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For a global industry, electronics distributors are notoriously difficult to categorize. With the advent of e-commerce, catalog distributors re-named themselves “high-service” distributors since many no longer published paper catalogs. Non-authorized distributors that objected to the term “brokers” referred to themselves as “independent.” But in many parts of the globe, these monikers are not the primary concern. Buyers just want parts – as former distribution executive Rob Rodin put it – “Free, Perfect and Now.”

Increasingly, the global supply chain is making room for all types of distributors. Each has a unique strength. Catalog distributors specialize in high-mix, low-volume orders with expedited delivery. Authorized distributors are the most trusted source of devices shipped directly from suppliers’ factories. Independents, which are not authorized by suppliers, have a lot of discretion on the lines they carry and the prices they charge. And now, independents that have added franchises call themselves “hybrids.”

Electronics supply chain publications have had a hard time ranking these companies in a manner that reflects the reality of global procurement. No single type of distributor can provide all the products and services demanded by suppliers and customers. OEMs and EMS providers want contract and open-market pricing. They want to return 100 percent of unused products. Suppliers want distributors to promote, or create demand, for their products. But distributors do not have the resources to accommodate all suppliers.

Authorized distributors prefer not to be ranked alongside independents. Top-tier independents that have adopted stringent quality and ethics practices differentiate themselves from brokers, which have been known for price gouging and trafficking in counterfeits. On a personal note – as a veteran who has covered the distribution industry for longer than I’d like to admit – “high-service” to me implies there are distributors that specialize in low service.

With the 2018 Top Global Distributors package, the combined resources of EPSNews and EBN have tried to reflect the distribution industry as buyers see it. There is now a new category of distributors to include: independents that have added franchised lines. These hybrid distributors must go through stringent auditing processes to receive a suppliers’ authorization. The Top Global Distributors list includes hybrids. Wherever possible, our team has asked for the percentage of sales that are derived from authorized and non-authorized sources.

We have also broken out a list of top independents. Many of these businesses have made a conscious choice to not seek franchises because it gives them maximum flexibility on sourcing, pricing, and where geographically they can sell. Although independents have in the past been known to sell counterfeit components, top-tier independents stringently test devices, adhere to local and global quality standards, and are transparent on pricing. Executives at these companies have purposely established or raised their business standards to become trusted partners in the supply chain.

As electronics supply chain publications, EBN — being one of the oldest in the industry — and EPSNews are committed to providing high-level information to the procurement and supply chain communities. We believe this requires changing the way we rank and qualify companies. This special report marks the first time we’ve ranked global — including hybrid and independent distributors — along with the EPSNews branded Top 50 Franchised North American distributors. We welcome your readership and your feedback on how we might improve our rankings going forward.

Barbara Jorgensen
Managing Editor, EPSNews
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Top Global Distributors: Riding the Wave; Wary of the Trough

By Barbara Jorgensen

The global electronics distribution industry entered 2018 firing on all cylinders. Component shortages in 2017 meant demand and pricing would remain firm for the coming year. But not even midway through the year the supply chain hit a bump in the road: components were becoming so scarce that customers began to fear their rosy 2018 growth forecasts would stall.

“We have not missed deliveries yet, but we are on the edge,” said George Whittier, COO at manufacturing and engineering services provider The Morey Corp. Morey’s customer base includes leading automobile manufacturers and Fortune 500 companies. “Shutting down one of our customers because we can’t get resistors won’t go over well,” Whittier said.

Global Distributor Sales Rise 13% in 2017

<table>
<thead>
<tr>
<th>Year</th>
<th>Sales ($ billions)</th>
</tr>
</thead>
<tbody>
<tr>
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<td>81.6</td>
</tr>
<tr>
<td>2017</td>
<td>92.8</td>
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Global sales for the top 25 distributors rose 13 percent, climbing to $92.8 billion in 2017 from $81.6 billion in 2016.

Source: EPSNews

During the first calendar quarter of 2018, distributors’ revenue grew between 4 percent to more than 20 percent. The channel hasn’t seen double-digit growth rates for quite some time.
The top 25 global distributors grew their sales 13 percent in 2017, reaching $92.8 billion.

The world’s largest electronics distributor, Arrow Electronics Inc., reported first-quarter 2018 sales of $6.88 billion, an increase of 20 percent from sales of $5.74 billion in the first quarter of 2017. WPG Holdings, the largest electronics distributor based in Asia, reported sales in May increased by 14.4 percent over the prior year in local currency. WPG’s year-to-date consolidated sales increased by 12.5 percent in U.S. dollars.

Global distributors have expanded their sales through innovative products and services. But demand across multiple industries has been the leading growth factor in 2017 and 2018.

The automotive industry is using more electronics than ever; the IoT is hitting its stride; WPG cites AI and the cloud as growth markets, and the list goes on. Independent distributor Fusion Worldwide has seen a 50 percent increase in requests for GPUs related to demand for graphics cards.

Distributors have innovated, but a global component shortage is pushing inventory out distributors’ doors. The industry, according to distributor Future Electronics, “is facing a severe and unprecedented shortage of capacitors, resistors, and power inductors. According to many franchised suppliers, these shortages may continue unresolved for the foreseeable future, creating tremendous uncertainty in the market and instability in supply chain. MOSFETs, diodes and transistors in popular package types are increasingly constrained as well.”

There’s a segment of the industry, and a number of analysts on Wall Street, that are skeptical that not all demand for components is real.

In a recent research note on passives manufacturer Kemet, Stifel analyst Matthew Sheerin noted Kemet’s management “believes the current strong cycle has legs due to multiple demand drivers in the next few years. That said, we point to two concerns: the distribution book-to-bill was 1.63, which implies double ordering; and the capacity expansion at [Kemet] and across the industry should reduce lead times and bookings sometime next year.”

Distribution’s primary role in the supply chain is to be an inventory buffer. In times of shortages and allocation, distributors leverage their supplier relationships for more inventory. As of Q1, distributors reported they had adequate inventory to meet their customers’ demand, but many were turning away new orders for allocated components.
“Q1 inventory levels across the supply chain hit a 10-year-high on continued tight supply of certain components and strong demand,” according to Stifel’s May 9 Q1 2018 Inventory Tracker.

“On a dollar basis,” Stifel said, “inventory was up 6 percent quarter over quarter vs. a typical increase of 3 percent. Revenue was down 7 percent quarter over quarter and down 10 percent on average. June-quarter sales guides appear to be seasonal or better, while component shortages continue in memory and electronic components (capacitors, resistors, diodes, etc.).”

![Global Sales Reach $63.8B](chart)

Average selling prices have increased, which is also buoying distributors’ sales. However, said Andy King, president of global components for Arrow, growth has been bolstered by units shipped out the door.

“We've seen some ASP increase, but the vast majority of the growth is coming from units shipped out the door, candidly,” King said during Arrow’s Q1 2018 conference call. “And we continue to sort of see that being the big driver of the upside that you see in the actuals and in the forecast. I don't see that changing any time soon, as [CEO Mike Long] pointed out. The lead times, if anything, are hardening in those areas, not softening. So, we'll continue to see, I think, those trends.”
Prices for DRAMs, except for graphics applications, have increased by 3 percent to 6 percent in Q1 2018, according to DRAMeXchange, a division of TrendForce, resulting in a 5.4 percent increase in global DRAM revenue. Graphics DRAMs experienced the largest price hikes, increasing by 15 percent in Q1.

Future Electronics, which has always maintained high levels of inventory, has taken significant steps to help customers survive the ongoing global supply crisis in capacitors and related passive components. “We are proud to be the leading capacitor distributor in the world,” said Jacques Hing, vice-president, worldwide, capacitors at Future Electronics. “We are committed to helping our customers through this challenging period, so they can maintain production and avoid line-down situations.”

If distributors continue to receive adequate inventory for their customers’ needs, it’s reasonable to expect a robust 2018. Component makers, likewise, should have a great year. Price increases related to the shortages are holding firm. Less profitable lines are being phased out. And—although sentiment is mixed on this strategy—suppliers’ investment in capacity expansion has been limited. Among original component manufacturers (OCMs) that are adding capacity, increases range between 10 percent and 25 percent.

Fearful of the trough

There are already indications that component scarcity is hindering distributors’ growth. Although German distributors organized under the Fachverband Bauelemente Distribution (FBDi e.V.) reported Q1 2018 sales of 978m Euros – up 7 percent compared with Q1 2017—growth was lower than expected, according to Disti Blog.

Disti Blog reported FBDi Chairman of the Board of Directors Georg Steinberger remarked: “The low growth rate for Q1 2018 is largely the result of delays to purchase orders and existing orders caused by the long delivery times affecting numerous components. There is little prospect of any significant easing of lead times for a wide variety of passive components. Based on our assessments, the first quarter is a good indicator for 2018 as a whole.”

“Most market participants agree that demand for components in certain key products (smartphones) will continue to increase rapidly so that an easing is likely to occur in 2019 at the earliest. Consequently, price increases and long delivery times will set the tone for 2018,” added Steinberger.

Suppliers’ conservative capacity expansion is one result of an early 2000s electronic components glut. During the dotcom boom in the late 1990s, buyers doubled ordered, inflating demand, and OCMs added capacity as fast as they could. When demand suddenly dropped, OCMs were left with a big bill for capacity expansion and billions of dollars’ worth of unused inventory. It’s clear OCMs fear a repeat in 2018.

“In the past, when components are in short supply, you ramp up fab space and when the market catches up you are left with unused capacity,” Paul Romano, COO of independent distributor Fusion Worldwide, said. “Now, if you are an OCM you are already running at full capacity. There are also more fabless companies and they’re competing with all the other customers of contract fabs. But component makers are being very cautious about expanding capacity.”
Distributors are also being cautious about expanding inventory. Distributors are comparing customers’ orders to their historical consumption to spot possible double ordering. If an order spikes well above historical demand, double ordering is suspected. The channel is also keeping a close eye on cancellations—too many cancelled orders also indicates double ordering.

Therese M. Bassett, chief strategy, innovation and M&A officer, Avnet Inc., said Avnet watches its book to bill very closely. “If we start to see things get beyond a certain threshold we go back and work with customers to make sure there isn’t double ordering. Suppliers do the same thing with distributors to make sure we’re not over-ordering,” she said.

“When we start to see a customer or a particular region start to get a little too hot, that’s when we’ll go back and re-evaluate all the orders and we ask for commitments from customers to ensure they’re taking the full supply,” she added. “Suppliers are taking care of their direct customers first; distributors also get a good place in the line, and we have to prioritize between our longstanding customers and what we can find for new and emerging customers,” said Bassett.

Supplier, distributor and customer relationships were severely taxed during the inventory glut of the early 2000s. OEMs and EMS providers tried to push excess inventory back on to distributors and suppliers. Stricter contract measures have since been put in place. This period was very active for independent distributors and brokers, which typically bought excess inventory for pennies on the dollar and resold it at a premium.

