

## Request for Quotation

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JO ANN ADKINS
304-558-8802

VEXDOR

\*709040115 01 304-768-3600 SESCO ELECTRONICS DIV STATE EL 405 12TH STREET

DUNBAR WV 25064

SH P T O ALL STATE AGENCIES
AND POLITICAL SUBDIVISIONS
VARIOUS LOCALES AS INDICATED
BY ORDER

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The Purchasing Division is soliciting quotations from qualified vendors for the Office of Technology Division of the Department of Administration to establish a blanket open-end statewide contract to provide computer data cable (copper/fiber) and fittings for all West Virginia State agencies and participating political subdivisions.

\*\*\*\*\*\*\*\*\*\*\*\*IMPORTANT - IMPORTANT - IMPORTANT\*\*\*\*\*\*\*\*\*

# WRITTEN QUESTIONS MUST BE RECEIVED NO LATER THAN CLOSE OF BUSINESS ON FRIDAY, APRIL 23, 2010.

Questions may be sent via fax, e-mail, USPS, or courier and must be sent to:

Jo Ann Adkins
Purchasing Division
2019 Washington Street, East
P.O. Box 50130
Charleston, WV 25311
304-558-4115 (Fax)
Jo.a.adkins@wv.gov (Email)

Only bid submission questions will be accepted after that date and time.

All terms and conditions in the written specifications which are absolute and the compliance with can not be waiver. Mandatory terms are indicated by the use of the terms *shall*, *will*, *must*, *maximum* and *minimum*.

### Materials List/Pricing Pages

The pricing pages contain a list of all the materials to be covered by the contract. This list shows the estimated usage of materials that will be available through the contract. No future use of contract is guaranteed or implied. These pricing pages must be completed by each bidder. A vendor should bid on all items listed on the attached pricing pages. Vendor must indicate brand bid for all items.

The model/brand/specifications named herein establish the acceptable level of quality only and are not intended to reflect a preference or favor any particular brand or vendor. Vendors intending to bid an alternative product shall submit descriptive literature and samples. These samples must be received no later than five (5) days after the bid opening date. If bidder wishes to have samples

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returned, they must include a pre-paid label or other information to have the items returned at vendor's expense.

<u>Vendors should furnish detailed specifications with descriptive literature with the bid.</u>

If bidding an "Equal To" other than the brand listed, bidders are required to supply literature with the cable specifications demonstrating the product is in fact equal in quality.

An electronic version of CABLE10 pricing pages can be found at: <a href="http://www.state.wv.us/admin/purchase/newbul.htm">http://www.state.wv.us/admin/purchase/newbul.htm</a>

Vendor must submit a paper bid with the CABLE10 bid.

Bidders are requested to submit an electronic version of the excel document and return with bid. Additionally, bidders are also requested to include original printed document with the Purchasing Division original package. If any deviation exists between the electronic version and the printed version, the printed one submitted shall prevail.

Bidders should sign and complete the contract coordinator information at the end of the pricing pages.

Contract shall be a single award to the lowest-cost vendor with the most complete bid.

The Purchasing Division desires to enter into a fixed price contract with the successful vendor. The prices quoted in the vendor(s) quote will not be subject to any increase for the original contract term of one year. Price increase at renewal can be accepted or rejected by the Purchasing Division.

## **Terms and Conditions**

### I. Delivery

1. The cost per item (supplied by the vendor) must include delivery to the building dock and/or loading area designated by the ordering state agency.

- 2. All materials ordered in Charleston, or any destination point in between Charleston-Huntington, Charleston-Beckley, Charleston-Parkersburg, and or Charleston-Clarksburg by any other agency other than the Office of Technology, must be delivered within 5 business days after receipt of the order.
- 3. All materials ordered by the Office of Technology must be delivered to the Capitol Complex in the following timeframes after the receipt of the order (the exact delivery location will be provided when the order is placed):
  - a) If total for materials ordered is \$1,000 or below delivery must be within two (2) business hours;
  - b) If total for materials ordered is greater than \$1,000, but less than \$5,000 –delivery must be within two (2) business days;
  - c) If total for materials ordered is greater than \$5,000 delivery must be within five (5) business days.
- 4. If an ordering agency requests delivery of materials to another "inside" area of the building other than the dock and/or loading area, the vendor shall supply a cost (including an explanation of how this cost was calculated) on the pricing pages to complete this "inside" delivery. For example, if DNR orders a cabinet through the contract and they request and pay for "inside delivery" to their 8<sup>th</sup> floor closet, then the vendor/delivery company will be responsible for delivery of the cabinet to the 8<sup>th</sup> floor closet and not be permitted to simply deliver the cabinet to the building loading dock.

All pricing submitted shall be FOB: Destination. (Vendor pays shipping.)

### II. Subcontracts / Joint Ventures

The vendor is solely responsible for all work performed under the contract and shall assume responsibility for all items offered to be delivered under the terms of this contract. The State will consider the vendor to be the sole point of contact with regard to all contractual matters.

### III. Vendor Reporting

The vendor must provide a quarterly report of purchases to the Office of Technology, with a copy to Purchasing (jo.a.adkins@wv.gov), showing the following items:

- 1. Name of the ordering state agency;
- 2. Materials ordered; and

Total cost expended for that quarter.

The report shall be delivered to the Office of Technology and the Purchasing Division no later than the fifteenth day of the month following each quarter period. The vendor shall also provide Office of Technology and Purchasing an annual report with this same information, to be delivered at the end of each fiscal year. Failure to submit such reports may be grounds for contract termination.

Reports are to be sent to:

Marta Dean MARTA.L.DEAN@WV.GOV

Jo Ann Adkins <u>JO.A.ADKINS@WV.GOV</u>

### V. Convenience Copy

Bidders are requested to include one (1) convenience hard copy and one (1) convenience CD that contain the information included on the hard copies of the entire bid (including pricing pages) to the Purchasing Division. This convenience copy is in addition to the original hard copy and electronic version of the pricing pages as requested by the Purchasing Division.

The successful bidder shall not substitute any other brand from those awarded, nor sell any additional items under their contract not specifically covered herein, without prior written permission of the Purchasing Division

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### CABLE10

\*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 for these 17 items.

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 must be accompanied by sufficient descriptive literature and samples to clearly identify the offer and allow for a complete evaluation.

Vendors intending to bid an alternative product shall submit descriptive literature and samples must be received no later than five (5) business days following the RFQ opening date 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.

Samples & literature must be included for each of the following 17 products bid:

- Manufacturers category 5e cable specifications (Items 45 & 46)
- Manufacturers category 5e RJ45 snap-in connector (Item 47)
- Manufacturers category 5E cable specifications (Items 48 & 49)
- Manufacturers category 5E RJ45 snap-in connector (Item 50)
- Manufacturers category 5E 12-, 24-, 48-port copper patch panels (Items 72, 73, 74 & 75)
- Manufacturers category 6 cable specifications (Items 84 & 85)
- Manufacturers category 6 RJ45 snap-in connectors (Item 86)
- Manufacturers category 6 12-, 24-,48-port copper patch panels (Items 104,105,106,107)

## Category 6 Plenum & Non-plenum Cable

### Minimum specifications:

Unshielded twisted pair cable tested to 650 MHz and ETL verified to TIA/EIA-568-B.2-1 Category 6. A core separator that isolates the pairs throughout the length of the cable must be included. All plenum cable must be 4X4 plenum construction.

- 28 dB Minimum ACR @ 100 MHz Proven support for Gigabit Ethernet / 1000BASE-T / IEEE 802.3ab, ATM up to 155 Mbps, IEEE 802.3af Power Over Ethernet for VoIP, 100 Mbps Fast Ethernet / 100BASE-T / IEEE 802.3, ANSI.X3.263 FDDI TP-PMD, Ethernet / 10BASE-T / IEEE 802.3, 4 & 16 Mbps Token Ring / IEEE 802.5, T1/E1, xDSL, ISDN, 550 MHz Broadband Video and standards under development such as ATM at 622 Mbps, 1.2 and 2.4 Gbps.
- 13 dB Minimum Improvement in Near End Crosstalk.
- .25 ns/meter Maximum Skew Tightly controlled propagation delay.
- Enhanced Performance Parameters All electrical characteristics proven to exceed TIA/EIA-568-B.2-1 and ISO/IEC 11801 Category 6 requirements: NEXT and ELFEXT (Pair-to-Pair and Power Sum), Insertion Loss, Return Loss, and Delay Skew.

## **Electrical Characteristics**

#### STANDARDS:

MEETS OR EXCEEDS TIA/EIA-568-B.2-1 CAT 6, ISO/IEC 11801:2002 CAT 6 & IEC 61156-5 CAT 6 HORIZONTAL CABLE

CONDUCTOR DCR: 7.8 \_/100m (23.8 \_/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 15% (1-350 MHz)

#### INPUT IMPEDANCE:

100 \_ \_ 15% (1-100 MHz) 100 \_ \_ 18% (>100-200 MHz) 100 \_ \_ 22% (>200-350 MHz)

PROPAGATION DELAY: 534 + 36/Lif ns/100m MAX

DELTA DELAY (SKEW): 25 ns/100m MAX

NOMINAL VELOCITY OF PROPAGATION (NVP): PLENUM 72%, NON-PLENUM 68%

## Category 6 Patch Panels

The Category 6 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-0. The panel shall be offered in 12-, 24, 48-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.

### **APPLICATION**

Category 6 patch panels must be designed for use on 19" standard racks and cabinets; must allow for standard 110 terminations on the rear of the panel which follows the normal installation color sequence (blue, orange, green, brown) from left to right; and must be designed for use in high megabit applications such as Gigabit Ethernet.

### **FEATURES**

- 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

Category 6 patch panels must 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: 12-, 24-Port - 1.725"H x 19"W x 1.474"D

48 Port - 3.475"H x 19"W x 1.474"D

12-port Patch Block – 10.0"H x 2.3"W x 1.474"D Capacity: 12-, 24-, 48-port and 12-Port Patch Block

Materials: 16 gauge steel, painted black, PCB and plastic components are rated UL 94V-0

### **DESIGN SPECIFICATIONS**

- Color coded front window labeling for easy port identification.
- · Mounts on 19" equipment racks.
- Panel offered in 12-, 24-, 48-Port configurations and Universal 12-port U89 Block for wall mount applications.
- · Connector modules are in groups of six.
- · Includes rear cable management bars.

## **Category 6 Modular Connectors**

The Category 6 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. The Category 6 connector 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. Termination of all connectors shall be 110-type insulation displacement connectors (IDC). The connector shall provide a ledge directly adjacent to the 110-type insulation 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.

### STANDARDS COMPLIANCE

Category 6 modular connectors must 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.

Must include full selection of TIA/EIA-606 compatible colors, which include ivory, white, grey, black, orange, blue, red, yellow, green, purple, almond, and brown.

### **DESIGN SPECIFICATIONS**

- For use in any Category 6 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 snap-in modules for voice/data and video applications over UTP, coax and fiber.
- Full selection of colors available, which must include ivory, white, grey, black, orange, blue, red, yellow, green, purple, almond & brown in order to identify ports for different applications.

#### **INSTALLATION NOTES**

- Must be designed for cable termination with a 110 punch down tool.
- · Detailed installation instructions must be included in the standard pack.
- · IDCs must be arranged to minimize untwisting.

## Category 5E Plenum & Non-plenum Cable

### Minimum specifications:

Unshielded twisted pair cable tested to 400 MHz and ETL verified to Category 5e. All plenum cable must be 4X4 plenum construction.

- 20 dB Minimum ACR @ 100 MHz Proven support for Gigabit Ethernet / 1000BASE-T / IEEE 802.3ab, ATM up to 155 Mbps, 100 Mbps Fast Ethernet / 100BASE-T / IEEE 802.3, ANSI.X3.263 FDDI TP-PMD, Ethernet / 10BASE-T / IEEE 802.3, 4 & 16 Mbps Token Ring / IEEE 802.5, T1/E1, xDSL, ISDN, 550 MHz Broadband Video and standards under development such as ATM at 622 Mbps and 1.2 Gbps.
- 5 dB Minimum Improvement in Near End Crosstalk vs. standard Category 5e NEXT.
- Meets Return Loss Category 5e Standard.
- .25 ns/meter Maximum Skew Tightly controlled propagation delay.
- Enhanced Performance Parameters All electrical characteristics proven to exceed TIA/EIA 568-B Category 5e requirements: Near End Crosstalk, Characteristic Impedance, Insertion Loss, and Delay Skew. Also exceeds TIA/EIA-568-B.2 Category 5e requirements: Power Sum NEXT, and Far End Crosstalk ELFEXT and PS-ELFEXT.

## **Electrical Characteristics**

STANDARDS:

EXCEEDS TIA/EIA-568-B.2 CAT 5e & ISO/IEC 11801:2002 CAT 5 HORIZONTAL CABLE

CONDUCTOR DCR: 8.9 \_/100m (27.1 \_/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 \_\_15% (1-400 MHz)

INPUT IMPEDANCE:

100 \_\_15% (1-100 MHz) 100 \_\_22% (>100-200 MHz)

PROPAGATION DELAY: 506 + 36/ ns/100m MAX

DELTA DELAY (SKEW): 25 ns/100m MAX

NOMINAL VELOCITY OF PROPAGATION (NVP): PLENUM 72%; NON-PLENUM 68%

## **Category 5E Patch Panels**

The Category 5E patch panel shall meet or exceed the requirements for Category 5e described in TIA/EIA-568-B 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-0. The panel shall be offered in 12-, 24-, 48-port configurations as well as 12-port configuration for wall mount applications. 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.

#### **APPLICATION**

Category 5e patch panels must be designed for use on 19" standard racks and cabinets and must allow for standard 110 terminations on the rear of the panel which follows the normal installation color sequence (blue, orange, green, brown) from left to right

### **FEATURES**

- Universal T568A and T568B wiring cards for 110 style IDC terminations.
- Color-coded front labeling for easy port identification
- · Centralized labeling available on 48 port panel.
- · Grounding standoff for optional earthing/grounding.

### STANDARDS COMPLIANCE

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

### PHYSICAL SPECIFICATIONS

Dimensions: 12-, 24-Port - 1,75"H x 19"W x 1,31"D

48 Port - 3.5"H x 19"W x 1.31"D

12-port Patch Block – 10.0"H x 2.3"W x 1.474"D Capacity: 12-, 24-, 48-port and 12-Port Patch Block

Materials: 16 gauge steel, painted black, PCB and plastic components are rated UL 94V-0

### **DESIGN SPECIFICATIONS**

- · Color-coded front window labeling for easy port identification.
- 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.
- · Mounts on 19" standard equipment racks.
- Panel offered in 12-, 24-, 48-port configurations and a 12-Port Patch Block for wall-mount applications.
- · Connector modules are grouped in sets of six.

## Category 5E Modular Connectors

The Category 5e connector shall meet or exceed the requirements for Category 5e described in TIA/EIA-568-B as well as the Class E requirements described in ISO/IEC 11801. The modular connector shall be individual snap-in style. The connector shall be 180° configuration such that the punch field is in the back, allowing for rear termination. Rear termination field shall include pointed pair separation towers to promote easier installation. 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 cutting ledge directly adjacent to the 110-style IDCs against which the wires can be directly terminated and cut in one action. Connector wiring shall be universal and accommodate both T568A and T58B wiring schemes.

### STANDARDS COMPLIANCE

The Category 5e modular connector must meet or exceed the Category 5e requirements for channel/component level performance per TIA/EIA-568-B and ISO/IEC 11801. Components certified per cULus and ACA requirements.

#### PHYSICAL SPECIFICATIONS

Dimensions: .885"H x .635"W x 1.211"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 electrical contact resistance and maximum life.

Must include full selection of available colors, which include ivory, white, grey, black, orange, blue, red, yellow, green, purple, almond, and brown.

### **DESIGN SPECIFICATIONS**

- For use in any Category 5e housing to support Category 5e UTP connectivity in surface mount, flush mount, or modular furniture outlets and field configurable panels.
- Can be used in conjunction with other snap-in modules for voice/data and video applications over UTP, coax and fiber.
- Full selection of colors available, which must include ivory, white, grey, black, orange, blue, red, yellow, green, purple, almond & brown in order to identify ports for different applications.

### **INSTALLATION NOTES**

- Must be designed for cable termination with a 110 punch down tool.
- · Detailed installation instructions must be included in the standard pack.
- · IDCs must be arranged to minimize untwisting.

# Category 5e Plenum & Non-plenum Cable

### Minimum specifications:

Unshielded twisted pair cable tested to 200 MHz and ETL verified to Category 5e. All plenum cable must be 4X4 plenum construction.

- •14 dB Minimum ACR @ 100 MHz Proven support for Gigabit Ethernet / 1000BASE-T / IEEE 802.3ab, ATM up to 155 Mbps, 100 Mbps Fast Ethernet / 100BASE-T / IEEE 802.3, ANSI.X3.263 FDDI TP-PMD, Ethernet / 10BASE-T / IEEE 802.3, 4 & 16 Mbps Token Ring / IEEE 802.5, T1/E1, xDSL, ISDN, 550 MHz Broadband Video and standards under development such as ATM at 622 Mbps.
- •4 dB Minimum Improvement in Near End Crosstalk vs. TIA/EIA-568-B Category 5.
- \*ETL Verified to Category 5e.
- •.45 ns/meter Maximum Skew Tightly controlled propagation delay.
- Engineered for Future Applications Tested for all parameters specified...for 4 pair UTP in TIA/EIA-568-B.2, including PS-NEXT, Return Loss, ELFEXT and PS-ELFEXT.

# **Category 5e Modular Connectors**

The Category 5e modular connector shall meet or exceed individual snap-in style, and provide compliance with TIA/EIA-568-B specifications. The connectors shall also be in compliance with all National Electrical Codes; compliant with FCC Part 68; UL listed; and independently UL Certified. In addition to Category 5e 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 IDC with solder-plated phosphor bronze contacts. 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 installer. Connector wiring label shall provide installation color codes for both T568A and T568B wiring schemes. The modular hardware shall fit all other installed telecommunications wallplates, outlets and field configurable patch panels and patch blocks.

### STANDARDS COMPLIANCE

The Category 5e connector must meet all applicable standards: UL Listed; complies with all TIA/EIA-568-B requirements; and meets FCC Part 68.

### PHYSICAL SPECIFICATIONS

Dimensions: .89"H x .635"W x 1.178"D

Materials: Connector body is high-impact, fire-retardant plastic rated UL 94V-0. Spring wire contacts are high-quality phosphor bronze, plated with 50 micro-inches of gold over 100 microinches of nickel for lowest contact resistance, maximum life. Connector 110-style IDC contacts are solder-plated phosphor bronze.

Full selection of colors must be made available, which include ivory, white, grey, black, orange, blue, red, yellow,

green, purple, almond, and brown.

### **DESIGN SPECIFICATIONS**

- For use in any Category 5e housing to support Category 5e UTP connectivity in surface mount, flush mount, or modular furniture outlets and field configurable panels.
- Can be used in conjunction with other snap-in modules for voice/data and video applications over UTP, coax and fiber.
- Full selection of colors available, which must include ivory, white, grey, black, orange, blue, red, yellow, green, purple, almond & brown in order to identify ports for different applications.

### **INSTALLATION NOTES**

- Must be designed for cable termination with a 110 punch down tool.
- Detailed installation instructions must be included in the standard pack.
- · IDCs must be arranged to minimize untwisting.

