

SIGNALS

CLEAR COMMUNICATION FROM THE HPA TEAM
First Quarter 2006


Gregg Lowe
*Sr. Vice President,
 Worldwide Manager of HPA*

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Continuing to Accelerate Our Momentum

The fourth quarter of 2005 was another good quarter for HPA. Our revenue grew nearly 8 percent from the third quarter, which again was stronger growth than that reported by all of our competitors. In particular, we again outgrew ADI, LTC and Maxim. This means we gained market share. In fact, HPA outgrew all of our competitors for the 2005 year and for each respective quarter of the year. This is a truly outstanding accomplishment – thanks to all of you for driving this result.

HPA also again set a quarterly record for revenue and profitability. Our objective is to grow revenue at a faster rate than the competition, with good cost and resource management, so that we can increase profits even faster. In the fourth quarter of 2005, our revenues of \$492 million drove a Profit from Operations (PFO) of 36.1 percent. We are nearing our targeted profitability of 40 to 50 percent, and that is great news.

These results are a direct outcome of our willingness to set high expectations and then hold ourselves accountable. At some point, it becomes a matter of personal ownership. Each of us, in showing commitment to meeting our objectives, collectively generates these results.

We also, at the end of 2005, were pleased to welcome Chipcon to the TI family. This new team, in bringing a strong RF-IC portfolio and technical capability, will allow us to provide our customers a broader offering of high-performance products with cutting-edge wireless applications.

The end of the year was not without challenges. In 4Q05, we aggressively

addressed manufacturing and test bottlenecks, putting in place additional equipment and capacity to address the growing product demand from our customers. We should see those actions, as well as other operational efforts, help us meet product demand as we move through early 2006. Unfortunately, these additions came on line rather late, driving a significant number of customer delinquencies. We are working these daily and are trying to get back in a more positive supply/demand balance.

Our priorities in the last four years have served us well, and will again be our priorities for 2006.

- **Customers** – make them more central to all processes and make it easier to do business with us
- **People** – set higher personal expectations and improve the talents and capabilities of the team
- **Products and Execution** – provide superior, differentiated products on time to customer requirements

As we begin 2006, please reflect on how your role impacts the key objectives of your organization and how the HPA priorities impact your position. It is important that everyone in HPA understands how your organization wins and how you will be part of that success.

2005 was a pivotal year for HPA. Our financial results strengthened to the point that the outside world has really begun to pay attention to us. We have become a very important part of Texas Instruments. Our competition takes us seriously. This means that the stakes are higher, and we should expect the competition will be even tougher.

In addition to actions relative to our priorities, I have noticed a couple of growing behaviors that I believe also contribute to our success. They will likely make an even greater impact in the future. I would characterize these into two groups:

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Selflessness. This means making decisions and taking actions that are in the best interest of our customers and our company, even if it is not immediately beneficial to your team or yourself personally. This is happening more often in HPA. Some examples:

- Take a role that is needed to be filled, even though it may not in the short term be your first choice.
- Let the development of a product be completely done by another design team because they have a running start or the product has affinity with their existing products.
- Partner with an internal "competing" organization on product positioning in front of a customer, to let the customer centrally select the best TI solution, even though it may not be yours.
- Reallocate resources based on updated expected return on investment.

Collaboration. Working across organizational boundaries and realizing all Tiers are on the same team. As we leverage a growing broad product portfolio with our customer base, cross-selling and systems solutions will be more common. Collaboration is key to making that happen, and it is happening more and more across HPA and TI.

- Work with another product group to create and market a more complete board solution to a customer.
- Call the Tier in the support organization on which you depend to let them know something of importance is coming, so they can better anticipate and plan for support.
- Make yourself easier to work with. Solicit opinion, involve others, extend credit willingly.
- Partner to find innovative ways to represent new product opportunities within existing customers and gain market share in large accounts.

We are positioned to win, but it will require our continued effort and focus. Our future appears bright.

Again, congratulations on a tremendous 4Q05 and 2005 in total and best wishes for success in 2006!

WW HPA Business Update

~ Steve Parks, Director of Marketing

Revenue and Resales

For the fifth consecutive quarter, HPA set records in revenue and resales in 4Q05. The results were about in line with our expectations going into the quarter. Revenue sequential growth was about 8 percent and distribution resales grew 1 percent. The results were boosted by continued strong demand in Asia and a rebound in Europe following the seasonally slow third quarter.

