette	K Black B Blue G Green R Red Y Yellow	C Cassette J Jack - Pair Stagger Right K Jack - Pair Stagger Left L Jack - Stagger Right M Jack - Stagger Left N Jack - Inline (no stagger) **P Plug - Pair Stagger Right **Q Plug - Pair Stagger Left **R Plug - Stagger Right **S Plug - Stagger Left **T Plug - Inline (no stagger)	K Black B Blue G Green R Red Y Yellow **Z No Color	10' - 295'

Example Model Number:

RNC	6	A	P	B	C	B	J	B	20
Prefix	Cable Bundle	Cable Type	Cable Flame Rating	Cable Color	Term. End 1	Color Term. End 1	Term. End 2	Color Term. End 2	Length

Pair Stagger Rgt = 1/2 longest, 3/4 next, 5/6 last and shortest pair.

* Color Termination standard is black. Other colors are available with longer lead times.

** If option P, Q, R, S or T is selected, the only Color Termination End 2 option is Z for no color. Plugs do not come in colors.

RNS Series Short Body RapidNet® Category 6 UTP

The Short Body RapidNet cassette has been specifically designed to be used with angled RapidNet panels, which by routing patch cords directly into vertical cable management increases rack capacity by up to 50%. The RNS Series RapidNet line is available in Category 6 UTP, providing 6 ports per cassette or 24 ports in 1U; and is fully compatible with standard RNG Series RapidNet panels and accessories.

The ports come standard in black but are available in a choice of colors, which can help define network features such as routes, services, hierarchies or security levels. In addition, the colors can be used to define connections within a shared space such as in colocation data centers.

Product Features

- Short body length for areas with limited space or restricted access

- Versatile product offering allows customization for structured cabling requirements

- Exceeds ANSI/TIA-568-C specifications

- Factory terminated and 100% tested for consistent performance

- Patented cassette design allows copper and fiber solutions within the same footprint

Available Colors (Ordering code in red)

BLK	YEL	RED	GRN	BLU
K	Y	R	G	B

ACCESSORY		
Part No.	Description	Port Count
RNSAPP1U	RNS Series Angled Modular Panel - 1U - RNS Series Only	24 copper ports
RNSAPP2U	RNS Series Angled Modular Panel - 2U - RNS Series Only	48 copper ports

RNSAPP1U

RNSAPP2U

FIXED			VARIABLE – Select the following						
Prefix	Cable Bundle	Cable Type	Cable Flame Rating	Cable Color	Termination End 1	Color Termination* End 1	Termination End 2	Color Termination* End 2	Length
RNS	6	A CAT 6 UTP	P CMP R CMR	B Blue W White	C Cassette	K Black B Blue G Green R Red Y Yellow	C Cassette J Jack - Pair Stagger Right K Jack - Pair Stagger Left L Jack - Stagger Right M Jack - Stagger Left N Jack - Inline (no stagger) **P Plug - Pair Stagger Right **Q Plug - Pair Stagger Left **R Plug - Stagger Right **S Plug - Stagger Left **T Plug - Inline (no stagger)	K Black B Blue G Green R Red Y Yellow **Z No Color	10' - 295'

Example Model Number:

RNS	6	A	R	W	C	R	L	R	20
Prefix	Cable Bundle	Cable Type	Cable Flame Rating	Cable Color	Term. End 1	Color Term. End 1	Term. End 2	Color Term. End 2	Length

Pair Stagger Rgt = 1/2 longest, 3/4 next, 5/6 last and shortest pair.

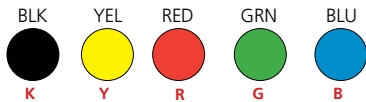* Color Termination standard is black. Other colors are available with longer lead times.

**If option P, Q, R, S or T is selected, the only Color Termination End 2 option is Z for no color. Plugs do not come in colors.

RNG Series RapidNet®
Fiber Solutions

RNG Series RapidNet Fiber is an excellent solution for high bandwidth needs or extended distances. The RNG Series cassette offers double the density of our classic version, up to 24 fiber or 12 duplex ports. RapidNet Fiber utilizes a 12 fiber (6 port), single unit plenum (OFNP) distribution cable for LC and SC connections or a 24 fiber (12 port) loose tube plenum (OFNP) cable for LC connections. Cut to customer specified length at HellermannTyton, each 12 or 6 port loom is supplied terminated at both ends to at least one of the patented RapidNet cassettes. Lengths up to 200 feet are supplied in the RapidNet box; lengths of 201 feet or more are supplied on the RapidNet reel. Each pre-labeled 12 or 6 port fiber cassette snaps easily into the modular panel.

Product Features

- Exceeds ANSI/TIA-568-C.3 and IEEE 802.3ae 10GbE standards

- Certification test reports included with all fiber looms/orders

- Cassettes are manufactured from high-strength, light-weight thermoplastic material

- Cassette design features single-release mechanism

- Alignment guides located on the top of the cassette to ensure the correct orientation in the modular panel (RNGPP1U)

- Modular panel accepts 4 RapidNet cassettes, allowing up to 96 fibers / 48 ports in 1U

FIXED	VARIABLE – Select the following						
Prefix	Cable Type	Cable Flame Rating	Termination End 1	Termination End 2	Cable Count	Pull Kits	Length
RNGF	C = 62.5/125 (OM1) B = 50/125 (OM2) A = 50/125 (OM3) H = 50/125 (OM4) D = Single Mode	P = Plenum R = Riser	L = LC Cassette S = SC Cassette C = LC/APC Cassette D = SC/APC Cassette	L = LC Cassette (Straight Thru) J = LC Cassette (Pair Reversed) K = LC Simplex 900um Fanout H = LC Duplex 2mm Fanout C = LC/APC Cassette (Straight Through SM) V = LC/APC Duplex 2mm Fanout (SM) U = LC/APC Simplex 900um Fanout (SM) S = SC Cassette (Straight Thru) T = SC Cassette (Pair Reversed) R = SC Simplex 900um Fanout Q = SC Duplex 2mm Fanout D = SC/APC Cassette (Straight Through SM) W = SC/APC Duplex 2mm Fanout (SM) Y = SC/APC Simplex 900um Fanout (SM) M = MTP 12 Elite (Male - With Pins) N = MTP 12 Elite (Female - No Pins) Z = MTP 24 Fiber (Male - With Pins) B = MTP 24 Fiber (Female - No Pins)	A = 12 B = 24	0 1	3' - 500'

SC Version Only Available in 12 fiber count
Breakout length is 0.5 meters standard
Other breakout options may be available upon request

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Example Model Number:

RNGF	A	P	L	C	A	1	65
Prefix	Cable Type	Cable Flame Rating	Term. End 1	Term. End 2	Cable Count	No. of Pull Kits	Length

24
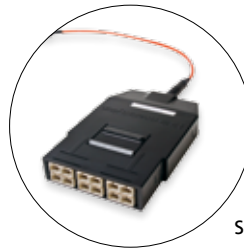
LC Cassette
12 FIber

LC Cassette
24 FIber

SC Cassette

L - J

K
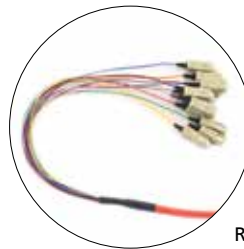
H

S - T

R

Q

Fiber Options

- 62.5/125µm (OM1) Multimode Fiber

- 50/125µm (OM2) Multimode Fiber

- 50/125µm (OM3) Multimode Fiber

- 50/125µm (OM4) Multimode Fiber

- 8.3/125µm (OS2) Single Mode Fiber

RNG Series RapidNet® Cassette and MTP® Fiber Solutions

HellermannTyton offers pre-terminated MTP solutions to the RapidNet system. This modular system utilizes our pre-loaded, RNG Series RapidNet cassette to breakout the MTP connector to LC or SC connector options. MTP trunk and fanout cables complete the "connect and go" solution up to 96 (48 ports) fibers in 1U.

Product Features

- Scalable solution with modular components allowing the flexibility for data network design or upgrades

- Pre-terminated modular cassette offers labor savings with quick deployment

- All cassettes and trunks are factory terminated and 100% tested with test documentation included with products

- Round cable design eliminates preferential bend issues which results in increased density and greater manageability

- All trunks have crossover polarity using TIA-568.C.3-1 Method C

- Modular cassettes easily adapt to RapidNet auxiliary rails using zero rack space

- Flexible manufacturing to meet custom specified lengths or fiber counts

- MTP ports identified as A and B

FIXED	VARIABLE – Select the following	
Prefix	Cable Type	Cable Count
RNGF	A 50/125µm (OM3) Multimode H 50/25µm (OM4) Multimode D 8.3/125µm Single Mode (OS2)	12 24

Note: For SC connection option add SC to the end of the cable count. Available in 12 fiber count only. OM1 and OM2 options are available.

Technical Information:

Compliant with the following standards:

- TIA-568-C
- IEC-61754-7
- TIA/EIA-604-5 (FOCIS-5)
- TIA-568-C Method C
- IEEE 802.3ae 10GbE Standards
- IEEE 802.3ba 40/100GbE Standards

Insertion Loss: 0.2db Typical,
Per mated MTP: 0.5db Max (MM/SM)

Return Loss:
Per Fiber: 25db min (MM); 55db min (SM)

Example Model Number:

RNGF	B	24
Prefix	Cable Type	Cable Count

MTP is a registered trademark of US Conec Ltd.

Product Features

- Available in a variety of fiber types: OM3, OM4, Single Mode

- Up to 576 fibers in one rack unit of space

- 40GbE and 100GbE ready with other RapidNet RNG Series products

- Elite® MTP® Connectors as standard

- Direct factory termination with test results provided

- Fully interchangeable with other RapidNet solutions

Product Benefits:

- Requires two less mated pair connections with direct connect termination

- Smaller diameter cables provide more flexibility and tighter allowable bend radius

- Provides fiber port identification for simple management

- Reduces cable congestion in pathways and spaces

- Increases life cycle of cabling infrastructure

RapidNet® MTP® Very High Density (VHD) Fiber Cassette

Data centers are faced with many challenges – rising operations costs, space constraints, and evolving bandwidth requirements – along with the necessity for faster processing speeds. In response to these needs, HellermannTyton introduces its high-density fiber solution for conserving space, achieving faster access times, and simplifying installations with minimal downtimes.

The RapidNet MTP VHD Fiber product line is the ideal solution for data center designers looking to be more efficient with existing architecture as well as future proof their IT investment for technological advancements. Data center environments can benefit from MTP connectivity that is capable of meeting today's requirements of 10GbE support and tomorrow's performance levels with a solution that is 40GbE and 100GbE ready.

IT technical staff can replicate their high-density fiber optic switch ports, and have the flexibility to make adds, moves and changes in a convenient manner. The MTP VHD is there to support a high-density fiber solution which can provide 144 fibers per cassette and 576 fibers on a one rack unit (1U) design.

RapidNet MTP VHD
Fiber Cassettes
72 Fiber and 144 Fiber
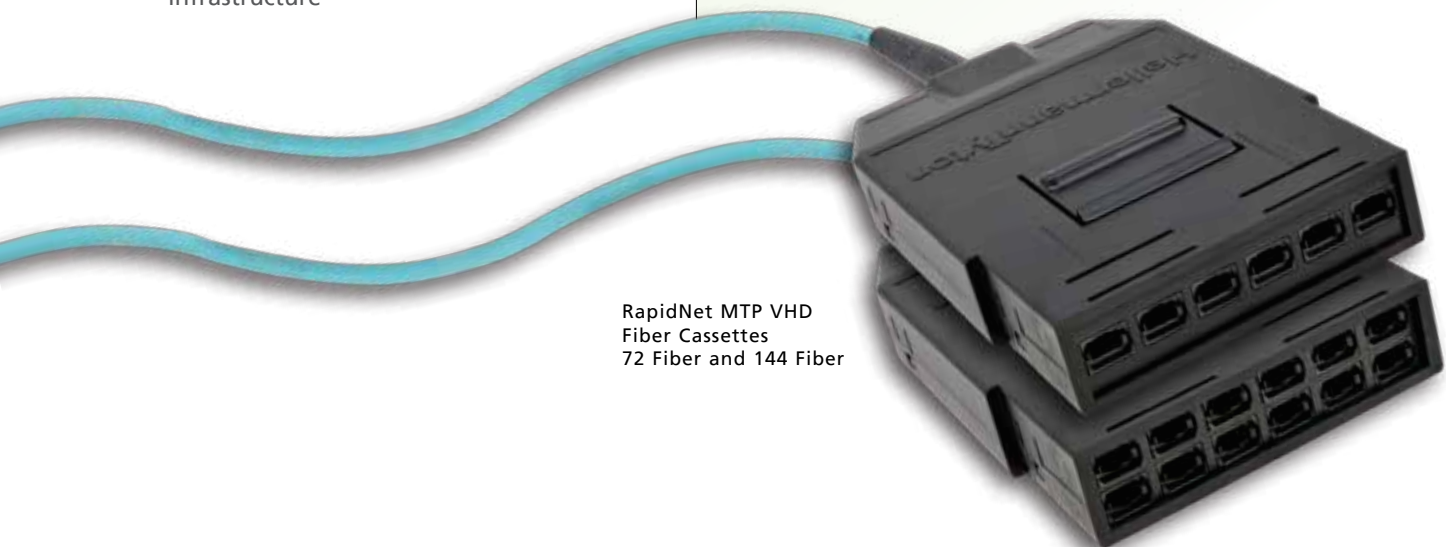
Elite and MTP are registered trademarks of US Conec Ltd.

