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Communications
Offers & Insights

July 2011

VDSL2 **E** BONDED VDSL2+

Increasing Bandwidth for IPTV, HDTV, Gaming
and more over Existing Copper Cable Infrastructure

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and Products**

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and KGP Logistics
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Inside view



Our main focus within the Integration Center is providing integrated turnkey solutions that save our Customers time and money. – Leo Male, Integration Center Manager

These days everybody has jumped on the same band(width)wagon. The rising demand for enhanced broadband and network access improvements is putting pressure on Telcos to expedite upgrades.

KGP Logistics' Integration Center can make the process more economical and efficient with proven, value-added turnkey solutions that save installation time and money. The answer, in many cases, is pre-assembled, fully wired and tested integrated cabinets or integrated rack and stack solutions.

Instead of the Customer receiving pallets of materials that need to be opened, sorted, checked, inspected, tested and connected, they get a completely integrated cabinet ready to be connected to the transport cables and put into service. More importantly, technician workload time can be cut by up to 80%.

For the ultimate in integrated cabinet solutions, KGP can take that fully integrated cabinet and mount it to a concrete pad along with a power pedestal and cross-connect. The entire unit is shipped direct to the Customer site ready to be put into the ground. KGP can also provide on-site excavation, installation and splicing to the network.

This express method of deployment means that KGP can build the cabinet, put it on a pad, place it in the ground, turn it up, and have service on it, before an invoice ever gets to the customer.

When it comes to customer premise equipment, such as modems, routers, and gateways, KGP can develop and/or load custom configurations. These configurations allow Customers to customize the appearance and performance of the device and also help in eliminating truck rolls and service calls.

KGP greatly reduces technician on-site time because, in many cases, the modems can be delivered direct to the end user for plug and play.

Currently, almost 60% of all modems, routers and gateways sold by KGP Logistics go through our Integration Center for custom configurations.

Another valuable service KGP provides is reverse logistics. Basically, this is a pathway by which Customers can return equipment to KGP for refurbishing, testing, cleaning and repackaging.

This good-as-original, refurbished equipment can be re-deployed by the Customer for a fraction of the cost of new equipment, and there is minimal material waste to negatively impact the environment.

KGP Logistics' Integration Center serves as a reliable resource to Customers for a variety of services. Whether to minimize install time, eliminate waste or drastically reduce manpower expenses, KGP is your turnkey provider partner.



CUSTOMER PREMISE EQUIPMENT

Surge Suppressors and Uninterruptible Power Supplies from PREMIER

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At the Bold **HORIZON** of Broadband Demand

Aggressive enterprise unites regional telco and KGP Logistics in goliath endeavor

THE WORD HORIZON is defined as “the line in the furthest distance where land or sea seems to meet sky.” It also means “an expanse of knowledge, experience or capability.” How appropriate then that Horizon Telcom, a Chillicothe, Ohio-based provider of voice, video and data services has begun an extensive expansion of fiber optic broadband networks to reach into the furthest distance at the line where Customers’ ever-increasing appetite for bandwidth meets the greatest capacity technology for the future.

Accomplishing the enormous task ahead – deployment of a 2,000-mile fiber optic backbone running through 34 counties of southern and eastern Ohio – will take an expansive range of knowledge, experience and capability, which Horizon Telcom and KGP Logistics are confident in providing, together.

To put the scope of this project into perspective, Horizon’s current service area, as an Incumbent Local Exchange Carrier (ILEC), is a modest county and a half. At the completion of this new state-of-the-art installation sometime in 2013, that geographic service area will swell by more than twenty times. Horizon has already installed 600 miles of fiber to reach remote healthcare facilities. In addition, this next phase will be part of the Ohio Middle Mile Consortium’s statewide effort to bring world-class broadband opportunities to currently underserved and rural areas of Ohio with additional emphasis on broadband access for educational and governmental facilities.

Not since an 800+ cell site build-out for Sprint in the 1990’s has Horizon come close to engaging in such a large-scale venture. The stakes are high, but the potential return in terms of additional subscribers, large end users, multiple carrier leases, and added revenues from more

sophisticated, high-speed services are well worth the infrastructure investment.

Joe Corbin, Vice President of Operations for Horizon, noted, “Our partnership with KGP Logistics will allow us both to concentrate on what we do best. KGP will become our single source for all critical materials and supplies. They have already helped us to implement new, expedited programs such as work order level staging and shipping, technician fulfillment and electronic purchasing and invoicing. It means that we can focus our efforts on planning, construction and turn-up of the network.”

**A PARTNERSHIP OF DISTINCTLY
DEFINED ROLES** helps to streamline
the build-out process.

“The value of our package is in the materials handling and savings during deployment that Horizon will realize,” said Mark Caratelli, KGP Logistics Director of Sales. “As opposed to Horizon trying to manage multiple vendors from all over the country and logistically gather huge quantities of supplies on a very time- and location-specific schedule, we manage all of that for them. In addition, we ship the products right to the job site just in time for technicians to install, and all of this is occurring on a very aggressive timeframe with little to no margin for error.”

If the materials don’t arrive when the contractors are ready, the entire project comes to a screeching halt, and that can be a very costly proposition. Horizon relies on the necessary equipment being there exactly when needed, so that they can optimize the productivity of their install technicians and resources. Direct-to-site deliveries also eliminate or greatly reduce Horizon’s drive time for materials pickup – a significant, additional cost savings.

"We offer a total logistics solution," added Caratelli. "We specify and collect the right materials and offer better quality or cost alternatives when appropriate. We inventory at levels that will keep the project running smoothly. We deliver everything directly to the contractors, and we also immediately handle any shortages, discrepancies in price or delivery quantities, and any other back-office issues. We've also helped Horizon implement an EDI (Electronic Data Interface) system to make everything happen more efficiently while eliminating manual keystroke time and human input errors."

This type of complicated coordination of work orders, vendors, supplies and precisely defined delivery times is KGP Logistic's bread and butter. It is the same speed-to-market and supply chain control that the company provides day in and day out. Of course, it is easier to manage and execute because of KGP's strategically located nationwide network of six Distribution Centers and eight Integration Centers.

Similarly, infrastructure expansions and upgrades, hardware and equipment implementation, comprehensive voice/video/data services, and enhanced bandwidth are the areas in which Horizon has particular, specialized expertise.

By working together, the two companies are able to attain a convergence of efficiency, concentrated skills and dedicated capabilities that, without which, a project of this magnitude and complexity would be very hard to achieve.

*Horizon's partnership with KGP Logistics is as simple as **ONE VENDOR, ONE ORDER, ONE INVOICE.***

It is difficult to calculate or project the time and expense involved for Horizon personnel if they continued to handle all of the product specifying, cost comparisons and analysis, product availability searches, timing of orders, assembly and fulfillment, order checking and product testing, delivery and/or return of goods. Accomplishing those critical steps is challenging enough, but they become even more complicated when repeated across a spectrum of different sources of supply for a total infrastructure project approaching \$95 million. The cost and level of complexity are further multiplied by the timeframe dictates of the initial Broadband Technology Opportunity Program (BTOP) grant and the government's own stringent broadband stimulus requirements.

With those responsibilities removed from the equation and assigned to KGP Logistics, it is easy to understand how Horizon Telcom is able to apply their valuable human resources to the essential task of fiber network installation and to addressing and overcoming site-specific deployment challenges.

"Our motivation and primary interest in this fiber optic expansion is to deliver a higher quality of service to counties in southern Ohio and the Appalachian area," stressed Corbin. "We wanted to be part of something that will benefit a huge portion of the state. At the same time, we feel it's important for these new areas and Customers to associate enhanced broadband connectivity with Horizon."

