Chameleon

adapt. perform. deliver.

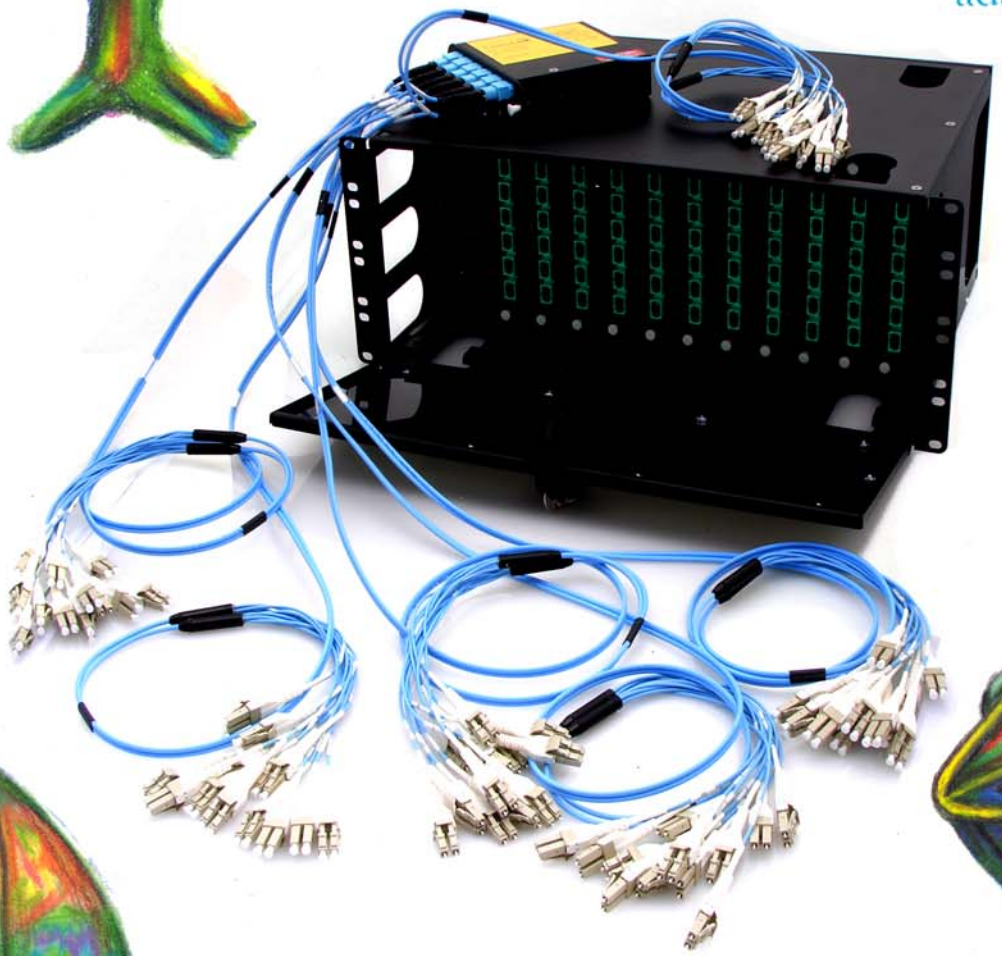
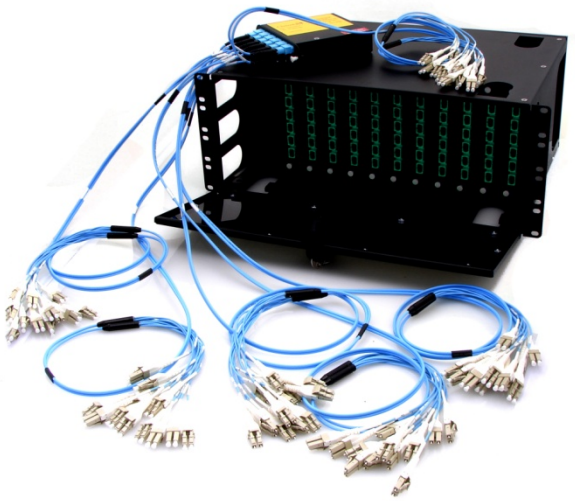


Table of Contents

Product Details

The Chameleon High-Density Fiber Optic Solution

Our modern networking environments, with origins in telephony, have evolved slowly over the last century, from the invention of the telephone in the 1800's to the development of the Ethernet and the introduction of useable fiber optics in the 1970's. These advancements ushered in a technological explosion where even small businesses and individuals began utilizing computers to manage data. This surge in usage correlates with the increased size of datacenters and increased demand for equipment to handle high volume traffic. Many data centers are choked for space and are in need of the next major advance: The Chameleon.



The Chameleon fiber optic solution is a quantum leap in network management designed to provide a high density, low space consumption, cost effective networking solution. The Chameleon features fiber panels that can accommodate standard MTP cassettes, feed through adapter panels, as well as the highest density pre-terminated cassette on the market today. Options also include 6 Port Category 5E Copper Modules and Gigabit Media Converters.

If maximizing space, System/Security Zoning (SSZ), and ease of deployment is your goal, **the Chameleon's 1728 fiber capacity** can achieve those requirements while better controlling the clutter and mess of patch cords and back bone runs. The Chameleon's 144, 96, 72 and 48 fiber cassettes are custom configured for high end data switches, servers and Storage Area Networks (SANs). With up to 1728 available fiber connections per unit, imagine managing two fully loaded high density switches; such as the Force10 C300, the Cisco Catalyst 6500 or the Brocade 48000 Director with just one 4U fiber panel!

We have incorporated ingenuity and leading edge fiber technology to bring a true high density solution to your rack space.

- A fully loaded Chameleon 4RU enclosure can accommodate up to (12) 48 Port Line cards and still provide a total of 24 spare connections.
- Integrated cable management allows for easier and neater installation of trunk cables.
- Our comprehensive selection of cassettes, adaptor panels, and accessories gives users the flexibility to design a solution that meets their needs.
- Keyed cassettes can be incorporated to help ensure System/Security Zoning (SSZ) within the network back bone.

Adapt

The Chameleon works as a standard fiber patching system as well as accepting 6 Port CAT5E modules, 5 Port 10/100 Switches, and 10/100/1000 Media Converters. The Chameleon is **truly a flexible system** that meets a broad spectrum of markets' and customers' needs.

Perform

Performance matters. From the install through the lifetime of the system we feel that high performance is key. That's why all fiber optics manufacturers supply their users with all the necessary component measurements for the installation. The Chameleon takes this attitude a step further with our high volume distribution system. We provide users with not only the component testing data, but also a comprehensive link loss measurement for each fiber in the system. **Performance you can rely on**.

Deliver

Flexibility, reliability, and user friendly design - The Chameleon delivers all of these advantages in a small space effective package.

Come discover the full line of Chameleon networking components and discover how we can help you solve the space problem.

