Keeping Connected

By Sara Waddington, Editor, SCTE Broadband Journal

Amphenol Broadband Solutions' General Manager, Josh Hirschey, outlines its support to customers during the COVID-19 crisis and explains how it is positioning itself to meet current and future market demands.

Amphenol Broadband Solutions is a leading global player in the manufacturing and engineering of interconnect RF & optical products, as well as solutions across the entire spectrum of broadband network topologies (wireless, copper, fibre and satellite) for broadband and wireless telecommunication service providers. Headquartered in Wallingford CT, USA, it sells products into forty countries and over 200 service providers. It has also provided training to these companies with over 15,000 broadband technicians trained in 2019 alone.

With strategic manufacturing and distribution locations around the world, including manufacturing facilities in North America, Europe, Asia and Latin America, Amphenol Broadband Solutions also offers hardware, design and inventory management solutions, along with training and deployment programmes. Its focus is on delivering solutions for every part of today's advanced networks for operators across the globe.

Broadband Journal spoke to ABS General Manager, Josh Hirschey, to understand how it is supporting its customers during the COVID-19 crisis and how it is positioning itself to meet current and future market demands.

Josh Hirschey, General Manager, ABS

BBJ: Please give us a brief background of Amphenol Broadband Solutions (ABS).

JH: Amphenol Broadband Solutions (ABS) is a leading RF and optical solutions provider which supports global broadband operators. It is a division of Amphenol Corporation, a global Fortune 500 US$ 8-billion leading diversified interconnect manufacturer, which has been in existence for over 80 years. Our Broadband division was formed as part of an organic and acquisitive process starting with the Times Fibre Communication (TFC) business, which had become part of Amphenol in the early 1990s. TFC was an early coaxial cable

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manufacturer supporting the cable TV/broadband industry and fledgling cable TV operators and pioneers.

As our customers have continued to diversify their networks and provide different types of services, we have also continued to broaden our portfolio to support their network demands. As part of that, we have completed numerous key strategic acquisitions of companies with the technologies and footprints that we need to support our customers and their networks. So, we have grown our portfolio of products and our manufacturing and supply footprint both organically, by developing new products, and through acquisition. We now have a globalised manufacturing footprint of end-to-end RF and optical broadband solutions, with localised sales and technical support.

As a corporation, Amphenol has 75000+ employees globally. Our broadband division employs around 2500 people.

BBJ: Please outline any recent successes or achievements and the reasons for these?

JH: One key success is the broadening of our global product offering and supply footprint to support customer growth and demand. We are a worldwide company supplying global operators, in terms of technology and production and distribution capability to support their network expansion efforts. We manufacture and distribute products in the U.S.; Brazil; Mexico; Canada; Asia (including China, Vietnam and Korea) and Europe (UK and Eastern Europe) within the broadband business. Across the greater Amphenol business, we can piggyback on 130 factories worldwide to support customers.

Amphenol Broadband Solutions, Livermore, California field office

During the last year, we opened a new factory in Ho Chi Minh city (manufacturing RF products, coaxial cable and fibre optic products) to broaden our footprint in the APAC region. This gives us two capabilities: a lower cost production centre to add to our capacity and it also helps us with tariff issues. We broke ground in Vietnam in April 2019, started production in October 2019 and continue to expand capacity there.

Another success is our growth through organic product development and strategic acquisition. We have been a long-term supplier of RF passives in the broadband space e.g. amplifiers, splitters, filters etc. For many years, we worked with strategic partners in Asia. One of our strengths is to vertically integrate and control our manufacturing footprint and capability to support customers and add value so, in early 2019, we acquired Kopek Industries (a passives manufacturer) to allow us to broaden our portfolio in this key product segment.

We actively try to expand our product offerings to meet customers’ network needs. As our customers push their technologies deeper into the network, to meet demands such as Remote PHY and node deeper, we wanted to be able to support the infrastructure of the outside plant to give them greater processing power and technology. We therefore brought Charles Industries into our group in April 2019, a leader in outside plant infrastructure solutions such as cabinets and pedestals which support copper and fibre optic networks.

We also try to localise product supply and support. Our Wellingborough test lab in the UK is a prime example of that. We acquired a company in mid-2000 in Wellingborough which manufactured antennas for wireless networks (base station

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antennas) for large UK and European wireless providers. Today, we heavily support Virgin Media and Liberty Global from that location (from an inventory perspective). We also wanted to provide more capability around product development and product testing to support the European market, so we have expanded our test lab there.