"During the initial phase of the healthcare network build-out last year, we managed the materials procurement process

"We didn't need a vendor. We needed a partner, and that's what we got in KGP."

*Joe Corbin
VP/Operations
Horizon Telcom*

ourselves, and that was stretching our limits a bit," Corbin explained. "With the larger-scale BTOP build, we knew we had to re-evaluate our entire procurement process and that was the driving force behind our partnership with KGP. It allows us to limit our exposure to multiple vendors by consolidating all of our activities through KGP. There is a fairly lengthy list of services they offer that we will be taking advantage of throughout this process."

"For instance, we know we need to keep a continuous flow of materials to our field technicians. So one small example of KGP services would be that if a necessary product is in back-order, they can recommend an alternate source of supply that can deliver right away, avoiding construction contractor delays and the cost of crews sitting idle."

Corbin continued, "The real advantage of our relationship with KGP is that we now deal with just one vendor. One vendor, one order, and in the end, one invoice. The number of vendors behind the scenes is unimportant to us. We're pretty happy with the support we've gotten from the KGP team and in our abilities to work through challenges together. We didn't need a vendor. We needed a partner, and that's what we got in KGP. They are helping us stay on top of our construction schedules, and that's pretty critical."

"I can't imagine Horizon trying to manage this construction process and also dealing with 100 vendors. That would be a nightmare," Corbin concluded. "I feel pretty good about where we're at and where we're going with KGP."

ABOUT HORIZON | For more than 115 years, Horizon has provided telecommunications services to southern Ohio. Founded in 1895 as the Home Telephone Company, the organization has grown and adapted to the changing needs of its Customers, employees and community while still maintaining a competitive position in the telecommunications industry. While Horizon continually adapts to offer the latest advanced services (such as broadband to over 95% of their local telephone service area), one thing has remained the same since its inception – superior Customer service and unmatched responsiveness.



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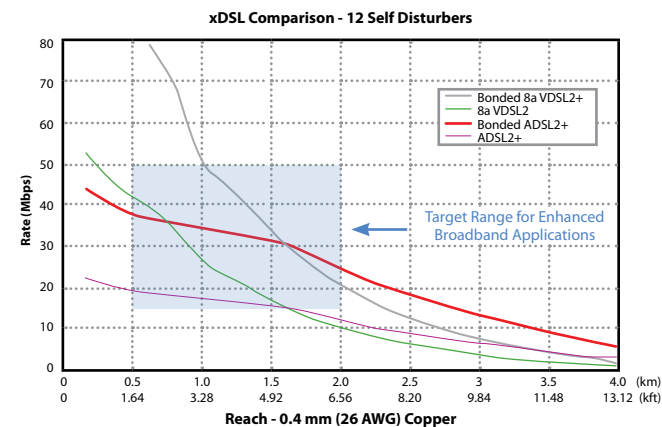
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A Brief History of BROADBAND TECHNOLOGY

Explosive Growth in Internet Applications

During the past two decades, there has been an explosive growth in the number of applications for the Internet. This growth has generated increased demand for reach and capacity of the public Internet and private corporate networks. The Internet is no longer simply a vehicle for transporting messages and rapid access to stored information. Rather, an ever increasing number of people are now downloading movies, playing interactive games, teleconferencing, sending and accessing images from security cameras, making two-way Voice over IP phone calls nationally and internationally, backing up computers to secure data centers, implementing cloud computing, and the list goes on and on. As the number of applications increase, the number of users and the amount of time people spend on the Internet increases correspondingly.



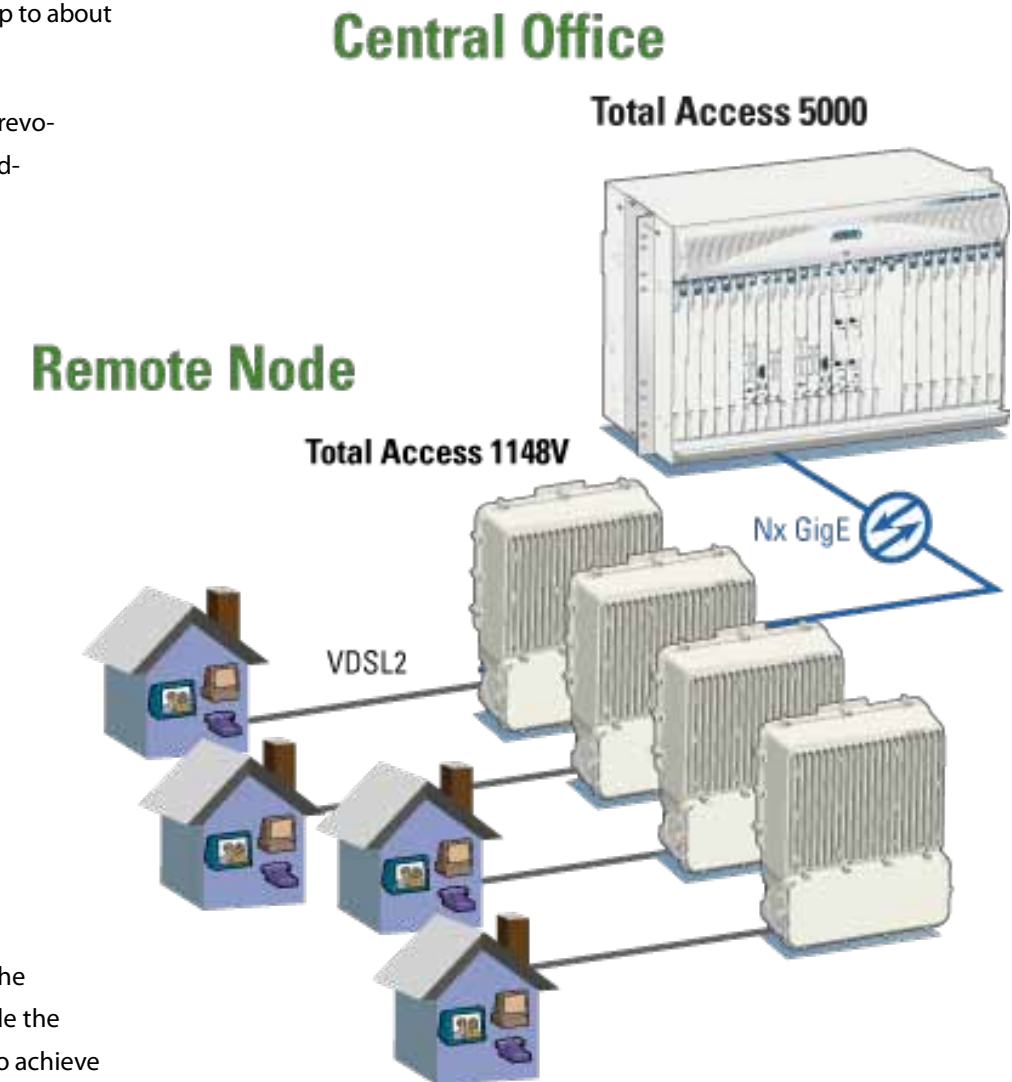
How DSL Technology Helped Revolutionize the Delivery of Broadband Access

Current generation VDSL2 modems can deliver up to 80 Mbps of broadband data into the home. This is in contrast to the 56 kbps dial-up modem that was used predominantly in the 1990s. These 56 kbps dial-up modems were used to send data over the Public Switched Telephone Network (PSTN), the same network used to carry conventional voice telephone calls. Because the PSTN only carries signals between approximately 300 and 3400 Hz (known as the “voiceband spectrum”), dial-up modems are limited to that range of frequencies. Due to the limited spectrum and to other constraints on the PSTN, 56 kbps is the highest rate that dial-up modems can achieve.