RapidNet® MTP® VHD Fiber solution delivers . . .

NETWORK PERFORMANCE This factory-terminated and tested cassette provides simple to install, compact, modular fiber networks with the capacity to easily migrate to 40GbE and 100GbE networks.

RapidNet MTP VHD offers standard MTP typical insertion loss of 0.2db and maximum insertion loss of 0.50db per mated pair.

EXTENDED FUNCTIONALITY Fully interchangeable with other Fiber RNG RapidNet components, the MTP VHD cassette presents six MTP 12 fiber connectors that enable up to 288 fibers in 1U of rack space or twelve MTP 12 fiber connectors that enable up to 576 fibers in 1U of rack space.

SCALABILITY The use of the RapidNet MTP VHD cassette in a topology will minimize pathway congestion and enable scaling to thousands (and hundreds of thousands) of fiber optic connections.

FLEXIBILITY The RapidNet MTP VHD cassette provides the flexibility to easily configure and reconfigure the cabling infrastructure to meet current and future networking requirements.

MANAGEABILITY The RapidNet MTP VHD cassette is engineered for ease of implementation and improved manageability for meeting the challenge of data center moves, additions, and changes with the least disruption.

FIXED	VARIABLE – Select the following								
Prefix	Fiber Type	Cable Flame Rating	Termination End 1	Termination End 2	Cable Count	Breakout Length	Polarity	Pull Kits	Length
RV	A = 62.5/125um MM (OM1) B = 50/125um MM (OM2) C = 50/125um MM (OM3) D = 50/125um MM (OM4) E = Single Mode	P = Plenum R = Riser	Y = MTP 12 Elite (M) Cassette Z = MTP 12 Elite (F) Cassette	Y = MTP 12 Elite (M) Cassette Z = MTP 12 Elite (F) Cassette M = MTP 12 Elite (M) Connector N = MTP 12 Elite (F) Connector	D = 72 F = 144	A = .5 B = 1m C = 1.5m D = 2m E = No Breakout	S = Straight Thru (1-1, 1-1) "Method A" R = Reversed (1-12, 12-1) "Method B" P = Pair Reversals (1-2, 2-1, 3-4, 4-3..) "Method C"	0 1 2	3' - 500'

Example Model Number: ▶

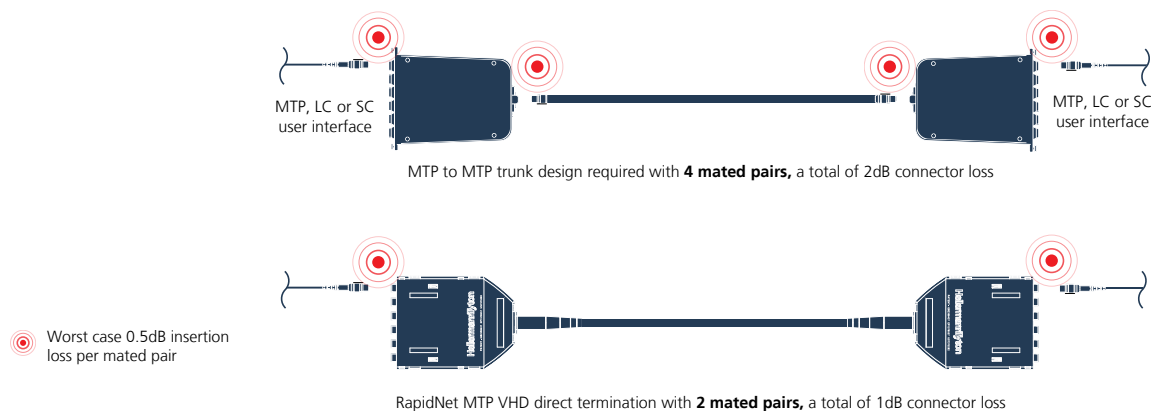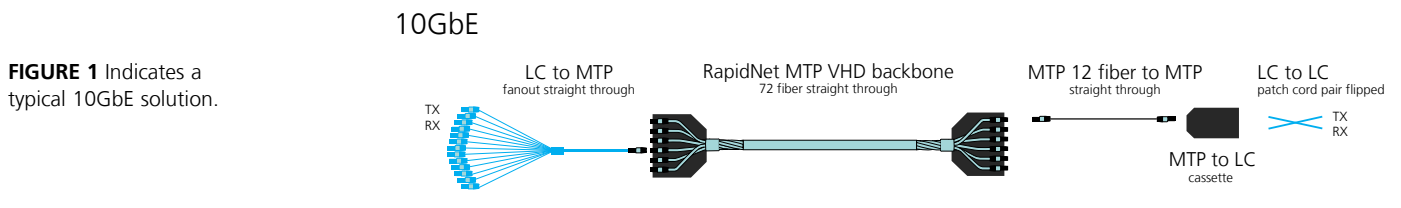| RV	C	P	Y	Y	D	E	S	0	20
Prefix	Fiber Type	Cable Flame Rating	Term. End 1	Term. End 2	Cable Count	Breakout Length	Polarity	No. of Pull Kits	Length

Insertion Loss Comparison

The HellermannTyton Direct Connect solution provides reduced system insertion loss in the channel compared with the traditional plug and play style cassettes. Utilizing pre-terminated cassettes, the loss budget required to connect the cassettes is eliminated, providing much lower losses and an organized connection point. This solution offers the opportunity to either extend the link length or include additional connections elsewhere to maximize the link routing.

In applications where it is not feasible or desirable to install pre-terminated cassettes, a Semi-Direct Connect solution can be utilized to improve performance by incorporating a HellermannTyton pigtailed cassette on one side, which provides a smaller, MTP breakout, that can connect to either fiber adapter panels or to traditional cassette solutions.

Overall, the Direct Connect Solution will save additional time and money, improve link loss, and provide peace of mind to the network integrity.

MTP, LC or SC
user interface

MTP, LC or SC
user interface

MTP to MTP trunk design required with **4 mated pairs,** a total of 2dB connector loss

Worst case 0.5dB insertion
loss per mated pair

RapidNet MTP VHD direct termination with **2 mated pairs,** a total of 1dB connector loss

10G - 40G - 100G VHD is Migration Ready

10GbE

FIGURE 1 Indicates a typical 10GbE solution.

LC to MTP
fanout straight through

RapidNet MTP VHD backbone
72 fiber straight through

MTP 12 fiber to MTP
straight through

LC to LC
patch cord pair flipped

TX
RX

TX
RX

MTP to LC
cassette

FIGURE 2 Indicates the 40GbE system is the same installed backbone OM3 or OM4 fiber. The IT technician only needs to switch the MTP to LC patch cable with the MTP to MTP trunk at both ends of the cassettes.

Note: One end of the MTP to MTP fiber cable connection must be reversed in order to achieve the proper transmit and receive signal from the electronics.

40GbE

MTP to MTP
straight through

RapidNet MTP VHD backbone
72 fiber straight through
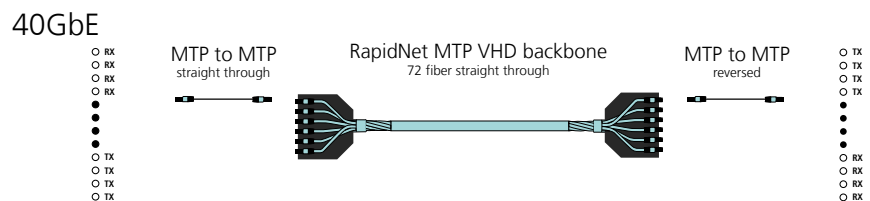
MTP to MTP
reversed

FIGURE 3 Indicates the 100GbE system with the same installed backbone OM3 or OM4 fiber. The IT technician only needs to install two of the MTP to MTP trunks at both ends of the cassettes.

Note: The two MTP trunks on one end of this sytem must be reversed in order to achieve the proper transmit and receive signal from the electronics.

100GbE

MTP to MTP
straight through

RapidNet MTP VHD backbone
72 fiber straight through

MTP to MTP
reversed

TX
RX

RX
TX
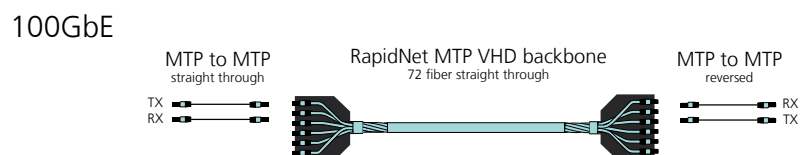
RapidNet® Distribution Chassis

HellermannTyton's 4U Distribution Chassis is designed for use with the industry leading RapidNet pre-terminated system where high-density patching is required together with patch cord management.

The Distribution Chassis is designed to help maximize the return on valuable rack space while maintaining access to connectors, even when fully loaded, a real advantage when undertaking moves, adds & changes (MACs).

From standard density 384 fiber (LC connections) to high density 2,304 fiber (MTP connections) in each 4U of rack space, a range of different density requirements is available. The chassis can also accommodate 96 UTP copper ports.

The RapidNet Distribution Chassis has applications in the Core, Horizontal, Equipment and Intermediate zones within a data center as well as single rack applications within telecommunications rooms.

Features and Benefits

- Fits into standard 19" racks and cabinets

- 4U of vertical space can accommodate up to 16 RapidNet fiber or copper cassettes

- High quality look and finish enhances the presentation of the patching area

- Removable hinged front and rear doors to make initial patch cord and cable installation easier

- Port labeling and identification, both front and rear

- Front cable management supports patch cords and helps manage bend radii

- Rear cable management for cables from 3 to 20mm and anchoring points provide strain relief for cables entering the chassis
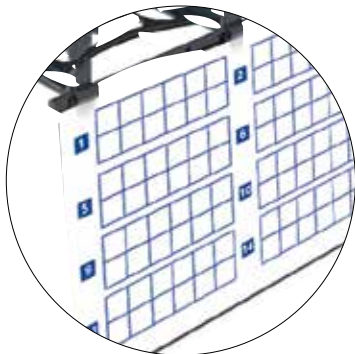
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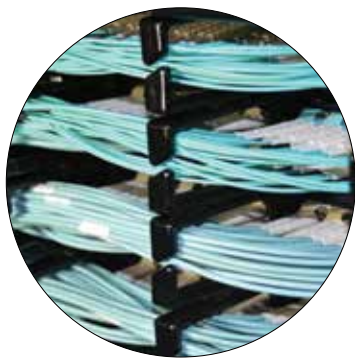
Front cable management

Rear cable management

Easy and clear labeling

Increase Space Utilization

Combining the patching area with the front cable management into a single 1U of rack space saves valuable room within racks or cabinets. This in turn allows for higher density patching or installation of additional active equipment within the same cabinet. This can be particularly valuable in applications such as Storage Area Networks and high-density Virtualized Server Clusters.

Facilitates Pre-termination

For both in-house and third party data centers, speed of deployment can be critical to the success of a project. The use of RapidNet in combination with the 4U Distribution Chassis provides reduced installation time together with the simplified layout facilitated by the Distribution Chassis. Equal length looms reduce the risk of over-length cables.

Improve Speed and Ease of Deployment

The RapidNet Distribution Chassis has a number of features designed to aid the deployment of RapidNet within the infrastructure:

- Front cable management across the horizontal space means patch cords are well supported before entering the vertical cable managers of the rack or cabinet

- Rear access with 8 cable entry points gives strain relief directly to the cables

- Extensive labeling fields, both front and rear, to aid port identification and ease-of-use

Capacity

| Suitable RapidNet Cassettes	• MTP VHD 72 & 144 fiber • MTP cassette 12 & 24 fiber • Pre-terminated 12 & 24 fiber • Copper 6 port UTP: Category 6			
Maximum Capacities	VHD	MTP®	Pre-Term	Copper
Per U	576	96	96	24
Per Chassis	2,304	384	384	96
Quantity of Cassettes	16 cassettes maximum of any listed above, blank inserts are available to close any unused openings			

MTP is a registered trademark of US Conec Ltd.

RapidNet® Fiber Adapter Panels

The RapidNet Fiber Adapter Panel is designed to allow the RapidNet solution to be used in areas with limited access or restricted space, where a RapidNet Cassette cannot be used. Panels are pre-loaded with a choice of LC, SC or MTP® adapters, which allow ruggedized fan-outs to be installed in standard RapidNet panels. RapidNet Fiber Adapter Panels offer a maximum of 288 fibers in a single adapter panel, or up to 1152 fibers in 1U of space and are compatible with the RapidNet Fiber Distribution Chassis, RapidNet Panel with Rear Cable Management and standard RapidNet panels.

