

SAFE BET SERIES

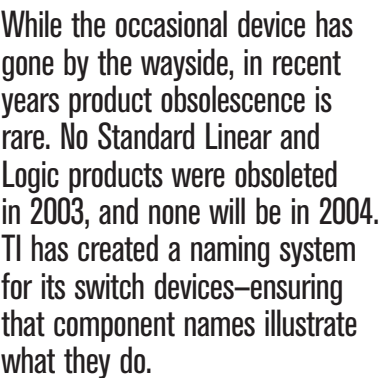
A SPECIAL SERIES FROM TI STANDARD LINEAR AND LOGIC

TRANSLATION TAKES OFF

As device complexity continues, the parts still need to talk.

BY HEIDI ELLIOTT

The strength of the digital consumer market will continue to drive the need for [translation level](#) products. Most electronic systems need voltage-[level translation](#), since some devices are capable of running at lower supply nodes while others are not. To achieve switching compatibility between these devices, the output of each driver must be compliant with the input of the receiver that it is driving.



While the occasional device has gone by the wayside, in recent years product obsolescence is rare. No Standard Linear and Logic products were obsoleted in 2003, and none will be in 2004. TI has created a naming system for its switch devices—ensuring that component names illustrate what they do.

The most advanced mobile phones, for example, now include cameras, gaming and PDA functions with a color display. A color display works at a higher voltage than the processor runs, so the device needs a translator. And, any time an electronic device has a display feature, somewhere in there is a translation issue that needs to be addressed. Even as the functionality of a device increases, the processor still needs to “talk” to the input/output mechanism.

Translation products are a priority for TI’s [Standard Linear](#) and [Logic](#) group this year, second only to switch products. TI will continue to introduce new [level translation](#) devices with a broad bit-width portfolio to meet any application need – from cell phones, to PDAs, to flat-screen televisions. “There is a very broad interest in translation products,” says Marketing Director for Worldwide [Standard Linear](#) and [Logic](#) Jan H. Pape. “We’re going into this market with a vengeance.”

Texas Instruments backs up its products with an array of support services. The company has not obsoleted a [Logic](#) product family in decades—dating back to the TTL [logic](#) line first introduced in 1964. And while the occasional device has gone by the wayside, in recent years product obsolescence is rare. No [Standard Linear](#) and [Logic](#) products were obsoleted in 2003, and none will be in 2004. TI has created a naming system for its switch devices—ensuring that component names illustrate what they do.

TI offers a full spectrum of products to achieve voltage-[level translation](#), including dual-supply [level translators](#), FET switches, over-voltage tolerant devices, devices with TTL-compatible inputs and open-drain output functions. “There’s a need in the electronics industry for most electronics systems to translate data into something that gives input/output (a translation device)—this need is presenting one of the biggest opportunities,” says Pape.

TI made a conscious decision to have the broadest possible range of Translation products. That includes products that meet any voltage translation configuration. Plus, the company does not limit itself to either bidirectional or unidirectional translation device markets—it has products for each of these markets. It’s a veritable one-stop shopping experience. “We came out with all kinds of packaging variances, which enables the customer to find a solution which needs almost no board space – so it can fit on a mobile device,” says Pape.

TI’s packaging options range from ultra-small single and dual gate packaging to space savings BGA and QFN packaging. Translation devices come in packages with improved lead-free finishes and balls. The company has offered the lead-free [Logic](#) option for a decade as concern about the environment came to the fore. “TI’s [Logic](#) group decided 10 years ago to go lead-free,” says Pape. “It’s important for more and more customers, whether the devices have to be lead-free or not. And it enables customers not to have to think about environmental regulations.” ♣

Heidi Elliott is a freelance editor based in Massachusetts. She has more than 10 years experience covering management, distribution, supply chain and financial issues in the electronics industry; plus experience as a reporter for daily newspapers in the New England region. Heidi holds a BS in magazine journalism from Boston University and an MBA from Simmons College.