Asymmetrical Digital Subscriber Line (ADSL) was introduced to leverage more of the spectrum available on the copper telephone line between the Telephone Company’s Central Office (CO) and the subscriber. By placing a DSL modem in the CO and connecting directly to a high-speed network, ADSL bypassed the PSTN and used up to 1.1 MHz of the available spectrum to deliver T-1 speeds (up to 1.5 Mbps), which are roughly 27 times faster than those of 56K dial-up modems. As technology improved, higher constellations (ability to carry more “bits” of data per Hz) enabled ADSL speeds to achieve rates as fast as 8 Mbps. The next-generation ADSL standard (ADSL2+) was introduced in 2005 and doubled the available useable spectrum to 2.2 MHz, enabling download speeds up to 24 Mbps. Very high-speed

Digital Subscriber Line (VDSL2), standardized in 2006, uses up to 30 MHz of spectrum and delivers up to 80 Mbps over very short telephone lines (up to about 3,000 feet).

DSL technology has helped to revolutionize the delivery of broadband access, but the available speeds are highly dependent on the length of the copper telephone line between the DSL modems. Higher data rates are achieved through a combination of using more spectrum (i.e. more useable frequencies (Hertz)) and higher constellations (more bits/Hz). The longer the telephone line, the more the signal is attenuated, especially at higher frequencies - meaning less spectrum is available. As a result, service providers are now placing DSL modems in the “outside plant” (outdoors), outside the CO and closer to the subscriber, to achieve the maximum available bandwidth.





Dramatically Lowering the Total Cost of Deployment

Wireline carriers are faced with the difficult challenge of transforming their existing networks to provide next-generation services, enabling not only

voice and simple broadband connections to the Internet, but newer services like IPTV. The dynamics of these new services are constantly evolving, making it difficult to identify the right network architecture. Although fiber access technologies may provide the ultimate solution for addressing consumer access bandwidth, especially in greenfield

deployments, the fact remains that there is a massive embedded base of copper infrastructure. Technological advances, including VDSL2 and bonded ADSL2+, are enabling ultra-broadband speeds over copper, provided that loop lengths are reduced. The innovative Fiber to the Node (FTTN) broadband access systems from ADTRAN® dramatically lower the total cost of deployment for broadband services.

Cost-effective, fast and reliable — make the most of your network resources with ADTRAN's Total Access solutions.

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Connected World.

ADTRAN®

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xDSL over POTS Wall Mount, In-Line and Slim In-Line Filters

The PREMIER filters are designed to expedite the service delivery and improve the performance of digital subscriber line (DSL) services. These models filter all telephone sets, facsimile machines, answering machines, etc. individually or in groups. The DSL filters design electronically isolates the high-speed DSL data streams from the voice band POTS (plain old telephone service) equipment. This design effectively blocks the DSL, and other radio frequencies from 25 kilohertz to 30 Megahertz.



Features

- » **Data Protection** - Isolates telephone impedance changes from DSL equipment
- » Excellent DSL band attenuation that protects voice band equipment and prevents inter-modulation distortion from degrading data rates
- » Compatible with all major DSL standards including ADSL, ADSL2+, VDSL, and VDSL2
- » **Voice Protection** - Isolates DSL band frequencies from voice band equipment
- » Excellent longitudinal balance
- » Compatible with Caller ID, facsimile and metallic loop testing
- » RoHS compliant
- » Compliant and listed with UL 60950, FCC Part 68
- » ETL certified

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COPPER

Reengineered for the Future

Designed to support the deployment of triple play services, HD-IPTV and interactive gaming, Bonded VDSL2 is aimed to enable operators and carriers to gradually, flexibly and cost efficiently upgrade the existing xDSL infrastructure.



VDSL2

VDSL2 enables the global mass deployment of advanced triple play services and represents the ideal xDSL technology for eliminating last-mile bottlenecks. The VDSL2 30a profile provides up to 100Mbps downstream/upstream in bandwidth. However, the maximum loop length is only about 150m. It is a significant issue to broaden VDSL coverage and roll-out other bandwidth-driven applications.

Intense Competition

DSL operators are facing stiff competition from cable operators who use DOCSIS 3.0 technology to offer approximately 105Mbps downstream and 10Mbps upstream bandwidth packages. Internet packages including a higher bandwidth can increase ARPU (Average Revenue Per User) and a rapid ROI (Return On Investment) will remain a key objective for any investment that operators plan to make in infrastructure upgrades.

Pair-Bonded VDSL2

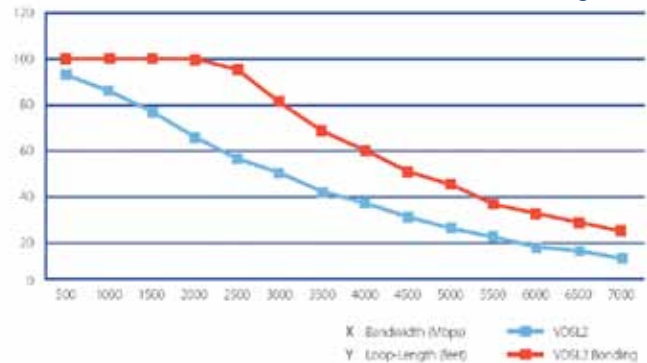
Pair-Bonded VDSL2 is great news for both DSL service providers and subscribers to DSL service solutions. It will increase both bandwidth and loop reach, thus extending the life of existing copper by increasing bandwidth to existing subscribers and offering high speed services to underserved areas.

Pair bonding, vectoring, and phantom mode allows for a substantial increase in Internet access over copper medium. Pair bonding allows for aggregation of two copper wires as one single line, while vectoring reduces the DSL line noise on the copper wire, and phantom mode is a way to piggy back a virtual third line onto an existing copper wire – all of which increases throughput and overall performance.

It is the best solution to help DSL operators to solve both the bandwidth competition and deployment coverage issues by upgrading the existing DSL infrastructure while reducing investments to a minimum.

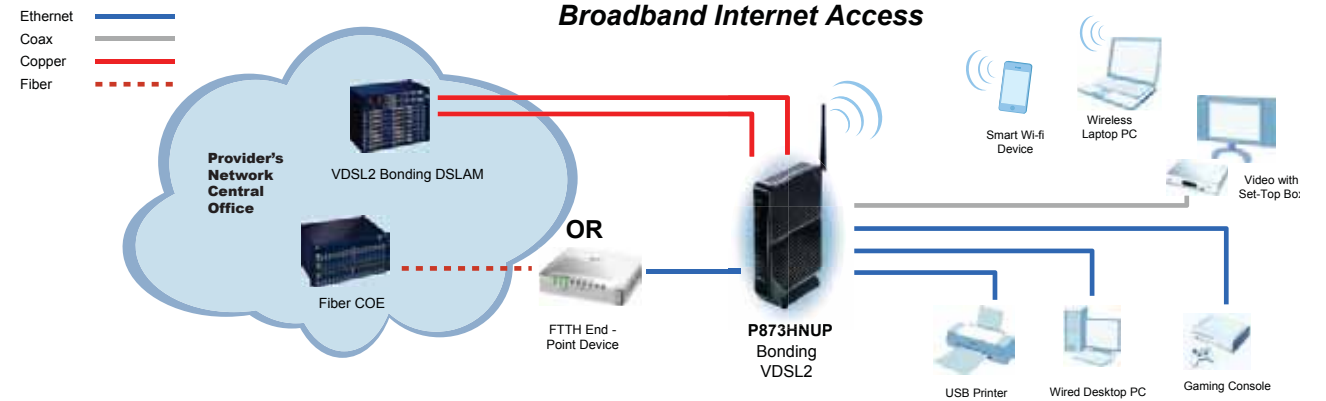
As Figure 1 indicates, pair-bonded VDSL2 can offer 100Mbps over up to 2000ft, 80Mbps over up to 3000ft and 50Mbps over up to 4500ft. It increases reach by an additional 1000ft-2000ft compared to single pair VDSL2 providing the same bandwidth.

