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## EMA Update

EMA has been very busy over the past few months and we apologize for letting the newsletter schedule slip. It appears that trying to publish this every other month is too demanding so we will now move to a quarterly timeline.

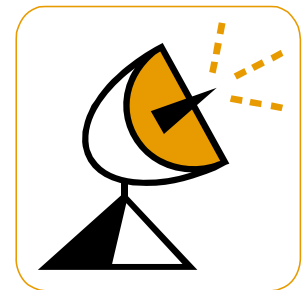
There have been some new developments with our linecard. We parted company with AMC Capacitors after Johanson decided to consolidate reps across their 3 businesses. We had linecard

issues with Johanson Technology and withdrew from consideration.

IEH connectors has been added to replace the lost revenue. We also added Fortasa Memory, a manufacturer of specialized industrial grade/mil COTS solid state disk drives.

EMA has expanded into Maryland and Virginia and added 2 new sales people in that territory – Jim Lindsay and Matt Williams. We now cover

DC and 9 States in the southeastern U.S. although our linecard varies from state to state.



## Triquint News

There have been a number of new products released since our last newsletter. First up is the **TQP36918x** series of general purpose Darlington pair gain blocks. Operating from DC-6 GHz these 4 new devices offer from 15-20 dB gain and OIP3 of 18.5-30 dBm on 5V at 45 mA. The devices are packaged in SOT-89 or SOT-363 and are Class 1C ESD rated. The devices are priced at \$.73 at quantity 1000.

Next up is the **TQM829007** digital variable gain amplifier module. This device offers high linearity performance in an integrated module which includes LNA gain block, DSA, high linearity 1/4W amplifier,

matching components, bias chokes and blocking capacitors all in a 28 pin 6 x 6 mm leadless SMT package. This device operates from 600-1000 MHz and is pin compatible with their high band TQM879006 which operates from 1.7-2.7 GHz. The TQM829007 operates at 5V 174 mA, P1dB is 24.5 dBm, gain is 31.5 and it will sell for \$5.42 at quantity 1000.

The **TQP7M910x** series of high linearity amplifiers was first announced in Q2 but two more devices were added in Q3. These amplifiers operate from 400-4000 MHz with gain from 15.8-21.9 dB and OIP3 from 39-48 dBm. Three of the 4 devices are packaged in SOT-89 and the

4<sup>th</sup> is in a 4 x 4 mm package. This family is ideally suited for transmit linear driver amps, base station Tx cards or repeaters.

The **TQM8M907x** series was also released in September. It is a broadband DVGA family operating from 50-4000 MHz from a 5V supply. Product features include: DSA & amp, low noise figure, 20.5 dBm P1dB, 36.5 dBm OIP3 and 6 bit 31.5 dB gain range. The devices are packed in a 32 pin 5 x 5 mm package.

The TQM6M4068 Quantum GSM/GPRS SP4T transmit module is now in mass production. This module is the lowest cost highest efficiency

## Triquint continued...



module in the market today. As with other Triquint handset modules, this device features flip chip technology for high reliability. The low band 824-915 MHz has maximum Pout of 33.8 dBm and 47% efficiency while the high band 1710-1980 MHz has 32 dBm Pout and 43% efficiency. The 5 x 6 mm LGA module operates at 3.5V and is approved by MediaTek for use with their MT6251 & MT5262 SOC chipsets.

Finally, the **T1G6001528-Q3** 18W GaN amplifier has been released. Operating from DC-6 GHz from a 28V supply, this device has > 60% drain

efficiency and > 10dB linear gain at 6 GHz. Packaged in an industry standard earless solder down package we expect this part to be used in radar applications as well as jamming, general purpose RF and professional communications. The device sells for \$86.13 in quantities of 100 and is available for immediate shipments.

In other Triquint news – James Klein has joined Triquint as VP of the Defense & Aerospace business unit. James is an industry veteran who has been with Raytheon the past ten years.

Triquint has folded the commercial foundry business unit into Defense & Aerospace and we expect to see a lot of focus put on new design wins in this arena with James Klein at the helm.

