

testDRIVE

analyzing the latest CCTV products



ePic - Seeing there is being there

Test, text and photos by V.Damjanovski©2001

We have all seen cameras and cameras, various board models (the so-called PCB cameras), intelligent digital signal processing cameras, high resolution, low resolution, sensitive or not so sensitive...

For this issue of "Test Drive" I decided to try out the "ePic Professional" - the first digital CCTV camera completely manufactured in Australia, by ePic Australia Pty. Ltd. This fact was a good enough reason for me to have a closer look at it. But this little camera, shaped

like a passive infrared detector, is huge on its features and functions. In actual fact, I soon found out that it is more correct to say that the ePic Professional camera is not just a camera but a new, total "Digital Internet-CCTV" solution, not just a camera. And it is fair to say - the first of its type in the world.

So, what is the ePic Professional?

ePic (obviously standing for "electronic picture") is a stand alone intelligent little colour cam-

era, shaped like a PIR, with built-in memory, high speed modem, video motion detection circuitry, alarm input, alarm output, arm/disarm input, and a web/e-mail server. The ePic Professional camera is manufactured and sold in Australia through a network of approved installers called Program Partners. I am told that the ePic Program Partner business model will be rolled out worldwide over the next 12 months.

The ePic Professional is sold,

together with its internet web site monitoring service as a solutions package. The ePic Professional camera is packaged in a small white box that contains the camera, 20m. of telephone cable, a camera bracket and a 6V dc power supply. That's all you need.

Unlike other PC-based digital video cameras, this Internet appliance requires no connection to a personal computer and there is no software to install. No additional phone lines required, the product seamlessly works with an existing phone line.

This concept makes the cost of the camera itself, and the web site monitoring service incredibly low, thus making it a very affordable security package. With this new concept of "Internet-CCTV" you can have your own Visual Home Monitoring, whilst you are at work, on holidays, interstate or overseas. All you need is Internet access and

you can check what is happening around your pool area, or who is (or was) at your main door entrance, or anybody triggering the camera. You can check-up on your business while you are on holidays, or check on your stock, staff or premises



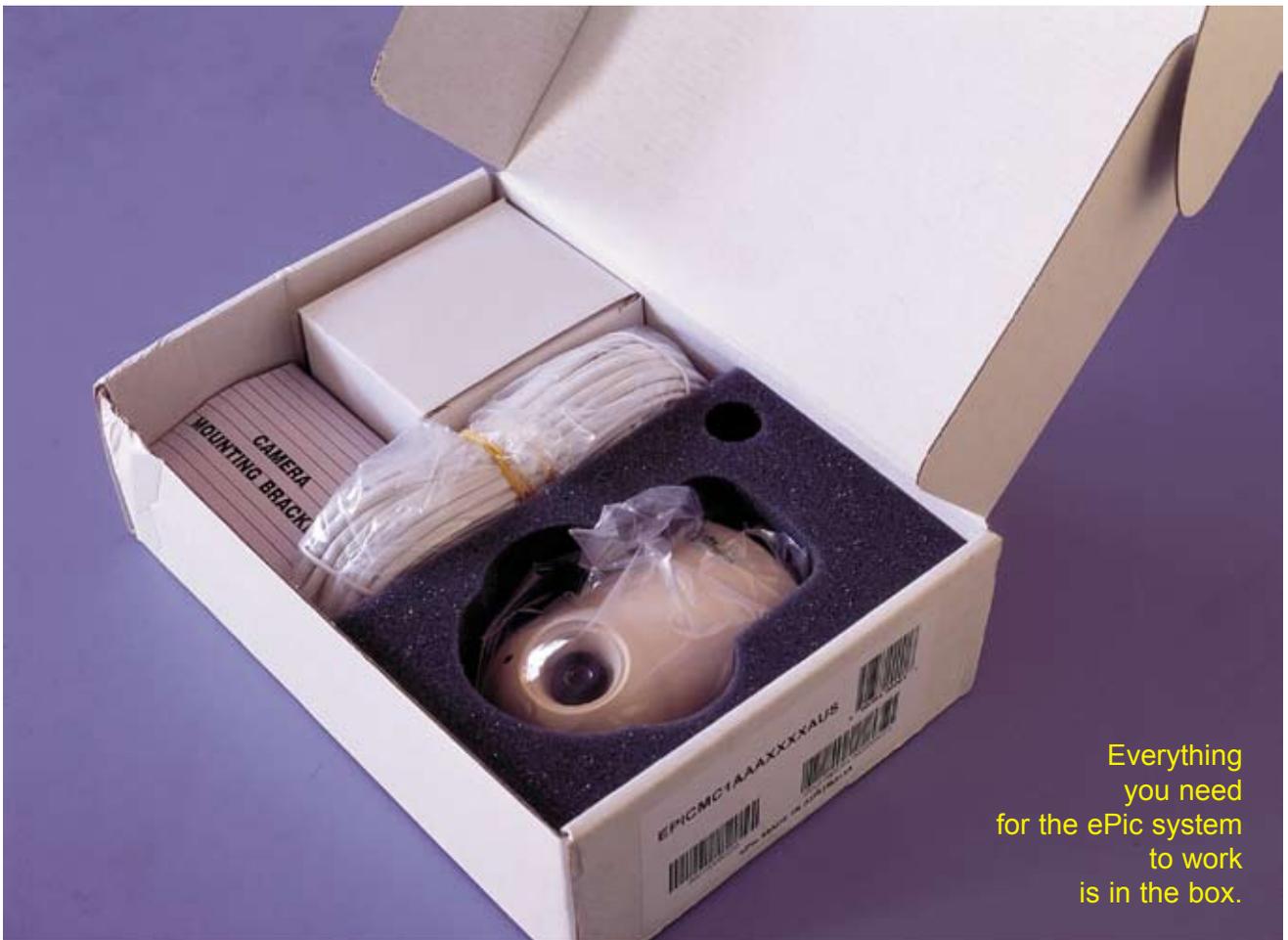
whilst in a meeting far from your place of business. If you however, prefer to have such monitoring done by a professional monitoring company, you can certainly organ-