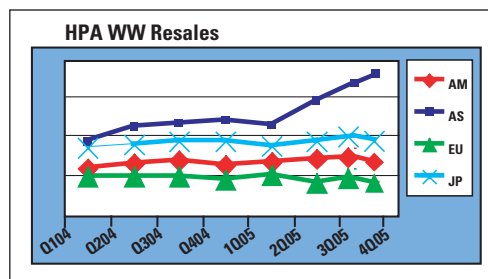
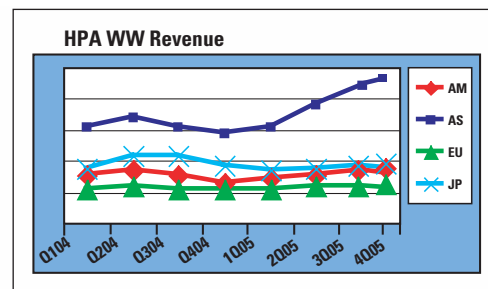
All regions except Japan had revenue growth in 4Q. There were a couple of larger fulfillment transfer orders to Asia that kept the Japan revenue numbers from being better. This transfer business also helped a little in Asia's exceptional revenue growth of 19 percent from 3Q05. As a result, Asia revenue represented more than half our total business for the first time. Consumer demand for portable power and audio products during the holiday season led to a typically stronger 4Q, but we also saw some resurgence in industrial demand for amplifiers and data converters.

Distributor inventory dollars remained about flat in 4Q, though we are trying to rebuild stock to provide better customer support. Customer service and the Operations team spent a good deal of the quarter managing the backlog and deliveries to meet critical customer demand. We will continue to build inventory in 1Q06 in anticipation of 2Q06 demand, which historically has been the strongest quarter of the year in the analog market.

Not surprisingly, 2005 ended up being a record year for HPA in virtually all categories. Revenue growth was about 12 percent and resales grew more than 17 percent.

Market Share

2005 was a great year in market share as well. HPA set a record for World Semiconductor Trade Statistics (WSTS) market share with more than 5 percent of the total analog business in the world. We

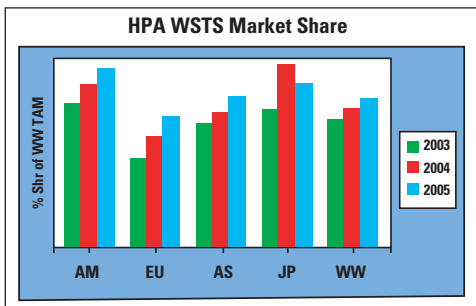


were below 4 percent in 2003. You might think a 1 percent gain in two years is not that great, but the analog market is a \$30 billion market with many strong competitors. This is a big accomplishment.

All regions except Japan showed strong share growth in 2005. The Japan team has been reworking organizations and strategy that should help regain momentum going forward.

HPA also outgrew LTC, Maxim and ADI for 2005. LTC remains the toughest competitor from these three and grew about 8 percent in 2005 (recall HPA was about 12 percent). Maxim and ADI had relatively weak years with flat growth and a 6 percent decline respectively. Both of these companies have been reshaping their strategies and are making progress. Maxim has forecasted a very strong 1Q06, for example. We also look at other companies in this space. Intersil and others have made significant progress in revenue growth. It's not surprising that many of these are choosing similar strategies as HPA. 2006 will undoubtedly bring even greater challenges in market share growth.

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Market Trends

Fourth quarter was about as expected. Consumer electronics, particularly portable equipment, and Notebook demand remained strong. Handset sales demand fueled growth for audio and power management as well. The industrial market is improving and starting to grow again.

The outlook for 1Q looks a little stronger than seasonality would indicate. Normally as the holiday selling season ends and the Lunar New Year is celebrated, demand slows in 1Q. This year, it appears that consumer spending remains a little stronger, and HPA also has some pent-up demand that we need to catch up on that will buoy revenue and resales. The second quarter has also been the strongest quarter seasonally for 10-plus years. With lead times stretching for hot products, we will see an increased effort by our distributors and customers to get these products in stock early. Of course, counter to this are increasing interest rates and uncertain oil prices, which makes the 2006 outlook as uncertain as usual.

Final Word

We ought to take a moment and bask in the successes of 2005, but we can also learn from the things we did right and the things we did wrong in achieving these results. Most of you have already planned activities for 2006 that you believe will achieve even better results. If we learned carefully, plan well and creatively act, then we can achieve even better performance. If so, then around this time next year, we will be enjoying our successes again.