Triquint was one of 11 companies to receive a global supplier award from Sony Ericsson at their annual supplier function in Malmo, Sweden. They also attended the Lockheed Martin Missiles & Fire Control preferred suppliers conference last month. Triquint has been a platinum supplier for the past 4 years at Lockheed.

## Filconn – the industry’s best kept secret

There have been a number of new developments at Filconn since Jason Pedruzzi joined them as national sales manager. The most important is probably their Field Mouse family. Finally there is a plug compatible family of connectors to compete with Glenair’s Mighty Mouse. Simply add an “FM” to the front of the part number and you will immediately begin saving 10-20% on your connector costs.

Filconn will not offer the fiber optic derivatives but everything else is fair game. Lead times are

6-10 weeks depending on the configuration and of course you can get them filtered too if you like since that is Filconn’s core business.

Filconn also announced the availability of their banding surface connectors. There are two versions – the standard banding surface can use a spring band or band-it clamp. The low profile version will only accept a band-it clamp. These connectors eliminate size, weight and cost by eliminating the need for a back shell. They replace the

threads on the back of the connectors with a banding surface. You can terminate over braid, over mold or attach a shrink boot directly to this banding surface on the connector body.

Filconn can provide this type of solution in all circular families – 38999, 26482, 5015 etc. as well as D-sub. Contact your EMA sales rep for more information or visit the web site:

[www.filconn.com](http://www.filconn.com)



## Focus on Synergy Microwave

Synergy chairman and chief scientist have the cover story in November’s Microwaves & RF Magazine. The article written by Ulrich Rhode and A.J. Poddar is about a method of reducing phase noise in VCXOs. You can find a reprint of the paper on Synergy’s web site in the press section.

You may have also seen an

article in October’s issue of Microwaves & RF about the new filter technology that they have developed. The new **BPF800020000** is a template for future custom designs. This bandpass filter operates from 8-20 GHz with a pass band of 5 or 10% of center frequency. The insertion loss is dependent on frequency and bandwidth but ranges from 1 dB for low

frequencies to 3.5 dB at the highest frequencies and widest pass bands. The maximum ripple for any pass band is specified at  $\pm 5$  dB. The center frequency drift is only  $\pm 6\%$  across the operating temperature range of -35+85°C.

[www.synergymicrowave.com](http://www.synergymicrowave.com)

## Late breaking customer news

**Harris Corp.** has delivered two unfurlable mesh reflectors to Lockheed Martin Space Systems for integration on the first Mobile User Objective System (MUOS) satellite, an ultra high frequency satellite communications system for the U.S. Navy. Harris also announced that they would soon be breaking ground on their new \$100M high tech engineering center on the Palm Bay, FL campus. The 450,000 square foot facility will add 100 new jobs to GCSD and create 300 construction jobs. 1200-1400 Harris employees will be moving in once the facility is completed.

**AAR Airlift** of Palm Bay has won 2 contracts totaling almost \$115M for airlift services of food, people and equipment for the troops in Afghanistan and the U.S. Pacific fleet.

**Rockwell Collins** has re-entered

the in-flight entertainment system market with the release of their new PAVES3 system. The PAVES and digital dPAVES systems are currently installed overhead in about 1600 aircraft. The PAVES3 system is digital and is installed in the seat back.

**Lockheed Martin** has won contracts for \$78M for TADS systems and upgrades for the Netherlands, Egypt, Taiwan, Kuwait and Saudi Arabia. They also won a \$16M contract for TSS.

**Comtech Telecommunications** won a \$5M contract for modular transportable troposcatter systems in support of the Army's WIN-T communication system.

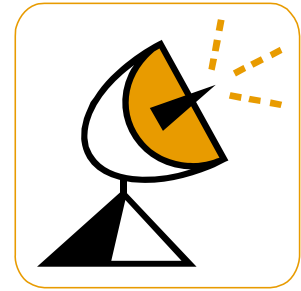
**Honeywell** won a \$141M contract for inertial navigation systems for the Bradley, Knight & Howitzer.