Figure 1



Rate Reach of VDSL2 and VDSL2 Bonding

Application Diagram



Service Providers & VDSL2 Bonding

More than 46 countries worldwide have deployed VDSL2 as a broadband standard in their infrastructure (source: OECD Broadband Statistics, 2010). VDSL2 is playing an important role in the delivery of next-generation networking in the fiber access era. AT&T announced its new VDSL2 bonding service as a way to expand the AT&T U-verse service area to customers at longer loop lengths.

MTCO, a leading telco from Illinois, is determined to meet the growing subscriber demand for multiple HD TV streams with bonded VDSL2 technology. They believe that existing DSL technologies fall short due to bandwidth limitations and noise issues. With Bonded VDSL2, MTCO can resolve these issues and provide premium video services to households with multiple HD TVs as well as a choice of tiered high speed Internet service with "fiber-like" speeds. MTCO is getting ready to deploy ZyXEL's bonded VDSL2 gateways for their All Digital IPTV service.

"We are bullish on the demand for Bonded VDSL2," said Brian Kettman, Chief Technology Officer for MTCO. "It's the copper technology with fiber-like speeds needed to meet the demand for multiple HD television sets in the home."

Ready to Provide More Bandwidth

The ZyXEL pair-bonded VDSL2 CPE (P-873HNUP) provides five downstream HD video streams for IPTV or 3DTV applications; two upstream HD video streams for IP surveillance; one symmetric HD video conference application; one symmetric 3D gaming stream. It also has the capability to enable Smart Home applications including home energy management and home automation applications.

The ZyXEL pair-bonded VDSL2 CPE will take broadband access to the next level. It will leverage DSL technology and help service providers to offer a practical platform for user-centric bandwidth demanding applications. Service providers will be able to use the CPE of VDSL2 bonding with higher bandwidth meanwhile with ADSL fallback of longer reach to leverage the existing infrastructure in a variety of deployment situations to fulfill customers' needs.



ZyXEL



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Universal Access

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HomePNA HPCE3210-FE Ethernet over Coax Bridge

The HPCE3210-FE supports simultaneous video, voice and data services that enable a private network set up in a home utilizing existing coaxial cable. Network Ethernet-Interface devices such as IP STB (Set Top Box), PC's, Gaming Stations, IP Video Surveillance, HDTV's, Blu-ray Players, etc. The high speed of up to 320 Mbps allows Video-On-Demand (VOD) or Multimedia-On Demand (MOD) services.

Network Standards

- » HomePNA 3.1 over coax cable
- » ITU-T G.9954, IEEE 802.3, IEEE 802.3x, IEEE 802.3u

Connectors

- » Ethernet: Two RJ-45 ports
- » Coax: Two F-Type female connectors (one for HPNA/NET, one for TV)

Indicators - LED

- » 1 each: Power & HPNA Link
- » 2 each: Ethernet "Link/Activity" (LAN1 + LAN2)

Transmission Speed / Spectrum

- » Up to 320 Mbps PHY / up to 200 Mbps effective throughput
- » +2DBm/12 - 44MHz

Environmental Specifications

- » Operating temperature: 0° ~ 40°C (32° - 104°F)
- » Storage temperatures: -25° to 70°C (-13° - 158°F)
- » Humidity: 10 - 95% (non-condensing)

QoS

- » Tag VLAN pass through, synchronous MAC with full QoS support

Power Requirements

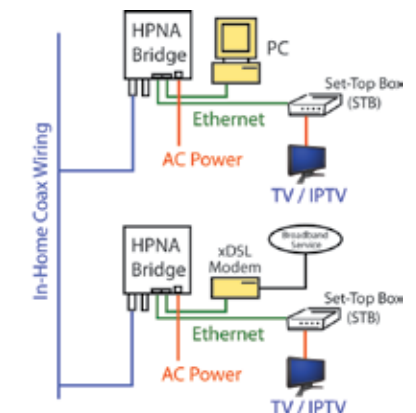
- » External power supply: 12VDC, Power consumption < 5 Watts

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Features and Benefits

- » Every coax jack can be a home network connection
- » Allows Ethernet devices to share broadband Internet access
- » Two 10/100M fast Ethernet ports to network, DSL/cable modem, router, switch, PC, IP STB (Set Top Box), IP gaming station, IP camera, etc.
- » Synchronous MAC with full QoS support
- » Backwards compatible with PREMIER 555-HPCE-322M and HPCE-422M



MAXIMIZING EXISTING ASSETS

with VDSL2 proves a winning strategy for Horizon

Copper, once considered the prime conductor, has seemingly lost its luster. Some industry experts predict its demise due to the phenomenon of fiber and its vast capacity to handle high-speed voice, video and data transmissions. Could it be the end for copper?

Not so fast, doomsayers! Innovative technologies – as if through powers of alchemy – have transformed the potential of copper, restoring its value and giving it a super-charged life. One example is the use of VDSL2 (very high-speed digital subscriber line), a powerful access technology that exploits the potential of existing copper wire infrastructure by dramatically boosting its bandwidth capabilities.

It means without having to lay so much as a foot of new line, local exchange carriers, such as Horizon in Southern Ohio, are able to offer the same Internet speeds and triple-play services as cable companies, while producing bandwidths that rival fiber.

“VDSL2 makes it possible for smart operators, like Horizon, to ‘future proof’ their copper customers,” explained Rick Hall, National Account Manager for Comtrend, the company that supplies the VDSL2 routers to Horizon via KGP Logistics. “It allows them to deliver high speeds without investing in fiber deployment.”

But there is some distance degradation over copper wire with VDSL2, and there’s the rub. Or is it? Another similar technology ADSL2+ (asymmetric digital subscriber line), can extend the effective distance of copper but with less bandwidth than VDSL2.

Horizon has deployed both technologies in a two-pronged strategy to offer residential customers in their local service area the best possible connections. Moreover, Horizon is able to use the same Comtrend router for ADSL and VDSL customers, because the device can switch between each.