Chameleon Chassis

Product Description

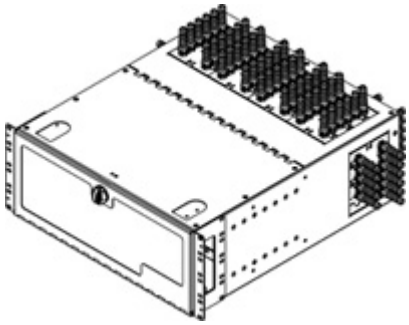
The Chameleon boasts **a maximum fiber density count of 1728 fiber in just one 4U chassis**! That's 1440 more fibers than the leading competition. A fully loaded 4U Chameleon Chassis (12 Slots) can terminate up to (12) 48 Port Line cards and still provide a total of 48 spare fiber per 144 High Density Cassette. Higher Density doesn't mean more clutter. The Chameleon utilizes today's highest density 24 fiber patch cable on the market today with an OD no larger than a traditional 3.0mm fiber patch cable.

The Chameleon works as a standard fiber patching system as well as accepting 6 Port CAT5E modules, 5 Port 10/100 Switches, and 10/100/1000 Media Converters. The Chameleon is truly a flexible system that meets a broad spectrum of markets' and customers' needs.

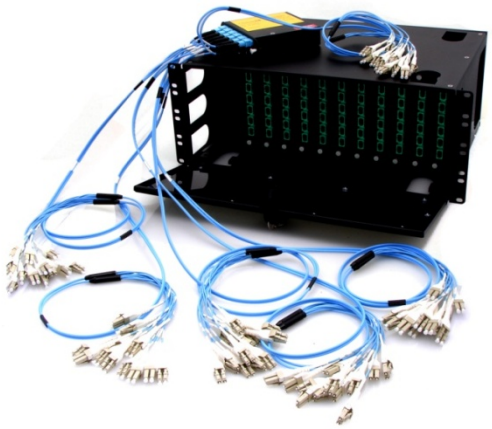
The Chameleon Chassis is the framework for our adaptable modular system. The Chameleon proprietary cable management design gives users the benefits of increased cordage stability while maintaining minimum bend radius. Our sliding tray and removable body panels ease the loading process. Our comprehensive selection of adaptor panels, cassettes, and accessories gives users the flexibility to design the Chameleon to their needs.

Technical Specifications

- Accepts up to (12) Adapter Panels, MTP Brand Cassettes, CAT5E Cassettes, or Media Converters.
- Supports up to (1728) MTP brand, (288) LC (144) SC, ST, or FC fiber optic ports.
- Hinged top
- Horizontal cable entrances on either side as well as top and rear entry
- Integrated cable management system accepts strain relief boots
- Locking front door.
- Compatible with 19" and 23" racks
- Removable/Adjustable mounting ears for flush or center mounting
- Adjustable cassette mounting frame allows both front and rear space optimization for cable management

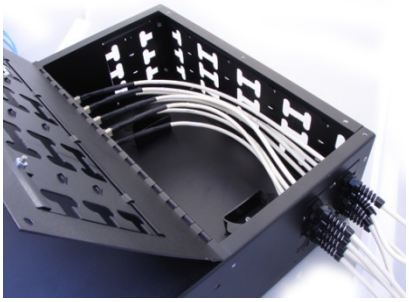


Chassis Details



4U Chassis	
Dimensions:	7.0 h x 17.0 w x 20.0 d (4U)
Weight:	35 lbs (fully Loaded)
Slots:	12 Slots which accept any of the standard fiber panels, MTP Brand Cassettes, Media Converters, Switches, or CAT5E Patching Cassettes
Fiber Count:	1,728 Maximum per Chassis
Copper Count:	72 Maximum per Chassis
Media Converters:	12 Maximum per Chassis
10/100 Switch Ports:	48 10/100 TX and 12 10/100 FX Max.

1U Chassis	
Dimensions:	1.75 h x 17.0 w x 20.0 d (1U)
Weight:	12 lbs (fully Loaded)
Slots:	2 Slots which accept any of the standard fiber panels, MTP Brand Cassettes, Media Converters, Switches, or CAT5E Patching Cassettes
Fiber Count:	288 Maximum per Chassis
Copper Count:	12 Maximum per Chassis
Media Converters:	2 Maximum per Chassis
10/100 Switch Ports:	8 10/100 TX and 12 10/100 FX Max.



High Volume MTP Brand MPO Cassette Modules

Description:

The Chameleon High Volume Cassette Modules (HVCM) take full advantage of the MT multifiber ferrule design. In coordination with our High Volume Backbone Cables and the patent pending Chameleon Patch Cord system, the HVCM eliminates optical crosstalk, maintaining data integrity. Smaller form factors in the trunking and patching system make the enclosure less cluttered and improves airflow to critical systems. **The Chameleon Chassis, when fully loaded with HVCM's can make fiber management and patching a one rack solution.** HVCMs are available in 48, 72, 96, and 144 fiber configurations to suit many applications.

Available High Volume MTP Brand MPO Cassette Modules

144 Fiber High Volume MTP Brand MPO Cassette Module

- Accepts (6) Chameleon patch cords
- Accepts (1) 144 Fiber High Volume Backbone Cable
- 100% Insertion and Return Loss Tested (Results Included)
- 100% Interferometric Tested (Results Included)
- End to End Link Loss tested when purchased as part of the Chameleon Fiber Distribution System

96 Fiber High Volume MTP Brand MPO Cassette Module

- Accepts (4) Chameleon patch cords
- Accepts (1) 96 Fiber High Volume Backbone Cable
- 100% Insertion and Return Loss Tested (Results Included)
- 100% Interferometric Tested (Results Included)
- End to End Link Loss tested when purchased as part of the Chameleon Fiber Distribution System

72 Fiber High Volume MTP Brand MPO Cassette Module

- Accepts (3) Chameleon patch cords
- Accepts (1) 72 Fiber High Volume Backbone Cable
- 100% Insertion and Return Loss Tested (Results Included)
- 100% Interferometric Tested (Results Included)
- End to End Link Loss tested when purchased as part of the Chameleon Fiber Distribution System

48 Fiber High Volume MTP Brand MPO Cassette Module

- Accepts (2) Chameleon patch cords
- Accepts (1) 48 Fiber High Volume Backbone Cable
- 100% Insertion and Return Loss Tested (Results Included)
- 100% Interferometric Tested (Results Included)
- End to End Link Loss tested when purchased as part of the Chameleon Fiber Distribution System

MTP Brand Cassette Details

144-Fiber MTP Brand Cassette			
Dimensions:	4.75 h x 1.25 w x 6.0 d		
Weight:	1 lbs		
Fibers:	144		
Front:	(12) 12 Fiber MTP Brand		
Rear Options:	(2) 72 Fiber MTP	(3) 48 Fiber MTP	(6) 24 Fiber MTP
Fiber Type:	50/125 OM3 Laser Enhanced		
Keying Options:	Non-keyed: Aqua		Keyed: Blue, Green, Red or Yellow