Features and Benefits

- Available in 6 or 12 adapter configurations

- Choose from LC, SC or MTP

- Supports a maximum of 1152 fibers in 1U of space

- Provides more density than traditional fiber solutions
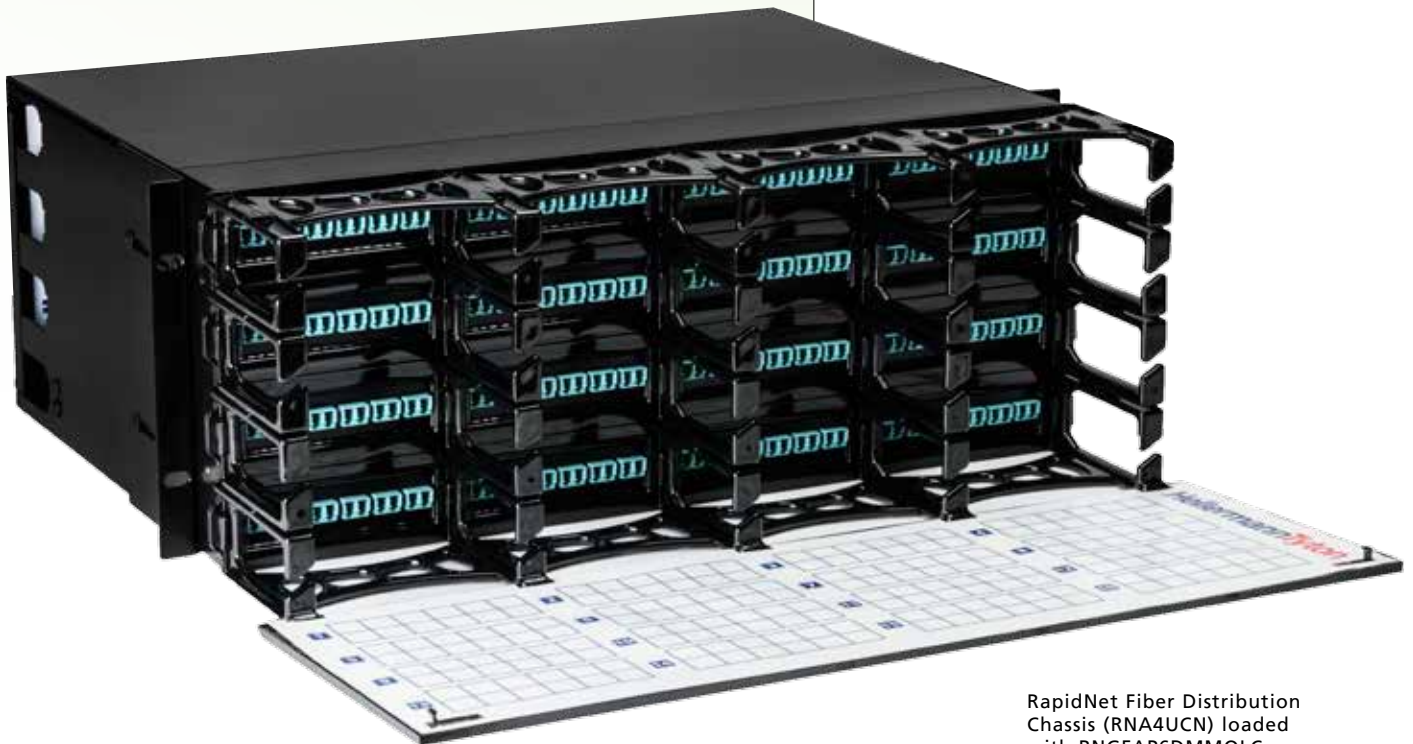
RapidNet Fiber Distribution Chassis (RNA4UCN) loaded with RNGFAP6DMMQLC Adapter Panels

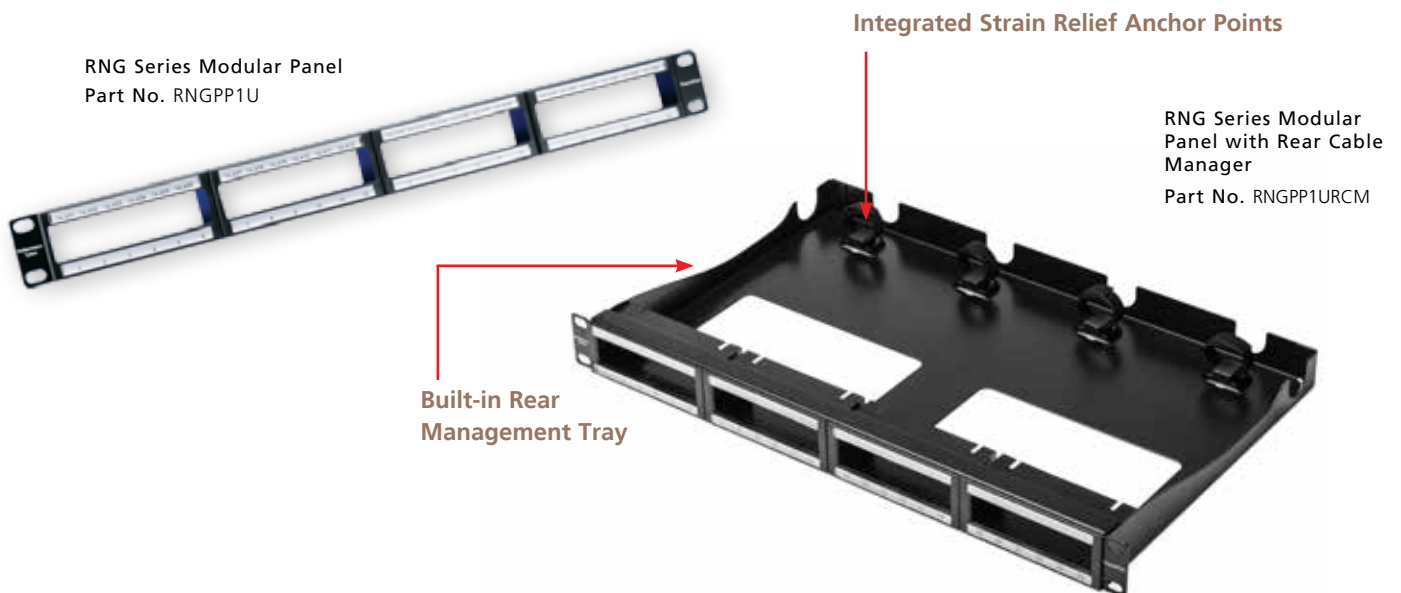MTP is a registered trademark of US Conec Ltd.

LC Panel

SC Panel

MTP® Panel

Part No.	Description	Fiber Count (Max)	Ferrule Type	Color	Pkg. Qty.
LC					
RNGFAP12DMMLC	RapidNet FAP 12 Dup MM LC	24	Phosphor Bronze (PB)	Beige	1
RNGFAP12DMMQLC	RapidNet FAP 12 Dup 10G MM LC	24	Zirconia Ceramic (ZC)	Aqua	1
RNGFAP12DSMLC	RapidNet FAP 12 Dup SM LC	24	Zirconia Ceramic (ZC)	Blue	1
RNGFAP6DMMLC	RapidNet FAP 6 Dup MM LC	12	Phosphor Bronze (PB)	Beige	1
RNGFAP6DMMQLC	RapidNet FAP 6 Dup 10G MM LC	12	Zirconia Ceramic (ZC)	Aqua	1
RNGFAP6DSMLC	RapidNet FAP 6 Dup SM LC	12	Zirconia Ceramic (ZC)	Blue	1
SC					
RNGFAP6DMMSC	RapidNet FAP 6 Dup MM SC	12	Phosphor Bronze (PB)	Beige	1
RNGFAP6DMMQSC	RapidNet FAP 6 Dup 10G MM SC	12	Zirconia Ceramic (ZC)	Aqua	1
RNGFAP6DSMSC	RapidNet FAP 6 Dup SM SC	12	Zirconia Ceramic (ZC)	Blue	1
MTP					
RNGFAP12MTP	RapidNet FAP 12 MM MTP	288	N/A	Black	1
RNGFAP6MTP	RapidNet FAP 6 MM MTP	144	N/A	Black	1
Accessories					
RNA4UCN	RapidNet Distribution Chassis 4U	N/A	N/A	Black	1
RNGPP1URCM	RapidNet Panel with Rear Cable Management	N/A	N/A	Black	1
RNGPP1U	RapidNet Modular Panel (1U)	N/A	N/A	Black	1
RNGBLANK	RNG Series RapidNet Modular Panel Blank Insert	N/A	N/A	Black	1

MTP is a registered trademark of US Conec Ltd.

RNG Series Modular Panel
Part No. RNGPP1U

Integrated Strain Relief Anchor Points

RNG Series Modular Panel with Rear Cable Manager
Part No. RNGPP1URCM

Built-in Rear Management Tray

RNG Series Modular Panels and Accessories

All RNG Series RapidNet cassettes are designed for a quick-and-easy insertion into the RNG Series panels. The 1U and 2U modular panels fit standard 19" racks and accepts four or eight cassettes.

RNG Series Modular Panel
RNGPP1U

Part No.	Description
RNGPP1U	RNG Series RapidNet Modular Panel - 1U
RNGPP1URS	RNG Series RapidNet Modular Panel - 1U*
RNGSPP1U	RNG Series RapidNet Shielded Modular Panel - 1U
RNGPP2U	RNG Series RapidNet Modular Panel - 2U
RNGPP2URS	RNG Series RapidNet Modular Panel - 2U*
RNGBLANK	RNG Series RapidNet Modular Panel Blank Insert
RNSE1U	RapidNet Secure Enclosure - 1U
RNRCMU	RapidNet Rear Cable Manager
TFCM	Front Cable Manager

* With Rack-Snap inserts pre-installed.

RNG Series Blank Insert
RNGBLANK

Rack-Snap - Replace caged nuts and snap into standard square holes in most cabinets.
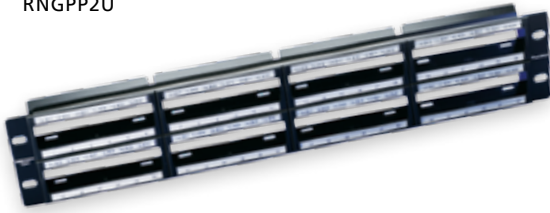
RNG Series Shielded Modular Panel
RNGSPP1U

34

RNG Series RapidNet Modular Panel
RNGPP2U
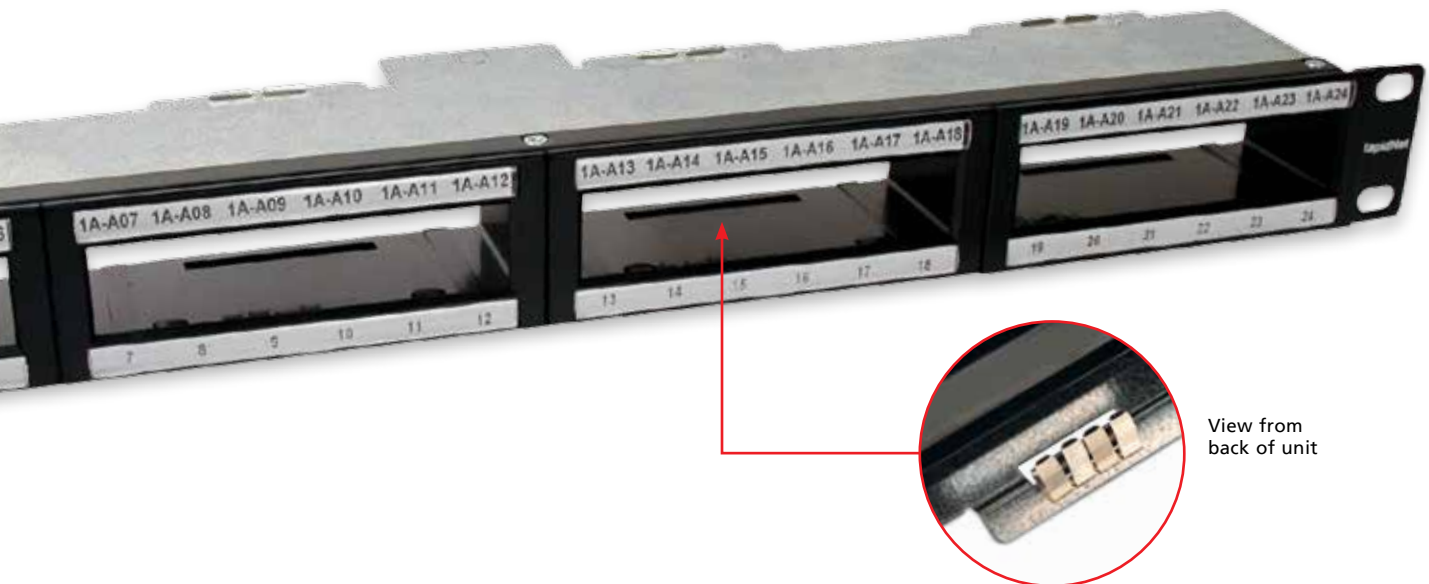
Rear Cable Manager
RNRCMU

Secure Enclosure
RNSE1U

Front Cable Manager
TFCM

The RapidNet Secure Enclosure fits standard 19˝ racks and can be used with both RN and RNG Series Solutions. It has a removable lid for access as well as a drop down front.