TI completes acquisition of Chipcon

On Monday, Jan. 23, TI announced it had finalized its previously announced acquisition of Chipcon, a leading company in the design of short-range, low-power wireless RF (radio frequency) transceiver devices.

This acquisition will expand TI's high-performance analog portfolio and will enable TI to provide customers with industry-leading ZigBee™-compliant solutions and a broad range of proprietary radio frequency integrated circuits that enable innovative low-power wireless applications.

The acquisition combines Chipcon's market-leading radio frequency portfolio, technical support and development tools with TI's high-performance analog silicon technologies, systems expertise and sales network to provide customers with complete low-power wireless solutions. Chipcon's product line fully complements TI's existing high-performance analog, power management and ultra-low-power microcontroller portfolio.

Chipcon has a strong position within both proprietary and standards-based radio technologies. It targets consumer applications such as wireless keyboard/mouse, wireless VoIP solutions, remote controls, wireless gaming accessories and active RFID systems, as well as home and building automation applications such as alarm and security systems, automatic meter reading systems and other monitoring and control systems.



The Chipcon product line strengthens TI's position in ZigBee, a global standard for wireless monitoring and control applications. Chipcon was the first company to launch a 2.4 GHz IEEE 802.15.4-compliant and ZigBee-ready RF transceiver. The company also introduced the world's first true System-on-Chip ZigBee-compliant solution. It recently added location estimation capability to this product. Chipcon is the first company to offer three ZigBee-compliant development platforms and provides a true one-stop-shop solution including RF transceivers, the industry-leading Z-Stack™ ZigBee protocol software, development tools and proven reference designs.

Chipcon also offers a broad range of proprietary low-power and high-performance CMOS RF ICs for a large number of wireless applications in the 300 to 1000 MHz and 2.4 GHz ISM frequency bands. This product portfolio includes transceivers as well as true System-on-Chip solutions. Unlike competing System-on-Chip solutions, these products deliver everything the designer needs in a single die without requiring off-chip memory. This enables shorter time-to-market, lower cost and smaller end products, due to the high integration level.

Chipcon will continue to operate as a wholly-owned subsidiary of TI from its headquarters in Oslo, Norway, as well as from its software design center in San Diego. TI is paying approximately \$200 million for the acquisition.



HPA Product of the Quarter: TPS62110

PPM Power Conversion IC Chosen a Second Time by TI Field Sales

The field sales team has voted and for the first time ever, they have chosen the same device as HPA's product of the quarter for a second time: the TPS62110 from HPA's Portable Power Management (PPM) business.

In July 2005, PPM announced the new TPS62110, a 1.5-A DC/DC step-down converter that supports from 3.1 V to 17 V of input voltage. Already, the device has over 22KU on backlog, with over 900 sample requests from companies such as Bose, Cisco, General Dynamics, Hitachi/Omron, Motorola, OKI, Philips and Verifone.

This small IC achieves 95 percent power efficiency to extend battery life in industrial handhelds, portable test equipment and consumer devices powered by two- to three-cell

lithium-based batteries or a 12-V power source. TI's new synchronous, step-down converter with integrated FETs delivers unprecedented levels of power conversion efficiency and performance in a lead-free, 4 mm x 4 mm QFN package. The device, which leverages TI's new LBC7 analog process manufacturing technology, is able to maintain high efficiency over a wide load current range by entering a power-saving pulse-frequency modulation (PFM) mode at light load currents and supporting output voltages from 16 V down to 1.2 V. The converter can be placed in a shutdown mode, reducing power consumption to less than 2 μ A.

The converter's 1 MHz switching frequency allows portable device designers to reduce board space by applying smaller external

components without compromising performance and efficiency. The TPS62110 can be synchronized to an external clock signal between 0.8 MHz and 1.4 MHz. For even lower noise operation, the converter can operate in a pulse-width modulation (PWM) only mode.