96-Fiber MTP Brand Cassette		
Dimensions:	4.75 h x 1.25 w x 6.0 d	
Weight:	1 lbs	
Fibers:	96	
Front:	(8) 12 Fiber MTP Brand	
Rear Options:	(2) 48 Fiber MTP Brand	(4) 24 Fiber MTP Brand
Fiber Type:	50/125 OM3 Laser Enhanced	
Keying Options:	Non-keyed: Aqua	Keyed: Blue, Green, Red or Yellow

72-Fiber MTP Brand Cassette		
Dimensions:	4.75 h x 1.25 w x 6.0 d	
Weight:	1 lbs	
Fibers:	72	
Front:	(6) 12 Fiber MTP Brand	
Rear Options:	(1) 72 Fiber MTP Brand	(3) 24 Fiber MTP Brand
Fiber Type:	50/125 OM3 Laser Enhanced	
Keying Options:	Non-keyed: Aqua	Keyed: Blue, Green, Red or Yellow

48-Fiber MTP Brand Cassette		
Dimensions:	4.75 h x 1.25 w x 6.0 d	
Weight:	1 lbs	
Fibers:	48	
Front:	(4) 12 Fiber MTP Brand	
Rear Options:	(1) 48 Fiber MTP Brand	(2) 24 Fiber MTP Brand
Fiber Type:	50/125 OM3 Laser Enhanced	
Keying Options:	Non-keyed: Aqua	Keyed: Blue, Green, Red or Yellow

High Volume MTP Brand MPO Backbone Cable

Description:

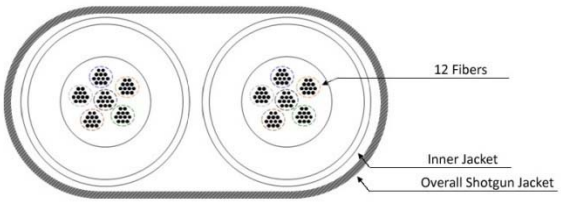
The Chameleon High Volume Backbone Cable provides a high density fiber distribution solution to the space conscious data center manager. As storage solutions and fiber management needs grow, data center space becomes more and more precious. The Chameleon High Volume Backbone Cable provides several configurations that will allow the user to choose the cable that best fits their application.

In our highest volume configurations (144 and 96 fiber trunks), two fiber legs are jacketed together to produce a "shotgun" style construction. This adds to the fiber's flexibility and gives the cable a low profile**. Less bulk means more airflow, more manageability and less space required.**

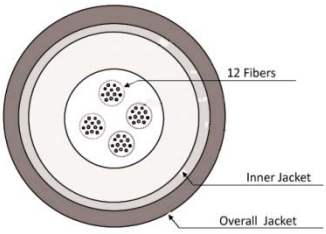
The 72 fiber and 48 fiber trunks draw from industry standard central tube technology.

Each Cable is designed to mate with a Chameleon High Volume Cassette Module for maximum bandwidth. The trunk and cassette modules, when combined with our patent pending Chameleon Patch Cable System, eliminate crosstalk amongst fibers so you can be sure that your data will not be corrupted due to interference.

Cross-Section Diagrams



Diagrammed above is the cross section of the two cables. Each cable jacket has a diameter of 6.3mm, 72 or 48 optical fibers, aramid yarn, and an inner jacket. The assembly measures approximately 14.6mm including the "shotgun" overall jacket.



Diagrammed above is the cross section of a single 48 fiber cable. Each cable jacket has 48 optical fibers, aramid yarn, and an inner jacket. The assembly measures approximately 7.5mm including the overall jacket.

A strain relief module is provided with each 72-fiber branch allowing for easy cable management. The Chameleon chassis allows cables to be fed in from the top, bottom, sides, or the back and secured with brackets engineered especially for this purpose. The brackets isolate the strain relief modules and route the cable directly to the MTP Brand cassettes. Due to the maximum bend radius of the cable, in high-density solutions this configuration is a necessity.

Pictured to the right are the strain relief modules that are prefabricated around the cable. They can be moved along each branch depending on your application. They allow the cable to be distributed with ease while maintaining secure cable routing.

Optical Specs (100% Interferometer Tested):

	72-Fiber (Backbone)		12-Fiber (Distribution)	
Results	**Typical**	**Maximum**	**Typical**	**Maximum**
Insertion Loss	≤ 0.55 dB	≤ 0.80 dB	≤ 0.20 dB	≤ 0.50 dB

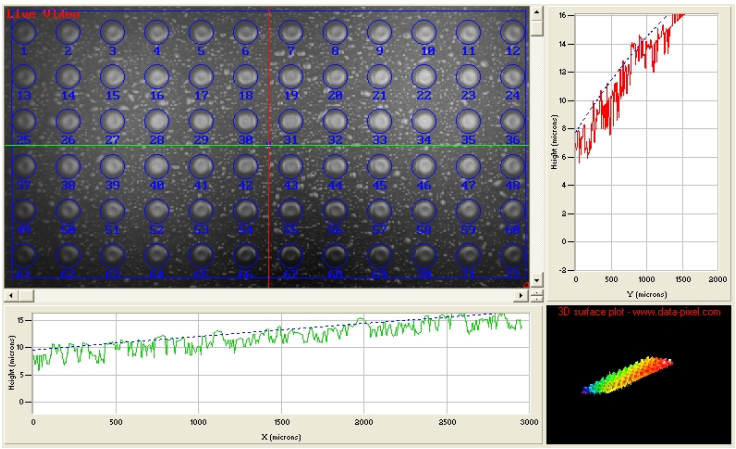
Results included for each serialized assembly.

Sample Reading:

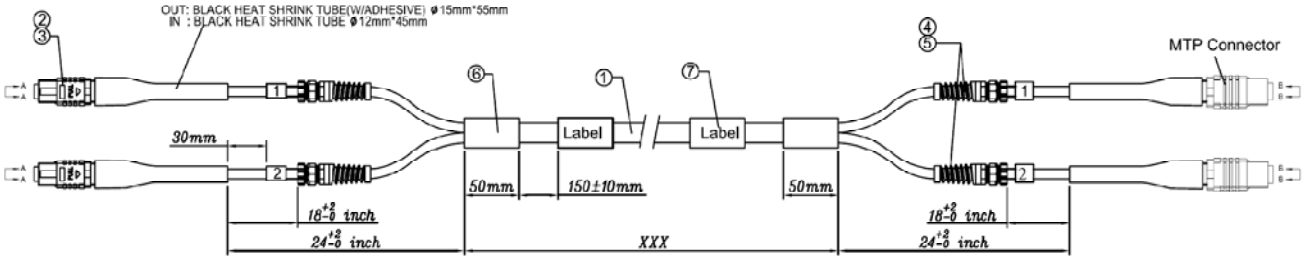
PASS		**Max. Diff. Height All Fib. (nm)**	**645**
X Endface Angle (°)	0.136	**Max. Diff. Height Adj. Fib. (nm)**	357
Y Endface Angle (°)	-0.215	**Flatness Deviation (nm)**	-829
X ROC (mm)	8450	**Max. Core Dip (nm)**	-77
Y ROC (mm)	420	**Valid Pixels Ration (%)**	58

Results may vary.