For more than a decade, however, buying low and selling high has not been a mainstay for independents. Open market pricing is driven by supply and demand; supply has been ample and, until recently, prices have been low.

The evolution of hybrid distribution

These and other market forces have begun to change the complexion of the channel. Within the past five years, a new type of distributor has emerged: the hybrid. For decades, distributors were typecast as franchised distributors — authorized by component makers to resell their parts — and independents, which are not authorized by suppliers. Hybrids, which began as independents, are adding franchises to their line cards.

Historically, less scrupulous independents have been known for price gouging, trafficking in counterfeits, and even disappearing after they’ve been paid. Top-tier independents have adopted rigorous quality and ethics standards to combat counterfeiting and improve their reputation. Hybrids arguably have the best of both worlds: they’ve added franchises, which means they’ve been thoroughly audited by suppliers; and they can source on the open market where one company’s excess is another company’s essential component on its AVL.
Customer expectations have also played a role. Procurement organizations want to consolidate purchases, but they want inventory stored in multiple locales. They want contract and open-market pricing. They want guaranteed quality and supply options beyond their AVL. They want a trusted outlet for their excess inventory plus the ability to claw it back if necessary. Distributors aren’t just holders of inventory, they’re risk-management partners.

Authorized distribution remains the most trusted source of electronic components. But franchises come with some restrictions. Distributors cannot raise or lower prices significantly without supplier approval. Sometimes they can’t sell outside a geographic market. Some suppliers require distributors to create demand for their products. Franchises are used by suppliers as both a stick and a carrot.

Now, top-tier independents share their cost information with customers to reassure them they aren’t getting gouged, and many have in-house or independent test facilities to authenticate components. For independents, franchises are an added layer of credibility. For suppliers, authorizing a hybrid means they’re getting more attention than they’d otherwise get from authorized distributors. Even the largest global distributors have limited resources. Demand creation programs require distributors to hire engineers to assist customers. Distribution’s business model is still sales-driven, and engineers don’t drive sales per se. It’s impossible for a distributor to attend to all their lines, so they allocate resources to the most profitable devices. Smaller lines like the attention they’re getting from hybrids. As Chip 1 Exchange’s COO Damon Pouya puts it: any new business Chip 1 books is demand creation. Suppliers are getting into accounts they wouldn’t have access to otherwise.

Managers at authorized distributors, which have railed against independents, privately say hybrids are a good deal for smaller lines. “It’s a win-win,” one executive said.

Independents and hybrids have stepped up to fill gaps in customers’ AVLs. Not all OEMs and EMS companies are allowed to buy from independents. But customers are remaining skeptical about an end to allocation. “A little more than a year ago we were told things would be scarce for 9 months to a year, and we heard that same thing all last year,” said Morey’s Whittier. “Now we are hearing this will last two more years and if demand is real, I think definitely two years.”
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<th>Rank</th>
<th>Company</th>
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<th>% Growth Rate From Previous Year</th>
<th>% of Sales Derived from Value-Added</th>
<th>Total Global Employees</th>
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(1) Estimate for 2017
(2) Value-added revenue
(3) Fiscal year ending 3/31/18
(4) Hybrid distributor
Franchised Distributors Sales Boosted in 2017 With Return to Sellers' Market

By Gina Roos

The North American (NA) franchised distribution industry made a tremendous recovery in 2017 after a 3 percent sales decrease the prior year. An uptick in demand across all market segments took hold in the second half of the year — unfortunately, that also led to constrained component supplies. Buyers will face extended lead times and allocation for many electronics components through 2018 and possibly into 2019.

North American sales for the top franchised distributors increased by 8 percent to $27.4 billion in 2017, compared with $25.3 billion in 2016.

Passives/electromechanical components sales grew by 11 percent in 2017, followed by semiconductors (6 percent growth) and interconnects (5 percent growth). Three of the top 10 distributors – Arrow, Future and Masters – did not report their sales by component type, which would have likely increased semiconductor sales into the double-digit range.

Getting enough parts was the leading headache for distributors in 2017. Last year’s supply issues were different from other shortages or allocations because they stretched across a variety of component types.

Dealing with constrained supply during a period of consistent growth across all market segments was the common challenge for distributors, said Michael Knight, senior vice president, TTI Americas. At the same time, everybody was trying to figure out what was the real demand and how long it would last, he added. “I think that consumed most of us last year.”

“Last year we were trying to stay ahead of where the suppliers were and where lead times were going to make sure we were getting parts on the shelf at the right time,” said Dan Casey, executive vice president, Future Electronics. “When you’re representing many suppliers and dealing with tens of thousands of customers it gets relatively complex.”
“It’s been a long time since we’ve seen a year like 2017,” said Therese M. Bassett, chief strategy, innovation and M&A officer, Avnet Inc. “Shortage of supply, extended lead times and forecasting when product will become available is probably the biggest challenge. It was very difficult to get product. After so many years of being in a non-allocation environment this was a big difference and a big change.”

Historically, there is a widespread belief that demand will drive capacity so as demand increases capacity will increase, but this is not the case right now, explained Knight. “I’m not saying there isn’t any new capacity coming online because there is, but it is extremely conservative; there is not the wholesale rush to add capacity.”

“The rules are different from any other time we’ve seen before. It’s taking all of us – the OEMs and distribution – some time to get our heads around that,” Knight continued.

Shortages for many components will continue in 2018, believe distributors. Suppliers are no longer providing lead times for components on allocation, and for parts with constrained supply, some quotes are well into 2019.

Shortages are at an all-time high, said Casey. “At the beginning of 2017, it looked like shortages would last through most of the year and could go into quarter one of 2018. Now that we’re in Q1 shortages will continue through the end of this year, and possibly into next year. Some folks are talking two more years. This year will continue to be pretty tough.”

Constrained supply could potentially cause a slowdown in the industry. If buyers can’t get one commodity part for their product then the production line goes down, leading to other issues in the supply chain.

“There is no sense bringing in an entire BOM if you’re missing a part and can’t build your end product. I think starting next quarter and through the rest of the year it’s going to be something that we all have to adjust to and navigate,” Knight said.
On top of these issues, many suppliers have chosen to obsolete parts. “What has made it even worse is a very meaningful piece of global capacity for these parts have been taken offline and it creates a bigger hole. This is something none of us have ever experienced before,” said Knight.

Distributors agree 2017 is a contrast to prior shortages such as the tantalum shortage of 2000 and shortages after the Great Recession (2008/2009).

“This is different than anything the industry has seen and it's widespread,” said Knight. “It’s power semiconductors, all different types of capacitors – MLCCs, aluminum electrolytics, film, polymer –, commodity resistors, precision thinfilm resistors, thickfilm resistors, current sense resistors, and inductors.”

“I’ve seen a lot of shortage or allocation years, and last year probably was the worst I’ve seen as far as how broad it was,” said Casey. “Sometimes it’s one particular product area, but it was much broader last year and we’ve never seen so many customers calling so often to see if we could help.”

Distributors such as Future, Mouser and TTI that saw the uptick early and started to bolster their inventories benefited the most from component shortages.

Mouser, which historically keeps inventory levels higher than the overall industry, grew its North American revenue by 15 percent last year. “Because we focus on our breadth of inventory, we did see an increase in our business in 2017, fueled by the increase in component shortages,” said Mark Burr-Lonnon, Mouser’s senior vice president of Global Service & EMEA and APAC Business.
TTI’s inventory level at the end of the first quarter of 2018 was 30 percent higher than it was at the start of 2017. “You couldn’t do that from a start today,” said Knight. “The TTI advantage is that we saw what was coming in the middle of 2016 and started to buy accordingly. By the first quarter of 2017 we had plenty of confirmation that we were correct and started buying even more.”

TTI also expanded its infrastructure to support the inventory increase with a new distribution center. The expansion also helped TTI to more efficiently supply its customers.

Future Electronics sees inventory as an investment. As a privately-held company, Future doesn’t have to worry as much about how much inventory it carries, said Casey. “When we see lead times moving out we buy more. If we’re sitting on it for six or 12 months it doesn’t matter because we are going to sell it.”

Supplier Consolidation

Supplier consolidation – particularly in the semiconductor market– also has been a challenge for distributors over the past several years. Long-term relationships have suffered due to M&A.

Like many distributors, Avnet continues to monitor supplier consolidation very closely. Except for its Premier Farnell business, Avnet lost its long-term deal with Analog Devices Inc. after it acquired Linear Technology.

“Whenever suppliers consolidate we always want to be one of the people that has a chair when the music stops,” said Bassett. “No matter what happens it always creates some level of volatility in the supply chain.”

“Right now, we’re working very closely with Microchip and Microsemi to make sure that Avnet’s got a winning value proposition for them if indeed [their merger] happens,” she added.

“The challenge of continued consolidation has been with us for a few years and while it is diminishing, it does continue to linger industry wide,” said Burr-Lonnon. “However, it’s all good for Mouser as we have most key lines of either the acquirer or the acquired so we sit in a strong position for future growth without fear of network change.”

There has been some upside to the challenges, said Casey. They’ve helped Future improve in several areas, including working with customers to gain more visibility, staying on top of supplier lead times and backlogs, and ensuring that it has enough safety stock in place in the case of a customer having a lift in their business.

“Our strategy is you don’t have to hold the inventory; we hold it for you and when you need it you pull it,” said Casey.

“We are very optimistic about this year,” said Mark Burr-Lonnon, Mouser’s senior vice president of Global Service & EMEA and APAC Business. “2017 was a very good year for Mouser with strong double-digit growth, and we expect this level of growth to continue at least through 2018.”
Future also has worked on improving its receiving and shipping times. “We worked hard reducing the time from the truck hitting the dock to the time the product is in the system and ready to sell or getting it out the door to the customer,” he added.

Consolidation has a mixed impact on sales, said Bassett. “Typically when we have shortages of supply and we have allocation, prices go up. What we saw was a slight lag in prices going up but we saw price increases and that passes through so we’re able to also charge more for short supply products.”

But you have to wait longer to get the product, she added. “The biggest challenge was making sure you had the product to sell.”

The challenges have been the same for smaller interconnect, passives & electromechanical specialists such as SMD Inc. “It is harder to get parts and lead times are out,” said Rich Unruh, president, SMD Inc. “A lot of component manufacturers are at high levels of total capacity. They are getting so many requirements for commodity parts.”

“In my case, it’s not as much of a commodity [problem] but it’s still a challenge being able to acquire products that meet the customers’ need because I don’t think the they have adjusted their MRPs to what the reality of the market is right now,” he added. “We’re seeing a lot of it with people calling in with shortages because their current supplier can’t meet their needs.”