Honorable Mention Devices

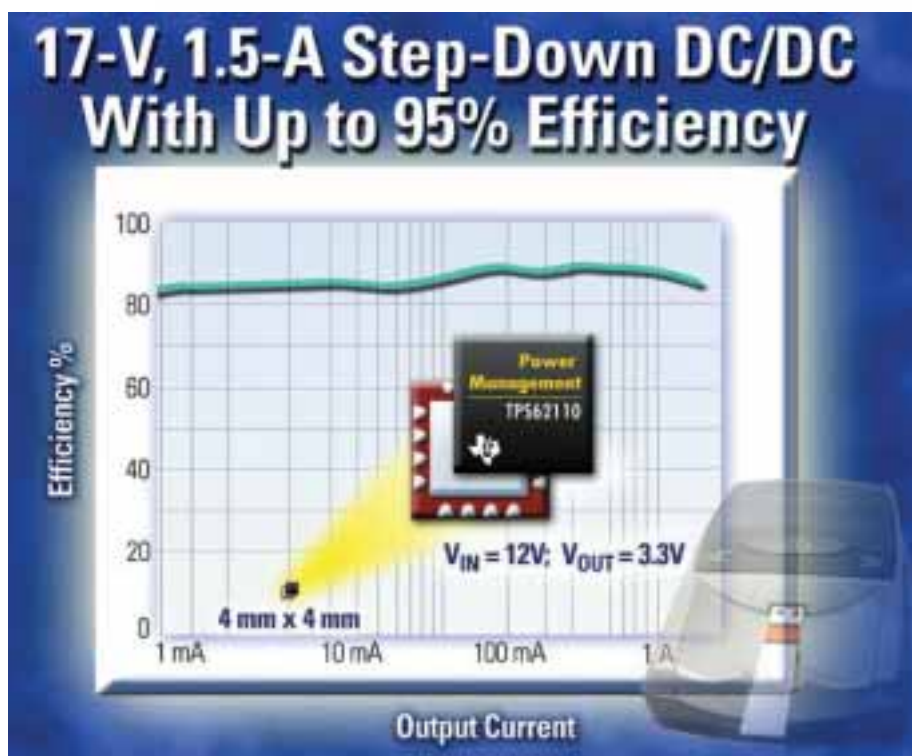
PTN04050A: 6-W, 3.3/5-V input, wide adjust output positive-to-negative converter

The PTN04050A is an adjustable output, positive-to-negative, integrated switching regulator. In new designs, it should be considered in place of the PT5020 series of positive-to-negative integrated switching regulator products. The PTN04050A is smaller and lighter than its predecessor, with improved electrical performance characteristics, while operating over a wider input voltage range, with an adjustable output voltage. The caseless, double-sided package also exhibits improved thermal characteristics, and is compatible with TI's roadmap for RoHS and lead-free compliance.

Operating from a wide-input voltage range of 2.9 V to 7 V, the PTN04050A provides high-efficient, positive-to-negative voltage conversion for loads of up to 6 W. The output voltage is set using a single external resistor, and may be set to any value within the range, -15 V to -3.3 V. The PTN04050A features include on/off inhibit, undervoltage lockout, over-current protection, and is suited for a wide variety of general-purpose applications that operate off 3.3-V or 5-V input.

TPA3200D1: Mono, high power, digital input, Class-D audio amplifier

The TPA3200D1 is a 20-W (per channel) efficient, digital audio power amplifier for driving a bridged-tied speaker. The TPA3200D1 can drive a speaker with an impedance as low as 4. The high efficiency of the TPA3200D1 (85%) eliminates the need for an external heat sink. The digital input accepts 16-24 bit data in I2S format or 16-bit word right-justified. A digital filter performs an 8x interpolation function. Other features include soft mute, a zero



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input detect output flag for power-conscious designs, and power-saving shutdown mode.

TPS23750: IEEE 802.3af PD controller with integrated DC/DC

The TPS23750 integrates the functionality of the TPS2375 with a primary side DC/DC PWM controller. The designer can create a front-end solution for PoE-PD applications with minimum external components. The TPS23770 is identical to the TPS23750 with the exception of the undervoltage lockout turn-on voltage, which is compatible with legacy systems.

The PoE front end has all the necessary IEEE 802.3af functions including detection, classification, undervoltage lockout and inrush control. The PoE input switch is integrated within the TPS23750.

The DC/DC controller section is designed to support flyback, forward and nonsynchronous low-side switch buck topologies. The external switching MOSFET and current sense resistor provide flexibility in topology, power level, and current limit. The full-featured DC/DC controller includes programmable soft start, hiccup type fault limiting, 50% maximum duty cycle, programmable constant switching frequency, and a true voltage-output error amplifier. Additional protection features provide for robust designs.

TI's new isolators speed data transmission and increase signal integrity

A family of high-performance digital isolators introduced by TI on January 16, 2006, features on-chip capacitors to improve system performance and reduce cost in high-voltage, noisy applications.



