

# Response to State of West Virginia Department of Administration Office of Technology Request for Quotation for ISCH0263

### **Pomeroy IT Solutions**

Michael A. Ferrari 4013 Washington St., W Charleston WV 25315

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### **Corporate Office**

1020 Petersburg Road Hebron, Kentucky 41048 Phone: 859.586.1515 Fax: 859.586.4414

Homepage: www.pomeroy.com

Federal Tax ID: 31-1227808

### **Delivery Information**

Deliver one (1) signed original and one (1) electronic copy of the proposal on CD.

Ship to:

Purchasing Division 2019 Washington Street, East P.O. Box 50130 Charleston, WV 25305-0130

Outside of the envelope or package(s) must be clearly marked:

Buyer:

Krista Ferrell-File 21

Reg#:

ISCH0263

Opening Date:

07/10/2008

Opening Time:

1:30pm

RECEIVED

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FURCHASING DIVISION STATE OF WV



July 9, 2008

State of West Virginia
Department of Administration
Purchasing Division
2019 Washington Street, East
P.O. Box 50130
Charleston, WV 25305-0130

### Dear Ms. Ferrell:

Pomeroy IT Solutions is pleased to submit this response to the State of West Virginia Department of Administration Office of Technology for Request for Quotation for ISCH0263.

Pomeroy is an information technology solutions provider with comprehensive portfolio of consulting, infrastructure, and lifecycle services. Our mission is to provide customers with increased efficiencies, decreased costs, and the ability to maximize their existing IT investments. We are committed to our customers, our employees, and our shareholders and aim to consistently meet and exceed their expectations.

- Consulting Services Pomeroy's consultants combine the best strategy, people, and technologies to help clients achieve their goals and solve their business problems.
- Infrastructure Services Pomeroy provides solutions for storage, servers, security, and LANs you need. We have the technology and expertise in place to help build and maintain your infrastructure.
- Lifecycle Services Pomeroy provides the entire technology lifecycle from product procurement and development to deployment, ongoing user support and asset tracking. We currently provide help desk services to over sixty different clients. We also provide end of life services included disposal through EPA approved firms.

Pomeroy focuses on providing services and products to public agencies and corporations by providing one-stop, total IT solutions provider for small, medium and large customers. Our combined staff has considerable experience working with state and local governments as well as IT staffs in private corporations. Our collaborative approach facilitates an interactive and communicative partnership with our clients.

Please feel free to contact us immediately if you have any questions or need any additional information.

Sincerely,

**Pomeroy IT Solutions** 

Government and Education Account Executive

800.227.8798 x114



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# **Pomeroy Overview**

Pomeroy IT Solutions (Pomeroy) is excited to furnish the following proposal to the State of West Virginia.

For purposes of this Executive Overview, our emphasis is to highlight key differentiators that we believe separate us from all other potential cabling providers.

- Stability a reliable partner
- Scalability when your business needs changes
- Culture the bases for success
- Capabilities lifecycle services is our core competency
- Qualified Technical Staff employee satisfaction leads to high performance
- National Coverage we can grow with our customers

### Stability - a reliable partner

Pomeroy's strong balance sheet provides independence, security and investment options. In light of the sometimes tumultuous technology industry, this speaks to our operating disciplines and to our commitment to be a reliable partner to our clients. We honor our clients' trust by conducting our business in a manner that assures that their trust is well-placed.

- Access to \$100M credit facility
- No interest-bearing debt

### Scalability - When your business needs changes

Pomeroy offers a full range of IT professional services along with comprehensive product sourcing from all of the top-tier manufacturers.

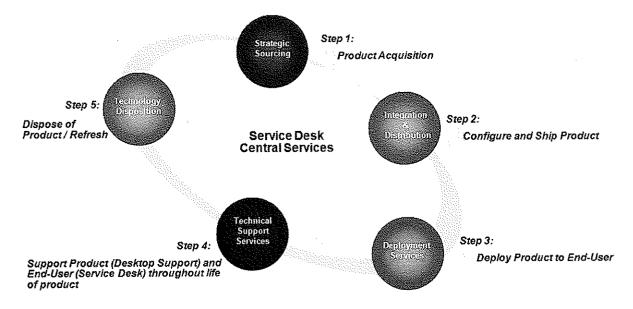
### Culture - The basis for success

Ultimately, the success of any partnership comes down to the fundamental essence of the organization with which you do business. At Pomeroy, we believe that failure is not an option, we pride ourselves on being easy to do business with, we have a passion for service, and our word is our commitment. While we believe that our processes, capabilities, and value are second to none, we believe that the State of West Virginia will not find a better partner for the future. Should we be fortunate enough to earn your business, we will work every day to remind the State that partnering with Pomeroy was a good decision.



### Capabilities - Lifecycle Services is our Core competency

Providing technical support/break-fix and help desk services is a core competency for Pomeroy IT Solutions and our basic business strategy is developed around these services.



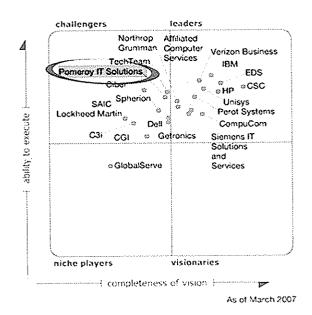
Pomeroy's Lifecycle Services provides support for each step in the management of our client's technology assets throughout their lifecycle. Pomeroy's unique, Gartner recognized, multi-vendor and efficient Technology acquisition and Service delivery processes allows us to deliver these services to our customer's though a staffing or outsourced model.

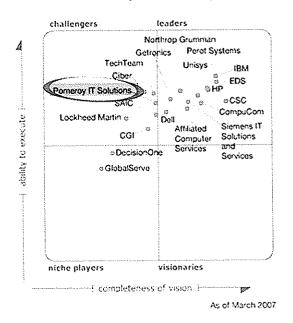


Pomeroy continues to be listed in the Gartner Group Magic Quadrant for Help Desk and Desktop Outsourcing.

### Gartner Help Desk Outsourcing MQ 2007

### Gartner Desktop Outsourcing MQ 2007





\* Magic Quadrant Disclaimer

The Magic Quadrant is copyrighted March 2007 by Gartner, Inc. and is reused with permission. The Magic Quadrant is a graphical representation of a marketplace at and for a specific time period. It depicts Gartner's analysis of how certain vendors measure against criteria for that marketplace, as defined by Gartner. Gartner does not endorse any vendor, product or service depicted in the Magic Quadrant, and does not advise technology users to select only those vendors placed in the "Leaders" quadrant. The Magic Quadrant is intended solely as a research tool, and is not meant to be a specific guide to action. Gartner disclaims all warranties, express or implied, with respect to this research, including any warranties of merchantability or fitness for a particular purpose.

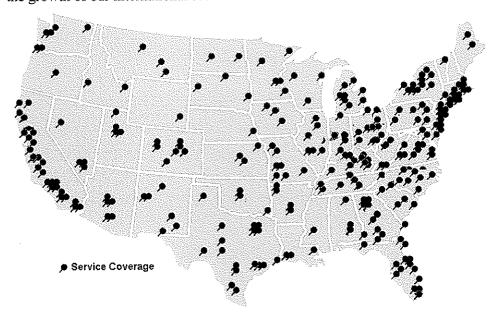
### Qualified Technical Staff - Employee satisfaction leads to high performance

Pomeroy has invested heavily in our service infrastructure and technical resources. Pomeroy has demonstrated the ability to develop and position technicians where core talents are maximized. Because technicians gain experience working with multiple platforms, they are capable of assuming cross platform leadership roles quickly. In many cases, the customer's internal staff is overwhelmed or does not have the experience needed to bring projects and support arrangements to closure. Pomeroy will assist customers from the planning and procedure documentation stage to actual implementation. Our technicians are proficient project managers because of their experience with multiple platforms and numerous customer projects. The Pomeroy Technical Team will draw from years of experience to manage to and deliver upon the service levels as requested within this proposal.



### National Coverage - We can grow with our customers

Pomeroy provides services in all 50 states through our national presence. However, we also believe that it is important to serve clients through our local team accountable for client success and satisfaction. Additionally, we are supporting our global clients through the growth of our international services.

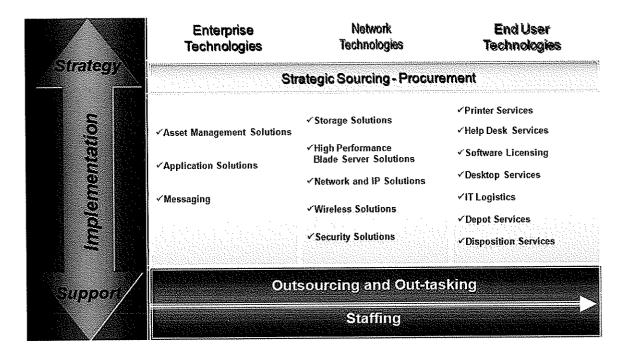


### Pomerov Overview - Manage IT operations on behalf of clients

- National Full Service IT Infrastructure Solutions Provider: (Help Desk, Desktop Support, Technology Acquisition, Staffing, Professional Services)
- We typically save our clients a minimum of 15%-20% in IT Support costs and a minimum of 2% in Technology Acquisition costs.
- Strong Balance sheet. 27 Year History of Successive Growth and Profitability
- Based in Northern, KY (Cincinnati)
- Over 2,800 Technical Employees
- Global Help Desk, North America Field Support
- Gartner Recognized Magic Quadrant (Helpdesk & Desktop Support)
- Partnerships with the World's Leading OEM and Software Providers
- Process Driven
  - World-Class Distribution and Configuration Center Facilities
  - ISO 9001:2000 certified
  - ITIL, Six Sigma, & PMI Certified as well as Numerous OEM Certifications
- Focused on enterprise, end user technologies and inter-networking solutions
  - Help clients better manage IT operations for themselves



Pomeroy focuses on providing services and products to public agencies and corporations by providing one-stop, total IT solutions provider for small, medium and large customers. Our combined staff has considerable experience working with state and local governments as well as IT staffs in private corporations. Our collaborative approach facilitates an interactive and communicative partnership with our clients.



# **RFQ Sections**

# 1.0 Objective

Pomerov has read and understands Section 1.0 - 1.20 of the Request for Quotation.

# 2.0 Qualifications

# 2.1 Project Manager

Pomeroy IT Solutions, Inc. will provide a Project Manager who will act as a single point of contact for all activities regarding this project. The Pomeroy Project Manager will be able to make decisions regarding all aspects of this RFQ. Pomeroy will provide a Project Manager to be on-site any time work is being performed and workers are on-site. The Pomeroy Project Manager will be totally responsible for all aspects of the work and shall have the authority to make immediate decisions regarding implementation or changes to the work.



# 2.2 Construction Manager

Pomeroy IT Solutions, Inc. understands that the WVOT will provide a Construction Manager who shall act as a single point of contact for all activities regarding this project.

# 2.3 Experience

Pomeroy IT Solutions, Inc. has over 25 years experience in the Telecommunications Industry.

# 2.3.1 Experience with Specified Telecommunications Distribution System

Pomeroy IT Solutions, Inc. is fully capable and experienced in the telecommunications distribution system specified. Pomeroy has provided telecommunications designs and installations for the WV Dept. of Education for the last 12 years having installed over 9 million feet of CAT5E and CAT6 Copper and nearly 1.5 million feet of fiber optic cable.

### 2.3.2 Registered Communications Distribution Designer (RCDD)

Pomeroy IT Solutions, Inc. Has a Registered Communications Distribution Designer on staff that oversees all design and installations. Pomeroy company policy dictates that we employ experienced and motivated RCDD's to maintain current standards in training our staff as well as overseeing design and installation. The Pomeroy RCDD is always available before during and after the installation. See Attached Certifications.

### 2.3.3 Unqualified RCDD

Pomeroy IT Solutions, Inc. understands that the WVOT reserves the right to require a change in RCDD if the WVOT feels like the current RCDD is not experienced enough for this project.

# 2.3.4 BICSI Registered Installers and Technicians

Pomeroy IT Solutions, Inc. Employs BICSI Certified as well as Manufacturer Certified Installers and Technicians. Most of Pomeroy Installers and Technicians have been with the company for 10+ years and Pomeroy will maintain an experienced staff on site for the duration of the installation. See Attached Certifications.

# 2.4 References

As a courtesy to our customers, Pomeroy does not publish customer telephone numbers. To arrange a call with the following references, contact your account executive Mike Ferrari at 800.227.8798 x114 to arrange a call with any of the following references.

- Monongalia County, WV, University High School Nancy Napolillo
   13 South High Street Morgantown, WV 26501
- Raleigh County Schools, Woodrow Wilson High and Shady Springs High Mary Ann Foster Raleigh County, WV



 DANA Corporation Julie Begonia
 777 Bible Road Lima, Ohio 45801

# 2.5 Liability and Insurance

Refer to the attached documents:

- Pomeroy Insurance Verification (Certificate of Liability)
- Bid Bond

### 2.5.8 Wage Rates

Pomeroy IT Solutions, Inc. will pay prevailing wages in accordance with the West Virginia Division of Labor's Building and Construction Wage Rates.

# 2.6 Special Conditions

Pomeroy IT Solution, Inc. understands that this Facility provides services to the State of WV and all those having business in the State. Pomeroy understands that activities in all buildings are critical to the provisioning of services and shall not be interrupted by work activities. Pomeroy has read and understands this requirement.

Pomeroy IT Solutions, Inc. understands that the computer and telecommunications systems associated with this work must not be taken off-line or removed from service during normal work hours without Pomeroy first making specific arrangements to coordinate any such activities.

Pomeroy understands that work will have to be performed around all of the conditions listed above, as well as working with the WVOT staff to minimize disruptions to normal customer activities.

# 2.7 Cancellation

Pomeroy IT Solutions, Inc. has read and understands the cancellation provisions of this RFQ.

# 3.0 Installation Guidelines

Pomeroy IT Solutions, Inc. understands that this RFQ includes all equipment, materials, labor and services to provide a complete telecommunications distribution system including testing and documentation in accordance with this RFQ.

3.1 Pomeroy IT Solutions, Inc. understands that all Work performed on this project will be installed in accordance with the most current NFPA, ANSI, NECA, BICSI, TIA, EIA, Local Standards and codes.



- 3.2 Pomeroy will provide materials and installation that will meet or exceed all applicable national, state and the most current NFPA, ANSI, NECA, BICSI, TIA, EIA, Local Standards and codes of Installation.
- 3.3 Pomeroy IT Solutions, Inc. understands that all Work performed on this project will be installed in accordance with the most current NFPA, ANSI, NECA, BICSI, TIA, EIA, Local Standards and codes which includes the BICSI Telecommunications Distribution Methods Manual.
- 3.4 Pomeroy IT Solutions, Inc. understands that all Work performed on this project will be installed in accordance with the most current NFPA, ANSI, NECA, BICSI, TIA, EIA, Federal, State and Local Standards and codes. Any items that may be contrary or in violation of any of these standards or codes will promptly be brought to the attention of the designated State of WV representative both verbally and in writing.

# 4.0 Infrastructure Cable System Description

Pomeroy IT Solutions is proposing a Mohawk/Leviton (NetSync) structured cabling solution for Copper and Fiber Optic cable that is already an approved cabling solution by other State of WV Departments and Divisions.

# 5.0 Grounding

Pomeroy IT Solutions will conform to the NEC 2005 – Article 392.7 grounding and ANSI/TIA/EIA 607(A) – Commercial Building Grounding and Bonding Standards and ANSI/NECA/BICSI – 568B.

Pomeroy IT Solutions will perform the Installation of the TMGB (Telecommunications Main Grounding Bus-bar), and the TGB (Telecommunications Grounding Bus-bar) in accordance with this RFQ.

Pomeroy IT Solutions will bond all Raceway, Racks, Equipment, Housings, and Messenger Cables, to the TGB as stated by the WVOT.

All Grounding and Bonding will be performed utilizing #6AWG Green Insulated Copper Grounding Wire, with proper connectors.

# 6.0 Labeling

Pomeroy IT Solutions will conform to ANSI/TIA/EIA 606(a). And provide the Following.

Machine Printed labels with 1" high black lettering on white background.

Labels will be Placed on the Cables at a minimum of every 20'.

# 7.0 As-Built Drawings

Pomeroy has read and understands this requirement and will provide 3 Auto CAD, asbuilt drawings to the State of West Virginia.



# 8.0 Firestopping Materials

Pomeroy IT Solutions, Inc. uses 3M Firestop Systems with 4 hour ratings. All firestop will be installed in accordance with manufacturer specifications and in accordance with this RFQ.

# 9.0 Firestopping

### 9.1 General

- **9.2.1-9.3.2** Pomeroy IT Solutions, Inc. will ensure that any or all floor, wall, ceiling penetrations whether fire-rated or other whether existing or new, that is designated for Telecommunications equipment or materials will be "Fire-Stopped" with an approved 3M 4-hour rated material in accordance with this RFQ.
- 9.2.1-9.3.2 Pomeroy IT Solutions, Inc. will provide an approved 3M 4-hour Firestopping system for all penetrations through walls, floors, ceilings, existing sleeves, new sleeves, existing cable tray or new cable tray. Fire stop will be installed whether the barrier being stopped is a fire-rated barrier or not. Anything designated for existing or new Telecommunications that is or not already Fire Stopped or breached during the installation of this RFQ. All Fire Stop will be installed in accordance with manufacturers guidelines and specifications and this RFQ.
- **9.4** If Required by Inspecting Authorities:
- **9.4.1-9.4.2** Pomeroy IT Solutions, Inc. understands that some Fire Stop materials may be required to be removed and replaced for inspection purposes.

### 10.0 Sleeves

### 10.1-10.6

Pomeroy IT Solutions, Inc. will install only proper and approved sleeving in approved places and will ensure that all sleeves are installed according to approved practices, codes and standards and in accordance with this RFQ. Pomeroy will perform all patching where needed in accordance with this RFQ.

# 11.0 Penetrations of Building Surfaces

**11.1-11.2** Pomeroy IT Solutions, Inc. will provide proper Fire Stopping in Fire Resistant areas as stated in section 9.0 of this RFQ.

# 12.0 Firestop References

Pomeroy IT Solutions, Inc. has read and will adhere to these requirements.



# 13.0 Removal and Replacement of Existing Ceilings

### 13.1-13.3

Pomeroy IT Solutions will remove the existing ceiling tiles in the areas of the cable tray installation and store them in an area designated by the State of West Virginia.

If ceiling tiles are damaged or disfigured during this process Pomeroy IT solutions will replace the tiles, as stated within section 13.3 of this RFQ.

# 14.0 Cutting and Patching

### 14.1-14.6

Pomeroy IT Solutions will be responsible for any openings, penetrations, cuttings and coring within the building where there is need to create pathways through walls etc. Pomeroy will take extra care not to damage existing walls or infrastructure, but in the case there is damage done to the structure Pomeroy IT Solutions will repair this damage as stated in section 14.0 - 14.6 of this RFQ.

# 15.0 Cleaning

### 15.1-15.2

Pomeroy IT Solutions, Inc. will ensure that all spaces are left in an acceptable condition.

# 16.0 Painting

### 16.1-16.2

Pomeroy IT Solutions, Inc. will touch up marred and bared surfaces in accordance with 16.1 and Restore patched surfaces in accordance with 16.2.

# 17.0 Hours Approval

Pomeroy IT Solutions, Inc. has read and understands this requirement.

# 18.0 Staging Space and Staged Materials

Pomeroy IT Solutions, Inc. has read and understands this requirement.

### 19.0 Termination Hardware

Pomeroy IT Solutions, Inc. is providing and equal solution that is approved state wide. All copper and fiber strands will be terminated and tested to manufacturer's specifications. All cable will be plenum rated as required by this RFQ.



RFQ COPY

TYPE NAME/ADDRESS HERE

1020 Petersburg Road Hebron, Kentucky 41048

Pomeroy IT Solutions, Inc.

State of West Virginia
Department of Administration
Purchasing Division
2019 Washington Street East Post Office Box 50130 Charleston, WV 25305-0130

# 

ISCH0263

PAGE	
1	

KRISTA FERRELL 304-558-2596

DEPARTMENT OF ADMINISTRATION IS&C - TRC MANAGER 1 DAVIS SQUARE

ADDRESS CORRESPONDENCE TO ATTENTION OF

CHARLESTON, WV 25301

304-558-5472

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# GENERAL TERMS & CONDITIONS REQUEST FOR QUOTATION (RFQ) AND REQUEST FOR PROPOSAL (RFP)

- 1. Awards will be made in the best interest of the State of West Virginia.
- 2. The State may accept or reject in part, or in whole, any bid.
- 3. All quotations are governed by the West Virginia Code and the Legislative Rules of the Purchasing Division.
- 4. Prior to any award, the apparent successful vendor must be properly registered with the Purchasing Division and have paid the required \$125.00 registration fee.
- 5. All services performed or goods delivered under State Purchase Orders/Contracts are to be continued for the term of the Purchase Order/Contract, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise available for these services or goods, this Purchase Order/Contract becomes void and of no effect after June 30.
- 6. Payment may only be made after the delivery and acceptance of goods or services.
- 7. Interest may be paid for late payment in accordance with the West Virginia Code.
- 8. Vendor preference will be granted upon written request in accordance with the West Virginia Code.
- g. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.
- 10. The Director of Purchasing may cancel any Purchase Order/Contract upon 30 days written notice to the seller.
- 11. The laws of the State of West Virginia and the *Legislative Rules* of the Purchasing Division shall govern all rights and duties under the Contract, including without limitation the validity of this Purchase Order/Contract.
- 12. Any reference to automatic renewal is hereby deleted. The Contract may be renewed only upon mutual written agreement of the parties.
- 13. BANKRUPTCY: In the event the vendor/contractor files for bankruptcy protection, this Contract may be deemed null and void, and terminated without further order.
- 14. HIPAA Business Associate Addendum The West Viginia State Government HIPAA Business Associate Addendum (BAA), approved by the Attorney General, and available online at the Purchasing Division's web site (http://www.state.wv.us/admin/purchase/vrc/hipaa.htm) is hereby made part of the agreement. Provided that, the Agency meets the definition of a Covered Entity (45 CFR §160.103) and will be disclosing Protected Health Information (45 CFR §160.103) to the vendor.

### **INSTRUCTIONS TO BIDDERS**

- 1. Use the quotation forms provided by the Purchasing Division.
- 2. SPECIFICATIONS: Items offered must be in compliance with the specifications. Any deviation from the specifications must be clearly indicated by the bidder. Alternates offered by the bidder as EQUAL to the specifications must be clearly defined. A bidder offering an alternate should attach complete specifications and literature to the bid. The Purchasing Division may waive minor deviations to specifications.
- 3. Complete all sections of the quotation form.
- 4. Unit prices shall prevail in cases of discrepancy.
- 5. All quotations are considered F.O.B. destination unless alternate shipping terms are clearly identified in the quotation.
- 6. BID SUBMISSION: All quotations must be delivered by the bidder to the office listed below prior to the date and time of the bid opening. Failure of the bidder to deliver the quotations on time will result in bid disqualifications.

### SIGNED BID TO:

Department of Administration Purchasing Division 2019 Washington Street East Post Office Box 50130 Charleston, WV 25305-0130



MOCZEK

State of West Virginia Department of Administration Purchasing Division 2019 Washington Street East Post Office Box 50130 Charleston, WV 25305-0130

### Request for Quotation

ISCH0263

ADDRESS CORRESPONDENCE TO ATTENTION OF KRISTA FERRELL

304-558-2596

RFQ COPY TYPE NAME/ADDRESS HERE

Pomeroy IT Solutions, Inc. 1020 Petersburg Road Hebron, Kentucky 41048

DEPARTMENT OF ADMINISTRATION IS&C - TRC MANAGER 1 DAVIS SQUARE

CHARLESTON, WV 25301

304-558-5472

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1020 Petersburg Road Hebron, Kentucky 41048

Pomeroy IT Solutions, Inc.

State of West Virginia Department of Administration Purchasing Division 2019 Washington Street East Post Office Box 50130 Charleston, WV 25305-0130

### Request for Quotation

ISCH0263

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KRISTA FERRELL

304-558-2596

DEPARTMENT OF ADMINISTRATION IS&C - TRC MANAGER 1 DAVIS SQUARE

CHARLESTON, WV 25301

304-558-5472

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DATE July 9, SIGNATURE TELEPHONE 800.227.8798 x114 2008 FEIN 31-1227808 ADDRESS CHANGES TO BE NOTED ABOVE Govnmt/Ed Account Executive

SEE REVERSE SIDE FOR TERMS AND CONDITIONS



DATE PRINTED

State of West Virginia
Department of Administration
Purchasing Division
2019 Washington Street East Post Office Box 50130 Charleston, WV 25305-0130

TERMS OF SALE

# Request for

ISCH0263

ADDRESS CORRESPONDENCE TO ATTENTION OF

KRISTA FERRELL 304-558-2596

RFQ COPY TYPE NAME/ADDRESS HERE DEPARTMENT OF ADMINISTRATION IS&C - TRC MANAGER Pomeroy IT Solutions, Inc. 1 DAVIS SQUARE 1020 Petersburg Road CHARLESTON, WV Hebron, Kentucky 41048 25301 304-558-5472

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State of West Virginia Request for Department of Administration Quotation Purchasing Division 2019 Washington Street East Post Office Box 50130 Charleston, WV 25305-0130

# Request for

ISCH0263

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304-558-2596

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Pomeroy IT Solutions, Inc. 1020 Petersburg Road Hebron, Kentucky 41048

DEPARTMENT OF ADMINISTRATION IS&C - TRC MANAGER 1 DAVIS SQUARE

CHARLESTON, WV 25301

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1020 Petersburg Road

Hebron, Kentucky 41048

Pomeroy IT Solutions, Inc.