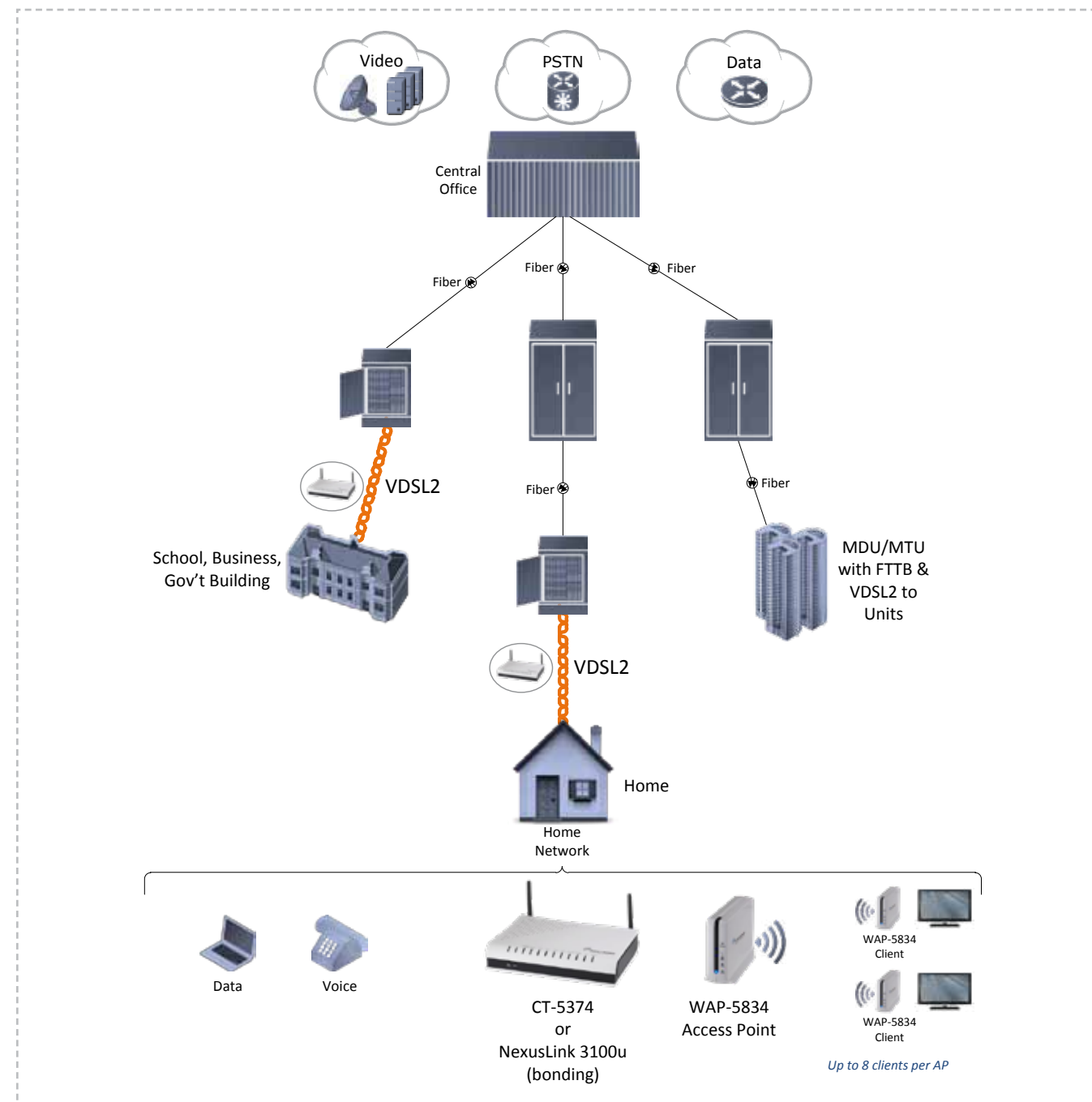
SOLVING THE SPEED-DISTANCE EQUATION TO PROVIDE CUSTOMERS THE BEST OPTION

Misty Tuttle, Broadband Services Manager for Horizon, said in regard to the VDSL2 conversion, “We currently have a take rate of 44% of customers and we’re upgrading other customers to ADSL2+. We utilize VDSL2 within close proximity to the box, and to get our reach just a little bit further, we’re going with ADSL2+. The CT-5372 (Comtrend router) is a great solution for us, because it’s one box that can serve dual purposes.”

The conversion process, at first, hit a few rough patches. “Customers don’t really like to change,” Tuttle admitted. “We’re putting new equipment in their homes and there’s a learning curve. But, all in all, the customers that we’ve converted are very happy with the quality of services they’re receiving.

“Our technicians have also found that things like the Comtrend ACS server – which is one of the main reasons we went with Comtrend – has been a fantastic tool in allowing us to provision customers quickly and to troubleshoot, which reduces our costs by not having to roll trucks all the time.”

“When first looking at our options with VDSL2 and ADSL2+ versus Fiber to the Home (FTTH), it made a lot more sense to



us to use the network already built. These technologies have allowed us to extend the life of our existing copper network,” Tuttle affirmed.

In conclusion, Tuttle indicated that Horizon is looking ahead at another possible upgrade in the near future to a bonded VDSL solution, which takes advantage of both wires in the

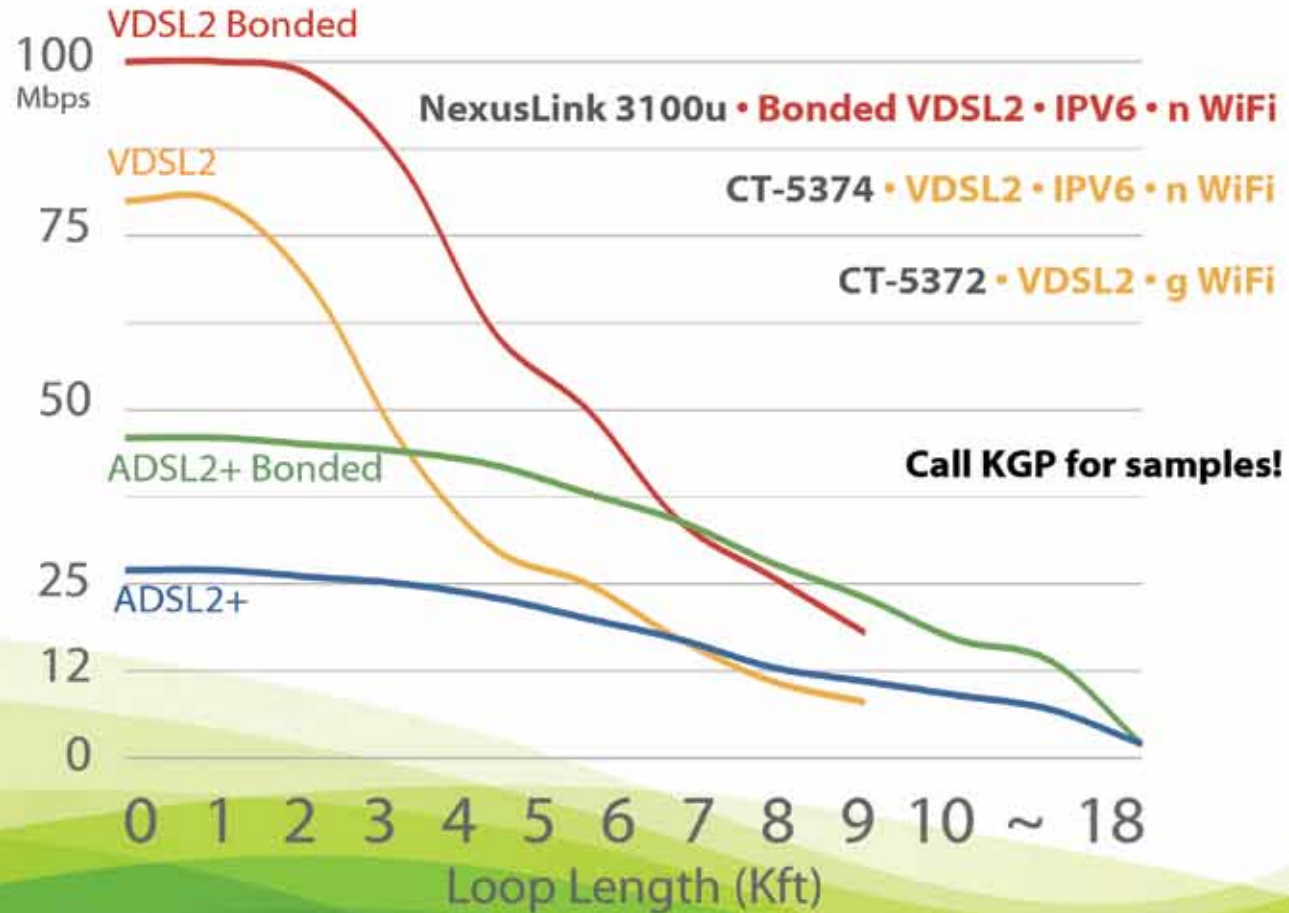
twisted pair to enhance broadband capacity even more. “We’re currently testing equipment that will help us stretch our footprint even further in order to anticipate and fill whatever needs our customers may have.” And Comtrend is ready having already released their next generation of VDSL gateways, the CT5374 and the Nexuslink 3100U.