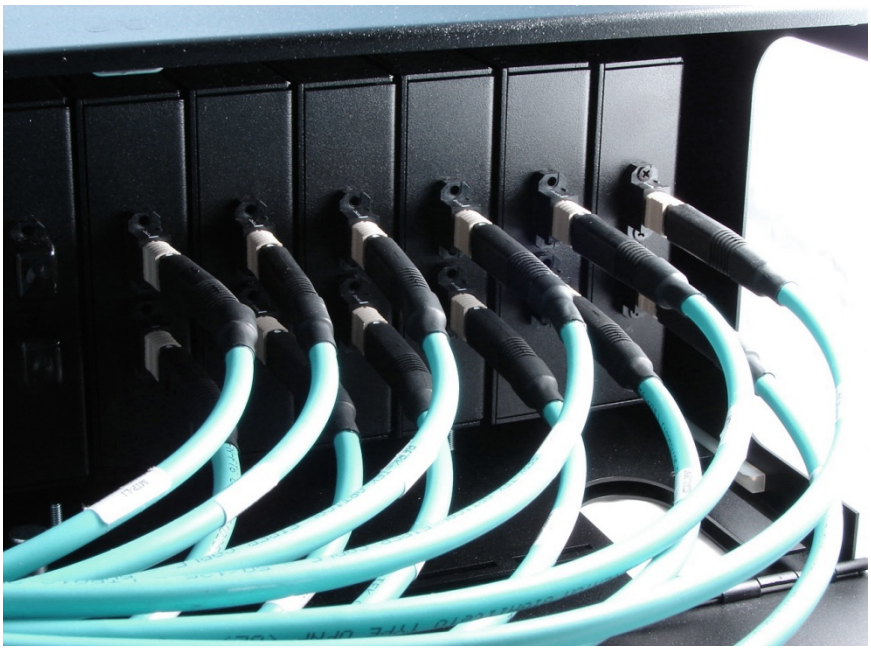
Interferometer Reading for 72-Fiber Cassette Harness



MTP Brand Harness Assembly Drawing

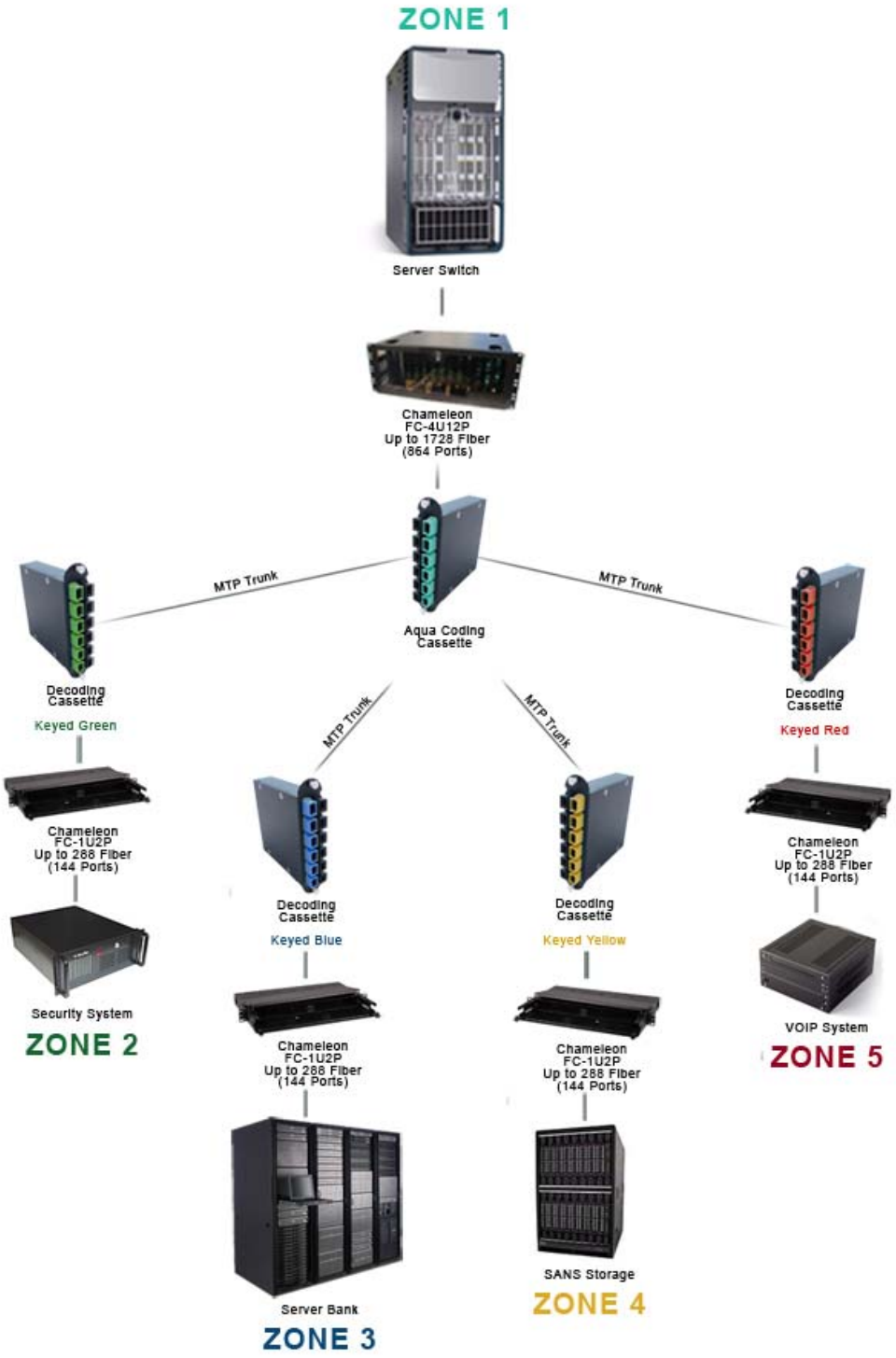


Typical Cable Management Scheme



The above represents typical distribution in the back of the chassis. The strain relief modules for each cable are secured into place on each side using specialized brackets.

Security/System Zoning (SSZ)



Independently Tested

CablesPlus, LLC
Chameleon High Density Fiber Optic Solution

Fiber Optic Test Laboratory
Performance Verification
Insertion Loss, Return Loss and CrossTalk

MET Laboratories, Inc.

914 W. Patapsco Avenue
Baltimore, MD 21230
Tel: 410.354.3300
Fax: 410.354.3313
www.metlabs.com

Test Location: 914 W. Patapsco Avenue
Baltimore, MD 21230
Tel: 410.354.3300
Fax: 410.354.3313

Report Format:
☐ Verizon Format
☐ Client Customized Format
☒ MET Format

Test Plan and Performance Verification
for
Chameleon High Density Fiber Optic Solution
to
Customer Specifications

Prepared for: CablesPlus, LLC
2818-B Hungary Road
Richmond, VA 23228

Prepared by: MET Laboratories, Inc.