View from
back of unit

Identification Solutions for RapidNet®

Modular Panel Identification - HellermannTyton offers the following identification solutions for use with RapidNet products. The front identification labels allow users to easily meet TIA/EIA-606-B and TIA-942 administration standards

Part No.	Description	Dimensions	Pkg. Qty.
(A) - Labels for Cassette Identification on rear of panel			
TAG69T1-336	Thermal Transfer Label	2" x .275"	10,000/Roll
TAG69L-789	Laser Label	2" x .275"	5,000/Pack
(B) - Labels for Port Identification on front of panel			
TAG68T1-336	Thermal Transfer Label	3.8" x .275"	10,000/Roll
TAG68L-789	Laser Label	3.8" x .275"	2,500/Pack

LABEL FOR CASSETTE IDENTIFICATION

A

Loom 6

Loom 5

LABEL FOR PORT IDENTIFICATION

B

36
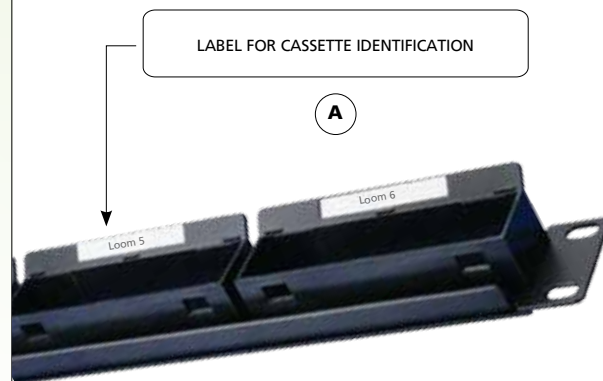
Cable Identification

HellermannTyton provides high quality labels to mark the loom and the individual cables. Printable in both thermal transfer and laser formats, the labels come in different lengths to ensure the printed text is overlaminated and protected when placed around the entire bundle of wires or if marking each individual wire.

PART NUMBER
SALES ORDER NUMBER
LOOM NUMBER

C

Part No.	Description	Dimensions	Pkg. Qty.
C - Labels for Loom Identification			
TAG3T3-100B	Thermal Transfer Label	1" x 1" x 3.75"	3,000/Roll
TAG50L-105	Laser Label	1" x 1" x 3.16"	1,000/Pack
D - Labels for Individual Cable Identification			
TAG22T3-100B	Thermal Transfer Label	1" x .5" x 1.437"	5,000/Roll
TAG63L-105	Laser Label	1" x .5" x 1.437"	2,500/Pack

LOOM NUMBER
PORT NUMBER

D

Our Category 6 RJ45 jacks have a unique strain relief design to secure the cable. The small cable tie is used to secure the cable and prevents the conductors from becoming loose at the IDC during installation.

Raised Floor Enclosure

HellermannTyton's Raised Floor Enclosure serves as a distribution point for zone cabling for low voltage cabling under raised floors of 8˝ deep or more and is UL approved for use in air handling spaces. It can be used with traditional patch panel applications as well as copper and fiber RapidNet solutions. The enclosure is supported by the raised floor support brackets and uses the 2�´ x 2�´ floor tile as a cover. Designed to store and secure rack mount equipment, the enclosure is equipped with firestop foam sealing kits to seal the two openings. Firestop blocks accommodate single or bundled cable.

Part No.	Description	Pkg. Qty.
HTZB2X2	2´ x 2´ Raised Floor Enclosure	1

Firestop block adds protection to network wiring.

Product Features

- Designed to fit into 2´ x 2´ raised floor grids, 8˝ depth

- Holds two 2RU (4RU) racks

- Inside mounting brackets for 19˝ EIA rack mounting

- Accepts #12-24 equipment mounting screws (included with all HellermannTyton patch panels)

- Firestop foam kits/blocks to seal cable access ports

- Load capacity equals 85 lbs. of equipment total

- Indoor use only, environmentally controlled areas

- Seal provided on top flange to secure floor tile

Includes

- 4 raised floor support brackets

- 4 leveler bolts

- 2 grounding screws to outside of box

Product Features

- Uses zero rack mount space by incorporating RapidNet within the cabinet space

- Maximizes data center real estate in existing cabinets

- Auxiliary Rail maintains 19" rackable surface for equipment mounting on existing cabinet rails

- Ports where you need them - aligns connectivity with your servers

- Allows for cassette moves, adds and changes without interrupting rack routed equipment in a fully populated cabinet

- Promotes proper cable management

RapidNet® Zero U Auxiliary Rails

HellermannTyton offers a simplified solution that maximizes data center real estate. Auxiliary rails are designed to mount in the rear of most manufacturer server cabinets and is best suited for server cabinets 42" deep or greater to provide a solution using zero rack space. Due to the versatile mounting design and size options of the rail it may be installed in shallower cabinets or even horizontally above the cabinet.

Part No.	Description	Color	No. of Inserts Required
RNG Series Auxiliary Rails			
RNGAR01	Auxiliary Rail, accepts 1 RNG Series Cassette	Black	1
RNGAR02	Auxiliary Rail, accepts 2 RNG Series Cassettes	Black	2
RNGAR05	Auxiliary Rail, accepts 5 RNG Series Cassettes	Black	5
RNGAR10	Auxiliary Rail, accepts 10 RNG Series Cassettes	Black	10
RNGARINSERT*	Auxiliary Rail Insert for RNG Series Cassettes	Black	N/A

* Includes 1 RapidNet Shroud, 2 Clear ID Windows, Labels 1-60, 10 Blank Labels.

Auxiliary Rails ship without shroud assembly (plastic insert) to facilitate cabinet mounting. Order the appropriate number of RNGARINSERT to complete Auxiliary Rail to accept RapidNet cassettes.

Auxiliary Rail is designed to support mounting of RapidNet cassettes only. No other equipment, active or otherwise, should be mounted to the Auxiliary Rails.

Copper Patch Cords

Designed to maintain signal integrity, HellermannTyton offers a full line of high quality patch cords. These products are critical to the performance of the entire system. All patch cords comply with industry standards including ANSI/TIA-568-C.2.

Available Patch Cord Colors:

BLU   YEL   GRN   RED   BLK   GRY   W

Part No.	Description	Pkg. Qty.
PCS6AXY	Category 6A Shielded Patch Cords	1
PC6ABLUY*	Category 6A Unshielded Patch Cords	1
PC6XYSC	Category 6 Patch Cords - Component Compliant	1
PC6XYS	Category 6 Patch Cord - Channel Compliant	1

Replace "X" in the part number with the following letters for the desired color: X = BLU (Blue), YEL (Yellow), GRN (Green), RED (Red), GRY (Gray), W (White), BLK (Black).
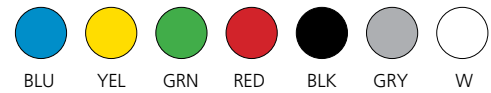
Replace "Y" in the part number with the following numbers for the desired length: 3 = 3 feet, 5 = 5 feet, 7 = 7 feet, 10 = 10 feet, 14 = 14 feet, 25 = 25 feet .

Category 6 Patch Cords

Category 6 patch cords offer a slim-line boot. This molded strain-relief boot helps prevent tangling and excessive bending while reducing the stress on the cable.

Category 6A Shielded Patch Cords

Category 6A shielded patch cords feature foil shielding to ensure signal integrity and a strain-relief boot that helps prevent tangling and excessive bending while reducing the stress on the cable.

Category 6A Unshielded Patch Cords

Category 6A UTP patch cords offer a slim-line boot. This clear strain-relief boot helps prevent tangling and excessive bending while preventing stress on the cable.

Fiber Optic Cable Jumpers

For fiber patching requirements, HellermannTyton offers fiber optic jumpers in various lengths with a wide variety of connector configurations. Fiber jumpers are available in two types - standard and GSA-compliant. Our standard jumpers combine quality with value, meeting all ANSI/TIA/EIA fiber optic cable requirements while allowing installers to maximize project budgets. In addition to meeting industry standards, GSA-compliant jumpers meet Trade Agreement Act (TAA) requirements, making them acceptable for use in U.S. government contract projects.

Part No.	Description	Pkg. Qty.
Standard Jumpers		
VFAXLCLCOM3	LC - LC Duplex MM 50/125µ(OM3) Fiber Assembly	1
VFAXLCSCOM3	LC - SC Duplex MM 50/125µ(OM3) Fiber Assembly	1
VFAXSCSCOM3	SC - SC Duplex MM 50/125µ(OM3) Fiber Assembly	1
VFAXLCLCOS2	LC - LC Duplex Single Mode (OS2) Fiber Assembly	1
VFAXLCSCOS2	LC - SC Duplex Single Mode (OS2) Fiber Assembly	1
VFAXSCSCOS2	SC - SC Duplex Single Mode (OS2) Fiber Assembly	1

Replace "X" in the part number with the length in METERS.
i.e., 1 = 1 meter, 3 = 3 meters, 10 = 10 meters.

Part No.	Description	Pkg. Qty.
GSA-Compliant Jumpers		
FADLCDLC20M3XXX	LC - LC Duplex MM 50/125µ(OM3) Fiber Assembly	1
FADLCDSC20M3XXX	LC - SC Duplex MM 50/125µ(OM3) Fiber Assembly	1
FADSCDSC20M3XXX	SC - SC Duplex MM 50/125µ(OM3) Fiber Assembly	1
FALCLC10M3XXX	LC - LC Simplex Single Mode (OS2) Fiber Assembly	1
FALCSC10M3XXX	LC - SC Simplex Single Mode (OS2) Fiber Assembly	1
FASCSC10M3XXX	SC - SC Simplex Single Mode (OS2) Fiber Assembly	1
FALCALCA10M3XXX	LC/APC – LC/APC Simplex Single Mode (OS2) Fiber Assembly	1
FASCASCA10M3XXX	SC/APC -SC/APC Simplex Single Mode (OS2) Fiber Assembly	1

Replace "XXX" in the part number with the length in FEET.
i.e., 3 = 3 feet, 10 = 10 feet, 25 = 25 feet.

Technical Information

Jumper Type	Insertion Loss		Return Loss Typical
	Typical	Max	
Standard MM PC	≤ .2dB	≤ .3dB	≤ -25dB
Standard SM UPC	≤ .22dB	≤ .3dB	≤ -57dB
Standard SM APC	≤ .22dB	≤ .3dB	≤ -68dB
GSA Compliant MM	≤ .35dB	≤ .5dB	≤ -25dB
GSA Compliant SM UPC	≤ .2dB	≤ .35dB	≤ -58dB
GSA Compliant SM APC	≤ .25dB	≤ .4dB	≤ -70dB

Fiber Optic Trunk Cables

HellermannTyton's fiber optic trunk cables are built to order to meet custom specified lengths or fiber counts. Available in MTP®, LC or SC, connectors, these factory-terminated assemblies can be adapted to meet any project's needs.

Using the matrix below, choose an option from each column to build the custom fiber assembly needed for your application.

FIXED	VARIABLE – Select the following									
Prefix	Fiber Count	Fiber Type	Cable Type	Cable Flame Rating	Termination End 1	Termination End 2	Breakout Length	Polarity*	Pull Kits	Length
F	K 8 A 12 B 24 C 48 D 72 E 96 F 144	A MM 50/125µm (OM1) B MM 50/125µm (OM2) C MM 50/125µm (OM3) D MM 50/125µm (OM4) E Single Mode	C Data Center Cable D Distribution Cable	P Plenum R Riser	A MTP 12 Fiber (female) B MTP 24 Fiber (female) C MTP 12 Fiber (male) D MTP 24 Fiber (male) E LC 2.0mm w/clips F LC 3.0mm w/clips G LC 900µm fanout H LC/APC 2.0mm w/clips J LC/APC 3.0mm w/clips K LC/APC 900µm fanout O SC 2.0mm w/clips P SC 3.0mm w/clips Q SC 900µm fanout R SC/APC 2.0mm w/clips S SC/APC 3.0mm w/clips T SC/APC 900µm fanout	A MTP 12 Fiber (female) B MTP 24 Fiber (female) C MTP 12 Fiber (male) D MTP 24 Fiber (male) E LC 2.0mm w/clips F LC 3.0mm w/clips G LC 900µm fanout H LC/APC 2.0mm w/clips J LC/APC 3.0mm w/clips K LC/APC 900µm fanout O SC 2.0mm w/clips P SC 3.0mm w/clips Q SC 900µm fanout R SC/APC 2.0mm w/clips S SC/APC 3.0mm w/clips T SC/APC 900µm fanout	A .5m B 1m C 1.5m D 2m E N/A	S Straight Thru R Reversed P Pair Reversal*	0 1 2	10' - 999'

RING series MTP cassettes to maintain Method C polarity.
MTP is a registered trademark of US Conec Ltd.

