

# Connection *focus*

A PUBLICATION OF CHRISTOPHER ASSOCIATES, INC.  
SANTA ANA, CALIFORNIA  
(714) 979-7500 | [www.christopherweb.com](http://www.christopherweb.com)

## Living in Interesting Times



Many of you are looking for some insight into the American economy and how this will affect our industry in the months ahead. Wall Street has been through a lot in the past few weeks, and more turmoil is likely before the calm.

The problems in the market have been building for a number of years. America and some parts of Europe have undergone a fundamental explosion in home equity in the past 15 years. Overall, this is a very good thing, but prices rose too high and there has been a correction in residential real estate of 15-20% to date. The housing market is currently stable at a lower level. This will take time to work its way through the system and will affect the U.S. economy for the next year or two.

Lending laws were lax, and credit was easy. People who should not have gotten loans did. However, most of the people who did get those loans are responsible and are paying their mortgages down. Yes, there are credit defaults, but according to U.S. corporate law, banks and financial institutions must write down all assets in a class if any are written down. This is why we have seen the credit crunch on Wall Street. Lehman Brothers, Merrill Lynch, and AIG all invested heavily in mortgage backed securities and with the write downs do not meet their loan covenants. The U.S. government is stepping in aggressively in a way that has never been done before and is actually taking ownership in several companies in the interest of stability. There are more companies at risk out there, but with a stable market, most of these problems will be worked out. However, for the next year or two, Wall Street is going to have to digest these new developments. It is my opinion that the stock market will lose a percentage of its value, but overall, good companies will remain sound investments. Already, many investors are stepping in to take advantage of discounted assets. This may include the U.S. government as a part of the liquidity package recently enacted into law.

In addition, the overall U.S. economic numbers have been stable. Factory output, wages, etc are all at the same rate they have been for the past year, and most of our customers are still very busy. This will change as the toll from Wall Street is taken, but underlying fundamentals such as exports, 3G rollout, HDTV rollout, and increased internet bandwidth requirements will help the electronics industry weather a recession. Continued growth in the military/aerospace market as well as medical will also contribute.

## Tax Legislation Alert



Legislation helping manufacturing companies save capital investment dollars is scheduled to expire at year end. Two key provisions of the Economic Stimulus Package of 2008 provide a significant benefit. The first almost doubles the amount of Code 179 expensing to \$250,000. This is especially useful to small and medium sized companies. The second provision allows for 50% first year depreciation of qualified property, helping to keep America's companies, large and small, stay competitive.

These are the kind of laws common in Asia, where companies are constantly investing in new plant and equipment. To take advantage of these benefits you must act quickly. For further clarification, please contact your tax professional. The savings are considerable, making investing in yield improving technology even more attractive. Let Uncle Sam help you thrive!

## Company News

The past few months have been very busy at Christopher. We have continued to improve performance across the company with the addition of key staff, improved internal systems and procedures, and regular cyclical training for all staff. In addition, we recently completed our annual team building and planning meeting, where almost all of the staff was present and participated. This will help the company meet your needs in the coming year. Teamwork is not just a word at Christopher. It's our way of life. Christopher is making a strong investment in the future.

We are pleased to welcome Erin Terrazas as Sales & Marketing Coordinator, where she will interface with our sales staff, representatives, suppliers and customers. Erin has many years experience in high technology marketing, and brings a strong background in web development, database management, and marketing to the company. Her free time is taken up with her children, snowboarding, ocean sports, and tending to her 1962 Cadillac.



Erin Terrazas

Jasbir Bath has also joined the Company as Consulting Engineer for materials & processes. Jasbir has many years experience in electronics assembly and metallurgy, most recently at Solectron – Milpitas (now Flextronics) as their corporate materials team leader. In this role, Jasbir has earned a global reputation as one of leading experts not only on soldering & joining, but on “Green” technologies as well. He is currently writing portions of and editing a book on lead free processing. Prior to joining Flextronics, Jasbir spent several years at the International Tin Research Institute. Among his achievements are several certificates for outstanding lead free project leadership from iNEMI, the IPC Best Conference Paper Award for APEX 2007, and extensive work with and leadership in the SMTA. We are very proud to have both Jasbir and Erin with us.



Jasbir Bath

---

## Koki Tec: KDS-101 Dross Separator



Koki Tec, in cooperation with Sony Corporation, recently developed the KDS-101 bench top dross separator. This system will take up to 10 Kgs of dross per cycle and remove the remaining solder to be recycled and placed back in use. Recovery rates average 60-70% of the overall weight, and the solder has the same purity as virgin bar.

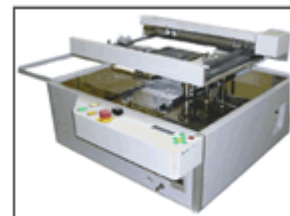
Typically, companies have sent their dross out for recycling, often paying a substantial fee to have it taken away and disposed of. With solder prices at all time highs, the KDS-101 fundamentally changes the equation and helps the user reduce their operating costs substantially. The KDS-101 turns your dross into cash!