**BAE Systems** won a \$13M contract for repairs and upgrades to the USS Philippine Sea (CG-58). Work will be performed in Jacksonville, FL.

**Northrop Grumman** received an order for one additional E-2D Hawkeye. These aircraft are assembled in the St. Augustine, FL location. In other news their laser division is undergoing a bit of a shake up after 2 rounds of layoffs this year. Purchasing and some engineering is moving back to the Apopka facility this month.

**CAE** has won a \$12M contract for the refurbishment of 9 flight simulators to support the KC-135 aircrew training system.

**Motorola** shareholders overwhelmingly voted for approval of the \$12.5B bid from Google for the mobile phone arm. The takeover will still need to pass by federal probes but it is expected to be complete in early 2012.



## IEH and the world of hyperboloid contacts

Most people have never heard of a hyperboloid contact and you may wonder why should I care.... If you are terminating 600-800 contacts in a single connector you will easily understand the answer to that question. The insertion and extraction force of that many terminations is very high without this amazing contact system. The technology was developed by a company in France who licensed many other connector companies to build. The male contact is a straight pin. The female is a barrel contact with a wire basket inside. There are multiple contact points and a lot

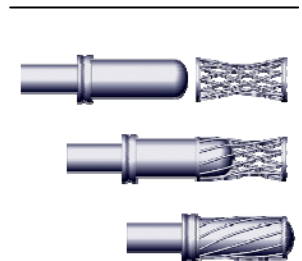
of surface area making contact between male and female so these contacts have good current carrying properties. Benefits include very low insertion/extraction force, extraordinary resistance to shock and vibration (tests exceeding 300 g's without discontinuity), 100,000 mating cycles, low contact resistance and over 40 years of reliability under the most demanding conditions.

IEH is one of the original licensees of this technology. Over time the Smiths Company has acquired all other licensees, so IEH is the only independent

manufacturer left in the field. In the U.S. their competitor is Hypertronics. IEH is approved on MIL-DTL-55302 and is a 4<sup>th</sup> generation family run business. Their facility in Brooklyn, NY is in a hub zone and they qualify as a small business. About 40% of their business comes from custom solutions and the balance from standard products. IEH has connectors in down hole well drilling equipment and on the Hubble Space Telescope, so they deal with harsh environments all the time.

Their web site is:

[www.iehcorp.com](http://www.iehcorp.com)



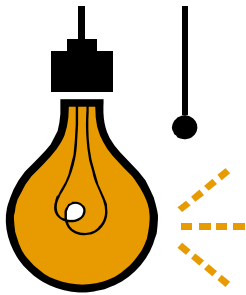
## EMA signs Lighthouse Technologies

EMA signed a rep agreement with Lighthouse Technologies of San Diego, CA. Lighthouse is a U.S. based manufacturer of RF connectors and custom cable assemblies. Their connectors are manufactured in China (at a Lighthouse facility) and cable assembly is done here in San Diego. Their products include: SMA, RPSMA, SMB, SSMB, SMC, MCX, MMCX, MC Card, N, BNC, TNC, FME, 7/16, F, G,

Mini UHF and more. They also offer adaptors, RF terminators and custom solutions. One of the products they sell is actually manufactured by IPEX, a Japanese company that second sourced Hirose's U.FL connector. If you are tired of waiting for long deliveries on your Hirose needs, you should contact us. Lighthouse has a special relationship with IPEX who refer all customers to them

on requirements under 500,000 pieces. Lighthouse has termination machines for this connector and produces more than 20,000 cables per month with this style of connector. Of course we have the board mount mating connector too and these are fully inter-mate-able with Hirose. To learn more check out their web site at:

[www.rfconnector.com](http://www.rfconnector.com)



## Nelson Nameplate

Nelson Nameplate merged with Miller Dial recently and the merger had an impact on their relationship with EMA. Nelson went to market with a rep network and EMA had been their rep in Dixie for many years. Miller Dial went to market with a direct sales force and so what they decided to do (after the merger) was to blend their approach by keeping both channels. The direct sales force will cover commercial accounts

and the rep organization will cover government and military accounts.