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*Maximum initial battery pack voltage (measured without a workload) is 12 volts. Measured under a workload, nominal voltage is 10.8.

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- 3-speed all-metal transmission matches the tool to task for fastest application speed and improved run time



DCD940KX

18V 1/2" Cordless XRP™ Drill/Driver Kit

- 3-speed all-metal transmission matches the tool to task for fastest application speed and improved run time



DC720KA

18V 1/2" (13mm) Cordless Compact Drill/Driver Kit

- Compact size: allows users to fit into tight spaces
- Lightweight design (4.8 lbs.) minimizes user fatigue
- 1/2" ratcheting chuck reduces bit slippage
- Dual speed range 0-500/0-1,700 rpm delivers optimal performance



DC825KA

1/4" (6.4mm) 18V Cordless XRP™ Impact Driver Kit

- Frameless motor with replaceable brushes for extended tool durability and life
- Compact size and lightweight design allows user to get into tight spaces when performing applications



DC725KA

1/2" (13mm) 18V Cordless Compact Hammerdrill Kit

- Compact size: allows users to fit into tight spaces
- Lightweight design (4.9 lbs.) minimizes user fatigue



DCD930KX

14.4V 1/2" (13mm) Cordless XRP™ Hammerdrill/Drill/Driver Kit

- XRP™ extended run-time batteries provide long run-time and battery life
- LED worklight provides increased visibility in confined spaces



DCD939KX

1/2" (13mm) 14.4V Cordless XRP™ Hammerdrill/Drill/Driver Kit

- XRP™ extended run-time batteries provide long run-time and battery life



LITHIUM ION. LIGHTER WEIGHT. 18V DEWALT



DCD970KL

1/2" 18V Cordless XRP™ Li-Ion Hammerdrill/Drill/Driver Kit

- 3-speed all-metal transmission matches the tool to task for fastest application speed and improved run time



DC827KL

1/4" 18V Cordless XRP™ Li-Ion Impact Driver Kit

- Compact size and lightweight design allows user to get into tight spaces when performing applications
- 1,330 in.-lbs of torque



DCD760KL

18V 1/2" (13mm) Cordless Compact Li-Ion Drill/Driver Kit

- Lightweight design (4.0 lbs) minimizes user fatigue
- Dual speed range 0-500/0-1700 rpm delivers optimal performance



DCD775KL

1/2" (13mm) 18V Cordless Compact Li-Ion Hammerdrill Kit

- Lightweight design (4.1 lbs) minimizes user fatigue
- LED worklight provides increased visibility in confined spaces



DCK265L

18V Cordless Compact Li-Ion Drill / Impact Combo Kit

- DCD760 18V 1/2" compact drill/driver delivers 350 unit watts out of maximum power



CHOOSE BETWEEN KEEPING ENERGY CONSUMPTION DOWN AND KEEPING UP WITH CUSTOMER DEMAND...OR DO BOTH.

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KGP Logistics Item	Mfgr Part #	Description
ADTRAN		
Call KGP Logistics for Details		Total Access 1148V
Comtrend		
0000185647	CT-5372	VDSL2 Gateway, 802.11g, 4 Eth, USB Host/Client
0000282952	CT-5374	VDSL2 Gateway, 802.11n, 4 Eth, GigE FlexPort, USB Host
0000302396	NEXUSLINK-3100U	VDSL2 &/or ADSL2+ Bonded Gateway, 4 Eth, 802.11n, Gig FlexPort, USB Host
0000242369	WAP5834 Kit	Wireless IPTV Adapters, 1 Eth, 802.11n, WPS (kit of 2)
0000242370	WAP5834 Client	Wireless IPTV Adapter, 1 Eth, 802.11n, WPS - client only
0000302395	AR-5381u	ADSL2+ Gateway, 802.11n, 4 Ethernet, USB Client
Corning		Eclipse Hardware Family
0000093170	ECL-BAY-7	7 ft x 19 In Eclipse UDF Bay Frame
0000113683	ECL-C4U	Eclipse Conn Housing with Blank Panels
0000158701	ECL-CP12-D9	12F Panel Loaded w/6 SCAPC Dup Adapters
0000186762	ECL43112D9-C7001B	144 Fibers PreConnectorized Stubbed Hardware SC APC 100Feet Tail Ribbon Riser Cable
0000200361	ECL43112D9-W7001B	ECL Stbd Hdw Rack Mount ECL-C4U 144F SC APC Duplex SM 31M ALTOSRiser 1Stub Top Right Entry Raw End
0000233838	ECL-GEN3-U8-MH4U	Eclipse Hardware Gen 111 288 Module Housing Consist of ECL-C4U ECL-CP12-D9 ECL-CP-SCPARK and 9 ECL-UMB-MOD
0000113632	ECL-IBU-7-1	Interbay Storage Unit Front Management Only
0000157102	ECL-J1U	Eclipse Jumper Management Trough (1) rack Unit high
Call KGP Logistics for Details	EC124P12-D9-1RH2F0	Eclipse 1 RU 24 Fiber Housing, SCAPC Adapters, 1 Meter Tails
Call KGP Logistics for Details	EC248P12-D9-1RH4F0	Eclipse 2 RU 48 Fiber Housing, SCAPC Adapters, 1 Meter Tails
Dewalt		Dewalt XRP Tools
0000223232	DCD950KX	1/2" 18V Cordless XRP™ Hammerdrill/Drill/Driver Kit
0000230149	DCD940KX	18V 1/2" Cordless XRP™ Drill/Driver Kit
0000197602	DC720KA	18V 1/2" (13mm) Cordless Compact Drill/Driver Kit
0000352791	DC825KA	1/4" (6.4mm) 18V Cordless XRP™ Impact Driver Kit
0000285497	DC725KA	1/2" (13mm) 18V Cordless Compact Hammerdrill Kit
0000166247	DCD930KX	14.4V 1/2" (13mm) Cordless XRP™ Hammerdrill/Drill/Driver Kit
0000282014	DCD939KX	1/2" (13mm) 14.4V Cordless XRP™ Hammerdrill/Drill/Driver Kit
0000196886	DCD970KL	1/2" 18V Cordless XRP™ Li-Ion Hammerdrill/Drill/Driver Kit
0000278238	DC827KL	1/4" 18V Cordless XRP™ Li-Ion Impact Driver Kit
0000226274	DCD950VX	18V 1/2" (13mm) Cordless Compact Li-Ion Drill/Driver Kit
0000276983	DCD775KL	1/2" (13mm) 18V Cordless Compact Li-Ion Hammerdrill Kit
0000352792	DCK265L	18V Cordless Compact Li-Ion Drill / Impact Combo Kit
Emerson Network Power		E-Sure Rectifiers
0000284763	1R483200E	Rectifier R48-3200E -48VDC 3200W
0000353479	1R483500E	Rectifier R48-3500E -48VDC 3500W
0000353480	1R482000E	Rectifier R48-2000E -48VDC 2000W
PREMIER DSL Filters		
0000222933	PT-DSL-WMF-LT	xDSL over POTS Wall Mount Filter
0000188943	PT-DSL-ILF-T	xDSL over POTS In-Line Filter
0000188942	PT-DSL-ILF	xDSL over POTS Slim In-Line Filter
PREMIER HPNA Adapter		
0000227018	HPCE3210-FE	HPNA Ethernet over Coax Bridge
Preformed Line Product		
Call KGP Logistics for details		COYOTE® GLC

