

Working with the **CCTV Labs** new test pattern generator TPG-8

Text and photos by V.Damjanovski © 2004

Not many things in life are as exciting as when you see a product designed and made to your own specifications. Our new CCTV Labs test pattern generator TPG-8 was supposed to see the light of day before the end of last year, but due to reasons beyond our control we had a little delay. We had many orders and enquiries about it and finally here it is. I got the first sample to try it out and play with it.

The idea about the test pattern generator is not new, and in CCTV, many would know, we had some generators available from a few manufacturers in the past. Today they are much harder to find and I doubt that there are still any manufacturers out there interested in making such specialised devices. There are certainly many test pattern generators in the broadcast industry, but they are bulky and expensive.

After the successful introduction of our CCTV

Labs Test Chart in the CCTV industry in 1995 (at the same time when my first book "CCTV" saw the light of the day) we had a slow but steady increase in usage of the Test Chart. Today, over 500 companies world-wide, manufacturers, consultants and installers are using the CCTV Labs test chart.

It has become a CCTV standard tool for testing and evaluating CCTV equipment which is very useful especially when comparing cameras, transmission media, monitors and DVRs. Certainly, the most important stage in performing a test with the CCTV Labs test chart is using and setting up a good CCTV camera, especially if other parameters of a system are to be tested.

This is the point where the test pattern generator is irreplaceable.

Manufactured by our Russian colleagues from Stream Labs, this device is a pleasure to work with. Not only is it easy, but very useful when



The CCTV Labs TPG-8 has composite and Y/C output

testing various devices in CCTV. And of course, that was the purpose of the design - to make testing and checking various devices easier, more accurate and objective.

The CCTV Labs TPG-8 test pattern generator electronically produces always a perfect test signal so that the rest of the CCTV equipment can be tested without doubting the source signal quality. The TPG-8 is very portable, with dimensions 77X170X25mm runs on rechargeable batteries or 5VDC power supply.

The best part of the CCTV Labs TPG-8 is that it is programmable by the user. It comes with a USB cable and software which you can use to download any test pattern you have or create into the TPG-8. You can easily customise and personalise your test patterns.

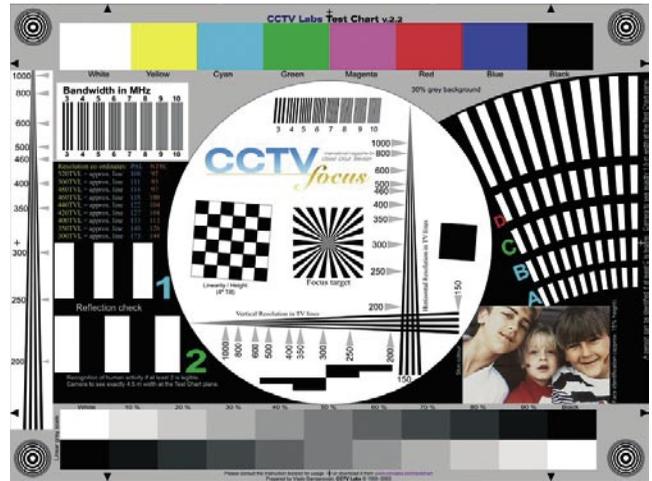
All you have to do is using photo editing program create a BMP, TIF, JPG or TGA image formatted at 768 X 576 pixels. Make sure these are in RGB format and not CMYK, and all you

have to do is export (write) such an image to any of the 8 cells in the TPG-8. By doing so, you will overwrite the previous image sitting in that cell location.