State of West Virginia Department of Administration Purchasing Division 2019 Washington Street East Post Office Box 50130 Charleston, WV 25305-0130

### Request for Quotation

ISCH0263

KRISTA FERRELL 304-558-2596

DEPARTMENT OF ADMINISTRATION IS&C - TRC MANAGER 1 DAVIS SQUARE

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CHARLESTON, WV 25301

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State of West Virginia Department of Administration Purchasing Division 2019 Washington Street East Post Office Box 50130 Charleston, WV 25305-0130

# Request for Quotation

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KRISTA FERRELL 304-558-2596

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CHARLESTON, WV 25301

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State of West Virginia Request for Department of Administration Quotation Purchasing Division 2019 Washington Street East Post Office Box 50130 Charleston, WV 25305-0130

# Request for

ISCH0263

KRISTA FERRELL 304-558-2596

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Pomeroy IT Solutions, Inc. 1020 Petersburg Road Hebron, Kentucky 41048

DEPARTMENT OF ADMINISTRATION IS&C - TRC MANAGER 1 DAVIS SQUARE

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State of West Virginia Department of Administration Purchasing Division 2019 Washington Street East Post Office Box 50130 Charleston, WV 25305-0130

### Request for Quotation

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FREIGHT TERMS:

KRISTA FERRELL

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# STATE OF WEST VIRGINIA Purchasing Division

# **PURCHASING AFFIDAVIT**

West Virginia Code §5A-3-10a states: No contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and the debt owed is an amount greater than one thousand dollars in the aggregate

### **DEFINITIONS:**

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Debtor" means any individual, corporation, partnership, association, limited liability company or any other form or business association owing a debt to the state or any of its political subdivisions. "Political subdivision" means any county commission; municipality; county board of education; any instrumentality established by a county or municipality; any separate corporation or instrumentality established by one or more counties or municipalities, as permitted by law; or any public body charged by law with the performance of a government function or whose jurisdiction is coextensive with one or more counties or municipalities. "Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceed five percent of the total contract amount.

**EXCEPTION:** The prohibition of this section does not apply where a vendor has contested any tax administered pursuant to chapter eleven of this code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

**LICENSING:** Vendors must be licensed and in good standing in accordance with any and all state and local laws and requirements by any state or local agency of West Virginia, including, but not limited to, the West Virginia Secretary of State's Office, the West Virginia Tax Department, West Virginia Insurance Commission, or any other state agencies or political subdivision. Furthermore, the vendor must provide all necessary releases to obtain information to enable the Director or spending unit to verify that the vendor is licensed and in good standing with the above entities.

**CONFIDENTIALITY:** The vendor agrees that he or she will not disclose to anyone, directly or indirectly, any such personally identifiable information or other confidential information gained from the agency, unless the individual who is the subject of the information consents to the disclosure in writing or the disclosure is made pursuant to the agency's policies, procedures and rules. Vendors should visit **www.state.wv.us/admin/purchase/privacy** for the Notice of Agency Confidentiality Policies.

Under penalty of law for false swearing (West Virginia Code, §61-5-3), it is hereby certified that the vendor acknowledges the information in this said affidavit and are in compliance with the requirements as stated.

Vendor's Name: _	Pomeroy	IT	Solutions,	Inc.			·····	
Authorized Signat		/			Date:	July	9,	2008
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State of West Virginia Department of Administration Purchasing Division 2019 Washington Street East Post Office Box 50130 Charleston, WV 25305-0130

# Request for Quotation

ISCH0263

PAGE 1

KRISTA FERRELL 304-558-2596

RFQ COPY TYPE NAME/ADDRESS HERE Pomeroy IT Solutions, Inc. 1020 Petersburg Road

Hebron, Kentucky 41048

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DEPARTMENT OF ADMINISTRATION IS&C - TRC MANAGER 1 DAVIS SQUARE

CHARLESTON, WV 25301

304-558-5472

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# State of West Virginia Department of Administration Office of Technology Charleston, WV

# Request for Quotation for ISCH0263

### 1.0 OBJECTIVE

The State of West Virginia, Department of Administration, Office of Technology (WVOT) intends to acquire a complete telecommunications distribution system for *Kanawha County DHHR*Office, 4190 Washington Street West, Charleston WV 25313

The project will be completed in approximately ten phases per attachment A. This is an estimated timeline; <u>all included dates are subject to change</u>.

This Request for Quotation covers all Phases: Installation, testing, and acceptance of the telecommunications distribution system infrastructure cable. Prices quoted shall be all-inclusive and represent complete installation. The Vendor shall be responsible for all parts, labor and all other associated apparatus necessary to completely install, test, and turnover for acceptance to the WVOT

### 1.1 Inquiries:

Additional information inquiries regarding specifications of this RFQ must be submitted in writing to the State Buyer with the exception of questions regarding bid submission which may be oral. The deadline for written inquiries is identified in the Schedule of Events, Section 1.16. All inquiries of specification clarification must be addressed to:

Krista Ferrell, Senior Buyer Purchasing Division 2019 Washington Street, East P.O. Box 50130 Charleston, WV 25305-0130 Fax: (304) 558-4115

Absolutely NO contact shall be made by the Vendor with any member of the evaluation committee. Violation may result in rejection of the bid. The State Buyer named above is the sole contact for any and all inquiries after this RFQ has been released.

### 1.2 Vendor Registration:

Vendors participating in this process must complete and file a **Vendor Registration and Disclosure Statement** (Form WV-1) and remit the registration fee. Vendor is not required to be a registered Vendor in order to submit a bid, but the **successful bidder MUST** register and pay the fee prior to the award of an actual purchase order/contract.

### 1.3 Oral Statements and Commitments:

Vendor should clearly understand that any verbal representations made or assumed to be made during any oral discussions held between Vendor's representatives and any State personnel is

not binding. Only the information issued in writing and added to the Request for Quotation specifications file by an official written addendum are binding.

### 1.4 Response Submission:

State law requires that the original bid be submitted to the Purchasing Division. All bids must be submitted to the Purchasing Division **prior** to the date and time stipulated in the RFQ as the opening date. All bids will be date and time stamped to verify official time and date of receipt.

Vendors mailing bids must allow sufficient time for mail delivery to ensure timely arrival. In accordance with State Code 5A-3-11, the Purchasing Division cannot waive or excuse late receipt of a proposal that is delayed and late for any reason. Any bid received after the bid opening date and time will be immediately disqualified in accordance with State law and the administrative rules and regulations.

WVOT requests that bidders also include a copy of their bid in electronic form on a CD.

#### Submit:

One original RFQ to:

Purchasing Division 2019 Washington Street, East P.O. Box 50130 Charleston, WV 25305-0130

The outside of the envelope or package(s) must be clearly marked:

Buver: Krista Ferrell-File 21

Reg#: ISCH0263

Opening Date: 07/10/2008

### 1.5 Schedule of Events

The schedule may change depending on the results of the responses and a final schedule will be established prior to contracting with the successful Vendor.

### 1.6 Incurring Costs:

The State and any of its employees or officers shall not be held liable for any expenses incurred by any bidder responding to this RFQ for expenses to prepare, deliver the proposal, or to attend any mandatory prebid meeting or oral presentations.

### 1.7 Installation Completion Timeframe:

The installation completion time for this RFQ is 45 standard business days after issuance of P.O. These 45 days for installation include the measuring of job and the ordering of materials. The State at its discretion will adjust timelines, if required, due to unforeseen delays.

### 1.8 Job Site Parking

There is vendor parking (first come first serve) on the parking lot behind the Building. Equipment may be unloaded at the rear door of the building but vehicles will not be allowed to remain there.

### 1.9 Omissions

Omission in the proposal of any provision herein described shall not be construed as to relieve The Vendor of any responsibility or obligation requisite to the complete and satisfactory delivery, operation, and support of any and all equipment or services.

### 1.10 Warranty

Materials and workmanship hereinafter specified and furnished shall be fully guaranteed by The Vendor for *fifteen years* from transfer of title against any defects. Defects which may occur as the result of faulty materials or workmanship within *fifteen years* after installation and acceptance by The WVOT shall be corrected by The Vendor at no additional cost to The WVOT. The Vendor's warranties shall commence with acceptance of/or payment for the work in full. This warranty shall in no manner cover equipment that has been damaged or rendered unserviceable due to negligence, misuse, acts of vandalism, or tampering by The WVOT or anyone other than employees or agents of The Vendor. The Vendor's obligation under its warranty is limited to the cost of repair of the warranted item or replacement thereof, at The Vendor's option. Insurance covering said equipment from damage or loss is to be borne by The Vendor until full acceptance of equipment and services.

### 1.11 Inspection, Acceptance, and Title

Inspection and Acceptance will be at destination and upon successful installation unless otherwise provided. Title to/or risk of loss or damage to all items shall be the responsibility of the successful Vendor until acceptance by The WVOT, unless loss or damage results from negligence by The WVOT. If the materials or services supplied to The WVOT are found to be defective or do not conform to the specifications, The WVOT reserves the right to cancel the contract upon written notice to The Vendor and return products at The Vendor's expense, based upon the terms of the Contract.

The WVOT shall at all times have access to the work wherever it is in preparation or progress, and The Vendor shall provide proper facilities for such access and for inspection. The Vendor shall not close up any work until The WVOT has inspected the work. Should The Vendor close up the work prior to inspection by The WVOT, The Vendor shall uncover the work for inspection by The WVOT at no cost to The WVOT, and then recover the work according to the specification contained herein.

The Vendor shall notify The WVOT in writing when the work is ready for inspection. The WVOT will inspect the work as expeditiously as possible after receipt of notification from The Vendor.

#### 1.12 Price Quotations

Price quotations are to include the furnishing of all materials, equipment, maintenance and training manuals, tools, and the provision of all labor and services necessary or proper for the completion of the work, except as may be otherwise expressly provided in the Contract Documents. The WVOT will not be liable for any costs beyond those proposed herein and awarded. Time and materials quotes will be unacceptable.

In case of discrepancy in computed proposal prices, unit price shall prevail.

### 1.13 Price Stability

Contract prices and discounts shall be fixed at the time of contract award. In the event of price changes the WV Purchasing rule 148-1-7, 7.15 shall be followed.

### 1.14 Variation in Quantities and Configurations

Equipped and capacity requirements are the best estimates currently available. The WVOT reserves the right to modify quantity and configuration requirements. The Vendor agrees to sell The WVOT the revised quantity of items at the unit price as stated in the RFQ regardless of quantity changes.

### 1.15 Prime Vendor

In the event multiple Vendors submit a joint response to this RFQ, a single Vendor shall be identified as the Prime Vendor. Prime Vendor responsibilities shall include performing overall project administration and serving as a focal point for The WVOT to coordinate and monitor plans and schedules, maintain project budget and status information, administer changes required, preside over other Vendors participating or present at The WVOT meetings, and oversee preparation of reports and presentations. Prime Vendor shall also prepare and present a consolidated invoice for work performed. The WVOT shall issue only one (1) check for each consolidated invoice. Prime Vendor shall remain responsible for performing tasks associated with installation and implementation of Prime Vendor's portion of the contract.

### 1.16 Compliance with Laws and Regulations

The Vendor performance of the work shall comply with applicable federal, state, and local laws, rules, and regulations. The Vendor shall give required notices, shall procure necessary governmental licenses and inspections, and shall pay without burden to The WVOT, all fees and charges in connection therewith unless specifically provided otherwise. In the event of violation, The Vendor shall pay all fines and penalties, including attorney's fees and other defense costs and expenses in connection therewith.

### 1.17.1 Federal Communications Commission

Equipment requiring FCC registration or approval shall have received such approval and shall be appropriately identified.

### 1.17.2 Codes, Standards, and Ordinances

All work shall conform to the latest edition of the *National Electrical Code*<sup>®</sup>, the Building Code, and all local codes and ordinances, as applicable. ANSI/TIA/EIA-568-B.1 through ANSI/TIA/EIA-568-B.3, NECS/BICSI-568 and ANSI/TIA/EIA-569-A shall be adhered to during all installation activities. Methodologies outlined in the latest edition of the BICSI *Telecommunications Distribution Methods Manual* shall also be used during all installation activities. Should conflicts exist with the foregoing, the authority having jurisdiction for enforcement will have responsibility for making interpretation.

### 1.17 Safety

The Vendor shall take the necessary precautions and bear the sole responsibility for the safety of the methods employed in performing the work. The Vendor shall at all times comply with the regulations set forth by federal, state, and local laws, rules, and regulations concerning "OSHA" and all applicable state labor laws, regulations, and standards. The Vendor shall indemnify and hold harmless The WVOT from and against all liabilities, suits, damages, costs, and expenses (including attorney's fees and court costs) which may be imposed on The WVOT because of The Vendor, subcontractor, or supplier's failure to comply with the regulations stated herein.

### 1.18 Patents and Royalties

The Vendor, without exception, shall indemnify and hold harmless The WVOT and its employees from any liability of any nature or kind, including costs and expenses for, or on account of, any trademarked, copyrighted, patented, or nonpatented invention, process, or article manufactured or used in the performance of the Contract, including its use by The WVOT. If The Vendor or

subcontractor uses any design, device, or materials covered by letters, patent, trademark, or copyright, it is mutually understood and agreed without exception that the proposal prices shall include all royalties or cost arising from the use of such design, device, or materials in any way involved in the work.

### 1.19 Indemnification

The Vendor shall indemnify and hold harmless The WVOT, its agents, and employees from or on account of any injuries or damages, received or sustained by any person or persons, during or on account of any operation connected with this Contract; or by consequence of any negligence (excluding negligence by The WVOT, its agents, or employees) in connection with the same; or by use of any improper materials or by or on account of any act or omission of said Vendor or its subcontractors, agents, servants, or employees. The Vendor further agrees to indemnify and hold harmless The WVOT, its agents, or employees, against claims or liability arising from or based upon the violation of any federal, state, county, city, or other applicable laws, bylaws, ordinances, or regulations by The Vendor, its agents, associates, or employees.

The indemnification provided above shall obligate The Vendor to defend at its own expense or to provide for such defense, at The WVOT's option, of any and all claims of liability and all suits and actions of every name and description that may be brought against The WVOT which may result from the operations and activities under this Contract whether the installation operations be performed by The Vendor, subcontractor, or by anyone directly or indirectly employed by either.

The award of this Contract to The Vendor shall obligate The Vendor to comply with the foregoing indemnity provision; however, the collateral obligation of insuring this indemnity must be complied with as set forth.

#### 1.20 Affidavit

West Virginia State Code 5A-3-10a requires that the successful biddersubmit an affidavit regarding any debt owed to the State. The affidavit must be signed and submitted prior to award. It is preferred that the affidavit be submitted with the RFQ. The Affidavit can be found at www.state.wv.us/admin/purchase/vrc/nodebt.pdf.

### 2.0 QUALIFICATIONS

### 2.1 Project Manager

The Vendor will provide a Project Manager who will act as a single point of contact for all activities regarding this project. The Project Manager will be required to make on-site decisions regarding the scope of the work and any changes required by the work. The Project Manager must be on the job at any time work is being performed or workers are present. The Project Manager will be totally responsible for all aspects of the work and shall have the authority to make immediate decisions regarding implementation or changes to the work.

### 2.2 Construction Manager

The WVOT shall provide a Construction Manager who shall act as a single point of contact for all activities regarding this project. The Construction Manager will be responsible for all decisions required of The WVOT and shall coordinate with all departments during installation activities. The Construction Manager shall notify The WVOT Inspector when inspections are scheduled and shall coordinate the inspection between The Vendor and The WVOT Inspector.

### 2.3 Experience

- 2.3.1 The selected Vendor must be fully capable and experienced in the **telecommunications distribution system** specified. To ensure the system has continued support, The WVOT will contract only with Vendors having a successful history of sales, installation, service, and support. The Vendor must have a minimum of **five (5) years** of experience.
- 2.3.2 The Vendor must have an RCDD® (Registered Communications Distribution Designer) on staff that will be ultimately responsible for this project. The RCDD must have sufficient experience in this type project as to be able to lend adequate technical support to the field forces during installation, during the warranty period, and during any extended warranty periods or maintenance contracts. A resume of the responsible RCDD must be provided and should be attached to The Vendor's response. Should the RCDD assigned to this project change during the installation, the new RCDD assigned must meet all requirements of the RFQ.
- 2.3.3 If, in the opinion of The WVOT, the RCDD does not possess the required qualifications to support the project, The WVOT reserves the right to require The Vendor to assign an RCDD who, in The WVOT's opinion, possesses the necessary skills and experience required of this project.
- 2.3.4 The Vendor must also have **BICSI Registered Installers and Technicians** on staff and assign them to this project. The project shall be staffed at all times by Installers and Technicians who, in the role of lead crafts persons, will be able to provide leadership and technical resources for the remaining crafts persons on the project. A minimum of 30 percent of personnel shall be BICSI registered telecommunications installers. Of that number 15 percent shall be registered at the *Technician Level*, at least 40 percent shall be registered at the *Installer Level 2*, and the balance shall be registered at the *Installer Level 1*. A copy of their registrations must be provided and should be submitted in The Vendor's response to this RFQ.

#### 2.4 References

The WVOT may, with full cooperation of The Vendors, visit client installations to observe equipment operations and consult with references. Specified visits and discussion shall be arranged through The Vendors; however, The Vendor personnel shall **not** be present during discussions with references. The Vendor must provide a minimum of **three** (3) references which are of the same size in scope and design that have been completed by The Vendor within the last **two** (2) years.

#### 2.5 Liability and Insurance

The Vendor shall assume the full duty, obligation, and expense of obtaining and maintaining necessary insurance.

### 2.5.1 Insurance Coverage

The Vendor shall be fully liable to provide and maintain in force during the life of this Contract, such insurance, including Public Liability Insurance, Product Liability Insurance, Auto Liability Insurance, Worker's Compensation, and Employer's Liability Insurance as will assure to The WVOT the protection contained in the foregoing indemnification provision undertaken by The Vendor. Such policies shall be issued by United States Treasury-approved companies authorized to do business in the State of West Virginia and having agents upon whom service of process may be made in The WVOT and shall contain as a minimum, the following provisions, coverage's, and policy limits of liability.

#### 2.5.2 General Liability

General Liability Insurance shall protect The WVOT, The Vendor, subcontractor, agents, and employees from claims for damages. The limits of liability provided by such policy shall be no less than Five Hundred Thousand Dollars (U.S. \$500,000.00) per occurrence combined single limit bodily injury and property damage, and an amount not less than One Million Dollars (U.S. \$1,000,000.00) for damages on account of all occurrences.

### 2.5.3 Product Liability

Product Liability or Completed Operations Insurance shall have bodily injury limits of liability of not less than Five Hundred Thousand Dollars (U.S. \$500,000.00) per person; Five Hundred Thousand Dollars (U.S. \$500,000.00) per occurrence, and Five Hundred Thousand Dollars (U.S. \$500,000.00) aggregate.

### 2.5.4 Auto Liability

Auto Liability Insurance shall have bodily injury limits of not less than Three Hundred Thousand Dollars (U.S. \$300,000.00) per occurrence and property damage limits of not less than One Hundred Thousand Dollars (U.S. \$100,000.00).

### 2.5.5 Workers' Compensation and Employer's Liability

Workers' Compensation and Employer's Liability Insurance shall meet minimum requirements set by the State of West Virginia, but in no case less than One Hundred Thousand Dollars (U.S. \$100,000.00).

#### 2.5.6 Proof of Insurance

The Vendor shall furnish to The WVOT a Certificate of Insurance or duplicate policies of insurance described above which specifically protect The WVOT. This will be accomplished by naming The WVOT as a named insured under the policy and by providing an endorsement under the terms of which the insurer specifically agrees not only to pay any claims incurred by or resulting to The WVOT, but also agrees to enter a defense on behalf of The WVOT. The defense includes any and all suits or actions, in which the liability of The WVOT is vicarious and is predicated upon allegation of some act of omission by The Vendor, subcontractor, or his or her agents. This proof shall be received within two (2) working days after notice of award. Purchase order(s) will not be issued until Certificates of Insurance are received.

Such certification must contain a provision for notification of The WVOT thirty (30) days in advance of any material change in coverage or cancellation. Notification shall be in writing and signed in ink by a duly authorized officer of the Insurer.

### 2.5.7 License Requirements

The successful bidder MUST have a West Virginia Contractor's License. If partnering with subcontractors, only the vendor actually performing the installation of cabling must hold the contractor's license. The license number must be included with the bid response, but the certificate will be required only from the successful vendor. If the prime vendor replaces the networking installation vendor any time during the term of the contract, prior written approval from the WVOT and a properly executed change order to the contract must be processed. The replacement must have a contractor's license and provide a copy before the change will be approved.

#### 2.5.8 Wage Rates

The West Virginia Division of Labor's Building and Construction Wage Rates are made part of the RFQ by reference. The wage rates are available online at the Secretary of State's website: <a href="http://www.wvsos.com/adlaw/wagerates/building02.htm">http://www.wvsos.com/adlaw/wagerates/building02.htm</a>.

### 2.5.9 Bonding

### 2.5.9.1 Bid Bond

A Surety Bond, Certified Check, Cashier's Check, Treasurer's Check, or bank draft of any State or National Bank representing five (5) percent of the total amount of the Vendor's response must accompany the response package.

### 2.5.9 2 Performance, Labor, Materials Bond

The successful bidder is required to have a valid Performance, Labor, Materials Bond in force covering the work performed up to the acceptance by The WVOT. The Bond must be in the amount of one hundred (100) percent of the Contract amount, guaranteeing to The WVOT the completion and performance of the work covered in such as well as full payment of all suppliers, agents, laborers, or subcontractors employed in the performance of the project. Such Bond shall be in a form and with a surety acceptable to The WVOT and shall provide for the protection of all persons supplying labor or materials used for the performance of the work. Purchase order(s) will not be issued until 100 percent payment bond is received.

The Vendor agrees to keep such Bond, or a replacement thereof, in force at all times during the course of the performance under this project. In addition to the foregoing requirements, such bond shall contain the provision, whether by attaching endorsements or supplemental agreements, guaranteeing to The WVOT the successful completion of the project. The Vendor may comply with the requirements of this provision by causing said Bond to specifically name The WVOT as one of the parties to whom the protection afforded by said Bond is extended or as an alternate, may furnish The WVOT with a separate Performance Bond meeting the same criteria.

### 2.5.9.3 Qualification of Surety

The Performance, Labor, Materials Bond must be executed by a Surety Company of recognized standing, authorized to do business in the State of West Virginia. The bonds shall be on the State of WV form provided by the Purchasing Division. A certified check, or cashlers check made payable to the State of West Virginia, will also serve as the bid bond.

### 2.6 Special Conditions

This facility is a facility that provides services to the State of West Virginia and all those having business with the State. As such, activities in all buildings are critical to the provisioning of services and shall not be interrupted by The Vendor's work activities.

The computer and telecommunications systems associated with this work must not be taken offline or removed from service during normal working hours without The Vendor first making specific arrangements to coordinate any such activities.

The Vendor will be required to work around all of the conditions listed above, as well as working with The WVOT staff to minimize disruptions to normal Customer activities.

### 2.7 Cancellation

In the event provisions of this RFQ are violated by The Vendor, The WVOT may give written notice to The Vendor stating the deficiencies. Unless deficiencies are corrected within five (5)

working days, recommendations will be made to The Purchasing Division for immediate cancellation. The Purchasing Division reserves the right to terminate immediately any contract resulting from this RFQ for failure to correct deficiencies.

### 3.0 INSTALLATION GUIDELINES

This RFQ includes equipment, materials, labor, and services to provide telecommunications distribution system infrastructure cable including, but not limited to copper twisted pair and multi strand fiber; System testing; Documentation and providing all equipment, materials, labor, and services, not specifically mentioned or shown, which may be necessary to complete or perfect all parts of the installation.