KGP Logistics Item	Mfgr Part #	Description
TE Connectivity		Rapid Fiber Panel
		24-position 1RU (1.75"H)w/dual 12-fiber 3mm plenum cable, MPO connector on end; 1 slide-in spool assembly; almond Singlemode; Chassis color: almond
Call KGP Logistics for Details	RCP-172PUExxx00	SC/UPC with singlemode reduce bend radius cable
Call KGP Logistics for Details	RCP-1K2PUExxx00	LC/UPC with singlemode reduce bend radius cable
Call KGP Logistics for Details	RCP-1J2PUExxx00	SC/APC with singlemode reduce bend radius cable
		Multimode 50/125 µm Laser Optimized to 300 meters (OM3); Chassis color: black
Call KGP Logistics for Details	RCPB-1T2PUMxxx00	SC with OM3 cable
Call KGP Logistics for Details	RCPB-1C2PUMxxx00	LC with OM3 cable
		1xxx=length in feet (M); 031=100 ft; 061=200 ft; 092=300 ft; 122=400 ft; 153=500 ft; 183=600 ft; 214=700 ft; 245=800 ft; 275=900 ft; 305=1000 ft
		72-position 3RU (5.25"H)w/dual 12-fiber 3mm plenum cable a reel, MPO connector on end; 3 slide-in spool assemblies; putty Singlemode; Chassis color: putty
Call KGP Logistics for Details	RCP-377PUExxx00	SC/UPC with singlemode reduce bend radius cable
Call KGP Logistics for Details	RCP-3J7PUExxx00	SC/APC with singlemode reduce bend radius cable
		Multimode 50/125 µm Laser Optimized to 300 meters (OM3); Chassis color: black
Call KGP Logistics for Details	RCPB-3T7PUMxxx00	SC with OM3 cable
		144-pos 3RU (5.25"H)w/2 dual 12-fiber 3mm plenum cables a reel, MPO connector on end; 3 slide-in spool assemblies; putty Singlemode; Chassis color: putty;
Call KGP Logistics for Details	RCP-3KAPUExxx00	LC/UPC with singlemode reduce bend radius cable
		Multimode 50/125 µm Laser Optimized to 300 meters (OM3); Chassis color: black
Call KGP Logistics for Details	RCPB-3CAPUMxxx00	LC with OM3 cable
		1xxx=length in feet (M); 031=100 ft; 061=200 ft; 092=300 ft; 122=400 ft; 153=500 ft; 183=600 ft; 214=700 ft; 245=800 ft; 275=900 ft; 305=1000 ft
		144-position 4 RU (7" H)w/dual 12-fiber 3mm plenum cable per reel, MPO connector on end; 6 slide-in spool assemblies Singlemode; Chassis color: putty
Call KGP Logistics for Details	RCP-47APUExxx00	SC/UPC with singlemode reduce bend radius cable
Call KGP Logistics for Details	RCP-4KAPUExxx00	LC/UPC with singlemode reduce bend radius cable
Call KGP Logistics for Details	RCP-4JAPUExxx00	SC/APC with singlemode reduce bend radius cable
		Multimode 50/125 µm Laser Optimized to 300 meters (OM3); Chassis color: black
Call KGP Logistics for Details	RCPB-4TAPUMxxx00	SC with OM3 cable
Call KGP Logistics for Details	RCPB-4CAPUMxxx00	LC with OM3 cable
		1xxx=length in feet (M); 031=100 ft; 061=200 ft; 092=300 ft; 122=400 ft; 153=500 ft; 183=600 ft; 214=700 ft; 245=800 ft; 275=900 ft; 305=1000 ft
ZyXEL Communicatons		
0000302522	P873HNUP	Bonded VDSL2, Wireless-N Gateway with built-in HPNA adapter (+ Gigabit Ethernet WAN)
0000294886	VSG1432	VDSL2, Wireless-N Gateway (+ Gigabit Ethernet WAN)
0000294887	VSG1435	VDSL2, Wireless-N Gateway with built-in HPNA adapter (+ Gigabit Ethernet WAN)
0000284152	HLN3105	HPNA over Coax – Adapters for IPTV
0000234312	NBG419N	Four Port 10/100 802.11N Wireless Router
0000285016	NBG4604	Four Port 10/100/1000 802.11N Wireless Router and TR-069 Management Support
ITW Linx from PREMIER		Surge Protection
000003418	M4KSU	M4KSU 4 outlet AC protection
9840177500	M8KSU	M8KSU 8 outlet AC Protection
9840187500	M8COM	M8COM 8 outlet AC protection, 4 lines, 1 LL/T1, 1 LAN line protected
9848247500	MCO4X4	MCO4X4 Protects four lines using RJ-11/45 connectors
9840197500	MC08110	Protects up to eight lines using two 110 punchdown input & two 110 punchdown on the output
0000135817	RM3400	12 outlet PREMIER AC surge protection, rack mount 1U