This change resulted in the loss of revenue for EMA and to make up for this Nelson decided to extend their agreement with EMA to cover the state of Florida.

It turns out that the bulk of our business with Nelson was already on the

government/military side of the house anyway, so this was a nice addition to our line card in Florida.

Nelson has a 240,000 square foot facility in Los Angeles, CA and manufactures nameplates, labels, graphic overlays, membrane keypads, molded silicone rubber keypads, fiber optic backlighting and windows & lenses.

[www.nelsonusa.com](http://www.nelsonusa.com)

## Company profile – Fortasa Memory

Fortasa Memory is a developer of custom memory solutions for the ruggedized/mil COTS market. Standard products include industrial grade SATA and PATA solid state disk drives, industrial compact flash and PCMCIA, USB disk modules and their disk chip and disk module products. Fortasa specializes in non-standard form factors and custom solutions including things like encryption, protection zones, password protection, unique device ID's and special software

functions like purge command.

Fortasa has introduced a new product offering to take advantage of the ruggedized low cost memory market. Some applications are infrequently modified so it was seen as beneficial to offer a solid state disk drive family tailored to this market. The memory devices are still rated at industrial temperature range but the recommended write cycles is greatly reduced to take advantage of a market that

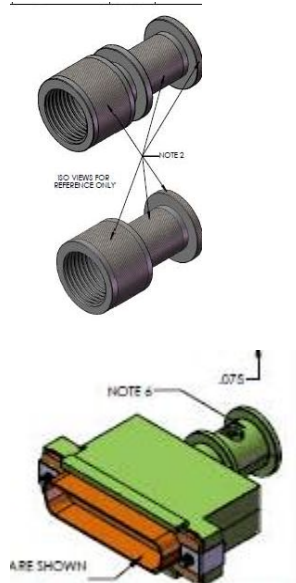
doesn't need this option. Pricing is dramatically impacted when you need those write cycles. The memory for these new MLC devices is NAND flash from Micron.

Please visit [www.fortasa.com](http://www.fortasa.com) for more information.

## Isodyne news

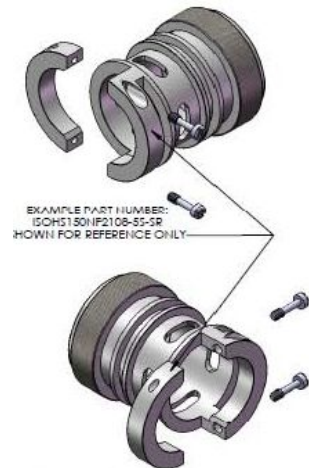
Isodyne has introduced several new products since our last newsletter. The first of these is the ISO101 series. This was meant to be a cost effective version of the popular 150 series. It is a direct coupling adaptor to save money. This simpler design requires less machining. It will be available in the straight configuration only with no options for length call-out or quick-ty but you can have the shrink boot groove. Obviously it won't replace the 150 series but it could help you save money if you don't need all the features of the 150 series.

Isodyne also introduced the ISO206 series of split D-sub back shells. This series is fully split with no assembly hardware for all M24308 and NASA 311-P connectors. At this time they are only offering the top entry version. The spring band holds the back part of the back shell together and the jack screw hold the front part together.



The third new product is the ISO strain relief. This is a mod code for a mechanical strain relief option to be added to any

standard circular back shell entry that does not already have a quick-Ty. Half of the strain relief system is machined and part of the back shell. The other half of the solution is a second piece which is attached to the back shell with 2 screws. The inside diameter once fully assembled is 1/10" smaller than the cable entry diameter.