- 3.1 All work performed on this project will be installed in accordance with the current edition of the National Electrical Code<sup>®</sup>, the current edition of the National Electrical Safety Code<sup>®</sup>, the current issue of the ANSI/NECA/BICSI-568 Standard for Installing Commercial Building Telecommunications Cabling, the current edition of the BICSI Telecommunications Distribution Methods Manual, the current edition of the BICSI Cabling Installation Manual, the latest issue of the ANSI/TIA/EIA Standards as published by Global Engineering Documents as ANSI/TIA/EIA Telecommunications Building Wiring Standards, and all local codes and ordinances.
- At a minimum, not limited to, design, manufacture, test, and install telecommunications infrastructure cable per manufacturer's requirements and in accordance with NFPA-70 (National Electrical Code®), state codes, local codes, requirements of authorities having jurisdiction, and particularly the following standards:
  - 3.2.1 ANSI/NECA/ Telecommunications Cabling
  - 3.2.2 ANSI/TIA/EIA-568-B.1 -- Commercial Building Telecommunications Cabling Standard, Part 1: General Requirements
  - 3.2.3 BICSI-568 -- Standard for Installing Commercial Building ANSI/TIA/EIA-569-A -- Commercial Building Standard for Telecommunications Pathways and Spaces
  - 3.2.4 ANSI/TIA/EIA-606(A) -- The Administration Standard for the Telecommunications Infrastructure of Commercial Buildings
  - 3.2.5 ANSI/TIA/EIA-607(A) -- Commercial Building Grounding and Bonding Requirements for Telecommunications
- 3.3 Install in accordance with the most recent edition of BICSI® publications: BICSI Telecommunications Distribution Methods Manual
- Federal, state, and local codes, rules, regulations, and ordinances governing the work, are as fully part of the specifications as if herein repeated or hereto attached. If the contractor should note items in the drawings or the specifications, construction of which would be code violations, promptly call them to the attention of the State of West Virginia's representative in writing. Where the requirements of other sections of the specifications are more stringent than applicable codes, rules, regulations, and ordinances, the specifications shall apply.

### 4.0 INFRASTRUCTURE CABLE SYSTEM DESCRIPTION

Fiber Optic cable must be Systimax (or equal).
Termination hardware must be Systimax (or equal).

# ALL FIBER AND COPPER CABLE AS WELL AS ALL TERMINATION AND INSTALLATION MATERIAL USED MUST BE PLENUM RATED

### 5.0 **GROUNDING**

Cable tray grounding must conform to the National Electrical Code® 2005 – article 392.7 Grounding

Grounding must conform to ANSI/TIA/EIA 607(A) – Commercial Building Grounding and Bonding Requirements for Telecommunications, National Electrical Code®, ANSI/NECA/BICSI-568 and manufacturer's grounding requirements at a minimum.

Vendor must bond to the TMGB (Telecommunications Main Grounding Busbar) in room MB 66. The TMGB will be installed in the center of the northern wall a minimum of eight (8) feet above the floor. Vendor will be required to bond and ground equipment racks, housings, messenger cables, and raceways to the TGB ground system via #6 AWG green insulated copper grounding conductor.

Vendor must bond to the TGB (Telecommunications Grounding Busbar) in room all equipment rooms served by the solid trough cable tray. The TGB will be installed in the center of the wall designated by WVOT at a minimum of eight (8) feet above the floor. Vendor will be required to bond and ground equipment racks, housings, messenger cables, and raceways to the TGB ground system via #6 AWG green insulated copper grounding conductor.

### 6.0 LABELING

Labeling shall conform to ANSI/TIA/EIA-606(A) standards and in addition, provide the following:

- 6.1 Labels shall be machine-printed. Hand-lettered labels shall not be acceptable.
- 6.2 Labels shall be affixed to the infrastructure cable at a minimum of every twenty (20) feet.
- 6.3 Labels shall be at least one (1) inch high black lettering on a white background.

### 7.0 AS - BUILT DRAWINGS

Three (3) sets of as-built drawing shall be delivered to the State of West Virginia within four (4) weeks of acceptance of project by the State of West Virginia. A set of as-built drawings shall be provided to the State of West Virginia in electronic media form and utilizing CAD software that is acceptable to the State of West Virginia. Within six (6) weeks of acceptance of the project the electronic media must be delivered to the State of West Virginia.

### 8.0 FIRESTOPPING MATERIALS

All firestopping will be accomplished using Wiremold flamestopper units or equal.

http://www.wiremold.com/flamestopper/home.asp http://www.wiremold.com/shared\_content/pdf/ed1312.pdf

All firestop must have a 4 hour rating.

The amount of firestop units required will equal or exceed the capacity of the largest cable tray that is served by the penetration.

No more than a 70% fill rate is allowed on any firestop unit.

Firestopping is required at all locations the cable tray pathway penetrates a wall.

Products shall fill holes, spaces, and voids (hereinafter referenced as cavities) at communications penetrations. Firestopping materials shall also provide adhesion to substrates and maintain fire and smoke seal under normal expected movements of substrates, conduits, and cables.

### 9.0 FIRESTOPPING

#### 9.1 General

- 9.1.1 New and existing raceways, cable trays, and cables for power, data, and communications systems penetrating non-rated and fire-rated floors, walls, and other partitions of building construction shall be firestopped where they penetrate new or existing building construction.
- 9.1.2 Firestopping shall be accomplished by using a combination of materials and devices, including penetrating raceway, cable tray, or cables, required to make up complete firestop.
- 9.1.3 Verify that cabling and other penetrating elements and supporting devices have been completely installed and temporary lines and cables have been removed.

### 9.2 Installation

- 9.2.1 Select appropriate type or types of through penetration firestop devices or systems appropriate for each type of communications penetration and base each selection on criteria specified herein.
- 9.2.2 Selected systems shall not be less than the hourly time delay ratings indicated in the Contract Documents for each respective fire-rated floor, wall, or other partition of building construction. Firestop for each type of communications penetration shall conform to requirements of an independent testing laboratory design drawing or manufacturer's approved modification when used in conjunction with details shown on the Drawings.
- 9.2.3 Perform all necessary coordination with trades constructing floors, walls, or other partitions of building construction with respect to size and shape of each opening to be constructed and device or system approved for use in each instance.
- 9.2.4 Coordinate each firestop selection with adjacent Work for dimensional or other interference and for feasibility. In areas accessible to public and other "finished" areas, firestop systems Work shall be selected, installed, and finished to the quality of adjacent surfaces of building construction being penetrated.
- 9.2.5 Use materials that have no irritating or objectionable odors when firestopping is required in existing buildings and areas that are occupied.
- 9.2.6 Provide damming materials, plates, wires, restricting collars, and devices necessary for proper installation of firestopping. Remove combustible installation aids after firestopping material has cured.
- 9.2.7 All firestops shall be installed in accordance with the manufacturer's instructions in order to maintain the specific rating assigned by the independent testing laboratory.
- 9.3 Additional requirements for existing penetrations are as follows:
  - 9.3.1 Existing raceways, cable trays, and cabling that penetrate existing building construction shall be firestopped to the extent necessary to fill cavities that may exist between existing building construction and existing communications penetrations or existing conduit sleeve, and between existing conduits and existing conduit sleeve.

- 9.3.2 Assemblies consisting of individual steel hat type restricting collars filled with intumescent type materials that completely surround communications penetration shall be used for nonmetallic raceways and cabling.
- 9.4 If required by inspecting authorities:
  - 9.4.1 Expose and remove firestopping to the extent directed by inspecting authority to permit his or her inspection.
  - 9.4.2 Reinstall new firestopping and restore Work where removed for inspection.

### 10. SLEEVES

- 10.1 Provide sleeves for new conduit and cable penetrations of building construction.
- 10.1.1 Openings to accept sleeves in new building construction will be formed in building construction by the Contractor for General Construction work. Openings to accept sleeves in existing building construction shall be provided under this division of the Specifications. Refer to Article, CUTTING AND PATCHING in this Section.
- 10.1.2 Use electrical metallic tubing sleeves for penetrations through exterior masonry/concrete walls and foundations, concrete floor slabs on grade and above grade, and concrete-filled decks.
- 10.1.3 Use only fire-rated listed assemblies for the type of sleeve being installed through CMU walls or gypsum walls for communications penetrations. Sleeve type shall be electrical metallic tubing.
- 10.2 Where conduits are installed before building construction being penetrated, install sleeves loose around conduits.
  - 10.2.1 Split, fit, and weld steel sleeves over existing conduits.
- 10.3. Secure sleeves firmly in place using filling and patching materials (grout) that match with surrounding construction.
- 10.4 In floor penetrations, extend sleeve 4" above finished floor unless noted otherwise. In wall penetrations, cut sleeves flush with wall surface and use metal escutcheon plates in finished interior areas.
- 10.5 Seal voids between sleeves and building construction with joint sealants. Make allowances for and coordinate the Work with installation of firestopping, conduit insulation, and waterproofing, as applicable.
- 10.6 The Contractor shall be fully responsible for final and correct location of sleeves.
  - 10.6.1 Sleeves which are omitted or incorrectly located in existing building construction, shall be corrected and provided by the Communications Contractor.

### 11.0 PENETRATIONS OF BUILDING SURFACES

- 11.1 Fire-resistant Areas
  - 11.1.1 Provide through-penetration firestop systems for penetrations through fire-rated walls, floors, and other partitions of building construction as specified in Article, FIRESTOPPING in this Section.

11.1.2 In walls or partitions with 2-hour or less fire ratings, provide only metallic outlet or device boxes installed per UL Fire Resistance Director, NEC, and other national building code requirements.

### 11,2. Firestopping

- 11.2.1 Manufacturer's technical data for each product including product description, specifications including labeling or listing by an agency acceptable to the Engineer/Designer, and storage requirements.
- 11.2.2 Firestop design basis documentation that shall include schedule indicating each type of communication penetration, type of building construction being penetrated including the hourly resistance rating of floor, wall, or other partition of building construction into which firestop design will be installed, and firestop device or system proposed for use.
- 11,2.3 Applicable design drawings by Engineer/Designer-approved testing laboratories.
- 11.2.4 Installation Procedures and Material Safety Data Sheets shall be included with products delivered to the job site.
- 11.2.5 Include in project's maintenance manuals, maintenance data that may be published by manufacturer.

### 12.0 FIRESTOP REFERENCES

The yendor must adhere to the following guidelines:

ASTM E814, Standard Method of Fire Tests of Through-Penetration Firestops.

UL 1479, Fire Tests of Through-Penetration Firestops.

UL Fire Resistance Directory: Through Penetration Firestop Devices (XHCR) and Through

Penetration Firestop Systems (XNEZ).

ASTM E 119, Fire Tests of Building Construction and Materials (for fire-rated architectural barriers).

2002 NFPA National Electrical Code, Section 800-52, Paragraph 2(B), Spread of Fire and Products of Combustion.

ANSI/NECA/BICSI-568, Standard for Installing Commercial Building Telecommunications Cabling, Section 5, Clause 5.1 through 5.2.3, *Firestopping* 

2000 edition of the BICSI Telecommunications Distribution Methods Manual, Chapter 15, *Firestopping*.

Factory Mutual Approval Guide.

ULC List of Equipment and Materials, VOL. II.

Installed firestopping systems shall meet approval of authorities having jurisdiction.

### 13.0 REMOVAL AND REPLACEMENT OF EXISTING CEILINGS

- 13.1 Carefully remove entire existing ceilings in the building as required to install cable tray. Store removed tiles in an area designated by the State of West Virginia. Modify and augment existing suspension systems as necessary. Damaged ceiling tiles will be considered trash. The vendor will dispose of the removed tiles in a designated area or dumpster.
- 13.2 Restoration of the ceiling systems to their original finish in a non-refubished area will not a requirement of this RFQ.
- 13.3 Restoration of the ceiling systems to their original finish in a newly refurbished area will be a requirement of this RFQ. The original tiles may be put back up if they are not damaged during removal.

### 14.0 CUTTING AND PATCHING

- 14.1 Provide openings, cutting, coring, and patching of openings in existing building construction as required. Patching includes openings and voids left in existing construction as a result of demolition.
- 14.2 The Work shall include necessary assemblies and materials to maintain required fire ratings.
- 14.3 Perform cutting as to not impair structural stability of building construction and systems. Do not drill holes or weld attachments to beams and other structural members without prior written approval from the State of West Virginia's Representative.
- 14.4 The Work shall be done by crafts persons skilled in the particular trades affected.
- 14.5 Patching materials shall match existing materials in type and quality. Patching shall be done in a manner to match appearance of adjacent surfaces.
- 14.6 The successful vendor is only responsible for openings in walls that the vendor makes.

### 15.0 CLEANING

- 15.1 Cleaning shall be performed to the satisfaction of the State of West Virginia's Representative.
- 15.2 Unless otherwise indicated, clean shall mean free of dust, dirt, mud, debris, oil, grease, residues, and contamination. Acceptability shall be determined by sight, touch, and wiping with a clean soft cloth and suitable cleaning agent.

### 16.0 PAINTING

- 16.1 Touch up marred and bared surfaces of primed, galvanized, and finish painted equipment, materials, and accessories installed.
- 16.2 Restore patched surfaces as close to the original condition and finish as reasonably possible. Where patching occurs in smooth painted surface, extend final paint coat over entire unbroken surface containing patch, after patched area has received two coats of primer and two coats of finished paint.

- 17.0 Hours can be flexible and varied but must be approved by the Office of Technology.
- 18.0 The State will provide space for staging of materials on site, but will not be responsible for staged materials.
- 19.0 All termination hardware will be accomplished using Systimax products or equal. The State has included in this document additional information for the rooms. All installed copper pairs and fiber strands must be terminated and tested to manufactures specifications and be plenum rated.

Clarifications that were made after this was bid out the first time:

- 1. We are establishing a standard within the state. Copper cable and outlet jack colors must match. Vendor shall use Orange for Security, Green for Video, Yellow for wireless, and Blue for data.
- 2. The locations for Physical Security, Video, and Wireless will vary as the renovations project progresses. Each location will require two (2) drops each (i.e. Physical Security = 2, Video = 2, etc... even if located in the same area).
- 3. Cable TV drops will be pulled from Room 62 to the following rooms. 4 each drops in 42A, 42B, and lobby; 2 drops each in rooms 40, 48, 60, 74, and Small Conference Room.
- 4. Data drops Each location will provide for two Category 6 cables within a single face plate.
- 5. Total drop count DATA = 030, Physical Security = 28, Video = 46, and Wireless = 16. Grand total of all drops = 1020.
- 6. Hawthorne is the brand of furniture that will be used and the color required is "ivory". You will need to provide a plate to fit into each place. There will be a pre-cute hole.
- 7. Price all items as required on price sheets. If the quantity price is available on any item divide that pricing and use it as the price "each". Price quoted will be used for the life of the contract.
- 8. The outdoor cable transitions will occur within 50 feet upon entering the building.
- 9. Fiber, copper cable, and all terminating hardware used in the horizontal infrastructure must be from the same manufacture for the entire project.
- 10. All fiber optic cable is armored all the way through.
- Vendor must provide within the quote a labor rate for each job classification assigned to the project.
- 12. The use of brand name or equal specifications is for the purpose of describing the minimum standard of quality, technical performance and installation characteristics required and are not intended to limit or restrict competition.

Alternate bids that meet or exceed those of the brand name or equal specifications and features are invited. In order to receive full consideration, such alternate bids should be accompanied by sufficient descriptive literature and/or samples to clearly identify the offer and allow for a complete evaluation.

Vendors must provide descriptive literature and samples if bidding alternative products. This information should be submitted with the response to the RFQ to allow the West Virginia Office of Technology time to make a determination of equality to the brand specified. Failure to provide descriptive literature and samples may result in the bid being rejected as non-responsive and will extend the award determination and cause the construction timeline to be jeopardized.

Samples must include at a minimum each product bid:

- o Fiber shelf termination units
- o Copper patch panels
- o Manufacturer's fiber optic cable specifications
- o Manufacturer's fiber optic installed test results specifications

- Manufacturers category 6 cable specifications
   Manufacturer's category 6 installed test results specifications



RFQ COPY

TYPE NAME/ADDRESS HERE

1020 Petersburg Road

Hebron, Kentucky 41048

Pomeroy IT Solutions, Inc.

State of West Virginia Department of Administration Quotation Purchasing Division 2019 Washington Street East Post Office Box 50130 Charleston, WV 25305-0130

### Request for

ISCH0262

MANADDIALSS COHRESPONDENCE TO KRISTA FERRELL 304-558-2596

DEPARTMENT OF ADMINISTRATION GENERAL SERVICES BUILDING 1 ROOM MB60 1900 KANAWHA BOULEVARD, EAST CHARLESTON, WV 25305-0123 304-558-2317

DATEPRINTED 07/07/2008 <del>07/10/2008</del> BID OPENING DATE: OPENING TIME LNE CUANTITY TEM NUMBER UNIT PHICE AMOUNT. (Addendum 2) ADDENDUM NO. 1 THIS ADDENDUM IS ISSUED TO ANSWER ALL TECHNICAL QUESTIONS SUBMITTED PRIOR TO THE 07/03/2008 DEADLINE. BID OPENING DATE REMAINS: 07/10/2008 BID OPENING TIME REMAINS: 1:30 PM 0001 285-10 LS FIBER OPTIC CABLING FOR 3 BUILDINGS \$523,030.10 IS THE END OF REQ THIS ISCHd262 \*\*\*\*\* TOTAL: SEEREVERSE SIDE FOR TERMS AND CONDITIONS TELEPHONE 800.227.8798 x114 GIGNATURE July 9, 2008 FEIN 31-1227808 Govnmt/Ed Account Executive ADDRESS CHANGES TO BE NOTED ABOVE

### ISCH0262 Addendum No. 1 Answers to Technical Questions

1.) During the original pre-bid meeting and walk thru, the request was made to all vendors present that it was the vendor's responsibility to Demo and remove all of the old cabling and equipment, yet this was not specified within the body of the RFQ. Is this going to be a requirement of the successful vendor, and if so, shouldn't it be within the body of the RFQ? Is the successful vendor responsible for disposing of the demoed materials? Do you want a single line item quote or as part of the labor?

Answer: While it was not in the pre-bid, a pre-bid is also a time to address or correct and confirm item or actions missing withing the RFQ for both the potential vendors and State of WV. All of the "old" cabling will be the responsibility of the winning vendor to remove and dispose of properly. The vendor will be responsible for the removal and proper disposal of the replaced existing cable as per (including but not limited to) NEC Code 2002 paragraphs 800.2, 800.52(B), 800.52(1), and 770.2

2.) In the body of the RFQ it states that all cable runs will be labeled every 20 feet with a 1" high text black on white label. This increases the labor required, due to the increase in time and attention that is needed to perform this request. Is this a truly necessary request?

Answer: Yes it is necessary. Since these runs will be long and above an enclosed ceiling, it's important to mark them for ease of identity. This installation should be done within the intent and spirit of BICSI Standards. This installation must be completed to the ANSI/TIA/EIA standards (including but not limited to) 568-B.1-2001, 568-B.1-1-2001, 568-B.1-2-2003, 568-B.1-3-2003, 568-B.1-4-2003, 568-B.1-5-2004, AND 606-A-2002. References may have been or will be updated during the life of this contract and must be adhered to be the successful vendor.

3.) Since this is the second time this RFQ has been issued, and there is no perceived change in the body of the RFQ? Why is it being Re bid? Why is there not another pre bid meeting? If there is no pre bid meeting, then shouldn't only those who were at the original pre bid be allowed to answer this RFQ?

Answer: The first attempt at the bid no vendor met the specifications. Another pre-bid meeting is not warranted because the bid and equipment is the same. The bids received on the original RFQ were disqualified due to errors in submission not due to materials or to the scope of the project thus a new pre-bid would be unnecessary. State Purchasing rules and laws govern submission of bids.

4.) Did an RCDD design and write the specs for this RFQ?

Answer: No



# Kanawha County DHHR CAT6 and Fiber Materials List

### 6.0 Cabling Bill of Materials List

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#JUI	PART NUMBER	DESCRIPTION	QUANIIIY		Unit Price \$	EXI PRICE	SE SE
۲		CONSOLIDATION POINT CAT-6 CABLING					
2	LEVZ1000-AC4	2 X 4 CEILING ENCLOSURE	10	\$	1,569.60	\$ 15	15,696.00
3	760074294	VISIPATCH 360 RACKMOUNT KIT	36	↔	79.76	\$	2,871.50
4	760049445	VP360-4U-32P, VISIPATCH 360, 4U, 32-PORT	18	\$	150.53		2,709.50
5	760060350	VP360-788-HEAD, 4-PAIR HEAD	1	\$	36.18	\$	36.18
9	108062043	788H1 IMPACT TOOL	l	\$	202.10	\$	202.10
	760060368	VP360-914-BIT, 1-PAIR BIT	-	\$	28.94	₩	28.94
8	WCEM58281	MOHAWK CAT6 LAN - PLENUM / 1000', BLUE	150	\$	381.82	\$ 27	57,272.40
6	LEV41084-BIB	QUICKPORT BLANK, IVORY BAG OF 10	10	↔	0.17	4	1.68
10	LEV49910-SI4	STANDARD MOD. FURN. FACEPLATE, 4-PT	250	\$	1.96	\$	489.00
7	LEV51084-ICN	INSERT SHUTTER KIT, MISC ICONS 50-CT	10	↔	7.84	€>	78.36
12	LEV61110-RL6	CAT6 KEYSTONE JACK, BLUE	550	↔	5.99	3	3,293.40
13	LEV69586-U48	CAT6 48-PORT PATCH PANEL, 110 STYLE	12	\$	281.16	\$	5,904.36
14				TOTAL	<del>0)</del>	\$ 88	88,583.44
15		<b>OFFICE AREA CAT6 CABLING</b>					
16	WCEM58281	MOHAWK CAT6 LAN - PLENUM / 1000', BLUE	100	ક	381.60	\$ 38	38,160.00
- 17	LEV41080-4IP	4-PORT QUICKPORT WALLPLATE, IVORY	250	\$	1.09	<del>⊕</del>	273.00
18	LEV41084-BIB	QUICKPORT BLANK, IVORY BAG OF 10	09	\$	0.17	<b>6</b>	8.40
19	LEV51084-ICN	INSERT SHUTTER KIT, MISC ICONS 50-CT	10	\$	7.84	6	78.36
20	LEV61110-RL6	CAT6 KEYSTONE JACK, BLUE	550	\$	5.99	⊕ ⊕	3,293.40
21	LEV69586-U48	CAT6 48-PORT PATCH PANEL, 110 STYLE	10	69	281.16	\$	2,811.60
22	LEV86014-000	SINGLE GANG BLANK PLATE, ALMOND	300	↔	0.24	æ	72.00
23	ARTLV1	SINGLE GANG LOW VOLTAGE RING	300	ঞ	1.01	60	303.84
24				TOTAL	<del>(/)</del>	\$ 45	45,000.60
25		WIRELESS ACCESS POINTS					



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	TAN NOMBER	DESCRIPTION.	- KCOM -		9		12
26	WCEM58178	MOHAWK CAT6 LAN - PLENUM / 1000, YELLOW	10	ક	381.60	ક	3,816.00
27	LEV41089-4WP	4-PORT SURFACE MOUNT BOX, WHITE	10	\$	2.58	\$	25.80
28	LEV51084-ICN	INSERT SHUTTER KIT, MISC ICONS 50-CT	10	\$	7.84	\$	78.36
29	LEV61110-RY6	CAT6 KEYSTONE JACK, YELLOW	48	\$	5.99	\$	287.42
30	LEV69586-U48	CAT6 48-PORT PATCH PANEL, 110 STYLE	1	\$	281.16	\$	281.16
34				TOTAL	:	\$	4,488.74
32		ACCESS CONTROL CATE CABLING					
33	WCEM58288	MOHAWK CAT6 LAN - PLEN. / 1000', ORANGE	10	\$	381.60	\$	3,816.00
34	LEV41089-4WP	4-PORT SURFACE MOUNT BOX, WHITE	16	\$	2.58	&	41.28
35	LEV51084-ICN	INSERT SHUTTER KIT, MISC ICONS 50-CT	10	\$	7.84	\$	78.36
36	LEV61110-RO6	CAT6 KEYSTONE JACK, ORANGE	48	\$	5.99	\$	287.42
37	LEV69586-U48	CAT6 48-PORT PATCH PANEL, 110 STYLE		\$	281.16	\$	281.16
38				TOTAL		s.	4,504.22
39		IP CAMERA CAT6 CABLING					
40	WCEM58286	MOHAWK CAT6 LAN - PLENUM / 1000', GREEN	12	\$	381.60	\$	4,579.20
41	LEV41089-4WP	4-PORT SURFACE MOUNT BOX, WHITE	25	↔	2.58	\$	64.50
42	LEV51084-ICN	INSERT SHUTTER KIT, MISC ICONS 50-CT	10	↔	7.84	\$	78.36
43	LEV61110-RV6	CAT6 KEYSTONE JACK, GREEN	48	\$	5.99	\$	287.42
44	LEV69586-U48	CAT6 48-PORT PATCH PANEL, 110 STYLE	2	\$	281.16	\$	562.32
45				TOTAL		₩.	5,571.80
46		CATV					
47	IDE89-055	RG-6 COMPRESSION F, 50-CT JAR	4	&	28.80	↔	115.20
48	LEV41084-FIF	KEYSTONE F-CONN. INSERT, IVORY	50	ક	1.74	↔	87.00
49	WCEM71002	DUAL SHIELD R6-6 - PLENUM / 1000'	4	<del>S</del>	498.00	s	1,992.00
20				TOTAL		\$	2,194.20