Test Plan No.: FO24952

Issued: September 22, 2008

Prepared by: _____
Johnnie Evans, Fiber Optics Lab Manager

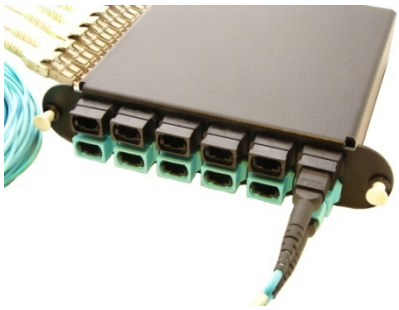
Approved by: _____
Johnnie Evans, Fiber Optics Lab Manager

Reviewed by: _____
Jenn Warnell, TCB Administrator/Documentation

The Chameleon Super High Density 72-fiber MTP brand design exhibits **"no light bleed"** between channels in either NEXT or FEXT testing. The Chameleon maintains signal integrity while providing the user with un-paralleled fiber density. This unique patented design maximizes utilization of fibers within your rack space.

Testing Summary

- Tested to EIA/TIA-455 using FOTP-42, FOTP-107, and FOTP-171.
- Test Sample exceeded insertion loss criteria by more than 0.80dB.
- Test Sample exceeded Return loss criteria by more than 10dB.
- No Crosstalk was exhibited in the tested sample.



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	72-Fiber (Backbone)		12-Fiber (Distribution)	
Results	**Typical**	**Maximum**	**Typical**	**Maximum**
Insertion Loss	≤ 0.55 dB	≤ 0.80 dB	≤ 0.20 dB	≤ 0.50 dB

Results included for each serialized assembly.

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Results may vary.

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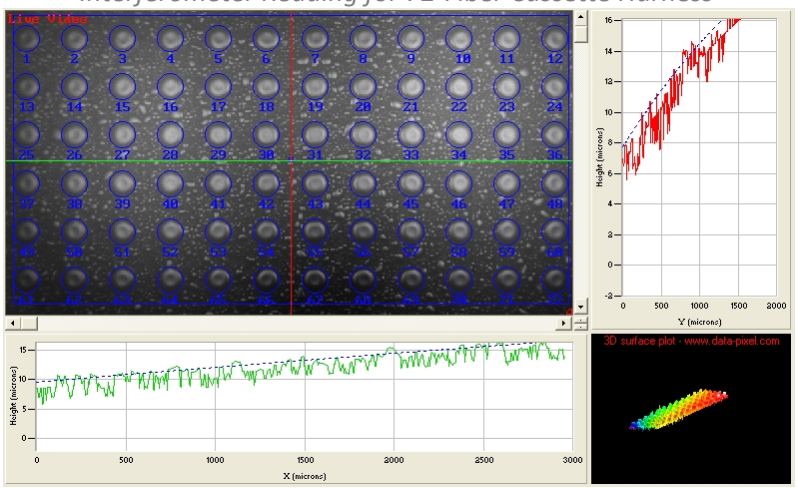


Chameleon
PO Box 28928
Richmond, VA 23228

Phone: 804-672-8426
Fax: 804-672-8427
Email: info@mtp-solutions.com

Certified MTP Brand End-To-End Testing:

Most fiber optic cabling products are tested for insertion loss and return loss on the component level. In order to give our customers the best possible product, **the Chameleon takes testing one step farther by performing a total link test**. Each full link is tested as a completed assembly with each system link being tested for Insertion Loss and polarity verification. This final testing ensures a repeatable test result in the field. Each component is serialized and labeled in the order that they were tested for ease of installation. And the customer is provided with a Certificate of Conformance with each set of cassettes, patch cables and backbone cable.

Sample Certificate

Typical End to End Solution

@850nm = **1.98db**-average loss across 10 connectors
@1300nm = **1.79db**-average loss across 10 connectors

Packaging Specs:

Each Chameleon High Density cassette comes with its own set of tested and verified MTP Brand – LC patch cables. Additionally each Chameleon system ships with the Cassettes, Backbone Harness and patch cables all packaged as a total link to help ensure field installation and performance reliability. Cable harnesses are shipped on wooden reels or standalone depending on the length of the cable. The connectors are held securely in the top portion of the reel to ensure that they won't be damaged in transit.

Each shipment will include:

(1) High Volume Backbone Cable and
(1) High Volume MTP Brand MPO Cassette Modules Keyed to Encode
(1) High Volume MTP Brand MPO Cassette Modules Keyed to Decode
(6) Chameleon MTP Brand MPO Patch Cables Keyed to Encode*
(6) Chameleon MTP Brand MPO Patch Cables Keyed to Decode*

*Packaging specs use the 144 fiber configuration as an example. Lower fiber counts will be shipped with less patch cables.

24-Fiber MTP Brand to LC Cassettes

Multimode 62.5/125 Cassette

Dimensions:	4.75 h x 1.25 w x 6.0 d
Weight:	1 lbs
Fibers:	24 Total
Front:	(6) LC-Quad (4-Fiber)
Rear:	(2) MTP Brand (12-Fiber)
Fiber Type:	Multimode 62.5/125

The 24-Fiber MTP Brand to LC Cassette is built specifically for high-density data solutions. Two 12-fiber MTP Brand connectors (backbone) are plugged into the rear of the cassette. In the front of the cassette are six 4-fiber feed-thru LC Quad couples for your patching. Inside the cassette are two unique 12-fiber harnesses with one 12-fiber MTP Brand connector in the back breaking out to 12 LC connectors in the front for a total of 24 connections.

Multimode 50/125 10 Gig Cassette

Dimensions:	4.75 h x 1.25 w x 6.0 d
Weight:	1 lbs
Fibers:	24 Total
Front:	(6) LC-Quad (4-Fiber)
Rear:	(2) MTP Brand (12-Fiber)
Fiber Type:	Multimode 50/125 10 Gig LOMMF

The 24-Fiber MTP Brand to LC 50/125 10 Gig Cassette is perfect for high-density data solutions. Two 12-fiber MTP Brand connectors (backbone) are plugged into the rear of the cassette. In the front of the cassette are six 4-fiber feed-thru LC Quad couples for patching. Inside the cassette are two unique 12-fiber harnesses with one 12-fiber MTP Brand connector in the back breaking out to 12 LC connectors in the front for a total of 24 connections.

Singlemode 9/125 Cassette

Dimensions:	4.75 h x 1.25 w x 6.0 d
Weight:	1 lbs
Fibers:	24 Total
Front:	(12) SC-Duplex (2-Fiber)
Rear:	(2) MTP Brand (12-Fiber)
Fiber Type:	Singlemode 9/125

The 24-Fiber MTP Brand to LC Cassette is built specifically for low-density data solutions. Two 12-fiber MTP Brand connectors (backbone) are plugged into the rear of the cassette. In the front of the cassette are twelve 2-fiber feed-thru LC Duplex couplers for patching. Inside the cassette are two unique 12-fiber harnesses with one 12-fiber MTP Brand connector in the back breaking out to 12 LC connectors in the front for a total of 24 connections.