KGP Logistics Item	Mfgr Part #	Description
0000101137	UP3B-235	UltraLinx 66 Block Protector - 235V Clamp, 350mA Fuse, Indicator Lights
0000126485	UP3P-75	UltraLinx 66 Block Protector - 75V Clamp, 160mA PTC, Indicator Lights
0000143847	UP3P-39	UltraLinx 66 Block Protector - 39V Clamp, 160mA PTC, Indicator Lights
0000110445	UP3P-235	UltraLinx 66 Block Protector - 235V Clamp, 160mA PTC, Indicator Lights
0000213906	MMS362P	Minuteman MMS362P has 6 outlets, 241 Joules, 600 Clamping Volts, 3-ft. cord and 2 Year Limited Warranty 2 units to a pack
0000199445	MMS370T	Minuteman MMS370T has 7 outlets, child safety covers, RJ11, 1440 Joules, 330 Clamping Volts, 6 foot cord and \$75,000 Connected Equipment Warranty
CyberPower from PREMIER		Uninterruptible FTTH Power Supplies and Battery Back Up
0000172742	CS16U48V-8	CyberShield DC Power Supply Indoor 48-volt 16-watt DC Output with 8 amp-hour Battery
0000126710	CS24U12V	CyberShield DC Power Supply Indoor 12-volt 24-watt 7.2 amp-hour Battery 2-Prong Power Cord Floating Ground
0000212078	CS24U12V-NA3	CyberShield DC Power Supply Indoor 12-volt 24-watt 7.2 amp-hour Battery with 3-Prong Power Cord Floating Ground
0000241456	CS24U12V-NA3-G	CyberShield DC Power Supply Indoor 12-volt 24-watt 7.2 amp-hour Battery with 3-Prong Power Cord Earth Grounded
0000160648	CS24C12V2-E	CyberShield DC Power Supply Outdoor 12-volt 24-watt 7.2 amp-hour Battery
0000172744	CS24U12V-12	CyberShield DC Power Supply Indoor 12-volt 24-watt DC Output with 12 amp-hour Battery
0000172746	CS24U12V-XL	CyberShield DC Power Supply Indoor 12-volt 24-watt DC Output with Extended Life 7.2 amp hour battery
0000172747	CS30U12V-20	CyberShield DC Power Supply Indoor 12-volt 30-watt DC Output with 20 amp-hour Battery
0000160649	CS50U48V	CyberShield DC Power Supply Indoor 48-volt 24-watt 17 amp-hour Battery
0000196242	CS75A12V3	CyberShield DC Power Supply Indoor 12-volt 75-watt 20 amp-hour Battery
PREMIER		Power Wire (use to connect DC power supply to ONT)
0000146379	92151A.38.17	7 Conductor Beige w/CMX Rated Outer Jacket. Wire Consists of 2 Stranded 16 Gauge Wires Red/Black and 5 Stranded 24 Gauge Wires Blue Green Orange Brown and Gray. 500 foot Reel Used to connect ONT to Power Supply
0000156503	92282.38.10	8 Conductor Beige with a CMX Rated Outer Jacket. Consists of 2 Strand 12 Gauge Wires Red/Black and 3 Pair Strand 24 Gauge Wires Blue/White Green/White Orange/White. Wire Has an Overall Shield and Drain Wire. 500 Foot Reel
Minuteman from PREMIER		Uninterruptible Power Supplies/Stand by UPS
		Stand By UPS
0000174984	EN400	EnSpire 400VA/200 watt stand-by UPS, wall mountable, 6 outlets
0000174983	EN600	EnSpire Series EN600 - 600VA/ 300 Watts Stand-By UPS, Wall Mountable, 6 Outlet
0000232866	EN750	EnSpire 750 VA Stand-by UPS with 8 outlets
0000232867	EN900	EnSpire 900 VA Stand-by UPS with 8 outlets
Minuteman from PREMIER		Line-Interactive UPS
0000076068	PRO-500E	500VA/350W 120 VAC Line-Interactive UPS 4 battery backup/surge outlets, 2 surge-only outlets, USB and RS232 communication ports & RJ45/RJ11 network/modem surge protection
0000076069	PRO-700E	700VA/490W 120 VAC Line-Interactive UPS with 4 battery backup/surge outlets, 2 surge-only outlets, USB and RS232 communication ports & RJ45/RJ11 network/modem surge protection
0000076066	PRO-1100E	1100VA/770W 120 VAC Line-Interactive UPS with 6 battery backup/surge outlets, USB and RS232 communication ports & RJ45/RJ11 network/modem surge protection
0000076067	PRO-1500E	1500VA/1050W 120 VAC Line-Interactive UPS with 6 battery backup/surge outlets, USB and RS232 communication ports & RJ45/RJ11 network/modem surge protection
0000187212	ETR500	Entrust 500 Line Interactive UPS With 8 Outlets 3 year warranty SentryPlus software included with all models
0000187213	ETR700	Entrust 700 Line Interactive UPS With 8 Outlets 3 year warranty SentryPlus software included with all models
0000187374	E750RM2U	Enterprise Plus 750 VA Line Interactive Rack/Wall/Tower UPS with 6 Outlets
0000187366	E1000RM2U	Enterprise Plus 1000 VA Line Interactive Rack/Wall/Tower UPS with 6 Outlets
0000187368	E1500RM2U	Enterprise Plus 1500 VA Line Interactive Rack/Wall/Tower UPS with 4 Outlets
0000187370	E2000RM2U	Enterprise Plus 2000 VA Line Interactive Rack/Wall/Tower UPS with 6 outlets
Minuteman from PREMIER		On-Line UPS
0000172528	ED1000RM2U	1000 VA 800 watt on-line UPS
0000172529	ED1500RM2U	1500 VA-1200 watt on-line UPS

ITW Linx from PREMIER cont.

the

DOWNLOAD



KGP Logistics Website – www.kgplogistics.com

Our website has many features that help you manage your business more efficiently.

Order Status Feature

From Home Page »

Enter your Username and Password and click on Login. This will take you to the Welcome page or Select Account page depending on your account setup. As an option, you can use our No Login Order Status feature. However, you will not see pricing, billing address or view line level or container detail. You must also know the account number on which the order was placed.

From Select Account Page »

If you have access to more than one account, the Select Account page presents those accounts. Simply select the account you wish to use and click the Select Account button. You will be taken to the Welcome Page. If you only have one account with KGP Logistics, you are taken directly to the Welcome page after logging in.

From Welcome Page »

Click on Order Status from the left-hand navigation. You will be taken to the Order Status landing page.

From the Order Status Landing Page »

If you enter your purchase order number and click continue, you are taken directly to the Order Status Details page. If you choose from the other available search options, you are presented with the Order Status Results page where you can choose the Purchase Order you wish to view.

From the Order Status – Search Results Page »

Under Order Status you may see the following types:

- Closed** – All items on the purchase order have shipped complete and invoiced.
- Partial** – Some of the items have not shipped.
- Open** – Typically a new order where none of the items have been shipped.

Choose the order you wish to review. Clicking on the Purchase Order # will take you to the Order Status Details page. Clicking on the word "Track" under Shipment Details will take you directly to the Shipment Details page.

Order Status Details Page »

This page is divided into 3 distinct areas:

- Header** displays Order Summary information, Billing and Shipping Addresses.
- Line Level Detail** displays each item on the order along with the current processing status.
- Footer** provides additional details about the order if the information was entered when the order was placed.

If you are interested in more information or would like a live demo, please contact your KGP Logistics sales representative.



BUILDING THE RAPID NETWORK

Accelerate your fiber installations! TE Connectivity's RAPID fiber product portfolio combines innovative microcable and RapidReel fiber spooling technologies with industry-leading cable management and MPO connector technology to dramatically change how fiber is deployed throughout the network.



Scan the QR code with a smart phone to view a demonstration video

Introducing the RAPID Fiber Panel

An innovative new way to add fiber capacity quickly and economically.

The RAPID fiber panel, with its RapidReel internal fiber cable spool, combines an intermediate distribution panel with up to 200 ft. of fiber cable mounted inside.* Installers simply pay-out the precise length they need and terminate to a high performance multi-fiber push-on connector (MPO) at the optical distribution frame.

The panel saves space, provides built-in slack storage and significantly reduces installation time and labor costs. In fact, compared with traditional installation practices, the total cost per installation can be reduced by as much as 25%. The Rapid fiber panel helps:

- Simplify site survey inspections
- Reduce installation and engineering time
- Reduce cable congestion and slack storage issues
- Simplify product selection and ordering
- Shorten product lead time



Available in 1RU, 3RU and 4RU configurations

* Available in 100' increments up to 1,000

FOR MORE INFORMATION VISIT US AT te.com/rapid

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ADC is now TE Connectivity



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66031-8000



UP & COMING

TRADE SHOWS

National Trade Shows

- | | |
|-----------------|--|
| September 13-14 | Outside Plant (OSP) Expo |
| September 18-22 | BICSI Fall Conference |
| September 28-30 | Fiber-to-the-Home (FTTH) Conference |
| November 15-17 | Society of Cable Telecom Engineers (SCTE) Cable-Tec Expo |

Regional Trade Shows

- | | |
|-----------------|---|
| August 9-11 | Tri State Telecommunications Conf (WY, ID, UT) |
| September 7-8 | Illinois Telephone Association (ITA) Fall Vendor Showcase |
| September 29-30 | Oregon Telecom Association (OTA) CO & IT Seminar |
| October 10-12 | Wisconsin Telephone Association (WSTA) |