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FINE#	PART NUMBER	DESCRIPTION	QUANTITY	Unit Price \$	rice \$	EXT	EXT PRICE
51		SPEAKERS					
52	E-PV9022	VALCOM 2 X 2 DROP-IN SPEAKERS	80	\$	78.00	\$	6,240.00
53				TOTAL		↔	6,240.00
54		FIBER AND COPPER BACKBONE: DHHR TO WIC					
55	LEV5P130-00N	1U MODULAR SHELF	2	\$	200.40	\$	400.80
56	LEVT47BF-P06	4" BARE FUSION MINI SPLICE TRAY	2	\$	21.50	\$	43.01
57	LEV50PSC-M03	3-METER 50/125 MM FUSION SPLICE PIGTAIL	12	\$	8.57	\$	102.82
58	WCEM9C202	50/125 MM PLENUM IN/OUT LOOSE TUBE	009	\$	1.42	\$	849.60
59	WCETEL24/25PDB	24 AWG / 25 PR DIRECT-BURY PE-89	200	\$	0.92	\$	183.84
09	WCETEL24/25PC3P	24AWG / 25PR CAT3 TELEPHONE - PLENUM	400	↔	1.13	\$	451.20
61	CIR1880B1-25	CIRCA 25 PAIR 110 IN/OUT ENTRANCE TERM.	2	\$	128.40	\$	256.80
62	CIR3B1E	ENTRANCE TERMINAL GAS MODULE	09	\$	2.78	\$	139.20
63	3-MKB2-100-2	3M SPLICE CASE	_	₩	112.56	\$	112.56
64	3-M710-SC1-25	25-PAIR SPLICE MODULE	-	\$	6.30	\$	6.30
65	LEV5G596-U24	CAT5E 24-PORT PATCH PANEL, 110 STYLE	2	\$	90.96	\$	192.12
99	LEV492RU-HFO	HORIZONTAL 2RU WIRE MGR, FRONT ONLY	4	\$	34.10	\$	136.42
29	HOFE-DR19FM45U	HOFFMAN 2-POST OPEN FRAME RACK	2	\$	132.53	\$	265.06
89	PNTRGRB19Y	1/4" X 1" X 19 1/4" HOR. GROUND BAR		\$	133.80	\$	133.80
69				TOTAL		\$	3,273.52
20	PHR.	DHHR INTRABUILDING FIBER AND COPPER BACKBONE: MER TO MPOP	MPOP				
71	LEVUPPSC-S03	3-METER 9/125 SM FUSION SPLICE PIGTAIL	9	\$	13.36	<del>6</del>	80.14
72	WCETEL24/25PC3P	24AWG / 25PR CAT3 TELEPHONE - PLENUM	400	ક	1,13	ಈ	451.20
73	SIE95-201-41-SP	SM SC FIBER CONNECTOR	9	\$	11.45	ક્ર	68.69
74	WCEM9W015	9/125 SM PLENUM INDOOR TIGHT BUFFER	400	\$	0.90	&	360.00
75	LEV5W110-00N	WALL MOUNT FIBER ENCLOSURE	1	\$	68.99	\$	68'89



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LINE#	PART NUMBER	DESCRIPTION	QUANTITY	Unit Price \$	ce \$	EXT	EXT PRICE
9/	LEV5F100-3ZC	3 DUPLEX SC FIBER PANEL ADAPTER	-	\$	32.72	€	32.72
77	LEV5F100-BLK	BLANK FIBER PANEL ADAPTER	_	&	6.35	↔	6.35
78	LEV41A10-HCM	110 STYLE HORIZONTAL CORD MGR W/ LEGS	1	\$	7.08	\$	7.08
62	LEV49104-IDC	C-4 CONNECTOR CLIPS - BAG OF 10	7	\$	5.60	\$	5.60
80	LEV41AW1-050	50-PAIR WALL MOUNT 110 BLOCK W/ LEGS		\$	7.68	↔	7.68
84	LEV5G596-U24	CAT5E 24-PORT PATCH PANEL, 110 STYLE	_	€	90.96	↔	96.06
82	LEV49253-LPM	4" 1RU HORIZONTAL PATCH CORD MGR	-	↔	31.01	<del>⇔</del>	31.01
83	EMSES14212BIM	1/4" X 2" X 12" GROUND BAR W/BRACKET	-	\$	85.06	&	85.06
84				TOTAL	••	₩.	1,300.57
82		CABLE TRAY					
98	CABCF54/450	18" X 10' BASKET TRAY	100	\$	79.18	₩	7,917.60
87	CABCF54/300	12" X 10' BASKET TRAY	75	\$	74.82	\$	5,611.50
88	CABSWKEZ	SPLICE WASHER KIT / 50-PK	25	\$	54.00	\$	1,350.00
68	CABEZT90KIT	90-DEGREE BEND KIT	25	\$	12.84	÷	321.00
90	CABDROPOUT	CABLE WATERFALL DROPOUT	25	\$	12.40	\$	309.90
91				TOTAL		↔	15,510.00
92	ADDITI	ADDITIONAL TRAY MATERIAL, REQUIRED BUT NOT INCLUDED IN BID PRICE	) PRICE				
93	CABFASPCH450	18" CENTER HANGER	143	\$	12.36	မ	1,767.48
94	CABFASPCH300	12" CENTER HANGER	108	↔	8.88	မှ	959.04
95	S-CR648	1/2" X 6' THREADED ROD	143	↔	1.20	↔	171.60
96	S-CR638	3/8" X 6' THREADED ROD	108	\$	0.96	↔	103.68
26	MTSJSW76	1/2" FLAT WASHER	286	↔	0.96	s	274.56
86	MTSJN166	1/2" HEX NUT	286	↔	90.0	↔	17.16
66	MTSJSW75	3/8" FLAT WASHER	216	€	0.36	€	77.76
100	MTSJN165	3/8" HEX NUT	216	↔	90.0	8	12.96



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### 6.0 Cabling Bill of Materials List

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世 LINE	PART NUMBER	DESCRIPTION	QUANTITY	Unit Price \$	- \$ &	EXT	EXT PRICE
101	CABEZBN1/4	BOLT / NUT - 50-PK	7-	\$	9.00	\$	9.00
102	CABCE25	SPLICE WASHER / 50-PK	<del>-</del>	\$	16.80	<del>s</del>	16.80
103	CABCLIPBLUE	CABLE TRAY IDENTIFICATION LABEL - BLUE	700	↔	12.10	↔	8,467.20
104	CABGNDCL	CABLE TRAY GROUNDING CLAMP	175	\$	6.46	↔	1,129.80
105				TOTAL	•	↔	13,007.04
106		MAIN EQUIPMENT ROOM (MER)					
107	HOFE-DR19FM45U	HOFFMAN 2-POST OPEN FRAME RACK	5	\$ 13	132.53	<del>S</del>	662.64
108	LEV4980L-VFO	80" VERTICAL CABLE MGR, FRONT ONLY	8	.1	110.58	↔	884.64
109	HOFLSS18BLK	18" X 10' LADDER TRAY	8	\$	86.36	↔	690.91
110	HOFLRRMPBLK18	18" RACK TO RUNWAY MOUNTING KIT	4	\$	32.10	69	128.40
111	HOFLBSKB	LADDER TRAY BUTT-SPLICE KIT	2	\$	8.98	€	17.95
112	HOFLJSKB	LADDER TRAY JUNCTION SPLICE KIT	4	9	9.16	€9	36.62
113	HOFLWASK18BLK	18" LADDER TRAY WALL SUPPORT BRACKET	5	↔	25.46	8	127.32
114	HOFE4DR19FM38U	4-POST OPEN FRAME ADJUSTABLE RACK	2	\$ 6.	630.96	\$	1,261.92
115	HOFD19FVT69B	4-POST VENTED ADJUSTABLE SHELF	8	\$	153.14	₩	1,225.15
116	PNTRGRB19Y	1/4" X 1" X 19 1/4" HOR. GROUND BAR	8	₩	133.80	8	1,070.40
117				TOTAL		↔	6,105.96

195,780.10

Mohawk/Leviton

523,030.10



### ISCH0263 RFQ#

# Kanawha County DHHR CAT6 and Fiber Materials List

118         MISC ADDITIONAL EQUIPMENT - AL           120         LEV62460-01Y         1' CAT6 P           121         LEV62460-05Y         3' CAT6 P           122         LEV62460-05Y         7' CAT6 P           123         LEV62460-10Y         1' CAT6 F           124         LEV62460-01G         1' CAT6 F           125         LEV62460-01G         1' CAT6 F           126         LEV62460-05G         3' CAT6 F           127         LEV62460-07G         7' CAT6 F           129         LEV62460-01G         1' CAT6 F           130         LEV62460-01G         1' CAT6 F           131         LEV62460-01G         1' CAT6 F           132         LEV62460-01G         1' CAT6 F           133         LEV62460-01G         7' CAT6 F           134         PNTGB2B0312TPI-1         1/4" X 2" X 12"           135         PNTGB2B0312TPI-1         1/4" X 5" X 2" X 2"           136         PNTRGS134-1Y         1/4" X 5/8" X 36"           137         PNTRGS134-1Y         1/4" X 5/8" X 36"           137         PNTRGS134-1Y         1/4" X 5/8" X 10"	DESCRIPTION	QUANTITY	Unit Price \$	EXT PRICE	ICE
LEV62460-01Y LEV62460-03Y LEV62460-05Y LEV62460-07Y LEV62460-01G LEV62460-01G LEV62460-07G LEV62460-07G LEV62460-07G LEV62460-07G LEV62460-07O LEV62460-07O LEV62460-07O LEV62460-07O LEV62460-07O LEV62460-07O LEV62460-07O LEV62460-10O PNTGB2B0312TPI-1 PNTGB2B0312TPI-1 PNTGB2B0312TPI-1 PNTGB2B0312TPI-1 PNTGB2B0312TPI-1 PNTGB2B0312TPI-1	QUIPMENT - ALTERNATE BID (NOT INCLUDED IN TOTAL PRICE	AL PRICE)			
LEV62460-03Y LEV62460-05Y LEV62460-07Y LEV62460-10Y LEV62460-01G LEV62460-03G LEV62460-07G LEV62460-07G LEV62460-07G LEV62460-07G LEV62460-07O LEV62460-01O LEV62460-01O LEV62460-01O LEV62460-01O LEV62460-07O LEV62460-07O LEV62460-07O LEV62460-10O PNTGB2B0312TPI-1 PNTGB2B0312TPI-1 PNTGB2B0312TPI-1 PNTGB2B0312TPI-1 PNTGB2B0312TPI-1 PNTGB2B0312TPI-1	1' CAT6 PATCH CORD - YELLOW	1	\$ 5.06	\$	5.06
LEV62460-05Y LEV62460-07Y LEV62460-10Y LEV62460-01G LEV62460-03G LEV62460-07G LEV62460-07G LEV62460-07G LEV62460-07O LEV62460-07O LEV62460-07O LEV62460-07O LEV62460-10O PNTGB2B0312TPI-1 PNTGB2B0312TPI-1 PNTGB2B0312TPI-1 PNTGB2B0312TPI-1 PNTGB2B0312TPI-1 PNTGB2B0312TPI-1	3' CAT6 PATCH CORD - YELLOW	1	\$ 5.76	\$	5.76
LEV62460-07Y LEV62460-10Y LEV62460-01G LEV62460-03G LEV62460-05G LEV62460-07G LEV62460-07G LEV62460-01O LEV62460-01O LEV62460-01O LEV62460-01O LEV62460-07O LEV62460-07O LEV62460-07O PNTGB2B0312TPI-1 PNTGB2B0312TPI-1 PNTGB2B0312TPI-1 PNTGB2B0312TPI-1 PNTGB2B0312TPI-1 PNTGB2B0312TPI-1	5' CAT6 PATCH CORD - YELLOW	1	\$ 6.67	\$	6.67
LEV62460-10Y LEV62460-01G LEV62460-03G LEV62460-05G LEV62460-07G LEV62460-01O LEV62460-01O LEV62460-01O LEV62460-01O LEV62460-01O LEV62460-07O LEV62460-07O LEV62460-10O PNTGB2B0312TPI-1 PNTGB2B0312TPI-1 PNTGB2B0312TPI-1 PNTGB2B0312TPI-1 PNTGB2B0312TPI-1 PNTGB2B0312TPI-1	7' CAT6 PATCH CORD - YELLOW	-	\$ 7.29	\$	7.29
LEV62460-01G LEV62460-03G LEV62460-05G LEV62460-07G LEV62460-01O LEV62460-01O LEV62460-01O LEV62460-07O LEV62460-07O LEV62460-07O LEV62460-07O PNTGB2B0312TPI-1 PNTGB2B0312TPI-1 PNTGB2B0312TPI-1 PNTGB2B0312TPI-1 PNTGB2B0312TPI-1 PNTGB2B0312TPI-1 PNTGB2B0312TPI-1 PNTGB2B0312TPI-1	10' CAT6 PATCH CORD - YELLOW	1	\$ 8.45	\$	8.45
LEV62460-03G LEV62460-05G LEV62460-07G LEV62460-01O LEV62460-01O LEV62460-03O LEV62460-05O LEV62460-07O LEV62460-10O PNTGB2B0312TPI-1 PNTGB2B0312TPI-1 PNTGB2B0312TPI-1 PNTGB2B0312TPI-1 PNTGB2B0312TPI-1 PNTGB2B0312TPI-1	1' CAT6 PATCH CORD - GREEN	1	\$ 5.06	\$	5.06
LEV62460-05G     LEV62460-07G     LEV62460-07G     LEV62460-01O     LEV62460-03O     LEV62460-05O     LEV62460-05O     LEV62460-07O     LEV62460-10O     PNTGB2B0306TPi-1     PNTGB2B0312TPi-1     PNTGB2B0312TPi-1     PNTGB2B0312TPi-1     PNTGB2B0312TPi-1     PNTGB2B0312TPi-1     PNTGB2B0312TPi-1	3' CAT6 PATCH CORD - GREEN	_	\$ 5.76	\$	5.76
LEV62460-07G LEV62460-10G LEV62460-01O LEV62460-03O LEV62460-05O LEV62460-07O LEV62460-10O PNTGB2B0306TPI-1 PNTGB2B0312TPI-1 PNTGB2B0312TPI-1 PNTGB2B0312TPI-1 PNTGB2B0312TPI-1	5' CAT6 PATCH CORD - GREEN	1	\$ 6.67	*	6.67
LEV62460-10G     LEV62460-01O     LEV62460-03O     LEV62460-05O     LEV62460-07O     LEV62460-10O     PNTGB2B0306TPi-1     PNTGB2B0312TPi-1     PNTGB2B0312TPi-1     PNTGSS134-1Y     PNTRGS134-1Y	7' CAT6 PATCH CORD - GREEN	-	\$ 7.29	\$	7.29
LEV62460-010 LEV62460-030 LEV62460-050 LEV62460-100 LEV62460-100 PNTGB2B0306TPI-1 PNTGB2B0312TPI-1 PNTGB2B0312TPI-1 PNTGB2B0312TPI-1 PNTGB2B0312TPI-1	10' CAT6 PATCH CORD - GREEN	1	\$ 8.45	\$	8.45
LEV62460-03O     LEV62460-05O     LEV62460-07O     LEV62460-10O     PNTGB2B0306TPi-1     PNTGB2B0312TPi-1     PNTGS134-1Y     PNTRGS134-1Y     DNTDCDB40V	1' CAT6 PATCH CORD - ORANGE	1	\$ 5.06	&	5.06
LEV62460-050 LEV62460-070 LEV62460-100 PNTGB2B0306TPI-1 PNTGB2B0312TPI-1 PNTGB2B0312TPI-1 PNTRGS134-1Y PNTRGS134-1Y	3' CAT6 PATCH CORD - ORANGE	1	\$ 5.76	\$	5.76
LEV62460-07O     LEV62460-10O     PNTGB2B0306TPI-1     PNTGB2B0312TPI-1     PNTRGS134-1Y     PNTRGS134-1Y     DNTDCDB40V	5' CAT6 PATCH CORD - ORANGE	1	\$ 6.67	\$	6.67
LEV62460-100 PNTGB2B0306TPI-1 PNTGB2B0312TPI-1 PNTRGS134-1Y PNTRGS134-1Y DNTDG2B40V	7' CAT6 PATCH CORD - ORANGE	7	\$ 7.29	*	7.29
PNTGB2B0306TPI-1 PNTGB2B0312TPI-1 PNTRGS134-1Y PNTRGS134-1Y	10' CAT6 PATCH CORD - ORANGE	1	\$ 8.45	\$	8.45
PNTGB2B0312TPI-1 PNTRGS134-1Y PNTRGS134-1Y	1/4" X 2" X 12" GROUND BAR W/BRACKET	1	\$ 114.40	\$	114.40
PNTRGS134-1Y PNTRGS134-1Y DNTPGDB40V	1/4" X 2" X 20" GROUND BAR W/BRACKET	1	\$ 143.00	↔	143.00
PNTRGS134-1Y	1/4" X 5/8" X 36" VERT. RACK GROUND BAR	-	\$ 114.40	\$	114.40
Votagoativa	1/4" X 5/8" X 72" VERT. RACK GROUND BAR	~	\$ 114.40	€9	114,40
	1/4" X 1" X 19-1/4" HOR. RACK GROUND BAR	-	\$ 72.80	\$	72.80

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### **IMPORTANT**

If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

### **DISCLAIMER**

The Certificate of Insurance on the reverse side of this form does not constitute a contract between the issuing insurer(s), authorized representative or producer, and the certificate holder, nor does it affirmatively or negatively amend, extend or alter the coverage afforded by the policies listed thereon.

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### Robert W Connell, RCDD

### **Objective**

Management position with the opportunity for advancement to upper level management and administration.

### Professional experience

2001 - 2005

The Siemon Company

Watertown, CT

### **Structured Cabling System Specialist**

As a Structured Cabling System Specialist I headed the Design Assistance Program where I directed and performed the design of structured cabling systems including basic competitor cross-references, Bill of Materials from blue prints and written specifications, writing Bid Specifications, Rack Elevation Drawings, and complete Structured Cabling System Designs. Additional responsibilities included working with Product Management on product validation and testing, answering incoming customer calls for technical assistance on installation, part number, and general information on the products offered.

2000 - 2001

Hubbell Premise Wiring

Stonington, CT

### **Business Development Manager**

As the Business Development Manager I researched, planned, developed, and directed the overall sales and marketing activities for the SoHo and Fiber Optic products and Services to emerging and alternate markets/sales channels including the CATV, SoHo, Retail Markets, and the OEM segment. Researched and provided recommendations covering product requirements, marketing support (trade shows, brochures, advertising), lifecycle analysis, and sales coverage to the referenced markets. Conducted product presentations and training to educate users with regards to standards requirements, applications, and products.

1993 - 2000

**KRONE** Incorporated

Englewood, CO

### **Product Manager/Technical Support Engineer**

- As Product Manager I lead the development team in the definition, vendor qualifications, lifecycle analysis, and development of a complete Fiber Optic Portfolio as well as many Copper Based Products. Maintained yearly forecasts and stocking levels for all components and finished products. Spent time with the Sales Engineers to come up with new ideas for improving existing product lines and creating new products.
- As Technical Support Engineer I would take incoming customer calls that require technical assistance on installation, part number, and general information on the products offered. Made detailed AutoCad drawings for the layout of all closets within a customer's site that included Bill of Materials to ensure the customer gets exactly what they needed for each project. Tested and validated products for the development department.

### Additional professional activities

- Worked on getting KRONE Inc's manufacturing plant set up in Toluca, Mexico including working with both U.S. Customs and Mexican Customs, and Secofi (equivalent to the U.S. Dept. of Commerce) on getting set up as a "Meguiladora Operation". Well versed in NAFTA as I was in charge of all international shipments for KRONE from 1994 through 1998.
- Former voting committee member to TIA 42.8 (Fiber Optics) and 42.9 (Industrial Premises) sub-committees. Was one of the Editors to TIA 42.9 sub-committee where we were charged with writing the new standard for Industrial Premises, which is to be published as TIA-1005.
- Former Voting committee member for the Joint Special Interest Group (JSIG) of the Open DeviceNet Vendor Association (ODVA) which published the Ethernet/IP specification and the planning and installation manual for Industrial Premises. Formerly one of the editors charged with writing the Planning and Installation Manual for the Ethernet/IP Specification.

### **Professional** memberships

Member of BICSI where I achieved the RCDD designation, member of the Construction Specification Institute (CSI), Certified System Designer and Installer by the Fiber Optic Association.

### Education

1991 – 1996 Colorado Technical University

Colorado Springs, CO

### **Logistic Systems Management**

1990 - 1991

Colorado State University

Fort Collins, CO

### **Computer Information Systems**

1983 - 1986

Pikes Peak Community College Colorado Springs, CO

### **AA - Automotive Technician**

### Additional Certifications

RCDD, KRONE Certified Installation Technician, Siemon Certified Installation Technician and Designer, AutoCad R14 Level 1 Certification, Certified Fiber Optic Network Designer, and Certified Fiber Optic Network Installer

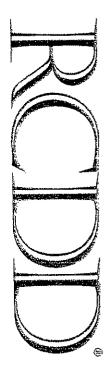
### Skills

Microsoft Windows, Word, Excel, Project, PowerPoint, Visio, Lotus Notes, and AutoCAD. Through practical experience I excel in managerial skills, inventory control, and customer service.

### Community activities

Through out my life I have always been involved in Scouting. First as a member where I achieved the rank of Eagle Scout, then as an adult leader.

The professional Jesignation of



REGISTERED COMMUNICATIONS DISTRIBUTION DEGIGER

is an arried to

# Robert W. Connell

by BICSI, A Telecommunications Association, in recognition of baving successfully completed BICSI's registration and examination requirements.



*ևուով* January 1, 2006

December 31, 2008

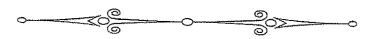
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### INFORMATION TRANSPORT SYSTEMS

INSTALLER 2



is awarded to

### David D Daum

by BICSI® in recognition of baving successfully completed BICSI's registration and examination requirements.

Issued

8/29/2007

advancing information transport systems

President, BISSI

Executive Director, BICSI

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### INFORMATION TRANSPORT SYSTEMS

INSTALLER 2

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### HOBERT L. POWELL

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Executive Director, BICSI

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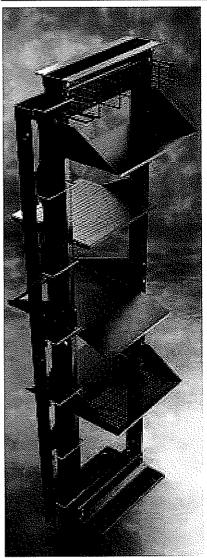
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advancing information transport systems



Installer



(Shown with accessories)

### Application

The DataCom 2-Post Open Frame Rack is a key element in a structured cabling system. With models sized to fit either 19" or 23" equipment, this floor mounted unit is particularily well suited for networking and data transmission applications. A broad selection of matching accessory shelves and cable management hardware lets you customize each rack to your specific requirements.

### Construction

- Frame is a strong and lightweight aluminum (6063-T6 alloy) extrusion
- Range of heights from 4' to 9' (24U to 58U) to match capacity requirements
- · Side rails are tapped on both sides with 12-24UNC threads for quick installation
- EIA Universal 5/8" 5/8" 1/2" vertical mounting hole pattern matches industry standards and connects to most competitive racks for easy system
- Full complement of matching components for equipment and cable management
- Packed unassembled in individual cartons; assembly hardware (including twenty 12-24 mounting screws) is furnished for convenient storage and installation
- Can be shipped via FedEx or UPS

RAL 9005 black polyester powder paint or milled aluminum

### Load Rating

Do not exceed the following recommended load ratings.

	Suggest Load rat	
Description	lbs	kg
Floor Mount Rack	1000	453.6
One-Sided Solid Shelf	150	68.0
Double-Sided Solid Shelf	300	136.1
One-Sided Vented Shelf	150	68.0
Double-Sided Vented Shelf	300	136.1
Adjustable Vented Shelf	60	27.2
Keyboard/Monitor Shelf	200	90.7

### **Industry Standards**

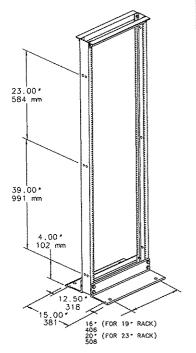
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### Accessories

Panel Adapters

**%** 763 422 2211

See the chart on the reverse side for additional DataCom accessories. Adjustable Vented Shelf Cable Channel Cable Keepers Cable Organizers Cable Trough Double-Sided Solid Shelf Double-Sided Vented Shelf Joining Kit Mounting Screw Kit One-Sided Solid Shelf One-Sided Vented Shelf



87557560

### **Standard Sizes** 19" Rack Mount (20.25 inches wide)

Catalog Rack Number Finish Units	Height
EDR19FM24U Black 24	4 feet
EDR19FM38U Black 38	6 feet
EDR19FM45U Black 45	7 feet
EVR19FM45U Mill 45	7 feet
EDR19FM51U Black 51	8 feet
EVR19FM51U Mill 51	8 feet
EDR19FM58U Black 58	9 feet
EVR19FM58U Mill 58	9 feet

### Standard Sizes 23" Rack Mount (24.25 inches wide)

Nominal Catalog Number	Finish	Rack Units	Frame Height
EDR23FM24U	Black	24	4 feet
EDR23FM38U	Black	38	6 feet
EDR23FM45U	Black	45	7 feet
EVR23FM45U	Mill	45	7 feet
EDR23FM51U	Black	51	8 feet
EVR23FM51U	Mill	51	8 feet

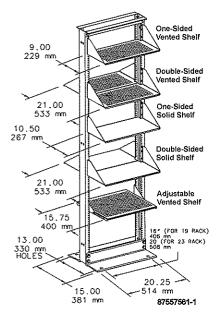


### DataCom 2-Post Open Frame Rack



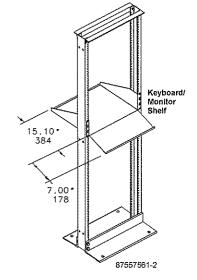


### Accessories



For accessory specifications, see the DataCom Catalog.