## Fiber Optic Cable Specifications:

Laser Optimized Multimode 50μm 550 Plenum Building Cable- Supports 550 Meter Channel @ 10 Gb/s

- 1. The cable shall support current and next-generation LAN, SAN, and WAN applications via laser-optimized 50/125-µm optical fibers.
- 2. The cable shall extend the distance of low-cost 850-nm VCSEL-based electronics, supporting 1100 m at 1 Gb/s and 550 m at 10 Gb/s.
- 3. The application suite shall include Ethernet from 10 Mb/s to 10 Gb/s, Fiber Channel from 1 Gb/s to 10 Gb/s, and ATM/SONET/SDH from OC-1 to OC-192.
- 4. All fibers shall be Differential Mode Delay (DMD) tested using a high-resolution test bench that exceeds the FOTP-220 standards and is independently certified by UL®.
- 5. The riser cable shall be constructed with tight buffer fibers, aramid strength yarn, surrounded by a Plenum rated outer jacket.
- 6. The cables shall be designed for point-to-point applications as well as mid-span access, and shall provide a high-level of protection for fiber installed in the building environment.
- 7. The cables shall meet the following specifications:

Physical Specifications:

Fiber Count	Outer Diameter	Weight lbs/ft	Minimum Bend Radius in.(cm)		Max.Tensile L lbs.(Newtons)	oad	Maximum Vertical Rise
	in.(mm)	(kg/km)	Loaded	Unloaded	Short Term	Long Term	Feet (Meters)
6	0.19 (4.7)	14 (21)	3.7 (9.5)	1.9 (4.7)	300 (1335)	90 (400)	1640 (500)
12	0.22 (5.7)	21 (31)	4.5 (11.4)	2.2 (5.7)	300 (1335)	90 (400)	1640 (500)
24	0.55 (13.9)	107 (160)	11.0 (27.8)	5.5 (13.9)	600 (2670)	180 (801)	1640 (500)

T	1	a 4	Macha	1
P.DVII	onmental	ana	PERCHA	mcai

	Specification	Test Method
Operating Temperature	-40°to +70°C	-FOTP - 3
Installation Temperature	20°to +70°C	N/A
Storage Temperature	-40°to +70°C	N/A
Crush Resistance	44 N/mm	FOTP - 41
Impact Resistance	20 Impacts of 2.94 N.m.	FOTP - 25
Flexing	Exceeds	FOTP - 104
Twist Bend	Exceeds	FOTP - 85

### Cable Identification:

Buffer Tubes and Fibers are identified with standard color coding:						
1 - Blue	5 - Slate	9 - Yellow				
2 - Orange	6 - White	10 - Violet				
3 - Green	7 - Red	11 - Rose				
4 - Brown	8 - Black	12 - Aqua				

### **Optical Specifications**

	850 nm,max	1300 nm,max
Cabled Attenuation	3.0 dB/km	1.0 dB/km
Bandwidth by OFL	3500 MHz-km	500 MHz-km
Effective Modal Bandwidth	4700 MHz-km*	500 MHz-km
Differential Mode Delay	See Table below	1 0.88 ps/m
A TOP 11 1 1 1 1 1 C	4	I' at TIATIA 100 AAAOAA OA A AAAA TEETE

<sup>\*</sup> Effective modal bandwidth for laser transmitters compliant to TIA/EIA-492-AAACA Annex C.1, such as those in IEEE 802.3

10-Gigabit Ethernet (10GBASE-S), INCITS 364 10-Gigabit Fiber Channel (1200-MX-SN-I), and OfF-VSR4-04 10-Gigabit SONET/SDH (OC-192 Serial Shortwave).

DMD Template	DMD Interval Mask
for <sup>R</sup> INNER = 0 μm	for radial intervals:
to <sup>R</sup> OUTER = 23 μm	$7 - 13 \mu m$
	9 – 15 μm
	$11 - 17  \mu m$
	13 – 19 μm
0.14 ps/m,max.	0.11 ps/m,max.

Armored Laser Optimized Multimode 50µm Metallic Sheath Supports 550 meters - 10Gb/s

- 1. The cable supports current and next-generation LAN, SAN, and WAN applications via laser-optimized 50/125-µm optical fibers.
- 2. The cable extends the distance of low-cost 850-nm VCSEL-based electronics, supporting 1100 m at 1 Gb/s and 550 m at 10 Gb/s. The application suite includes Ethernet from 10 Mb/s to 10 Gb/s, Fiber Channel from 1 Gb/s to 10 Gb/s, and ATM/SONET/SDH from OC-1 to OC-192.
- 3. The fibers shall be Differential Mode Delay (DMD) tested using a high-resolution test bench that exceeds the FOTP-220 standards and is independently certified by UL®.
- 4. The Loose Tube Metallic cable shall be armored with a corrugated polymer coated steel tape, and constructed with industry standard 3mm buffer tubes, stranded around a central strength member.
- 5. The armor layer shall provide added crush protection and shall meet the Telcordia requirements for Superior Armored cable.
- The buffer tubes shall be compatible with standard hardware, cable routing and fan-out kits.
- 7. The cable core shall be water blocked with dry water-blocking materials, making access and handling of individual tubes easier and craft-friendly.
- 8. The cable shall be designed for point-to-point applications as well as mid-span access, and provide a high-level of protection for fiber installed in the outside plant environment.
- 9. The cable shall meet the following specifications:

Fiber Physical Speci	fications
Core Diameter	50 (±2.5)μm
Core Non-Circularity	<=5%
Cladding Diameter	125(±1)μm
Core/Cladding Concentricity Error	<=1.5μm
Cladding Non-Circularity	<=1.0%
Coated Fiber Diameter (uncolored)	245(±10)μm
Coating/Cladding Concentricity Error	<=6μm
Colored Fiber Diameter	245(±7)μm
Proof Test Levels	0.7 GPa minimum
Dynamic Fatigue Parameter	>=18
Macrobending (100 turns on a 75 mm	<=0.5dB @ 850 nm and 130
mandrel)	mm
Operating Temperature	- 60 to 85°C
Numerical Aperture Effective Group Index of Refraction @  950 pm	1.482
850 nm Effective Group Index of Refraction @ 1300 nm	1.478
Point Discontinuities @ 850 nm or 1300 nm	<= 0.1 dB
Minimum Bandwidth	Overfilled: 3500 MHz-km @ 850 nm Overfilled: 500 MHz- km @ 1300 nm Laser: 4700 MHz-km @ 850 nm Laser: 500 MHz-km a@ 1300 nm
	minimum 1297 nm

 $\leq 0.101 \text{ ps/(nm}^2 \text{ km)}$ 

Zero Dispersion Slope

Physical Specifications

		ii Specifications						
Fiber	Subunits	Outer	Weight	Minimu	ım Bend	Max. Te	nsile Load	Max.
Count		Diameter	lbs/kft	Radius	Radius In. (cm)		ewtons)	Vertical
		in. (mm)	kg/km			Short	Long	Rise Feet
				Loaded	Unloaded	Term	Term	(Meters)
4 - 48	5	0.46 (11.7)	63 (94)	9.2 (23.4)	4.6 (11.7)	607 (2700)	180 (800)	2856 (871)
72	6	0.50 (12.7)	72 (107)	10.0 (25.4)	5.0 (12.7)	607 (2700)	180 (800)	2509 765)
96	8	0.58 (14.7)	95 (141)	11.5 (29.4)	5.8 (14.7)	607 (2700)	180 (800)	1904 (580)
144	12	0.74 (18.9)	146 (217)	14.8 (37.8)	7.4 (18.9)	607 (2700)	180 (800)	1237 (377)
288	24	0.86 (21.9)	211 (315)	17.2 (43.8)	8.6 (21.9)	607 (2700)	180 (800)	852 (260)

Environmental and Mechanical:

	Specification	Test Method
Operating Temperature	-40° to +70°C	FOTP -3
Installation Temperature	-20° to +70°C	N/A
Storage Temperature	-40° to +70°C	N/A
Crush Resistance	44 N/mm	FOTP - 41
Impact Resistance	Exceeds	FOTP - 25
Flexing	Exceeds	FOTP - 104
Twist Bend	Exceeds	FOTP - 85

Cable Identifications

Cable Identification:	•	
Buffer Tubes and	Fibers are identified with standard colo	or coding:
1 - Blue	5 - Slate	9 - Yellow
2 - Orange	6 - White	10 - Violet
3 - Green	7 - Red	11 - Rose
4 - Brown	8 - Black	12 - Agua

Buffer tubes 13 through 24 repeat the color sequence with tracer stripe: e.g. fiber 13 is blue with tracer strip

**Optical Specifications** 

	. 850 nm,max	1300 nm,max
Cabled Attenuation	3.0 dB/km	1.0 dB/km
Bandwidth by OFL	3500 MHz-km	500 MHz-km
Effective Modal Bandwidth	4700 MHz-km*	500 MHz-km
Differential Mode Delay	See Table 1 below	0.88 ps/m

<sup>\*</sup> Effective modal bandwidth for laser transmitters compliant to TIA/EIA-492-AAAC-A Annex C.1, such as those in IEEE 802.3 10-Gigabit Ethernet (10GBASE-S), INCITS 364 10-Gigabit Fiber Channel (1200-MX-SN-I), and OIF-VSR4-04 10-Gigabit SONET/SDH (OC-192 Serial Shortwave.

Table 1 - Differential Mode Delay Specifications at 850 nm

DMD Template	DMD Interval Mask
DMD Template  for R inner = 0 μm	for radial intervals:
to R <sub>Outer</sub> =23 μm	7 - 13 μm
	9 - 15 µm
	11 - 17 μm
	13 - 19 μm
o.14 ps/m,max.	0.11 ps/m,max.

### Interlocking Armored Fiber-Optic Riser-Rated Premises Cable (OFCR) approved

### Plenum rated

- The plenum rated interlocking armored cable shall be used where additional protection and security is deemed necessary such as: building backbone, zone distribution, raised floor, data centers and storage area networks (SANs)
- The interlocking armor shall support single mode and multimode riser rated cable. Composite riser rated cables, with any combination of sm and mm fibers shall also be supported.
- 3. The manufacturing process shall include application of a steel or aluminum interlocking armor spirally around riser-rated premises distribution cable and then shall be over-jacketed with a plenum rated sheath
- The plenum rated sheath shall be color-coded to the fiber type and be printed with all relevant information on the cable contained within.
- 5. The plenum rated sheath shall allow for easier handling and pulling.
- 6. The interlocking armor and fiber cable shall be from a single manufacturer.
- 7. Available fiber counts shall range from 2 to 72, with others available at request.

### Environmental and Mechanical:

	Specification	Test Method
Operating Temperature	-20°C to +70°C	FOTP - 3
Installation Temperature	0°C to +70°C	N/A
Storage Temperature	-40°C to +70°C	N/A
Crush Resistance	85 N/mm	FOTP - 41
Impact Resistance	35 N-m	FOTP - 25
Flexing	Exceeds	FOTP - 104
Cable Bend	Exceeds	FOTP - 85

### Physical Specifications

### Aluminum Armored Plenum Cable:

			1			Minim	ım Bend		Max. Tensile Load					•
Fiber Count			lbs	ight /kft km)			dius (cm)	• .		lbs. (	Newtons)	)	Vertic	imum al Rise Meters
					Lo	aded	Unl	oaded	Sho	rt Term	Lor	ng Term		
2	0.56	14.1	100	(148)	11.1	(28.2)	7.8	(19.7)	225	(1,001)	68	(300)	677	(206)
4	0.56	14.1	103	(154)	11.1	(28.2)	7.8	(19.7)	300	(1,335)	90	(400)	872	(266)
6	0.56	14.1	106	(158)	11.1	(28.2)	7.8	(19.7)	300	(1,335)	90	(400)	849	(259)
8	0.56	14.1	108	(160)	11.1	(28.2)	7.8	(19.7)	300	(1,335)	90	(400)	836	(255)
12	0.56	14.1	112	(166)	11.1	(28.2)	7.8	(19.7)	300	(1,335)	90	(400)	806	(246)
18	0.76	19.2	197	(294)	15.1	(38.4)	10.6	(26.8)	300	(1,335)	90	(400)	456	(139)
24	0.81	20.4	226	(336)	16.1	(40.9)	11.3	(28.6)	300	(1,335)	90	(400)	398	(121)
36	0.86	21.7	282	(420)	17.1	(43.4)	12.0	(30.4)	300	(1,335)	90	(400)	319	(97)
48	0.91	23.0	302	(449)	18.1	(46.0)	12.7	(32.2)	300	(1,335)	90	(400)	298	(91)
60	1.01	25.5	352	(524)	20.1	(51.1)	14.1	(35.7)	300	(1,335)	90	(400)	255	(78)
72	1.11	28.1	418	(622)	22.1	(56.1)	15.5	(39.3)	300	(1,335)	90	(400)	215	(66)
96	1.26	31.9	569	(847)	25.1	(63.8)	17.6	(44.6)	300	(1,335)	90	(400)	158	(48)

Steel Armored Plenum Cable:

Fiber Count		Outer Diameter in. (mm)		Weight lbs/kft (kg/km)		Ra	ım Bend dius (cm)				'ensile Lo Newtons)		Maxii Vertica Feet (N	l Rise
					. Lo	aded	Unl	oaded	Sho	rt Term	Lon	g Term		
2	0.56	14.1	157	(233)	11.1	(28.2)	7.8	(19.7)	225	(1,001)	68	(300)	431	(131)
4	0.56	14.1	160	(238)	11.1	(28.2)	7.8	(19.7)	300	(1,335)	90	(400)	562	(171)
6	0.56	14.1	163	(243)	11.1	(28.2)	7.8	(19.7)	300	(1,335)	90	(400)	552	(168)
8	0.56	14.1	165	(245)	11.1	(28.2)	7.8	(19.7)	300	(1,335)	90	(400)	547	(167)
12	0.56	14.1	169	(251)	11.1	(28.2)	7.8	(19.7)	300	(1,335)	90	(400)	534	(163)
18	0.76	19.2	285	(423)	15.1	(38.4)	10.6	(26.8)	300	(1,335)	90	(400)	316	(96)
24	0.81	20.4	321	(477)	16.1	(40.9)	11.3	(28.6)	300	(1,335)	90	(400)	281	(86)
36	0.86	21.7	384	(572)	17.1	(43.4)	12.0	(30.4)	300	(1,335)	90	(400)	234	(71)
48	0.91	23.0	412	(613)	18.1	(46.0)	12.7	(32.2)	300	(1,335)	90	(400)	219	(67)
60	1.01	25.5	476	(709)	20.1	(51.1)	14.1	(35.7)	300	(1,335)	90	(400)	189	(58)
72	1.11	28.1	557	(829)	22.1	(56.1)	15.5	(39.3)	300	(1,335)	90	(400)	162	(49)
96	1.26	31.9	730	(1,087)	25.I	(63.8)	17.6	(44.6)	300	(1,335)	90	(400)	123	(38)

# Single mode fiber optic Premises Cable – Zero Water Peak – Plenum Interlocking Armored Fiber-Optic Plenum-Rated Premises Cable (OFCR) approved

- 1. The cable shall be available in plenum type.
- 2. The premises cable shall use a standard colored tight buffered construction.
- 3. The higher fiber count cables shall utilize a sub-unitized design with color-coded sub units for easy identification.
- 4. The cable shall deliver a cost-effective upgrade path by expanding the available wavelengths by 50% and allowing up to 18 channels of CWDM (Coarse Wave Division Multiplexing) on a single fiber and up to 400 channels of DWDM (Dense Wave Division Multiplexing) on a single cable.
- 5. The cable shall operate over the entire wavelength range from 1260 nm to 1625 nm, removing the water peak (high attenuation) in the E-band, adding more than 50% in operational wavelength range over conventional single mode fiber.

Core Diameter:	8.3 µm nominal
Cladding Diameter:	$125.0 (\pm 0.7) \mu m$
Core/Clad Offset:	<_ 0.5 μm
Cladding Non-Circularity:	<_1%
Coated Fiber Diameter:	245 (± 10) μm
Cladding/Coating Offset:	<_12 μm
Colored Fiber Diameter:	254 (± 7) μm
Proof Test:	0.7 GPa
Fiber Curl:	> 4 m
Dynamic Fatigue Parameter:	18>
Macrobend (100 turns, 50 mm mandrel):	0.10 dB @ 1310 nm and 1550 nm
Macrobend (1 turn on a 32 mm mandrel:	0.50 dB @ 1310 nm and @ 1550 nm

Maci obcha (1 tai n on a 52 pini manai	0.50 4.5 (6) 15 15 1611 (16) 15 15 15 15 15 15 15 15 15 15 15 15 15
Optical Specifications	
Mode Field Diameter:	9.2 (± 0.3) μm @ 1310 nm 10.4 (nominal) @ 1550 nm
Group Index of Refraction:	1.466 @ 1310 nm and 1383 (± 3) nm, 1.467 @ 1550 nm
Attenuation of Tight Buffered Fibers:	0.7 dB/km @ 1310 nm
C .	0.7 dB/km @ 1385 nm
	0.7 dB/km @ 1550 nm
Maximum Dispersion:	3.5 ps/nm-km @ 1285 to 1330 nm, 18 ps/nm-km @ 1550 nm
Zero-Dispersion Wavelength:	1300 - 1322 nm
Zero-Dispersion Slope:	$0.092 \text{ ps/(nm)}^2 \text{km}$
Polarization Mode Dispersion LDV:	$0.08 \text{ ps/(km)}^{\frac{1}{2}}$

Physical Characteristics - RISER Rated:

							Mini	mum	Bend		Max. To	ensile		Maxin	num
Fiber	Flame	Outer I	Diameter	Weight		Load	ed	Unlo	aded	Short	Term	Long	Term	Vertic	al
Count	Rating	in.	mm	lbs/kft	kg/km	in.	cm	in.	em	ibs.	N	ibs.	N	ft	m.
2	Riser	0.16	4.1	8.6	12.9	3.2	8.1	1.6	4.1	225	1001	68	300	1640	500
4	Riser	0.19	4.8	13.1	19	3.8	9.5	2.0	5.1	300	1335	90	400	1640	500
6	Riser	0.20	5.1	15.2	23	4.1	10.3	2.0	5.1	300	1335	90	400	1640	500
8	Riser	0.22	5.5	17.2	26	4.3	11.0	2.2	5.5	300	1335	. 90	400	1640	500
12	Riser	0.23	5.8	18.8	28	4.6	11.7	2.3	5.8	300	1335	90	400	1640	500
18	Riser	0.48	12.3	99.8	148	9.7	24.6	4.8	12.3	600	2670	180	801	1640	500
24	Riser	0.56	14.1	106.7	159	11.1	28.2	5.6	14.1	600	2670	180	801	1640	500
36	Riser	0.56	14.2	118.7	. 177	11.2	28.4	5.6	14.2	800	3560	240	1068	1640	500
48	Riser	0.62	15.7	126.6	188	12.3	31.3	6.2	15.7	800	3560	240	1068	1640	500
60	Riser	0.70	17.7	170.8	254	13.9	35.3	7.0	17.7	1000	4450	300	1335	1640	500
72	Riser	0.77	19.6	211.2	314	15.4	39.1	7.7	19.6	1000	4450	300	1335	1421	433
96	Riser	0.92	23.4	308.6	459	18.4	46.7	9.2	23.4	1000	4450	300	1335	972	296
144	Riser	1.00	25.3	309.8	461	19.9	50.6	10.0	25.3	1000	4450	300	1335	968	295
Physica 2	l Character	ristics - PLI 0.15	ENUM Ra 3.9	ted 8.8	13.1	3.1	7.8	1.5	3.9	225	1001	68	300	1640	500
2 4	Plenum	0.13	4.4	8.8 12.2	18.1	3.4	7.8 8.7	1.7	3.9 4.4	300	1335	90	400	1640	500
6	Plenum Plenum	0.17	4.4	15.1	22	3.8	9.7	1.7	4.8	300	1335	90 90	400	1640	500
8	Plenum	0.19	5.1	16.8	25	4.0	10.2	2.0	5.1	300	1335	90	400	1640	500
。 12	Plenum	0.20	5.7	20.8	31	4.5	11.4	2.0	5.7	300	1335	90	400	1640	500
18	Plenum	0.22	11.4	82.5	123	9.0	22.8	4.5	11.4	600	2670	180	801	1640	500
16 24	Plenum	0.43	13.1	108.1	161	10.3	26.3	5.2	13.1	600	2670	180	801	1640	500
24 36	Plenum	0.54	13.7	128.4	191	10.3	27.4	5.4	13.7	800	3560	240	1068	1640	500
18	Plenum	0.59	15.1	137.7	205	11.9	30.2	5.9	15.1	800	3560	240	1068	1640	500
+o 50	Plenum	0.59	17.2	189.7	282	13.6	34.4	6.8	17.2	1000	4450	300	1335	1581	482
72	Plenum	0.08	19.1	237.1	353	15.1	38.2	7.5	19.1	1000	4450	300	1335	1265	386
96	Plenum	0.73	23.0	360.8	537	18.1	45.9	9.0	23.0	1000	4450	300	1335	831	253
144	Plenum	0.95	24.1	330.8	492	19.0	48.2	9.5	24.1	1000	4450	300	1335	907	276

## **COPPER CABLE SPECIFICATIONS:**

Nominal Outer Jacket OD 0.232 in (5.89 mm) 0.224 in (5.69 mm) 0.231 in (5.87 mm)

Nominal Outer Jacket Thickness 0.022 in (0.56 mm) 0.020 in (0.51 mm) 0.020 in (0.51 mm)

Maximum Pulling Tension 25 lbs (11.3 kg) 25 lbs (11.3 kg) 25 lbs (11.3 kg)

Nominal Cable Weight 25.6 lbs/kft 29.1 lbs/1,000 ft 25.0 lbs/kft (38.2 kg/km) (13.2 kg/304.8 m) (39.3 kg/km)

Operating Temperature -4°F to 140°F -4°F to 140°F -4°F to 140°F (-20°C to 60°C) (-20°C to 60°C) (-20°C to 60°C)

Installation Temperature 32°F to 140°F 32°F to 140°F 32°F to 140°F (0°C to 60°C) (0°C to 60°C) (0°C to 60°C)

Conductor Diameter 23 AWG 23 AWG 23 AWG

Jacket Material PVC Low Smoke PVC Low Smoke Zero Halogen

ETL Type CMR CMP

IEC Verified IEC 60332-3

Nominal Velocity of Propagation 69% 71% 69%

Maximum DC Resistance 7.61 Ohms/100 m 7.61 Ohms/100 m 7.61 Ohms/100 m

Maximum DC Resistance Unbalanced 3% 3% 3%

Maximum Mutual 5.6 nF/100 m 5.6 nF/100 m 5.6 nF/100 m

Capacitance at 1 KHz

Minimum Dielectric Strength 1500 VAC or 2500 VDC 1500 VAC or 2500 VDC 1500 VAC or 2500 VDC

Voltage Safety Rating 300 Volts per 300 Volts per 300 Volts per NEC 800.179 NEC 800.179 NEC 800.179

### Non-plenum

Cable meets or exceeds Category 6/Class E attenuation and NEXT requirements in ISO/IEC 11801, CENELEC EN50173 and ANSI/TIA-568-C.2.