SMD has acquired four distributors – Prime Electro, Newman Electronics, Components Center and Dalis Electronics – over the past four years, which added interconnects to its portfolio and expanded its supplier line card.

“Our success has been to focus on a customer base that truly needs our services and our attention to detail,” said Unruh. “I think specialists have always survived. Even the biggest guys in the world can’t take care of everybody.”
Double Ordering

Most distributors are not accepting new customers on constrained parts, and have processes in place to help ensure that double ordering is not occurring in the supply chain. For example, if a customer comes in with an order quantity larger than its historical usage, distributors universally agreed “there’s going to be a conversation” before the order is accepted.

But even so, it’s difficult to determine if buyers are placing the same orders with different distributors to hedge their bets.

Knight suspects that distributors and suppliers both are monitoring double-ordering, which will lessen this problem. There’s a lot of fear but no empirical evidence that double-booking is occurring, Knight said.

“It’s been part of the issue and one of the significant factors that has slowed down any incremental investment in capacity because people are extremely worried about artificial backlogs, double ordering and a big crash on the back side of this,” Knight added.

But other distributors believe double ordering is occurring. “Absolutely there is,” said Casey. “It’s very hard to know how much. Sometimes working with your supplier you can figure it out where they see significant upside on a particular part number or family of parts and then we can have conversations and compare notes. It’s a very hard one to understand,” he added.

Existing customers always get preferred status. “Quite frankly we’re not accepting new customers on constrained parts. We stopped in the middle of last year,” said Knight.

“If it’s a customer that has always been buying from us we try to service all of them,” said Casey. “Brand new customers coming in get a lower priority because it is important for us to service existing customers.”
Optimism Grows for 2018

With strong demand across nearly all end markets and regions, the electronics industry is forecasting strong growth in 2018. Many distributors believe the industry could reach as high as 10 percent growth this year. The only thing that could limit their revenue is product availability.

Many distributors have reported strong first quarter 2018 growth.

“We are very optimistic about this year,” said Burr-Lonnon. “2017 was a very good year for Mouser with strong double-digit growth, and we expect this level of growth to continue at least through 2018.”

“Q1 has so far exceeded all expectations and is again strong double-digit growth,” he continued.

Knight said TTI could have a better year in 2018 than last year, as long as the distributor doesn’t run out of parts.

“We have a strong ubiquitous demand picture right now,” said Knight. “I honestly don’t see that changing anytime soon. Even if does cool off a little bit I don’t think it’s going to last. There is so much new stuff getting ready to hit the market.”

“Backlogs continue to grow. We had a remarkable first quarter and I don’t think we were alone in that,” Knight continued. “I think by the time we hit the midway mark on the year our run rates are going to be mind boggling. Whether we will be able to sustain it comes down to product availability during the second half of the year.”

Future’s sales were well above what they usually are, said Casey. “We carried a lot of inventory and are aggressive in how we buy. When we saw lead times moving out we loaded on more orders. Our backlogs with suppliers are at a record high and our backlog with our customers is at a record high. We see that continuing to grow.”

Automotive and any transportation-related segment appears to be the biggest growth drivers. Other healthy sectors include industrial – the biggest sector for distributors –, military and telecommunications.

“Industrial automation, edge computing, cloud, connected devices and home automation, smart cities and growing electronic content for transportation are some of the biggest opportunities of our lifetime,” said Michael J. Long, president & CEO of Arrow Electronics during a recent earnings call. “We expected 2017 to be a great year for growth in the semiconductor industry and indeed, it was. Early indicators suggest 2018 should be a good year for growth for the industry.”
Distributors said they expect an uptick in infrastructure investments – data centers, cloud computing, server farms – to support the coming 5G technology. Even new construction – warehouses, manufacturing buildings and housing – is driving increased electronics content.

“Look out when 5G gets here and becomes widespread, you’re going to see IoT and cloud-based things explode and create a huge amount of additional demand for server farms and storage,” said Knight. “I think the ripple effect from 5G will be interesting. Everybody is getting ready for it. You’ll see a lot of infrastructure spending; a lot of IT spending. I think the demand picture for our industry is extremely encouraging as far out as I can see.”

Bassett thinks growth could be in the 5 percent to 7 percent range for all regions. However, she thinks the Americas could have a higher rate because it is coming off of a down year.

“The Americas came off of a challenging ERP implementation and have been working on stabilization and now they are poised for growth and recovery,” said Bassett.

“Where we’re likely to see the growth are the sweet spots for Avnet, which are automotive and industrial. The highest growth rates tend to be those verticals where we play heavily. From a market outlook we feel there is a great opportunity to grow the business in the coming year.”

She also thinks there is an opportunity for Avnet to sell more complex and sophisticated solutions thanks to its growing ecosystem of companies, which will grow both revenue and profit in specific solutions. “We think it’s a really positive and optimistic outlook for the rest of 2018 and into 2019,” said Bassett.
<table>
<thead>
<tr>
<th>Rank 2017</th>
<th>Rank 2016</th>
<th>Company</th>
<th>2017 North American ($ millions)</th>
<th>% Growth Rate from Prior Year</th>
<th>Sales Breakdown %</th>
<th>Percent of Sales Derived from NA</th>
<th>Total NA Employees</th>
<th>Sales Per Employee</th>
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* Denotes tie
(1) Includes Agilent, Bredel & Puerto Rico sales; continuing operations
(2) Components breakdown based on FY2017 sales
(3) Includes Electromechanical & Other
(4) EPSMarkets estimate
(5) N/A indicates FY 2017/

Sales figures are revenues from N. American only, includes sales from all wholly-owned or majority owned U.S. distribution operations.

Click here to download a pdf of the Top 50 Chart.
How Sager Meets Market Flux Head-On

By Hailey McKeefry

Always a critical component to the supply chain, distributors are evolving their approach and offerings to help original equipment manufacturers (OEMs) manage and strategically apply supply chain services and best practices to keep the flow of components moving. Especially in today’s competitive marketplace with lengthening lead times and increased competitiveness, choosing a distribution partner has become a critical activity.

We sat down with Kathy Bordeleau, director of marketing operations and Lori Rapoza, director of sales operations at Sager Electronics, to talk about the trends that they are seeing in electronics distribution, as well as to get an inside look at how one leading company is approaching the market.

McKeefry: How do you see supply chain management evolving as a strategic asset for a distribution company like Sager?

Bordeleau: Authorized distribution is a critical component of the supply chain for both suppliers and customers. A distributor has always played a role in ensuring the timely flow of product from suppliers to customers in order to meet time-to-market requirements.

However, today’s successful distribution model is more than stocking packages, purchase orders and shipments. Information is king and the ability of a distributor to translate information into action to the benefit of its suppliers and customers is the differentiator.

At the core of any successful operation is a robust ERP system that can collect, store, analyze and report large volumes of information accurately and consistently. Employing business intelligence software and a robust toolset on top of a strong platform such as Sager’s PeopleSoft system allows for enhanced analysis and better decision-making across all facets of the supply chain.

McKeefry: What are the critical demands from customers evolving and how is supply chain management part of that?
Rapoza: Customers wish to acquire product as close to the point of use as possible and at a competitive price. Anticipation of requirements, access to product and speed of response are crucial. Sager works closely with its supplier partners to understand factory pipelines and what’s on the horizon. As factories face material shortages, lead times extend and prices increase, it’s our role to position our backlog and inventory to provide a seamless flow of product to the customer.

Sager is using its market intelligence to devise stronger inventory strategies. Investing in inventory including high running, customer-specific and hard-to-source products positions us against fluctuations in the marketplace and improves our ability to mitigate potential supply chain issues for our customers.

Additionally, through our Power Solutions Center and staff of in-house design engineers, Sager can build sub-assemblies in a quick and efficient fashion to meet customers’ more complex design requirements. Understanding a customer’s technical needs and having the ability to quickly address those specifications through a value-add solution is another example of how Sager is using intelligence to meet demands faster and more productively.

McKeefry: Going forward, what focuses and directions does Sager need to take to continue to evolve in terms of supply chain?

Rapoza: Given the importance of communication across the supply chain, Sager continues to look for ways to automate and improve the flow and value of information.

Sager’s sales engineers work in conjunction with a field sales representative under a dual account coverage model combining technical knowledge with sales expertise to address the engineering and purchasing needs of our customers. Sager also assigns an inside sales representative who manages the day-to-day activities of the account. This year Sager will add 10 percent to 12 percent more inside sales resources to the team. This additional coverage translates into focused account management, higher levels of customer service and increased speed of response.

While Sager offers a level of online order functionality today, we are in the development phase of an expanded online self-service model. The primary objective will be to provide customers with the ability to search for inventory using their internal part numbers and to provide them with a view into their bonded inventory and special pricing in a secure environment. With an anticipated fall launch, Sager customers will soon be able to better view their order and quote history, place backorders, and request change orders through the system.

McKeefry: People, process, and technology are the critical components of successful business. Can you talk about the ways Sager is approaching these aspects in their supply chain initiatives?
Bordeleau: Sager is constantly looking for ways to engage more deeply with our suppliers and customers. Our sales team is equipped to offer a variety of programs to support all levels of customer needs. Forecast planning, bonded inventory, blanket purchase orders, consignment, and special programs such as labeling are all available with varying services employed to address customers’ specific needs.

What it comes down to is having a Sager sales representative, well versed on the account, who can understand a customer’s materials requirements and translate that information into a forecast to bond and pipeline inventory accordingly. Toward that end, we are currently working on enhancing Customer Forecast Planning within our ERP system to ensure a more seamless flow of information from the purchase of inventory to order placement.

McKeefry: Lately, we’ve had a large spate of weather related disasters. How do you see distribution being a component of the recovery strategies of its customers?

Bordeleau: From supplier deliveries to customer receipts, the weather can impact all areas of the supply chain from time to time.

In knowing what part of the world our suppliers build their products and reacting to these specific world situations, we work with our suppliers to provide the most up-to-date information when disasters occur. We will also move quickly to lock down valuable inventory for our best and most loyal customers.

If given the ability to forecast such situations, like hurricanes and winter storms, we will often move to pull in shipments ahead of certain events, but other natural disasters strike without warning. By far the most effective remedy is our ability to work from a strong inventory position, multiple facilities with system redundancies and an established continuity plan that affords Sager the nimbleness to react to whatever Mother Nature throws our way.

This fall Sager will be unveiling its new Power Solutions Center and distribution facility in the Dallas-Fort Worth area. Centrally located in the middle of the country, the new Power Solutions Center and warehouse will house power supplies, thermal management solutions and specialty product sourced to meet growing value-add demands. The new 63,000-square-foot facility will be on the same warehouse management system as our 100,000-square-foot distribution center in Middleborough, MA, which will allow for better pipelining of product and the ease of re-routing product when weather or other issues necessitate a change.

McKeefry: What are the most important trends in high tech electronics distribution? How do you see the competitive landscape and demands of customers evolving?