Description	19 in. Accessories Catalog Number	23 in. Accessorie Catalog Number
Shelves		
One-sided Vented Shelf - black painted steel	ESH19V	ESH23V
Double-sided Vented Shelf - black painted steel	ESHDV19	ESHDV23
One-sided Solid Shelf - black painted steet	ESH19S	ESH23S
Double-Sided Solid Shelf - black painted steel	ESHD19	ESHD23
Adjustable Shelf - black painted steel	ESHVA19	ESHVA23
Keyboard/Monitor Shelf - black painted steel	ESH19KBM	ESH23KBM
19" Single-sided Shelf - brushed aluminum	ESHA19	
19" Double-sided Shelf - brushed aluminum	ESHDA19	
19" Double-sided Heavy Duty Shelf - brushed aluminum	ESHDHDA19	
19" Pull-out Keyboard Tray with Monitor Shelf - black painted steel	E19SKBM	
19" Pull-out Shelf for Mini Keyboard -black painted steel	P19KBSM	
19" Pivoting Keyboard Shelf with Mouse Tray - black painted steel	P19KBPVT	
Sliding Equipment Shelf	P19SHP68B	P23SHP68B
Sliding Equipment Shelf	P19SHP810B	P23SHP810B
Cable Management		
4 foot Vertical Cable Channel	ECC24U	
6 foot Vertical Cable Channel	ECC38U	
7 foot Vertical Cable Channel	ECC45U	
8 foot Vertical Cable Channel	ECC51U	
9 foot Vertical Cable Channel	ECC58U	
7-foot Double-sided Vertical Cable Channel - black painted steel	ECCDB45U	
7-foot Single-sided Vertical Cable Channel - black painted steel	ECCSB45U	
7-foot Single-sided Vertical Cable Channel - brushed aluminum	ECCSA45U	
7-foot Double-sided Vertical Cable Channel- brushed aluminum	ECCDA45U	
	ECCCVRB45U <sup>a</sup>	
Cable Channel cover - black painted steel Cable Channel Cover - brushed aluminum	ECCCVRA45U <sup>a</sup>	
Cable Keepers 3 Rack Units	ELRCK3U	
Cable Keepers 9 Rack Units	ELRCK9U	
19" Horizontal Cable Manager	ECK19H	
Horizontal and Vertical Cable Organizer	ECK19HV	ECK23HV
Horizontal Cable Manager Cover	ECKCVR19	ECKCVR23
Cable Trough - steel with black finish	ECT19	ECT23
Waterfall Top - steel with black finish	EWFT	
19 in. Rack Mount Power Strips		
20 Amp Surge Protected, 1200 Joule rating, 96,000 Amp Peak Current	A19P20A8S	
20 Amp Surge Protected, 640 Joule rating, 52,000 Amp Peak Current	A19P20A10	
15 Amp, 6 front and 6 rear outlets	A19P156F6R	
Miscellaneous		
Joining Kit - Side to Side	EJ2DR	
Panel Adapters - steel with clear zinc finish - 1 rack unit	ERB1U2319	
Panel Adapters - steel with clear zinc finish - 3 rack units	ERB3U2319	
Panel Adapters - steel with clear zinc finish - 5 rack units	ERB5U2319	
12-24 UNC Screws, silver - package of 20/package of 250	ES1224	ES1224250
12-24 UNC Screws, black - package of 20/package of 250	ES1224B	ES1224250B
Velcro Wrap - Black - 8" or 12"	ECW8B	ECW12B
Velcro Wrap, Red - 8" or 12"	ECW8R	ECW12R
VC:010 V11ap; 110a 0 0: 12		
Veicro Wrap, Blue - 8" or 12"	ECW8BL	ECW12BL



a Fits ECCDB45U, ECCSB45U, ECCSA45U, and ECCDA45U only.



### HOFFMAN

2100 Hoffman Way, Anoka, MN 55303-1745 USA (763) 421-2240 • Fax (763) 422-2600 • www.hoffmanonline.com Customer Service (763) 422-2211

# **QuickPort® 2-Port Surface Mount Housing**

### Component Specifications

### **QuickPort® 2-Port Surface Mount Housing**

### **APPLICATION**

Compact housing for 1- or 2-port surface mounting of QuickPort® snap-in modules. Use to support voice/data applications in open office, retrofit or other surface mount environments. (Connectors sold separately.)

### STANDARDS COMPLIANCE

Meets or exceeds all applicable standards: UL Listed; complies with NEC® Article 800.

### PHYSICAL SPECIFICATIONS

Dimensions: 2.52"H x 2.22"W x 1.10"D Capacity: 1 or 2 snap-in modules

Materials: High-impact, fire-retardant plastic rated UL

94V-0

Mounting: Use screws (included), adhesive tape

(included), or magnet (PN# 41030-SMJ)

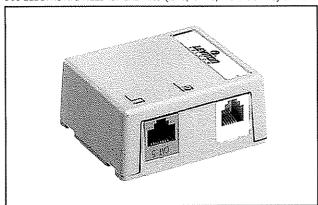
### **DESIGN CONSIDERATIONS**

- Very small footprint.
- Can be used for 1- and 2-port applications.
- Specify whether the product will mount with adhesive tape or screws or magnet.
- Specify side or rear cable entry. (Rear entry is recommended to help meet cable bend radius standards).
- A blank insert is included to allow for future expansion.
- Specify port identification method (colored modules, designation labels, and custom silkscreening are available). To ID ports, use different colored connectors for each application (13 TIA/EIA-606 compatible colors are available), or Leviton's pre-printed Port Designation Labels.
- · Security screw option.

### **UNIQUE FEATURES**

- Very small footprint/profile.
- The housing base functions as a punchdown platform for stabilizing connectors during termination.
- Includes a blank to allow for use as a 1- or 2-port device, and allow for future expansion when only one port is initially used.
- Security screw option.
- Four color choices: ivory, white, grey and black.

See ELECTRONIC FILES for CAD files (.DXF, .DWG, MS-DOS.EPS) on disk



### **INSTALLATION NOTES**

- To install connectors: snap into base and terminate. Attach base to desired surface (using screws or tape), and snap on cover.
- The housing base doubles as a punchdown platform for terminating connectors.
- If desired, connectors can be pre-terminated prior to snapping into housing.
- · Detailed installation instructions are included in the carton.

### WARRANTY INFORMATION

For a copy of Leviton product warranties, log on to www.levitonvoicedata.com/warranty.

For ELECTRONIC Typical Specs see (.TXT) file on disk.

### TYPICAL SPECIFICATION

Surface mount telecommunications outlet housings shall be a high-density low profile design with (2) two field-configurable ports, snap-lock cover, and cable knockouts on back. Housing cover shall have raceway knockouts for top and bottom entry. Base shall include Tie-wrap anchor points at all cable entrances. The housing shall be mountable with screws, tape or a single magnet. The cover shall provide the option of securing it to the base with a screw that is hidden under the outlet identification window. Colors and configurations to be specified per schedule on plan. Must be constructed of high-impact self-extinguishing plastic rated UL 94V-O, and be UL Listed and compliant with FCC Part 68 and TIA-568-B specifications.



For Technical Support Call 1-425-485-4288; in USA call 1-800-824-3005. Spec sheets and updates are also available at www.levitonvoicedata.com.

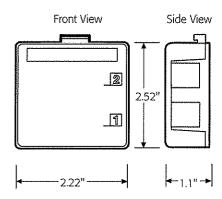


### **QuickPort® 2-Port Surface Mount Housing**

**Part Number** 41089-2xP

### **DIMENSIONAL LINE ART**

See ELECTRONIC FILES for CAD images (.DXF, .DWG, MS-DOS.EPS)



### **PART NUMBER**

Description	Part No.
2-Port Surface Mount Housing (with 1 blank)	41089-2*P
Magnets	41030-SMJ

<sup>\* =</sup> color: Ivory (I), White (W), Grey (G), Black (E)



For Technical Support Call 1-425-485-4288; in USA call 1-800-824-3005. Spec sheets and updates are also available at www.levitonvoicedata.com.



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### Component Specifications



Part Numbers 5Rx30-xxx 5Px30-xxx

### Opt-X® 1000 Rack-Mount Enclosures

### **APPLICATION**

For rack mount fiber applications requiring high-density patching, cross connect, and/or splicing of up to 24 singlemode or multimode fibers while utilizing a minimum of rack space.

### **FEATURES**

- · Adjustable dual-ring fiber management
- Self-healing, self-adhesive grommet material at all cable entry/exit points
- Removable front and rear doors allow access to vertical cable passing through the enclosure, at both front and rear of enclosure
- Slide-rail option allows easy installation and maintenance
- 19" rack mount only

### STANDARDS COMPLIANCE

Meets or exceeds all applicable standards: TIA/EIA-568-B, -606, and -607. UL Listed. CSA Certified.

### **PHYSICAL SPECIFICATIONS**

Dimensions:

1.75"H x 19.0"W x 12.0"D

Materials

Enclosures:

18 gauge steel, powder coated black with white Leviton logo

Fiber Management Rings:

Self-extinguishing plastic-rated UL 94V-0

Grommet material: Bulkheads:

Ensolite™ See second page

### **DESIGN CONSIDERATIONS**

- Enclosures are available with or without adapters in them.
   Be sure to specify the desired configuration.
- Enclosures are available with one of three single-piece bulkhead options, SC, ST\* or an empty bulkhead with space for any three Opt-X Adapter Plates.
- Specify the slide-rail option if desired for easier access and maintenance when other items will be mounted on the rack above the enclosure.
- Slide Rail Kit available for 19" rack only.
- · Specify if splicing is to be used, and if so, what type.
- · Recommend that enclosures be arranged to allow future growth.
- Designation labeling allows identification of port assignments.
- Enclosures are capable of storing up to 3 meters of 900 micron tight buffered fiber per connector.
- · Lid option: Metal only.
- Includes hardware kit with Hook and Loop ties, curly locks, screws, a caution label, and cable ties.
- · Accepts up to three splice trays.
- Fiber management rings are removable to help accommodate larger quanties of slack storage at the rear of the tray.



### **WARRANTY INFORMATION**

For a copy of Leviton product warranties, log on to www.levitonvoicedata.com/warranty.

### TYPICAL SPECIFICATION

The enclosure shall accommodate fiber adapters in 1.75" (1RU) space (1 rack space). Adapters shall be pre-installed on bulkheads or mounted on metal plates, and attached to the empty bulkhead using plastic plungers. The adapter plates shall have a port designation number near the adapter. The enclosure shall have removable front and rear doors. There shall be vertical and horizontal cable entrance ports in the top, bottom and sides of the enclosure, both front and rear. All cable entrance ports are designed with a strain relief post with a slot capable of holding a tie wrap. The enclosure shall provide strain relief in the form of a grounding lug and multiple tie wrap points. The enclosure will have mounting ears that allow mounting on 19" or 23" rack in either a mid- or flush-mount configuration. The enclosure shall have dual, adjustable plastic cable management rings made of high impact UL 94V-0 rated self-extinguishing plastic. The enclosure shall be capable of having a slide feature attached to it to allow the entire box to be moved in and out of the rack. A port identification label/card shall be provided. The enclosure shall be made of 18 gauge steel, powder coated black.

### **ELECTRONIC FILES**

For CAD files, Typical Specs, or Dimensional Line Art (.DXF, .DWG, MS-DOS.eps or .TXT), log on to www.levitonvoicedata.com.



For Technical Support Call 1-425-485-4288; in USA call 1-800-824-3005. Spec sheets and updates are also available at www.levitonvoicedata.com.

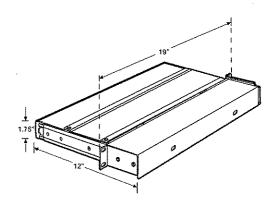


### Opt-X 1000 Rack-Mount Enclosures

Part Numbers 5Rx30-xxx 5Px30-xxx

**DIMENSIONAL LINE ART** 

See ELECTRONIC FILES for CAD images (.DXF, .DWG, MS-DOS.EPS)



FIBER DENSITY CHART - RACK MOUNT OPTIONS								
	6-pack ST or FC	8-pack ST or FC	3-pack Duplex SC	6-pack SC		12-pack MT-RJ		6-pack Quad LC
<b>1RU</b> Holds up to three Adapter Plates	i obio		Up to 18 fibers	Up to 36 fibers		Up to 72 fibers	Up to 36 fibers	Up to 72 fibers

### **PART NUMBERS**

Description	w/Rails	w/o Rails	Internal Configuration
72 fiber, empty (accepts 3 adapter plates, sold separately)	5P130-00N	5R130-00N	
24 Fiber, unloaded, punched for duplex SC adapters	5P330-0HA	5R330-OHA	
24 Fiber, loaded w/3 duplex SC adapters	5P030-0HB	5R030-0HB	(100 - 100 -
24 Fiber, loaded w/6 duplex SC adapters	5P230-0HB	5R230-0HB	1 mg - mg
24 Fiber, loaded w/12 duplex SC adapters	5P330-0HB	5R330-OHB	TE:8:0:8:9:97
24 Fiber, unloaded, punched for ST adapters	5P330-0AA	5R330-0AA	4
24 Fiber, loaded w/6 ST adapters	5P030-0AB	5R030-0AB	
24 Fiber, loaded w/12 ST adapters	5P230-0AB	5R230-OAB	50000000000688888888888888
24 Fiber, loaded w/24 ST adapters	5P330-0AB	5R330-OAB	400000000000000000000000000000000000000

### **ACCESSORIES**

Description	Part No.
3.5" Metal Door	5D000-3RM
3.5" Poly Door	5D000-3RP
Lock and Key	5L000-LOK
Additional Fiber Rings (package of 2)	5R100-0FR
Slide Rail Kit	5\$100-SLM
Mini-Splice Tray, 4.00" x 7.06" x 0.25" (w/two 6-position Heat Shrink Holders)	T47HS-P06
Mini-Splice Tray, Black, 4.00" x 7.06" x 0.25" (w/two 6-position Heat Shrink Foam Holders)	T47SL-F06
Mini-Splice Tray, 4.00" x 7.06" x 0.25" (w/two 6-position Heat Shrink Foam Holders)	T47SL-F12
4" Standard Splice Tray, 4.00" x 11.75" x 0.25" (w/two 6-Position Heat Shrink LGX Holders)	T4LAT-F06
4" High Density Splice Tray, 4.00" x 11.75" x 0.25" (w/four 6-Position Heat Shrink Holders)	T4LHS-P12
4" High Density Splice Tray, 4.00" x 11.75" x 0.25" (w/four 6-Position Heat Shrink LGX Footprint Holders)	T4LAT-F12
4" High Density Splice Tray, 4.00" x 11.75" x 0.25" (w/four 6-Position Heat Shrink Foam Holders)	T4LHS-F12



For Technical Support Call 1-425-485-4288; in USA call 1-800-824-3005. Spec sheets and updates are also available at www.levitonvoicedata.com.



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### Component Specifications



Part Numbers 41D10-HCM 41D1R-HCM 41A10-HCM

### 110-Style Crossconnect Products Wall Rack-Mount Horizontal Cord Managers

### **APPLICATION**

Place in between wall-mount 110 wiring bases or rack-mount wiring panels for routing, organizing and managing patch cords.

### STANDARDS COMPLIANCE

Complies with TIA/EIA-568-B and TIA/EIA-606. UL listed.

### **PHYSICAL SPECIFICATIONS**

Dimensions:

Without legs: 1.73"H x 8.46"W x 2.52"D With legs: 1.8"H x 10.72"W x 4.37"D Rack-Mount: 1.73"H x 19"W x 2.87"D

Material:

Made of fire-retardant plastic rated UL 94V-0. Panel backs plates are made of black painted

16 gauge steel.

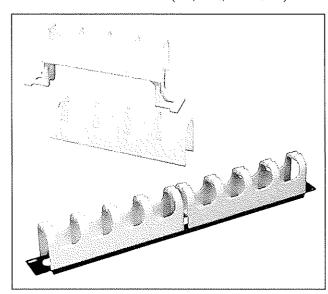
### **DESIGN CONSIDERATIONS**

- Use where space limitations and low cost are a concern.
- Available with or without standoff legs.
- Mount directly on wall or backboard, or onto 300 pair mounting-frame basic or extension units.
- Position cord managers between 110 wiring bases.
- Mount on 19" disctribution frame on hinged wall-mount bracket.

### **WARRANTY INFORMATION**

For a copy of Leviton product warranties, log on to www.levitonvoicedata.com/warranty.

See ELECTRONIC FILES for CAD files (,DXF, ,DWG, MS-DOS,EPS) on disk



For ELECTRONIC Typical Specs see (.TXT) file on disk.

### **TYPICAL SPECIFICATION**

The horizontal 110 cord managers shall mount to a wall or backboard, or onto 300 pair mounting-frame basic or extension units, providing the capability to organize and contain patch cords. The cord managers shall comply with TIA/EIA-568-B and TIA/EIA-606 requirements, be UL listed, and be made of fire-retardant plastic rated UL 94V-0.



For Technical Support Call 1-425-485-4288; in USA call 1-800-824-3005. Spec sheets and updates are also available at www.levitonvoicedata.com.



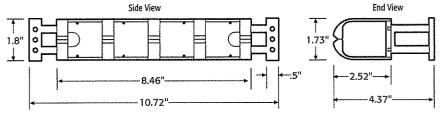
### **110 Style Crossconnect Products**

Part Numbers 41D10-HCM 41D1R-HCM 41A10-HCM

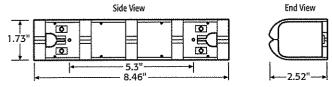
### **DIMENSIONAL LINE ART**

See ELECTRONIC FILES for CAD files (.DXF, .DWG, MS-DOS.EPS) on disk

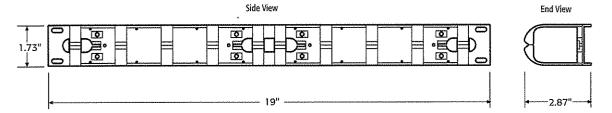
Horizontal Cord Manager with legs 41A10-HCM



Horizontal Cord Manager without legs 41D10-HCM



Rack-Mount Horizontal Manager 41D1R-HCM



### **PART NUMBERS**

Description	Part Number
Horizontal Cord Manager without legs	41D10-HCM
Horizontal Cord Manager with legs	41A10-HCM
Rack Mount Horizontal Manager	41D1R-HCM



For Technical Support Call 1-425-485-4288; in USA call 1-800-824-3005. Spec sheets and updates are also available at www.levitonvoicedata.com.



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### Component **Specifications**



**Part Numbers** 41NB2-xxx 41AB2-xxx 41AWX-xxx 41DR2-xxx

### 110 Style Crossconnect Product Wall and Rack Mount Wiring Bases and Kits

### **APPLICATION**

Used in building entrance facilities, telecommunications closets and equipment rooms to provide fixed cross-connections for voice, security and data applications-including high megabit applications when used with Category 5e rated cabling. Wall version mounts to walls or backboards in 50, 100 or 300 pair densities. Rack version mounts on 19" distribution frames or hinged wall-mount brackets

### STANDARDS COMPLIANCE

Meets or exceeds all applicable standards: all components are UL listed; comply with TIA/EIA-568-B.2 requirements; and meet FCC Part 68.

### PHYSICAL SPECIFICATIONS

### Wall Mount-

Dimensions: 50 Pair Wiring Base (w/o legs):

1.66"H x 8.51"W x 1.42"D 50 Pair Wiring Base (w/ legs): 1.81"H x 10.7"W x 3.3"D 100 Pair Wiring Base (w/o legs): 3.44"H x 8.51"W x 1.42"D 100 Pair Wiring Base (w/ legs): 3.62"H x 10.7"W x 3.3"D 300 Pair Wiring Base (w/ legs): 10.83"H x 10.7"W x 3.3"D

Materials:

110 wiring bases are made of fire-retardant plastic rated UL 94V-0; C-4 and C-5 connector blocks are made of fire-retardant plastic rated

UL 94V-0 with solder plated IDC's.

Rack Mount-

1.73"H x 19"W x 1.75"D Dimensions: 100 Pair Panel:

3.46"H x 19"W x 1.75"D 200 Pair Panel: 5.23"H x 19"W x 1.75"D 300 Pair Panel:

110 wiring bases are made of fire-retardant Material: plastic rated UL 94V-0; C-4 and C-5

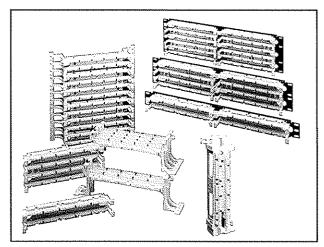
connector blocks are made of fire-retardant plastic rated UL 94V-0 with solder plated IDC's; panel back plates are made of painted

black 16 gauge steel.

### **DESIGN CONSIDERATIONS**

- Use where space limitations and low cost are factors.
- 110 wiring bases are available with or without standoff legs. Legs can also be purchased separately (PN# 410L2-xxx).

See ELECTRONIC FILES for CAD files (.DXF, .DWG, MS-DOS,EPS) on disk



- Kitted versions include 50, 100 or 300 pair bases with legs, labels, label holders, C-4 or C-5 connector blocks.
- Port ID option: Use the label strips and holders provided with the 300-pair wiring base, and Kit versions of these products.
- Mount on wall or backboard.
- Route cable bundles either adjacent to wiring bases, or underneath units with legs.
- Route individually marked cables from both left and right sides.
- 89D mounting bracket is sold separately.

### WARRANTY INFORMATION

For a copy of Leviton product warranties, log on to www.levitonvoicedata.com/warranty.

For ELECTRONIC Typical Specs see (.TXT) file on disk.

### TYPICAL SPECIFICATION

The cross-connect shall be Category 5e 110-style wiring bases, mountable to wall or backboard to provide 110 termination capable of supporting voice, security, and Category 5e data applications, including high megabit and shared-sheath applications when used with Category 5e rated cabling. The 110 rack-mount panels shall mount to a 19" distribution frame or hinged wall mount bracket. The components shall be UL listed and TIA/EIA-568-B compliant. Bases shall support 50, 100 or 300 pair densities with provision for TIA/EIA-606 compliant labeling. Plastic bases and blocks shall be made of fire-retardant plastic rated UL 94V-0.



For Technical Support Call 1-425-485-4288; in USA call 1-800-824-3005. Spec sheets and updates are also available at www.levitonvoicedata.com.