The cable must be ETL listed as Category 6. The cable must feature a thin and easy-to-remove bisector tape that delivers the performance benefits of more traditional fluted center members without the associated stiffness and size.

### Plenum

Cable meets or exceeds Category 6/Class E attenuation and NEXT requirements in ISO/IEC 11801, CENELEC EN50173 and ANSI/TIA-568-C.2. The cable must be ETL listed as Category 6. The cable must feature a thin and easy-to-remove bisector tape that delivers the performance benefits of more traditional fluted center members without the associated stiffness and size. The 4-pair must be composed of bare solid copper conductors insulated with Fluorinated-Ethylene-Propylene (FEP). The core of twisted pairs is jacketed with a low smoke PVC. It conforms to the low flame, low smoke requirements of the NEC.

### LSZH

Cable meets or exceeds Category 6/Class E attenuation and NEXT requirements in ISO/IEC 11801, CENELEC EN50173 and ANSI/TIA-568-C.2.

The cable must be ETL listed as Category 6. The cable must feature a thin and easy-to-remove bisector tape that delivers the performance benefits of more traditional fluted center members without the associated stiffness and size. 3071E cable is composed of solid copper conductors insulated with non-halogen high-density polyethylene and jacketed with a low smoke zero halogen compound.

## **Information Outlet Specifications:**

**Dimensions** 

 Depth
 30.48 mm | 1.20 in

 Height
 20.32 mm | 0.80 in

 Width
 20.32 mm | 0.80 in

**Electrical Specifications** 

ANSI/TIA Category Contact Resistance Variation, maximum Contact Resistance, maximum

Current Rating

Dielectric Withstand Voltage, RMS, conductive surface Dielectric Withstand Voltage, RMS, contact-to-contact

Insulation Resistance, minimum **Environmental Specifications** 

Flammability Rating

**Operating Temperature** 

Relative Humidity Safety Standard

Storage Temperature

**General Specifications** 

Cable Type
Color
Product Type
Package, quantity

**Mechanical Specifications** 

Conductor Gauge, solid

Conductor Gauge, stranded Conductor Type

Material Type

Outlet/Module Contact Plating Plug Insertion Life Test Plug Plug Insertion Life, minimum Plug Retention Force, minimum Rear Termination Contact Plating

Rear Termination Type

Wiring

6 20 mOhm 100 mOhm 1.5 A @ 20 °C 1.5 A @ 68 °F 1500 Vac @ 60 Hz 1000 Vac @ 60 Hz

500 MOhm

UL 94 V-0 -10 °C to +60 °C (+14 °F to +140 °F) Up to 95%, non-condensing cUL | UL -40 °C to +70 °C (-40 °F to +158 °F)

U/UTP (unshielded)

Blue Outlet 1

22 AWG | 24 AWG | 26 AWG

22 AWG | 24 AWG Solid | Stranded (7 strands)

Copper alloy | High-impact, flame retardant, thermoplastic

Gold over nickel

IEC 60603-7 compliant plug

750 times 30 lbf | 133 N Gold over nickel

IDC

T568A | T568B

Agency	Classification
RoHS 2002/95/EC	Compliant
ISO 9001:2000	Compliant

# <u>Category 6 U/UTP Copper Patch Panel</u> <u>48 port with termination manager</u>

### **Dimensions**

Depth
Diameter Over Dielectric, maximum
Diameter Over Dielectric, minimum
Height
Width

### **Electrical Specifications**

ANSI/TIA Category

Current Rating

Dielectric Withstand Voltage, RMS, conductive surface Dielectric Withstand Voltage, RMS, contact-to-contact Insulation Resistance, minimum

### Environmental Specifications

Flammability Rating

Operating Temperature

Relative Humidity Safety Standard Storage Temperature

### **General Specifications**

Cable Type
Modules, quantity
Product Type
Total Ports, quantity
Color
Package, quantity
Rack Type

### **Mechanical Specifications**

Conductor Gauge, solid Conductor Gauge, stranded Conductor Type

### Material Type

Rack Units

Outlet/Module Contact Plating Plug Insertion Life Test Plug Plug Insertion Life, minimum Plug Retention Force, minimum Rear Termination Contact Plating Rear Termination Type Wiring 206.50 mm | 8.13 in 1.168 mm | 0.046 in 0.762 mm | 0.030 in 134.37 mm | 5.29 in 482.60 mm | 19.00 in

1.5 A @ 20 °C 1.5 A @ 68 °F 1500 Vac @ 60 Hz 1000 Vac @ 60 Hz 500 MOhm

UL 94 V-0
-10 °C to +60 °C (+14 °F to +140 °F)
Up to 95%, non-condensing
CUL | UL
-40 °C to +70 °C (-40 °F to +158 °F)

### U/UTP (unshielded)

8 Panel 48 Black 1 EIA 19 in 2

22 AWG | 24 AWG | 26 AWG
22 AWG | 24 AWG
Solid | Stranded (7 strands)
High-impact, flame retardant,
thermoplastic | Powder-coated
steel
Gold over nickel
IEC 60603-7 compliant plug
750 times
30 lbf | 133 N
Gold over nickel
IDC

T568A | T568B

Regulatory Compliance/Certifications

Agency	Classification
RoHS 2002/95/EC	Compliant
ISO 9001:2000	Compliant



# Request for Quotation

CABLE10 /

PAGE 1

ADDRESS CORRESPONDENCE TO ATTENTION OF JO ANN ADKINS 304-558-8802

ALL STATE AGENCIES
AND POLITICAL SUBDIVISIONS
VARIOUS LOCALES AS INDICATED
BY ORDER

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TYPE NAME/ADDRESS HERE

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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. Prior to any award, the apparent successful vendor must be properly registered with the Purchasing Division and have paid the required \$125 fee.
- 4. All services performed or goods delivered under State Purchase Order/Contracts are to be continued for the term of the Purchase Order/Contracts, 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.
- 5. Payment may only be made after the delivery and acceptance of goods or services.
- 6. Interest may be paid for late payment in accordance with the West Virginia Code.
- 7. Vendor preference will be granted upon written request in accordance with the West Virginia Code.
- 8. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.
- 9. The Director of Purchasing may cancel any Purchase Order/Contract upon 30 days written notice to the seller.
- 10. The laws of the State of West Virginia and the *Legislative Rules* of the Purchasing Division shall govern the purchasing process.
- 11. Any reference to automatic renewal is hereby deleted. The Contract may be renewed only upon mutual written agreement of the parties.
- 12. BANKRUPTCY: In the event the vendor/contractor files for bankruptcy protection, the State may deem this contract null and void, and terminate such contract without further order.
- 13. HIPAA BUSINESS ASSOCIATE ADDENDUM: The West Virginia State Government HIPAA Business Associate Addendum (BAA), approved by the Attorney General, is available online at www.state.wv.us/admin/purchase/vrc/hipaa.htm and is hereby made part of the agreement. Provided that the Agency meets the definition of a Cover Entity (45 CFR §160.103) and will be disclosing Protected Health Information (45 CFR §160.103) to the vendor.
- 14. 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. Vendor further agrees to comply with the Confidentiality Policies and Information Security Accountability Requirements, set forth in http://www.state.wv.us/admin/purchase/privacy/noticeConfidentiality.pdf.
- 15. 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, and the West Virginia Insurance Commission. 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.
- 16. ANTITRUST: In submitting a bid to any agency for the State of West Virginia, the bidder offers and agrees that if the bid is accepted the bidder will convey, sell, assign or transfer to the State of West Virginia all rights, title and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the State of West Virginia for price fixing and/or unreasonable restraints of trade relating to the particular commodities or services purchased or acquired by the State of West Virginia. Such assignment shall be made and become effective at the time the purchasing agency tenders the initial payment to the bidder.

I certify that this bid is made without prior understanding, agreement, or connection with any corporation, firm, limited liability company, partnership, or person or entity submitting a bid for the same material, supplies, equipment or services and is in all respects fair and without collusion or Fraud. I further certify that I am authorized to sign the certification on behalf of the bidder or this bid.

### **INSTRUCTIONS TO BIDDERS**

- 1. Use the quotation forms provided by the Purchasing Division. Complete all sections of the quotation form.
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- 3. Unit prices shall prevail in case of discrepancy. All quotations are considered F.O.B. destination unless alternate shipping terms are clearly identified in the quotation.
- 4. 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: Department of Administration, Purchasing Division, 2019 Washington Street East, P.O. Box 50130, Charleston, WV 25305-0130
- 5. Communication during the solicitation, bid, evaluation or award periods, except through the Purchasing Division, is strictly prohibited (W.Va. C.S.R. §148-1-6.6).



DOCZEN

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

## Request for Quotation

CABLE10

PAGE

ADDRESS CORRESPONDENCE TO ATTENTION OF JO ANN ADKINS 304-558-8802

ALL STATE AGENCIES AND POLITICAL SUBDIVISIONS VARIOUS LOCALES AS INDICATED BY ORDER

RFQ COPY TYPE NAME/ADDRESS HERE

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# WV State Cable10 Pricing Contract Value Add Bid

			Value Add Bid	]		Selling
ITEM NUM.	Quantity	Unit	Description		Selling	Extension Price
1	50	EA	PLASTIC CABLE TIES; 7 15/16" IN LENGTH, 100PK 3-M PART # 3-M06226 OR EQUAL	\$	1.900	95,000
2	200	EA	VELCRO TYRAP WIRE TIES; 8" IN LENGTH; HELLERMAN TYTON PART # GT50X80P2 OR EQUAL	\$	4.100	820.000
3	500	EA	CABLE SUPPORT J-HOOK; ERICO PART # CAT32 OR EQUAL	\$	2.150	1,075.000
4	200	EA	ELECTRICAL TAPE; 3-M SCOTCH SUPER 88 PART # 88-SUPER-3/4" X 66FT BID 3M OR EQUAL	\$	3.550	710.000
5	50	EA	3M MOLDABLE PUTTY STIX PART # 3M-MPS-2+ OR EQUAL	\$	15.100	755.000
6	500	EA	WALL CADDIES; ERICO PART # CATCR50 OR EQUAL	\$	0.620	310.000
7	500	EA	SINGLE GANG LOW VOLTAGE MOUNTING BRACKETS; ARLINGTON PART # LV-1 OR EQUAL	\$	0.770	385.000
8	30	EA	3/4"W X 25YDS LONG BLACK VELCRO IN A ROLL VELCRO PART# 189645 OR EQUAL	\$	15.540	466.200
9	10	EA	3M WIRE MARKER DISPENSER 0 THRU 9 ON A ROLL 3-M PART # STD-0-9 (FILLED) OR EQUAL	\$	28.300	283.000
10	30	EΑ	3M WIREMARKER NUMBER REFILL FOR STD-0-9 NUMBER 0 PART# SDR-0 OR EQUAL	\$	1.780	53.400
11	30	EA	3M WIREMARKER NUMBER REFILL FOR STD-0-9 NUMBER 1 PART# SDR-1 OR EQUAL	\$	1.780	53.400
12	30	EA	3M WIREMARKER NUMBER REFILL FOR STD-0-9 NUMBER 2 PART# SDR-2 OR EQUAL	\$	1.780	53.400
13	30	EA	3M WIREMARKER NUMBER REFILL FOR STD-0-9 NUMBER 3 PART# SDR-3 OR EQUAL	\$	1.780	53.400
14	30	EΑ	3M WIREMARKER NUMBER REFILL FOR STD-0-9 NUMBER 4 PART# SDR-4 OR EQUAL	\$	1.780	53.400
15	30	EA	3M WIREMARKER NUMBER REFILL FOR STD-0-9 NUMBER 5 PART# SDR-5 OR EQUAL	\$	1.780	53.400
16	30	EA	3M WIREMARKER NUMBER REFILL FOR STD-0-9 NUMBER 6 PART# SDR-6 OR EQUAL	\$	1.780	53.400
17	30	EΑ	3M WIREMARKER NUMBER REFILL FOR STD-0-9 NUMBER 7 PART# SDR-7 OR EQUAL	\$	1.780	53.400
18	30	EA	3M WIREMARKER NUMBER REFILL FOR STD-0-9 NUMBER 8 PART# SDR-8 OR EQUAL	\$	1.780	53.400
19	30	EA	3M WIREMARKER NUMBER REFILL FOR STD-0-9 NUMBER 9 PART# SDR-9 OR EQUAL	\$	1.780	53.400
20	100	EA	ADJUSTABLE CABLE SUPPORT ERICO PART# CAT425 OR EQUAL	\$	10.150	1,015.000
21	20	EA	PHILLIPS HEAD 3/4" LONG 10-32 RACK SCREWS W/WASHERS 100PK MIDDLE ATLANTIC PRODUCTS PART # HP OR EQUAL	\$	11.750	235.000
22	20	EA	VERTICAL WIRE MANAGER FOR 19" OR 23" RELAY RACKS GREAT LAKES PART# 1984-VCM MOUNTING HARDWARE INCLUDED BID GREAT LAKES OR EQUAL	\$	180.000	3,600.000
23	20	EA	VERTICAL WIRE MANAGER FOR 19" OR 23" RELAY RACKS CHATSWORTH PART# 12096-703 MOUNTING HARDWARE INCLUDED BID CHATSWORTH OR EQUAL	\$	300.000	6,000.000
24	20	EA	VERTICAL WIRE MANAGER FOR 19" OR 23" RELAY RACKS AFCO SYSTEMS PART# ASTCTRG84 (Discontinued) MOUNTING HARWARE INCLUDED Sub#XDR-8401 BID AFCO OR EQUAL	\$	141.000	2,820.000
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Value Add Bid

			Value Adu Bid		Selling
ITEM NUM.	Quantity	Unit	Description	Selling	Extension Price
25	20	EA	VERTICAL WIRE MANAGER FOR 19" OR 23" RELAY RACKS SOUTHWEST PART# SWE2729BLK MOUNTING HARDWARE INCLUDED BID SOUTHWEST OR EQUAL	\$ 197.000	3,940.000
26	40	EA	DISTRIBUTION RACKS; ALUMINUM BASE COLOR OF BLACK MUST BE APPROXIMATELY 15" IN DEPTH; APPROXIMATELY 20" IN WIDTH; & 84" HEIGHT GREAT LAKES PART# GLRR-1984BA BID GREAT LAKES OR EQUAL	\$ 121.000	4,840.000
27	40	EA	DISTRIBUTION RACKS; ALUMINUM BASE COLOR OF BLACK MUST BE APPROXIMATELY 15" IN DEPTH; APPROXIMATELY 20" IN WIDTH; & 84" HEIGHT. CHATSWORTH PART# 46353-703 BID CHATSWORTH OR EQUAL	\$ 232.000	9,280.000
28	10	EA	48" WALL MOUNT SWING OUT RACK; GREAT LAKES PART # GL48SR BID GREAT LAKES OR EQUAL	\$ 169.000	1,690.000
29	10	EA	36" WALL MOUNT SWING OUT RACK; GREAT LAKES PART # GL36SR BID GREAT LAKES OR EQUAL	\$ 159.000	1,590.000
30	10	EA	24" WALL MOUNT SWING OUT RACK; GREAT LAKES PART # GL24SR BID GREAT LAKES OR EQUAL	\$ 141.000	1,410.000
31	10	EA	84" NETWORKING CABINET; CABINET WILL INCLUDE THE FOLLOWING; CASTERS, LEVELERS, GROUND LUG, TWO PAIR SQUARE HOLE RAILS, M6 HARDWARE, BOTTOM GŁAND, TOP GLAND, 10IN FAN TOP, PERFORATED FRONT DOOR, PERFORATED REAR DOOR, TWO SOLID SIDE PANELS, TWO 9411-1602 POWER STRIPS INTERNAL 8729-PD-3 FRONT, 8429-PR-3-0001 SPOTWELDED REAR TWO 8436-01-SP-3 SIDES. PART# XDP84-3-180046 BID X-MARK/CDT OR EQUAL	\$ 1,900.000	19,000.000
32	10	EA	72" NETWORKING CABINET; CABINET WILL INCLUDE THE FOLLOWING; CASTERS, LEVELERS, GROUND LUG, TWO PAIR SQUARE HOLE RAILS, M6 HARDWARE, BOTTOM GLAND, TOP GLAND, 10IN FAN TOP, PERFORATED FRONT DOOR, PERFORATED REAR DOOR, TWO SOLID SIDE PANELS, TWO 9411-1602 POWER STRIPS INTERNAL 8729-PD-3 FRONT, 8429-PR-3-0001 SPOTWELDED REAR TWO 8436-01-SP-3 SIDES. PART# XDP72-3-180012 BID X-MARK/CDT OR EQUAL	\$ 1,823.000	18,230.000
33	10	EA	84" NETWORKING CABINET; BASE UNIT WITH LOUVERED TOP; PLEXIGLAS FRONT DOOR W/LOCK; UPPER HALF LOUVERED STEEL REAR DOOR W/LOCK; SOLID REMOVABLE SIDE PANELS; TWO PAIR 19" MOUNTING RAILS W/BRACKETS & MOUNTING SCREWS; COLOR BLACK OR GREY; 16 POSITION POWER STRIP W / CIRCUIT BREAKER & 12' CORD; CASTERS; 84"H X 29" W X 36" D; GREAT LAKES PART # 840E-2936WVCC BID GREAT LAKES OR EQUAL	1,699.000	16,990.000
34	10	EA	72" NETWORKING CABINET; BASE UNIT WITH LOUVERED TOP; PLEXIGLAS FRONT DOOR WILOCK; UPPER HALF LOUVERED STEEL REAR DOOR WILOCK; PAIR OF SOLID REMOVABLE SIDE PANELS; TWO PAIR 19" MOUNTING RAILS WIBRACKETS & MOUNTING SCREWS; COLOR BLACK OR GREY; 16 POSITION POWER STRIP W / CIRCUIT BREAKER & 12' CORD; CASTERS; 72"H X 29" W X 36" D; GREAT LAKES PART # 720E-2936WVCC BID GREAT LAKES OR EQUAL	\$ 1,525.000	15,250.000