## Riedon Resistor News

Riedon has introduced three new families of products to their resistor lineup. The first is their **PCR** family. Riedon is well known for creating high quality joule rated wirewound resistors capable of handling instantaneous pulses of power. They are now extending this capability into their new PCR family which is a high pulse chip resistor able to withstand up to 4000W for .1 ms. Compared to other competitors, this rating is much higher. The family is available in 0603, 0805, 1206, 1210, 2010 and 2512 packages. Power ratings from 1/8W to 1.5W, tolerances to  $\pm 5\%$  and TCR's to  $\pm 100$  ppm are offered. The 0603's are available in 10 ohms to 1 meg, the other packages are available in 1 ohm to 20 meg. The second new product is the **CSR** family of ultra low ohm (metal strip) chip

resistors. They introduced this family to meet an increasing demand in the market for low ohm surface mount shunts. This type of device is used across many industries and applications including DC/DC converters, charger or adapters and power management for battery charging. Resistance tolerance to  $\pm 1\%$  and TCR's to  $\pm 50$  ppm are offered. The package sizes available are 1206, 2010, and 2512. with power ratings of 1W to 3 W and resistance ranges from .5 milli ohms to 15 milli ohms.

Due to the high success of the Riedon MFM series of precision metal electrode leadless face resistors, Riedon has come out with a family called **MGM**. It is a high voltage MELF resistor. This series is able to withstand an operating voltage of up to 3000V. This is nearly 9X higher than the

MFM series which can withstand up to 350V. The MGM family of high voltage metal glaze film resistors is available in 0207, 0411 and 0617 packages with power ratings of .5W to 2W, tolerances to  $\pm 5\%$  and TCR's to  $\pm 100$  ppm and resistance values of 50K ohms to 2 G ohms.

Riedon has the best lead times in the industry and should be your source for precision resistors. Please contact your EMA sales person for samples and data sheets.



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## We're on the Web!

visit us at:  
[www.emarep.com](http://www.emarep.com)



## Distribution

PEI Genesis has signed a deal with Cinch to assemble MIL-C-26500/BACC 45 and 67 series connectors from component stock. If all components are available PEI can now provide 48 hour turn around on orders. Please keep them in mind for your requirements.

Combat Warrior Sales, a service disabled veteran owned small business is now accepting credit card transactions. In other news, the CWS web site has been completely updated and they

have signed a franchise agreement with Fortasa Memory systems – a specialty manufacturer of industrial grade solid state disk drives.

Dependable Components is now a stocking distributor for Maglayers, a Taiwanese based manufacturer of chip beads, chip inductors, surface mount power inductors and LTCC products.

## Upcoming Events

Jan 15-18 - IEEE Radio Wireless Week – Santa Clara, CA

Feb. 14-15 – ShipTech 2012 – Rosen Plaza Hotel – Orlando, FL

Feb. 20-24 – International Wireless Communications Expo – Las Vegas, NV

Mar. 5-7 – IEEE Int'l. Workshop on Antenna Technology – Tucson, AZ

Apr. 1-4 – AAAA 2012 – Nashville, TN

Apr. 14-19 – NAB Show – Las Vegas, NV

Apr. 16-17 – WAMICON 2012 –

Cocoa Beach, FL

May 7-10 EDS – Las Vegas, NV

May 22-24 – SOFIC – Tampa Bay Convention Center

Jun. 17-22 - IMS/MTT-S – Montreal, QC

## About Our Organization...

In 2009 our company joined forces with Combat Warrior Sales to offer our customers another channel for purchasing product. EMA has a minority interest in the company which is a registered on the government CCR web site as a service disabled veteran owned small business. EMA provides inside and field sales support for CWS. Visit their web site at: [www.combatwarriorsales.com](http://www.combatwarriorsales.com)



On January 6, 2012 EMA signed an agreement to purchase Carwithen Associates Inc., a manufacturers' rep company covering DC and the states of Maryland and Virginia. Carwithen has operated since 1972. As a result of this acquisition, the Carwithen principals have converted all the rep contracts over to EMA and one of them (Impact Cases) extended their agreement to cover all our markets in the south east. Please visit the EMA web site for up to date information on lines covered in each of our market locations.