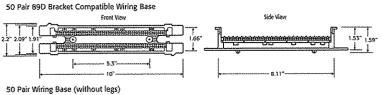


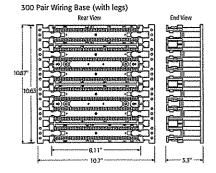
### 110 Style Crossconnect Products

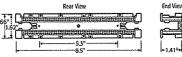
**Part Numbers** 41DWX-xxx 41NB2-xxx 41AB2-xxx 41AWX-xxx 41DB1-xxx 41DR2-xxx 41DBR-xxx

### **DIMENSIONAL LINE ART**

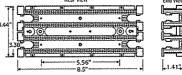
See ELECTRONIC FILES for CAD files (.DXF, .DWG, MS-DOS.EPS) on disk



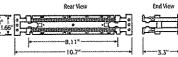




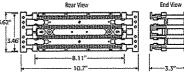
### 100 Pair Wiring Base (without legs)

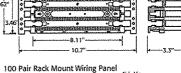


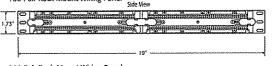
50 Pair Wiring Base (with legs)



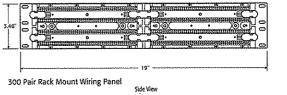
### 100 Pair Wiring Base (with legs)

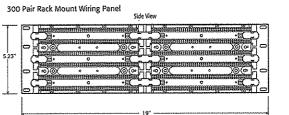






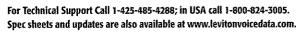
200 Pair Rack Mount Wiring Panel





### **PART NUMBERS**

Description	Part No.
50 Pair Wall Mount Wiring Base without legs	41DW1-50
100 Pair Wall Mount Wiring Base without legs	41DW2-100
50 Pair Wall Mount Wiring Base with legs	41AW1-50
100 Pair Wall Mount Wiring Base with legs	41AW2-100
300 Pair Wall Mount Wiring Base with legs	41AW2-300
100 Pair Wall Mount Wiring Base kit w/C4 clips	41AB2-1F4
300 Pair Wall Mount Wiring Base Kit w/C4 clips	41AB2-3F4
100 Pair Wall Mount Wiring Base kit w/C5 clips	41AB2-1F5
300 Pair Wall Mount Wiring Base Kit w/C5 clips	41AB2-3F5
100 Pair Wall Mount Wiring Base Kit without legs w/C-4 clips	41NB2-1F4
100 Pair Wall Mount Wiring Base Kit without legs	
w/C-4 clips	41NB2-1F5
100 Pair Rack Mount Wiring Panel	41DR2-100
200 Pair Rack Mount Wiring Panel	41DR2-200
300 Pair Rack Mount Wiring Panel	41DR2-300
100 Pair Rack Mount Wiring Panel Kit w/C4 clips	41DBR-1F4
200 Pair Rack Mount Wiring Panel Kit w/C4 clips	41DBR-2F4
300 Pair Rack Mount Wiring Panel Kit w/C4 clips	41DBR-3F4
100 Pair Rack Mount Wiring Panel Kit w/C5 clips	41DBR-1F5
200 Pair Rack Mount Wiring Panel Kit w/C5 clips	41DBR-2F5
300 Pair Rack Mount Wiring Panel Kit w/C5 clips	41 DBR-3F5
50 Pair 89D Bracket Compatible Wiring Base UNIT	
(89D Bracket sold separately)	41DW1-589
50 Pair 89D Bracket Compatible Wiring Base KIT	
with C-4/C-5 clips (89D Bracket sold separately)	41DB1-5FT
89D Bracket	40089-D





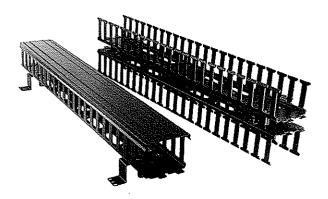
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### Versi-Duct® Vertical Cable Management System

### **APPLICATION**

A vertical cable management system in a slotted duct configuration designed to route cable and mount onto an industry standard equipment rack. Two vertical 40" ducts, or one 80" duct (comprised of two 40" ducts) span the full length of a standard 7-foot equipment rack. The Horizontal and Vertical Slotted Ducts come with cable concealing covers and an assortment of accessories.



### **SPECIFICATION**

A vertical cable management system in a slotted duct configuration for copper and fiber cable systems. The management system shall be cULus listed, PVC rated for 94V-0, ABS rated for UL94HB, and compliant with ANSI/TIA/EIA 568-B standards. It shall mount onto an industry standard 19" equipment rack. The management system shall offer an assortment of accessories including a bend-radius compliant cable router to transition cable from a horizontal to vertical slotted duct.

### **FEATURES**

- Versatile solution for fiber/copper cable organization and management
- · Front only and front/rear configurations
- · Cable concealing covers
- Mount on standard equipment racks with top, bottom, and side cable entry
- · Finger alignment with rack spacing

### **DESIGN CONSIDERATIONS**

- Use on side of rack to route, protect and manage fiber or copper cable
- Bend-Radius Compliant Cable Router complies with ANSI/TIA/EIA standards, ensuring 1.18" bend radius

### STANDARDS COMPLIANCE

Meets or exceeds all applicable standards: cULus Listed; complies with TIA/EIA-568-B; and meets FCC Part 68

### **PHYSICAL SPECIFICATIONS**

Dimensions: See second page
Materials (channel): ABS rated for UL94HB
Materials (cover): PVC rated for UL94V-0

### **ACCESSORIES**

- Cable Retainer Mounts on the duct fingers. Cable Retainer is adjustable to slide along the duct finger and includes break-away detail to accommodate all duct sizes.
- Mounting Bracket Kit Used to attach a vertical duct to an adjacent equipment rack. Each kit comes with #8 screws.
- Bend-Radius Compliant Cable Router Routes copper or fiber cable from inside the horizontal duct to the vertical duct. Maintains 1.18" bend-radius minimum.
- Cable Retainer Mounts on the duct fingers. Each Cable Retainer is adjustable to slide along the duct finger and includes break-away detail to accommodate all duct sizes.
- Slack Loop Storage Organizer Stores slack cable and maintains a minimum of 1.18" bend-radius. Designed to be mounted on the duct fingers and it can be adjusted to a variety of slack loop sizes.
- Duct Cover Hinge Designed to easily open and close duct cover for increased protection and easy access.

Accessories sold separately

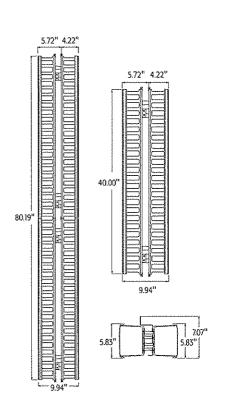
### WARRANTY INFORMATION

For a copy of Leviton product warranties, visit www.leviton.com.



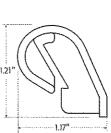
### **ELECTRONIC FILES**

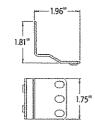
For CAD files, Typical specs, or Dimensional Line Art. (.DXF, .DWG, MS-DOS.eps or .TXT), visit www.leviton.com.



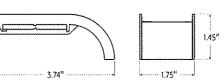
Duct Cover Hinge

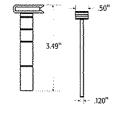
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Mounting Bracket

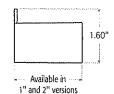




Bend-Radius Compliant Router

Cable Retainer





Vertical Slotted Duct (front and rear)

Slack Loop Organizer and Extended Version

PART NUMBERS	
Description	Part No.
Versi-Duct Vertical Slotted Duct - 4x5 rear and 4x5 front (front and rear) 40"H	4940L-VFR
Versi-Duct Vertical Slotted Duct - 4x5 (front only) 40"H	4940L-VFO
Versi-Duct Vertical Slotted Duct - 4x5 rear and 4x5 front (front and rear) 80"H	4980L-VFR
Versi-Duct Vertical Slotted Duct 4x5 (front only) 80"H	4980L-VFO
Versi-Duct Cable Retainer	49265-WR1
Versi-Duct Slack Loop Organizer	49265-SL1
Versi-Duct Slack Loop Organizer (Extended)	49265-SL2
Versi-Duct Mounting Bracket	49265-BRK
Versi-Duct Duct Cover Hinge	49265-HNG

ISO 9001
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B/8 #2437

Page 2 of 2

# QuickPort® Single-Gang Wallplates

### Component Specifications



### **QuickPort® Single-Gang Wallplates**

### **APPLICATION**

Field-configurable wallplates accept QuickPort\* snap-in modules to support multimedia applications with 1, 2, 3, 4 or 6 ports. Use where a one-piece, single-gang, economical flush-mount housing is desired. Five color choices, with color-matched screws.

### **FEATURES**

- Color-matched wallplate screws
- Five color choices: ivory, white, grey, black and almond
- · Fits within minimum rectangular NEMA openings
- · Compatible with all individual QuickPort modules
- · Individual-port configurability allows specification flexibility
- Narrow module width allows high port density in a small area

### STANDARDS COMPLIANCE

Meets or exceeds all applicable standards: UL Listed; CSA certified; complies with TIA/EIA-568-B.

### **PHYSICAL SPECIFICATIONS**

Dimensions:

4.5"H x 2.75"W x .2"D (in-wall depth 1.2" w/

connectors installed)

Capacity: Materials: Available in 1-, 2-, 3-, 4- or 6-port versions

High-impact, fire-retardant plastic rated UL

94V-0

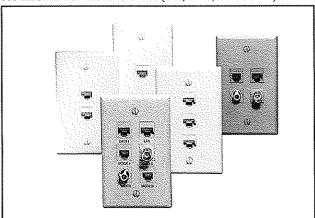
Mounting:

Color matched screws

### **DESIGN CONSIDERATIONS**

- Fits single-gang backboxes, or four-square boxes with appropriate user-provided reducer.
- Put blanks in unused ports for future expansion.
- Specify port identification method (colored modules, designation labels, and custom silkscreening available). To ID ports, use different colored connectors for each application (full selection of TIA/EIA-606 compatible colors—13 available), or Leviton's pre-printed Port Designation Labels.

See ELECTRONIC FILES for CAD files (.DXF, .DWG, MS-DOS.EPS) on disk



### WARRANTY INFORMATION

For a copy of Leviton product warranties, log on to www.levitonvoicedata.com/warranty.

For ELECTRONIC Typical Specs see (.TXT) file on disk.

### **TYPICAL SPECIFICATION**

The wallplate housing shall be a one-piece, single-gang flush mount style that fits standard NEMA openings, or four-square boxes with reducer. It should provide 1-, 2-, 3-, 4- or 6-ports. Must be able to accept all Leviton QuickPort modules. It must be made of high-impact, fire-retardant plastic rated UL 94V-O, and be UL Listed, CSA certified and compliant with TIA/EIA-568-B specifications.



For Technical Support Call 1-425-485-4288; in USA call 1-800-824-3005. Spec sheets and updates are also available at www.levitonvoicedata.com.

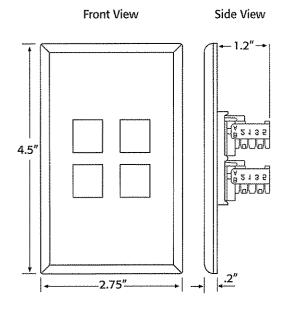


# QuickPort® Single-Gang Wallplates

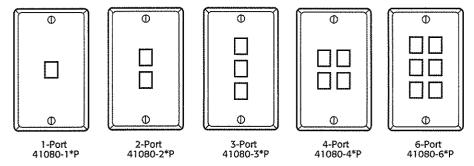
Part Number 41080-xxP

# **DIMENSIONAL LINE ART**

See ELECTRONIC FILES for CAD images (.DXF, .DWG, MS-DOS.EPS)



Note: QuickPort snap-in modules (connectors and bulkhead connectors and couplings) are sold separately. Please refer to the QuickPort module spec sheets for ordering information.



# **PART NUMBERS**

Description	Part No.	
QuickPort Single-Gang 1-Port Wallplate	41080-1*P	
QuickPort Single-Gang 2-Port Wallplate	41080-2*P	
QuickPort Single-Gang 3-Port Wallplate	41080-3*P	
QuickPort Single-Gang 4-Port Wallplate	41080-4*P	
QuickPort Single-Gang 6-Port Wallplate	41080-6*P	

<sup>\* =</sup> Color Choices: Ivory (I), White (W), Grey (G), Black (E), Almond (A) Special order color: Brown (B)



For Technical Support Call 1-425-485-4288; in USA call 1-800-824-3005. Spec sheets and updates are also available at www.levitonvoicedata.com.



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# **QuickPort® Bulkhead Modules & Adapters**

#### **APPLICATION**

Voice/data/video connectivity for workstation cabling termination on coaxial or multimode fiber cable. QuickPort® bulkhead modules snap into any housing with the QuickPort name—flush and surface mount outlets; Multimedia Outlet System (with adapter); Decora® Inserts; patch panels; and patch blocks.

#### **FEATURES**

- Female-female bulkhead adapters
- · Twist-on feature for easy termination
- FC and ST adapter are single-mode/multimode available in zirconia or phosphor bronze sleeves

#### STANDARDS COMPLIANCE

Meets or exceeds all applicable standards: BNC and F-Type Bulkhead Modules are cULus Listed.

# **PHYSICAL SPECIFICATIONS**

#### Dimensions

F-Type Bulkhead: .659"H X .600"W X 1.10"D
BNC Bulkhead: .659"H X .600"W X 1.40"D
ST Fiber Adapter: .659"H X .600"W X 1.30"D
FC Fiber Adapter: .830"H X .640"W X 1.01"D
Blank Module: .644"H X .563"W X .790"D

#### Materials

Snap-in module bodies are high-impact, fire-retardant plastic rated UL 94V-0.

#### ST® Adapter

Single-mode/multimode zirconia sleeve Single-mode/multimode phosphor bronze sleeve

#### FC Adapter

Simplex single-mode/multimode zirconia sleeve Simplex single-mode/multimode phosphor bronze sleeve

# **DESIGN CONSIDERATIONS**

- Configure one adapter per fiber.
- F-type connector works for both RG-6 and RG-59 applications.
- QuickPort bulkhead modules snap into any housing with the QuickPort name: flush and surface mount outlets; Multimedia Outlet System (with adapter); patch panel; and patch blocks.
- Check clearance behind proposed location of bulkhead module, to ensure space for proper bend-radius.
- Bulkhead modules are available in four colors (ivory, white, almond, grey, and black) to match the housings or provide unique color-coding for port I.D.









BNC Bulkhead Module

FC Fiber Adapter

ST<sup>®</sup> Fiber Adapter





Blank Module

# **WARRANTY INFORMATION**

For a copy of Leviton product warranties, visit www.levitonvoicedata.com/ccs/warranty.aspx

#### TYPICAL SPECIFICATION

The modules for coaxial and fiber optic cable shall be individual snap-in style female-to-female bulkhead adapters, and shall fit all other installed telecommunications wallplates, outlets and field-configurable patch panels and patch blocks. Bulkhead modules shall be available in four colors (ivory, white, grey and black) to match the housings or provide unique color-coding for port I.D. Modules shall be UL listed. All plastics used in construction of the module bodies shall be fire-retardant with a UL flammability rating of 94V-0. The ST\* and Simplex FC adapters shall be single-mode/multimode available with zirconia or phosphor bronze sleeves.

# **ELECTRONIC FILES**

For CAD files, Typical Specs, or Dimensional Line Art (.DXF, .DWG, MS-DOS.eps or .TXT), visit www.levitonvoicedata.com.

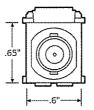


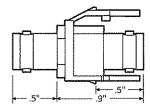


# QuickPort® Bulkhead Modules & Adapters

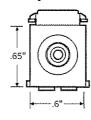
Part Number 41084-xxx

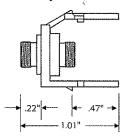
# **BNC Bulkhead Module**



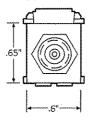


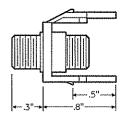
# Simplex FC QuickPort Adapter



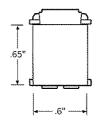


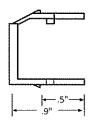
# **F-Type Connector**



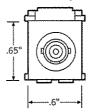


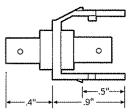
**Blank Module** 





# ST Fiber Optic Adapter





# **PART NUMBERS**

Description	Part No.
BNC Bulkhead Module	41084-BxF
f-Type Bulkhead Module	41084-PxF
ST QuickPort Fiber Optic Adapter, SM/MM, Phosphor Bronze Sleeve	41084-\$xF
ST QuickPort Fiber Optic Adapter, SM/MM, Zirconia Sleeve	41084-SxZ
Simplex FC QuickPort, SM/MM, Phosphor Bronze Sleeve	41084-PxP
Simplex FC QuickPort, SM/MM, Zirconia Sleeve	41084-PxZ
Blank Module	41084-BxB

<sup>\* =</sup> Calor Choices: Ivory (I), White (W), Almond (A), Grey (G), Black (E); BNC, F-Type and Blank Modules also available in Light Almond (T)



For Technical Support Call 1-425-485-4288; in USA call 1-800-824-3005. Spec sheets and updates are also available at www.levitonvoicedata.com.



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# **QuickPort® Bulkhead Modules & Adapters**

# **APPLICATION**

Voice/data/video connectivity for workstation cabling termination on coaxial or multimode fiber cable. QuickPort® bulkhead modules snap into any housing with the QuickPort name—flush and surface mount outlets; Multimedia Outlet System (with adapter); Decora® Inserts; patch panels; and patch blocks.

# **FEATURES**

Materials:

ST® Adapter:

- · Female-female bulkhead adapters.
- Twist-on feature for easy termination.
- FC and ST adapter are singlemode/multimode available in zirconia or phosphor bronze sleeves.

# STANDARDS COMPLIANCE

Meets or exceeds all applicable standards: BNC and F-Type Bulkhead Modules are cULus Listed.

#### PHYSICAL SPECIFICATIONS

Dimensions: F-Type Bulkhead:

F-Type Bulkhead: .659"H X .600"W X 1.1"D BNC Bulkhead: .659"H X .600"W X 1.4"D

ST Fiber Adapter: .659"H X .600"W X 1.3"D

FC Fiber Adapter: .83"H X .64"W X 1.01"D

Snap-in module bodies are high-impact, fire-

retardant plastic rated UL 94V-0.

Singlemode/multimode zirconia sleeve. Singlemode/multimode phosphor bronze

sleeve.

FC Adapter: Simplex singlemode/multimode zirconia

sleeve.

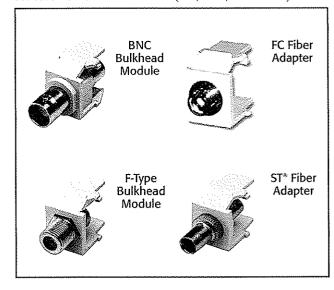
Simplex singlemode/multimode phosphor

bronze sleeve.

# **DESIGN CONSIDERATIONS**

- Configure one adapter per fiber.
- F-type connector works for both RG-6 and RG-59 applications.
- QuickPort bulkhead modules snap into any housing with the QuickPort name: flush and surface mount outlets; Multimedia Outlet System (with adapter); patch panel; and patch blocks.
- Check clearance behind proposed location of bulkhead module, to ensure space for proper bend-radius.
- Bulkhead modules are available in four colors (ivory, white, almond, grey and black) to match the housings or provide unique color-coding for port I.D.

See ELECTRONIC FILES for CAD files (.DXF, .DWG, MS-DOS.EPS) on disk



# WARRANTY INFORMATION

For a copy of Leviton product warranties, log on to www.levitonvoicedata.com/warranty.

For ELECTRONIC Typical Specs see (.TXT) file on disk.

# TYPICAL SPECIFICATION

The modules for coaxial and fiber optic cable shall be individual snap-in style female-to-female bulkhead adapters, and shall fit all other installed telecommunications wallplates, outlets and field-configurable patch panels and patch blocks. Bulkhead modules shall be available in four colors (ivory, white, grey and black) to match the housings or provide unique color-coding for port I.D. Modules shall be UL listed. All plastics used in construction of the module bodies shall be fire-retardant with a UL flammability rating of 94V-O. The ST\* and Simplex FC adapters shall be singlemode/multimode available with zirconia or phosphor bronze sleeves.





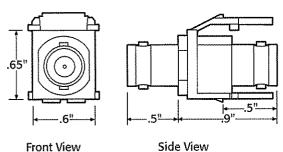
# **QuickPort® Bulkhead Modules & Adapters**

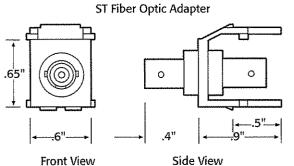
Part Number 41084-xxx

# **DIMENSIONAL LINE ART**

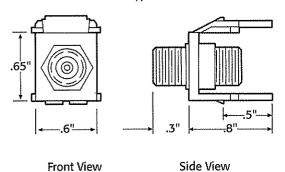
See ELECTRONIC FILES for CAD images (.DXF, .DWG, MS-DOS.EPS)

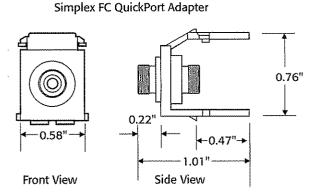
# BNC Bulkhead Module











# **PART NUMBERS**

Description	Part No.
BNC Bulkhead Module	41084-B*F
F-Type Bulkhead Module	41084-F*F
ST QuickPort Fiber Optic Adapter, SM/MM, Phosphor Bronze Sleeve	41084-S*F
ST QuickPort Fiber Optic Adapter, SM/MM, Zirconia Sleeve	41084-S*Z
Simplex FC QuickPort, SM/MM, Phosphor Bronze Sleeve	41084-F*F
Simplex FC QuickPort, SM/MM, Zirconia Sleeve	41084-F*Z

<sup>\* =</sup> Color Choices: Ivary (I), White (W), Almond (A), Grey (G), Black (E)



For Technical Support Call 1-425-485-4288; in USA call 1-800-824-3005. Spec sheets and updates are also available at www.levitonvoicedata.com.



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Part Numbers 49103-IDC 49104-xxx 49105-IDC

# 110-Style Crossconnect Products 110 Connector Blocks

# **APPLICATION**

Use with 110 wiring bases to provide a gas-tight IDC connection.

# **STANDARDS COMPLIANCE**

Meets or exceeds all applicable standards: UL listed; complies with TIA/EIA-568-B requirements for Category 5e performance; and meets FCC Part 68.

# **PHYSICAL SPECIFICATIONS**

Dimensions: C-3: .926"H x .090"W x .3"D

C-4: .926"H x 1.20"W x .3"D C-5: .926"H x 1.50"W x .3"D

Material: Made of fire-retardant plastic rated UL 94V-0

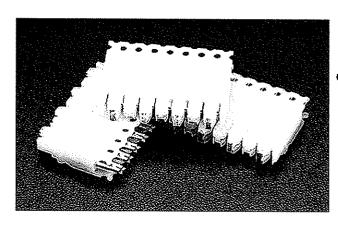
with solder plated IDC's

# **DESIGN CONSIDERATIONS**

- · Available in three pair-count sizes: C-3, C-4 and C-5
- These 110 IDC connector blocks can withstand 200 reterminations
- Seat the connector blocks on the 110 wiring base index strip with a 5-pair spring-loaded termination tool

# WARRANTY INFORMATION

For a copy of Leviton product warranties, visit www.levitonvoicedata.com/ccs/warranty.aspx



# TYPICAL SPECIFICATION

The 110 connector blocks shall support termination for voice, security, and Category 5e data applications, including high megabit and shared-sheath applications when used with Power Sum rated cabling. The blocks shall be Category 5e compliant, UL listed and TIA/EIA-568-B compliant. They shall be made of fire-retardant UL 94V-0 plastic with solder-plated insulation displacement connectors, and must securely seat wires on 110 wiring bases, providing a gas-tight IDC connection that can withstand 200 reterminations.

# **ELECTRONIC FILES**

For CAD files, Typical Specs, or Dimensional Line Art (.DXF, .DWG, MS-DOS.eps or .TXT), visit www.levitonvoicedata.com.

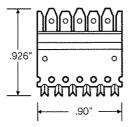


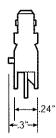


# 110-Style Crossconnect Products

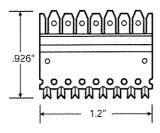
Part Numbers 49103-IDC 49104-xxx 49105-IDC

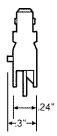
# C-3 Connector Block



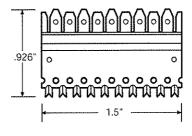


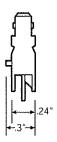
C-4 Connector Block





C-5 Connector Block





# **PART NUMBERS**

Description	Part No.
C-3 Connector Blocks (bag of 10)	49103-IDC
C-4 Connector Blocks (bag of 10)	49104-IDC
C-4 Connector Blocks (bag of 50)	49104-150
C-5 Connector Blocks (bag of 10)	49105-IDC



For Technical Support Call 1-425-485-4288; in USA call 1-800-824-3095. Spec sheets and updates are also available at www.levitonvoicedata.com.



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Part Numbers 49253-LPM, 4925C-LPM 49253-BCM, 4925C-BCM 49253-2CM

# Five-Ring Horizontal Patch Cord Manager Rack Cable Management Accessories

#### **APPLICATION**

Low-profile Five-ring manager for light-duty cord distribution at the front of industry standard 19" equipment racks, cabinet enclosures and hinged wall-mount racks.

# **FEATURES**

- Distribution rings are radius-edged (smooth polished) to protect cable from nicks or wear
- Oversized distribution rings to accommodate patch cords
- Five-ring design reduces cord stress and improves containment near patch panels
- Use as an alternate mode of horizontal management between patch panels
- Position at the top, center or bottom of distribution frame for low-density cable management

# STANDARDS COMPLIANCE

Meets or exceeds all applicable standards: UL Listed; CSA Certified; complies with TIA/EIA-568-B.

# **PHYSICAL SPECIFICATIONS**

**Panels** 

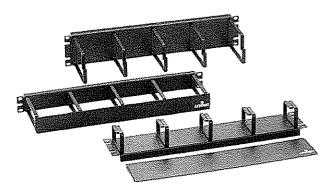
Dimension

49253-LPM: 1.72"H x 19.0"W x 4.50"D 4925C-LPM w/cover: 1.72"H x 19.0"W x 4.50"D 49253-2CM: 3.47"H x 19.0"W x 2.50"D 49253-BCM: 3.47"H x 19.0"W x 4.50"D Material:

16 gauge steel, black powder coat

# Mounting:

(4) #12-24, pilot-point, combination head screws included



# **WARRANTY INFORMATION**

For a copy of Leviton product warranties, log on to www.levitonvoicedata.com/warranty.

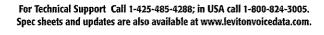
# TYPICAL SPECIFICATION

The Five-ring cable manager shall provide the capability to organize and contain patch cords on the front of the panel. The front of the panel shall provide five (5) high capacity horizontal distribution rings to reduce stress on stored cables and to retain optimal cable geometry. All distribution rings shall have edges with a radius to protect cables from nicks and tears. The cable manager shall be 1 and/or 2 EIA rack units high, and shall fit a standard 19" rack. The material shall be .060" steel with black powder coat finish.