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ITEM NUM.	Quantity	Unit	Description		Selling	Extension Price
35	5	EA	48" NETWORKING CABINET; BASE UNIT WITH LOUVERED TOP; PLEXIGLAS FRONT DOOR W/LOCK; UPPER HALF LOUVERED STEEL REAR DOOR W/LOCK; PAIR OF SOLID REMOVABLE SIDE PANELS; TWO PAIR 19" MOUNTING RAILS W/BRACKETS & MOUNTING SCREWS; COLOR BLACK OR GREY; 6 POSITION POWER STRIP W / CIRCUIT BREAKER & 12' CORD; CASTERS; 48"H X 24" W X 32" D; GREAT LAKES PART # 480E-2432WVCC BID GREAT LAKES OR EQUAL	\$	976.000	4,880.000
36	10	EA	STATIONARY SHELVES FOR 19" MOUNTING IN NETWORKING CABINETS; GREAT LAKES PART # 7206-FM OR EQUAL	\$	35.000	350,000
37	20	EA	FAN ASSEMBLY W/FAN GUARDS & THREE 75 CFM FANS FOR NETWORKING CABINETS; GREAT LAKES PART # TPE-24F BID GREAT LAKES OR EQUAL	\$	187.000	3,740.000
38	20	EA	FAN ASSEMBLY W/FAN GUARDS & THREE 75 CFM FANS FOR NETWORKING CABINETS; GREAT LAKES PART # TPE-29F BID GREAT LAKES OR EQUAL	\$	198.000	3,960.000
39	1000	FT	RACEWAY MOLDING; ONE-PIECE; NON-METALLIC; 3/4" WIDTH; 6 FT. LENGTH; DEKDUCT PART # 043-LD00 BID DEKDUCT OR EQUAL	\$	0.650	650.000
40	1000	FT	RACEWAY MOLDING; ONE-PIECE; NON-METALLIC; 1 1/2" WIDTH; 6 FT. LENGTH; DEKDUCT PART # 042-LD00 BID DEKDUCT OR EQUAL	\$	1,100	1,100.000
41	1000	FT	RACEWAY MOLDING; ONE-PIECE; NON-METALLIC; 2 1/2" WIDTH; 6 FT. LENGTH; DEKDUCT PART # 045-LD00 BID DEKDUCT OR EQUAL	\$	2.450	2,450.000
42	1000	FT	RACEWAY MOLDING; TWO-PIECE; NON-METALLIC; 4" WIDTH X 2" DEPTH; DEKDUCT PART # 046-4020DWP-(Disc.) New#18142004-Base/181-94014-Cover BID DEKDUCT OR EQUAL	\$	3.250	3,250.000
43	20,000	FT	25 PAIR PLENUM CATEGORY 3 CABLE SUPERIOR ESSEX PART# 18-499-36 OR EQUAL (SUB#WCEM56801)	\$	0.640	12,800.000
44	20,000	FT	50 PAIR PLENUM CATEGORY 3 CABLE SUPERIOR ESSEX PART# 18-599-36 OR EQUAL (Sub#WCEM56126)	\$	1.320	26,400.000
45	20,000	FT	100 PAIR PLENUM CATEGORY 3 CABLE SUPERIOR ESSEX PART# 18-799-36 OR EQUAL (Sub#WCEM56128)	\$	2.300	46,000.000
46	100,000	FT	CAT. 5e MIN COMPLIANT PVC CABLE; NON-PLENUM; WHITE IN COLOR; 1,000 FT. PER REEL IN A BOX; MOHAWK PART # M57554 BID MOHAWK OR EQUAL	\$	0.079	7,900.000
47	200,000	₽T	CAT. 5e MIN COMPLIANT CABLE; PLENUM; WHITE IN COLOR; 1,000 FT. PER REEL IN A BOX; MOHAWK PART # M57547 BID MOHAWK OR EQUAL	\$	0.135	27,000.000
48	3000	EA	QUICK PORT 8P8C MODULAR RJ45 JACKS FOR CAT5e MIN COMPLIANT; WHITE IN COLOR; LEVITON PART # 5G108-RW5 BID LEVITON OR EQUAL (Sub#44-678WH)	\$	1.900	5,700.000
49	200,000	FT	CAT. 5E ENHANCED CABLE; NON-PLENUM RISER RATED; REEL IN A BOX ONLY; 1000 FT. PER BOX; SELECTION OF COLORS SHALL BE AVAILABLE FOR OUTER JACKET; ELECTRICAL CHARACTERISTICS / SPECIFICATIONS SHEET MUST BE SUPPLIED. MEGALAN 400 MOHAWK PART# M56167 BID MOHAWK OR EQUAL	\$	0.095	19,000.000

			Value Add Bid		Selling
ITEM NUM.	Quantity	Unit	Description	Selling	Extension Price
50	300,000	FT	CAT. 5E ENHANCED CABLE; PLENUM; REEL IN A BOX ONLY; 1000 FT. PER BOX; SELECTION OF COLORS SHALL BE AVAILABLE FOR OUTER JACKET; ELECTRICAL CHARACTERISTICS / SPECIFICATIONS SHEET MUST BE SUPPLIED. MEGALAN 400 MOHAWK PART# M56168 BID MOHAWK OR EQUAL	\$ 0.181	54,300.000
51	3,000	EA	LEVITON QUICKPORT 8P8C MODULAR RJ45 JACKS FOR CAT5E ENHANCED; ORANGE IN COLOR; LEVITON PART # 5G110-RO5 BID LEVITON OR EQUAL	\$ 1.900	5,700.000
52	200	EA	CAT 5E ENHANCED 1FT CROSSOVER CABLE RED IN COLOR QUIKTRON PART # 553-130-001 OR EQUAL	\$ 1.240	248.000
53	200	EA	CAT 5E ENHANCED 3FT CROSSOVER CABLE RED IN COLOR QUIKTRON PART# 553-130-003 (Sub# 453-130-003) OR EQUAL	\$ 0.450	90.000
54	200	EA	CAT 5E ENHANCED 5FT CROSSOVER CABLE RED IN COLOR QUIKTRON PART# 553-130-005 (Sub#453-130-005) OR EQUAL	\$ 0.600	120.090
55	200	EA	CAT 5E ENHANCED 7FT CROSSOVER CABLE RED IN COLOR QUIKTRON PART# 553-130-007 (Sub#453-130-007) OR EQUAL	\$ 0.750	150.000
56	200	EΑ	CAT 5E ENHANCED 10FT CROSSOVER CABLE RED IN COLOR QUIKTRON PART# 553-130-010 (Sub#453-130-010) OR EQUAL	\$ 0.950	190.000
57	200	EA	CAT 5E ENHANCED 14FT CROSSOVER CABLE RED IN COLOR QUIKTRON PART# 553-130-014 (Sub#453-130-014) OR EQUAL	\$ 1.220	244.000
58	200	EA	CAT 5E ENHANCED 25FT CROSSOVER CABLE RED IN COLOR QUIKTRON PART# 553-130-025 (Sub#453-130-025) OR EQUAL	\$ 2.150	430.000
59	100	EA	CAT 5E ENHANCED 50FT CROSSOVER CABLE RED IN COLOR QUIKTRON PART# 553-130-050 (Sub#453-130-050) OR EQUAL	\$ 3.890	389.000
60	500	EA	CAT 5E ENHANCED 350MHZ PATCH CABLES; RJ45M TO RJ45M BOOTED; NON-KEYED; 1 FOOT LENGTH; SELECTION OF COLORS SHALL BE AVAILABLE FOR OUTER JACKET QUICKTRON BRAND OR EQUAL Q-T570-110-001U	\$ 0.540	270.000
61	500	EA	CAT 5E ENHANCED 350MHZ PATCH CABLES; RJ45M TO RJ45M BOOTED; NON-KEYED; 18 INCHES IN LENGTH; SELECTION OF COLORS SHALL BE AVAILABLE FOR OUTER JACKET QUIKTRON BRAND OR EQUAL Q-T551-110-1.5U	\$ 1.520	760.000
62	2000	EA	CAT. 5E GIGAMAX PATCH CABLES; RJ45M TO RJ45M BOOTED; NON- KEYED; 3 FOOT LENGTH; LEVITON PART# 5G460-03* *- COLOR BID LEVITON OR EQUAL (Sub#90-C5EB-3XX)	\$ 0.780	1,560.000
63	1000	EA	CAT. 5E GIGAMAX PATCH CABLES; RJ45M TO RJ45M BOOTED; NON KEYED; 5 FOOT LENGTH; LEVITON PART# 5G460-05* *- COLOR BID LEVITON OR EQUAL (Sub#90-C5EB-5XX)	\$ 0.900	900.000
64	2000	EA	CAT. 5E GIGAMAX PATCH CABLES; RJ45M TO RJ45M BOOTED; NON- KEYED; 7 FOOT LENGTH; LEVITON PART# 5G460-07* * - COLOR BID LEVITON OR EQUAL (Sub#90-C5EB-7XX)	\$ 1.110	2,220.000
65	1000	EΑ	CAT. 5E GIGAMAX PATCH CABLES; RJ45M TO RJ45M BOOTED; NON- KEYED; 10 FOOT LENGTH; LEVITON PART# 5G460-10* *- COLOR BID LEVITON OR EQUAL (Sub#90-C5EB-10XX)	\$ 1.250	1,250.000
66	1000	EA	CAT. 5E GIGAMAX PATCH CABLES; RJ45M TO RJ45M BOOTED; NON KEYED; 15 FOOT LENGTH; LEVITON PART# 5G460-15* * - COLOR BID LEVITON OR EQUAL (Sub#90-C5EB-15XX)		
			DID ELITION ON MADINE (OUDITOR OULD 10/04)	\$ 2.250	2,250.000

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ITEM NUM.	Quantity	Unit	Description		Selling	Extension Price
67	500	EΑ	CAT. 5E ENHANCED 350MHZ PATCH CABLES; RJ45M TO RJ45M BOOTED; NON-KEYED; 25 FOOT LENGTH; SELECTION OF COLORS SHALL BE AVAILABLE FOR OUTER JACKET OR EQUAL Q-T570-110- 025U	<b>\$</b>	2.550	1,275.000
68	100	EA	CAT 5E ENHANCED 350MHZ PATCH CABLES; RJ45M TO RJ45M BOOTED; NON-KEYED; 50 FOOT LENGTH; SELECTION OF COLORS SHALL BE AVAILABLE FOR OUTER JACKET OR EQUAL Q-T570-110-050U	\$	4.890	489.000
69	100	EA	CAT. 5E ENHANCED 350MHZ PATCH CABLES; RJ45M TO RJ45M BOOTED; NON-KEYED; 100 FOOT LENGTH; SELECTION OF COLORS SHALL BE AVAILABLE FOR OUTER JACKET OR EQUAL Q-T570-110-100U	\$	8.900	890,000
70	50	EA	LEVITON QUICKPORT HIGH DENSITY 48-PORT PATCH PANEL W/CABLE MANAGEMENT BAR LEVITON PART# 49255-H48 BID LEVITON OR EQUAL	\$	43.890	2,194.500
71	50	EA	LEVITON QUICKPORT HIGH DENSITY 24-PORT PATCH PANEL W/CABLE MANAGEMENT BAR LEVITON PART# 49255-H24 BID LEVITON OR EQUAL	\$	31.670	1,583.500
72	50	EA	LEVITON QUICKPORT HIGH DENSITY 12-PORT PATCH PANEL LEVITON PART# 49255-H89 OR EQUAL	\$	8.920	446.000
73	100	EA	LEVITON 48-PORT 8P8C RJ45 CAT.5E RACKMOUNT PATCH PANEL; MUST BE CAT5E ENHANCED CERTIFIED; LEVITON PART# 5G596-U48; BID LEVITON OR EQUAL (Sub#90-48PPC5E)	\$	67.000	6,700.00
74	100	EA	LEVITON 24-PORT 8P8C RJ45 CAT.5E RACKMOUNT PATCH PANEL; MUST BE CAT5E ENHANCED CERTIFIED; LEVITON PART # 5G596-U24; BID LEVITON OR EQUAL (Sub#90-24PPC5E)	\$	35.000	3,500.00
75	50	EA	LEVITON 12-PORT 8P8C RJ45 CAT.5E RACKMOUNT PATCH PANEL; MUST BE CAT5E ENHANCED CERTIFIED; LEVITON PART # 5G596-U12; BID LEVITON OR EQUAL (Sub#90-12PPC5RM)	\$	24.000	1,200.00
76	50	EA	LEVITON 12-PORT 8P8C RJ45 CAT5E WALL MT. PATCH PANEL; MUST BE CAT5E ENHANCED CERTIFIED; LEVITON PART # 5G596-U89; BID LEVITON OR EQUAL (Sub#90-12PPC5E)	\$	24.000	1,200.00
77	100	EA	SIEMON 48-PORT PATCH PANEL; MUST BE CAT.5E CERTIFIED; SIEMON #HD5-48 BID SIEMON OR EQUAL	\$	260.000	26,000.00
78	50	EA	SIEMON 24-PORT PATCH PANEL; MUST BE CAT.5E CERTIFIED; SIEMON #HD5-24 BID SIEMON OR EQUAL	\$	130.000	6,500.00
79	20	EA	SIEMON 16-PORT PATCH PANEL; MUST BE CAT.5E CERTIFIED; SIEMON #HD5-16 BID SIEMON OR EQUAL	\$	97.000	1,940.00
80	20	EA	SIEMON 12-PORT PATCH PANEL; MUST BE CAT.5E CERTIFIED; SIEMON #HD5-89D-12 BID SIEMON OR EQUAL	\$	67.000	1,340.00
81	200	EA	SIEMON RACK MT. 1U WIRE MANAGER PART# S110-RWM-01 BID SIEMON OR EQUAL	\$	23.000	4,600.00
82	20	EA	SIEMON WIRE MANAGER; STANDARD INTERBAY CORD MANAGER; SIEMON WM-144-5 SIEMON OR EQUAL	\$	34.000	680.00
83	20	EA	3-POSITION HINGED FIXED BRACKETS FOR WALL; DATATEL PART # HPM-2; BID DATATEL OR EQUAL	<b> </b>	23.000	460.00

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ITEM NUM.	Quantity	Unit	Description	Selling	Extension Price
84	100	EA	WIRE MANAGER; STANDARD INTERBAY CORD MANAGER; DATATEL PART # HCM-1D BID DATATEL OR EQUAL	\$ 19.0	00 1,900.000
85	200,000	FT	CAT 6 ENHANCED CABLE; NON-PLENUM; REEL IN A BOX ONLY; 1,000 FT. PER BOX; SELECTION OF COLORS SHALL BE AVAILABLE FOR OUTER JACKET; ELECTRICAL CHARACTERISTICS / SPECIFICATIONS SHEET MUST BE SUPPLIED. CAT 6 ADVANCENET MOHAWK PART# M57202 BID MOHAWK OR EQUAL	\$ 0.1	56 31,200.000
86	300,000	FT	CAT 6 ENHANCED CABLE; PLENUM; REEL IN A BOX ONLY; 1,000 FT. PER BOX; SELECTION OF COLORS SHALL BE AVAILABLE FOR OUTER JACKET; ELECTRICAL CHARACTERISTICS / SPECIFICATIONS SHEET MUST BE SUPPLIED. CAT 6 ADVANCENET MOHAWK PART# M57193 BID MOHAWK OR EQUAL	\$ 0.2	65 79,500.000
87	5000	EA	QUICKPORT CAT6 EXTREME 8P8C RJ45 SNAP-IN CONNECTOR; BLUE IN COLOR; LEVITON PART # 61110-RL6; BID LEVITON OR EQUAL (Sub#44-678C6BL)	\$ 3.0	00 15,000.000
88	100	EA	CAT 6 EXTREME 1FT CROSSOVER CABLE RED IN COLOR QUIKTRON PART # 538-130-001 OR EQUAL	\$ 2.4	50 245.000
89	200	EA	CAT 6 EXTREME 3FT CROSSOVER CABLE RED IN COLOR QUIKTRON PART # 538-130-003 OR EQUAL	\$ 2.7	60 552.000
90	100	EA	CAT 6 EXTREME 5FT CROSSOVER CABLE RED IN COLOR QUIKTRON PART # 538-130-005 OR EQUAL	\$ 3.1	00 310.000
91	200	EA	CAT 6 EXTREME 7FT CROSSOVER CABLE RED IN COLOR QUIKTRON PART # 538-130-007 OR EQUAL	\$ 3.2	60 652.000
92	200	EA	CAT 6 EXTREME 10FT CROSSOVER CABLE RED IN COLOR QUIKTRON PART # 538-130-010 OR EQUAL	\$ 3.6	50 730.000
93	200	EA	CAT 6 EXTREME 15FT CROSSOVER CABLE RED IN COLOR QUIKTRON PART # 538-130-015 OR EQUAL	\$ 4.3	00 860.000
94	100	EA	CAT 6 EXTREME 25FT CROSSOVER CABLE RED IN COLOR QUIKTRON PART # 538-130-025 OR EQUAL	\$ 5.7	00 570.000
95	50	EA	CAT 6 EXTREME 50FT CROSSOVER CABLE RED IN COLOR QUIKTRON PART # 538-130-050 OR EQUAL	\$ 8.4	
96	200	EA	CAT. 6 EXTREME 650MHZ PATCH CABLES; RJ45M TO RJ45M; NON- KEYED; 18 INCHES IN LENGTH; SELECTION OF COLORS SHALL BE AVAILABLE FOR OUTER JACKET QUIKTRON BRAND OR EQUAL Q- T536-110-1.5P	\$ 5.2	
97	200	EA	CAT. 6 EXTREME 650MHZ PATCH CABLES; RJ45M TO RJ45M; NON- KEYED; 1 FOOT LENGTH; SELECTION OF COLORS SHALL BE AVAILABLE FOR OUTER JACKET QUICKTRON BRAND OR EQUAL Q- 1538-110-001P		
98	400	EA	CAT. 6 EXTREME PATCH CABLES; RJ45M TO RJ45M; NON-KEYED; 3 FOOT LENGTH; LEVITON PART # 62460- 03* *-COLOR BID LEVITON OR EQUAL (Sub#90-C6B-3XX)	\$ 1.1	00 440.000
99	400	EA	CAT. 6 EXTREME PATCH CABLES; RJ45M TO RJ45M; NON-KEYED; 5 FOOT LENGTH; LEVITON PART # 62460- 05* *-COLOR BID LEVITON OR EQUAL (Sub#90-C6B-5XX)		
100	400	EA	CAT. 6 EXTREME PATCH CABLES; RJ45M TO RJ45M; NON-KEYED; 7 FOOT LENGTH; LEVITON PART # 62460- 07* *-COLOR BID LEVITON OR EQUAL (Sub#90-C6B-7XX)		90 796,000
101	200	EA	CAT. 6 EXTREME PATCH CABLES; RJ45M TO RJ45M; NON-KEYED; 10 FOOT LENGTH; LEVITON PART # 62460-10* *-COLOR BID LEVITON	φ 1.8	795,000
			OR EQUAL (Sub#90-C6B-10XX)	\$ 1.7	50 350.000

