

NEW BUSINESS OPPORTUNITIES

STAYING PROFITABLE IN DIFFICULT TIMES
PAGE 4

MARANTZ AOI SYSTEMS

THE NEW ISPECTOR:
THE RULES HAVE CHANGED
PAGE 3

CHRISTOPHER

Connection
*focus*A PUBLICATION OF CHRISTOPHER ASSOCIATES, INC.
SANTA ANA, CALIFORNIAINDUSTRY UPDATE
We Are All In This Together

The financial turmoil on Wall Street is taking a serious toll on the manufacturing economy. Poor investments in mortgage backed derivatives by everyone from General Electric to General Motors to the banking sector have resulted in a freeze in the economy. If left to continue, we will talk ourselves into a much worse recession. As FDR said in his first inaugural address, the only thing we have to fear is fear itself. We are at that point again, in a way. People are still working, companies are still manufacturing, and many sectors of the economy have been doing reasonably well. There are issues with significant sectors, but overall, the United States economy is so diverse that other sectors are growing while some are shrinking.

A survey last week of the Christopher sales force throughout North America paints a more positive picture as well. After coming back from the Christmas break, we found that while many large manufacturers have slowed, many more small and mid sized companies are busy trying to keep up with orders. We must resist the temptation to talk ourselves into a recession.

Another factor working to the advantage of American electronics manufacturers is China. Factories there are running at less than profitable operating rates (<70%), making it unprofitable for them to build some of the smaller orders that OEM's require in a down market. This will make flexibility and technology a critical advantage for North America based companies. Many of the multinational EMS companies have also pulled in their horns. Foxconn is rumored to have already laid off over 100,000 employees in China alone. A lot of the financing of major EMS manufacturers was provided by leverage, and they will have less wiggle room in the current economy. Advantage to the well-capitalized.

Now is the time to train, to install and debug equipment and to improve yields. Every percentage point improvement in yields translates directly into higher profit margins. We must watch our costs, invest where necessary, and aggressively seek new opportunities.

COMPANY NEWS Christopher engineers have been covering the world lately, training with suppliers, doing demonstrations, and most importantly, installations. New operating systems have been put in place to enhance efficiency, and our infrastructure staff have been working to make the mechanics of day to day business simpler, more responsive, and less expensive for our customers. A major web site redesign to expand content and allow easier navigation has also been completed. You can access this at www.christopherweb.com.

The company also held its annual management meeting in October here in California. Planning is critical, even more so in difficult times. 14 team members participated, and we were able to prioritize customer and supplier service and support projects that will have a direct benefit both short and long term.



KOKI LEAD-FREE CORED REWORK WIRE



Recent evaluations by [Beamworks](#) using the Koki lead-free general cored anti-erosion wire: [S03X-7Ca-56M](#) using their laser soldering equipment has shown excellent wetting results at equivalent wetting times compared to competitor lead-free cored wire materials. This increased wetting ability and proven decrease in tip wear when soldering with iron-tip systems make [Koki](#) wire an attractive choice for both hand soldering and automated applications.

KOH YOUNG TECHNOLOGY

Recent competitive evaluations at several major accounts of the [Aspire](#) high speed/high accuracy solder paste inspection system and the standard [KY-8030L SPI](#) system reconfirmed Koh Young's leadership position in the industry. The competition continues to improve, but [Koh Young's](#) dedication to both technology and cost performance make it the clear choice in virtually any manufacturing operation. Especially in challenging times, yield improvement is critical, and no one comes close to our ability to help prevent defects from occurring.



Recent installations include multiple systems at [Vicor Corporation](#) (Andover, MA), [Mack Technologies](#) (Melbourne, FL), and [TRW](#) (Winona, MN), as well as at a major automotive EMS supplier with facilities in Mexico and Costa Rica. [Vicor](#), who manufacture the [Vi Chip](#) power conversion chips, are using the [Koh Young](#) systems in a very high density, high accuracy application, while our automotive customers are running some of the fastest beat rates in the world.