Rapoza: Flexibility, efficiencies and speed of response are the hallmarks of a good distribution program. The demands of customers are many of the things we talked about today. Customers want information and we are in the information business: better analytics, documentation, part number usage history, and ideal stocking levels. Customers want access to online tools, configurators, insight to their orders, backlog and special pricing. Customers want more value from distributors than just fulfillment; a specialist approach in terms of knowledge, design specification assistance and the ability to provide value-added services.
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VETERAN
OWNED AND OPERATED
Independent Distributors: An Essential Part of the Global Supply Chain

By Barbara Jorgensen

The term “independent distributor” was coined in the 1980s to describe businesses that sell components and computer products that are considered excess by their original buyers. Although authorized, or franchised, distributors take back a portion of unused products, the contractual parameters regarding returns inevitably leaves unused products in the supply chain.

In times of component shortages, a category of independents, known as brokers, buy excess devices for pennies on the dollar and resell them at a premium. Authorized distributors can’t adjust prices beyond a certain delta without approval from their suppliers. Brokers have no such restrictions, and open market prices fluctuate with supply and demand.

Historically, component shortages have also led to unscrupulous practices that damaged the perception of independents. Brokers gouged prices and some sold damaged, re-marked and counterfeit components. When the dotcom boom started, brokers held blind auctions for devices or set up fly-by-night storefronts that collected payment and then disappeared. These practices were rampant during the late 1990s.

Since that period — which ended in a historic inventory glut in the early 2000s — a number of independents have distinguished themselves as trusted partners in the electronics supply chain. The most common sources of excess inventory include OEMs, EMS providers, component manufacturers and even authorized distributors. When possible, these independents don’t open factory-sealed boxes.

When unsealed shipments are received, components are tested for authenticity. Suppliers are vetted for quality control and business practices. At customers’ requests, devices go through additional tests for tolerances and performance. Most independents will take back questionable parts; have sought and received national and global quality certifications; and have developed in-house testing facilities that support suppliers, customers and other electronics companies.

The authorized supply chain continues to advocate – and rightly so – for franchised distribution. Authorized distributors carry the least risk of procuring a counterfeit component, and they’re able to pass supplier warranties on to customers. However, independents have been around for a long time: they continue to fulfill a need in the market. The largest independents – the now-hybrid Smith & Associates and America II have frequently outperformed the overall distribution market. In 2017, Smith reached sales of $1.5 billion, up 85 percent from the previous year.

Companies in highly regulated industries such as aerospace, defense and medical electronics are regularly using independents as part of their supply chains. They provide an outlet for their customers’ excess inventory and are essential in OEM/EMS sourcing and risk-management strategies.
Reputable independents are also audited by their customers. Twenty years ago, OEMs and EMS companies would not publicly admit to sourcing from independents. They’re still cautious, but many have spoken with EPSNews over the years. EMS providers Columbia Tech and Cogmedix recently discussed, in depth, their relationship with excess inventory management company Inventory Management Partners.

“We have partnerships in place with test facilities to ensure that when we don’t have traceability we are delivering quality product,” said John McKay, president of sales for independent distributor Freedom Sales. “Because of the allocated market there are more instances of product failing testing. Freedom initially stopped taking passive orders if we didn’t have traceability until we could implement a test policy to protect our customers.”

"Over the past three years we have increased our focus on quality, hiring Sally Arno as director of quality, a 30-year employee of Plexus. She was tasked with implementing better vendor qualifications and inspection processes in our SOP. Sally is an active member in numerous Counterfeit Standards Committees. G-19, G-19A, G-19CI, G-19D, G-19AD, G-19T, AIA - Counterfeit Parts Integrated Project Team, SMTA/CALCE committee."

<table>
<thead>
<tr>
<th>Rank</th>
<th>Company</th>
<th>% Growth Rate From Previous Year</th>
<th>2017 Global Sales ($ millions)</th>
<th>Total Global Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Smith &amp; Associates</td>
<td>85.2%</td>
<td>$1,500.0</td>
<td>650</td>
</tr>
<tr>
<td>2</td>
<td>RFMW Ltd.</td>
<td>46.1%</td>
<td>119.4</td>
<td>125</td>
</tr>
<tr>
<td>3</td>
<td>Electrocomponents/Allied Electronics &amp; Automation</td>
<td>40.2%</td>
<td>2,818.0</td>
<td>6,026</td>
</tr>
<tr>
<td>4</td>
<td>WT Microelectronics Co. Ltd.</td>
<td>39.3%</td>
<td>6,224.0</td>
<td>2,198</td>
</tr>
<tr>
<td>5</td>
<td>Hughes-Peters</td>
<td>33.2%</td>
<td>99.5</td>
<td>150</td>
</tr>
<tr>
<td>6</td>
<td>Mouser Electronics</td>
<td>29.6%</td>
<td>1,340.0</td>
<td>1,891</td>
</tr>
<tr>
<td>7</td>
<td>Phoenics Electronics Corp.</td>
<td>27.4%</td>
<td>135.0</td>
<td>39</td>
</tr>
<tr>
<td>8</td>
<td>Digi-Key Electronics</td>
<td>26.4%</td>
<td>2,330.0</td>
<td>3,587</td>
</tr>
<tr>
<td>9</td>
<td>Waldom Electronics Corp.</td>
<td>23.9%</td>
<td>120.4</td>
<td>140</td>
</tr>
<tr>
<td>10</td>
<td>America II Electronics</td>
<td>19.0%</td>
<td>238.0</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Source: EPSNews

Independents continue to evolve. America II was one of the first independents to publicly advocate for its business model. America II was recently acquired by private equity firm Wynnchurch Capital LLC, and has begun to add franchises to its line card.

Most independents are not publicly traded, so EPSNews and EBN have asked for verification of reported numbers. If that is unavailable, we work with companies to provide an informed estimate.
<table>
<thead>
<tr>
<th>Rank</th>
<th>2017 Company</th>
<th>2017 Global Sales (in millions)</th>
<th>% Growth Rate from Previous Year</th>
<th>Sales Breakdown %</th>
<th>Total Global Employees</th>
<th>Sales Per Employee</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Fusion Worldwide</td>
<td>$525.0</td>
<td>29.6%</td>
<td>Active Components: 64</td>
<td>16</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>Vlocity</td>
<td>145.0</td>
<td>38.1%</td>
<td>Passive Components: 30</td>
<td>20</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>NortPower Worldwide</td>
<td>107.3</td>
<td>108.8%</td>
<td>Electromechanical: 27</td>
<td>20</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>Crestwood Technology Group Corp.</td>
<td>55.9</td>
<td>45.2%</td>
<td>Interconnect: 39</td>
<td>18</td>
<td>24</td>
</tr>
<tr>
<td>5</td>
<td>Freedom Sales</td>
<td>31.8</td>
<td>35.9%</td>
<td>Other: 85</td>
<td>10</td>
<td>3</td>
</tr>
</tbody>
</table>

*Excludes hybrid distributors
Source: EPI*News
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Global Expansion, Franchises Drive Smith's Growth

By Barbara Jorgensen

It’s the classic tech start-up story: A small group of entrepreneurs form a business in an unconventional space. This time, the founders are Bob and Lee Ackerley, who started $1.5 billion independent distributor Smith & Associates out of a Houston living room.

It’s a very good time to be an electronics distributor. Industries ranging from consumer electronics to automobiles are having a tough time procuring the volume of devices they need to feel comfortable. In shortage and allocation periods such as these, independents – which are not widely franchised by suppliers — are able to source components that are considered excess by manufacturers and factories. Since supply and demand impact the pricing in this open market, independents can charge a premium for parts in high demand.

Smith and similar reputable hybrid distributors — which carry a mix of franchised and non-franchised lines — provide transparency to their customers so they can see how market pricing works. Less reputable independents are known for price-gouging and selling counterfeit parts – some even receive payment and then disappear.

“This industry has changed over the past decade,” said Smith founder Lee Ackerley. “Then Arrow bought [independent distributor] Converge and America II started taking on franchises. The lines are blurrier.”

“There used to be a big line between franchised distributors and independents,” said Smith founder Lee Ackerley. “Then Arrow bought [independent distributor] Converge and America II started taking on franchises. The lines are blurrier.”

there were a lot more independents and one-time procurement deals were a lot more prevalent.”
Smith is now a billion-dollar-plus global distributor, and has added nearly 25 franchised lines. The company is focused on growing its sales with existing franchise partners and will continue to increase its offerings throughout 2018. One of the advantages of a franchise is the strict standards component suppliers enforce when they engage with a distributor.

“Engineers audit our facilities,” Ackerley said. “We have contracts that dictate payment terms and return policies and that has helped us. We also pass all the same audits and certifications as an Arrow or Avnet.”

The global supply chain has changed how independents operate. “It’s an interesting time if you think about it,” Ackerley said. “There used to be a big line between franchised distributors and independents. Then Arrow bought [independent distributor] Converge and America II started taking on franchises. The lines are blurrier. For us we see it as an opportunity – there are a lot of lines out there that don’t get a lot of attention or mind share from the biggest authorized distributors. We have 650 salespeople and 16 offices around the world and tight relationships around the world. That’s attractive for component makers.”

<table>
<thead>
<tr>
<th>Smith</th>
<th>At A Glance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Founded</strong></td>
<td>1984</td>
</tr>
<tr>
<td><strong>2017 Revenue</strong></td>
<td>$1.5 billion</td>
</tr>
<tr>
<td><strong>2017 Growth</strong></td>
<td>85.2%</td>
</tr>
<tr>
<td><strong>Growth Drivers</strong></td>
<td>Increased focus on expanding support of varied industries</td>
</tr>
<tr>
<td><strong>Value-Added Services</strong></td>
<td>HDD and SSD wiping, flashing, shredding, dry packing and packaging, tape and reeling, barcode labeling, baking, kitting, rework services, and component recovery</td>
</tr>
<tr>
<td><strong>Challenges</strong></td>
<td>Economic changes/uncertainty, supplier consolidation, and M&amp;As</td>
</tr>
</tbody>
</table>

Managers at franchised distributors – which emphasize the security of authorized sourcing – privately agree that small lines are smart to seek out distributors. Broadline distributors don’t have the bandwidth, or the incentive, to push low-priced or low-volume franchises.

“My take is the franchised model that we know has existed without change for 50 years since the 1960s,” said Ackerley. “That model is under siege from every side. Texas Instruments has said ‘we don’t care about demand creation; we want you as a logistics partner.’ It sounds like others may go down that path, and then you have engineers who used to need sales reps to visit. They can now get online, get information, and then buy samples from Digi-Key.