12-Fiber MTP Brand to LC Cassettes

Multimode 62.5/125 Cassette

Dimensions:	4.75 h x 1.25 w x 6.0 d
Weight:	1 lbs
Fibers: Front: Rear: Fiber Type:	12 Total (6) LC-Duplex (2-Fiber) (1) MTP Brand (12-Fiber) Multimode 62.5/125

The 12-Fiber MTP Brand to LC Cassette is built specifically for high-density data solutions. One 12-fiber MTP Brand connector (backbone) is plugged into the rear of the cassette. In the front of the cassette are six 2-fiber feed-thru LC Duplex couplers for patching. Inside the cassette is one unique 12-fiber harness with one 12-fiber MTP Brand connector in the back breaking out to 12 LC connectors in the front for a total of 12 connections.

Multimode 50/125 10 Gig Cassette

Dimensions:	4.75 h x 1.25 w x 6.0 d
Weight:	1 lbs
Fibers: Front: Rear: Fiber Type:	12 Total (6) LC-Duplex (2-Fiber) (1) MTP Brand (12-Fiber) Multimode 50/125 10 Gig LOMMF

The 12-Fiber MTP Brand to LC 50/125 10 Gig Cassette is built specifically for high-density data solutions. One 12-fiber MTP Brand connector (backbone) is plugged into the rear of the cassette. In the front of the cassette are six 2-fiber feed-thru LC Duplex couplers for patching. Inside the cassette is one unique 12-fiber harness with one 12-fiber MTP Brand connector in the back breaking out to 12 LC connectors in the front for a total of 12 connections.

Singlemode 9/125 Cassette

Dimensions:	4.75 h x 1.25 w x 6.0 d
Weight:	1 lbs
Fibers: Front: Rear: Fiber Type:	12 Total (6) SC-Duplex (2-Fiber) (1) MTP Brand (12-Fiber) Singlemode 9/125

The 12-Fiber MTP Brand to LC Cassette is built specifically for low-density data solutions. One 12-fiber MTP Brand connectors (backbone) is plugged into the rear of the cassette. In the front of the cassette are six 2-fiber feed-thru LC Duplex couplers for patching. Inside the cassette is one unique 12-fiber harness with one 12-fiber MTP Brand connector in the back breaking out to 6 LC connectors in the front for a total of 24 connection.

24-Fiber MTP Brand to SC Cassettes

Multimode 62.5/125 Cassette

Dimensions:	4.75 h x 1.25 w x 6.0 d
Weight:	1 lbs
Fibers: Front: Rear: Fiber Type:	12 Total (6) SC-Duplex (2-Fiber) (1) MTP (12-Fiber) Multimode 62.5/125

The 12-Fiber MTP Brand to SC Cassette is built specifically for low-density data solutions. One 12-fiber MTP Brand connector (backbone) is plugged into the rear of the cassette. In the front of the cassette are six 2-fiber feed-thru SC Duplex couplers for patching. Inside the cassette is one unique 12-fiber harness with one 12-fiber MTP Brand connector in the back breaking out to 6 SC or LC connectors in the front.

Multimode 50/125 10 Gig Cassette

Dimensions:	4.75 h x 1.25 w x 6.0 d
Weight:	1 lbs
Fibers: Front: Rear: Fiber Type:	12 Total (6) LC-Duplex (2-Fiber) (1) MTP Brand (12-Fiber) Multimode 50/125 10 Gig LOMMF

The 12-Fiber MTP Brand to SC Cassette is built specifically for low-density data solutions. One 12-fiber MTP Brand connector (backbone) is plugged into the rear of the cassette. In the front of the cassette are six 2-fiber feed-thru SC Duplex couplers for patching. Inside the cassette is one unique 12-fiber harness with one 12-fiber MTP Brand connector in the back breaking out to 6 SC or LC connectors in the front.

Singlemode 9/125 Cassette

Dimensions:	4.75 h x 1.25 w x 6.0 d
Weight:	1 lbs
Fibers: Front: Rear: Fiber Type:	12 Total (6) SC-Duplex (2-Fiber) (1) MTP Brand (12-Fiber) Singlemode 9/125

The 12-Fiber MTP Brand to SC Cassette is built specifically for low-density data solutions. One 12-fiber MTP Brand connector (backbone) is plugged into the rear of the cassette. In the front of the cassette are six 2-fiber feed-thru SC Duplex couplers for patching. Inside the cassette is one unique 12-fiber harness with one 12-fiber MTP Brand connector in the back breaking out to 6 SC or LC connectors in the front.

CAT5E Cassette

Dimensions:	4.75 h x 1.25 w x 6.0 d
Weight:	1 lbs
Copper Ports: Front: Rear:	(6) CAT5E Standard or Shielded (6) RJ45 CAT5E (1) RJ21 Telco

This Category 5e cassette comes completely certified and tested to TIA/EIA specifications. It has 6 RJ45 ports in the front and one 25-pair Telco connection in the back. Rated to 350MHz. This solution is intended to go from one Chameleon chassis to the other utilizing 2 cassettes and 1 Telco RJ21 backbone cable. RJ45 patch cables can be used in the front to go to switches, patch panels, servers, modems, etc

10/100/1000 Media Converter

Web Smart 10/100/1000Base-T to 1000Base-X Gigabit Media Converter

Network Ports:	1 x Shielded RJ-45, 10/100/1000Mbps, Full/half duplex Auto-negotiation, Auto-MDI/MDI-X 1 x SFP connector with pre-configured SFP fiber transceiver, 1000Mbps full duplex, Auto-negotiation, Far End Fault support
Standards:	IEEE 802.3, 802.3u, 802.3ab, 802.3z
Management:	

Product Description

The KGC-310M is a managed Gigabit Media Converter which features a 10/100/1000M copper port and mini-GBIC (SFP) port.

Technical Specifications

- Tri-speed 10/100/1000Mbps copper to 1000M fiber conversion
- Comply with IEEE 802.3, 802.3u, 802.3ab, 802.3z standard
- Support full wire speed conversion for Gigabit copper to Gigabit fiber
- Support auto-negotiation with link partners
- Provide SFP on fiber port for mounting variety of fiber options
- Provide loop back test function with link partner over fiber link
- Provide monitoring function for remote link partner's copper link status
- Support optional Din-Rail installation
- Support center chassis installation to achieve the advantages of central power, optional power redundancy and network management
- Ideal solution for multimode, short reach up to long reach single mode fiber, Bi-Di applications
- Web-based configuration management support
- Port operating mode, flow control and status monitoring functions
- Tagged or untagged packet filtering
- 802.1Q VLAN tag stripping and tagging
- Support Q-in-Q application with double tag capability
- Quality of Service (QoS) function with 8021.p, DSCP priority classifications
- Supports SNMP trap for port link change

10/100 Switch Cassette

Web Smart Managed 4-Port 10/100 Fast Ethernet Switches with 1 Fiber Connection

Power:	DC In Power: Rating +7.5V min. 1A Operating voltage: +6.5V ~ +12.5VDC (Device DC Input) Consumption: 7 watts. (max.)
Dimension	144 X 100 X 26 mm
Network Ports:	4 X 10/100BASE-TX 1 X 100BASE-FX
Standards:	IEEE 802.3, 802.3u, 802.3x, 802.1Q
Management:	In-band : Web

Product Description

This is a smart managed switch. It is easy for user to configure the setting of each port and VLAN Function by Web management.