In 2019, we saw growth in a number of key areas of capacity and install capacity. First, in our fibre optic product line we experienced great demand for our xWDM products which allow operators to add capacity across their existing fibre footprint. We have also seen massive growth in demand for our self-install kits (SIKs). We have been a long-time supplier of SIKs for the broadband industry – we were one of the first suppliers in this space, and one of the largest. Home installation is one of a service provider's greatest OPEX items and it makes sense if, instead of sending a technician to a home, consumers could file an order for a service package (whether broadband, triple play etc.) and the equipment would come in a package including CPE hardware, passives, coaxial assemblies and cabling (including instructions on how to do it yourself). We started doing these kits 10-15 years ago in North America and our customers are using these more and more to drive OPEX savings. We have expanded this into Europe over the last few years.

BBJ: COVID-19 is having a huge impact on global broadband markets. What are your views on the business climate for global broadband professionals for the rest of the year and into 2021?

JH: COVID-19 is creating a huge demand on broadband networks, particularly in the upstream, driving capacity expansion needs. Right now, all of us are focused on supporting service providers and operators to keep the general population connected. We have shifted a lot of our short-term focus onto our self-install kits (the SIK programme) for broadband and triple play services. There is much more demand now for our SIK kits as operators register concern about sending technicians into people's homes, in a time of quarantining and social distancing. A lot of our customers have shifted into an almost 100% self-installing environment via the packs. We have therefore expanded this SIK programme rapidly to help give our customers the ability to continue to do these greatly needed installations in a safer environment.

We have also focused on our xWDM offerings for network capacity expansion, which allow operators to quickly get more out of their embedded footprint. xWDM technologies allow operators to quickly expand capacity on existing fibre infrastructure whilst minimising new construction.

There has also been increased demand for our online training with over 95K YouTube views on our training videos. We currently train over 10,000 technicians every year and have a dedicated online training portal which offers classroom product training as well as webinars and remote training. Our web training offers video tutorials and quizzes, with more in-depth topics divided into course progressions. Coming out of the crisis, I think the emphasis will still be on doing more things virtually as well as being more dynamic.

In terms of how the crisis has affected us as a company, when the outbreak happened we were focused on two things. Firstly, keeping our employees safe and creating safe manufacturing environments and, secondly, on how to keep supporting our customers. We worked very hard to create safe working environments for our employees (checkpoints, spacing, PPE etc.). We have also continued to support our customers in what is an extremely challenging and dynamic environment. Our front-line staff and employees have really stepped up to keep things moving and we are exceptionally proud of them and what they have accomplished to continue to supply what is an essential industry.

250TPA08 fuse panel

The industry is cyclical where there are large investments as the operators maximise functionality. Over the last few years, we have seen operators position themselves to go to the next level of investment (the 10G initiative and much higher bandwidth demand and the right product offering i.e. Remote PHY or extended spectrum), but they need to address the investment cycle. We believed that this year they would start investing again and we have seen some of that but, obviously, the COVID-19 situation means that everyone has had to start re-positioning to support the general shift in demand and firefight to ensure that this rapid and dynamic customer bandwidth demand is being met. The technology upgrades take second place to this, although they are still being driven forward but at a potentially different pace. We expect to see greater growth as we get through this crisis and 10G and fibre-deep are pushed forward.

This period will pass and we need to make sure, as an industry, that we continue to support technological growth and demand. I think, if anything, this COVID-19 crisis has shown the importance of broadband networks. We are so proud to help support service providers who are out there keeping networks up and running and giving people the ability to stay connected and continue to work, study and stay in touch with their loved ones.

BBJ: Which issues are of prime importance for your customers and how are you addressing these issues for them?

JH: Many of our customers are moving away from head-ends to nodes located closer to the customer. Our product portfolio is geared to this need. We also see an increasing speed (10G) initiative to combat fixed wireless broadband and greater co-existence of wireline and wireless networks (quad play) as service providers adjust their strategic approach. Larger pipes are needed to service increased consumer demand.