## Taku Robo: Bench Top Soldering System

For odd form components, for connectors, and for low volume manufacturing processes, the Taku Robo by Koki Tec is one of the simplest and lowest cost soldering solutions. Programming can be done using data or manually, and set up takes only a few minutes.

Especially for lead free applications, the Taku Robo offers a level of consistency and quality that far outperforms hand soldering operations. Preheat and soldering temperatures are precise, reducing process variables and resulting in significantly improved quality. Koki Tec's Taku Robo can process even high temperature solders.



---

## HD-2000 Hole Checker Breaks \$100K Price Barrier!



The Machvision HD-2000 conveyerized hole checker represents the latest technology for hole verification in printed circuit boards. Using most standard drill file formats, the HD-2000 inspects bare printed circuit boards for hole presence/absence, diameters, location, and plugging. Programming takes only minutes, and the system can inspect anything from HDI to backpanels to high volume/low technology product. The HD-2000 is very cost competitive at less than \$100,000.

Machvision is known worldwide as a leader in inspection technology for the printed circuit manufacturing and assembly industries. The Hole AOI Express is one of the most useful drill room inspection tools available. While the HD-2000 does production inspection, the Hole AOI Express is a precision measurement tool that can be used for hole inspection, but is better suited to measurement of drill wander, positional accuracy, and other high level requirements for technically advanced boards. Machvision's Line Gauge is another production tool for measuring line widths precisely at the top or the foot of the trace as well as arcs, neck downs, and etch factors.

---

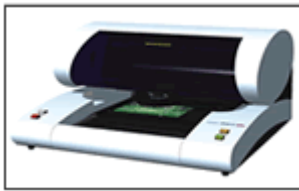
## John Preston Joins Japan Unix

John Preston, well known for many years in his last posting at Janome, the world's leading robotics supplier for electronics applications, has recently joined Japan Unix as Product Manager for North America. John has over 15 years experience in applications and support of complex electronics soldering technologies, and will be based in Chicago, IL. His ability to assist customers in selection and implementation of robotic soldering technology is unsurpassed.

A recent installation of the Unix 414R robotic soldering system is an excellent example. The user was having some trouble with the initial installation because of fixture issues. We were able to solve these in 5 minutes on site with a simple design/program change. Today, the customer is soldering up to 2,000 assemblies/day with significantly improved yields

---

## Marantz AOI Systems



Up to 20% of all AOI systems purchased in North America sit idle, gathering dust. Why? Unmet expectations, false calls, and missed defects are the typical culprits. Marantz has addressed these with the most robust programming software in the industry. While competitive systems use multiple masters and built up images, the Marantz systems use highly advanced algorithms, advanced lighting techniques, and full color to ensure the lowest possible false call rate while capturing defects the others don't see. One of the key issues is that many AOI systems look very good in a one day demo, or even 30 day demo, but it is in the 60-90 day time frame that missed defects and high false call rates begin to appear as more jobs are run and bad programming defects become apparent. With thousands of systems installed worldwide, Marantz remain the global leader.

Marantz AOI technology beats high end competition – The Marantz NSpec DL recently beat one of the most advanced systems on the market at a Canadian account who did a 60 day head to head evaluation. Defect capture rates were the same, while the false alarm rate on the Marantz system was much lower. Another factor for this customer was the ability to inspect color coded through hole components. Starting in the mid \$40K range, the iSpector, with its built in technology upgrade path allows greater flexibility and capital resource management. The user can start with a basic system today and enhance the technology as customer requirements change. The system can also be upgraded to in line applications as well.

The Marantz PowerSpector in line AOI system offers some of the most sophisticated AOI capability in the industry with throughput at the highest levels. Cycle times are very short, and using the Marantz CS Center SOPC package, defects can be precisely tracked and the PowerSpector becomes a significant yield improvement tool post placement or post reflow!

---

## First EIE Photoplotters

The RP- 700 Series photoplotters, introduced at the JPCA Show in Tokyo this summer are the new standard in high speed/high accuracy artwork generation. Starting with First EIE's unique low RPM, 512 beam technology, the RP-700 offers high speeds even on very fine line patterns at 4 micron pixel size and 25,000 dpi. This translates into a 7 micron line width. MTBF for the light source is 100,000 working hours. First EIE, the world's leading supplier of photoplotters, manufactures a complete range of machines, from low cost bench top systems to the most advanced in the world. The recently introduced RP-800 series photoplotters offers film sizes up to 34" x 56".