Model Number:

Prefix	Cable Count	Fiber Type	Cable Type	Cable Flame Rating	Term. End 1	Term. End 2	Breakout Length	Polarity	No. of Pull Kits	Length

Fiber Type

A MM 62.5/125μm (OM1) **B** MM 50/125μm (OM2) **C** MM 50/125μm (OM3) **D** MM 50/125μm (OM4) **E** Single Mode

Cable Type

C Data Center Cable (250μm bare fibers) **D** Distribution (966μm buffered fibers)

Termination End

A MTP 12 Fiber (female) **B** MTP 24 Fiber (female) **C** MTP 12 Fiber (male) **D** MTP 24 Fiber (male) **E** LC 2.0mm w/ clips

F LC 3.0mm w/ clips **G** LC 900μm fanout **H** LC APC 2.0mm w/ clips **J** LC APC 3.0mm w/ clips **K** LC APC 900μm fanout

O SC 2.0mm w/ clips **P** SC 3.0mm w/ clips **Q** SC 900μm fanout **R** SC APC 2.0mm w/ clips **S** SC APC 3.0mm w/ clips

T SC APC 900μm fanout

Pulling Kit

Fiber Rack Mount Enclosures

HellermannTyton rack mount fiber enclosures provide durable protection for direct termination and splice of LAN applications. Capable of supporting up to 1,728 fibers, our enclosures are equipped with cable management and routing accessories to control cable slack, limit bend radius and add strain relief control. Optional splice trays and sleeves are available for added convenience and versatility. Rack mount fiber enclosures work in a standard LGX footprint.

Product Features

- Removable front and rear covers provide easy access to cables

- Slide-out tray with easy-to-grip raised edge

- Cable management spools for effective slack management

- Optional splice trays to assist with cable splicing

- Panel positioning for easier patch cord access

- Meet ANSI/TIA/EIA 568-C standards

FERM18S

FERM36S

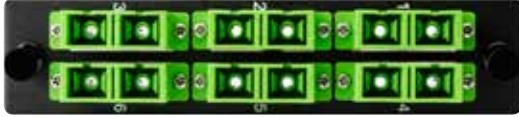| Part No.	Description	Height	Width	Depth	Pkg. Qty.
STANDARD RACK MOUNT ENCLOSURES					
FERM1U	Rack Mount Fiber Enclosure-Unloaded Accepts 3 Adapter Panels, 1U, Black	1.75"	17.0"	14.0"	1
FERM2U	Rack Mount Fiber Enclosure-Unloaded Accepts 6 Adapter Panels, 2U, Black	3.5"	17.0"	14.0"	1
FERM4U	Rack Mount Fiber Enclosure-Unloaded Accepts 12 Adapter Panels, 4U, Black	7.0"	17.0"	17.0"	1
FERM1UV	Rack Mount Fiber Enclosure-Unloaded, No Door Accepts 3 Adapter Panels, 1U, Black	1.75"	19.0"	8.15"	1
GSA-COMPLIANT RACK MOUNT ENCLOSURES					
FERM18S	Rack Mount Fiber Enclosure-Unloaded Accepts 3 Adapter Panels, 1U, Black	1.75"	17.0"	12.14"	1
FERM36S	Rack Mount Fiber Enclosure-Unloaded Accepts 6 Adapter Panels, 2U, Black	3.5"	17.0"	14.0"	1

VFAP6DSMASCZ

FAP6MQMTP

Fiber Adapter Panels

For customized rack mount fiber optic enclosures, Hellermantyton offers a variety of adapter panels suitable for the data center applications. Adapter panels are available with standard LC, SC and MTP® connections to accommodate single mode in both standard and angled versions, as well as multimode 50/125μm 10Gb OM3/4. Available with zirconia ceramic or phosphor bronze alignment sleeves for minimal insertion loss contribution. Zirconia ceramic alignment sleeves provide excellent durability and are an ideal choice for use in laser optimized MM and SM applications. HellermannTyton offers both standard and GSA-compliant adapter panels. Adapter panels easily install into enclosures with "snap lock" mounting fixtures and are color coded according to industry guidelines.

Part No.	Description	Color	Fiber Count	Ferrule Type	Pkg. Qty.
STANDARD ADAPTER PANELS					
LC					
VFAP6DMMLC	Adapter Panel Preloaded with 6 Duplex LC MM	Beige	12	PB	1
VFAP6QMMQLCZ	Adapter Panel Preloaded with 6 Quad LC MM	Aqua	24	ZC	1
VFAP6DSMLCZ	Adapter Panel Preloaded with 6 Duplex LC SM	Blue	12	ZC	1
VFAP6QSMLCZ	Adapter Panel Preloaded with 6 Quad LC SM	Blue	24	ZC	1
SC					
VFAP6SMMQSCZ	Adapter Panel Preloaded with 6 Simplex SC MM	Aqua	6	ZC	1
VFAP6DMMQSC	Adapter Panel Preloaded with 6 Duplex SC MM	Aqua	12	ZC	1
VFAP6SSMSCZ	Adapter Panel Preloaded with 6 Simplex SC SM	Blue	6	ZC	1
VFAP6DSMSCZ	Adapter Panel Preloaded with 6 Duplex SC SM	Blue	12	ZC	1
VFAP6SSMASCZ	Adapter Panel Preloaded with 6 Simplex SC/APC	Green	6	ZC	1
VFAP6DSMASCZ	Adapter Panel Preloaded with 6 Duplex SC/APC	Green	12	ZC	1
GSA-COMPLIANT ADAPTER PANELS					
FAPB	Blank Adapter Panel	Black	N/A	N/A	1
LC					
FAP6DMMQLC	Adapter Panel Preloaded with 6 Duplex LC MM	Aqua	12	PB	1
FAP12DMMQLC	Adapter Panel Preloaded with 6 Quad LC MM	Aqua	24	PB	1
FAP6DSMLC	Adapter Panel Preloaded with 6 Duplex LC SM	Blue	12	ZC	1
FAP12DSMLC	Adapter Panel Preloaded with 6 Quad LC SM	Blue	24	ZC	1
SC					
FAP6DMMQSCZ	Adapter Panel Preloaded with 6 Duplex SC MM	Aqua	12	ZC	1
FAP6SSMSC	Adapter Panel Preloaded with 6 Simplex SC SM	Blue	6	ZC	1
FAP6DSMSC	Adapter Panel Preloaded with 6 Duplex LC SM	Blue	12	ZC	1
MTP					
FAP6MMTP	Adapter Panel Preloaded with 6 MTP MM	Black	72/144	N/A	1
FAP6MQMTP	Adapter Panel Preloaded with 6 MTP MM	Aqua	72/144	N/A	1
FAP6SMTP	Adapter Panel Preloaded with 6 MTP SM	Blue	72/144	N/A	1

MTP is a registered trademark of US Conec Ltd.

Patch Panels & Modular Jacks

HellermannTyton's Deca10 Series is a Category 6A solution that offers uncompromised support for 10 Gigabit Ethernet. GigaBand Category 6 patch panels provide unbeatable Category 6 performance. With positive PowerSum ACR up to 400 MHz, Category 6 patch panels exceed the latest Category 6 specifications covering hardware, link and channel performance.

Category 6A Shielded Patch Panels
HellermannTyton's Category 6A shielded patch panels accept HellermannTyton Shielded Category 6A jacks to complete a shielded system solution. The panel provides a choice of ground stud positions on the integral grounding bar and includes rear cable management.

Use with Part No. RJ45FC6AS - Category 6A Shielded Modular Jack (see photo)

Part No.	Description	Pkg. Qty.
Category 6A Shielded Patch Panels		
PP24MOD6AS	Category 6A - 1U 24 Port Shielded Patch Panel	1
PP24SMOD6AS	Category 6A - 1U 24 Port Sliding Shielded Patch Panel	1
Category 6 Universal Patch Panels		
PP110C624	Category 6 - 1U 24 Port 110 Universal Patch Panel	1
PP110C648	Category 6 - 1U 48 Port 110 Universal Patch Panel	1
APP110C624	Angled, Category 6 UTP - 1U 24 Port 110 Universal Patch Panel	1
APP110C648	Angled, Category 6 UTP – 2U 48 Port 110 Universal Patch Panel	1
Category 6 - 48 Port 1U Patch Panel		
PP110C6481U	Category 6 - 1U 48 Port Patch Panel	1
Modular Patch Panels		
P108-24-MOD1U*	Blank Modular Patch Panel - 24 Port - 1U	1
P108-24-MOD	Blank Modular Patch Panel - 24 Port - 2U	1
P108-48-MOD	Blank Modular Patch Panel - 48 Port - 3U	1
PP24MOD1AU	Angled Modular Patch Panel - 24 Port - 1U	1
PP24SMOD1AU	Angled Modular Patch Panel, Shielded - 24 Port - 1U	1
PP48MOD1AU	Angled Modular Patch Panel - 48 Port - 1U	1
Modular Jacks		
RJ45FC6AS**	Category 6A Shielded Modular Jack	1
RJ44FC6-X	Category 6 Unshielded Modular Jack	1

*The 1U modular panel allows for increased density in one rack space.
**Category 6A termination tool required, part number HT6ASCT.
Replace "X" with: W (White) FW (Office White) I (Ivory) GRY (Gray) BLK (Black) YEL (Yellow) ORN (Orange) BRN (Brown) BLU (Blue) GRN (Green) VIO (Violet) RED (Red)

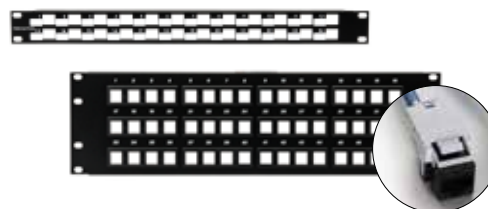**Category 6 - 48 Port 1U Patch Panel**
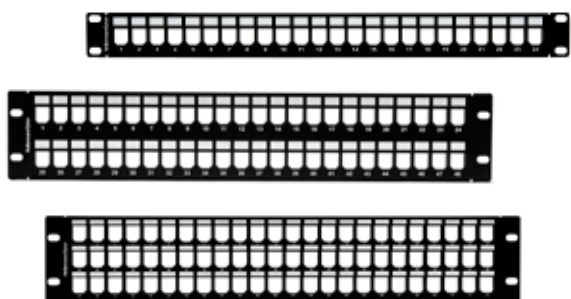

Category 6 Universal Patch Panels
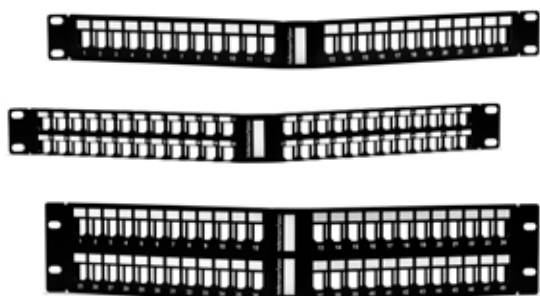Available in standard and angled versions.

Modular Patch Panels
The modular patch panel is designed to accept HellermannTyton modular jacks.Use with Part No. RJ45FC6–BLK Category 6 Modular Jack (see photo)

The panel also makes patch cord insertion and removal easy by having jacks mounted sideways in the panel.

Category Modular Patch Panels

Category Angled Modular Patch Panels

GST Modular Jack

GST Patch Panels & Modular Jacks

HellermannTyton's proprietary GST Connectivity line centers on the compact, high performance UTP RJ45 keystone connectors which include Category 6A and Category 6 UTP jacks which have been tested to exceed the latest published versions of ISO/IEC 1180 and ANSI/TIA/EIA 568C and offers backward compatibility. The jacks can be terminated with the GST Termination Tool or the Pocket Tool. The GST solution includes a comprehensive range of modular panels, available in both flat and angled versions, standard and high density options as well.

Part No.	Description	Pkg. Qty.
GST Modular Patch Panels		
GSTPP-2U48SC+	GST Modular Patch Panel 48 Port, 2U, Steel, Black	1
GSTPP-1U48SC+	GST Modular Patch Panel 48 Port, 1U, Steel, Black	1
GSTPP-1U24SC+	GST Modular Patch Panel 24 Port, 1U, Steel, Black	1
GSTPP-2U72SC+	GST Modular Patch Panel 72 Port, 2U, Steel, Black	1
GSTAPP-2U48SC+	GST Angled Modular Patch Panel 48 Port, 2U, Steel, Black	1
GSTAPP-1U48SC+	GST Angled Modular Patch Panel 48 Port, 1U, Steel, Black	1
GSTAPP-1U24SC+	GST Angled Modular Patch Panel 24 Port, 1U, Steel, Black	1
GSTAPP-2U72SC+	GST Angled Modular Patch Panel 72 Port, 2U, Steel, Black	1

+GST modular panels work with GST UTP modular jacks only.

