

MT. TIBURON TESTING LABS

3d Mark RV630		HD 2600 XT, 512-MByte GDDR4 (1100 MHz)	
Resolution	1024 x 768	1280 x 1024	1600 x 1200
Crossfire AA (8)	5898	4631	2288
Crossfire AA-off	8547	7879	6712
No Crossfire (4)	3316	2568	1636
No Crossfire AA-off	5522	4607	3787

3D Mark RV610		HD 2400 XT 256-MByte GDDR3 (800 MHz)	
Resolution	1024 x 768	1280 x 1024	1600 x 1200
Crossfire AA (4)	3364	2587	2001
Crossfire AA-off	4512	3629	2921
No Crossfire (4)	1912	1430	1098
No Crossfire AA-off	2662	2092	1642

TABLE 2: AMD's ATI Radeon HD2400/2600 benchmark.

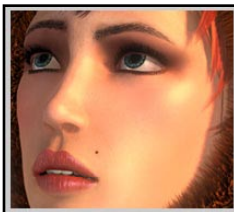
to the GPU to help lower system power consumption. UVD is designed to be used in a range of video applications such as watching Blu-ray, HD DVD, or standard-definition movies, according to AMD. And, Silicon Optix has a new HD HQV test, but our HD drive hasn't arrived yet so we'll have to run those tests next.

Conclusions

The AIBs show well in the benchmark tests and scale nicely against the HD2900XT. We can't make a benchmark/dollar analysis because it's not clear (at this time) what the real prices are, and what we found vs. what AMD is suggesting is pretty far apart. AMD says the boards are shipping, but to whom and where, we couldn't find too many. And none to buy, so it must still be early days for the channel.

Radeon HD2900XT redux

AMD taunted us with new drivers and said they was the



bestest ever, for sure. Well, that was a goad we couldn't resist so we unloaded the current drivers, and the HD2600s and stuck in the 2900xt, downloaded the new special drivers and ran the tests (all damn long BTW).

Time to go south and visit old Juarez

Next we ran a series of test using the DirectX 10 benchmark provided by the Call of Juarez program. We couldn't see any difference from our last set of tests (Table 4, p. 24).

Matrox's TripleHeadToGo — Digital edition

Those cunning Montrealites have extended their external frame buffer manager into the digital domain and now have a DVI version of it.

Shown in the picture is the PC side of the unit, and it also has a VGA input connector since most laptops don't offer a DVI connector.

The unit looks like a giant sec-

ond monitor to your PC and can drive an image up to 3840 x 1024 (if you have enough frame buffer memory to support it). That works out to be the equivalent of three 1280 x 1024 screens. That's the good news. The bad news, if there is any with this nifty little device, is that it is a contiguous second monitor in terms of the GDI and your mouse movements. That's not a handicap if you use this as your primary monitor on a PC or workstation, and place the three displays next to each other on the desk. It does become a problem if you use it as the second display, say with a laptop.

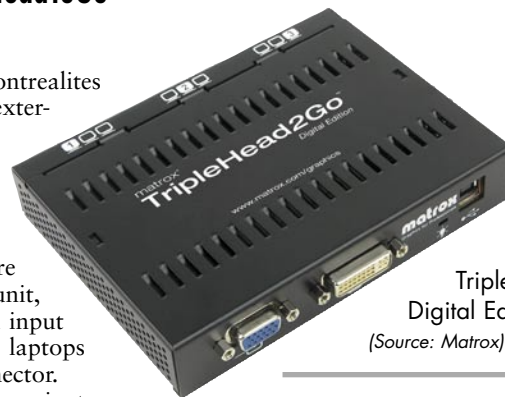


FIGURE 1: Matrox's TripleHeadToGo Digital Edition.
(Source: Matrox)

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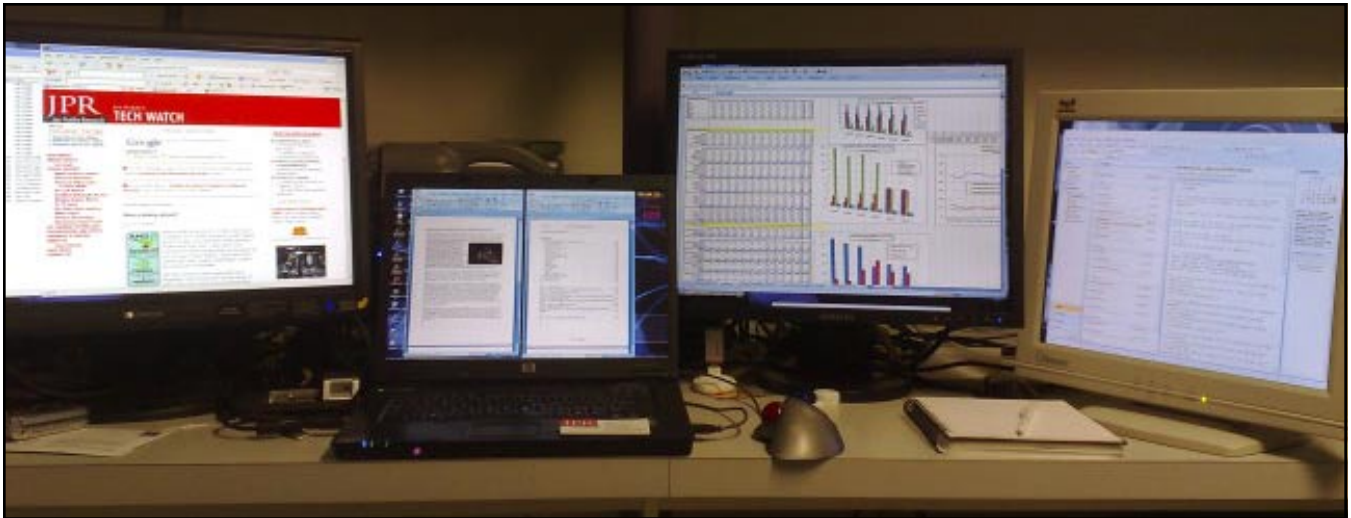