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ITEM NUM.	Quantity	Unit	Description	Selling	Extension Price
102	100	EA	CAT. 6 EXTREME PATCH CABLES; RJ45M TO RJ45M; NON-KEYED; 15 FOOT LENGTH; LEVITON PART # 62460-15* *-COLOR BID LEVITON OR EQUAL (Sub#90-C6B-15XX)	\$ 2.890	289.000
103	50	EA	CAT. 6 EXTREME PATCH CABLES; RJ45M TO RJ45M; NON-KEYED; 20 FOOT LENGTH; LEVITON PART # 62460-20* *-COLOR BID LEVITON OR EQUAL (Sub#90-C6B-20XX)	\$ 3.600	180.000
104	50	EA	CAT. 6 EXTREME PATCH CABLES; RJ45M TO RJ45M; NON-KEYED; 50 FOOT LENGTH; SELECTION OF COLORS SHALL BE AVAILABLE FOR OUTER JACKET OR EQUAL Q-T536-110-050P	\$ 14.750	727.500
105	50	EA	LEVITON 48-PORT 8P8C RJ45 PATCH PANEL; MUST BE CAT. 6 ENHANCED CERTIFIED; LEVITON PART # 69586-U48 BID LEVITON OR EQUAL (Sub#90-48PPC6)	\$ 14.75C	
106	50	EA	LEVITON 24-PORT 8P8C RJ45 PATCH PANEL; MUST BE CAT. 6 ENHANCED CERTIFIED; LEVITON PART # 69586-U24 BID LEVITON OR EQUAL (Sub#90-24PPC6)	\$ 55.000	
107	50	EA	LEVITON 12-PORT PATCH PANEL; MUST BE CAT 6 ENHANCED CERTIFIED; LEVITON PART# 69586-U12 OR EQUAL (Sub#90- 12PPC6RM)	\$ 38.000	
108	50	EA	LEVTION 12-PORT 8P8C RJ45 CAT 6 WALL MT. PATCH PANEL; MUST BE CAT 6 ENHANCED CERTIFIED; LEVITON PART# 69586-U89 OR EQUAL (Sub#90-12PPC6)	\$ 32.000	
109	50	EA	SIEMON 48-PORT PATCH PANEL; MUST BE CAT 6 CERTIFIED; SIEMON# HD6-48 BID SIEMON OR EQUAL	\$ 310,000	
110	50	EA	SIEMON 24-PORT PATCH PANEL; MUST BE CAT 6 CERTIFIED; SIEMON# HD6-24 BID SIEMON OR EQUAL	\$ 156,000	
111	1000	EA	2-PORT SURFACE MOUNT BOX; LEVITON PART # 41089-2*P *-COLOR BID LEVITON OR EQUAL	\$ 1.550	1,550.000
112	100	EA	4-PORT SURFACE MOUNT BOX; LEVITON PART # 41089-4*P *-COLOR BID LEVITON OR EQUAL	\$ 2.350	
113	100	£Α	SINGLE GANG IVORY BLANK WALL PLATE; LEVITON PART# 86014 OR EQUAL	\$ 0.300	
114	100	EA	SINGLE GANG WHITE BLANK WALL PLATE; LEVITION PART# 88014 OR EQUAL	\$ 0.300	
115	100	EA	QUICKPORT STAINLESS STEEL FLUSH WALLPHONE WALLPLATE; LEVITON PART# 4108W-0SP BID LEVITON OR EQUAL	\$ 5.850	
116	500	EA	1-PORT WALLPLATES; LEVITON PART # 41080-1*P *-COLOR BID LEVITON OR EQUAL (Sub#44-791XX)	\$ 0.700	
117	1000	EΑ	2-PORT WALLPLATES; LEVITON PART # 41080-2*P *-COLOR BID LEVITON OR EQUAL (Sub#44-792XX)	\$ 0.700	700.000
118	100	EA	3-PORT WALLPLATES; LEVITON PART # 41080-3*P *-COLOR BID LEVITON OR EQUAL (Sub#44-793XX)	\$ 0.700	70,000
119	100	ËΑ	4-PORT WALLPLATES; LEVITON PART # 41080-4*P *-COLOR BID LEVITON OR EQUAL (Sub#44-794XX)	\$ 0.700	70,000
120	50	EA	6-PORT WALLPLATES; LEVITON PART # 41080-6*P *-COLOR BID LEVITON OR EQUAL (Sub#44-796XX)	\$ 0.700	
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ITEM NUM.	Quantity	Unit	Description	Selling	Extension Price
121	5000	FT	FIBER OPTIC CABLE 48-STRAND I/O MULTIMODE 62.5/125 OCC PART # DX048-105D-WLS/900-OFNR OR CORNING PART # 048KWF-T4130D20 BID OCC OR CORNING OR EQUAL (Sub#KR0486601001)	\$ 2.490	12,450.000
122	5000	FT	FIBER OPTIC CABLE 24-STRAND I/O MULTIMODE 62.5/125 OCC PART # DX024-085D-WLS/900-OFNR OR CORNING PART # 024K8F-31130-24 BID OCC OR CORNING OR EQUAL (Sub#KR0246871001)	\$ 1.210	6,050.000
123	5000	FT	FIBER OPTIC CABLE 12-STRAND I/O MULTIMODE 62.5/125 OCC PART # DX012-065D-WLS/900-OFNR OR CORNING PART # 012K8F-31130-24 BID OCC OR CORNING OR EQUAL (Sub#KR0126651001)	\$ 0.510	2,550.000
124	5000	FT	FIBER OPTIC CABLE 6-STRAND I/O MULTIMODE 62.5/125 OCC PART # DX006-055D-WLS/900-OFNR OR CORNING PART # 006K8F-31130-24 BID OCC OR CORNING OR EQUAL (Sub#KR0066531001)	\$ 0.290	1,450.000
125	5000	FT	FIBER OPTIC CABLE 48-STRAND I/O PLENUM RATED MULTIMODE 62.5/125 OCC PART # DX048-095K-WLS/900-OFNP OR CORNING PART # 048KWP-T4130D20 BID OCC OR CORNING OR EQUAL	\$ 2.990	14.950.000
126	5000	FT	FIBER OPTIC CABLE 24-STRAND I/O PLENUM RATED MULTIMODE 62.5/125 OCC PART # DX24-075K-WLS/900/OFNP OR CORNING PART # 024K8P-31130-29 BID OCC OR CORNING OR EQUAL (Sub#KP0246851001)	\$ 1.550	7.750.000
127	5000	FT	FIBER OPTIC CABLE 12-STRAND I/O PLENUM RATED MULTIMODE 62.5/125 OCC PART # DX12-060K-WLS/900-OFNP OR CORNING PART # 012K8P-31130-29 BID OCC OR CORNING OR EQUAL (Sub#KP0126701001)	\$ 0.740	3,700.000
128	5000	FT	FIBER OPTIC CABLE 6-STRAND I/O PLENUM RATED MULTIMODE 62.5/125 OCC PART # DX06-045K-WLS/900-OFNP OR CORNING PART # 006K8P-31130-29 BID OCC OR CORNING OR EQUAL (Sub#KP0066551001)	\$ 0.490	2,450.000
129	5000	FT	FIBER OPTIC CABLE 48-STRAND INDOOR/OUTDOOR ARMORED MULTIMODE 62.5/125 OCC PART # DX48-105D-WLS/900-OFCR-IAD OR CORNING PART # 048KWF-T4130DA1 BID OCC OR CORNING OR EQUAL (Sub#KR0486601001-AIAR)	\$ 4.120	20,600.000
130	5000	FT	FIBER OPTIC CABLE 24-STRAND INDOOR/OUTDOOR ARMORED MULTIMODE 62.5/125 OCC PART # DX24-085D-WLS/900-OFCR-IAD OR CORNING PART # 024K8F-31130-A1 BID OCC OR CORNING OR EQUAL (Sub#KR0246871001-AIAR)	\$ 2.150	10,750.000
131	5000	FT	FIBER OPTIC CABLE 12-STRAND INDOOR/OUTDOOR ARMORED MULTIMODE 62.5/125 OCC PART # DX12-065D-WLS/900-OFCR-IAD OR CORNING PART # 012K8F-31130-A1 BID OCC OR CORNING OR EQUAL (Sub#KR0126651001-AIAR)	\$ 1.210	6,050.000
132	5000	FT	FIBER OPTIC CABLE 6-STRAND INDOOR/OUTDOOR ARMORED MULTIMODE 62.5/125 OCC PART # DX06-055D-WLS/900-OFCR-IAD OR CORNING PART # 006K8F-31130-A1 BID OCC OR CORNING OR EQUAL (Sub#KR0066531001-AIAR)	\$ 1.000	5,000.000
133	5000	FT	FIBER OPTIC CABLE 48-STRAND INDOOR/OUTDOOR ARMORED PLENUM COATED MULTIMODE 62.5/125 OCC PART # DX48-095K- WLS/900-OFCP-IAK OR CORNING PART # 048KWP-T4130DA1 BID OCC OR CORNING OR EQUAL		
				\$ 4.750	23,750.000

			Value Add Bid	]	Selling
ITEM NUM.	Quantity	Unit	Description	Selling	Extension Price
134	5000	FT	FIBER OPTIC CABLE 24-STRAND INDOOR/OUTDOOR ARMORED PLENUM COATED MULTIMODE 62.5/125 OCC PART # DX24-070K-WLS/900-OFCP-IAK OR CORNING PART # 024K8P-31130-A3 BID OCC OR CORNING OR EQUAL (Sub#KP0246851001-AIAP)	\$ 2.850	14,250.000
135	5000	FT	FIBER OPTIC CABLE 12-STRAND INDOOR/OUTDOOR ARMORED PLENUM COATED MULTIMODE 62.5/125 OCC PART # DX12-060K-WLS/900-OFCP-IAK OR CORNING PART # 012K8P-31130-A3 BID OCC OR CORNING OR EQUAL (Sub#KP0126701001-AIAP)	\$ 1.750	8,750.000
136	5000	FT	FIBER OPTIC CABLE 6-STRAND INDOOR/OUTDOOR ARMORED PLENUM COATED MULTIMODE 62.5/125 OCC PART # DX06-050K-WLS/900-OFCP-IAK OR CORNING PART # 006K8P-31130-A3 BID OCC OR CORNING OR EQUAL (Sub#KP0066551001-AIAP)	\$ 1.470	7,350.000
137	3000	FT	FIBER OPTIC CABLE 24-STRAND OUTDOOR AERIAL W / 1/4" MESSENGER MULTIMODE 62.5/125 OCC PART # MX24-095A-WLS/900-JGS OR CORNING PART # 024KWA-T4130D20 BID OCC OR CORNING OR EQUAL (Sub#AE0246C520AA4)	\$ 1.230	3,690.000
138	3000	FT	FIBER OPTIC CABLE 12-STRAND OUTDOOR AERIAL W / 1/4"MESSENGER MULTIMODE 62.5/125 OCC PART # MX12-090A-WLS/900-JGS OR CORNING PART # 012KWA-T4130D20 BID OCC OR CORNING OR EQUAL (Sub#AE0126C520AA4)	\$ 0.560	1,680,000
139	3000	FT	FIBER OPTIC CABLE 6-STRAND OUTDOOR AERIAL W / 1/4" MESSENGER MULTIMODE 62.5/125 OCC PART # MX06-090A-WLS/900-JGS OR CORNING PART # 006KWA-T4130D20 BID OCC OR CORNING OR EQUAL (Sub#AE0066C520AA4)	\$ 0.700	2,100.000
140	3000	FT	FIBER OPTIC CABLE 48-STRAND INDOOR/OUTDOOR MULTIMODE 50/125 OCC PART # DX048-105D-ALS/900-OFNR OR CORNING PART # 048CWF-T4131D20 BID OCC OR CORNING OR EQUAL (Sub#KR0485601001)	\$ 2.720	8,160,000
141	3000	FT	FIBER OPTIC CABLE 24-STRAND INDOOR/OUTDOOR MULTIMODE 50/125 OCC PART # DX024-085D-ALS/900-OFNR OR CORNING PART # 024C8F-31131-24 BID OCC OR CORNING OR EQUAL (Sub#KR0245871001)	\$ 1.190	3,570,000
142	3000	TF	FIBER OPTIC CABLE 12-STRAND INDOOR/OUTDOOR MULTIMODE 50/125 OCC PART # DX012-065D-ALS/900-OFNR OR CORNING PART # 012C8F-31131-24 BID OCC OR CORNING OR EQUAL (Sub#KR0125651001)	\$ 0.500	1,500.000
143	3000	FT	FIBER OPTIC CABLE 6-STRAND INDOOR/OUTDOOR MULTIMODE 50/125 OCC PART # DX006-055D-ALS/900-OFNR OR CORNING PART # 006C8F-31131-24 BID OCC OR CORNING OR EQUAL (Sub#KR0065531001)	\$ 0.340	1,020.000
144	3000	FT	FIBER OPTIC CABLE 48-STRAND I/O PLENUM RATED MULTIMODE 50/125 OCC PART # DX048-095K-ALS/900-OFNP OR CORNING PART # 048CWP-T4131D20 BID OCC OR CORNING OR EQUAL	\$ 2.850	8,550,000
145	3000	FT	FIBER OPTIC CABLE 24-STRAND I/O PLENUM RATED MULTIMODE 50/125 OCC PART # DX024-070K-ALS/900-OFNP OR CORNING PART # 024C8P-31131-29 BID OCC OR CORNING OR EQUAL (Sub#KP0245851001)	\$ 1.500	4,500.000

Value Add Bid

			Value Add Bid	J	Selling
ITEM NUM.	Quantity	Unit	Description	Selling	Extension Price
146	3000	FT	FIBER OPTIC CABLE 12-STRAND I/O PLENUM RATED MULTIMODE 50/125 OCC PART # DX012-060K-ALS/900-OFNP OR CORNING PART # 012C8P-31131-29 BID OCC OR CORNING OR EQUAL (Sub#KP0125701001)	\$ 0.810	2,430.000
147	3000	FT	FIBER OPTIC CABLE 6-STRAND I/O PLENUM RATED MULTIMODE 50/125 OCC PART # DX006-045K-ALS/900-OFNP OR CORNING PART # 006C8P-31131-29 BID OCC OR CORNING OR EQUAL (Sub#KP0065551001)	\$ 0.550	1,650.000
148	3000	FT	FIBER OPTIC CABLE 48-STRAND I/O 50UM MULTIMODE ARMORED OCC PART # DX48-105D-ALS/900-OFCR-IAD OR CORNING PART # 048CWF-T4131DA1 BID OCC OR CORNING OR EQUAL (Sub#KR0485601001-AIAR)	\$ 3.990	11,970.000
149	3000	FT	FIBER OPTIC CABLE 24-STRAND I/O 50UM MULTIMODE ARMORED OCC PART # DX24-085D-ALS/900-OFCR-IAD OR CORNING PART # 024C8F-31131-A1 BID OCC OR CORNING OR EQUAL (Sub#KR0245871001-AIAR)	\$ 2.070	6,210.000
150	3000	FT	FIBER OPTIC CABLE 12-STRAND I/O 50UM MULTIMODE ARMORED OCC PART# DX12-065D-ALS/900-OFCR-IAD OR CORNING PART # 012C8F-31131-A1 BID OCC OR CORNING OR EQUAL (Sub#KR0125651001-AIAR)	\$ 1.190	3,570,000
151	3000	FT	FIBER OPTIC CABLE 6-STRAND I/O 50UM MULTIMODE ARMored OCC PART # DX06-055D-ALS/900-OFCR-IAD OR CORNING PART # 006C8F-31131-A1 BID OCC OR CORNING OR EQUAL (Sub#KR0065531001-AIAR)		2,970.000
152	3000	FT	FIBER OPTIC CABLE 48-STRAND INDOOR/OUTDOOR ARMORED PLENUM COATED 50UM MULTIMODE OCC PART # DX48-095K-ALS/900-OFCP-IAK OR CORNING PART # 048CWP-T4131DA1 BID OCC OR CORNING OR EQUAL	\$ 4.400	13,200.000
153	3000	FT	FIBER OPTIC CABLE 24-STRAND INDOOR/OUTDOOR ARMORED PLENUM COATED 50UM MULTIMODE OCC PART # DX24-070K-ALS/900-OFCP-IAK OR CORNING PART # 024C8P-31131-A3 BID OCC OR CORNING OR EQUAL (Sub#KP0245851001-AIAP)	\$ 2.750	8,250.000
154	3000	FT	FIBER OPTIC CABLE 12-STRAND INDOOR/OUTDOOR ARMORED PLENUM COATED 50UM MULTIMODE OCC PART # DX12-060K-ALS/900-OFCP-IAK OR CORNING PART # 012C8P-31131-A3 BID OCC OR CORNING OR EQUAL (Sub#KP0125701001-AIAP)	\$ 1.790	5,370.000
155	3000	FT	FIBER OPTIC CABLE 6-STRAND INDOOR/OUTDOOR ARMORED PLENUM COATED 50UM MULTIMODE OCC PART # DX06-050K-ALS/900-OFCP-IAK OR CORNING PART # 006C8P-31131-A3 BID OCC OR CORNING OR EQUAL (Sub#KP0065551001-AIAP)	\$ 1.450	4,350.000
156	3000	FT	FIBER OPTIC CABLE 12-STRAND OUTDOOR AERIAL/DUCT MULTIMODE 50/125 OCC PART # DX012-075A-ALS/900 OR CORNING PART # 012CW4-T4131D20 BID OCC OR CORNING OR EQUAL (Sub#LE0126C5101N1)	\$ 0.480	1,440.000
157	3000	FT	FIBER OPTIC CABLE 12-STRAND OUTDOOR AERIAL WIMESSENGER MULTIMODE 50/125 OCC PART # M12- 090A-ALS/900-JGS OR CORNING PART # 012CWA-T4131D20 BID OCC OR CORNING OR EQUAL (Sub#AE0125C520AA4)	\$ 0.820	2,460.000

			Value Add Bid	]	
ITEM	0	T 11=#4	Description	Calling	Selling
<b>NUM.</b> 158	Quantity 3000	Unit	Description  FIBER OPTIC CABLE 24-STRAND I/O SINGLEMODE 9/125 OCC PART # DX24-085D-SLX/900-OFNR-WB OR CORNING PART # 024E8F-31131-24	Selling	Extension Price
159	3000	FT	BID OCC OR CORNING OR EQUAL (Sub#KR0249871001)  FIBER OPTIC CABLE 12-STRAND I/O SINGLEMODE 9/125 OCC  PART # DX12-065D-SLX/900-OFNR-WB OR  CORNING PART # 012E8F-31131-24  BID OCC OR CORNING OR EQUAL (Sub#KR0129651001)	\$ 0.680 \$ 0.260	
160	3000	FT	FIBER OPTIC CABLE 6-STRAND I/O SINGLEMODE 9/125 OCC PART # DX06-055D-SLX/900-OFNR-WB OR CORNING PART # 006E8F-31131-24 BID OCC OR CORNING OR EQUAL (Sub#KR0069531001)	\$ 0.170	510.000
161	3000	FT	FIBER OPTIC CABLE 24-STRAND I/O PLENUM RATED SINGLEMODE 9/125 OCC PART # DX24-070K-SLX/900-OFNP-WB OR CORNING PART # 024E8P-31131-29 BID OCC OR CORNING OR EQUAL (Sub#KP0249851001)	\$ 1.090	3,270.000
162	3000	FT	FIBER OPTIC CABLE 12-STRAND I/O PLENUM RATED SINGLEMODE 9/125 OCC PART # DX12-060K-SLX/900-OFNP-WB OR CORNING PART # 012E8P-31131-29 BID OCC OR CORNING OR EQUAL (Sub#KP0129701001)	\$ 0.550	1,650,000
163	3000	FT	FIBER OPTIC CABLE 6-STRAND I/O PLENUM RATED SINGLEMODE 9/125 OCC PART # DX06-045K-SLX/900-OFNP-WB OR CORNING PART # 006E8P-31131-29 BID OCC OR CORNING OR EQUAL (Sub#KP0069551001)	\$ 0.370	1,110.000
164	3000	FT	FIBER OPTIC CABLE 24-STRAND I/O ARMORED SINGLEMODE 9/125 OCC PART # DX24-085D-SLX/900-OFCR-IAD OR CORNING PART # 024E8F-31131-A1 BID OCC OR CORNING OR EQUAL (Sub#KR0249871001-AIAR)	\$ 1.770	5,310.000
165	3000	FT	FIBER OPTIC CABLE 12-STRAND I/O ARMORED SINGLEMODE 9/125 OCC PART # DX12-070D-SLX/900-OFCR-IAD OR CORNING PART # 012E8F-31131-A1 BID OCC OR CORNING OR EQUAL (Sub#KR0129651001-AIAR)	\$ 1.070	3,210.000
166	3000	FΤ	FIBER OPTIC CABLE 6-STRAND I/O ARMORED SINGLEMODE 9/125 OCC PART # DX06-060D-SLX/900-OFCR-IAD OR CORNING PART # 006E8F-31131-A1 BID OCC OR CORNING OR EQUAL (Sub#KR0069531001-AIAR)	\$ 0.920	2,760.000
167	3000	FT	FIBER OPTIC CABLE 24-STRAND I/O ARMORED PLENUM RATED SINGLEMODE 9/125 OCC PART # DX24-070K-SLX/900-OFCP-IAK OR CORNING PART # 024E8P-31131-A3 BID OCC OR CORNING OR EQUAL (Sub#KP0249851001-AIAP)	\$ 2.660	7,980.000
168	3000	FT	FIBER OPTIC CABLE 12-STRAND I/O ARMORED PLENUM RATED SINGLEMODE 9/125 OCC PART # DX12-060K-SLX/900-OFCP-IAK OR CORNING PART # 012E8P-31131-A3 BID OCC OR CORNING OR EQUAL (Sub#KP0129701001-AIAP)	\$ 1.700	5,100.000
169	3000	FT	FIBER OPTIC CABLE 6-STRAND I/O ARMORED PLENUM RATED SINGLEMODE 9/125 OCC PART # DX06-050K-SLX/900-OFCP-IAK OR CORNING PART # 006E8P-31131-A3 BID OCC OR CORNING OR EQUAL (Sub#KP0069551001-AIAP)	\$ 1.420	4,260.000
170	2000	FT	OCC FIBER OPTIC HYBRID CABLE 96 FIBER ARMORED PLENUM COATED (48 STRAND MULTI-MODE 50/125 & 48 STRAND SINGLEMODE 9/125) OCC PART# DX96-140K-48ALS-48SLX/900-OFCP-IAK BID OCC OR EQUAL	\$ 7.400	14,800.000