"And then there’s Amazon – they want to be a logistics partner," Ackerley added. "For any of those manufacturers our take is that the old franchised model is changing and that provides an opportunity for Smith. We are privately owned and that makes us agile. We have people all over the world and engineers in-house and we can be a good partner for component manufacturers."
"In 2017, Smith became the first independent to cross the $1-billion revenue mark. We are on track to exceed that this year," Ackerley said. "We have 16 offices, 650 people; and [salesforce training program] Smith University has been a boon to us. Our second source of success is our people. Ninety percent of our management is made up of people that started their career at Smith."

Smith's global expansion includes sites in Beijing, Munich and Romania, which were opened last year. The distributor also opened a site in Bangalore in 2015.

“We are just at the starting line,” Ackerley said. “So far it has been a success. We provide training for our salesforce; we have inventory that we split between Houston and Hong Kong and we’ve had a lot of opportunities from OEMs where we were able to cross [their] existing parts into our new franchised business.”

The electronics supply chain has found itself in the middle of a perfect storm for sourcing. Due to lean, just-in-time and build-to-order practices, inventory levels in the supply chain have been slim for at least a decade.

However, market analysts fear that demand could be inflated now. Companies tend to place the same order with two or more companies to secure enough parts. Once they receive the parts the other orders are cancelled.

“The industry is robust and it blows away anything we saw in the 1990s,” Ackerley said. “We saw the industry was doing well when we used to sell PCs. When we look at our customer list now we have everything from cloud companies to database companies to security and home automation and cars. So, all things are good in this industry. The good times will end but we are not seeing cancellations or a lot of surplus. It’s robust and it’s solid business.”

Smith has always carried significant levels of inventory, Ackerley added. "The company we emulate there is Future," he said. “They have wide and deep inventory that’s well managed and bought at the right prices. They try to look ahead and see what is in demand and that is exactly what we try to do. We also have a pretty sizable inventory, but we try to manage it very aggressively so we don’t get stuck with [slow-moving] products.”

“Business is as good as it has ever been and it’s really fulfilling," Ackerley added. "We started with four people in a living room and we’ve seen the business grow and flourish. It’s our life’s work and it’s never been more fulfilling."
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- Rectifiers
- Logic
- Low & High Voltage Mosfets
- Small Signal Mosfets

Manufacturers
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- Kemet
- KOA
- Murata
- Samsung
- Taiyo Yuden
- TDK
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- Yageo
- Infineon
- Fairchild
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info@newpowerww.com
NewPower Builds its Business on a Foundation of Quality

By Gina Roos

Quality matters in the independent distribution industry; it’s what separates a reputable distributor from a broker. Take start-up NewPower Worldwide, which launched in 2014. The independent distributor has grown its revenue from zero dollars in 2014 to $107 million in 2017, and is on track to surpass its goal of $150 million this year.

“Quality is paramount,” said founder and president Carleton Dufoe. He attributes a big part of his company’s success to its quality processes and ability to adapt to the changing market.

To help support its growth, NewPower is moving its headquarters and quality hub to a new 30,000-square-foot facility in Nashua, NH, improving the work environment for its staff and adding a new warehouse. The move will happen by July 4th. Over the past four years, the distributor also has expanded its reach globally into Singapore (APAC), Amsterdam (EMEA), Guadalajara, Mexico, and Hong Kong, which is a quality and logistics hub.

<table>
<thead>
<tr>
<th>NewPower Worldwide</th>
<th>At A Glance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Founded</td>
<td>2014</td>
</tr>
<tr>
<td>2017 Revenue</td>
<td>$107.3 million</td>
</tr>
<tr>
<td>2017 Growth</td>
<td>108.8%</td>
</tr>
<tr>
<td>Growth Drivers</td>
<td>Demand for services and ability to deliver 100-percent fully traceable and authentic components</td>
</tr>
<tr>
<td>Value-Added Services</td>
<td>Component recovery, CPU testing, memory testing, HDD and SSD services, decapsulation, x-ray, counterfeit detection, traceability validation, and kitting</td>
</tr>
<tr>
<td>Challenges</td>
<td>Continued manufacturer capacity constraints, lack of inventory to support existing customers</td>
</tr>
</tbody>
</table>

Dufoe knows a thing or two about global expansion: he worked at independent distributor Fusion Worldwide, advancing from buyer to vice president of sales in 12 years. He spent his last five years at Fusion building up its APAC office in Singapore.

“One thing that is driving growth is pure demand for the service and value that NewPower brings to the table,” said Dufoe. “There are a lot of brokers and independents out there, but at the end of the day a lot of them haven’t grown or adapted to where the market is and what it has become over the past five years. This opportunity has created a huge void in the market, which we are filling at a tremendous rate.”

“We see a lot of brokers that haven’t made the investment in people and technology to get themselves ahead of the curve from a quality perspective,” Dufoe added.

When Dufoe decided to start his own business, he found that gaining a foothold in the independent distribution industry came down to quality and continual improvement. “If you can’t protect your customer from counterfeiting, it doesn’t matter how nice a person you are.”
Dufoe hired three quality experts from Fusion: Barry Lafontaine, now NewPower’s chief quality officer; Michelle (Shelly) Guthro, and Jeffrey Hong. “We built our quality processes from top to bottom. We threw out all of the old antiquated processes and built them with robust state-of-the-art processes and got ISO certified in 2015,” said Dufoe. “Those steps allowed us to add customers, and allowed for us to grow as quickly as we’ve added customers.”

All products go through audited inspection processes, and traceability is conducted through various sources such as certificates of compliance, database checks, manufacturer specs and authorized sources. Anti-counterfeit services include decapsulation, x-ray, heat test, die comparison, and functional testing of CPUs. All sources are vetted and visited on a yearly basis.

Component traceability is a key part of the quality process. “From active and passive components to all production level products, everything we buy and sell are 100-percent traceable,” said Dufoe. “There are some proprietary ways we do that including the documentation we provide to our customers and what we demand from our suppliers.”

NewPower guarantees that it is only buying and selling 100-percent authentic and fully traceable products. “If for some reason something was to get through the supply chain we hold an errors and omissions policy and we have a general liability policy that backs up and covers any sub-standard part, counterfeit part, or missed shipment. Some customers ask to be named on that binder and we have accommodated them,” said Dufoe.

“One of the things we’ve learned over the years is that someone can tell you they have anti-counterfeit insurance, but to prove that something is actually counterfeit is next to impossible. Something can be mishandled; something can be mismarked, but to actually say it is counterfeit is very difficult to do from a legal standpoint,” explained Dufoe. “We guarantee any sub-standard part or anything NewPower does that is not supposed to happen – it doesn’t matter if it’s sub-standard, counterfeit or not working.”

NewPower works with a small number of vendors. “It’s how we can guarantee traceability,” said Dufoe. “From a supplier base, a lot of independents like to say that they have tens of thousands of suppliers. You can’t actually manage that number of suppliers. Our active supplier base is 137 suppliers and we have manufacturers, distributors, and OEMs. They are all trading in the same way, from being ISO certified to having certain certifications and quality metrics.”

NewPower’s quality team has implemented a “product is guilty until proven innocent” policy. “We don’t say this product came from this supplier so it’s okay because manufacturers and distributors make mistakes too – wrong part markings or wrong moisture sensitivity level (MSL) labels on a product or the part could have been stored incorrectly. We go through and make sure it is what it is and we validate to those specifications,” said Dufoe.
Shortages

Shortages are driving a lot of NewPower’s demand. The biggest shortages are multilayer ceramic capacitors (MLCCs) and discrete semiconductors, said Dufoe. “We have Infineon, Murata, and Yageo shortages more than anything else. And MLCC shortages keep expanding.”

“Our bigger customers are giving us the top 25 parts they need and are telling us to buy them on sight. They are triaging their businesses,” said Dufoe. “The contract manufacturers (CMs) are yelling and crying for parts and now they don’t have enough product to build everything. When they get product in they are going to dictate which device is going to get built and why.”

He added many in the industry are blaming the automotive market for the MLCC shortages. Contract manufacturers used to own all the aggregate demand for passive products. “The CMs were aggregating them together and making the MLCC manufacturers give them the lowest best price,” said Dufoe. “That erodes their pricing models; that erodes their profitability across the board.”

“Along comes the automotive sector demand and there isn’t a lot of capacity. The automotive OEMs tell the MLCC manufacturers that they’ll pay more money because their gripe is that they aren’t making money. So over the course of the past five years you saw more of that finite amount of capacity put more toward the automotive sector,” explained Dufoe.

“Now the perfect storm hits where demand starts to increase and capacity wasn’t invested into to a certain degree. It’s a big mess and a big problem. Infineon just announced a $1.9 billion investment to increase production capacity but that doesn’t happen in months or weeks.”

There are some manufacturers and lines that are taking advantage of the situation so they can maximize profits, “but I think everyone is trying to play it above-board the best they can in this perfect storm scenario,” Dufoe concluded.
Sourcing Guide

**Advanced MP Technology**
1010 Calle Sombra, San Clemente, CA 92673; (949) 492-3113
Distributor type: Hybrid/broadline
Management: Homey Shorooghi, president, CEO; Sam Bigdeli, COO; Kamran Malek, VP; Sam Tombs, sales contact
Major lines: N/A
Value-added (product) services: Product testing, product programming, tape and reeling, dry pack and baking, labeling
Website: http://www.advancedmp.com

**Air Electro, Inc.**
9452 De Soto Ave., Chatsworth, CA 91311; (818) 407-5400 Distributor type: Broadline/specialized
Management: Steven Strull, president; Todd Walk, VP; Ben Strull, sales contact
Major lines: Visit website.
Value-added (product) services: Connector assembly, design and kitting
Website: http://www.airelectro.com

**Allied Electronics and Automation/Electrocomponents**
7151 Jack Newell Blvd. S, Ft. Worth, TX 76118; (800) 433-5700; (817) 595-3500
Distributor type: Broadline
Management: Lindsley Ruth, CEO, Electrocomponents plc; Steve Newland, president, Allied; Scott Jayes, VP; Mark Simon, VP; Andrew Jackson, VP; Frank Cantwell, VP; Patti Crozier, VP; Nick Hawthrey, VP; Mark Simon, VP; Dan Stewart, VP
Major lines: Alpha Wire, Amphenol, Belden Wire & Cable, Crouzet (Automation, Crydom, Crydom-Controls, Motors, Switches), Crydom Inc. Danaher, Eaton Cutler-Hammer, Ebm-papst, Fluke (Amprobe, Fluke Corporation, Fluke Networks, Pomona, Fluke Calibration), Honeywell, Keysight, Molex, Omron, Panduit, Pentair (Birtcher, Calmark, Hoffman Cooling, Hoffman Enclosures, Schroff), Phoenix Contact, Schneider Electric (Schneider Electric, Schneider Electric Industrial, Schneider Electric/Magnecraft, Square D, Telemecanique, Schneider Electric IT USA, Inc.), Siemens, SMC, TE Connectivity, Vishay
Value-added (product) services: Kitting, bar coding, customized shipments, parts customization, bagging & tagging, next plane out, break standard packaging, and online design tools
Website: www.alliedelec.com
America II Electronics
2600 118th Ave. North, St. Petersburg, FL 33716; (800) 767-2637
Distributor type: Hybrid/broadline
Management: Michael Galinski, CEO; Jed Pecchioli, COO; Dimitra Tsekos, VP; Rick Kauchak, VP; Doug Gilchrist, chief procurement officer; sales@americaii.com, sales contact
Major lines: N/A
Value-added (product) services: Custom cable assemblies, displays
Website: http://www.americaii.com