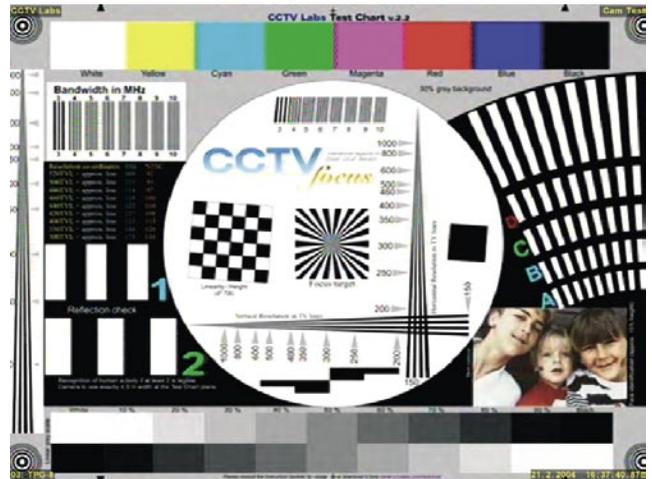
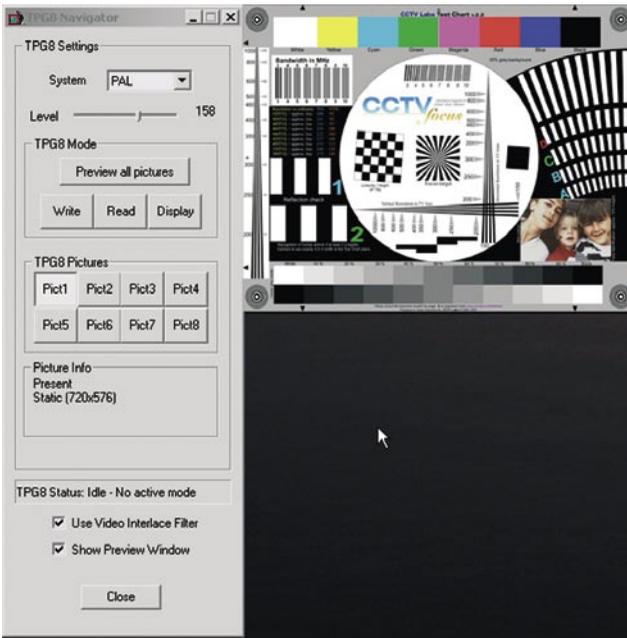
The above makes the TPG-8 very universal tool, and testing of even standard television is possible. But we haven't stopped there in our design. The TPG-8 also has a possibility of varying the video output levels. In addition to the standard 1 Vpp signal, the video output can be reduced down to 0.3 Vpp and increased up to 1.5 Vpp. By having such a dynamic range of signals it is now possible to check the cut-off point of various devices, such as DVRs, or fibre-optics transmitters, etc.

So what can you test with the TPG-8?

The list can be as large as you wanted it to be, as it is only dependant on your inventiveness, but typically you could easily check CCTV monitors quality (Gamma, resolution, linearity,



The CCTV Labs popular test chart now comes in electronic format in the TPG-8 note that the colour bars at the top can not be reproduced exactly as they appear on phosphor CRT screen due to differences in the colour space (RGB vs. CMYK)



A DVR X exported BMP of the signal above

The TPG-8 Navigator program is used to upload third party or your own test pattern from your PC

colour reproduction, etc.), transmission system quality, signal reflections, DVR quality, and so on. By creating new and unusual test patterns you can also introduce new measurements not made before.

One such very simple trial I did on the first prototype. I chose a photograph where I had faces and car number plates with sufficient clarity to be just recognised on the PC screen. When this is exported in the TPG-8, and played back on a composite CCTV monitor the faces and

car number plates details were slightly of lower quality, but still recognisable. Clearly when such an image is now put through a DVR, only the best DVRs can record such an image in whatever compressed format are they using and still have these details recognisable.

This is explained in details in the Instruction Manual that comes with the TPG-8 and also can be found on the CCTV Labs web site.

In order to start a new benchmark in objective testing, the TPG-8 will come with a few pre-loaded test patterns and the CCTV Labs Test Chart in electronic format will certainly be part of it. We will start putting all measurements and exported images of digital video recorders on the CCTV Labs web site (as is the case now with

the exported images from the CCTV Labs test chart) and we hope that in the next few years this library will be enhanced with many samples and files which you can use to compare quality of images more objectively.

We will still try and keep the cost of TPG-8 to the very special introductory price we have announced in the last years magazines, and at AUD\$990 + GST for Australian orders only, and + delivery for all overseas orders we believe it is an exceptional value. Please use the order form in this issue or download one from the CCTV labs web site www.cctvlabs.com.

Quantity orders will attract a discount of 10% for minimum 5 units, and 20% for 10+ units.

For more details and regular updates on software, improvements, and various new test patterns please visit www.cctvlabs.com [•]



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