Part No.	Description	Pkg. Qty.
Modular Jacks		
GSTJ6AU-Y***	GST Category 6A UTP Modular Jack	1
GSTJC6U-Y***	GST Category 6 UTP Modular Jack	1

Replace "Y" in the part number with the following letters for desired color: WH (White), FW (Office White), IV (Ivory), GY (Gray), BK (Black), YE (Yellow), OR (Orange), BR (Brown), BL (Blue), GN (Green), VI (Violet), and RD (Red).
***Proprietary design requires HT-TT02U or HT-PT tool to terminate jack.

Grip Ties

The Grip Tie is a low profile, one piece fastening device. Constructed of polyethylene hook and nylon loop and laminated back to back, the Grip Tie features quick release for repetitive access to cable and wire. It can be opened and closed numerous times without failure. The Grip Tie is reusable, adjustable, releaseable, and easy to install. The rolls are ideal for job site applications where desired lengths can be cut on the spot. The plenum rated Grip Tie is UL Listed in accordance to the NEC regulation and has been tested to meet the UL94V-2 flame rating.

Part No.	Width	Length	Color	Pkg. Qty.
Standard Grip Ties				
GT.75X1800	.75"	180"	Black	1
GT.75X1804	.75"	180"	Blue	1
GT.75X18010	.75"	180"	White	1
GT.75X6000	.75"	600"	Black	1
GT.75X9000	.75"	900"	Black	1
Grip Ties for Plenum Applications				
GT.75X180MV2	.75"	180"	Maroon	1

Standard Grip Tie

Grip Ties for
Plenum Applications

TagPrint® Pro Professional Label Creation Software

TagPrint Pro label creation and printing software is powerful, multi-functional, and extremely easy to use. Created to provide solutions for telecom identification, TagPrint Pro speeds production and offers many options for a wide variety of labeling requirements. "What You See Is What You Get" (WYSIWYG) label creation and the ability to open and print directly from an Excel database make this perfect for managing and printing to meet TIA-606-B or any labeling format. Print one or two labels or labels for thousands of drops. TagPrint Pro also prints barcode, graphic images, label sets and wire lists. Use with HellermannTyton's wide array of label options including laser, ink jet, dot matrix and thermal transfer printable labels.

Part No.	Description
556-00035	Single User TagPrint Pro 3.0
556-00042	Single User Upgrade to TagPrint Pro 3.0
556-00036	3 User Network Version
556-00037	5 User Network Version
556-00038	10 User Network Version
556-00039	25 User Network Version
556-00052	50 User Network Version

TagPrint® Xpress Data

The TagPrint Xpress Data mobile app is a code standard reference and labeling tool designed specifically for the data center market. The app provides an easy guide through the TIA-606-B labeling standard for telecommunications infrastructure and allows for ultra-efficient wireless printing of required labels.
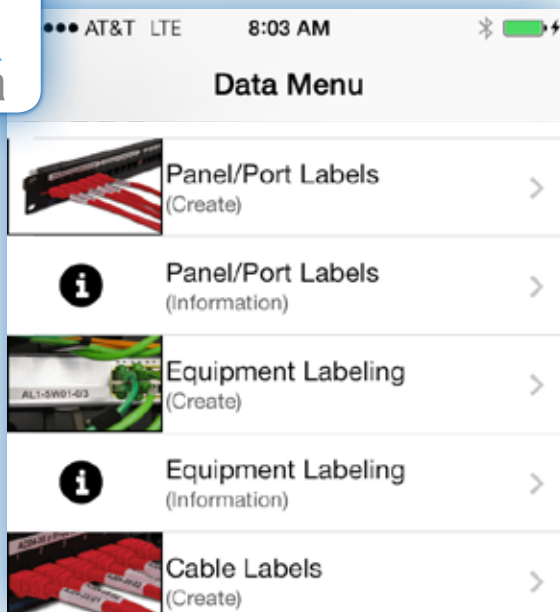
Product Features

- Print TIA-606-B or client-specified labels, wirelessly

- Includes pre-configured settings for all standard HellermannTyton patch panels and RapidNet® patch panels and cassettes for easy selection and printing

- Eliminates the need for a laptop or desktop to print labels

- TIA-606-B code standard reference tool explains the principles of the standard by application

- Allows the user to search for labels by application (ex: patch panels, cable labels, rack labels)

- Makes printing faster and easier with multiple printers

- Optimizes workflow by allowing multiple users to print from their mobile devices

Labels

Article No.	Part No.	Type	Width		Length		Height of Printable Area		Color	Labels per Row	Labels per Column	Labels per Sheet	Pkg. Qty.	Pkg. Type
			in.	(mm)	in.	(mm)	in.	(mm)						
Laser Tag														
594-00003	TAGPP11010	TAGPP11010	0.66	(16.76)	0.33	(8.38)	N/A	N/A	White	23	12	276	1000	Pack
594-01788	TAGPP1-788	TAGPP1	0.625	(15.87)	0.37	(7.87)	N/A	N/A	White	12	30	360	1000	Pack
594-62788	TAG62L-788	TAG62L	1.50	(38.10)	0.375	(9.52)	N/A	N/A	White	5	25	125	1000	Pack
594-96789	TAG96L-789	TAG96L	1.875	(47.62)	0.25	(6.35)	N/A	N/A	White	4	36	144	1000	Pack
594-69789	TAG69L-789	TAG69L	2.00	(50.80)	0.275	(6.98)	N/A	N/A	White	4	35	140	5000	Pack
594-61788	TAG61L-788	TAG61L	2.62	(66.67)	1.00	(25.40)	N/A	N/A	White	3	10	30	7500	Pack
594-67789	TAG67L-789	TAG67L	2.87	(73.00)	0.375	(9.52)	N/A	N/A	White	2	25	50	1000	Pack
594-03000	594-03000	FDCLASER	3.50	(88.90)	0.50	(12.70)	N/A	N/A	White	2	20	40	1000	Pack
594-66789	TAG66L-789	TAG66L	3.59	(91.40)	0.375	(9.52)	N/A	N/A	White	2	25	50	1000	Pack
594-68789	TAG68L-789	TAG68L	3.80	(96.50)	0.275	(6.98)	N/A	N/A	White	2	35	70	2500	Pack
594-45789	TAG45L-789	TAG45L	4.00	(101.60)	0.80	(20.32)	N/A	N/A	White	2	12	24	5000	Pack
594-02788	TAGPP1-788C	TAGPP1	0.625	(15.87)	0.333	(8.45)	N/A	N/A	Clear	12	30	360	1000	Pack
594-00002	TAGPP2-788C	TAGPP2	0.66	(16.70)	0.33	(8.38)	N/A	N/A	Clear	12	30	360	1000	Pack
Laser Tag Self-Laminating														
594-63105	TAG63L-105	TAG63L	1.00	(25.40)	1.33	(33.70)	0.35	(12.70)	White	8	7	56	2500	Pack
594-50105	TAG50L-105	TAG50L	1.00	(25.40)	3.16	(80.40)	1.00	(25.40)	White	8	3	24	1000	Pack

Article No.	Part No.	Type	Width		Length		Labels per Row	Color	Pkg. Qty.	Pkg. Type
			in.	(mm)	in.	(mm)				
Thermal Transfer										
596-00028	TAGPP1T6-822	TAGPP1T6	0.625	(15.87)	0.31	(7.92)	6	White	1000	Roll
596-00046	TAGPP2T6-822	TAGPP2T6	0.66	(16.70)	0.31	(7.92)	6	White	1000	Roll
596-27822	TAG27T1-822	TAG27T1	1.50	(38.11)	0.75	(19.05)	1	White	3000	Roll
596-00026	TAG96T1-336	TAG96T1	1.875	(47.60)	0.25	(6.35)	1	White	5000	Roll
596-00041	TAG69T1-336	TAG69T1	2.00	(50.80)	0.275	(6.98)	1	White	10000	Roll
596-00040	TAG68T1-336	TAG68T1	3.80	(96.50)	0.275	(6.98)	1	White	10000	Roll
596-00023	TAG83T1-822	TAG83T1	4.00	(101.60)	0.31	(7.92)	1	White	5000	Roll
596-00029	TAGPP1T6-822C	TAGPP1T6	0.625	(15.87)	0.31	(7.92)	6	Clear	1000	Roll
596-00001	TAG15T3-822C10M	TAG15T3	1.00	(25.40)	0.50	(12.70)	3	Clear	10000	Roll
Thermal Transfer Self-Laminating										
596-00006	TAG22T2-100B	TAG22T2	1.00	(25.40)	1.43	(36.30)	2	White	5000	Roll
596-00007	TAG22T3-100B	TAG22T3	1.00	(25.40)	1.43	(36.30)	3	White	5000	Roll
596-00013	TAG3T3-100B	TAG3T3	1.00	(25.40)	3.75	(95.25)	3	White	3000	Roll
596-00010	TAG2T5-100B	TAG2T5	0.50	(12.70)	1.43	(36.30)	5	White	10000	Roll

Article No.	Part No.	Type	Width		Length		Color	Pkg. Qty.	Pkg. Type
			in.	(mm)	in.	(mm)			
Solid Colored Continous Rolls									
558-00313	558-00313	HT2WH250	2.0	(50.8)	250.0	(76.2)	White	250	Roll
558-00309	558-00309	HT1WH250	1.0	(25.4)	250.0	(76.2)	White	250	Roll

Note: Dimensions are approximate and subject to technical changes. Use **Part No.** for ordering and **Type** for specification purposes.

TT230SM / TT230SMC
Thermal Transfer Printers

HellermannTyton's TT230SM and TT230SMC thermal transfer printers are the next generation of printer for small to medium volume users looking for an easy-to-use and functional thermal transfer printer. TT230SM series printers print on a wide variety of materials including all HellermannTyton labels and ShrinkTrak, and are also Ethernet network ready, which gives the user options on placing the unit away from the host computer. Each printer comes with a label "caddy" that holds large label rolls behind the printer, for easier dispensing and printing. There is also an optional carrying case that can be used to safely transport the printer to remote job sites. The TT230SMC model includes an integrated cutter for use with continuous vinyl label rolls.

Product Features

- 300dpi thermal transfer print head

- Print speed up to 3" (76mm) / second

- Integrated cutter - TT230SMC only

- 2mb flash / 8mb SDRAM

- Easy set up and loading without adjustments

- Label holder included with purchase

- Highly accurate, adjustable gap sensor

- Low calibration waste

- No complicated settings

- Lightweight / minimal footprint

- Approvals: CE, FCC, Class A, cULus, UL, GS, TUV-GS, LCC, C-Tick, BSMI, RoHS

- Works with TagPrint® Xpress Data mobile app

Article No.	Part No.	Type	Description	Pkg. Qty.
556-00230	556-00230	TT230SM	TT230SM Printer	1
556-00240	556-00240	TT230SMC	TT230SMC Printer with Cutter	1
556-00231	556-00231	CASE 230SM	Optional Carrying Case	1
556-00232	556-00232	RPH TT230SM	Replacement Print Head	1
556-00233	556-00233	RPS TT230SM	Replacement Power Supply	1
556-00234	556-00234	RPR TT230SM	Replacement Platen Roller	1
556-00235	556-00235	LABEL HOLDER	Replacement Label Holder	1
556-00145	TT822OUTSM	TT822OUTSM	Thermal Transfer Ribbon, Black	1

Use **Part No.** for ordering and **Type** for specification purposes. The TT230SMC with cutter is not recommended for use with ShrinkTrak labels.

*Caddy 556-00235 comes automatically FREE with each printer purchase

Product Features

- Lightweight, compact design makes it easy to transport to remote job sites

- Connect several printers together for ultimate printing efficiency (requires router)

- 300 dpi print head for quality print results

- Fast print speed up to 3" (76mm) / second

- Easy to set up and load

- Label caddy holds larger rolls

- Highly accurate sensor reduces label waste

- Includes USB 2.0 port and Ethernet port for connection to network or wireless router

- 4mb flash / 8mb SDRAM

- Approvals; CE, FCC, Class A, cULus, UL, GS, TUV-GS, LCC, C-Tick, BSMI, RoHS

- Works with TagPrint® Xpress Data mobile app

TT130SMC Compact Thermal Transfer Printer

Designed with space and portability in mind, the TT130SMC thermal transfer printer's compact footprint allows for highly efficient printing in applications in which space is tight or when portability is important. The smaller size and optional hard-shell carrying case make it easy to transport to remote job sites. The printer accommodates label roll stock up to 2" wide, to satisfy many industrial labeling requirements- especially useful in data center and solar installation applications. The TT130SMC includes an Ethernet port that allows the user to connect to an existing network or to a wireless router for portable printing*. TT130SMC Kits also come with a label "caddy" to hold larger label rolls. The carrying case includes space for two printers, as well as a wireless router, cables and label stock.