Area51-ESG, Inc.
51 Post, Irvine, CA 92618; (949) 387-0051
Distributor type: Broadline
Management: Steven G. Shammah, president; Peter Nguyen, CEO; Daniel Nguyen, COO; Miroslav Maramica, VP of quality, PhD; sales@area51esg.com, sales contact
Major lines: AEM, Alpha Wire, Black Box, EDAC, L-Com, Littelfuse, Orion, Panduit, Walsin
Value-added (product) services: Cable and harness assemblies, switch assemblies, connector assemblies, electronic manufacturing services, device programming, barcode labeling, kitting, tape & reel, and testing
Website: http://www.area51esg.com

Arrow Electronics, Inc.
9201 E. Dry Creek Rd., Centennial, CO 80112; (303) 824-4000
Distributor type: Broadline
Management: Michael J. Long, chairman, president, CEO
Major lines: Visit website.
Value-added (product) services: Design services, programming, assembly services, end-of-life services, etc.
Website: http://www.arrow.com

Avnet, Inc.
2211 South 47th St., Phoenix, AZ 85034; (480) 643-2000
Distributor type: Broadline
Management: William H. Schumann, III; William Amelio, CEO
Major lines: Linecard
Value-added (product) services: Value-added services
Website: http://www.avnet.com
Benchmark Connector Corp.
4501 NW 103rd Ave., Sunrise, FL 33351; (954) 746-9929
Distributor type: Specialized
Management: Wayne Nelson, general manager; Richard Pacceca, chief procurement officer; Jason Brand, sales contact
Major lines: ADI, Aiconics, Aero-Electric, American Micro, Conesys, Cristek Interconnect, Elecsys, Division of DCX-Chol, EMP, J-Tech, Preci-Dip, Step N Components, Spacecraft Components and SPI-Connects
Value-added (product) services: Custom assemble to customer specifications (several different types of Mil-Spec electrical connectors), government packaging, kitting, and cable assemblies
Website: http://www.benchmarkconnector.com

Bisco Industries
1500 North Lakeview Ave., Anaheim, CA 92807; (714) 693-2901
Distributor type: Broadline
Management: Glen Ceiley, chairman, CEO; Don Wagner, president, COO; Zachary Ceiley, VP and sales contact; Joshua Uhlich, director of material
Major lines: Acme, Brady, Essentra, Heyco, Kato, Keystone, Mill-Max, Pentair, RAF, Southco
Value-added (product) services: Kitting, bar coding, customized quality programs
Website: http://www.biscoind.com

Bluff City Electronics
3339 Fontaine Rd., Memphis, TN 38116; (901) 345-9500
Distributor type: Broadline
Management: Alfred L. Cowles III, president; Daniel Cowles, VP; Laura Cantrell, chief procurement officer; Alfred Cowles, IV, sales contact
Major lines: Visit website.
Value-added (product) services: Kitting
Website: http://www.bluffcityelectronics.com

CDM Electronics
130 American Blvd., Turnersville, NJ 08012; (856) 740-1200
Distributor type: Broadline
Management: Brian Miller, sales contact
Major lines: Amphenol PCD, Binder USA, Conec, Eaton/Cooper-Interconnect, Eaton/Burton, Delta Electronics, Times Microwave, Sumitomo Electric, Winchester Interconnect
Value-added (product) services: Cable assemblies, kitting, wiring harnesses, box builds
Website: http://www.cdmelectronics.com
Chip 1 Exchange
25652 Commercentre Dr., Lake Forest, CA 92630; (949) 589-5400
Distributor type: Hybrid
Management: Sasan Tabib, CEO; Damon Pouya, COO; Salvador Lagos, chief procurement officer; Arif Arifi, sales contact
Major lines: Visit website.
Value-added (product) services: In-house testing, design services, kitting
Website: http://chip-1.com

Component Distributors, Inc.
3963 Walnut St., Denver, CO 80205; (800) 777-7334
Distributor type: Specialized
Management: John Williammee, chairman, president; Lori Pacheco, COO; Whit Allen, VP; Doug Slansky, VP
Major lines: Skyworks Solutions, Solartron, Sumitomo, TDK, Meanwell, InvenSense, TE Connectivity, Xicato
Value-added (product) services: Evaluation platforms, kitting, and special assemblies
Website: http://www.cdiweb.com

Crestwood Technology Group Corp.
1 Odell Plaza Suite 139, Yonkers, NY 10701; (914) 779-3500
Distributor type: Independent
Management: John Mancino, chairman, CEO; Mike Boyd, COO
Major lines: N/A
Value-added (product) services: N/A
Website: http://ctg123.com

Cumberland Electronics Strategic Supply Solutions (CE3S)
2501 Sycamore St., Harrisburg, PA 17111; (888) 565-3026
Distributor type: Broadline
Management: Donald G. Smeltz, president; Jeremy Wagner, VP; Tom Misiti, sales contact
Major lines: Belden, 3M, Alpha Wire, Aim Solder, Chemtronics, Techspray, IDEC, Dymo, Panduit, Greenlee, Fluke, Desco, PACE, HAKKO, Wieland, SSAC.Symcom, Dremel, EATON, Weller
Value-added (product) services: Kitting, production and rework support, wire and tube cutting
Website: http://www.ce3s.com
DAC
58 Jonspin Rd., Wilmington, MA 01887; (978) 657-4870 Distributor type: Specialized
Management: Robert W. Clapp, chairman
Major lines: 3M, Accuride, Amphenol, Heyco, Hirose, JAE, LEMO, Molex, Omron, PEM, Panduit, POP, RAF Electronics, Richo, Shercon, Southco, Sugatsune, TE Connectivity

DEE Electronics
2500 16th Ave. SW, Cedar Rapids, IA 52404; (319) 365-7551
Distributor type: Specialized
Management: Todd Gifford, president
Major lines: Visit website.
Value-added (product) services: Visit website.
Website: http://www.dee-inc.com

Digi-Key Corp.
701 Brooks Ave. South, Thief River Falls, MN 56701; (218) 681-6674; (800) 344-4539
Distributor type: Broadline
Management: Ronald A. Stordahl, chairman, CEO; Mark A. Larson, vice chairman; Dave Doherty, president & COO; VPs: Chris Beeson, Kevin Brown, Chris Lauer, Linda Johnson, Rick Trontvet, Mark Blais, Roy Lunde, Teri Ivaniszyn, Rich Myers, Jim Ricciardelli, Chad Broadwell, David Stein, Randall Restle, Paul Dosser; sales@digikey.com, sales contact
Major lines: Analog Devices, Maxim Integrated, Microchip, Molex, Murata, ON Semiconductor, Kemet, STMicro, Panasonic, TDK, Texas Instruments, TE Connectivity, Vishay
Value-added (product) services: Assembly, cut tape, reeling, kitting, programming, and battery packs
Website: http://www.digikey.com
Diverse Electronics
5400 Thimens Blvd., St. Laurent, Quebec, Canada H4R 2K9; (800) 381-7308
Distributor type: Broadline
Management: Rick Masciotra, president, CEO; Eric Grados, COO; John Massi, VP; Robert Miozzo, sales & operations director; Roussos Koliakoudakis, sales contact; Ingrid Bergh; sales contact
Value-added (product) services: Tape and reeling, component labeling, device programming, pin cutting, lead trimming & forming, BGA reballing, custom packaging, component marking (Kapton/poly labels, laser mark, ink dot), kitting
Website: http://www.diverseelectronics.com

Electro Enterprises Inc.
3601 North Interstate 35 Service Rd., Oklahoma City, OK 73111; (405) 427-6591
Distributor type: Specialized
Management: Marilyn Enright, president; Mitch Enright, COO; Nathan Little, sales contact
Value-added (product) services: Build military connectors, fiber-optic cable assemblies, and cut terminal boards to size
Website: http://www.electroenterprises.com

ECCO (Electronic Connector Co.)
6332 South Central Ave., Chicago, IL 60638; (773) 767-2000
Distributor type: Interconnect specialized
Management: Bernard Gizzi, president; Michele Thelen, COO; Kevin Hayes, vp; Marc Natola, chief procurement officer; John Garcia, sales contact
Major lines: Aero Electric/Conesys, Amphenol, Cinch, Glenair, ITT Cannon, ICONN, Molex, Otto, Astro Tools, Capplugs
Value-added (product) services: Connector assembly, connector design, custom contacts, wire assemblies, overmolding services, kitting, government packaging, special marking, and electromechanical assembly
Website: http://www.eccococonnectors.com
Electronics Supply Co., Inc.
4100 Main St., Kansas City, MO 64111; (816) 931-0250
Distributor type: Broadline
Management: Joanne LaBelle, chairman & CEO; Janet Niekamp, president; Robert Niekamp, COO; Kirk LaBelle, VP; Donn Weiss, chief procurement officer; Bill Neustadt, sales contact
Major lines: APC, Belden, Commscope
Value-added (product) services: Panel assemblies, cable assemblies, kitting
Website: http://www.eskc.com

Excelpoint Technology Ltd.
15 Changi Business Park Central 1 #06-00 Singapore 48657, +65 6741 8966
Distributor type: Specialized
Management: Albert Phuay Yong Hen, chairman, group CEO; Ivan Lee See Thiam, group CFO; Stanley Chan Tung Hong, SVP, assistant to CEO & sales contact
Major lines: Analog Devices, Qualcomm, Qorvos, Samsung Electronics
Value-added (product) services: Kitting, design and development of module solutions for sale, and technical support
Website: http://www.excelpoint.com

Fedco Electronics, Inc. dba Fedco Batteries
1363 Capital Drive, Fond du Lac, WI 54937; (920) 922-6490 Distributor type: Specialized
Management: Stephen Victor, Jr., chairman, CEO; Peter Victor, president; Joel Peterson, VP; Thomas Santy, VP; Joel Petersen, VP; Dennis Boelter, chief procurement officer; Joel Peterson, sales contact
Major lines: Enersys, FDK, Energy Access, Maxwell, Renata, Ultralife, Panasonic, Saft, Varta
Value-added (product) services: Battery assemblies, barcoding and custom labeling
Website: http://www.fedcobatteries.com and http://www.energyplusbatteries.com