ise this through the ePic network of accredited Program Partners.

It is not hard to imagine how big an impact this little camera will have on the "classical non-visual" security monitoring business.

The camera installation has to be one of the easiest I have seen. The model I tested is intended for indoor installation and all it requires is mounting a bracket with three screws, plug into a telephone line, and connect the power. It can't be any easier. I understand an outdoor weatherproof housing for the camera is currently under production.

The important thing is - it does not require a dedicated telephone line. Any existing phone line will do. The ePic Professional is intelligent enough not to disturb your normal telephone or facsimile line usage. It only uses the phone when it needs to dump (upload) images onto your web site server, and only



Everything
you need
for the ePic system
to work
is in the box.



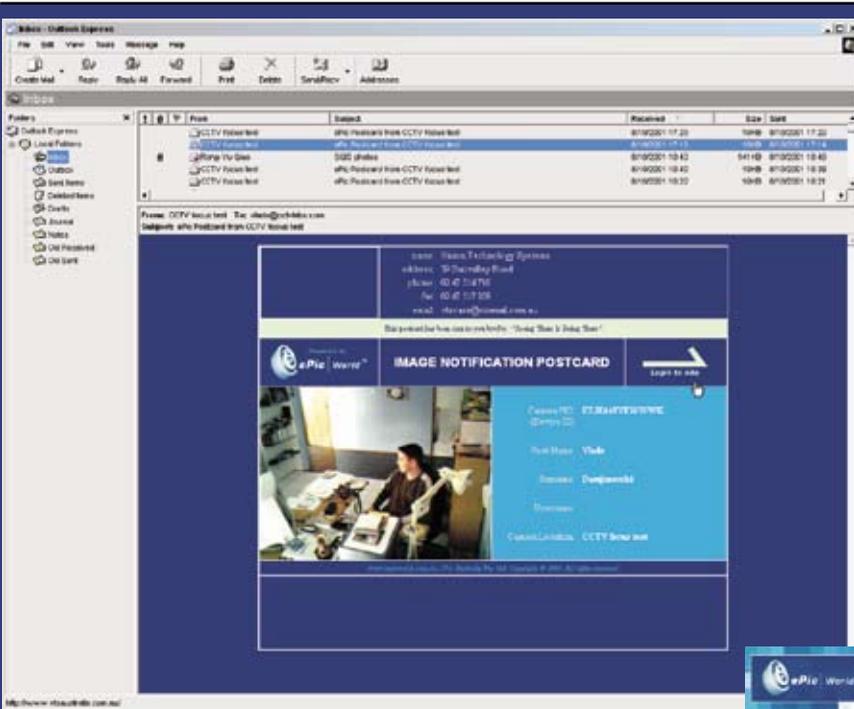
Interested crowd snapshots from the first public demonstration of ePac

if your phone line is not engaged. If you are using a facsimile line like I did for this trial, the ePac is intelligent enough to not pick-up the incoming facsimile for example, or ignore a normal voice call, should you be using a normal telephone line.