			Value Add Bid		Selling
ITEM NUM.	Quantity	Unit	Description	Selling	Extension Price
171	2000	F	FIBER OPTIC HYBRID CABLE 48 FIBER ARMORED PLENUM COATED (24 STRAND MULTI-MODE 50/125 & 24 STRAND SINGLEMODE 9/125) OCC PART # DX48-095K-24ALS-24SLX/900-OFCP-IAK OR CORNING PART # 048XWP-T41XXD20 BID OCC OR CORNING OR EQUAL	\$ 4.680	9,360.000
172	2000	FT	FIBER OPTIC HYBRID CABLE 24 FIBER ARMORED PLENUM COATED (12 STRAND MULTI-MODE 50/125 & 12 STRAND SINGLEMODE 9/125) OCC PART # DX24-075K-12ALS-12SLX/900-OFCP-IAK OR CORNING PART # 024X8P-311XX-A3 BID OCC OR CORNING OR EQUAL (Sub#KP024X851001-12MM5/12SM-AIAP)	\$ 2.590	5,180.000
173	2000	EA	SIECOR SC MM 62.5UM CONNECTORS, PART # 95-000-40 BID SIECOR OR EQUAL	\$ 8.990	17,980.000
174	1000	EA	SIECOR ST MM 62.5UM CONNECTORS, PART # 95-000-50 BID SIECOR OR EQUAL	\$ 8,990	8,990,000
175	500	EA	SIECOR SC MM 50UM CONNECTORS, PART# 95-050-41 BID SIECOR OR EQUAL	\$ 11.990	5,995.000
176	500	EA	SIECOR ST MM 50UM CONNECTORS, PART# 95-050-51 BID SIECOR OR EQUAL	\$ 11.990	5,995.000
177	500	ĔΑ	SIECOR SC SM CONNECTORS, PART# 95-200-41 BID SIECOR OR EQUAL	\$ 13,400	6,700.000
178	500	EA	SIECOR ST SM CONNECTORS, PART# 95-200-51 BID SIECOR OR EQUAL	\$ 13,400	6,700.000
179	20	EA	SIGNAMAX 1U RACKMOUNT FIBER ENCLOSURE SIGNAMAX PART# SL2M-B BID SIGNAMAX OR EQUAL (Sub#MLKFRM-1RU-2X-50)		
180	20	EA	SIGNAMAX 2U RACKMOUNT FIBER ENCLOSURE SIGNAMAX PART# UFE4-B BID SIGNAMAX OR EQUAL (Sub#MLKFRM-2RU-4X-50)	\$ 61.900 \$ 81.210	1,238.000 1,624.200
181	20	EA	SIGNAMAX 3U RACKMOUNT FIBER ENCLOSURE SIGNAMAX PART# UFE6-B BID SIGNAMAX OR EQUAL (Sub#MLKFRM-2RU-6X-TS)	\$ 105.000	2,100.000
182	20	EA	SIGNAMAX 6-PORT ST MM/SM MODULE; FITS RACKMOUNT ENCLOSURES SIGNAMAX PART# UFE-W-06STM BID SIGNAMAX OR EQUAL (Sub#MLKMST-06-P-BŁK)	\$ 12.650	253.000
183	20	EA	SIGNAMAX 6-PORT SC MM/SM MODULE; FITS RACKMOUNT ENCLOSURES SIGNAMAX PART# UFE-W-06SCM BID SIGNAMAX OR EQUAL (Sub#MLKMSC-06-MM-P-BLK)	\$ 12.650	253.000
184	20	EA	SIGNAMAX 8-PORT ST MM/SM MODULE; FITS RACKMOUNT ENCLOSURES SIGNAMAX PART# UFE-W-08STM BID SIGNAMAX OR EQUAL (Sub#MLKMST-08-P-BLK)	\$ 13.200	264.000
185	20	EA	SIGNAMAX 8-PORT SC MM/SM MODULE; FITS RACKMOUNT ENCLOSURES SIGNAMAX PART# UFE-W-08SCM BID SIGNAMAX OR EQUAL (Sub#MLKMSC-08-MM-P-BLK)	\$ 15.430	308.600
186	20	EA	SIGNAMAX 12-PORT ST MM/SM MODULE; FITS RACKMOUNT ENCLOSURES SIGNAMAX PART# UFE-B-12ST BID SIGNAMAX OR EQUAL (Sub#MLKMST-12-P-BLK)	\$ 19.870	397.400
187	20	EΑ	SIGNAMAX 12-PORT SC MM/SM MODULE; FITS RACKMOUNT ENCLOSURES SIGNAMAX PART# UFE-B-12SC BID SIGNAMAX OR EQUAL (Sub#MLKMSC-12-MM-P-BLK)	\$ 25.230	504.600
188	20	EA	SIGNAMAX BLANK PLASTIC MODULE; FITS RACK MOUNT ENCLOSURES SIGNAMAX PART # UFE-W-BL BID SIGNAMAX OR EQUAL (Sub#MLKMFMB-600BB-BLK)	\$ 2.340	46.800
189	20	EΑ	LEVITON 1U RACKMOUNT FIBER ENCLOSURE LEVITON PART # 5R1UA-A03 OR EQUAL (Sub#MLKFRM-1RU-2X-50)	\$ 61.900	1,238.000
190	20	EA	LEVITON 2U RACKMOUNT FIBER ENCLOSURE LEVITON PART# 5R2UA-A06 OR EQUAL (Sub#MLKFRM-2RU-4X-50)	\$ 81.210	1,624.200

			Value Add Bid	]	Selling
ITEM NUM.	Quantity	Unit	Description	Selling	Extension Price
191	20	EA	LEVITON 3U RACKMOUNT FIBER ENCLOSURE LEVITON PART# 5R3UA-A12 OR EQUAL	\$ 111.000	2,220.000
192	20	EA	LEVITON SMALL EMPTY FIBER WALL MOUNT ENCLOSURE ONLY 8"HIGH X 13"WIDE X 3.5"DEEP LEVITON PART# 5W110-00N OR EQUAL		1,060.000
193	20	EA	LEVITON MEDIUM EMPTY FIBER WALL MOUNT ENCLOSURE ONLY 14"HIGH X 12"WIDE X 5.25" DEEP LEVITON PART# 5W310-00N OR EQUAL	\$ 73.000	1,460.000
194	20	EA	LEVITON LARGE EMPTY FIBER WALL MOUNT ENCLOSURE ONLY 17" HIGH X 15" WIDE X 5.25" DEEP LEVITON PART# 5W710-00N OR EQUAL	\$ 145.000	2,900.000
195	50	ËΑ	LEVITON ST FIBER 6-PACK TO FIT EITHER WALL MOUNT OR RACKMOUNT ENCLOSURES ONLY LEVTION PART# 5F100-1ST OR EQUAL	\$ 17.000	850.000
196	50	EA	LEVITON SC FIBER 6-PACK TO FIT EITHER WALL MOUNT OR RACKMOUNT ENCLOSURES ONLY LEVTION PART# 5F100-3SC OR EQUAL	\$ 19.200	960.000
197	50	EA	LEVITON BLANK 6-PACK FOR FIBER ENCLOSURES LEVITON PART# 5F100-BPP OR EQUAL	\$ 2.890	144.500
198	50	EA	LEVITON SC FIBER 8-PACK TO FIT EITHER WALL MOUNT OR RACKMOUNT ENCLOSURES LEVITON PART# 5F100-8SC OR EQUAL Discontinued (Sub#LEV5F100-6BC)	\$ 33.000	1,650,000
199	50	EA	LEVITON SC FIBER 12-PACK TO FIT EITHER WALL MOUNT OR RACKMOUNT ENCLOSURES LEVITON PART# 5F100-CSC OR EQUAL	\$ 33.000	1,650,000
200	50	EA	SIECOR ST CONNECTOR PANËL, PART # WIC-CP1-25 BID SIECOR OR EQUAL	\$ 24.000	1,200.000
201	50	EA	SIECOR SC CONNECTOR PANEL, PART # WIC-CP1-56 BID SIECOR OR EQUAL	\$ 34.000	1,700.000
202	30	EA	SIECOR WALL MOUNT FIBER ENCLOSURE, PART # WIC-012 BID SIECOR OR EQUAL	\$ 55.000	1,650.000
203	100	EA	DUPLEX FIBER OPTIC JUMPERS, 62.5/125 1 METER ST TO ST QUIKTRON BRAND OR EQUAL Q-T810- 112-003	\$ 4.650	465.000
204	100	EA	DUPLEX FIBER OPTIC JUMPERS, 62.5/125 1 METER ST TO SC QUIKTRON BRAND OR EQUAL Q-T810- 132-003	\$ 4.650	465.000
205	100	EA	DUPLEX FIBER OPTIC JUMPERS, 62.5/125 1 METER SC TO SC QUIKTRON BRAND OR EQUAL Q-T810- 332-003	\$ 4.650	465.000
206	100	EA	DUPLEX FIBER OPTIC JUMPERS, 62.5/125 1 METER LC TO ST QUIKTRON BRAND OR EQUAL Q-T810- L12-003	\$ 5.350	535.000
207	100	EA	DUPLEX FIBER OPTIC JUMPERS, 62.5/125 1 METER LC TO SC QUIKTRON BRAND OR EQUAL Q-T810- L32-003	\$ 5.350	535.000
208	100	EA	DUPLEX FIBER OPTIC JUMPERS, 62.5/125 1 METER LC TO LC QUIKTRON BRAND OR EQUAL Q-T810- LL2-003	\$ 6.120	612.000
209	100	EA	DUPLEX FIBER OPTIC JUMPERS, 62.5/125 1 METER SC TO MTRJ QUIKTRON BRAND OR EQUAL Q-T811- 032-003	\$ 4.500	450.000
210	100	EA	DUPLEX FIBER OPTIC JUMPERS, 62.5/125 1 METER LC TO MTRJ QUIKTRON BRAND OR EQUAL Q-T811- 0L2-003	\$ 5.120	512.000

			Value Add Bid			Selling
ITEM NUM.	Quantity	Unit	Description		Selling	Extension Price
211	100	EA	DUPLEX FIBER OPTIC JUMPERS, 62.5/125 2 METER ST TO ST QUIKTRON BRAND OR EQUAL 112-006	Q-T810-	\$ 5.010	501.000
212	100	EA	DUPLEX FIBER OPTIC JUMPERS, 62.5/125 2 METER ST TO SC QUIKTRON BRAND OR EQUAL 132-006	Q-T810-	\$ 5.010	501.000
213	100	EA	DUPLEX FIBER OPTIC JUMPERS, 62.5/125 2 METER SC TO SC QUIKTRON BRAND OR EQUAL 332-006	Q-T810-	\$ 5.010	501.000
214	100	EA	DUPLEX FIBER OPTIC JUMPERS, 62.5/125 2 METER LC TO ST QUIKTRON BRAND OR EQUAL L12-006	Q-T810-	\$ 5.760	576.000
215	100	EA	DUPLEX FIBER OPTIC JUMPERS, 62.5/125 2 METER LC TO SC QUIKTRON BRAND OR EQUAL L32-006	Q-T810-	\$ 5.760	576.000
216	100	EΑ	DUPLEX FIBER OPTIC JUMPERS, 62.5/125 2 METER LC TO LC QUIKTRON BRAND OR EQUAL LL2-006	Q-T810-	\$ 6.400	640.000
217	100	ËΑ	DUPLEX FIBER OPTIC JUMPERS, 62.5/125 2 METER SC TO MTRJ QUIKTRON BRAND OR EQUAL 032-006	Q-T811-	\$ 4.290	429.000
218	100	EA	DUPLEX FIBER OPTIC JUMPERS, 62.5/125 2 METER LC TO MTRJ QUIKTRON BRAND OR EQUAL 0L2-006	Q-T811-	\$ 4.960	496.000
219	100	EA	DUPLEX FIBER OPTIC JUMPERS, 62.5/125 3 METER ST TO ST QUIKTRON BRAND OR EQUAL 112-009	Q-T810-	\$ 5.500	550.000
220	100	EA	DUPLEX FIBER OPTIC JUMPERS, 62.5/125 3 METER ST TO SC QUIKTRON BRAND OR EQUAL 132-009	Q-T810-	\$ 5.500	550.000
221	100	EA	DUPLEX FIBER OPTIC JUMPERS, 62.5/125 3 METER SC TO SC QUIKTRON BRAND OR EQUAL 332-009	Q-T810-	\$ 5.500	550.000
222	100	EA	DUPLEX FIBER OPTIC JUMPERS, 62.5/125 3 METER LC TO ST QUIKTRON BRAND OR EQUAL L12-009	Q-T810-	\$ 6.100	610.000
223	100	EA	DUPLEX FIBER OPTIC JUMPERS, 62.5/125 3 METER LC TO SC QUIKTRON BRAND OR EQUAL L32-009	Q-T810-	\$ 6.100	610.000
224	100	EA	DUPLEX FIBER OPTIC JUMPERS, 62.5/125 3 METER LC TO LC QUIKTRON BRAND OR EQUAL LL2-009	Q-T810-	\$ 6.990	699.000
225	100	EA	DUPLEX FIBER OPTIC JUMPERS, 62.5/125 3 METER SC TO MTRJ QUIKTRON BRAND OR EQUAL 032-009	Q-T811-	\$ 4.710	471.090
226	100	EA	DUPLEX FIBER OPTIC JUMPERS, 62.5/125 3 METER LC TO MTRJ QUIKTRON BRAND OR EQUAL 0L2-009	Q-T811-	\$ 5.390	539.000
227	100	EA	DUPLEX FIBER OPTIC JUMPERS, 50/125 1 METER ST TO ST QUIKTRON BRAND OR EQUAL 112-003	Q-T850-	\$ 4.550	455.000
228	100	EA	DUPLEX FIBER OPTIC JUMPERS, 50/125 1 METER ST TO SC QUIKTRON BRAND OR EQUAL 132-003	Q-T850-	\$ 4.550	455.000
229	100	EA	DUPLEX FIBER OPTIC JUMPERS, 50/125 1 METER SC TO SC QUIKTRON BRAND OR EQUAL 332-003	Q-T850-	\$ 4.550	455.090
230	100	EA	DUPLEX FIBER OPTIC JUMPERS, 50/125 1 METER LC TO ST QUIKTRON BRAND OR EQUAL L12-003	Q-T850-	\$ 5. <b>2</b> 50	525.000

			Value Add Bid		[	Selling
ITEM NUM.	Quantity	Unit	Description		Selling	Extension Price
231	100	EA	DUPLEX FIBER OPTIC JUMPERS, 50/125 1 METER LC TO SC QUIKTRON BRAND OR EQUAL L32-003	Q-T850-	\$ 5.250	525.000
232	100	EA	DUPLEX FIBER OPTIC JUMPERS, 50/125 1 METER LC TO LC QUIKTRON BRAND OR EQUAL LL2-003	Q-T850-	\$ 5.950	595,000
233	100	EA	DUPLEX FIBER OPTIC JUMPERS, 50/125 1 METER SC TO MTRJ QUIKTRON BRAND OR EQUAL 032-003	Q-T851-	\$ 3.860	386.000
234	100	EA	DUPLEX FIBER OPTIC JUMPERS, 50/125 1 METER LC TO MTRJ QUIKTRON BRAND OR EQUAL 0L2-003	Q-T851-	\$ 4.530	453.000
235	100	EΑ	DUPLEX FIBER OPTIC JUMPERS, 50/125 2 METER ST TO ST QUIKTRON BRAND OR EQUAL 112-006	Q-T850-	\$ 4.900	490.000
236	100	EA	DUPLEX FIBER OPTIC JUMPERS, 50/125 2 METER ST TO SC QUIKTRON BRAND OR EQUAL 132-006	Q-T850-	\$ 4.900	490.000
237	100	EA	DUPLEX FIBER OPTIC JUMPERS, 50/125 2 METER SC TO SC QUIKTRON BRAND OR EQUAL 332-006	Q-T850-	\$ 4.900	490.000
238	100	EA	DUPLEX FIBER OPTIC JUMPERS, 50/125 2 METER LC TO ST QUIKTRON BRAND OR EQUAL L12-006	Q-T850-	\$ 5.880	588,000
239	100	EA	DUPLEX FIBER OPTIC JUMPERS, 50/125 2 METER LC TO SC QUIKTRON BRAND OR EQUAL L32-006	Q-T850-	\$ 5.880	588,000
240	100	EA	DUPLEX FIBER OPTIC JUMPERS, 50/125 2 METER LC TO LC QUIKTRON BRAND OR EQUAL LL2-006	Q-T850-	\$ 6.500	650.000
241	100	EΑ	DUPLEX FIBER OPTIC JUMPERS, 50/125 2 METER SC TO MTRJ QUIKTRON BRAND OR EQUAL 032-006	Q-T851-	\$ 4.290	429.000
242	100	EΑ	DUPLEX FIBER OPTIC JUMPERS, 50/125 2 METER LC TO MTRJ QUIKTRON BRAND OR EQUAL 0L2-006	Q-T851-	\$ 4.960	496.000
243	100	EΑ	DUPLEX FIBER OPTIC JUMPERS, 50/125 3 METER ST TO ST QUIKTRON BRAND OR EQUAL 112-009	Q-T850-	\$ 5.550	555.000
244	100	EA	DUPLEX FIBER OPTIC JUMPERS, 50/125 3 METER ST TO SC QUIKTRON BRAND OR EQUAL 132-009	Q-T850-	\$ 5.550	555.000
245	100	EA	DUPLEX FIBER OPTIC JUMPERS, 50/125 3 METER SC TO SC QUIKTRON BRAND OR EQUAL 332-009	Q-T850-	\$ 5.550	555.000
246	100	EA	DUPLEX FIBER OPTIC JUMPERS, 50/125 3 METER LC TO ST QUIKTRON BRAND OR EQUAL L12-009	Q-T850-	\$ 6.300	630.000
247	100	EA	DUPLEX FIBER OPTIC JUMPERS, 50/125 3 METER LC TO SC QUIKTRON BRAND OR EQUAL L32-009	Q-T850-	\$ 6.300	630.000
248	100	EΑ	DUPLEX FIBER OPTIC JUMPERS, 50/125 3 METER LC TO LC QUIKTRON BRAND OR EQUAL LL2-009	Q-T850-	\$ 7.010	701.000
249	100	EA	DUPLEX FIBER OPTIC JUMPERS, 50/125 3 METER SC TO MTRJ QUIKTRON BRAND OR EQUAL 032-009	Q-T851-	\$ 4.710	471.000
250	100	EΑ	DUPLEX FIBER OPTIC JUMPERS, 50/125 3 METER LC TO MTRJ QUIKTRON BRAND OR EQUAL 0L2-009	Q-T851-	\$ 5.390	539.000
251	100	EA	DUPLEX FIBER OPTIC JUMPERS, 9/125 1 METER ST TO ST QUIKTRON BRAND OR EQUAL 227-003	Q-T810-	\$ 5.450	545.000