Article No.	Part No.	Type	Description	Pkg. Qty.
556-00250	556-00250	TT130SMC	TT130SMC Printer with Cutter	1
556-00254	556-00254	TT130SMCKIT	TT130SMC Printer Kit*	1
556-00257	556-00257	2TT130SMCKIT	2 Printer TT130SMC Printer Kit**	1
556-00251	556-00251	TT130RPHEAD	TT130SMC Print Head	1
556-00252	556-00252	TT130PWRSLY	TT130SMC Replacement Power Supply	1
556-00255	556-00255	TT130SMCCORD	TT130SMC Replacement Power Cord	1
556-00253	556-00253	TT130SMCCASE	Optional Carrying Case	1
556-00235	556-00235	Label Holder	Replacement Label Holder	1
556-00205	556-00205	TTWHITEOUTSM-2	White Ribbon 2" X 154', 1/RL	1
556-00206	556-00206	TT822OUTSM-2	TT822 Black Ribbon 2" X 242', 1/RL	1
556-00212	556-00212	TT100OUTSM-2	TT100 Black Ribbon, 2" x 242', 1/RL	1

Use **Part No.** for ordering and **Type** for specification purposes. *Router not included.

Intertek

Summary

Client	Hellermann	**Report No**	3161280
Specification	TIA 568B2-10 - Augmented Cat 6 (Channel)		
Part No	Cat. 6A shielded	**Length(m)**	100
Test Started	9/17/2008 4:46:15 PM	**Temperature**	20 °C
Description	4 Connector Channel	**Appendix**	A
Technician	Development	**Test Status**	Complies

Limit Margin : 9.381 dB @ 22.978 MHz

ACR

Frequency (MHz) : (Blue - WorstCase, Green - Average)
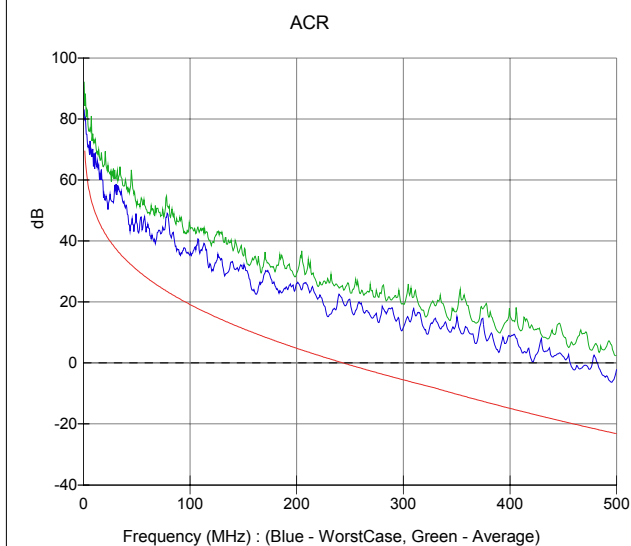
ACR			
Freq	Worst Case	Average	Spec
1.	81.6	85.9	70.3
4.	71.1	79.7	59.0
8.	67.5	72.8	52.4
10.	69.1	72.9	50.2
16.	60.9	66.5	45.1
20.	53.5	66.1	42.6
25.	54.9	62.2	39.9
31.25	56.2	62.2	37.0
62.5	41.7	49.0	27.1
100.	35.6	44.7	19.2
250.	20.4	23.4	-0.7
500.	-2.1	2.3	-23.2

Limit Margin : 9.065 dB @ 1.124 MHz

PSACR

Frequency (MHz) : (Blue - WorstCase, Green - Average)
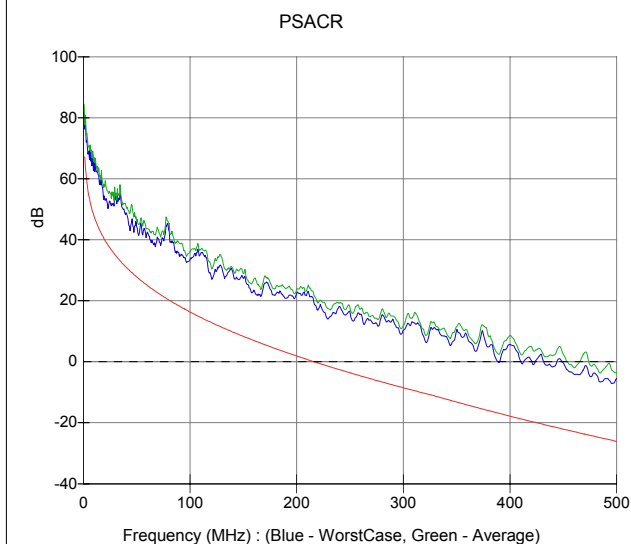
PSACR			
Freq	Worst Case	Average	Spec
1.	77.3	79.1	67.9
4.	69.0	71.6	56.5
8.	64.3	66.8	49.9
10.	65.8	66.6	47.6
16.	58.6	59.9	42.5
20.	53.0	57.7	39.9
25.	52.3	55.3	37.2
31.25	52.5	53.9	34.3
62.5	40.0	42.6	24.3
100.	33.5	36.1	16.3
250.	16.4	17.6	-3.6
500.	-5.4	-3.5	-26.1

54

LinkWare CABLE TEST MANAGEMENT SOFTWARE ✓

Cable ID: RNF62P100-L10-F1A　　　　　**Test Summary: PASS**

Date / Time: 08/06/2010 07:49:04am　　Operator: DEE　　　　　　Model: DTX-1800
Headroom: 0.99 dB (Loss)　　　　Software Version: 2.2400　　Main S/N: 8655063
Test Limit: TIA568C Backbone MM　Limits Version: 1.3700　　Remote S/N: 8655083
Cable Type: * RAPIDNET 62/125 FIBER *　　　　　　　　　　Main Adapter: DTX-MFM2
　　　　　　　　　　　　　　　　　　　　　　　　　　　Remote Adapter: DTX-MFM2

Loss R->M PASS

Date / Time: 08/06/2010 07:49:04am
Cable Type: * RAPIDNET 62/125 FIBER *
Modal Bandwidth: 160 MHz-km
MAIN: DTX-1800 (8655063 v2.2200)
Module: DTX-MFM2 (9437053)
Remote: DTX-1800R (8655083 v2.2200)
Module: DTX-MFM2 (9437055)

Propagation Delay (ns)	165	
Length (ft)	109	PASS
Limit 6562		
	850 nm	1300 nm
Result	PASS	PASS
Loss (dB)	0.23	0.19
Loss Limit (dB)	1.62	1.55
Loss Margin (dB)	1.39	1.36
Reference (dBm)	-19.67	-19.74

n = 1.4900
Number of Adapters: 2
Number of Splices: 0
Patch Type: * RAPIDNET 62/125 FIBER *
Patch Length1 (ft): 3.3
Patch Length2 (ft): 3.3
Reference Date: 08/06/2010 07:08:16am
1 Jumper

Loss M->R PASS

Date / Time: 08/06/2010 07:49:04am
Cable Type: * RAPIDNET 62/125 FIBER *
Modal Bandwidth: 160 MHz-km
Remote: DTX-1800R (8655083 v2.2200)
Module: DTX-MFM2 (9437055)
MAIN: DTX-1800 (8655063 v2.2200)
Module: DTX-MFM2 (9437053)

Propagation Delay (ns)	165	
Length (ft)	109	PASS
Limit 6562		
	850 nm	1300 nm
Result	PASS	PASS
Loss (dB)	0.45	0.56
Loss Limit (dB)	1.62	1.55
Loss Margin (dB)	1.17	0.99
Reference (dBm)	-19.31	-19.23

n = 1.4900
Number of Adapters: 2
Number of Splices: 0
Patch Type: * RAPIDNET 62/125 FIBER *
Patch Length1 (ft): 3.3
Patch Length2 (ft): 3.3
Reference Date: 08/06/2010 07:08:16am
1 Jumper

Compliant Network Standards:
FDDI	10BASE-FL	100BASE-FX
1000BASE-SX	1000BASE-LX	ATM 52 Fiber Optic
ATM 155 Fiber Optic	ATM 155SWL Fiber Optic	ATM 622 Fiber Optic
ATM 622SWL Fiber Optic	Fibre Channel 133	Fibre Channel 266
Fibre Channel 266SWL	Fibre Channel 100-M6-SN-I	Fibre Channel 200-M6-SN-I
Fibre Channel 400-M6-SN-I		

Fibre Channel 400-M6-SN-I: This channel is certified for 400 Megabytes per second Fibre Channel application over multimode fiber with short wavelength 850 nm laser source.

Project: DEFAULT
Site: TGM-544

448838-new.flw

Test Summary: PASS ✓

LinkWare CABLE TEST MANAGEMENT SOFTWARE ✓

Cable ID: RNGC6ARBCC88-L43-P4　　　**Test Summary: PASS**

Date / Time: 07/14/2010 06:25:02am　　Operator: WAYNE　　　　Model: DTX-1800
Headroom: 6.9 dB (NEXT 12-36)　　Software Version: 2.2400　Main S/N: 9437027
Test Limit: TIA Cat 6 Perm. Link　Limits Version: 1.3700　　Remote S/N: 9435138
Cable Type: * RAPIDNET CAT6 CMR *　NVP: 68.0%　　　　　　Main Adapter: DTX-PLA001
　　　　　　　　　　　　　　　　　　　　　　　　　　　Remote Adapter: DTX-PLA001

Wire Map (T568B)
PASS

91 ft

Length (ft), Limit 295	[Pair 78]	91
Prop. Delay (ns), Limit 498		144
Delay Skew (ns), Limit 44		8
Resistance (ohms)	[Pair 78]	5.4
Insertion Loss Margin (dB)	[Pair 36]	21.8
Frequency (MHz)	[Pair 36]	250.0
Limit (dB)	[Pair 36]	31.1

Insertion Loss

	Worst Case Margin		Worst Case Value	
PASS	MAIN	SR	MAIN	SR
Worst Pair	12-36	36-78	12-36	36-78
NEXT (dB)	6.9	7.1	6.9	7.1
Freq. (MHz)	235.0	241.5	235.0	241.5
Limit (dB)	35.8	35.6	35.8	35.6
Worst Pair	36	78	36	78
PS NEXT (dB)	7.3	7.7	7.3	7.7
Freq. (MHz)	234.5	244.5	234.5	244.5
Limit (dB)	33.2	32.9	33.2	32.9
PASS	MAIN	SR	MAIN	SR
Worst Pair	12-36	12-36	12-36	78-45
ACR-F (dB)	11.0	11.0	14.3	13.8
Freq. (MHz)	13.6	12.5	247.5	234.5
Limit (dB)	41.5	42.3	16.3	16.8
Worst Pair	12	12	36	45
PS ACR-F (dB)	13.2	13.2	16.1	15.5
Freq. (MHz)	12.5	12.5	247.5	235.5
Limit (dB)	39.3	39.3	13.3	13.7
N/A	MAIN	SR	MAIN	SR
Worst Pair	12-36	12-78	12-36	36-78
ACR-N (dB)	16.2	16.0	28.7	28.9
Freq. (MHz)	8.8	3.9	242.0	245.0
Limit (dB)	53.6	60.8	5.0	4.7
Worst Pair	36	12	36	78
PS ACR-N (dB)	17.0	16.5	28.3	29.3
Freq. (MHz)	13.6	7.3	234.5	244.5
Limit (dB)	46.9	53.0	3.2	2.2
PASS	MAIN	SR	MAIN	SR
Worst Pair	36	36	36	36
RL (dB)	8.4	8.9	8.4	10.5
Freq. (MHz)	242.0	32.5	242.0	249.5
Limit (dB)	10.2	18.4	10.2	10.0

NEXT / NEXT @ Remote / ACR-F / ACR-F @ Remote / ACR-N / ACR-N @ Remote / RL / RL @ Remote

Compliant Network Standards:
10BASE-T	100BASE-TX	100BASE-T4
1000BASE-T	ATM-25	ATM-51
ATM-155	100VG-AnyLan	TR-4
TR-16 Active	TR-16 Passive	
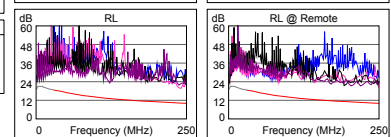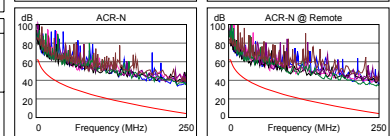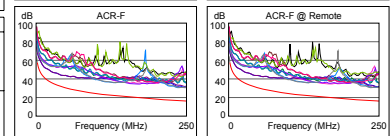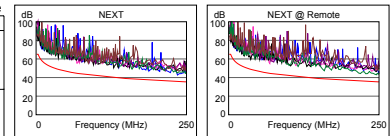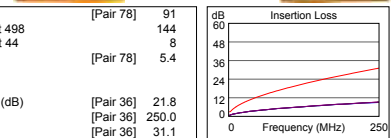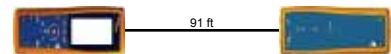
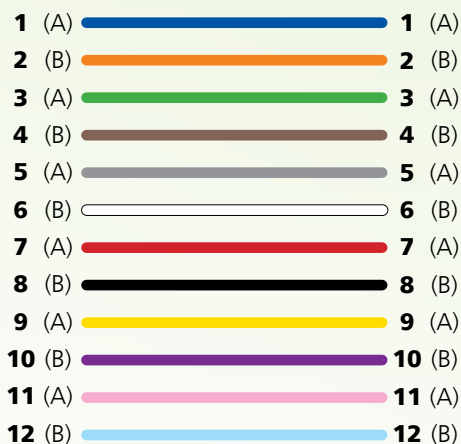Project: DEFAULT
Site: Client Name

LinkWare Version 6.1

FLUKE networks.