---

## Koh Young Introduces New Programming Software

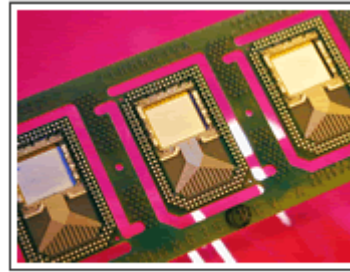


We are pleased to announce the release of ePM-SPI, our new Gerber file importing software. For the past 3 years, and with over 175 systems in operation in North America, feedback from our customers has requested greater functionality and editing capability for special applications. The ePM-SPI offers this and much more. After over 1 year of testing and revisions, ePM-SPI offers a more robust, dynamic package that is easier to use than ever before. Please contact your local representative of Christopher's engineering department for more details.

## Report on HDI Printed Circuits Now Available

Matt Holzmann was recently invited to deliver the keynote address to the IPC's HDI Conference in Dallas, Texas. This report, titled "The Demand for High Density Interconnect" covered the North American market and drivers for microvia, blind/buried via, and other high density substrates.

Today, consumption of HDI printed circuit boards in North America is over \$1.2 Billion, while production is reported at approximately \$270 Million, with most product coming from overseas. Demand is rapidly rising in a wide range of applications, including packaging substrates, rigid/flex, wireless, defense, and aerospace. Future drivers will include automotive, telecommunications, and medical electronics. Copies of the report are available for download at [www.christopherweb.com](http://www.christopherweb.com).



## Christopher Holds Engineering Summit



Last month, the entire Christopher engineering team assembled in Santa Ana for a 1 week training summit. In working with some of the most innovative suppliers in the world, it is important that lessons learned from field experience, as well as new products and features be transmitted to the engineering staff as rapidly as possible, to ensure our customers are kept up to date and competitive. The meeting was designed to enhance this activity.

With support from Koh Young Technology, Marantz, Machvision, Koki, and Japan Unix, new applications, software and hardware improvements, and lessons learned were discussed and reviewed in a laboratory environment. Constant training is vital to success and with extensive training from our suppliers, and internally, the Christopher engineering team is one of the best in the industry.

## Leading High Technology EMS Provider Vicor Expands Use of Koh Young Solder Paste Inspection

Vicor Corporation (Andover, MA) recently added additional bench top and in line solder paste inspection capability from Koh Young Technology after over a year of experience and analysis. Improved quality control and yields have helped Vicor become a leader in high technology electronics assembly.

With over 175 systems in use across North America, Koh Young is the leading supplier of solder paste inspection technology. Recent additions to the Koh Young product line, including the KY-8030L low cost system and the aSpire, the world's most advanced SPI system, help our customers improve their competitive advantage as technology advances.



## Koki Company Ltd. Solves Soldering Issues



The S3X48-M406-3 lead free solder paste has been introduced to solve pillow defect issues in fine pitch BGA and CSP applications while offering an excellent process window. Printability is excellent, while Koki's attention to detail and consistency results in some of the best repeatability in the industry.



The S03X7Ca-56M lead free solder wire greatly extends soldering tip lifetimes while ensuring very fast and complete wetting, minimized solder/flux spattering, and no tailing. Savings in tip costs alone make the S03X7Ca-56M a product that will reduce costs and improve yields immediately.

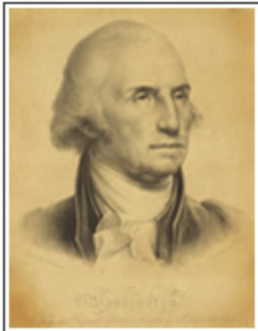


The SE48-M956-2 and SS48-M956-2 lead based solder pastes ensure outstanding printability even in super fine pitch (0.4mm/16 mil) applications. Faster wetting also helps reduce pillow defects.

## This Month in History

10-9-1000	Leif Ericsson discovers "Vineland"
10-14-1066	Battle of Hastings. William defeats Harold II, conquering England
10-9-1446	Hangul Alphabet published in Korea
10-13-1492	Columbus lands on Salvador Island, Bahamas, discovering America
10-16 -1829	The Tremont, the first modern hotel in the United States, opens in Boston.
10-10-1845	United States Naval Academy opens
10-8-1860	First telegraph lines between Los Angeles & San Francisco
10-9-1876	First 2 way telephone conversation
10-21-1879	Thomas Edison demonstrates first filament light bulb
10-8-1896	Dow, Jones reports first Industrial Average
10-17-1907	First wireless service across Atlantic by Marconi
10-9-1915	Woodrow Wilson becomes first president to attend World Series (Red Sox – Phillies)
10-23 -1929	1st Commercial Airline service between Los Angeles – New York
10-15-1939	LaGuardia Airport opens in New York City

## Thought for the Month



Though in reviewing the incidents of my administration, I am unconscious of intentional error, I am nevertheless too sensible of my defects not to think it probable that I may have committed many errors. Whatever they may be, I fervently beseech the Almighty to avert or mitigate the evils to which they may tend."

George  
Farewell  
September 19, 1796

Washington  
Address



3617 West MacArthur, Suite 507  
Santa Ana, California 92704  
(714) 979-7500 | fax (714) 557-6904  
[www.christopherweb.com](http://www.christopherweb.com)