What happens in a normal day-to-day operation is simple - when the camera detects movement (through its inbuilt Video Motion Detection), or is triggered by any alarm device (or both) it captures a number of images (from a single image to several hundreds - depending upon the resolution, and image size that you choose). Then, it dials out to your preselected local POP (Point Of Presence) number and dumps all the images onto your web site (provided by the ePac Program Partners).

All the captured images, initially, are stored on the ePac camera's internal memory of 4Mb or 512kB (sufficient for more than 15 high quality JPG images of 640X480 pixels, or typically over 30 images of medium quality of 320X240 pixels). I found the medium quality to be a very good compromise between size and resolution, and offers sufficient information to identify people's faces or vehicle number plates. The CCTV Labs test chart showed that selecting the High quality image (640x480) of the 1/4" CMOS chip did not warrant the use of this resolution, due to the fact the Medium quality (320x240) image certainly did the job very well. Let's be totally honest here, the ePac Professional is a small camera that gives you sufficient quality for prosecution, it is not your "super-duper, day/night, high resolution million dollar camera". It captures good quality images (better than VHS), which are sufficient to give you the details you require. In the majority of security, safety, access or quality control applications this is all the video information you need.

In addition to dumping the captured images onto your web site, an e-mail message is automatically created and can be sent to your or other e-mail address's showing the first triggered image with the time and date as a visual verification of what may have caused that event. By then, clicking onto the links that are included in that e-mail you are automatically taken to your web site, where by entering your own protected user name and password you have the option of logging onto the camera Live or Viewing all the stored images. Your web site will have a number of images available for you to choose from, (like a photo album), with Time, Date and the Number of Images captured. By choosing the required shot you can then play them back in a loop on your own PC via your web browser. Since this is done by downloading the images from your web site onto your PC, it may take a few seconds by the time you get all the snapshots, depending upon your internet connection speed. Once they are downloaded onto your PC, you can play-back the sequence containing all the captured images in a continual loop, or pause at any image, by using the very simple control buttons. If you would like to export either the single JPG images or the whole video clip, again it is a very easy procedure. Video E-mails can be sent to your PC's or PDA's notifying you of the alarmed event, and an added feature is the ability to send you SMS text messages to your mobile phone or phones, (textual at this stage, but with the



When alarm images are sent to your web site ePic automatically sends you an e-mail "Image notification Post card" as shown on the right. This post card gives you the camera ID and a link to take you to your web site.

If there are more recorded snapshots in the selected time, the ePic will show you a "Photo Album" with more images to chose from.

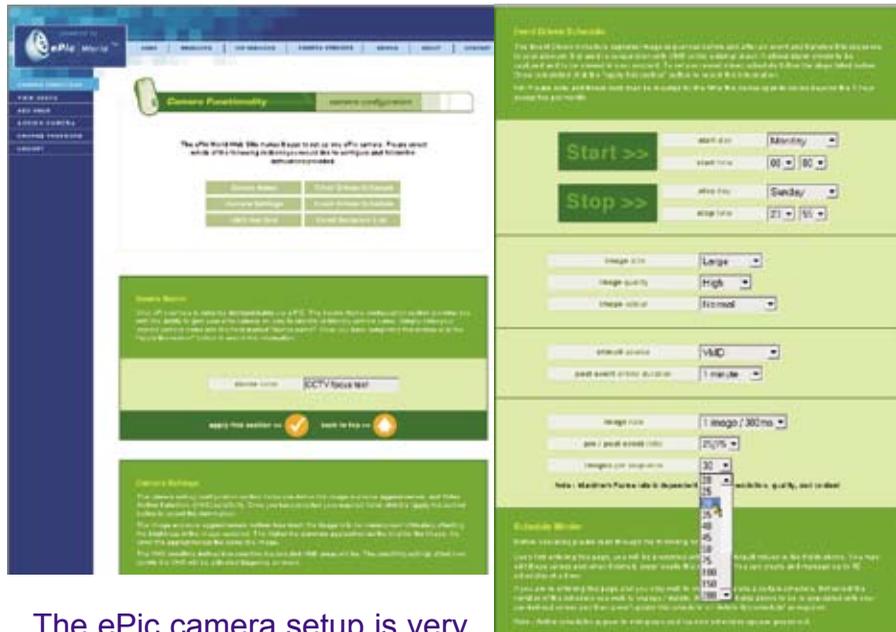


Images played back from your web site can be larger or smaller, depending upon the image size selected for recording during the ePic camera setup.



When you get into the web site, you can filter what images you want to see, from a starting time and date to an end time and date.





The ePac camera setup is very extensive and it is done via the dedicated the web site

advent of G3 phones just around the corner, visual on your mobile is not far away).