Falcon Electronics Inc.
47 Mall Drive (#5), Commack, NY 11725; (631) 351-8515 Distributor type: Specialized
Management: Brian Diaz, chairman, president, CEO; Richard (Skip) Wecker, COO, VP, chief procurement officer; Ian Mikles, sales contact
Major lines: HoltIC, FMJ Storage, Microsemi, TT Electronics (Semelab and Optek)
Value-added (product) services: Additional screening tape and reeling, and solder testing
Website: http://www.falconelec.com
Flame Enterprises
21500 Gledhill St., Chatsworth, CA 91311; (818) 700-2905 Distributor type: Specialized Electromechanical
Management: Michael Epstein, chairman, CEO; Neil Rostholder, COO; Peter Epstein, president; Dave Boush, chief procurement officer & VP; Monica Beith, VP; Eric JR Mahler, sales contact
Major lines: Amphenol PCD, Esterline/Leach, L-3/Electrodynamics, Electroswitch, Hartman, Labinal, Rebling Power Connectors, Sagem, Safran, Sensata Technologies, TE Connectivity
Value-added (product) services: N/A
Website: http://www.flamecorp.com

Freedom Sales
11225 Challenger Ave., Odessa, FL 33556
Distributor type: Independent
Management: Carl DePaolo, CEO; James Brown, COO, Jodi Brown, CFO; John McKay, president of sales & purchasing; Sally Arno, director of quality; Crystal DePaolo, chief marketing officer
Major lines: N/A
Value-added (product) services: https://www.freedomsales.com/Value-Added-Services.html
Website: http://www.freedomsales.com

Fusion Worldwide
One Marina Park Drive, Suite 305, Boston, MA 02210, (617) 502-4100
Distributor type: Independent
Management: Peter LeSaffre, president, CEO; Paul Romano, COO; Jeremy Pierce, chief procurement officer; Marcus Chen, sales contact
Major lines: Intel, Samsung, Micron, Xilinx, Altera, TI, ON Semi, Broadcom, Hynix, Murata, AVX, Vishay, Infineon, Seagate, Yageo, Renesas, Kemet, NXP, Analog Devices
Value-added (product) services: Kitting, labeling, specialized packaging
Website: http://www.fusionww.com

Future Electronics
237 Hymus Blvd., Pointe Claire, Quebec, Canada H9R 5C7; (514) 694-7710
Distributor type: Broadline
Management: Robert Miller, chairman, president, CEO; Pierre Guilbault, VP; Dan Casey, VP; Karim Yasmine, VP; Jamie Singerman, VP; Sam Abrams, VP; Helmut Lippmann, VP; John Sainis, sales contact
Major lines: Visit website.
Value-added (product) services: Kitting, technical support services, lighting solutions
Website: http://www.futureelectronics.com
Gopher Electronics
222 Little Canada Rd., St. Paul, MN 55117; (651) 490-4904
Distributor type: Broadline with electromechanical focus
Management: Jeff Mrozinski, chairman, CEO; Dennis Tully, chief procurement officer; Rick Kosiarek, sales contact
Major lines: Visit website.
Value-added (product) services: Flat flexible cable assembly, value-added customization, cable harness, DIN rail/panel build, sensor and switch assemblies, custom “connectorizing of fan and blower assemblies, and heavy gauge wire assemblies
Website: http://www.gopherelectronics.com

House of Batteries
10910 Talbert Ave., Fountain Valley, CA 92708; (800) 432-3385
Distributor type: Specialized
Management: Don West, president; Maggie West, CEO; Mel Weis, COO; Terry Ragone, chief procurement officer; Carlos Gonzalez, sales contact
Major lines: Duracell, EnerSys, Energizer, KZ Energy, Leoch, Panasonic, Saft, Samsung, Sony, Tadiran
Value-added (product) services: Battery pack and circuit design and assembly
Website: http://www.houseofbatteries.com

Hughes-Peters
8000 Technology Blvd., Dayton, OH 45424; (937) 235-7100 Distributor type: Broadline
Management: Michael Okel, president; Donna Hensley, VP; Mike Smith, VP
Major lines: Apem, ebm-papst, Honeywell, Littelfuse, Mean Well, NMB, Schurter, Mechatronics, Omron, Schroff, ZF
Value-added (product) services: Visit website.
Website: http://www.hughespeters.com

IBS Electronics, Inc.
3506-D Lakecenter Drive, Santa Ana, CA 92704; (714) 751-6633 Distributor type: Broadline
Management: Bob Tavi, chairman, president, CEO; Rob Tavi, COO and sales contact; Yassi Tavi, VP; Jenny Melwani, chief procurement officer
Major lines: Ametherm, Analog Device, Cal-Chip, Diotec, ECI Caps, Etal, Genteq, Henkel, Hi Tech Resistor, KEC, Maxim, Molex, Omron, TE Connectivity
Value-added (product) services: Kitting and cable assemblies
Website: http://www.ibselectronics.com
Kensington Electronics, Inc.
11801 Stonehollow Dr., Ste 150, Austin, TX 78758; (512) 339-3300
Distributor type: Broadline
Management: Doris Rabbitt, chairman; Patrick Rabbitt, president; Casey Cavender, VP; Terence Rabbitt, VP; Sean Donovan, sales contact; Bonnie Shores, sales contact
Major lines: Autossplice, Fischer Connectors, Halo Electronics Inc., JAE, Smiths Interconnect, Staubli
Value-added (product) services: Kitting, cable assemblies, connector assemblies, special packaging, and customization
Website: http://www.keiconn.com

March Electronics
25 Feldland Street, Bohemia, NY 11716; (800) 444-6056
Distributor type: Broadline
Management: Diane Vilardi, chairman; John Vilardi, president; Ron Alonso, chief procurement officer; Matt Parish, sales contact
Major lines: Visit website.
Value-added (product) services: Connector assembly, kitting, cable assembly, bar coding
Website: http://www.marchelectronics.com

Marsh Electronics
1563 S. 101st Street, Milwaukee, WI 53214; (414) 475-6000
Distributor type: Broadline
Management: John Casper, president; James W. Banovich, CEO; Jim S. Banovich, VP
Major lines: ASC Capacitors, Eaton Cooper Industries, Otto, United Chemi-Con, Vishay, ZF Cherry
Value-added (product) services: Cutting/stripping/marking of wire, wire harnesses, cutting tubing, ROHS soldering, light mechanical assemblies, kitting, special packaging, indicator light assemblies, lead tinning (Visit website for complete list.)
Website: http://www.marshelectronics.com

Master Electronics
1301 Olympic Blvd., Santa Monica, CA 90404; (888) 473-5297
Distributor type: Broadline/IP&E
Management: Jamil Nizam, president; Ike Nizam, CEO
Major lines: Visit website.
Value-added (product) services: http://www.masterelectronics.com/va
Website: http://www.masterelectronics.com
Metuchen Capacitors Inc.
2139 Hwy. 35, Ste. 2, POB 399, Holmdel, NJ 07733; (800) 899-6969
Distributor type: Limited Line
Management: Gary Ficsor, president; Steve Ficsor, CEO; Lisa Mace, VP; Steven Young, VP
Major lines: Visit website.
Value-added (product) services: Testing, soldering, burn-in, filter plates, marking, specialty capacitors
Website: http://www.metcaps.com

Mouser Electronics
1000 North Main Street, Mansfield, TX 76063; (817) 804-3800
Distributor type: Catalog
Management: Paul Andrews, chairman; Glenn Smith, president, CEO; Pete Shopp, VP; Mark Burr-Lonnon, VP; Jeff Newell, VP; Kevin Hess, VP; Hayne Shumate, VP; Raju Shah, VP; Todd McAtee, VP; Scott Brown, VP; Coby Kleinjan, sales contact
Major lines: AVX, Altera, Amphenol, Analog Devices, Avago Technologies, Kemet, Littelfuse, Maxim Integrated, Microchip, Molex, Murata, NXP, ON Semiconductor, Panasonic, Phoenix Contact, STMicroelectronics, TDK, Texas Instruments, TE Connectivity, Vishay
Value-added (product) services: Cable assembly, chip and crystal programming, kitting, broken pack quantities, local tech support
Website: http://www.mouser.com

NRC Electronics, Inc.
6600 Park of Commerce Blvd., Boca Raton, FL 33487; (561) 241-8600
Distributor type: Broadline
Management: Dennis Eisen, president; Eric Eisen, VP; Tom Consiglio, chief procurement officer; Michael Thomas, sales contact
Major lines: http://www.nrcelectronics.com/products.aspx
Value-added (product) services: Barcoding, in-house testing, on-site FAE support standardization (http://www.nrcelectronics.com/services.aspx)
Website: http://www.nrcelectronics.com
NewPower Worldwide
107 Northeastern Blvd., Nashua, NH 03062; (603) 718-8189
Distributor type: Independent
Management: Carleton Dufoe, president, CEO; Barry Lafontaine, chief quality officer; Matthew Fonstein, VP of Trade; Jeffrey Hong, managing director; Shelly Guthro, purchasing manager; Patrick Deware, sales contact
Major lines: Intel, AMD, Nvidia, Samsung, Micron, Hynix, TI, Infineon, Murata, Yageo, Kemet, AVX, Xilinx, Altera, On Semi, TDK, Vishay, Taiyo Yuden, Cypress, Analog Devices, ST Micro, NXP, Freescale, Broadcom, IR
Value-added (product) services: Kitting, labeling, component recovery, CPU testing, memory testing, HDD and SDD services, decapsulation, x-ray, counterfeit detection, traceability validation
Website: http://www.newpowerww.com

PEI-Genesis
2180 Hornig Rd., Philadelphia, PA 19116; (215) 673-0400
Distributor type: Specialized
Management: Steven Fisher, chairman, president, CEO; Peter Austin, VP; John Hufnagle, sales contact
Major lines: Amphenol, Cinch, Esterline Connection Technologies, ITT Cannon, LEMO, TE Connectivity
Website: http://www.peigenesis.com

Phoenics Electronics Corp.
31 Nagog Park, Acton, MA 01720; (978) 856-0111
Distributor type: Specialized/limited line
Management: Peter Rooks, chairman, president, CEO, COO; Sheri Klatsky, VP, marketing; David Owens, sales contact
Major lines: Cavium, Finisar, Micron, Microsemi
Value-added (product) services: Kitting, labeling, programming, software testing & loading
Website: http://www.phoenicselectronics.com
The Powell Electronics Group
200 Commodore Dr., Swedesboro, NJ 08085; (856) 241-8000 Distributor type: Specialized
Management: Ernie Schilling Jr., CEO; John Barrington, VP; Todd Bethea, VP; Rodney Sellers, VP; Albert Fiorilo, VP
Major lines: Amphenol, Glenair, AirBorn, Honeywell, TE Connectivity, Positronic, Conesys
Value-added (product) services: Kitting, cable assemblies, and connector assemblies
Website: http://www.powell.com