The [KY-3020T](#) bench top system has become the de facto standard for low volume and laboratory applications. Solder paste manufacturers, stencil manufacturers, OEMs/EMS and paste printer manufacturers have been making breakthroughs using the [KY-3020T](#) to characterize their processes and materials. The [KY-3020T](#) has proven to be especially useful in understanding the effect of small changes in stencil design and paste rheology. The result will be better products and improved performance in the coming year across the industry.

KOKITEC SOLDER DROSS SEPARATOR

In a recent installation of the [KDS-101](#) dross separator, solder recovery of [60-70% of the total volume](#) from the dross was confirmed. Analysis results have shown the purity of the solder has conformed to incoming material purity solder standards. The system is simple and very easy to use. With solder prices at all time highs, and especially so for lead free, the [KDS-101](#) (10 Kg capacity) and the larger version [KDS-251](#) (25 Kg) cut costs and reduce solder consumption dramatically with a relatively rapid ROI.



ANAHEIM MD&M SHOW

[Japan Unix](#) and [Christopher Associates](#) announced today that they will be exhibiting automated soldering systems, high end soldering stations, and defoaming mixers at the MD&M show in Anaheim, CA on February 10-12, 2009.

[Japan Unix](#), the market leader in soldering systems, has over 30 years experience providing top of the line soldering solutions for the PCB assembly market. Their robotic systems offer ease of use, high quality solder joints, and repeatability that is unmatched in the industry.

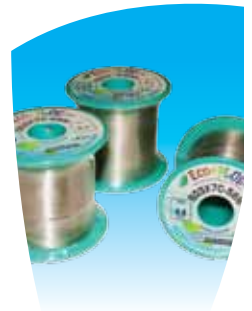
Christopher Associates, the North American distributor for Japan Unix, is celebrating their 31st year in supplying world class products and solutions for the electronics market. Based in Santa Ana, California with 3 offices in North America as well as Taiwan, Christopher supplies sales and service for leading technology suppliers from all over the world.

JAPAN-UNIX SOLAR SOLDERING TECHNOLOGY



Japan Unix recently introduced the **Unicon 108XL** high mass soldering iron for solar cell manufacturing applications. Available in 100W, 150W and 300W versions and with a high tip mass and digital controller for rapid recovery in high volume applications, the Unicon 108XL is the leading solution in lead free applications.

Robotic soldering applications have been increasing rapidly. Process parameters are controlled precisely in difficult applications where consistency is an absolute requirement. Medical, military and automotive manufacturers are coming to rely more and more on the quality and performance of the Japan Unix systems. Japan Unix soldering tips also exhibit lifetimes much longer than competitive products, and combined with the industry leading **Koki** lead free **S03X7Ca-56M** anti-erosion wire, can extend tip life up to **4X**. In the long run, this makes both the **Japan-Unix** robotic soldering systems and bench top soldering irons much less expensive to operate.



KOKI WIRE

The addition of **John Preston** as **Unix's** USA applications engineer expands the Christopher support team as our competition contracts.

MACHVISION



MACHVISION BAREBOARD AOI

The Machvision **EZ 3D** three dimensional inspection system offers very rapid dimensioning and measurement of even the most complex geometries on printed circuit boards. It can inspect arrays of individual substrates up to 24 x 28 and features autofocus and automatic edge detection. Off line programming ensures high productivity. A full SPC software suite completes the package.

MARANTZ AOI SYSTEMS



The **Marantz AOI** systems continue to improve. Programming is faster than ever before, while new illumination technologies allow the system to capture defects missed by most competitors. In a recent evaluation against a much more expensive competitor, the **Marantz DL-18** outperformed the alternative in virtually every category. At another account, we were told that their 5 year old Marantz system did better than a brand new unit from one of our competitors that had been brought in for evaluation.

The **Marantz iSpector** offers the best price performance in the industry. Starting in the low \$40,000 range, the iSpector is a full color, full capability system that can be upgraded from bench top to in line as your business grows. Don't settle for a compromise in performance.

