



# Testing times?

There is probably no market sector immune from the need to provide more and more features in a product at ever decreasing prices. And embedded test and measurement is following this trend.

Introducing a new series of entry level oscilloscopes, Peter Kasenbacher, Agilent's EMEA product line manager for oscilloscopes, noted: "It's all about providing more functionality in a lower cost device. We've included a better display, more memory and more measurements. Not only is the 1000 Series good for education, it will also provide better productivity."

The announcement of the 1000 Series is another step in a busy few months for the company. In March, it added four models to its InfiniiVision 7000 Series, as well as providing three additional measurement solutions for use with its 86100C digital communications analyser.

But the 1000 Series is the major launch in a period which will see Agilent update significant parts of its scopes line up.

Kasenbacher intimated that Agilent will be broadening its scope offering.

## 'Economy' scope line gets features boost.

By **Graham Pitcher.**

"The 1000 Series will replace our 3000 family," he noted.

The move, he admitted, is part of Agilent's longer term thinking about gaining market leadership. Pointing to a compound annual growth rate of about 6% in scope sales – which he believed to be twice that of the nearest competitor – Kasenbacher said that refreshing the product range regularly was part of the approach.

"We introduced 24 new models in 2008 and will be launching 16 more in the first half of 2009 in three categories," he noted. Acknowledging the current economic climate – 'everyone is being impacted by the economy' – Kasenbacher said Agilent was not holding back on its R&D effort.

The 1000 Series is the second generation of oscilloscopes which Agilent has developed for sale only through the

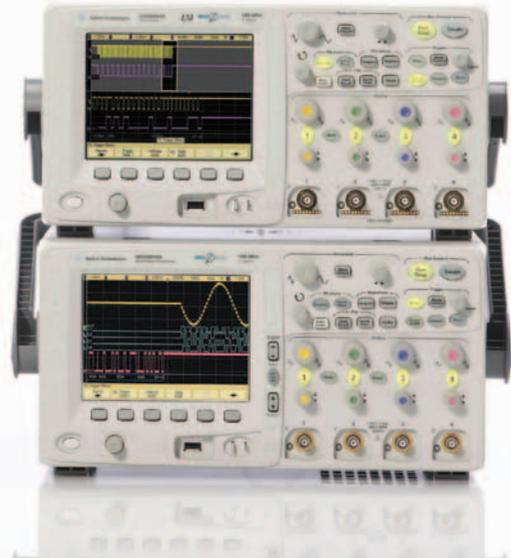
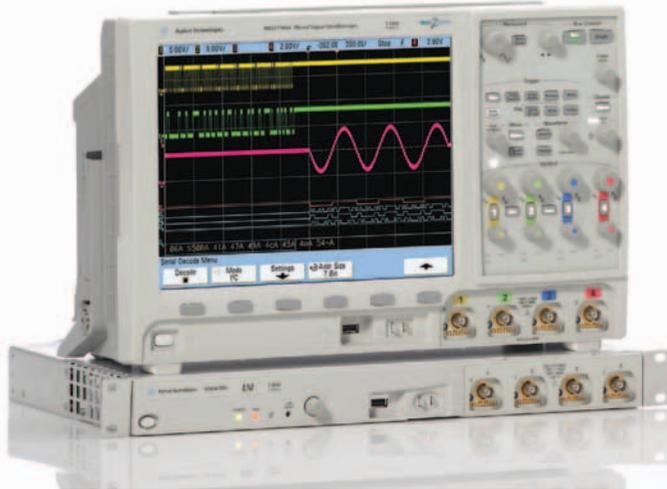
distribution channel. "It's an exclusive distribution product," Kasenbacher admitted, "but it's important for Agilent to offer products in this segment."

The devices will be available with three bandwidths – 60, 100 and 200MHz – and with two or four channels.

There are three major target markets for the scopes: education, providing basic electronic and scientific measurement; manufacturing and service centres, testing against designs and providing go/no go test; and R&D, where the devices can be used to debug, troubleshoot and characterise hardware.

Not surprisingly, the 1000 Series is the smallest benchtop oscilloscope in the Agilent portfolio. "It will be used by the education sector," Kasenbacher agreed, "but it will also find application where users only need to view a signal. Even R&D is a target market for this kind of scope."

The devices take advantage of the migration of technology down product families. "We're seeing features previously only available in higher class devices becoming available in lower models in the range – including economy models. It's more about features and the measurement



functions available in the 1000 Series were not available at this level before."

One of the major features of the 1000 Series is the inclusion of a larger display. The 5.7in lcd provides 25% greater display area, as well as a wider viewing angle. Memory has also been increased; all devices in the series can be equipped with up to 20k points and

Kasenbacher claimed this is up

now provide greater signal visibility. With TrueZoom mode, users can access a split screen display, with one of the displays featuring a second time base.

Another benefit of the better display is the provision of sequence mode. "This isn't common in this type of product," Kasenbacher observed. Sequence mode allows up to 1000 waveforms to be captured and replayed so anomalies can

scopes, which can be used with a pc or laptop, it believes there is still strong demand in the value sector for what is a traditional device. Kasenbacher pointed out that engineers 'still want to turn knobs'. "There are limitations to USB scopes," he continued, "and they are good if you're on the road with a laptop. While they may be appropriate for some applications, a traditional scope is the preferred approach in education."

Dave Rishavy, high performance business segment manager for oscilloscope products, added: "Customer research show strong demand for this kind of product and Agilent is continuing to invest in this area."

Meanwhile, at Embedded World in March, Agilent added four 100MHz models to its InfiniiVision 7000 Series of mixed signal and digital oscilloscopes (pictured above). The Series now covers bandwidths ranging from 100MHz to 1GHz and can update at up to 100,000 waveforms per second. Each model has a 12.1in xga lcd, said to give users almost 40% greater screen area than competitive devices.

Other features of the 7000 Series include: serial decode and trigger for i<sup>2</sup>c, spi, CAN, LIN and FlexRay; core assisted debug of designs featuring Xilinx or Altera fpgas; and segmented memory, for analysis of such things as radar bursts and serial packets.



*"It's all about providing more functionality in a lower cost device."*

*Peter Kasenbacher, Agilent Technologies*

to eight times better than similar devices.

Despite the larger display, 1000 Series scopes are supplied in a compact housing measuring 13cm in depth and weighing around 3kg.

Agilent has also included 23 automatic measurement functions with the device. Included is a sequence mode for waveform recording, playback and storage, as well as selectable band pass filtering and advanced triggering. Meanwhile, productivity is said to be boosted with features such as go/no go testing and USB connectivity.

By including a 5.7in lcd, Agilent can

be identified. Digital filtering supports the use of low pass, high pass, band pass and band reject filters, while the automatic measurement functions include mathematic operations, with fast Fourier transforms as standard.

Looking more to the manufacturing arena, the 1000 Series has been equipped with a mask testing function. "Agilent has only just introduced this in higher models," Kasenbacher claimed. "This is good for manufacturing test, with the mask created from an internal reference signal." Agilent is looking at ways in which masks can be imported.

Although the company offers USB

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**What's most important for you when it comes to selecting an oscilloscope? Is it price, performance or features? Go to the New Electronics website and let us know.**