

# The Pixel Makers

By Michael Gwozdek (MD of Heitel - Germany)

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**Everyone knows that digital megapixel solutions in the field of CCTV are not the right answer for every single application, be it analogue or digital. And the expert providers above all, do not assert this. It is just as inappropriate to compare megapixel solution in general with digital systems.**

Recent developments in the camera world will probably not be very impressive for inexperienced CCTV users, though megapixel resolution amongst PC users, hobby photographers and HandyCam users has long been state of the art. Hence the question why CCTV manufacturers' marketing departments are making such a fuss about their high-pixel cameras.

I wanted to find out more about this, and googled the search terms "MegaPixel CCTV". Having opened a mere fraction of the 34 400 entries I chanced to hit on a manufacturers' website and read "Higher resolution allows you to replace mechanical PTZ (Plan Tilt Zoom) unit or many fixed cameras with one of our MegaPixel camera. I uttered a clearly audible "WOW!". My curiosity increased and now caused me to leaf through my meter-high stack of journals and magazines. My efforts paid off because at last I found the all-explaining statement of a further manufacturer, who writes "This revolutionary concept meant that the ballast of an over 6-year-old video technology could be jettisoned. It was characterized by analogue signals, low resolution and unsatisfactory frames." After reading this again I cast a worried look at my diary to make sure I hadn't spent the past few years in a deep sleep and missed "the revolution".

But what is the explanation for the fact that despite this the "Squaring of the circle" has apparently been achieved for the CCTV industry? Is the perfected Dome (PTZ) to be replaced by a single megapixel camera? Even with a generous interpretation this is not even partially possible, because even

the maximum-pixel all-in-one devices with three megapixels only offer just over six times the resolution of a standard CCTV camera. Obviously, improved precision is being confused with a 360 degrees angle of vision and the tried-and-tested possibilities of optical enlargement. And in anyway, in my 23-year career I have never encountered a single unsatisfactory frame!

On the contrary, because the rapid interchange of two frames interlocked to form a full image - tailored to human vision - has been proven successful in numerous applications. Newcomers amongst us have possibly never experienced how pleasant it is to see a comparison between high-resolution image sequences taken by analogue video cameras, in the form of unadulterated sequences of movements, and full local and unsurpassed temporal resolution.

Dear geniuses (naturally only those who feel addressed): Please show a little more respect for a technology that has taken decades to mature. There is not a shade of doubt that in the long term consistent development of digital technology will have a positive influence on detail recognition by CCTV cameras and co. That is a crucial advantage over analogue cameras, whose maximum resolution is technically restricted by the TV standards PAL and NTSC and the ensuing analogue signal transmission. But individual quality characteristics must under no circumstances be viewed in isolation, especially not when crucial aspects are balanced against a new technical procedure. Thus the high pixel density of the new cameras is frequently

accompanied by reduced light-sensitivity; basically, with digital images every gain in resolution is paid for with an equal and opposite increase in image size and thus with higher bandwidth and more storage capacity. Many of the new megapixel cameras make up for that, if unintentionally, with their own deficits, since in high-resolution mode 25 images/s is in any case impossible; at best, choppy movement sequences can be created. Even more critical is the fact that the products presented hitherto only represent insular solutions, as there is still no standard for all manufacturers regarding transmission, depiction and further processing of digital videos.

Ultimately, those interested in digital "all-in-one-devices" should not be afraid of making a direct cost comparison. But please not "in isolation", but in your own interest always with totally focused pictures and considering all the criteria relevant to usage.



### CAMDISC (SVR)

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For more information on Heitel products please contact MJ Oosthuizen at (011) 887 1546 or mj@norbain.co.za.