All ePac images are in JPG format, and their resolution range from 640X480 pixels, 320X240, 160X120, down to 106X80 thumbnail size. As mentioned earlier, the 320X240 resolution, called Medium size by ePac Australia, is the best compromise between quality and image file size.

The configuration of the ePac Professional camera is done by the user, via the ePacWorld web site. You can select many variations for image rate capture. This includes number of pictures per second from 1 image every 200ms (5 pictures per second), through to 1 every 300ms, 400ms, 500ms, 1 sec and up to 1 image every 10 seconds. The ePacWorld web site also allows you to have a smart pre-alarm and post-alarm image capturing feature which allows you to select from 0/100, meaning 0 images pre-alarm and all of them post or 25/75, 50/50, 75/25 and 100/0, meaning all images captured are pre-alarm and none post (ideal for machine stoppage or malfunction). Needless to say you can also configure the VMD area through the 8x6 grid on the web site.

The hardest part for me was when adjusting the angle of view to take test chart snapshots. Since this is not an ordinary analogue camera, there is no "live" signal connection to check on the precise adjustment that the test chart requires. All of this focusing is done at the factory in Sydney at the point of manufacture. In actual fact, there is a function on the ePac web site called "Live View" which would enable the ePac Professional camera to be dialled directly via the ePacWorld web site and appropriate adjustments could be made. Again, this would not be usually required for a normal "installation", since the first couple of images are sufficient for your installer to position the camera's angle and coverage to your liking. There are a number of lenses that you can choose from in order to get the angle of view you desire. For the "CCTV focus" testing the ePac Australia people provided me with a "telephone line simulator" and a documented procedure on how to "dial" the camera directly from your PC, without going through the Internet. This helped a lot when evaluating the angles and positions of the camera.

The ePac Professional camera can also be programmed to cap-



A real life reproductions of 320X240 pixel images, only re-sampled to fit the printing area

ture images by pre-determined schedules and not only rely on just the VMD or alarm input trigger. The time intervals for such periodic snapshots can start from one image every 5 seconds, up to an image once every 24 hours.

When changing the camera parameters (the installer would usually do this at the time of the installation) you reset the camera power so that when the camera first "wakes up" it dials a 1300 national number and downloads its settings. Then it simply follows the configuration file that you have set up for it. A nice feature is that the camera can check its configuration settings once every 6 hours or, once every day or every week, depending upon how frequently you might want to change the cameras parameters. In a practical situation though, you would have one setting that you know works for you and you would leave it like that.

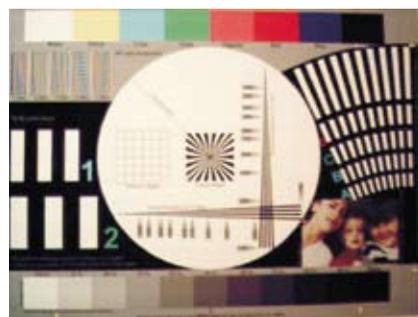
The ePic Professional camera can have one or more cameras connected to a telephone socket, and whichever camera goes into alarm first grabs the line and starts sending its stored images, whilst any other triggered cameras wait for their turn to do the same.

The many features of this stand alone, totally digital, internet based camera, the professionalism of the web site, and the thought that has gone into this ePic Professional

camera has impressed me deeply. Although simple in installation, this little ePic Professional camera comes with a multitude of configurable variations and set up possibilities, and obviously many, many uses.

It is very rare to see a brand new concept such as the ePic Professional camera, that is so completely integrated with ideas and capabilities. This is especially difficult when there are no similar concepts to copy from. Well done ePic Australia.

Many might question the security of this new type of CCTV, especially when it depends on various servers throughout the world (Australia only at this stage). My answer is simple - it is as secure as your web site servers, as secure as the confidential e-mails you are sending or receiving every day, or as secure as the payments you make with your credit cards. There could be flaws in such a global system, but such flaws will affect the global Internet, not only the ePic concept. It is up to the web security, encryptions and the web server's operating systems stability to quantify the security behind the ePic concept. The people at ePic Australia have thought of this as well, by offering a Dual Redundant, secure firewall protected infrastructure, of dedicated servers, whose bandwidth and capacity will always



be at their best.



ePic uses JPG compression and image resolutions are: 640X480; 320X240 and 160X120 pixels.

ePic Australia has also introduced a high speed, very competitively priced unlimited consumer dial-up service, called ePic World Unlimited, with new and expanding ISP services to soon follow including access to the G3 network. (Well worth your while to enquire about this ISP Service).

There is no doubt - the ePic Professional camera sets new trends in CCTV and the line between CCTV and IT becomes even thinner.

Welcome to the new world of "Internet-CCTV"... ☐☐☐