Technical Specifications

- Each TP port supports auto-negotiation and auto-MDI/MDI-X detection
- Support full/half-duplex operation for each TP switched port
- Support a variety of fiber connectors such as ST, SC, MTRJ, VF-45 and LC
- Multimode and singlemode fiber cables (model dependent)
- Web-based interface for easy management
- Static IP or DHCP supports for IP configuration
- Port status and configuration
- VLAN configuration
- Security check for management login

Fiber Adapter Panels

Description

The Chameleon high-density patching solution has the ability to essentially **morph into what you need it to be**. From small office networks to large datacenters, the Chameleon has the components you need to satisfy any networking application. We have adapter panels for each major fiber connector: ST, SC, MTRJ, FC, LC, and MTP Brand, from 6 up to 144-fiber solutions in each panel. They are supplied with your choice of Blue adapters for Singlemode and Multimode 62.5/125 applications, and Aqua adapters for laser-optimized Multimode 50/125 10 Gig applications.

MTP Brand Adapter Panels

Here is where the Chameleon really makes its mark with high-density solutions. Each MTP Brand feed-through coupler can facilitate **up to 72-fibers** if the need for such an application arises.

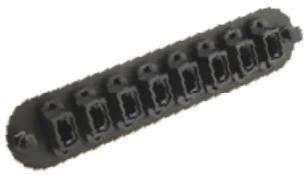
MTP Brand 4 Port Panel

This adapter panel houses 4 MTP Brand feed-through couplers for 4, 12-fiber to 72-fiber MTP Brand cables giving you a potential total of 48 to ***288*** fibers. Each adapter panel has dust caps on each side to provide protection from airborne particles that can damage your connectors.

MTP Brand 6 Port Panel

This adapter panel houses 6 MTP Brand feed-through couplers for 6, 12-fiber to 72-fiber MTP Brand cables giving you a potential total of 72 to ***432*** fibers. Each adapter panel has dust caps on each side to provide protection from airborne particles that can damage your connectors.

MTP Brand 8 Port Panel



This adapter panel houses 8 MTP Brand feed-through couplers for 8, 12-fiber to 72-fiber MTP Brand cables giving you a potential total of 96 to ***576*** fibers. Each adapter panel has dust caps on each side to provide protection from airborne particles that can damage your connectors.

MTP Brand 12 Port Panel

This adapter panel houses 12 MTP Brand feed-through couplers for 12, 12-fiber to 72-fiber MTP Brand cables giving you a potential total of 144 to ***864*** fibers. Each adapter panel has dust caps on each side to provide protection from airborne particles that can damage your connectors.

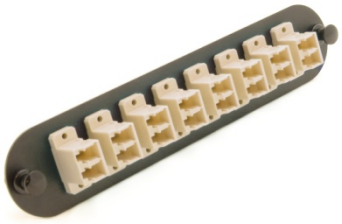
LC Adapter Panels

LC 12 Port Panel

This unique adapter panel can house 6 LC Duplex feed-through couplers for 6 Duplex or 12 Simplex fiber optic cables giving you a total of 12 fibers to connect. LC adapter panels have optional Blue or Aqua couplers for 10 Gigabit Multimode 50/125 applications. Each adapter panel has dust caps on each side to provide protection from airborne particles that can damage your connectors.

LC 16 Port Panel

This unique adapter panel can house 8 LC Duplex feed-through couplers for 8 Duplex or 16 Simplex fiber optic cables giving you a total of 16 fibers to connect. Each adapter panel has dust caps on each side to provide protection from airborne particles that can damage your connectors.



LC 24 Port Panel

This unique adapter panel can house 6 LC Quad feed-through couplers for 12 Duplex fiber optic cables giving you a total of 24 fibers to connect. Each adapter panel has dust caps on each side to provide protection from airborne particles that can damage your connectors.

ST Adapter Panels

ST 6 Port Panel

This 6 port adapter panel can be loaded with 6 ST feed-through couplers to pair 3 Duplex or 6 Simplex fiber optic cables giving you a total of 6 fibers to connect.

ST 8 Port Panel

This 8 port adapter panel can be loaded with 8 ST feed-through couplers to pair 4 Duplex or 8 Simplex fiber optic cables giving you a total of 8 fibers to connect. Each adapter panel has dust caps on each side to provide protection from airborne particles that can damage your connectors.

ST 12 Port Panel

This 12 port adapter panel can be loaded with 12 ST feed-through couplers to pair 6 Duplex or 12 Simplex fiber optic cables giving you a total of 12 fibers to connect. Each adapter panel has dust caps on each side to provide protection from airborne particles that can damage your connectors.

FC Adapter Panels

FC 6 Port Panel

This 6 port adapter panel can be loaded with 6 FC feed-through couplers to pair 3 Duplex or 6 Simplex fiber optic cables giving you a total of 6 fibers to connect. Each adapter panel has dust caps on each side to provide protection from airborne particles that can damage your connectors.

FC 8 Port Panel

This 8 port adapter panel can be loaded with 8 FC feed-through couplers to pair 4 Duplex or 8 Simplex fiber optic cables giving you a total of 8 fibers to connect. Each adapter panel has dust caps on each side to provide protection from airborne particles that can damage your connectors.

FC 12 Port Panel

This 12 port adapter panel can be loaded with 12 FC feed-through couplers to pair 6 Duplex or 12 Simplex fiber optic cables giving you a total of 12 fibers to connect. Each adapter panel has dust caps on each side to provide protection from airborne particles that can damage your connectors.

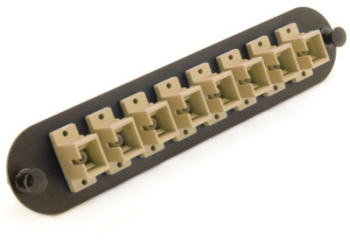
SC Adapter Panels

SC 6 Port Panel

This unique adapter panel can house 6 SC Simplex feed-through couplers for 3 Duplex or 6 Simplex fiber optic cables giving you a total of 6 fibers to connect. SC adapter panels can be optioned with Aqua couplers for 10 Gigabit Multimode 50/125 applications. Each adapter panel has dust caps on each side to provide protection from airborne particles that can damage your connectors. *Note: If using with SC Duplex cables, you'll need to remove the housing first before inserting the connectors.*

SC 8 Port Panel

This unique adapter panel can house 8 SC Simplex feed-through couplers for 4 Duplex or 8 Simplex fiber optic cables giving you a total of 8 fibers to connect. Each adapter panel has dust caps on each side to provide protection from airborne particles that can damage your connectors. *Note: If using with SC Duplex cables, you'll need to remove the housing first before inserting the connectors.*



SC 12 Port Panel

This unique adapter panel can house 6 SC Duplex feed-through couplers for 6 Duplex fiber optic cables giving you a total of 12 fibers to connect. Each adapter panel has dust caps on each side to provide protection from airborne particles that can damage your connectors.