Recent installations of Marantz systems include a major EMS supplier in San Jose, CA, **Creonix Inc.** (Bradenton, FL), **American Precision** (Carol Stream, IL), **Mirac Corporation** (Lynchburg, OH), and **Pacific Insight** (Nelson, BC, Canada).

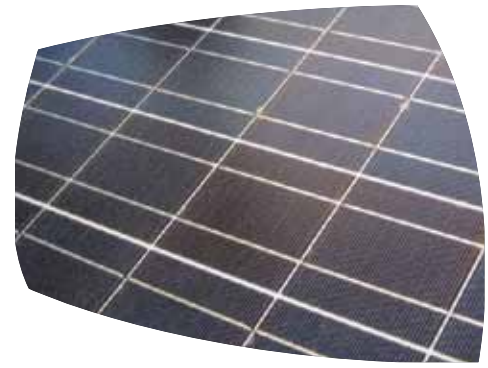
TRADE SHOWS

February 10 – 12
March 31 – April 2
July 14 – 16
October 4 – 8

ATX Expo – Anaheim, CA
APEX – Las Vegas, NV
Intersolar Semicon West – San Francisco, CA
SMTAI – San Diego, CA

SOLAR TECHNOLOGY

January marks the kick off of Christopher's solar module manufacturing product line. Featuring GSE Solar EVA film, Tonsan sealants, Hengdu junction boxes, and Japan Unix soldering stations, our goal is to provide the best quality at competitive prices. Jasbir Bath has been working hard on technical qualifications, and our engineering team is ready to support the solar module manufacturing base. All of these manufacturers are leaders in the Asian market and have a global footprint.



KOKI SOLDER PASTE

One of the issues facing the industry has been an increase in the head-in-pillow (BGA) soldering defect primarily related to warpage of the board or BGA/CSP component. Typically this has more often occurred during lead-free soldering where higher soldering temperatures increase the warpage affect increase the defect tendency. Tin-lead soldering operations are not immune and recently Christopher supplied the Koki M956-2 Sn37Pb Anti- Head in Pillow paste for a paste evaluation which included competitor paste products in the assessment to a major OEM. The results showed good performance of the M-956-2 anti pillow defect solder paste. Further studies continue with this paste that was developed specifically to reduce this affect. In addition, another major OEM is currently evaluating Koki M406-3 SnAgCu anti-pillow paste in evaluations to reduce the head-in-pillow defect during lead-free soldering.



NEW BUSINESS OPPORTUNITIES FOR PCB MANUFACTURERS

HDI

Embedded Active & Passive Components

Meso - MEMS

LED & OLED Lighting

Well established, and in high mix/medium volume, very profitable

Leading edge, but emerging into mainstream applications rapidly.

Micromechanical Systems (MEMS) today are a \$40 Billion market. New technologies are emerging to scale many MEMS applications to the printed circuit board level (Meso = medium)

Another exciting emerging market. Printed circuit boards are an ideal vehicle in many applications.

In difficult times, innovation can lead the way to profitability. The printed circuit board is changing rapidly from a passive to an active device. New technologies offer incredible business opportunities, but will require a rethinking of the manufacturing process and business model for North American fabricators. These technologies include:

For more information, please contact Matt Holzmann at matt.holzmann@christopherweb.com

THIS MONTH IN AMERICAN HISTORY...

Jan 1, 1863
Jan 1, 1937
Jan 6, 1843
Jan 8, 1856
Jan 15, 1967
Jan 18, 1778
Jan 22, 1946
Jan 24, 1935
Jan 29, 1936

Lincoln issues Emancipation Proclamation
A guest at the Hormel Mansion wins \$100 in contest to name new meat product known as *SPAM*
First demonstration of telegraph. (Morristown, NJ)
Borax found in California desert. Detergent industry born.
First Super Bowl: Green Bay 35, Kansas City 10
Captain Cook discovers Hawaii. First Hawaiian shirt sold.
CIA Established. Shhh...
First canned beer sold by Krueger Brewery, Richmond, VA
Ty Cobb, Babe Ruth, Honus Wagner, Christy Mathewson, and Walter Johnson elected 1st Class of Baseball Hall of Fame