Value Add Bid

			Value Add Bid		J	Selling
ITEM NUM.	Quantity	Unit	Description		Selling	Extension Price
252	100	EA	DUPLEX FIBER OPTIC JUMPERS, 9/125 1 METER ST TO SC QUIKTRON BRAND OR EQUAL 247-003	Q-T810-	\$ 5.450	545.000
253	100	EA	DUPLEX FIBER OPTIC JUMPERS, 9/125 1 METER SC TO SC QUIKTRON BRAND OR EQUAL 447-003	Q-T810-	\$ 5.450	545.000
254	100	EA	DUPLEX FIBER OPTIC JUMPERS, 9/125 1 METER LC TO ST QUIKTRON BRAND OR EQUAL L27-003	Q-T810-	\$ 5.860	586,000
255	100	EΑ	DUPLEX FIBER OPTIC JUMPERS, 9/125 1 METER LC TO SC QUIKTRON BRAND OR EQUAL L47-003	Q-T810-	\$ 5.860	586.000
256	100	EΑ	DUPLEX FIBER OPTIC JUMPERS, 9/125 1 METER LC TO LC QUIKTRON BRAND OR EQUAL LL7-003	Q-T810-	\$ 6.450	645.000
257	100	EA	DUPLEX FIBER OPTIC JUMPERS, 9/125 1 METER SC TO MTRJ QUIKTRON BRAND OR EQUAL 047-003	Q-T811-	\$ 5.370	537.000
258	100	EA	DUPLEX FIBER OPTIC JUMPERS, 9/125 1 METER LC TO MTRJ QUIKTRON BRAND OR EQUAL 0L7-003	Q-T811-	\$ 6.100	610.000
259	100	EA	DUPLEX FIBER OPTIC JUMPERS, 9/125 2 METER ST TO ST QUIKTRON BRAND OR EQUAL 227-006	Q-T810-	\$ 5.750	575.000
260	100	EA	DUPLEX FIBER OPTIC JUMPERS, 9/125 2 METER ST TO SC QUIKTRON BRAND OR EQUAL 247-006	Q-T810-	\$ 5.750	575.000
261	100	EA	DUPLEX FIBER OPTIC JUMPERS, 9/125 2 METER SC TO SC QUIKTRON BRAND OR EQUAL 447-006	Q-T810-	\$ 5.750	575.000
262	100	EA	DUPLEX FIBER OPTIC JUMPERS, 9/125 2 METER LC TO ST QUIKTRON BRAND OR EQUAL L27-006	Q-T810-	\$ 6.200	620.000
263	100	EΑ	DUPLEX FIBER OPTIC JUMPERS, 9/125 2 METER LC TO SC QUIKTRON BRAND OR EQUAL L47-006	Q-T810-	\$ 5.880	588.000
264	100	EA	DUPLEX FIBER OPTIC JUMPERS, 9/125 2 METER LC TO LC QUIKTRON BRAND OR EQUAL LL7-006	Q-T810-	\$ 6.750	675.000
265	100	EΑ	DUPLEX FIBER OPTIC JUMPERS, 9/125 2 METER SC TO MTRJ QUIKTRON BRAND OR EQUAL 047-006	Q-T811-	\$ 5.700	570.000
266	100	EA	DUPLEX FIBER OPTIC JUMPERS, 9/125 2 METER LC TO MTRJ QUIKTRON BRAND OR EQUAL 0L7-006	Q-T811-	\$ 6.430	643.000
267	100	EA	DUPLEX FIBER OPTIC JUMPERS, 9/125 3 METER ST TO ST QUIKTRON BRAND OR EQUAL 227-009	Q-T810-	\$ 6.230	623,000
268	100	EA	DUPLEX FIBER OPTIC JUMPERS, 9/125 3 METER ST TO SC QUIKTRON BRAND OR EQUAL 247-009	Q-T810-	\$ 6.230	623,000
269	100	EΑ	DUPLEX FIBER OPTIC JUMPERS, 9/125 3 METER SC TO SC QUIKTRON BRAND OR EQUAL 447-009	Q-T810-	\$ 6.230	623.000
270	100	EA	DUPLEX FIBER OPTIC JUMPERS, 9/125 3 METER LC TO ST QUIKTRON BRAND OR EQUAL L27-009	Q-T810-	\$ 6.750	675.000
271	100	EΑ	DUPLEX FIBER OPTIC JUMPERS, 9/125 3 METER LC TO SC QUIKTRON BRAND OR EQUAL L47-009	Q-T810-	\$ 5.980	598.000

			Value Add Bid	]		Selling
ITEM NUM.	Quantity	Unit	Description		Selling	Extension Price
272	100	EA	DUPLEX FIBER OPTIC JUMPERS, 9/125 3 METER LC TO LC QUIKTRON BRAND OR EQUAL Q-T810- LL7-009	\$	7.250	725.000
273	100	EA	DUPLEX FIBER OPTIC JUMPERS, 9/125 3 METER SC TO MTRJ. QUIKTRON BRAND OR EQUAL Q-T811- 047-009	\$	6.030	603.000
274	100	EA	DUPLEX FIBER OPTIC JUMPERS, 9/125 3 METER LC TO MTRJ QUIKTRON BRAND OR EQUAL Q-T811- 0L7-009	\$	6.760	676.000
275	20	EA	KENTROX CSU/DSU T1 TO ETHERNET EXTENDER PART#4020CE OR EQUAL <b>DISCONTINUED No Replacement</b>			0.000
276	20	EA	ALLIED TELESYN ST TO RJ45 FEMALE FIBER MEDIA CONVERTER 10/100MEG PART# AT-FS201 BID ALLIED TELESYN OR EQUAL (sub# SMX065-1100)	\$	95.000	1,900.000
277	20	EΑ	ALLIED TELESYN CENTRE COM MC13 UTP/FIBER ST 10MBPS MEDIA CONVERTER PART# ATMC13-10 BID ALLIED TELESYN OR EQUAL	\$	98.640	1,972.800
278	20	EA	TRANSITION NETWORKS ETHERNET 10BASE-T TO 10BASE-FL STAND-ALONE MEDIA CONVERTER; TRANSITION NETWORKS PART# E-TBT-FRL-05 BID TRANSITION NETWORKS OR EQUAL	\$	113.000	2,260,000
279	20	EA	TRANSITION NETWORKS FAST ETHERNET 100BASE-TX TO 100BASE-FX STAND-ALONE MEDIA CONVERTER; TRANSITION NETWORKS PART# E-100BTX-FX-05 BID TRANSITION NETWORKS OR EQUAL	\$	219.000	4,380.000
280	10	EA	SYSTIMAX 600G2-1U-MOD-SD 600G2 MODULAR SHELF, 1U, SLIDE PART# 760028324 BID SYSTIMAX - OR EQUAL	\$	179.000	1,790.000
281	10	EA	SYSTIMAX RS-2AF-16SF ROLOSPLICE KIT E/W 2X FUSION SPLICE TRAY 1U SHELF PART# 760039867 BID SYSTIMAX - OR EQUAL	\$	32.000	320.000
282	10	EA	SYSTIMAX 600G2-2U-MOD-SD 600G2 MODULAR SHELF, 2U, SLIDE PART# 760032086 BID SYSTIMAX - OR EQUAL	\$	229.000	2,290.000
283	10	EA	SYSTIMAX RS-4AF-16SF ROLOSPLICE KIT E/W 4X FUSION SPLICE TRAY 2U SHELF PART#760031856 BID SYSTIMAX - OR EQUAL	\$	41.500	415.000
284	20	ËA	SYSTIMAX MODG2-12LC-SM-PT G2 MODULE_12LC TERASPEED PIGTAILS PART# 760031039-(Disc.) New#760109496 BID SYSTIMAX - OR EQUAL	\$	238.000	4,760.000
285	20	EA	SYSTIMAX MODG2-12LC-LS-PT G2 MODULE_12LC LAZRSPEED 550 PIGTAILS PART# 760027748-(Disc.) New#760109470 BID SYSTIMAX - OR EQUAL	\$	245.000	4,900.000
286	5000	FΥ	SYSTIMAX 12 STRAND / SINGLE-MODE ARMORED FIBER OPTIC CABLE PART# 760004358-APYL-(Disc.) New#760127803 BID SYSTIMAX - OR EQUAL	\$	1.850	9,250.000
287	5000	FT	SYSTIMAX 12 STRAND / SINGLË-MODE ARMORED FIBER OPTIC CABLE PART# 700009731-APAQ-(Disc.) New# BID SYSTIMAX - OR EQUAL	\$	3.170	15,850.000
288	150,000	FT	SYSTIMAX 2071E CATEGORY 6 GIGASPEED XL PLENUM CABLE, YELLOW PART# 700210123 BID SYSTIMAX - OR EQUAL (sub# M57195)	\$	0.275	41,250.000
289	150,000	FT	SYSTIMAX 2071E CATEGORY 6 GIGASPEED XL PLENUM CABLE, BLUE PART# 700208093 BID SYSTIMAX - OR EQUAL (sub# M57193)	\$	0.275	41,250.000
290	2500	EA	SYSTIMAX MGS400 INFO, OUTLET, MGS400-318 BLUE PART# 700206758 BID SYSTIMAX - OR EQUAL	\$	8.150	20,375.000
291	2500	EA	SYSTIMAX MGS400 INFO, OUTLET, MGS400-123 YELLOW PART# 700206691 BID SYSTIMAX - OR EQUAL	\$	8.150	20,375.000
292	400	EA	SYSTIMAX M12L-003 2-PORT FACEPLATE IVORY PART# 108168477 BID SYSTIMAX OR EQUAL	\$	1.390	556.000
293	300	EA	SYSTIMAX M14L-003 4 PORT FACEPLATE IVORY PART# 108168550 BID SYSTIMAX OR EQUAL	\$	1.390	417.000

Value Add Bid

						Selling
ITEM NUM.	Quantity	Unit	Description		Selling	Extension Price
294	2000	EA	SYSTIMAX M60DA-318 BLUE ICON PART# 107296709 BID SYSTIMAX - OR EQUAL	\$	9.800	19,600.000
295	2000	EA	SYSTIMAX M60DA-123 YELLOW ICON PART# 107296667 BID SYSTIMAX - OR EQUAL	\$	2.400	4,800.000
296	350	EΑ	SYSTIMAX M106FR4-003 4 PORT 106 FRAME PART# 106627763 BID SYSTIMAX - OR EQUAL	\$	2.110	738.500
297	50	EA	SYSTIMAX PM-GS3-48: 48 PORT PATCH PANEL PART# 760062364 BID SYSTIMAX - OR EQUAL	\$	525.000	26,250.000
298	50	EΑ	SYSTIMAX PM-GS3-24: 24-PORT PATCH PANEL PART# 760062356 BID SYSTIMAX - OR EQUAL	\$	265.000	13,250.000
299	10	EA	HARGER 1/4" X 2" X 12" TGB KIT PART# GBI14212TGBKT BID HARGER - OR EQUAL	\$	97.990	979.900
300	20	EA	HARGER RACK GROUND BAR KIT PART# RGBVKIT145836A BID HARGER - OR EQUAL	\$	73.450	1,469.000
301	50	EA	HUBBELL SYSTEM 1 POKE THRU UNIT PART# S1PTAVFIT BID HUBBELL - OR EQUAL	\$	110.000	5,500.000
302	50	EΑ	HUBBELL SYSTEM 1 UNIVERSAL COVER BRASS PART# S1CFCBRS BID WIREMOLD - OR EQUAL	\$	74.000	3,700.000
303	50	EA	HUBBELL SYSTEM 1 SUBPLATE DOUBLE DUPLEX PART# S1SPDU BID HUBBELI OR EQUAL	\$	19.080	954.000
304	50	EA	HUBBELL 4 PORT 106 FRAME BLACK PART# BR106B BID HUBBELL - OR EQUAL	\$	1.880	94.000
305	10	ĒΑ	HUBBELL SNAP-FIT BLANK 10 PACK BLACK PART# SFFB10 BID HUBBELL - OR EQUAL	\$	3.550	35,500
306	15	EA	WIREMOLD FLAMESTOPPER 2" UNIT PART# FS2R-RED BID WIREMOLD - OR EQUAL	\$	80.000	1,200.000
307	20	EA	WIREMOLD FLAMESTOPPER 4" UNITE PART# FS4R-RED BID WIREMOLD - OR EQUAL	\$	103.200	2,064.000
308	10	EA	CHATSWORTH EVOLUTION G1 SINGLE-SIDED VERTICAL WIRE MANAGER PART# 35511-703 BID CHATSWORTH OR EQUAL	\$	514.000	5,140.000
309	10	EA	CHATSWORTH EVOLUTION G1 FIBER SEGREGATION KIT PART# 35475-701 BID CHATSWORTH - OR EQUAL	\$	94.090	940.900
310	20	EA	CHATSWORTH EVOLUTION G1 SPOOL KIT, BLACK PART# 15008- 001 BID CHATSWORTH - OR EQUAL	\$	66.880	1,337.600
311	15	EA	CHATSWORTH EVOLUTION G2 EDOUBLE-SIDED VERTICAL WIRE MANAGER PART#35521-703 BID CHATSWORTH OR EQUAL	\$	665.000	9,975.000
312	10	EA	CHATSWORTH CCS DOUBLE-SIDED VERTICAL WIRE MANAGER PART# 30162-703 BID CHATSWORTH - OR EQUAL	\$	378.000	3,780.000
313	10	EA	CHATSWORTH SPOOL KIT, BLACK PART# 15008-001 BID CHATSWORTH - OR EQUAL	\$	65.880	658,800
314	10	EA	BRADY IDXPERT LABELS CATALOG# XC-1500-580-WT-BK BID BRADY - OR EQUAL	\$	67.880	678.800
315	10	EA	BRADY IDXPERT LABELS CATALOG# XC-1500-580-WT-RD BID BRADY - OR EQUAL	\$	67.880	678.800
316	10	EA	BRADY IDXPERT LABELS CATALOG# XC-1000-580-GN-WT BID BRADY - OR EQUAL	\$	57.070	570.700
317	10	EA	BRADY IDXPERT LABELS CATALOG# XC-1000-580-BL-WT BID	\$	57.070	
318	10	EA	BRADY - OR EQUAL BRADY IDXPERT LABELS CATALOG# XC-1000-580-YL-BK BID	\$ \$	57.070	570.700
319	10	ΕA	BRADY - OR EQUAL BRADY IDXPERT LABELS CATALOG# XC-500-580-BL-WT BID			570.700
320	10	EA	BRADY - OR EQUAL BRADY IDXPERT LABELS CATALOG# XL-30-422 BID BRADY -	\$ \$	45.660 55.660	456,600
321	50	EA	OR EQUAL  BRADY IDXPERT LABELS CATALOG# XSL-31-427 BID BRADY -			556,600
322	50	EA	OR EQUAL BRADY IDXPERT LABELS CATALOG# XSL-31-427-YL-BK BID	\$	54.660	2,733.000
323	10	PK	BRADY - OR EQUAL HELLERMAN TYTON PART# GWT003X2 25pk OR EQUAL	\$ \$	58.990 8.990	2,949.500 89.900
324	10	PK	HELLERMAN TYTON PART# CT2012X2 25pk OR EQUAL	\$	27.000	270.000

TOTAL COST OF ITEMS

1,303,396.300

Cost for INSIDE DELIVERY (Explain)

125.00Hour

Delivery Cost includes travel time too and from inside delivery 1-hour  $\operatorname{\mathsf{Mim}}\nolimits.$ 

TOTAL EVALUATED BID PRICE

			Value Add Bid		
					Selling
ITEM NUM.	Quantity	Unit	Description	•	Extension Price

THERE WILL NOT BE A SPLIT AWARD FOR THIS CONTRACT.

### MASTER SPECIFICATION AdvanceNet® CABLE 4 PAIR #23 AWG UTP CATEGORY 6e PLENUM

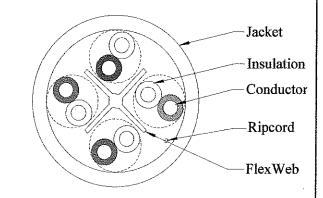
Design Number:

HT41192

### DESCRIPTION

UNSHIELDED TWISTED PAIR (UTP) ADVANCENET CABLE FOR USE IN HORIZONTAL CABLING SYSTEMS PER TIA 568-B AND ISO/IEC 11801 CLASS E. THE CABLE EXCEEDS TIA 568-B.2-1 AND ISO/IEC 11801 CATEGORY 6 ELECTRICAL CHARACTERISTICS. THE CABLE CONSISTS OF #23 AWG SOLID BARE COPPER INSULATED CONDUCTORS, ASSEMBLED INTO FOUR TIGHTLY TWISTED PAIRS, WITH A FLEXWEB® CORE SEPARATOR AND A 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. 6596944, 6074503, 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 ETL (USA) & CETL (CANADA) LISTED FOR THIS APPLICATION BY PASSING NFPA 262 (FT6 OR PREVIOUSLY UL 910 STEINER TUNNEL) TEST.



### TABLE 1

PAIR NUMBER	PAIR COLOR CO	DDE
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
M56905	HT39985	WHITE
M57193	HT41063	BLUE
M57194	HT41064	PINK
M57195	HT41065	YELLOW
M57196	HT41066	GRAY
M57197	HT41067	GREEN
M57198	HT41068	RED
M57199	HT41069	ORANGE
M57200	HT41070	BLACK
M57201	HT41071	VIOLET
M58512	HT53064	KELLEY GREEN
M58848	HT55328	BROWN
M58847	HT56828	LIME GREEN

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

HT41192

### SUPPORTED APPLICATIONS

IEEE 802.3 10BASE-T (ETHERNET), 100BASE-T (FAST ETHERNET), AND 1000BASE-T (GIGABIT ETHERNET), IEEE 802.3af POWER OVER ETHERNET FOR VOIP, 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: 23 AWG (.6 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

ASSEMBLY:

4 PAIRS CABLED TOGETHER WITH A

FLEXWEB CORE SEPARATOR

JACKET:

NO LEAD PLENUM RATED THERMOPLASTIC

JACKET COLOR: SEE TABLE 2

NOMINAL CABLE OD: .237" (6.02 mm)

LISTING:

C(ETL)US TYPE CMP

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

### **PHYSICAL CHARACTERISTICS**

**CABLE WEIGHT:** 

35 lbs/1000ft (52 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)



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Rev	Description	Date	Init.
AL	CHG UL TO ETL LISTED	11/06/07	JS
AM	CHANGE SKEW	01/23/08	JS
ΑN	ADD BRN & LM GRN P/N'S; CHG ADV (TM) TO (R)	08/13/08	JS
AO	CHANGE DIAMETER & WGT, ELECTRICALS	02/23/10	JS
Date: 09/26/97 Page 1 of 2		Design Nur	

Review:

Mohawk reserves the right to change any specification in the interest of product enhancement.

This cable complies with the EU-RoHS directive 2002/95/EC (restrictions on hazardous substances) regulations.

Orig:

### MASTER SPECIFICATION AdvanceNet® CABLE 4 PAIR #23 AWG UTP CATEGORY 6e PLENUM

Design Number:

HT41192

**ELECTRICAL CHARACTERISTICS** (REF TABLE 3)

STANDARDS:

EXCEEDS TIA 568-B.2-1 CAT 6,

ISO/IEC 11801:2002 CAT 6,

& IEC 61156-5 CAT 6 HORIZONTAL CABLE

CONDUCTOR DCR:

7.69 Ω/100m (23.4 Ω/Mft) MAX

DCR UNBALANCE:

5% MAX

MUTUAL

CAPACITANCE: 5.6 pF/100m (17 pF/ft) NOM

CAPACITANCE UNBALANCE

PAIR/GROUND:

330 pF/100m (1083 pF/Mft) MAX

CHARACTERISTIC

IMPEDANCE: INPUT IMPEDANCE: 100 Ω ± 15% (1-350 MHz)

100 Ω ± 15% (10-100 MHz) 100  $\Omega$  ± 22% (>100-200 MHz)

100 Ω ± 32% (>200-350 MHz)

RETURN LOSS (RL):

20 + 5 log<sub>10</sub>(f) dB MIN (1-10 MHz)

25 dB MIN (>10-20 MHz)

25 - 7 log<sub>10</sub>(f/20) dB MIN (20-100 MHz) 25 - 7 log<sub>10</sub>(f/20) + 0.7 dB MIN (>100 MHz) **INSERTION LOSS** 

(ATTENUATION):

 $1.76\sqrt{f} + .017 f + \frac{.20}{\sqrt{f}} dB/100m MAX$ 

**NEAR END** 

CROSSTALK (NEXT):

76 - 15 log<sub>10</sub>(f1.772) + 5 dB/100m MIN

POWER SUM NEAR END

CROSSTALK (PS-NEXT):

 $74 - 15 \log_{10}(f/.772) + 5 dB/100m MIN$ 

**EQUAL LEVEL FAR END** 

CROSSTALK (ELFEXT):

 $70 - 20 \log(f/.772) + 5 \text{ dB}/100 \text{m MIN}$ 

**POWER SUM EQUAL LEVEL FAR END** 

CROSSTALK (PS-ELFEXT): 67 - 20 log(f/.772) + 5 dB/100m MIN

PROPAGATION DELAY:

534 + 36 / √f ns/100m MAX

**DELTA DELAY (SKEW):** 

45 ns/100m MAX

**NOMINAL VELOCITY** 

OF PROPAGATION (NVP): 72%

WHERE f = FREQUENCY IN MHz from .772 to 350 MHz, except for ELFEXT and PS-ELFEXT from 1 to 350 MHz.