FIGURE 2: Matrox's TripleHeadToGo enables three external screens with a laptop. (Source: JPR)

3d Mark R600	HD 2900 XT			
3D Mark 06	Sample_Vista 8.38.9.1 Driver			
Resolution	1024x768	1280x1024	1600x1200	2560x1000
Enabled Crossfire AA (8)	10102	9636	8728	
Enabled Crossfire AA-off	10585	10256	10048	9228
Disabled Crossfire (8)	7392	6091	5040	
Disabled Crossfire AA-off	9387	8927	8275	5948
3D Mark R600	HD 2900 XT			
3D Mark 06				
Resolution	1024 x 768	1280 x 1024	1600 x 1200	
Crossfire AA (8)	10014	9347	8708	
Crossfire AA-off	10347	10269	10041	
Disabled Crossfire (8)	7373	6121	5041	
Disabled Crossfire AA-off	9319	8855	8238	
Crossfire AA (8) DIFF	0.9%	3.1%	0.2%	
Crossfire AA-off DIFF	2.3%	-0.1%	0.1%	
Disabled Crossfire (8) DIFF	0.3%	-0.5%	0.0%	
Disabled Crossfire AA-off DIFF	0.7%	0.8%	0.4%	

TABLE 3: More AMD benchmarks: Ruby's not gonna like this.

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The problem is the fourth monitor gets so far away from you that, unless you have amazingly good eyes, you're going to have to move your head, or maybe your body to see what's on the further-most-away screen.

My preferred setup is to have screens on either side of my laptop, and if there is a fourth have it above the laptop's screen so there is a cone of focus around the keyboard basically allowing quick eye movements and limited head movement.

And although you can physically place the displays in any arbitrary location moving the mouse, and moving it quickly, becomes almost impossible as you search for the right direction to go.

In the test configuration shown in the photo on the next page, the two screens (laptop and extended external second screen) are configured with the external above the laptop screen.

However, once you work out your mousing around, which can with a little time simply be a matter of training, you can get a lot of screen and pixel real estate with this nifty little device.

We tested previous versions of the device, the two-head VGA and the three-

head VGA, and those puppies got really hot and used an external power supply. This new digital box powers off of USB and runs very cool.

Playing around

One of the original drivers for this multi-head display work was games, back in 2002 when at E3 they showed their G550 chip on an AIB that could run games with three displays. It was revolutionary, affordable, and limited at the time by the high cost of monitors, and to some extent the openness of the games. Matrox had to write special drivers for each game to tweak its display size.

Since then the games have been more open, monitors have dropped in price, and the TripleHeadToGo is now a very affordable three-head game display device. Also, Matrox has greatly expanded the list of games it can work with. We plan to test this in the coming weeks; getting the monitors physically set up is not trivial.

Seeing even more

Now that Matrox has a digital version, it will be interesting to see if they

continue to expand it. The two black framed screens in the photo are a 1600 x 1200 and a 1680 x 1050 (which is rapidly becoming the de facto standard for notebooks and affordable large screens because it fits well with HD TV requirements). If the native resolution of your screens is 1680 x 1050 then running them at 1280 x 1024 does cause a little distortion and of course larger pixels. With improved bandwidth (from DVI) Matrox should be able to bring out yet another version of this clever little box.

Conclusion

There is lots of value for users, a small cost offset to the cost of monitors, and easy to install. The major competition is the USB to DVI technology from Displaylink that is being employed in displays and docking devices. The bottom line on all of this is we are going to be able to do more by seeing more for not a lot of money. The unit sells for a mere \$329 and should be available by the time you read this. ▲

V630				HD 2600 XT					
Call of Juarez				Sample_Vista 8.38.9.1 Driver					
Resolution	1280 x 1024			1600 x 1200			1900 x 1200		
	Min	Max	Avg	Min	Max	Avg.	Min	Max	Avg.
Disabled Crossfire	8.4	57	24.8	13.4	40.1	21.9	6.8	20	12.2
	15.7	57	27.1	12.8	40.1	21.9	4.9	20.8	13
	15.8	57	26.7	12.8	40.1	21.9	9.6	30.9	18.7
Average of average			26.2			21.9			14.6
Resolution	1280 x 1024			1600 x 1200			1900 x 1200		
Enabled Crossfire	Min	Max	Avg	Min	Max	Avg.	Min	Max	Avg.
	8.1	55.8	25.1	8.2	40.1	20.2	6.2	20.3	13.2
	5.3	58.3	26.5	13.4	40.1	22	8.4	30.9	16.1
	15.4	55.8	26.8	12.7	40.1	21.9	11.3	33.7	19.1
Average of average			26.1			21.4			16.1

TABLE 4: Call of Juarez benchmark results with new driver.