# **ELECTRONIC FILES**

For CAD files, Typical Specs, or Dimensional Line Art (.DXF, .DWG, MS-DOS.eps or .TXT), log on to www.levitonvoicedata.com.







# **Five-Ring Horizontal Patch Cord Manager**

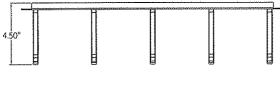
**Rack Cable Management Accessories** 

Part Numbers 49253-LPM, 4925C-LPM 49253-BCM, 4925C-BCM 49253-2CM

# **DIMENSIONAL LINE ART**

For Dimensional Line Art (.DXF, .DWG, MS-DOS.eps or .TXT), log on to www.levitonvoicedata.com.

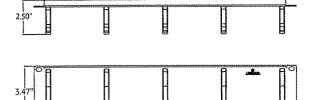
# 49253-LPM







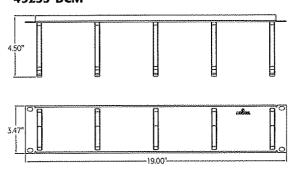
# 49253-2CM



19.00



# 49253-BCM





# **PART NUMBER**

Description	Part No.
Five-Ring Horizontal Patch Cord Manager	49253-LPM
Five-Ring Horizontal Patch Cord Manager w/cover	4925C-LPM
Five-Ring Horizontal Patch Cord Manager	49253-2CM
Five-Ring Horizontal Patch Cord Manager	49253-BCM
Five-Ring Horizontal Patch Cord Manager w/cover	4925C-BCM



For Technical Support Call 1-425-485-4288; in USA call 1-800-824-3005. Spec sheets and updates are also available at www.levitonvoicedata.com.



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# QuickPort® Modular Furniture Faceplates

# Component Specifications

# QuickPort® Modular Furniture Faceplates with ID Windows

# **APPLICATION**

Leviton's QuickPort\* Modular Furniture Faceplates with ID windows offer field-configurable flexibility, and feature a designation window for simpler, more organized workstation identification. The faceplates accept QuickPort snap-in connectors and adapters to support a variety of voice/data applications in open office environments.

#### **FEATURES**

- Installation and changes can be made without removing the modular furniture channel cover.
- Plate can be installed and removed from kickplate without tools (see detailed installation instructions included with product).
- ID designation window for each faceplate.
- Labeling kit included (contains two, white labels).

# STANDARDS COMPLIANCE

Meets or exceeds all applicable standards: cULus Listed; complies with NEC\* Article 800 and TIA/EIA-568-B.

# **PHYSICAL SPECIFICATIONS**

Dimensions: Standard: 1.70"H x 3.15"W x 1.18"D\*

Herman Miller: 2.18"H x 3.65"W x 1.18"D\* Extended-Depth: 1.80"H x 3.25"W x 1.18"D\*

\*when loaded with a Category 5 connector

Designation Label: 1.83"H x .45"W x .93"D

Capacity: Four-port versions accept any combination of 1

to 4 QuickPort connectors and adapters. Twoport versions accept 1 or 2 connectors and

adapters in any combination

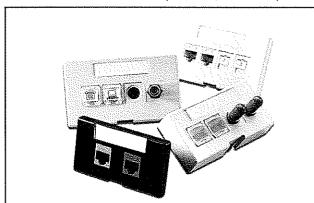
Materials: High-impact, fire-retardant plastic rated

UL 94V-0

# **DESIGN CONSIDERATIONS**

- Specify 49910-SXX (standard) or 49910-HXX (Herman Miller) versions (dependent on furniture type).\*
- Specify 49910-EXX (same opening size as 49910-SXX) for installation into shallow raceway channels (plate has 0.5" added depth).
- Specify port identification method (colored connectors, adapters, and designation labels available).
- Configure 1, 2, 3 or 4 active ports; spare ports can be filled with blanks for later use (one blank QuickPort insert is included with 4-port plate).
  - \* XX=various configurations and colors, see second page.

See ELECTRONIC FILES for CAD files (.DXF, .DWG, MS-DOS.EPS) on disk



#### WARRANTY INFORMATION

For a copy of Leviton product warranties, log on to www.levitonvoicedata.com/warranty.

For ELECTRONIC Typical Specs see (.TXT) file on disk.

# **TYPICAL SPECIFICATION**

# QuickPort Modular Furniture Faceplate—Standard

The modular furniture connector housing must be a field-configurable faceplate providing from 1 to 4 flush-mount ports for a variety of snap-in connectors and adapters.

# QuickPort Modular Furniture Faceplate—Herman Miller

The modular furniture connector housing must be a fieldconfigurable flush-mount faceplate compatible with Herman Miller voice/data openings, and providing from 1 to 4 flushmount ports for a variety of snap-in connectors and adapters.

# QuickPort Modular Furniture Faceplate—Extended-Depth

The modular furniture connector housing must be a field-configurable faceplate extending 0.75" from the furniture raceway to facilitate fiber or copper cable bend-radius compliance, or to compensate for shallow/crowded/powered raceway channels, and providing from 1 to 4 flush-mount ports for a variety of snap-in connectors and adapters.

Faceplate must have a rattle-free fit and a single tool-less release latch; be constructed of high-impact self-extinguishing plastic rated UL 94V-O; and be cULus Listed, and compliant with FCC Part 68, NEC Article 800 and TIA/EIA-568-B specifications.





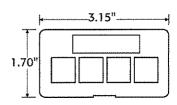
# **QuickPort® Modular Furniture Faceplates**

Part Number 49910-xxx

# **DIMENSIONAL LINE ART**

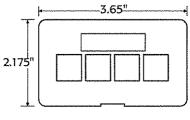
See ELECTRONIC FILES for CAD images (.DXF, .DWG, MS-DOS.EPS)

Standard Faceplate (-S\*2, -S\*4 versions)



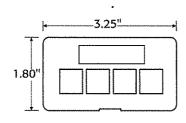
Front View

Herman Miller Faceplate (-H\*2, -H\*4 versions)

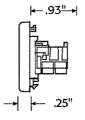


Front View

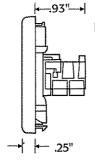
Extended-Depth Faceplate (-E\*4 versions)



Front View



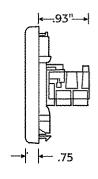
STANDARD FACEPLATE 2- or 4-Port (fits openings of approximately 1.38" x 2.70")



Side View



Side View



EXTENDED-DEPTH
FACEPLATE
4-port only for shallow
or powered channels
(fits openings of
approximately
1.38" x 2.70")

# Side View PART NUMBERS

Description	Part No.	Herman Miller	Steelcase	Haworth	HON	Others
2-Port Faceplate w/ ID Window	49910-S*2	/	1	1	/	✓ <b>.</b>
4-Port Faceplate w/ ID Window (includes one blank)	49910-S*4	✓	✓	1	1	1
4-Port Extended Faceplate w/ID Window (includes one blank)	49910-E*4	✓	1	✓ ·	1	✓

(Above part numbers fit openings of approx. 1.38" x 2.70")
\*Colors Choices = (1) Ivory ,(W) White, (G) Grey and (E) Black

Description	Part No.	Herman Miller	Steelcase	Haworth	HON	Others
2-Port HM Faceplate w/ ID Window	49910-H*2	1	-		-	1
4-Port HM Faceplate w/ ID Window (includes one blank)	49910-H*4	1	-	-	-	✓

(Above part numbers fit openings of approx. 1.88" x 2.98")
\*Colors Choices = (I) Ivory ,(W) White, (G) Grey and (E) Black



For Technical Support Call 1-425-485-4288; in USA call 1-800-824-3005. Spec sheets and updates are also available at www.levitonvoicedata.com.



2222 - 222nd St. SE • Bothell, WA 98021 USA • Tel: 1-800-722-2082 / 1-425-485-4288 • Fax: 1-425-483-5270 • Int'l Fax: 1-425-485-9170 • GSA Schedule Available.



# **QuickPort® Shutters**

#### **APPLICATION**

Dimensions:

Leviton's easy-to-use QuickPort® Shutters are compatible with any Leviton Category 5, Category 5e or Category 6 workstation connector and feature a unique, hinged door that protects against dust and contamination. The Shutters come with a port identification window and pre-printed labels.

# STANDARDS COMPLIANCE

Meets all applicable standards: cULus listed, NOM, and ACA requirements. Compatible with TIA/EIA-606 and meets FCC Part 68.

#### **PHYSICAL SPECIFICATIONS**

Materials: Shutter: Natural polypropylene

Window: Polycarbonate .720"H x .571"W x .130"D

**DESIGN CONSIDERATIONS** 

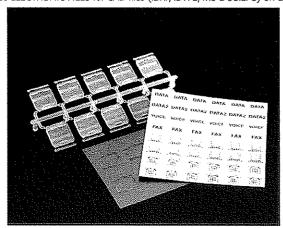
- Compatible with any Leviton Category 5, Category 5e or Category 6 connector.
- Alignment and snap-in feature for easy installation.
- Single-piece hinged door protects against dust and contamination.
- Port identification window.
- Includes white, pre-printed icon labels.
- Additional pre-printed label accessory kits available:

Color Label Kit: PN# 51084-CLB (Includes: Brown, Green, Yellow, Orange, Red, Blue, Grey, Purple) White Label Kit: PN# 51084-XLB

# **WARRANTY INFORMATION**

· One-year limited product warranty.

See ELECTRONIC FILES for CAD files (.DXF, .DWG, MS-DOS.EPS) on disk



For ELECTRONIC Typical Specs see (.TXT) file on disk.

# TYPICAL SPECIFICATIONS

QuickPort® Shutters shall protect any Leviton Category 5, Category 5e or Category 6 connector. They shall be cULus listed, meet NOM and ACA requirements. The Shutters shall be compatible with TIA/EIA-606 and meet FCC Part 68. The Shutters shall be .720°H x .571°W x .130°D and be made of natural polypropylene featuring a single-piece hinge; the identification window shall be made of polycarbonate. The Shutters shall come with a port identification window and preprinted labels. The manufacturer shall provide a one-year limited product warranty.





# **QuickPort® Shutters**

**Part Numbers** 

**DIMENSIONAL LINE ART** See ELECTRONIC FILES for CAD images (.DXF, .DWG, MS-DOS.EPS)

Side View Front View .130" .571" .720"

# **PART NUMBER**

Description	Part No.
QuickPort® Shutter (Leviton logo)	51084-ICN
Color Label Accessory Kit	51084-CLB
White Label Accessory Kit	51084-XL8



For Applications Engineering Support - Call 1-425-485-4288; in USA call 1-800-722-2082. Spec sheets and updates are also available at www.levitonvoicedata.com.



# eXtreme® 6+ Patch Cord

# **APPLICATION**

Leviton's eXtreme\* 6+ patch cords are designed to be used in typical Category 6 channel applications. Leviton's eXtreme 6+ systems are designed for use in high megabit applications such as Gigabit Ethernet.

# **FEATURES**

- Available in 7 different TIA/EIA 606-A compatible colors.
- · Available in 6 standard lengths (custom lengths available).
- Slim line boot to accommodate use in high density switches, routers, and other electronics.
- Color matched cords and boots.

# STANDARDS COMPLIANCE

eXtreme 6+ system components meet or exceed the Category 6/Class E requirements for channel/component level performance per TIA/EIA-568-B.2-1 and ISO/IEC 11801-B. Components certified per cULus, NOM and ACA requirements.

# **PHYSICAL SPECIFICATIONS**

Dimensions: Materials: 3, 5, 7, 10, 15, and 20 foot lengths.

Plug body is high-impact, fire-retardant plastic rated UL 94V-0. Spring wire contacts are high quality copper-based alloy, plated with 50 micro-inches of gold over 100 micro-inches of nickel for lowest electrical contact resistance

and maximum life.

Color:

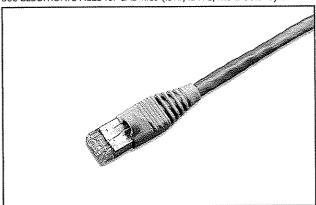
White, Grey, Black, Blue, Red, Yellow, Green

(Matching color boots.)

# **DESIGN CONSIDERATIONS**

- TIA/EIA channel performance limits the total length of work area and equipment room cords to 32 feet (10 meters) per TIA/EIA-568-B or 88.6 feet (27 meters) in a MUTOA application.
- A variety of colors for color-coding and organizing.

See ELECTRONIC FILES for CAD files (.DXF, .DWG, MS-DOS.EPS) on disk



# WARRANTY INFORMATION

For a copy of Leviton product warranties, log on to www.levitonvoicedata.com/warranty.

For ELECTRONIC Typical Specs see (.TXT) file on disk.

# TYPICAL SPECIFICATION

The modular patch cord shall meet or exceed the requirements for Category 6 described in TIA/EIA-568-B.2-1 as well as the Class E requirements described in ISO/IEC 11801-B. The patch cords shall be stranded UTP, with an 8-position modular plug on each end. The cords shall be available in 3, 5, 7, 10, 15 and 20 foot lengths. The cords shall meet TIA/EIA-568-B.2-1. All plastics used in construction of the connector bodies shall be fire-retardant with a UL flammability rating of 94V-0.

# **PART NUMBERS**

eXtreme 6+ Patch Cords with matching boots	Part No.
3-foot length	62460-03*
5-foot length	62460-05*
7-foot length	62460-07*
10-foot length	62460-10*
15-foot length	62460-15*
20-foot length	62460-20*

<sup>\*=</sup>Colors: (W) White, (Y) Yellow, (L) Blue, (E) Black, (R) Red, (G) Green, (S) Grey

ISO 9001 REGISTERED Dusky Mendadure

For Technical Support Call 1-425-485-4288; in USA call 1-800-824-3005 Spec sheets and updates are also available at www.levitonvoicedata.com.

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Part Number

# eXtreme® 6+ Connector

# **APPLICATION**

Leviton's eXtreme\* 6+ Connector is designed to be used with all Leviton QuickPort\* compatible products. The connectors include Leviton's patented "Retention Force Technology" (RFT) which promotes consistent performance over the life of the system. Includes unique pair separation towers allowing for quicker and easier terminations. The connector is configured in a 180° configuration such that the punch field is in the back, allowing for rear termination.

# STANDARDS COMPLIANCE

eXtreme\* 6+ system components meet or exceed the requirements for channel and component-level performance for TIA/EIA Category 6, cULus Listed, NOM and ACA.

# **PHYSICAL SPECIFICATIONS**

Dimensions:

.901"H x .575"W x 1.246"D

Materials:

Connector body is high-impact, fire-retardant plastic rated UL 94V-0. Spring wire contacts are high quality copper-based alloy, plated with 50 micro-inches of gold over 100 micro-inches of nickel for lowest contact resistance, maximum life.

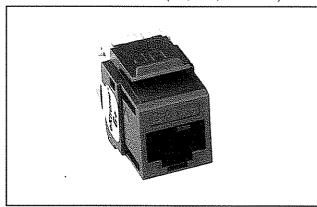
# **DESIGN CONSIDERATIONS**

- Use in any QuickPort\* housing to support Category 6 UTP connectivity in surface mount, flush mount, or modular furniture outlets and field configurable panels.
- Can be used in conjunction with other QuickPort\* snap-in modules for voice/data and video applications over UTP, coax and fiber.
- To identify ports: use different colored modules for each application (full selection of TIA/EIA-606 compatible colors— 13 available).

# **INSTALLATION NOTES**

- Designed for cable termination with a 110 punchdown tool.
- Detailed installation instructions are included in the standard pack.
- · IDCs arranged to minimize untwisting.

See ELECTRONIC FILES for CAD files (.DXF, .DWG, MS-DOS.EPS) on disk



#### WARRANTY INFORMATION

For a copy of Leviton product warranties, log on to www.levitonvoicedata.com/warranty.

For ELECTRONIC Typical Specs see (.TXT) file on disk.

# TYPICAL SPECIFICATION

The modular connector shall meet or exceed the requirements for channel and component-level performance described in TIA/EIA-568-B.2-1 Category 6 standards. The modular connector shall be individual snap-in style. The connectors shall also be in compliance with all National Electrical Codes; compliant with FCC Part 68; UL listed; and independently verified. In addition to Category 6 compliance, the connector shall have the ability to support high megabit and shared-sheath applications. All plastics used in construction of the connector bodies shall be fire-retardant with a UL flammability rating of 94V-0. Termination of all connectors shall be 110-type insulation displacement connectors (IDC). The connector shall provide a ledge directly adjacent to the 110-style termination against which the wires can be directly terminated and cut in one action by the installation craftsperson. Connector wiring is universal and will accommodate installation color codes for T568A and T568B wiring schemes. The termination field shall be in the rear for easy access. The modular connector shall fit all other installed telecommunications wallplates, outlets and field-configurable patch panels and patch blocks. Colors and configurations to be specified per schedule on plan.



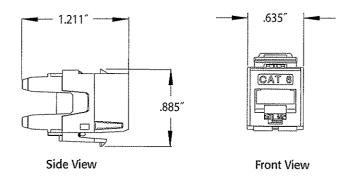


# eXtreme® 6+ Connector

Part Number 61110-Rx6

# **DIMENSIONAL LINE ART**

See ELECTRONIC FILES for CAD images (.DXF, .DWG, MS-DOS.EPS)



# **Part Number**

eXtreme 6+ Connector	Part No.
eXtreme 6+ Connector	61110-R*6

<sup>\*=</sup> Color choices for connectors: (I) Ivory, (W) White, (G) Grey, (E) Black, (O) Orange, (L) Blue, (C) Crimson Red, (Y) Yellow, (V) Green, (P) Purple, (A) Almond, (B) Brown, (R) Dark Red.







Part Number 69586-Uxx 69586-C48

# eXtreme® 6+ Universal Patch Panels

# **APPLICATION**

Leviton's eXtreme 6+ patch panels are designed for use on 19" standard racks and cabinets. The patch panels include Leviton's patent pending "Retention Force Technology" which promotes consistent performance over the life of the system. Installer friendly design allows for quick installation due to standard 110 terminations on the rear of the panel which follows the normal installation color sequence (blue, orange, green, brown) from left to right. Leviton's eXtreme 6+ system is designed for use in high megabit applications such as Gigabit Ethernet.

#### **FEATURES**

- Includes "Retention Force Technology."
- · Craft-Friendly Installation.
- Universal T568A and T568B wiring cards for 110 style IDC terminations.
- Color-coded front labeling for easy port identification (TIA-606-A compliant).
- · Grounding standoff for optional earthing/grounding.

#### STANDARDS COMPLIANCE

eXtreme 6+ system components meet or exceed the Category 6/Class E requirements for channel/component level performance per TIA/EIA-568-B.2-1 and ISO/IEC 11801-B. Components certified per cULus, NOM and ACA requirements.

# **PHYSICAL SPECIFICATIONS**

Dimensions: See second page
Capacity: 12-, 24-, 48-, 96-port,
U-89 Universal 12-port block

Materials: 16 gauge steel, painted black; PCB and

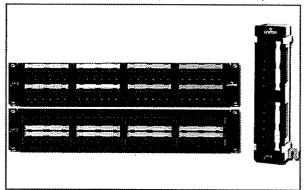
plastic components are rated per UL

94V-0

# **DESIGN CONSIDERATIONS**

- Color coded front window labeling for easy port identification.
- Mounts on 19" equipment racks.
- Panel offered in 12-, 24-, 48-, 96-Port configurations and Universal 12-port U89 Block for wall mount applications.
- Connector modules are in groups of six.
- Includes rear cable management bars.
- Centralized labeling (available on 48 port), promotes greater visibility of labels when patch cords are routed into horizontal cable management above and below the patch panel.

See ELECTRONIC FILES for CAD files (.DXF, .DWG, MS-DOS.EPS) on disk



# WARRANTY INFORMATION

For a copy of Leviton product warranties, log on to www.levitonvoicedata.com/warranty.

For ELECTRONIC Typical Specs see (.TXT) file on disk.

# **TYPICAL SPECIFICATION**

The patch panel shall meet or exceed the requirements for Category 6 described in TIA/EIA-568-B.2-1 as well as the Class E requirements described in ISO/IEC 11801-B. The panels shall feature both T568A and T568B wiring configurations, white IDC 110-punchdown modules, mounting standoffs for cable management bars, color-coded front window labeling, and a termination standoff for patch panel earthing/grounding. The panels shall have universal T568A and T568B wiring card for terminations. The panels shall be made of 16 gauge steel, and shall have a black painted finish with white silk-screening. The plastic elements shall be fire-retardant with a UL flammability rating of 94V-O. The panel shall be offered in 12-, 24, 48-, 96-port configurations as well as an 89D 12-port configuration. The patch panel shall be configured with six port modules. The 110 termination on the rear of the panel shall follow normal installation color sequence (blue, orange, green, brown) from left to right.



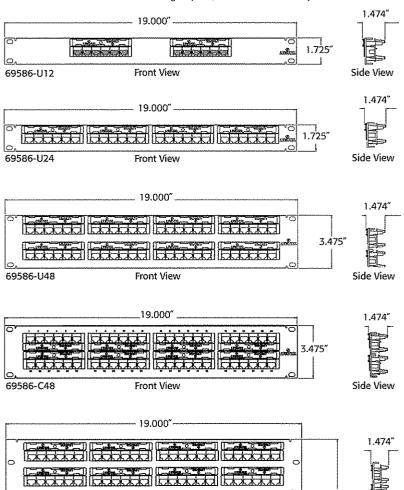


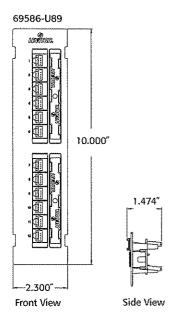
# eXtreme® 6+ Universal Patch Panels

Part Number 69586-Uxx 69586-C48

# **DIMENSIONAL LINE ART**

See ELECTRONIC FILES for CAD images (.DXF, .DWG, MS-DOS.EPS)





# **PART NUMBERS**

69586-U96

eXtreme 6+ Patch Panels	Part No.
eXtreme 6+ Patch Block	69586-U89
eXtreme 6+ 12-Port Patch Panel	69586-U12
eXtreme 6+ 24-Port Patch Panel	69586-U24
eXtreme 6+ 48-Port Patch Panelw/centralized labeling	69586-C48
eXtreme 6+ 48-Port Patch Panel	69586-U48
eXtreme 6+ 96-Port Patch Panel	69586-U96

Front View



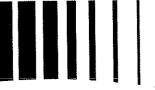
For Technical Support Call 1-425-485-4288; in USA call 1-800-824-3005. Spec sheets and updates are also available at www.levitonvoicedata.com.

6.975"

Side View

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**Part Numbers** 62PXX-MO3 UPPXX-SO3 50PXX-MO3 APPXX-S03

# Single-mode and Multimode Fiber Optic Pigtails

# **APPLICATION**

Leviton's Single-mode and Multimode Fiber Optic Piqtails are designed to support mechanical and fusion splicing for fiber cabling systems.

# STANDARDS COMPLIANCE

Compliant with TIA/EIA-568B.3.

# PHYSICAL SPECIFICATIONS

Lenath:

3 meter length (Custom lengths available)

Dimensions:

All connectors built on .9mm tight buffered cable

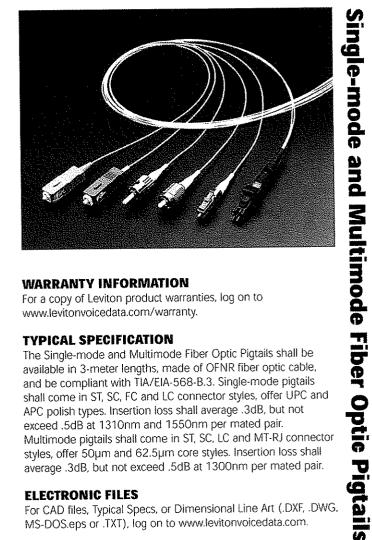
Cable Type & Color:

Single-mode and Multimode 50µm or 62.5µm OFNR rated white fiber optic cable

Custom options available

# **DESIGN CONSIDERATIONS**

- Standard form factor connector styles
- Small form factor connector styles
- Insertion loss guaranteed to be less than .5dB at 1310nm and 1550nm per mated pair (singlemode), typical insertion loss .3dB
- Insertion loss guaranteed to be less than .5dB at 1300nm per mated pair (multimode), typical insertion loss .3dB
- All connectors have precision pre-radiused zirconia ferrules
- ST and FC connectors have metal bodies
- Corning glass fiber is standard
- Return loss for multimode pigtails is equal to or better than 20dB, with a typical of 22dB
- Return loss for single-mode UPC polish is greater than 55dB, with a typical of 57dB
- Return loss for single-mode APC polish is greater than 65dB. with a typical of 67dB



#### WARRANTY INFORMATION

For a copy of Leviton product warranties, log on to www.levitonvoicedata.com/warranty.