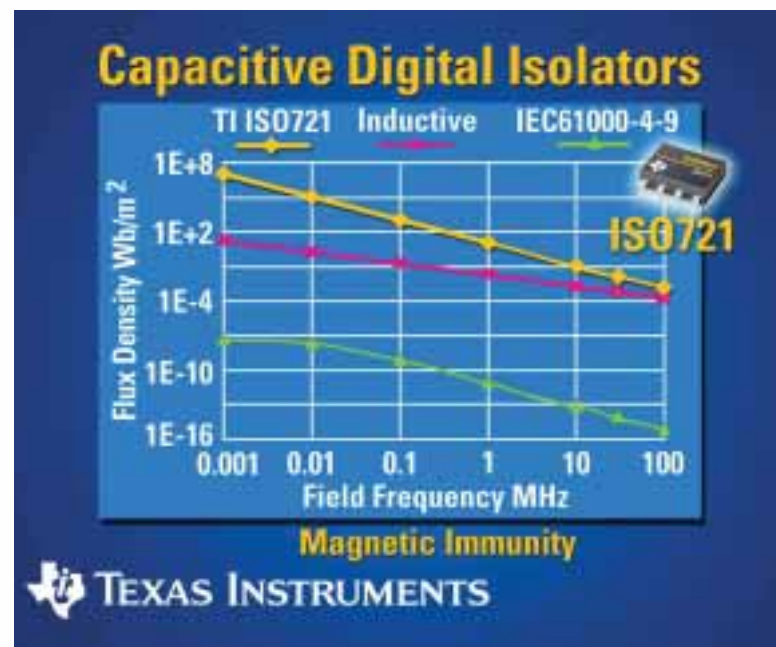
The ISO721 and ISO721M capacitive isolators, from TI's High Performance Analog group, lead the industry with the fastest data rates combined with higher signal integrity. They provide six orders of magnitude higher magnetic immunity than existing inductive devices and use 60 percent less power than high-performance optocouplers. (See www.ti.com/iso721)

The ISO721M is suited for applications that require fast digital data to be transmitted with low incidence of system noise. The ISO721 is more flexible and robust for transmitting data in noisy environments.

The devices use a semiconductor-grade silicon oxide dielectric that provides reliability and a long operational life. At typical operating voltage, each device's life expectancy is more than 25 years.

"The new isolators improve system performance and reduce cost in high-voltage, noisy applications such as factory automation, process control and data acquisition systems," said Gregg Lowe, TI senior vice president and worldwide manager of HPA. "As plug-in replacements for existing high-speed optical or inductive isolators, the ISO72x family also offers our customers considerable ease of use."

The ISO721 and ISO721M are the result of a new high-voltage process component developed and integrated in the LBC4 process. Among the TI groups contributing to this process breakthrough are HPL Interface, DFAB, Make, HBUMP and HPA packaging. The ISO72x family is manufactured in DFAB, assembled by TI Taiwan and tested by Hana, a TI subcontractor.



HPA Success: Winning at Intel

~Greg Waterfall

In the spring of 2003, the Portland, Ore., sales team asked Portable Power Management (PPM) to work with Intel to get some power devices designed into Intel's WLAN platform. The sockets were held by National, who was fairly entrenched with Intel. But Intel was willing to give TI a chance based on the relationship the Portland sales team had developed.

The solution required high performance but very low-cost LDOs. Working tightly with Mark Munoz, the lead Intel Technical Sales Representative (TSR) in Portland, and getting strong support from Jeff Falin on the PPM application team in Dallas, we were able to win HPA's first two sockets at Intel, beating out National and paving the way for future HPA opportunities.

With continued tight engagement with Intel from both the sales and application teams just a few months later, we were able to win sockets on Intel's next-generation design, and by the end of 2003 we had begun discussions on Intel's third-generation WLAN power management solution. Because of the great relationship built by the field and supported by the marketing and engineering groups, TI started to drive the power management architecture trade-offs with Intel and became their primary source for device performance data used in their design. This design went to production in late 2005, and TI has enjoyed a majority share of the sockets won on that design.

Intel's constant need to drive down size and cost led them to request that TI integrate the fourth generation as a complete Power Management Unit (PMU) solution. Because of the trust earned by the field and systems team, Intel requested that TI work with them to develop the specification for the Integrated PMU that TI would call Rainier. Although Intel considered TI as the preferred supplier, the request for quotation (RFQ) was put out for bid to three other suppliers to provide competitive pricing. The other suppliers all committed to meeting Intel's pricing targets and delivering to Intel's sample date in September. Volumes were in the tens of millions over 18 months.