PUI Projections Unlimited, Inc.
15311 Barranca Parkway, Irvine, CA 92618; (714) 544-2700
Distributor type: Specialized
Management: David R. Herring, president; David Burgener, VP; Travis Griffin, VP; Bob Gau, sales contact
Major lines: Apem, Cornell-Dubilier/Illinois Capacitors, ILSI-MMD-Ecliptek, Kycon, Mill-Max, PUI Audio, Samtec, Sanyo Denki, SUNLED, United Chemi-Con
Value-added (product) services: Fan & fan tray assembly, cable and harness assembly, sensor and switch assembly, heat sink & thermal management assemblies
Website: http://www.gopui.com

Rand Technology
15225 Alton Parkway, Suite 100, Irvine, CA 92618; (949) 255-5700
Distributor type: Hybrid/broadline
Management: Andrea Klein, CEO; Tawnie Bassett-Parkins, CFO; Trang Nguyen, VP sales Americas & Global Remarketing; Andy Murphy, VP sales & business development, Americas; Doug Schilletter, VP & GM, R2/ITAD facility; Dave Harrell, director of purchasing; Kim Fix, director of quality
Major lines: Micron, Samsung, Hynix, Macronix, Toshiba, Intel, AMD, TI, ST Micro, Nexperia, Vishay, ON Semi, ADI, Murata, TDK, Taiyo Yuden, Yageo, Kemet, AVX, Walsin Technology
Value-added (product) services: http://www.randtech.com/solutions
Website: http://www.randtech.com
RFMW Ltd.
188 Martindale Lane, San Jose, CA 95119; (408) 414-1452
Distributor type: Specialized
Management: Joel Levine, chairman, president, CEO; Steve Takaki, VP; John Hamilton, VP; Mike Carroll, VP and sales contact
Major lines: Qorvo, Skyworks, Ampleon, MACOM-Metelics, Rosenberger, Peregrine, Carlisle, Sangshin, P1dB, API, Smiths
Value-added (product) services: Cable assemblies, die handling, die visual inspection, special marking, tape and reel, hybrid assembly, custom packaging, parametric test, evaluation boards, part screening/sorting/binning, and lead trimming/forming/tinning
Website: http://www.rfmw.com

Richardson Electronics, Ltd.
40W267 Keslinger Rd., LaFox, IL 60147; (630) 208-2200
Distributor type: Specialized
Management: Edward J. Richardson, chairman, president, CEO; Wendy Diddell, COO; Greg Peloquin, EVP; Robert J. Ben, CFO; Kathleen M. McNally, SVP, Global Supply Chain; Philippe Valy, sales contact
Major lines: Anokiwave, Cornell Dubilier, CPI, Dynawave, Fuji Electric, Kendeil, LS MACOM, Ohmite, Qorvo, Starpower, Tecate Group, Transphorm, United Silicon Carbide, WanTcom, Vishay
Value-added (product) services: Private labeling, cross referencing, component sorting, component testing, ECCN/ITAR control programs, and special packaging (military)
Website: http://www.rellpower.com

Rutronik GmbH
Industriestraße 2, 75228 Ispringen, German; +4972318010
Distributor type: Specialized
Management: Helmut Rudel, president & CEO; sales-na@rutronik.com, sales contact
Major lines: https://www.rutronik.com/electronic-components
Value-added (product) services: Design-in, cable assemblies, consulting
Website: http://www.rutronik.com
Sager Electronics
19 Leona Dr., Middleborough, MA 02346; (508) 947-8888; (800) 724-3780
Distributor type: Specialized
Management: Paul Andrews, chairman, CEO; Frank Flynn, president; Bruce Kellar, senior VP of sales; Faris Aruri, senior VP of marketing; Shannon Freise, VP operations
Major lines: Artesyn, EBM-Papst, Honeywell, Laird Technologies, Mean Well, Molex, Omron, Phoenix Contact, Samtec, Sensata Technologies, SL Power, TE Connectivity Value-added (product) services: Modular power supplies, custom modifications, setpoints and adjustments, power cycling and HALT testing, wire harnessing, series and parallel connections, enclosures, firmware updates, fan assemblies, DIN rail cutting & assembly, marking/label printing, wire duct cutting, laser printing, switch assembly, engraving, special package labeling, bar coding, bag & tag, kitting, UL certified for repackaged recognized components
Website: http://www.sager.com

Serial System Ltd.
8 Ubi View #05-01, Serial System Building, Singapore 408554; (65) 6510 2408
Distributor type: N/A
Management: N/A
Value-added (product) services: N/A
Website: http://www.serialsystem.com

Sherburn Electronics Inc.
175 Commerce Dr., Hauppauge, NY 11788; (631) 231-4300
Distributor type: Specialized
Management: James Burke, president; John Odenthal, VP; Gerard Barry, sales contact
Major lines: Burndy, Boeing, Dell, HP, EHC, Ohmite, PAAL Technologies, Rayovac, Shock Watch, Struthers Dunn, TE Connectivity
Value-added (product) services: Visit website.
Website: http://www.sherburn.com

SMD Inc.
1 Oldfield, Irvine, CA 92618; (949) 470-7700
Distributor type: Specialized
Management: Rich Unruh, president; David Herrera, VP; Pete Ainsworth, VP; Sean O'Bannon, VP; Paul Klein, VP; Jeni Rodriquez, chief procurement officer; sales@smdinc.com, sales contact
Major lines: Avery Dennison, Bussman, Cal Chip, CIT, ECS, EDAC, EPCOS, E-Switch, Hellermann Tyton, King Cord, KEMET, Kycon, NKK Switches, NMB Fans, Novacap, OST, Oupiin, Panduit, Pentair, Samtec, Singatron, TDK, Yazaki
Value-added (product) services: Cable assembly and testing, kitting
Website: http://www.smdinc.com
Smith
5306 Hollister Street, Houston, TX 77040; (713) 430-3000
Distributor type: Hybrid
Management: Bob Ackerley, co-founder, co-owner; Lee Ackerley, co-founder, co-owner; Marc Barnhill, chief trading officer & sales contact; Kirk Wehby, chief operating officer; Matthew Hartzell, chief administrative officer, Mark Bollinger, chief globalization officer; Phyllis Tsu, chief information officer; Sean Evans, interim CFO, Todd Burke, VP of business development; Margo Evans, VP of marketing; Choon Byun, president, Asia-Pacific; Art Figueroa, VP of operations & quality, NA & EU; Cleat Kimbrough, VP of operations & quality, Asia & EU; Minji Hong, VP of Asia, Jennifer Kabbara, trader development manager; Ken Neusaenger, director of sales development; Kent Pang, VP of Asia; Todd Snow, VP of global project development; Thuy Tran, general counsel; Sean Trinh, VP of finance
Major lines: N/A
Value-added (product) services: HDD and SSD wiping, flashing, shredding, dry packing and packaging, tape and reeling, barcode labeling, baking, kitting, rework services, component recovery
Website: http://www.smithweb.com

Steven Engineering, Inc.
230 Ryan Way, So. San Francisco, CA 94080; (800) 258-9200
Distributor type: Specialized Management: Bonnie A. Walter, chairman; Paul E. Burk III, president and sales contact; Bryan J. Wolfram, CEO & COO; Kevin F. Mutto, chief procurement officer
Major lines: Banner Engineering, E-T-A, Honeywell, IDEC, Mersen, Phoenix Contact, Rittal, Schneider Electric, SMC Pneumatics, Turck, Value Added Services
Value-added (product) services: Kitting, cable assemblies, rail assemblies, engraving, enclosure modifications, pneumatic assemblies, terminal block marking, custom modification, etc.
Website: http://www.stevenengineering.com

Symmetry Electronics Corp.
5400 Rosecrans Ave., Hawthorne, CA 90250; (310) 536-6190
Distributor type: Specialty semiconductor
Management: Mark Zack, president; David Beck, VP; Clancy Barham, VP; Willie Chan, chief procurement officer; Stephan Buba, sales contact
Major lines: Digi International, Lattice Semiconductor, Micronas, Nordic Semiconductor, Silicon Labs, Telit
Value-added (product) services: Field and in-house applications engineers, cellular and cloud services, testing, custom engineered solutions, exclusive development kits, design services, cellular and cloud plans for M2M/IoT applications, programming, kitting
Website: http://www.symmetryelectronics.com
TTI, Inc.
2441 Northeast Pkwy., Ft. Worth, TX 76106; (817) 740-9000 Distributor type: Specialized
Management: Paul Andrews, CEO; Mike Morton, COO; Chris Goodman, CFO; Tom Vanderheyden, VP, TTI Sales America & sales contact
Major lines: Amphenol, AVX, Bourns, Delphi, FCI, Glenair, Honeywell, KEMET, KOA, Littelfuse, Molex, Nichicon, Ohmite, Omron, Panasonic, Phoenix Contact, TDK/Epcos, TE Connectivity, Vishay
Value-added (product) services: Connector assembly, product special services, packaging, and labeling
Website: http://www.ttiinc.com

URS Electronics
123 NE 7th Ave., Portland, OR 97232; (800) 955-4877 Distributor type: Broadline
Management: Mark Twietmeyer, president and sales contact
Major lines: Visit website.
Value-added (product) services: Visit website.
Website: http://www.ursele.com

Velocity
2208 Energy Drive, Austin, TX 78758; (512) 973-9500 Distributor type: Independent
Management: Kristofer Kelly, president, CEO; Johan Dahl, VP; Isaac Tan, VP; Hal Juergens, VP; Karrin Franco, VP; Jason Bresler, chief procurement officer; Grant Schnabel, sales contact
Major lines: N/A
Value-added (product) services: http://velocityelec.com/services
Website: http://www.velocityelec.com

Waldom Electronics Corp.
1801 Morgan Street, Rockford, IL 61102; (815) 968-9661 Distributor type: Specialized
Management: Basel Nizam, president; Karen Collins, chief procurement officer; James Clark, sales contact
Major lines: Honeywell, Molex, TE Connectivity
Value-added (product) services: N/A
Website: http://www.waldom.com (USA), http://waldomemea.com (EMEA), http://waldomapac.com (APAC)
WPG
No. 489, Tiding Blvd., 8th flr, Sec. 2 Neihu District, Taipei City, 114, Taiwan; 886-2-87978860
Distributor type: Globally – broadline; Americas – Specialized
Management: Simon Huang, chairman; Frank Yeh, president & CEO; Scott Lin, VP; Cliff Yuan, VP; Jazz Chang, VP; David Li, VP
Major lines: Intel, TI, Samsung, NXP, Toshiba, Micron, ON Semi, ST Micro
Value-added (product) services: Build to order, integrated solutions, design chain serices
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