444204-a.flw

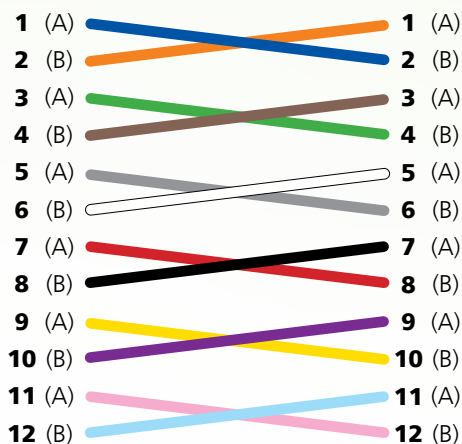*FLUKE is a registered trademark of Fluke Corporation

RapidNet® Fiber Polarity

In a traditional fiber cabling system, it is important to maintain the proper signal polarity to ensure that the optical transmitter at one end is connected to the optical receiver at the other end. Optical transceivers typically deploy a duplex fiber connection, LC or SC, and have a transmit side and a receive side. Polarity is maintained when Side A of one connector pair is mated with Side B of the other connector pair. HellermanTyton's RapidNet Cassette to Cassette looms are available in two options.

STRAIGHT THROUGH WIRING

1 (A)		**1**	(A)
2 (B)		**2**	(B)
3 (A)		**3**	(A)
4 (B)		**4**	(B)
5 (A)		**5**	(A)
6 (B)		**6**	(B)
7 (A)		**7**	(A)
8 (B)		**8**	(B)
9 (A)		**9**	(A)
10 (B)		**10**	(B)
11 (A)		**11**	(A)
12 (B)		**12**	(B)

REVERSED WIRING

|			
1 (A)		**1**	(A)
2 (B)		**2**	(B)
3 (A)		**3**	(A)
4 (B)		**4**	(B)
5 (A)		**5**	(A)
6 (B)		**6**	(B)
7 (A)		**7**	(A)
8 (B)		**8**	(B)
9 (A)		**9**	(A)
10 (B)		**10**	(B)
11 (A)		**11**	(A)
12 (B)		**12**	(B)

Modular Jack Options

For those installations where the pathway may be obstructed or space is limited, HellermannTyton offers a Jack to Cassette solution in a variety of standard stagger options to meet your cabling requirements. Use with RNG Series Copper Solutions available on pages 13 and 14.
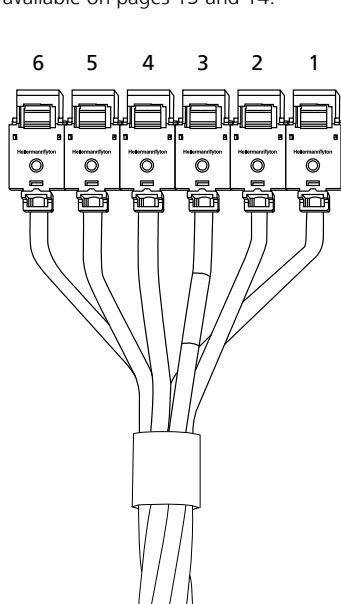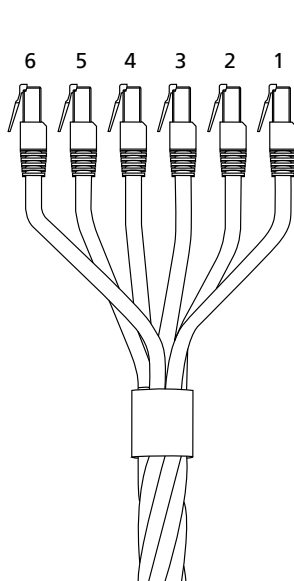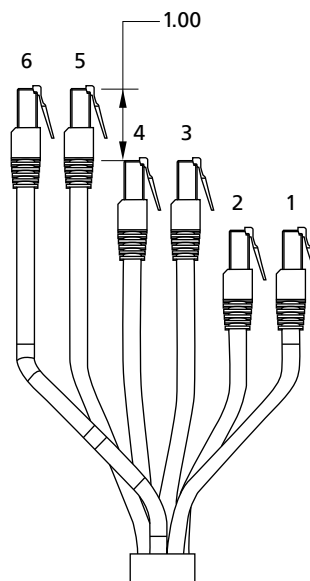
N = Jack - Inline
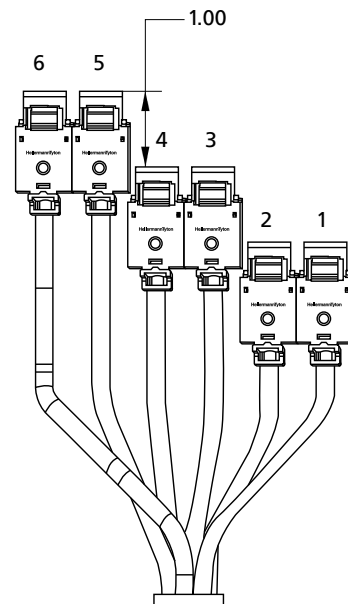
K = Jack - Pair Stagger Left

Modular Plug Options

HellermannTyton offers a variety of standard stagger options to meet your cabling needs. Use with RNG Series Copper UTP Solutions available on page 14.
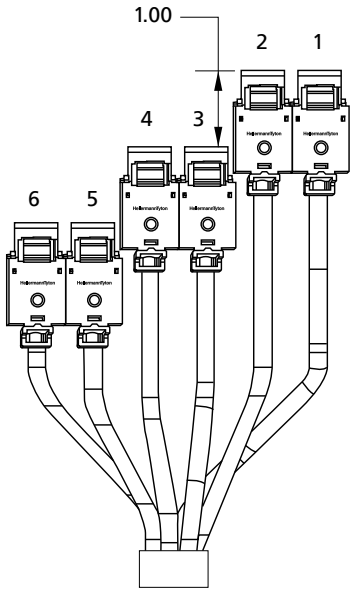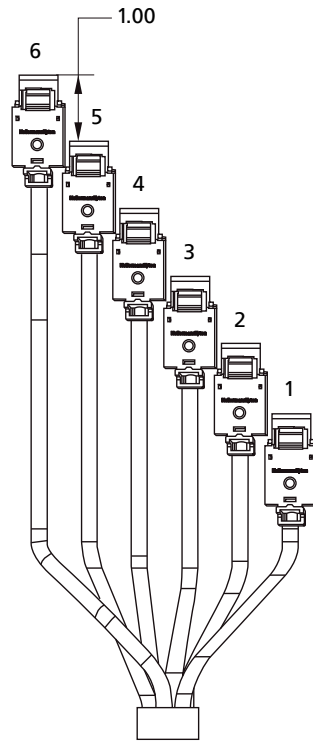
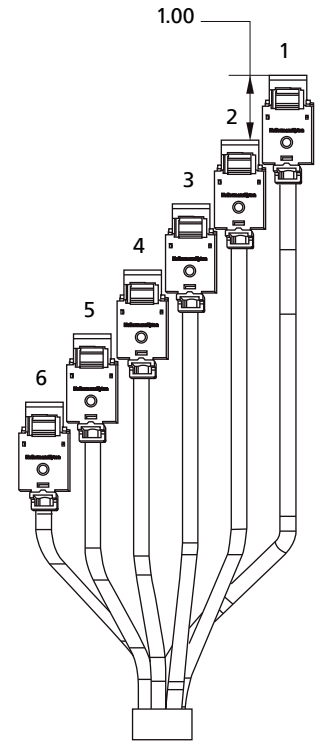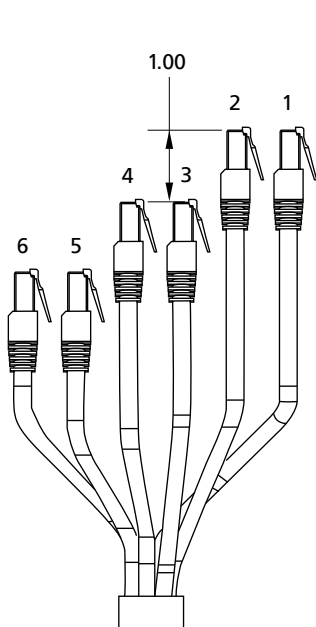T = Plug - Inline

Q = Plug - Pair Stagger Left

56

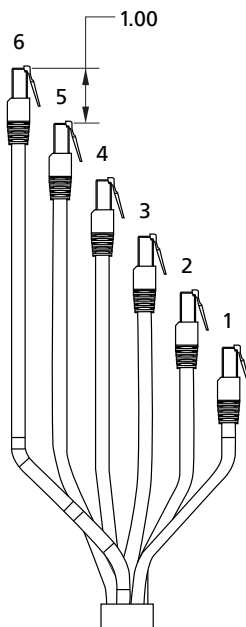J = Jack - Pair Stagger Right
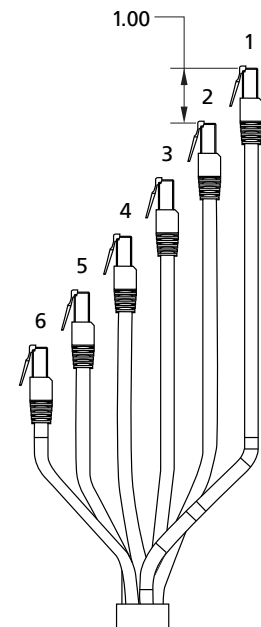
M = Jack - Stagger Left

L = Jack - Stagger Right

P = Plug - Pair Stagger Right

S = Plug - Stagger Left

R = Plug - Stagger Right

SYSTEM WARRANTY

HellermannTyton ensures installation dependability and maximum performance with its 25 Year Network Sciences Warranty program. The Network Sciences Warranty guarantees the consistent quality and performance of HellermannTyton's structured cabling products and installed systems for 25 years. The 25 year warranty covers the copper and fiber connectivity products and cable, ensuring system performance in accordance with the current TIA standards.

The 25 Year Network Sciences Warranty is only offered through HellermannTyton Certified Installers. These Certified Installers have been trained and successfully passed the required exams to install a Network Sciences warranted system. HellermannTyton Certified Installers are the essential connection between HellermannTyton connectivity products and the design, installation, testing, and maintenance of a structured cabling system.

PROJECT CERTIFICATIONS

LINK WARRANTY*

- Use HellermannTyton connectivity products
- Use approved horizontal cable
- Permanent Link test required with approved tester

RAPIDNET LINK WARRANTY*

- Use HellermannTyton copper and/or fiber RapidNet products
- Permanent Link test required with approved tester
- For project certification, one port per cassette must be tested to TIA-568B standards with an approved tester

* The Permanent Link is defined as all the horizontal cabling between the Telecommunications Room (TR) and Work Area. This includes cable, modular jacks, patch panels, and an optional consolidation point. The maximum length that the horizontal cabling can be as defined in TIA/EIA-568-B.1 is 90 meters (295 ft.).

CHANNEL WARRANTY**

- Use HellermannTyton connectivity products
- Use approved horizontal cable
- Permanent Link test required with approved tester
- Use only HellermannTyton CAT 6e/CAT 6A patch cords

**The Channel is defined as all the horizontal cabling between the Telecommunications Room (TR) and Work Area with the addition of patch cords at each location. The maximum length of the equipment cord, patch cord, and work area cord shall not exceed 10 meters (33 ft.)

PRODUCT WARRANTY

In addition to a performance warranty, HellermannTyton also offers a lifetime warranty on its connectivity products. This guarantees that products are free of factory defects in material and workmanship.

CORPORATE WARRANTY POLICY

HellermanTyton Products are warranted to be free from defects in material and workmanship at the time sold by us; but our obligation under this warranty and that of the seller is limited to the replacement of the product, and neither we nor the seller are bound by any other warranty, expressed, implied or statutory. Under no circumstances are we or the seller liable for any loss, damage, expenses or consequential damages of any kind arising out of the use or inability to use these products. All are sold with the understanding that the user will test them in actual use and determine their adaptability for the intended uses.

The above warranties and remedies are exclusive and in lieu of all other warranties and remedies whatsoever, expressed or implied, including but not limited to, any implied warranties of merchantability or fitness for a particular purpose which HellermannTyton expressly disclaims.

For more warranty information, go to:
www.hellermann.tyton.com

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LITPDDCS Rev. 3, Printed 03.2017