When the specification was finally ready, Intel's sample date was only five months away. This raised the risk and level of effort for the Linear Regulator development team substantially.

The solution required high performance but very low-cost LDOs

To commit to the development and make sure the team was successful, the Linear Regulator team needed to be able to make a few very important things happen. The first key requirement was that in order to make the sample schedule, the team could not design any of the cells of the PMU from scratch. There needed to be substantial IP reuse, and this IP needed to meet the high performance requirements of the Intel specification. Intel had asked for the integration of a power multiplexer, one high PSRR LDO, and two buck regulators.

Although the Linear Regulator team had IP for both of the LDO and power Mux, the PMU required a buck that met Intel's requirements and had been implemented on the target process. Fortunately, the Low Power DCDC team in Freising, Germany, had just the right IP.

With excellent support and cooperation from the Freising team, the Rainier development team was able to make the necessary modifications and implement the buck regulators into the PMU.

Another challenge for the design team was that the multiplexer needed to be redesigned from its existing process onto the target process. The Rainier team had already used the majority of the design resources existing in the Linear Regulator product line. To complete the multiplexer redesign, we needed to turn to outside contractor resources to make the schedule.

This required tight management and interaction of the contractor by the Rainier team.

To make the tape-out date and fit in the 4 X 4 QFN package, the Rainier team also needed four to five layout resources. This meant borrowing two layout engineers from the PPM team in Dallas. In the end, the design team for Rainier consisted of four design and three layout engineers in Tucson, Ariz., two layout engineers in Dallas, three design resources from a contractor in Florida, and substantial support from the Freising team.

A second key requirement was to get very aggressive turnaround from the Freising Fab (FFab) and TI-Malaysia assembly. After careful coordination, the Rainier team was able to complete FFab, DBump, and TI-Malaysia QFN assembly in nine weeks.

The last key requirement, and what turned out to be the most important, was the ability to have a direct communication line into Intel engineering team in both Portland, Ore., and Haifa, Israel. This could only be accomplished through a strong relationship with the international sales and marketing teams in Oregon and Israel and a high level of trust at the customer. Our past performance and interaction with Intel had helped form a strong bond between the Intel engineers and supply group and TI's Intel sales and marketing team. Intel's trust came from the strong apps support from the field and the factory, stellar delivery performance starting in 2003 and continuing through 2005, the experience with TI on previous generation of WLAN power and the expertise demonstrated by applications, systems and design teams.

In the end, what constituted success for the team was not just to deliver the fully functional silicon on time to Intel, but to go beyond that and delight Intel with our service and support. This meant providing additional support such as characterization data at the same time the first samples were delivered and solid, timely support for all application issues that might come during Intel's initial evaluation.

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The Rainier team was able deliver the samples two weeks ahead of schedule with characterization on all critical parameters and gave complete support during the evaluation phase. TI ended up in the pole position by delivering the first fully functional samples.

According to Ryan Hoium, TI TSR for Intel, "Intel was VERY pleased to see such great results on the first spin...not to mention ahead of schedule." At this point two of the other suppliers had failed to deliver samples on time.

The ability to delight Intel on the Rainier project has led them to ask for a follow-on PMU for desktops with volumes in excess of the Rainier PMU. Prototype samples have been provided to Intel. We have also begun discussion on the specifications for the next-generation Rainier PMU. These opportunities would not have been made available without the excellent execution on Rainier. We have also continued to maintain majority share on the sockets in the previous-generation designs. Presently, the development team has delivered the final samples of Rainier to Intel and is awaiting their evaluation in the complete system.

The success on Rainier was the result of doing many things well. It also was determined by the successful efforts of everyone on the TI team. The field had developed a strong relationship, the application and systems teams provide great technical support, the planning and manufacturing teams manage product delivery flawlessly, and the development team steps up to what had been considered an impossible task.

The end result was a delighted customer and a significant amount of business with Intel. Intel has gone from considering TI as a commodity vendor to viewing TI as a strategic partner. The success with Intel is a great example of the power behind TI's and HPA's people and capabilities when they are committed to meeting a challenge.