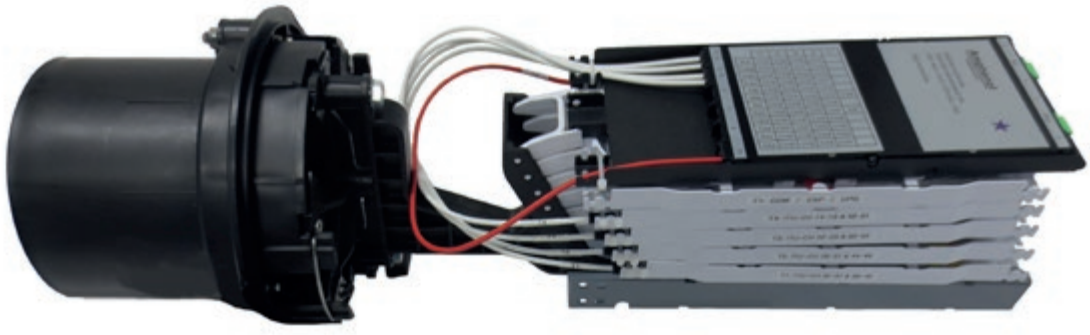
We continue to support frontline network technicians with products and education. A lot of our training content covers our specific products as well as general broadband and cable topics (such as bonding and grounding, installation etc.). We offer online content and specific portals for specific customers, depending upon their needs. We also have a dedicated training team that travels to customers to give onsite training. In the COVID environment, we cannot do in-person training so our online portals still offer training in a safe environment. Our training portal can be accessed at **https://training.amphenolbroadband.com**

Virtual service demand will continue to increase in the future, especially in today's environment.

BBJ: What is your strategic and technical focus/vision over the next few years?

JH: We will continue to expand our end-to-end solutions to support customers as their demands change and grow. We have expertise in both RF and optics, allowing us to serve the needs of customers who have HFC networks. Operators need to expand their capacity and meet increased bandwidth/frequency needs and demands. We will continue to focus on getting more from deployed infrastructure, including RF to optic transitions.

There are two major trends that we see – operators/service providers want to get more out of their coaxial/RF networks and they want to continue driving fibre and processing power deeper into the networks. We have tried to ensure that our portfolio is positioned to meet these needs and we have worked hard to expand our passive capacity to 1.2GHz, 1.8GHz and even 3GHz capability to allow them to get more out of their existing networks. We have also been active in developing fibre solutions (xWDM and fibre deep solutions) to help operators.



C2 AOM OSP MUX FOSC

We are also working towards more integrated approaches including ISP, OSP and Customer Premises, and we see the need to leverage a single network to serve the needs of both business and residential customers. We work hard to ensure that our products continue to evolve to be higher bandwidth as well as giving customers the products and tools to drive fibre deeper.

BBJ: Which trends do you see developing in global broadband markets?

JH: I see several trends:

a) Maximising coaxial network by increasing frequency.

b) Pushing fibre deeper into the network.

c) Data privacy and security.

d) More functionality closer to the customer i.e. Remote PHY/ Edge computing.

e) Moving towards "Smart Communities" and IOT/network demand.

We are focusing more and more on functionality out in the plant (whether Remote PHY, extended spectrum and/or edge computing). We are a major supplier and technology partner on xWDM (which allows operators to do more with the fibre that they have in the ground) but it also means that we can do more with the outside plant (high-density fibre management solutions, cabinetry/equipment for harsh environments etc).

BBJ: How do you see the development of key technologies, such as 5G and fixed wireless (broadband over the air), in the future?

JH: The ubiquity of 5G will be enabled by deep fibre deployment. 5G is a disruptive technology which is also complementary. The IoT is enabled by both 5G wireless as well as broadband wireline networks.

It is difficult to pinpoint exact timing for new technology investment right now in these challenging times. We have been anticipating the arrival of 5G for some time and have started to see deployments over the last year. We expect 5G deployments to continue to ramp up over the next few years. The capability set is going to be needed and the demand is there on the network to be able to support 5G. We are working with operators and service providers to ensure that their networks are capable of supporting the huge bandwidth demand that comes with 5G.

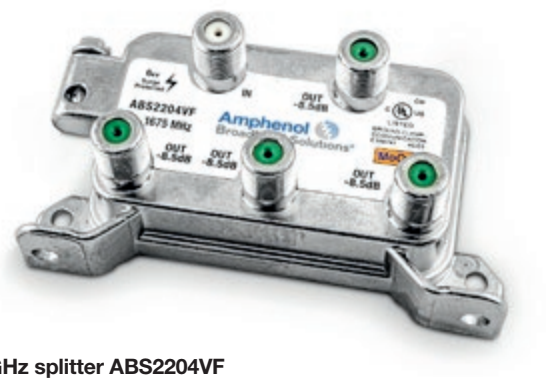
More and more of our customers are merging and becoming quad play providers, especially in Europe, offering fixed broadband and wireless broadband (e.g. Vodafone etc.). This makes sense because the consumer will want bundled services from one service provider. Having the fixed network support the wireless network will be key in the future. Whether it is a broadband provider rolling out a 10G initiative, a wireless operator rolling out 5G or a quad play operator rolling out both, the common denominator is that they will need more bandwidth on their network to support these services.