# TYPICAL SPECIFICATION

The Single-mode and Multimode Fiber Optic Pigtails shall be available in 3-meter lengths, made of OFNR fiber optic cable, and be compliant with TIA/EIA-568-B.3. Single-mode pigtails shall come in ST, SC, FC and LC connector styles, offer UPC and APC polish types. Insertion loss shall average .3dB, but not exceed .5dB at 1310nm and 1550nm per mated pair. Multimode pigtails shall come in ST, SC, LC and MT-RJ connector styles, offer 50µm and 62.5µm core styles. Insertion loss shall average .3dB, but not exceed .5dB at 1300nm per mated pair.

# **ELECTRONIC FILES**

For CAD files, Typical Specs, or Dimensional Line Art (.DXF, .DWG MS-DOS.eps or .TXT), log on to www.levitonvoicedata.com.





# Single-mode and Multimode Fiber Optic Pigtails

Part Numbers 62PXX-M03 UPPXX-S03 50PXX-M03 APPXX-S03

# Standard Part Numbers - Single-mode and Multimode Fiber Optic Pigtails

MULTIMODE PIGTAIL (3 METERS)		SINGLE-MODE PIGTAIL (3 METERS)	
DESCRIPTION	SIMPLEX	DESCRIPTION	SIMPLEX
SC 62.5/125µm	62PSC-M03	SC UPC polish	UPPSC-S03
ST 62.5/125µm	62PST-M03	ST UPC polish	UPPST-S03
LC 62.5/125µm	62PLC-M03	LC UPC polish	UPPLC-S03
SC 50/125µm	50PSC-M03	FC UPC polish	UPPFC-S03
ST 50/125µm	50PST-M03	SC APC polish	APPSC-S03
	50PLC-M03	LC APC polish	APPLC-S03
		FC APC polish	APPFC-S03

# **Custom Configuration Chart - Single-mode and Multimode Fiber Optic Pigtails**

Example: FJ-AU001G-002 = Fiber Jumper, UPC polish ST connector, pigtail, single-mode, 2 meters.

	FIBER TYPE	CABLE TYPE	FIBER COUNT	HIRST END TERMINATION	(METIERS)
FJ	×	x	xxx	X	xxx
	A = SM - ITU G-652	U = Pigtail	001	C = ST MM	001 - 999
	B = MM 50/125μm - ITU G-651	X = Other	002	D = FC MM	
	C = MM 62.5/125µm - ITU G-651		XXX = Other	E = SC MM	
	E = MM 50/125µm Laser Optimized			F = LC MM	
	TU G-651 - 300m			G = ST/UPC SM	
	X = Other			H = FC/UPC SM	
				J = SC/UPC SM	
				K = LC/UPC SM	
	<u> </u>			M = FC/APC SM	
				N = SC/APC SM	
				R = LC/APC SM	
				U = MT-RJ MM	
				V = MT-RJ SM	
				X = Other	

Note: For LC and MT-RJ connectors, cable type is 1.6mm simplex or duplex unless otherwise specified. For all other connectors, cable type is 3mm.

Please call for Custom Configuration price quotes and lead times.



For Technical Support Call 1-425-485-4288; in USA call 1-800-824-3005.

Spec sheets and updates are also available at www.levitonvoicedata.com.

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# Active Ceiling Mount Telecommunications Enclosures

# Component **Specifications**

# **Active Ceiling Mount Telecommunications Enclosures**

#### APPLICATION

Leviton's Ceiling Mount Telecommunications Enclosures for active devices mount in standard drop ceilings and are available in two sizes to suit various installations. The enclosures accomodate removable 19" rack-mount assemblies designed to support active equipment, patch panels and wire management in zone cabling applications. Edge-protected cable access ports with fire-rated foam sealing kits make these enclosures ideal for use in plenum spaces. Enclosures are AC power ready with 9 CFM fan for heat removal.

# **FEATURES**

- Fully-hinged, drop down doors support installed equipment and open to provide safe, easy access.
- Enclosures install flush with the drop ceiling for clean look.
- Plenum-rated.
- Two edge-protected cable access ports with fire-rated foam sealing kit.
- AC power ready.
- 9 CFM fan with transformer provides more than 100 air changes per hour.
- 2' x 2' enclosure houses one removable rack-mount assembly with 2RU active, 5RU (2U+1U+2U) of patch panels and wire management.
- 2' x 4' enclosure houses two removable rack-mount assemblies, each with 4RU active (8U total), 10RU divided (2U+1U+2U) of patch panels and wire management.

#### STANDARDS COMPLIANCE

UL Listed. Communications Circuit Accessory.

# PHYSICAL SPECIFICATIONS

Dimensions: See second page.

Unit weight - 39 lbs Weight:

Door weight capacity - 25 lbs 2 x 2, 50 lbs 2 x 4 Maximum unit weight capacity - 75 lbs 2 x 2,

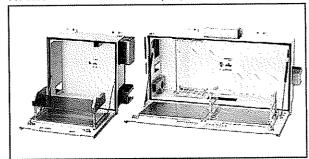
85 lbs 2 x 4

Materials:

Enclosures are manufactured of .060" sheet aluminum with riveted construction. Foam Sealing

Kit is polychloroprene latex compound.

See ELECTRONIC FILES for CAD files (.DXF, .DWG, MS-DOS.EPS) on disk



# WARRANTY INFORMATION

For a copy of Leviton product warranties, log on to www.levitonvoicedata.com/warranty.

# **DESIGN CONSIDERATIONS**

- Use for zone cabling applications such as consolidation points and support of active devices.
- Use 3/8" threaded rods and hardware to support the enclosure within the drop ceiling (sold separately).
- Use #12-24 equipment mounting screws to attach patch panels (included with all Leviton patch panels).

# **TYPICAL SPECIFICATION**

Ceiling Mount Telecommunications Enclosures shall be plenumrated and suitable for installation in air handling spaces and shall fit standard drop ceiling tile sizes. Fire-rated foam sealing kit shall be included. Units shall accomodate removable 19" rack-mount assemblies with space for active devices, patch panels and wire management for use in zone cabling applications.

For ELECTRONIC Typical Specs see (.TXT) file on disk.





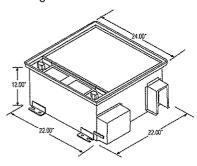
# Active Ceiling Mount Telecommunications Enclosures

Part Number Z1000-AC2 Z1000-AC4

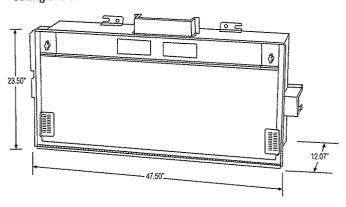
# **DIMENSIONAL LINE ART**

See ELECTRONIC FILES for CAD images (.DXF, .DWG, MS-DOS.EPS)

# Ceiling Enclosure 2' x 2'



# Ceiling Enclosure 2' x 4'



# **PART NUMBERS**

Description	Part No.
Ceiling Enclosure, 2' x 2' w/junction box and fan	Z1000-AC2
Ceiling Enclosure, 2' x 4' w/junction box and fan	Z1000-AC4



For Technical Support Call 1-425-485-4288; in USA call 1-800-824-3005. Spec sheets and updates are also available at www.levitonvoicedata.com.



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# MOHAWK MASTER SPECIFICATION

# 6 LAN<sup>™</sup> CABLE 4 PAIR #24 AWG UTP CATEGORY 6 PLENUM

Mohawk Design No: HT49156

#### DESCRIPTION

ENHANCED UNSHIELDED TWISTED PAIR (UTP) 6 LAN CABLE FOR USE IN HORIZONTAL CABLING SYSTEMS AS DESCRIBED IN TIA/EIA 568-B. THE CABLE MEETS TIA/EIA 568-B.2-1 & ISO/IEC 11801 CATEGORY 6. THE CABLE CONSISTS OF #24 AWG SOLID BARE COPPER INSULATED CONDUCTORS, ASSEMBLED INTO FOUR TIGHTLY TWISTED PAIRS, WITH A CORE SEPARATOR AND RIPCORD, UNDER AN OVERALL JACKET. PRINT INCLUDES DESCENDING FOOTAGE MARKERS FROM 1000 TO 0 ON EACH 1000 FT REEL OR BOX. THIS PRODUCT AND/OR ITS MANUFACTURE IS COVERED BY US PATENT NOS. 6570095, 5563377 & 5424491.

THE CABLE IS PLENUM RATED FOR USE IN AIR HANDLING DUCTS AND SPACES IN ACCORDANCE WITH ARTICLE 800 OF THE NATIONAL ELECTRICAL CODE (NEC). THE CABLE IS UL (USA) & cUL (CANADA) LISTED FOR THIS APPLICATION BY PASSING NFPA 262 (UL 910 - STEINER TUNNEL) TEST.



IEEE 802.3 10BASE-T (ETHERNET), 100BASE-T (FAST ETHERNET), AND 1000BASE-T (GIGABIT ETHERNET), IEEE 802.3af POWER OVER ETHERNET FOR VolP, ANSI.X3.263 FDDI TP-PMD, IEEE 802.5 4 AND 16 Mbps TOKEN RING, ATM UP TO 155 Mbps, 550 MHz BROADBAND VIDEO AND STANDARDS UNDER DEVELOPMENT SUCH AS ATM AT 622 Mbps, 1.2 & 2.4 Gbps.

# CONSTRUCTION

PRIMARIES:

CONDUCTOR: 24 AWG (.5 mm) SOLID BARE COPPER

DUAL INSULATION, FEP ON ALL 4 PAIRS

PAIR

ASSEMBLY:

2 PRIMARIES TWISTED IN VARIED LAYS

COLOR CODE: SEE TABLE 1

CABLE

4 PAIRS CABLED TOGETHER WITH A ASSEMBLY:

CORE SEPARATOR

JACKET:

NO LEAD PLENUM RATED THERMOPLASTIC

JACKET COLOR: SEE TABLE 2

NOMINAL CABLE OD: .208" (5.28 mm)

LISTING:

UL/cUL TYPE CMP

ETL VERIFIED TO TIA/EIA 568-B.2-1 CAT 6

# PHYSICAL CHARACTERISTICS

**CABLE WEIGHT:** 

29 lbs/1000ft (43 kg/km)

**BENDING RADIUS:** 

1" (25 mm) MIN (4 x CABLE OD)

**PULLING TENSION:** 

25 lbf (110 N) MAX

**OPERATING TEMP.:** 

-20°C to +60°C (-4°F to +140°F)

STORAGE TEMP.:

-20°C to +75°C (-4°F to +167°F)

\*INSTALLATION TEMP.:

0°C to +60°C (+32°F to +140°F)

Rev

Description

Jacket	, -
Insula	tion
Condu	ictor
Core S	Separator
Ripco	rd

#### TABLE 1

PAIR NUMBER	PAIR COLOR CODE			
1	WHITE-BLUE	BLUE		
2	WHITE-ORANGE	ORANGE		
3	WHITE-GREEN	GREEN		
4	WHITE-BROWN	BROWN		

# TABLE 2

MOHAWK PART NUMBER	MOHAWK DESIGN NUMBER	JACKET COLOR
M58280	HT49423	WHITE
M58281	HT49424	BLUE
M58282	HT49425	PINK
M58283	HT49426	YELLOW
M58285	HT49427	GRAY
M58286	HT49428	LIME GREEN
M58287	HT49429	RED
M58288	HT49430	ORANGE
M58289	HT49431	BLACK
M58290	HT49432	VIOLET

\* THE INSTALLATION TEMPERATURE REFERS TO THE TEMPERATURE OF THE CABLE WHILE BEING INSTALLED OR PULLED. DO NOT INSTALL BELOW 0°C (+32°F).

Init.

Date

# CABLE DESIGN TECHNOLOGIES

9 Mohawk Drive Leominster, MA 01453-3341 USA (978) 537-9961 (800) 422-9961 Fax: (978) 537-4358

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Orig:		Review:	HT49'	156
Date	: 12/11/01	Page 1 of 2	Mohawk Des	~
F	UPDATE COF	RE DESIGN, DIAMETER, WEIGHT, PAT #	11/13/03	JS
E	UPDATE DES	C, STD, ELEC NOTE	05/27/03	RA
D	UPDATE APP	04/29/03	RA	
С	CHG INSUL, J	KT, LISTINGS, PAT #, CBL WGT	04/17/03	JS

# MOHAWK MASTER SPECIFICATION 6 LAN<sup>™</sup> CABLE

4 PAIR #24 AWG UTP CATEGORY 6 PLENUM

Mohawk Design No: HT49156

**ELECTRICAL CHARACTERISTICS** (REF TABLE 3)

STANDARDS:

MEETS TIA/EIA 568- B.2-1 CAT 6 &

ISO/IEC 11801:2002 CAT 6

HORIZONTAL CABLE

CONDUCTOR DCR:

8.9 Ω/100m (27.1 Ω/Mft) MAX

DCR UNBALANCE:

3% MAX

MUTUAL

CAPACITANCE:

46 pF/m (14 pF/ft) NOM

CAPACITANCE UNBALANCE PAIR/GROUND:

66 pF/100m (200 pF/Mft) MAX

CHARACTERISTIC

IMPEDANCE:

 $100 \Omega \pm 15\% (1-250 \text{ MHz})$ 

INPUT IMPEDANCE:  $100 \Omega \pm 15\% (1-100 \text{ MHz})$  $100 \Omega \pm 20\% (>100-200 \text{ MHz})$ 

100  $Ω \pm 25\%$  (>200 MHz)

**RETURN LOSS (RL):** 

 $20 + 5 \log_{10}(f) \text{ dB MIN } (1-10 \text{ MHz})$ 

25 dB MIN (>10-20 MHz)

25 - 7 log<sub>10</sub>(f/20) dB MIN (>20 MHz)

**INSERTION LOSS:** 

 $1.808\sqrt{f} + .017f + \frac{.20}{\sqrt{f}}$  dB/100m MAX

**NEAR END** 

CROSSTALK (NEXT):

44.3 - 15 log<sub>10</sub>(f/100) dB/100m MIN

POWER SUM NEAR END

CROSSTALK (PS-NEXT):

42.3 - 15 log<sub>10</sub>(f/100) dB/100m MIN

**EQUAL LEVEL FAR END** 

27.8 - 20 log<sub>10</sub>(f/100) dB/100m MIN CROSSTALK (ELFEXT):

POWER SUM EQUAL LEVEL FAR END

CROSSTALK (PS-ELFEXT): 24.8 - 20 log<sub>10</sub>(f/100) dB/100m MiN

PROPAGATION DELAY:

534 + 36/√f ns/100m MAX

**DELTA DELAY (SKEW):** 

37 ns/100m MAX

NOMINAL VELOCITY

OF PROPAGATION (NVP): 72%

WHERE f = FREQUENCY IN MHz from .772 to 250 MHz.

# TABLE 3 REFERENCE ELECTRICAL CHARACTERISTICS

FREQ	INSERTIO	N LOSS	NE	XT	ACR	PS-N	EXT	PS-ACR	ELFEXT	PS-ELFEXT	RL
(MHz)	(dB/10	)0m)	(dB/1	00m)	(dB/100m)	(dB/10	00m)	(dB/100m)	(dB/100m)	(dB/100m)	(dB)
	avg	max	avg	min	min	avg	min	min	min	min	min
.772	1.7	1.8	82	76.0	74.2	77	74.0	72.2	_	•••	- "
1.0	1.9	2.0	80	74.3	72.3	75	72.3	70.3	67.8	64.8	20.0
4.0	3.6	3.8	71	65.3	61.5	66	63.3	59.5	55.8	52.8	23.0
8.0	5.1	5.3	67	60.8	55.5	62	58.8	53.5	49.7	46.7	24.5
10.0	5.7	6.0	65	59.3	53.3	60	57.3	51.3	47.8	44.8	25.0
16.0	7.3	7.6	62	56.2	48.6	57	54.2	46.6	43.7	40.7	25.0
20.0	8.1	8.5	61	54.8	46.3	56	52.8	44.3	41.8	38.8	25.0
25.0	9.1	9.5	59	53.3	43.8	54	51.3	41.8	39.8	36.8	24.3
31.25	10.2	10.7	58	51.9	41.2	53	49.9	39.2	37.9	34.9	23.6
62.5	14.8	15.4	53	47.4	32.0	48	45.4	30.0	31.9	28.9	21.5
100.0	19.0	19.8	50	44.3	24.5	45	42.3	22.5	27.8	24.8	20.1
155.0	24.2	25.2	47	41.4	16.2	42	39.4	14.2	24.0	21.0	18.8
200.0	27.8	29.0	46	39.8	10.8	41	37.8	8.8	21.8	18.8	18.0
250.0	31.5	32.8	44	38.3	5.5	39	36.3	3.5	19.8	16.8	17.3
300.0	35.0	36.4	43	37.1	0.7	38	35.1		18.3	15.3	16.8
350.0	38.2	39.8	42	36.1		37	34.1		16.9	13.9	16.3
400.0	41.3	43.0	41	35.3		36	33.3				15.9
500.0	47.0	48.9	40	33.8		35	31.8			<b></b>	15.2
550.0	49.7	51.8	39	33.2		34	31.2		<u> </u>		14.9

VALUES ABOVE 250 MHz ARE FOR ENGINEERING INFORMATION ONLY.

# MOHAWK/CDT®3

# CABLE DESIGN TECHNOLOGIES

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Rev	Description	Date	Init.
С	CHG INSUL, JKT, LISTINGS, PAT #, CBL WGT	04/17/03	JS
D	UPDATE APPS, ELECT TO 550 MHz	04/29/03	RA
E	UPDATE DESC, STD, ELEC NOTE	05/27/03	RA
F	UPDATE CORE DESIGN, DIAMETER, WEIGHT, PAT #	11/13/03	JS
Date	43/44/04 Page 2 of 2	Mohawk Dec	ian No:

Date: 12/11/01 Page 2 of 2 Mohawk Design No: HT49156 Review: Orig:

	BID BO	ND
KNOW ALL MEN BY THESE PL	RESENTS. That we, the unde	ersigned, Pomeroy IT Solutions, Inc.
of Hebron	. Kentucky	as Principal, and <u>Liberty Mutual Ins. Co.</u>
of Plymouth Meeting	. Pennsylvania .a com	poration organized and existing under the laws of the State of
WA with its principal office	in the City of Plymouth M	eeting , as Surety, are held and firmly bound unto the State
- CANCARA Straining on Ohligge in the neng	sum of Five Percent o	f the am(\$ 05% ) for the payment of which,
or vvest virginia, as Obligee, in the portal	severally bind ourselves, our	heirs, administrators, executors, successors and assigns.
well and truly to be made, we jointly and	borofuely britte better and	
The Condition of the above obli	nation is such that whereas th	ne Principal has submitted to the Purchasing Section of the
The Condition of the appropriate b	id or proposal, attached heret	to and made a part hereof, to enter into a contract in writing for
DHHR Cabling Project ISCI		
Mill Capiting 110, 100 100		
NOW THEREFORE,		
	i. or	
	al amalika Drinainal abali antat	r into a contract in accordance with the bid or proposal attached
hereto and shall furnish any other bonds	and insurance required by the	te pid of proposal, and shall in all other respects perform the
forms and affect. It is expressly underside	ood and agreed that the navin	by of the Surety for any and all claims hereunder shall, in no event,
exceed the penal amount of this obligation	on as herein stated.	
		should be abligations of said Surety and its hand shall be in no
The Surety, for the value receiv	/ed, hereby stipulates and agr	rees that the obligations of said Surety and its bond shall be in no e Obligee may accept such bid, and said Surety does hereby
way impaired of anecied by any extension.	OH OTHER SHOOT THEST THE THE THE	
<u>.</u>		and the state of t
IN WITNESS WHEREOF, Prince	cipal and Surety have hereun	to set their hands and seals, and such of them as are corporations
have caused their corporate seals to be	affixed hereunto and these pr	resents to be signed by their proper officers, this
7th_day of_July	<u>, 20 08</u> .	
•	•	The Colored Tree
Principal Corporate Seal		Pomeroy IT Solutions, Inc. (Name of Principal)
		N Co/
		By Kust Mc
		(Must be President or Vice President)
•		Canal Da = 3 (50 000)
		TITLE CONFORM
Surety Corporate Seal		Liberty Mutual Ins. Co.
		(Name of Surety)
	,	
		Kirland & Dea
Bellin Control		Richard T. Berger
		Richard T. Berger
IMPORTANT - Surety executing bond	ds must be licensed in West must be attached	t Virginia to transact surety insurance. Raised corporate seals
must be affixed, a power of attorney	meer he minnime	

THIS POWER OF ATTORNEY IS NOT VALID UNLESS IT IS PRINTED ON RED BACKGROUND.

This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

# LIBERTY MUTUAL INSURANCE COMPANY BOSTON, MASSACHUSETTS POWER OF ATTORNEY

NOW ALL PERSONS BY THESE PRESENTS: That Liberty Mutual Insurar ompany, pursuant to and by authority of the By-law and Authorization hereinafter selected. JAMES A. BERGER, RICHARD T. BERGER	et forth, does hereby name, constitute and appoint
TATE OF KENTUCKY	T, DIANE W. BOOTH, ALE OF THE OFFICE GOVERNMENT
JAIL OF RENTOOK!	
each individually if there be more than one named, its true and lawful attorney-in the surety and as its act and deed, any and all undertakings, bonds, recogn	izances and other surety obligations in the penal sum not exceeding DOLLARS (\$ 50,000,000.00****** ) each, and the
kecution of such undertakings, bonds, recognizances and other surety obligations of such undertakings, bonds, recognizances and other surety obligations are if they had been duly signed by the president and attested by the secre	ons, in pursuance of these presents, shall be as binding upon the
nat this power is made and executed pursuant to and by authority of the following	By-law and Authorization:
ARTICLE XIII - Execution of Contracts: Section 5. Surety Bonds and Und Any officer of the Company authorized for that purpose in writing by the chairman or the president may prescribe, shall appoint such attorneys-in execute, seal, acknowledge and deliver as surety any and all undert attorneys-in-fact, subject to the limitations set forth in their respective posignature and execution of any such instruments and to attach thereto the as binding as if signed by the president and attested by the secretary.	ne chairman or the president, and subject to such limitations as the fact, as may be necessary to act in behalf of the Company to make, akings, bonds, recognizances and other surety obligations. Such owers of attorney, shall have full power to bind the Company by their
the following instrument the chairman or the president has authorized the officer	or other official named therein to appoint attorneys-in-fact:
Pursuant to Article XIII, Section 5 of the By-Laws, Garnet W. Elliott, A authorized to appoint such attorneys-in-fact as may be necessary to act deliver as surety any and all undertakings, bonds, recognizances and oth	in behalf of the Company to make, execute, seal, acknowledge and
nat the By-law and the Authorization set forth above are true copies thereof and a	
WITNESS WHEREOF, this Power of Attorney has been subscribed by an auberty Mutual Insurance Company has been affixed thereto in Plymouth Meeting, F 2008	thorized officer or official of the Company and the corporate seal of Pennsylvania this <u>26th</u> day of <u>March</u> ,
	LIBERTY MUTUAL INSURANCE COMPANY
1012	By Count W. Sthirth
DMMONWEALTH OF PENNSYLVANIA ss	Garnet W. Elliott, Assistant Secretary
OUNTY OF MONTGOMERY	
n this <u>26th</u> day of <u>March</u> , <u>2008</u> , before me, a Notary Public, at he is an Assistant Secretary of Liberty Mutual Insurance Company; that he ower of Attorney and affixed the corporate seal of Liberty Mutual Insurance Comp	By Garnet W. Elliott, Assistant Secretary  personally came Garnet W. Elliott, to me known, and acknowledged knows the seal of said corporation; and that he executed the above any thereto with the authority and at the direction of said corporation.  notarial seal at Plymouth Meeting, Pennsylvania, on the day and year  D. H. M.
TESTIMONY WHEREOF, I have he reunto subscribed my name and affixed my st above written.	notarial seal at Plymouth Meeting, Pennsylvania, on the day and year
COMMONWEALTH OF PENNSYLVANIA Notatis Seal OF Telesia Pastella, Notary Public	By leresa Pastella
Plymouth Twp., Montgornery County My Commission Expires Mar. 28, 2009  Member, Pennsylvania Association of Noterles  ERTIFICATE	Terésa Pastella, Notary Public
the undersigned, Assistant Secretary of Liberty Mutual Insurance Company, do ha full, true and correct copy, is in full force and effect on the date of this certification power of attorney is an Assistant Secretary specially authorized by the chairn II, Section 5 of the By-laws of Liberty Mutual Insurance Company.	ite: and I do further certify that the officer or official who executed the
nis certificate and the above power of attorney may be signed by facsimile or lowing vote of the board of directors of Liberty Mutual Insurance Company at a m	mechanically reproduced signatures under and by authority of the leeting duly called and held on the 12th day of March, 1980.
VOTED that the facsimile or mechanically reproduced signature of ar certified copy of any power of attorney issued by the company in connewith the same force and effect as though manually affixed.	ny assistant secretary of the company, wherever appearing upon a ction with surety bonds, shall be valid and binding upon the company
TESTIMONY WHEREOF I have hereunto subscribed my name and affixed the	corporate seal of the said company, this 7th day of

David M. Carey, Assistant Secretary