Making it Easy to Sell HPA:

Marketing Precision Analog Solutions

~ Mike Lanz, WW Precision Analog Marketing Manager

Did you know that HPA is projected to sell more than a half billion dollars worth of precision analog components in 2006? I know, you're probably saying to yourself, "wow, that's a lot of op amps" - and you'd be right! But the precision analog business is that and much, much more.

In addition to more than a dozen families of amplifiers, our revenue is also derived from Nyquist and Delta Sigma ADCs, DACs, CAN/RS-485 transceivers, digital isolators, low-power wireless products including those obtained through the recent Chipcon acquisition, and a host of other linear components including temperature sensors, references, comparators and shunt monitors. Just about any application that monitors and/or processes real-world signals such as sound, light, pressure, vibration, etc., requires some sort of precision analog signal chain solution, making the need for these products almost as pervasive as oxygen. OK, perhaps a bit of a stretch, but at \$500 million plus, this is the second largest HPA business behind power, which everybody needs.

So again you may be saying to yourself, "I knew that already, what's the big deal?" What has changed is that for the first time, the marketing efforts, including Marcom and media relations, for all of these products have been combined into one organization. Toward the end of last year, a new marketing team was formed to bring together the precision elements of High Performance Linear (HPL) and Data Acquisition Products (DAP) under one umbrella.

By combining HPL's Linear, Industrial Interface, and Low Power Wireless business, with DAP's data conversion business, we are better equipped to serve our customers' markets, end equipments and applications by providing complete system and signal chain solutions. Additionally, we also align our marketing efforts more effectively with the field and our regional

business development teams to drive toward our ultimate goal of accelerating revenue growth to \$1 billion.

Ken Ristow, Analog Field Applications manager in San Jose, Calif., weighs in with the following: "The new Precision Linear Marketing org is a great next step in the evolution of TI from developing great parts and holding discussions on the benefits of devices, to that of an organization focused on providing solutions to a customer's signal conditioning challenges. Having teams that provide solutions that span multiple SBE-2s also brings value to the field sales team by making it easier to work with a single individual (or team) to develop a winning solution."

The breadth of TI's high-performance analog portfolio is a tremendous potential advantage for our customers.

Mark Wilson, who recently joined the HPL team to lead integration of the Chipcon acquisition, adds this perspective: "The breadth of TI's high-performance analog portfolio is a tremendous potential advantage for our customers. By having a marketing organization that works across multiple product lines to promote, position and support our broad portfolio, this will help maximize a sales person's first call effectiveness by communicating to our customers their combined benefits in any given application from concept to production."

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The organization has three focus areas – Consumer and Computer, Industrial Signal Conditioning and Industrial Interface. The fast-moving Consumer and Computer business has striking differences from our traditional industrial business with much faster production ramps and higher production volumes. Ross Wilhelm leads this effort and supports products commonly found in these applications, such as gamma buffers, video buffers, temp sensors, touch screen controllers and our upcoming fan control products.

The Industrial market is commonly associated with precision analog and should come as no surprise as being the largest. IMS research estimates for the year ending in 2004 that the Industrial Market represents approximately 29 percent of the worldwide general purpose analog total available market (TAM) at \$3.3 billion. Due to its size and fragmented nature of the end equipments that make up this market, our signal conditioning focus is split into two teams to more closely align with the applications.

Joe Stoupa leads the Industrial Instrumentation and Linear Component team, which focuses primarily on sensor, bridge and precision-based front-end applications, including Instrumentation, Medical and Test and Measurement. His products include delta sigma ADCs supported by Joe Celandia, linear building blocks including CMOS amplifiers, references and comparators supported by Gina Hann, and linear signal conditioning components including INAs, FET and bipolar amplifiers, programmable gain amps, log amps and 4-20 mA transmitters.

Skip Osgood leads the second team and focuses primarily on Industrial Control and Drive applications including Motor Control, Power Conditioning, Industrial Automation, and Communications. His products include DACs, SAR ADCs supported by Miro Oljaca and linear power and drive components including PWM drivers, diff amps, shunt monitors and power amplifiers supported by Bob Cometta.

Industrial Interface is the third element of the organization and is led by Bruce Ulrich. Whether you are communicating with a system over copper or wirelessly, data communication needs to be handled in some form or fashion.

Combining the interface elements together brings an additional focus to those needs that cut across all Industrial applications. Bruce's products include our Low Power Wireless devices supported by Landa Culbertson and the Chipcon team, RFID, Human Interface and Near Field Communication wireless products, and traditional CAN/RS-485 transceivers and our new digital isolators.