BBJ: In view of exhibition postponements and delays, because of the COVOD-19 outbreak, what strategy are you following to get your products in front of customers this year?

JH: This has been a key topic of conversation for us. We need more clarity on which shows will go ahead and which will be postponed or cancelled. Certainly, we feel that there are strong online and virtual solutions out there.

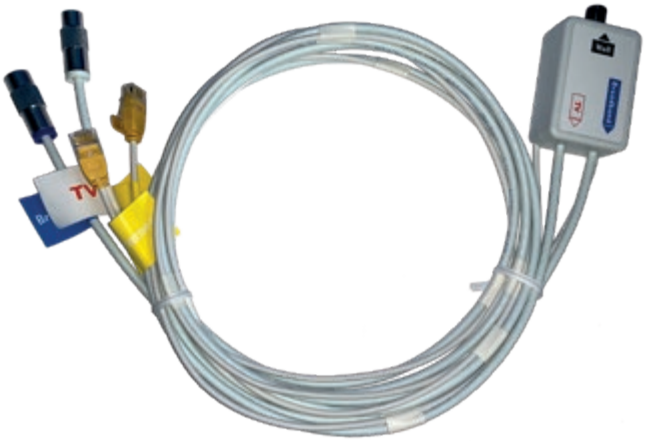
We have focused on trying to be creative about getting our technologies in front of our customers in an environment where we cannot travel or be with them safely. We are doing more and more webinars – this also holds true for our training. We are doing personalised and direct technology overviews to specific customers, as well as more broad-based webinars on

1.2GHz splitter ABS2202H



1.2GHz splitter ABS2204VF

SIK 1 self-install kit



SIK 2 self-install kit

new technology rollouts. Online webinars, online training, social media and more virtual capabilities are key for us right now.

BBJ: Have you launched, or are you, launching any new products this year? Please give details.

JH: We work very closely with customers on developing each of our products, developing partnerships to ensure that our technology meets their needs.

Last year, we launched a self-install kit (SIK) for Liberty Global which is a highly integrated push-fit solution for home subscribers, to simplify home-installation. We are also launching a line of 1.2Ghz splitters and a next-generation splitter, ready for DOCSIS 3.1, as well as a Pedestal to ensure proper heat dissipation for Remote PHY Nodes.

We plan to launch a new line of 250TPA08 fuse panels this year (8x8, 9x9, 10x10 and 15x15) to continue to support greater operator power demands, as well as a range of next-generation connectors to continue to drive easier installation and greater long-term performance in the network. We continue development of higher density solutions in our fibre management footprint with our C2 AOM OSP mux and fibre connectivity product lines.

Overall, we are talking to service providers worldwide about how they can get more out of their RF interconnect, while also focusing on helping customers to drive fibre deeper into the network. This really allows them to both maximize their current HFC architecture while planning for future network demand needs.

BBJ: Are there any new initiatives (domestic or international) that you would like to highlight?

JH: We are trying to accomplish two major initiatives with our customers. One is to continue to give them an end-to-end solution portfolio that takes into account the RF and optics that they are driving, so we are always looking for ways to grow organically and through acquisition and to continue to develop and extend our portfolio.

Secondly, we want to provide a global support structure but in a localised way (i.e. in the UK by expanding R&D and testing that is specific to the European market) and constantly adding manufacturing capability for local support. We have the necessary financial backing as part of the greater Amphenol Corporation to accomplish this and make these investments and expansions.

BBJ: Is there anything else that you would like to add?

JH: We are very excited about the way that the industry continues to grow and develop. We are very bullish about the market and see strong opportunities over the next few years. In the short term, we are all dealing with the COVID-19 crisis scenario and we want to continue to support our customers to safely stay connected.

I couldn't be more proud of our team in how they have continued to support the industry in this extremely challenging time.

BBJ: Thank you for your time.

For further information, see www.amphenolbroadband.com/contact