### TABLE 3

### REFERENCE ELECTRICAL CHARACTERISTICS

FREQ	INSERTI	ON LOSS	NF	XT	ACR		EXT	PS-ACR	ELFEXT	PS-ELFEXT	RL
(MHz)	t	00m)		100m)	(dB/100m)		00m)	(dB/100m)	(dB/100m)	(dB/100m)	(dB)
, , , ,	avg	max	avg	min	min	avg	min	min	min	min	min
.772	1.6	1.8	90	81.0	79.2	83	79.0	77.2		191021	14101
1.0	1.8	2.0	88	79.3	77.3	81	77.3	75.3	72.8	69.8	20.0
4.0	3.5	3.7	79	70.3	66.6	72	68.3	64.6	60.7	57.7	23.0
8.0	4.9	5.2	75	65.8	60.6	68	63.8	58.6	54.7	51.7	24.5
10.0	5.6	5.8	73	64.3	58.5	66	62.3	56.5	52.8	49.8	25.0
16.0	7.1	7.4	70	61.3	53.9	63	59.3	51.9	48.7	45.7	25.0 25.0
20.0	7.9	8.3	69	59.8	51.5	62	57.8	49.5	46.7	43.7	25.0 25.0
25.0	8.8	9.3	67	58.4	49.1	60	56.4	47.1	44.8	41.8	24.3
31.25	10.0	10.4	66	56.9	46.5	59	54.9	44.5	42.9	39.9	23.6
62.5	14.3	15.0	61	52.4	37.4	54	50.4	35.4	36.8	33.8	21.5
100.0	18.4	19.3	58	49.3	30.0	51	47.3	28.0	32.8	29.8	20.8
200.0	27.0	28.3	54	44.8	16.5	47	42.8	14.5	26.7	23.7	18.7
250.0	30.5	32.1	52	43.4	11.3	45	41.4	9.3	24.8	23.7 21.8	18.0
300.0	33.9	35.6	51	42.2	6.6	44	40.2	4.6	23.2	20.2	17.5
350.0	37.0	38.9	50	41.2	2.3	43	39.2	0.3	21.9	18.9	17.0
400.0	40.0	42.0	49	40.3	2.0	42	38.3	0.3	20.7	17.7	16.6
450.0	43.0	45.0	48	39.5				_			
500.0	45.5	47.9			_	41	37.5	- 1	19.7	16.7	16.2
1			48	38.8		41	36.8		18.8	15.8	15.9
550.0	48.2	50.6	47	38.2	-	40	36.2	· –	17.9	14.9	15.6
600.0	50.7	53.3	47	37.6	-	40	35.6	_		-	15.4
650.0	53.2	55.9	46	37.1	_	39	35.1		- 1		15.1

VALUES ABOVE 350 MHz ARE FOR ENGINEERING INFORMATION ONLY.



### **Cabling Excellence for Open Architecture**

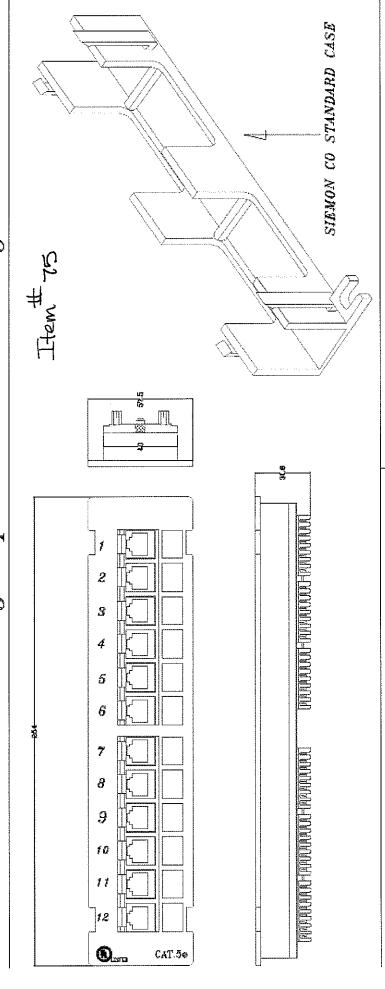
9 Mohawk Drive Leominster, MA 01453 USA (978) 537-9961 Fax: (978) 537-4358 (800) 422-9961 www.mohawk-cable.com

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Rev	Description		Date	Init.
AL	CHG UL TO E	TL LISTED	11/06/07	JS
AM	CHANGE SKE	EW	01/23/08	JS
AN	ADD BRN & L	M GRN P/N'S; CHG ADV (TM) TO (R)	08/13/08	JS
AO	CHANGE DIA	METER & WGT, ELECTRICALS	02/23/10	JS
Date:	09/26/97	Page 2 of 2	Design Nur	nber:
Orig:		Review:	HT411	92

# Walkon CAT. Se 12 Port Patch Panel

with 89D style plastic mounting bracket



## Optional Equipment:

- Dust Cover
- STP: Crounding Pin

ITEM NO:	90-12FPC3E		
DSGN	СНК	APPR	
	UNIT	m/m SCALE	

## Panel: 1.6mm thickness metallic panel ■ Case: UL-94V-0 ABS Materials:

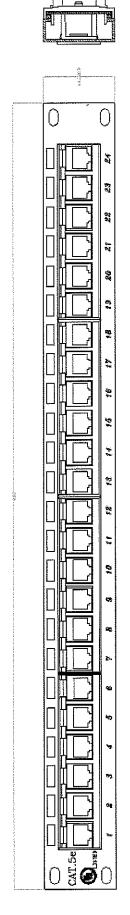
Specification

■ Jack: RJ-45 8P8C, 50 micro inches gold plating over nickel plated [UL-94V-0 PBT] ■ PCB:FR-4

Punch Down with Krone or AT&T Tool

## Waliron CAT.5e (UTP) 24 Port Patch Panel

Item# 73



这种建设建筑的第一层和印度的变形的影响,这是是现在是四年一年的时候的现象一度如何如如何是四十四年的一种是四年的现象的第一年的是的时候,一种中国和作为的一种的的的一种的中国的

AT&T Tool Can be punched down with Krone or

Specification

Materials:

Panel: 1.6mm thickness metallic panel

■ Case: UL-94V-0 ABS

plating over nickel plated [ UL-94V-0 PBT] ■ Jack: RJ-45 8P8C , 50 micro inches gold

PCB:FR-4 APPROVAL

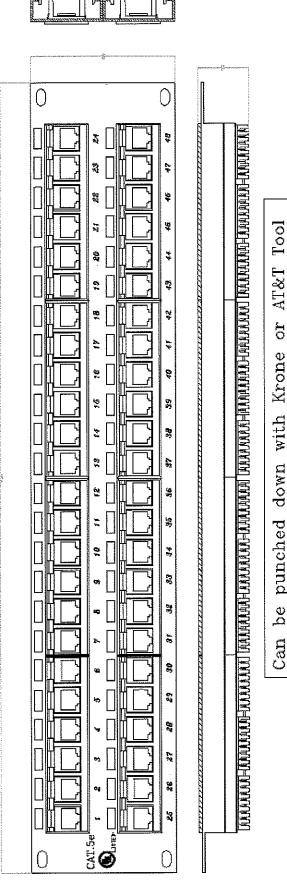
Optional Equipment: Dust-Cover

UTP : STANDARD

10.MAY.97 ITEM NO:	9U-Z4FFC2E		DELTA-K310490
10.MAY.97			TEST REPORT: DANAK-19J0291 DEL
DSCN	CHK	APPR	$TEST$ $DAN_{o}$
		SCALE	DRAW NO:

Wellron CAT.5e (UTP) 48 Port Patch Panel

### Item# 72



or Can be punched down with Krone

Specification

Materials:

Panel: 1.6mm thickness metallic panel

■ Case: UL-94V-0 ABS

plating over nickel plated [ UL-94V-0 PBT] ■ Jack: RJ-45 8P8C, 50 micro inches gold

PCB:FR-4 APPROVAL

Optional Equipment : Dust-Cover

UTP : STANDARD

10.MAY.97 ITEM NO:	VO-4011C3E		0870+67 <u>-</u> 77120
DSGN 10.	СНК	APPR	TEST REPORT :
	1	scale A	DRAW NO:

### SIEMON CO STANDARD CASE Wellron CAT.6 12 Port Patch Pannel with 89D style plastic mounting bracket ITEM NO: Item# 107 Part Numbers NSCN90-12PPC6 Notes: Š 31.8 Must Pass Category 6 Patch Panel Test ■ Jack: RJ-45 8P8C, 50 micro inches gold • ■ Case: UL-94V-0 ABS Specification 9 Materials:

Above

See

APPR

SCALE

DRAW NO:

CHK

UNIT

plating over nickel plated [ UL-94V-0 PBT]

■ PCB:FR-4

• Punch Down with Krone or 1110 style Tool

## 0 0 HARIODAR FURRADOP FUDIROON DUBARRO RARBARIOR ROBBINS RABBARO FURBARADO RABBA RADOBRARI REDOBRAR GRANDARA FURRADA Wellion CAT.6 (UTP) 24 Port Patch Panel Col # mat I Can be punched down with Krone or AT&T Tool 9

UTP : STANDARD

Specification

Materials:

Panel : 1.6mm thickness metallic panel

■ Case: UL-94V-0 ABS

■ Jack: RJ-45 8P8C , 50 micro inches gold

plating over nickel plated

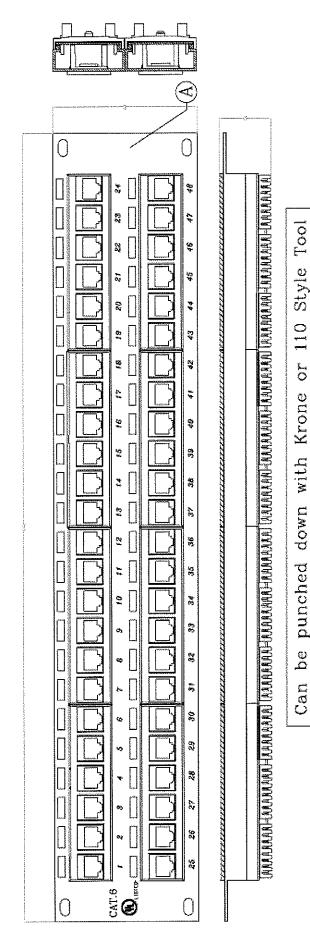
■ PCB:FR-4 APPROVAL

Optional Equipment : Dust-Cover

LOBA MO.	new No.	2) T T T T T T T T T T T T T T T T T T T		•		
Anderson in reconstructions to the second se	10.APRIL.2005			eservo verticonnila renovovando naziona vamentenentino renimo portenential del discontalión manuel neva tuo convocentendo		
- Contraction of Cont	DSCN		CHK	eranance destruction of the second of the se	APPR	
-			CIAIL	m/m	SCALE	DRAW NO:
TIPLE MAN.			-			DRAW NO.

Walion CAT.6 (UTP) 48 Port Patch Panel

Item# 104



Specification

Materials:

Panel: 1.6mm thickness metallic panel

\* Case: UL-94V-0 ABS

■ Jack: RJ-45 8P8C, 50 micro inches gold

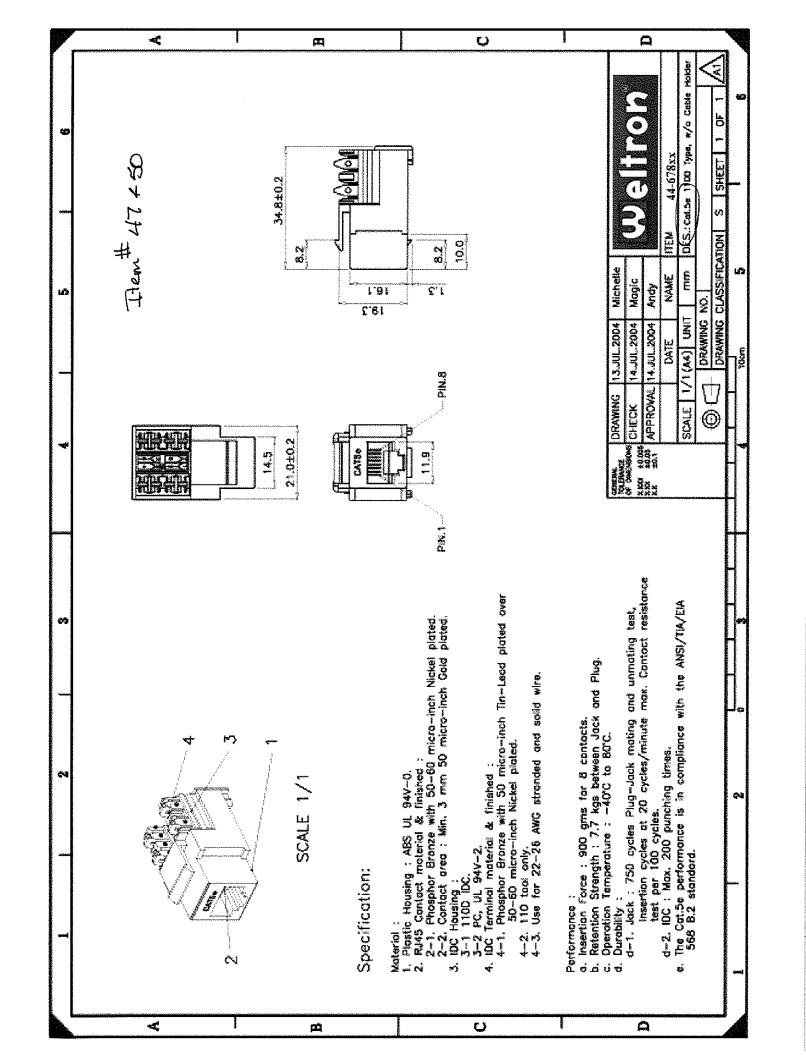
plating over nickel plated [ UL-94V-0 PBT] ■ PCB.FR-4 APPROVAL Must Pass Category 6 Patch Panel Test

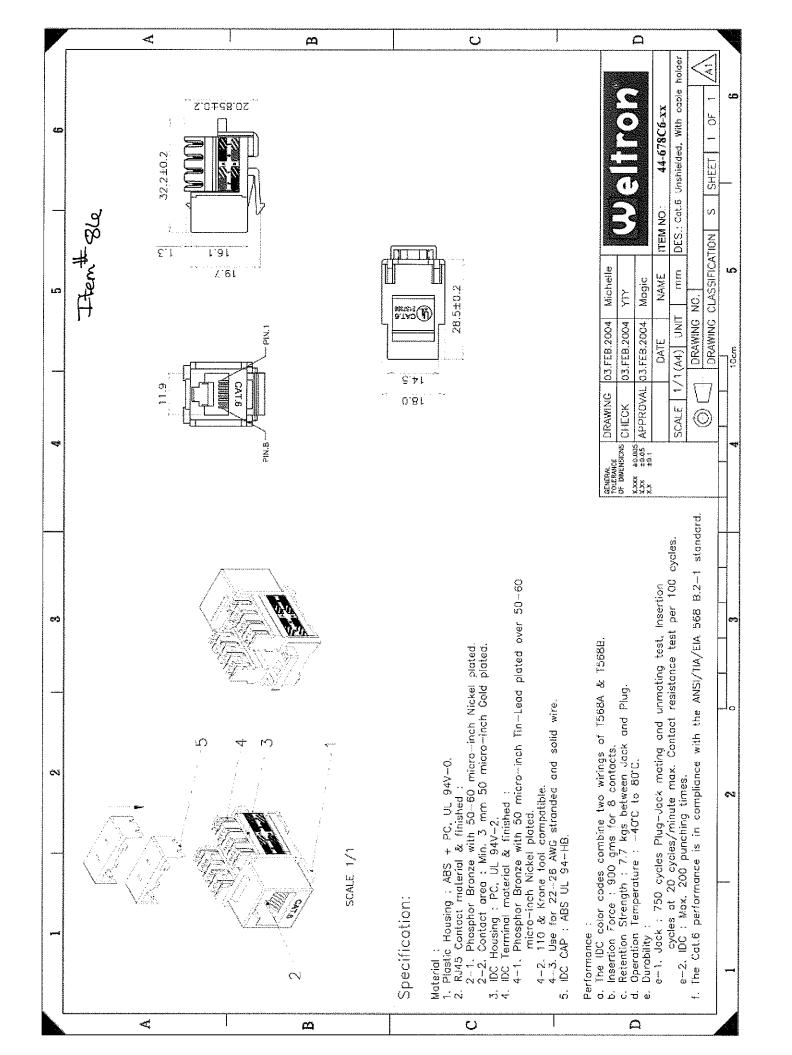
UTP : STANDARD

Notes: A: Use Logo on Weliton Parts

Part Numbers

	umajojo <mark>k</mark> olodycenopcies			
	NOSO	-	08.Dec.05	ITEM NO: 90-48PPC6
Acceptable to a property of the second secon	СИК			
SCALE	APPR			АРРЯ
A PAR W				





### State of West Virginia

### **VENDOR PREFERENCE CERTIFICATE**

Certification and application\* is hereby made for Preference in accordance with **West Virginia Code**, §5A-3-37. (Does not apply to construction contracts). **West Virginia Code**, §5A-3-37, provides an opportunity for qualifying vendors to request (at the time of bid) preference for their residency status. Such preference is an evaluation method only and will be applied only to the cost bid in accordance with the **West Virginia Code**. This certificate for application is to be used to request such preference. The Purchasing Division will make the determination of the Resident Vendor Preference, if applicable.

	· · · · · · · · · · · · · · · · · · ·
1.	Application is made for 2.5% resident vendor preference for the reason checked:  Bidder is an individual resident vendor and has resided continuously in West Virginia for four (4) years immediately preceding the date of this certification; or,  Bidder is a partnership, association or corporation resident vendor and has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; or 80% of the ownership interest of Bidder is held by another individual, partnership, association or corporation resident vendor who has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; or,  Bidder is a nonresident vendor which has an affiliate or subsidiary which employs a minimum of one hundred state residents and which has maintained its headquarters or principal place of business within West Virginia continuously for the four (4) years immediately preceding the date of this certification; or,
2	Application is made for 2.5% resident vendor preference for the reason checked:  Bidder is a resident vendor who certifies that, during the life of the contract, on average at least 75% of the employees working on the project being bid are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; or,
3.	Application is made for 2.5% resident vendor preference for the reason checked:  Bidder is a nonresident vendor employing a minimum of one hundred state residents or is a nonresident vendor with an affiliate or subsidiary which maintains its headquarters or principal place of business within West Virginia employing a minimum of one hundred state residents who certifies that, during the life of the contract, on average at least 75% of the employees or Bidder's affiliate's or subsidiary's employees are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; or,
4.	Application is made for 5% resident vendor preference for the reason checked:  Bidder meets either the requirement of both subdivisions (1) and (2) or subdivision (1) and (3) as stated above; or,
5.	Application is made for 3.5% resident vendor preference who is a veteran for the reason checked: Bidder is an individual resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard and has resided in West Virginia continuously for the four years immediately preceding the date on which the bid is submitted; or,
- Alder browsker des	Application is made for 3.5% resident vendor preference who is a veteran for the reason checked: Bidder is a resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard, if, for purposes of producing or distributing the commodities or completing the project which is the subject of the vendor's bid and continuously over the entire term of the project, on average at least seventy-five percent of the vendor's employees are residents of West Virginia who have resided in the state continuously for the two immediately preceding years.
requirem against	nderstands if the Secretary of Revenue determines that a Bidder receiving preference has failed to continue to meet the nents for such preference, the Secretary may order the Director of Purchasing to: (a) reject the bid; or (b) assess a penalty such Bidder in an amount not to exceed 5% of the bid amount and that such penalty will be paid to the contracting agency sted from any unpaid balance on the contract or purchase order.
authorize the requi	ission of this certificate, Bidder agrees to disclose any reasonably requested information to the Purchasing Division and as the Department of Revenue to disclose to the Director of Purchasing appropriate information verifying that Bidder has paid red business taxes, provided that such information does not contain the amounts of taxes paid nor any other information by the Tax Commissioner to be confidential.
and acc	enalty of law for false swearing (West Virginia Code, §61-5-3), Bidder hereby certifies that this certificate is true urate in all respects; and that if a contract is issued to Bidder and if anything contained within this certificate during the term of the contract, Bidder will notify the Purchasing Division in writing immediately.
Bidder: _	~11

DATACON Solos MANAGER

Date: 5-18-2010

<sup>\*</sup>Check any combination of preference consideration(s) indicated above, which you are entitled to receive.

RFQ No. CABLE 10

### 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:**

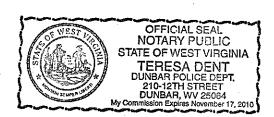
"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due 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.

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

## Authorized Signature: Date: 5-18-2010 State of LOV County of KANAUMA, to-wit: Taken, subscribed, and sworn to before me this 18 day of May, 20 10. My Commission expires Mov. 17, 2010, 20 10. AFFIX SEAL HERE NOTARY PUBLIC MANAUMA



WITNESS THE FOLLOWING SIGNATURE