Additionally, as this issue of Signals was being completed, Don Travers joined the organization to drive Systems Marketing, leveraging his extensive expertise to bring greater focus to our signal chain efforts.

***Combining the
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By leveraging the breadth of our precision analog portfolio and having our product marketing teams work together focusing on key markets and applications, we can bring a whole new level of support to the field and our customers by providing system level and signal chain solutions. Additionally, this should translate to a higher level of sockets per project, which ultimately leads to higher revenue growth for TI where we all win.

The new structure is already paying dividends. According to Bruce Trump, Strategic Marketing manager for High Performance Linear products in Tucson, Ariz., "I'm seeing the benefits of the new precision analog marketing organizational structure. I've seen a significant increase in team interaction and collaborative marketing efforts among the PMEs, which will drive sales of the complete signal chain."

Quality Update: 2005 Audits and 2006 Actions

~ Charles Hefner, WW HPA Customer Quality Manager

During 2005, many of you participated in the Quality Audit process. The primary 2005 audit was required to maintain our ISO 9001:2000 certification. This is important to HPA for a couple of reasons. First, we learn a lot about our own processes through the audit and we are able to identify ways that we can be better. Sometimes it takes some objective new eyes to spot things that we miss, because we are too close to it. Secondly, our certification is important to many of our customers. Some customers require their suppliers to be so certified, and others see it as an endorsement of capability and a strong business foundation.

So, although preparing for and participating in an audit is quite time-consuming for you, the resulting certification impacts our ability to gain business with many of our customers. Thank you for a good job here.

The results of the audit reveal not just areas for improvement, but also highlight strengths. During the assessments, there were many areas of strength and best practices noted by the auditors. Some of the more consistent acknowledged areas of excellence were the following:

- Talent Management processes;
- New Product Development (NPD) process;
- Engineering Lab management;
- Overall management involvement in on-going operations and processes.

In fact, we have invested in each of these areas across HPA worldwide, so it is particularly gratifying to receive recognition of our progress.

A general feedback comment from the audits, for which we should be proud, was that HPA audit participants were quite knowledgeable of the processes being

audited, were helpful in providing information to the auditors, and were aware of the importance of the quality management system. It was also apparent to the auditors that HPA is a business that is constantly working to improve itself.

In addition to the HPA-wide audits relative to ISO 9001:2000 certification, we also successfully completed the TS16949 certification in the Digital Audio/Video Business Unit. The TS16949 certification is the automotive equivalent of the ISO 9001:2000 process. DAV is investing in the automotive business. This certification requires a very detailed audit of all business processes, and therefore particularly requires a lot of dedicated attention on our part. Passing this audit is tough, and we are very pleased with our success. The entire Digital Audio team contributed to making this happen.

In addition to identifying strengths, of course, audits also point out areas in which we can improve. Those areas are identified as Findings, categorized as Major, Minor or Areas for Improvement. We had several areas identified as Areas for Improvement. There are two areas we will specifically focus on in 2006.

The first is relative to our use of our design tools. As previously stated, it is agreed by the audit teams that HPA generally has a good NPD process. The level of investment that we have made in tools such as Galileo and eDocs demonstrates a commitment from our business to enable the process. The NPD process as defined in these systems and associated specifications is a robust process. Our challenge is ensuring that we actually follow the process and utilize the tools in a robust manner. In the course of the audits, we commonly found areas that were not in compliance with that intended NPD process. We'll work on that in 2006.

The second noted Area for Improvement is for each of us to be better able to answer the following question - "How does the work you do tie to your business' priorities?"

We are asking our supervisors to help connect each of us to our higher level priorities. It also is the responsibility of each of us to seek that connection.

The HPA priorities are well-known. They have not changed in four years.

Customers – Make them more central to all processes and make it easier to do business with us.

People – Set higher personal expectations and improve the talents and capabilities of the team.

Products and Execution – Provide superior, differentiated products on time to customer requirements.

Each Business Unit-level organization has priorities that tie directly to the HPA priorities. There are linked organizational objectives throughout HPA. We all should have just completed a performance review process in which personal objectives were outlined, and the connection to higher level objectives reinforced. It is important that this occur across HPA, worldwide.

Attention to these two areas will allow us to continue to strengthen.

Thank you for that attention and, again, thank you for all of your hard work in demonstrating your sincere commitment to the audit teams to the continued growth and success of HPA.