Ordering Information

Chameleon Chassis Part Numbering

FC-4U12P	**4U 12-Panel Chassis**
FC-1U2P	**1U 2-Panel Chassis**
FC-2U4P	**2U 4-Panel Chassis**
FC-3U6P	**3U 6-Panel Chassis**

High Density MTP Brand Cassettes Part Numbering

TB- □□□ - □□□ - □ - □□ - □□

1 **2** **3** **4** **5**

Use the following options to construct the part number:

1 **FRONT*: Select the number of fibers:**

144 = 144-Fibers
096 = 96-Fibers
072 = 72-Fibers
048 = 48-Fibers

2 **BACK*: Select the number of fibers:**

144 Fiber Cassette
272 = (2) 72 Strand MTP (144 Fiber)
348 = (3) 48 Strand MTP (144 Fiber)
624 = (6) 24 Strand MTP (144 Fiber)
96 Fiber Cassette
248 = (2) 48 Strand MTP (96 Fiber)
424 = (4) 24 Strand MTP (96 Fiber)
72 Fiber Cassette
172 = (1) 72 Strand MTP (72 Fiber)
324 = (3) 24 Strand MTP (72 Fiber)
48 Fiber Cassette
148 = (1) 48 Strand MTP (48 Fiber)
224 = (2) 24 Strand MTP (48 Fiber)

3 **Select coding or decoding cassette:**

C=Coding

D=Decoding

4 **Select Color:**

Coding
AQ = Aqua

Decoding
RD = Red
BL = Blue
GR = Green
YL = Yellow

5 **Select patch cable length:**

Example:
24 = 24 Inch
48 = 48 Inch

***-Cassette front fiber count must match rear fiber count.**

EX: TB-096-248-D-GR-24 = 96-Fiber High Density MTP Brand Green Decoding Cassette with (2) 48 Strand MTP Fiber Rear Connectors and 24" patch cables.

MTP Brand Backbone Harness Part Numbering

VFVF- □□□ H □ IL □□□□ -2-s
1 2 3

Use the following options to construct the part number:

1 Select the number of fibers:

144 = 144-Fibers
072 = 72-Fibers

2 Select the fiber type:

0 = 50/125 OMB
5 = 5/125 Standard
6 = 62.5/125 Standard
9 = 9/12 Singlemode

3 Select Length:

Example:
0500 = 500 ft.
1000 = 1000 ft.

EX: VFVF-144H5IL0500-2-s = 500 ft. 144-Fiber MTP Brand 5/125 Standard Backbone Harness

Standard MTP Brand Cassettes Part Numbering

TB-12B09	**MTP Brand Cassette Module 12 Port SC Singlemode 9/125**
TB-12B62	**MTP Brand Cassette Module 12 Port SC Multimode 62.5/125**
TB-12BX5	**MTP Brand Cassette Module 12 Port SC Multimode 50/125 10 Gig**
TB-12F09	**MTP Brand Cassette Module 12 Port LC Singlemode 9/125**
TB-12F62	**MTP Brand Cassette Module 12 Port LC Multimode 62.5/125**
TB-12FX5	**MTP Brand Cassette Module 12 Port LC Multimode 50/125 10 Gig**
TB-24F09	**MTP Brand Cassette Module 24 Port LC Singlemode 9/125**
TB-24F62	**MTP Brand Cassette Module 24 Port LC Multimode 62.5/125**
TB-24FX5	**MTP Brand Cassette Module 24 Port LC Multimode 50125 10 Gig**

Electronic Cassettes Part Numbering

TB-MC	**10/100/1000 Media Converter**
TB-SWITCH2	**10/100 Switch Cassette**

Adapter Panel Part Numbering

TA-12B	Loaded Adapter Panel SC DM SM/MM 12 Port
TA-12BA	**Loaded Adapter Panel SC DM SM/MM 12 Port Aqua**
TA-12E	**Loaded Adapter Panel FC 12 Port SM/MM**
TA-12F	**Loaded Adapter Panel LC Duplex 12 Port, SM/MM Blue**
TA-12FA	**Loaded Adapter Panel LC Duplex 12 Port, SM/MM Aqua**
TA-12G	**Loaded Adapter Panel MTP 12 Port, MM/SM**
TA-16F	**Loaded Adapter Panel LC Duplex 16 Port, SM/MM Blue**
TA-16FA	**Loaded Adapter Panel LC Duplex 16 Port, SM/MM Aqua**
TA-24F	**Loaded Adapter Panel LC Quad 24 Port, SM/MM Blue**
TA-24FA	**Loaded Adapter Panel LC Quad 24 Port, SM/MM Aqua**
TA-04G	**Loaded Adapter Panel MTP 4 Port, MM/SM**
TA-06A	**Loaded Adapter Panel ST 6 Port**
TA-06B	**Loaded Adapter Panel SC SX, SM/MM 6 Port Blue**
TA-06BA	**Loaded Adapter Panel SC SX, SM/MM 6 Port Aqua**
TA-06C	**Loaded Adapter Panel MTRJ 8 Port (16 Fiber)**
TA-06E	**Loaded Adapter Panel FC 6 Port, SM/MM**
TA-06G	**Loaded Adapter Panel MTP 6 Port, MM/SM**
TA-08A	**Loaded Adapter Panel ST 8 Port, SM/MM**
TA-08B	**Loaded Adapter Panel SC SX 8 Port, SM/MM**
TA-08BA	**Loaded Adapter Panel SC SX 8 Port, SM/MM Aqua**
TA-08E	**Loaded Adapter Panel FC 8 Port, SM/MM**
TA-08G	**Loaded Adapter Panel MTP 8 Port, MM/SM**
TA-12A	**Loaded Adapter Panel ST 12 Port, SM/MM Blue**

CAT5E Cassette Part Numbering

TB-CAT5E- □□□
1

Use the following options to construct the part number:

1 **Select the connector housing color:**

BLU = Blue
BLK = Black
GRY = Gray
GRN = Green
YEL = Yellow
ORG = Orange
WHT = White
IVY = Ivory
VIO = Violet

EX: TB-CATE-BLK = CAT5E Cassette with black connector housing

CAT5E 25 Pair Power Sum Compliant Cable Part Numbering

TB-25M110- □□□ **L5-** □ □□□□
1 **2** **3**

Use the following options to construct the part number:

1 **Select the length:**

Example:
050 = 500 ft.
100 = 1000 ft.

2 **Select the connector type:**

M = Male
F = Female
B = Blunt

3 **Select angle:**

090 = 90°
110 = 110°
180 = 180°

EX: TB-25M110-050L5-M110 = 50 ft. CAT5E 25 Pair Power Sum Compliant Cable with male connector at 110°

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