PRODUCT NAME

        EGS Spectrum 28/24

BRIEF DESCRIPTION

        The following is a review of GVP's new EGS Spectrum 28/24 graphics
board. I've had this board for a little over a week now, so I think that I
have a pretty good feel for what its capabilities are. Here are my
impressions so far as well as the technical specs.

AUTHOR/COMPANY INFORMATION

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LIST PRICE

        The list price of the Spectrum board is $599 for the 2MB version and
$499 for the 1MB version.

SPECIAL HARDWARE AND SOFTWARE REQUIREMENTS

        Amiga with a Zorro slot.
        AmigaDOS 2.04 or greater.
        Minimum of 2 MB of RAM.

COPY PROTECTION

        None.

MACHINE USED FOR TESTING

        My system is an Amiga 2000 with 22MHz 68030/68882 and 12MB of
memory, A2320 Display Enhancer, Commodore 1950 Multisync monitor, and
various other SCSI disk drives, tape drive, bridge board, etc.

INSTALLATION

        Installation was very simple. I just put the board into a slot,
connected the supplied video jumper cable from the output of my Display

Enhancer to the Spectrum's input (I really appreciated the supplied cable), and that was it. The software comes on 5 disks and uses Commodore's Installer program.

OVERVIEW

        The performance of the Spectrum board is exceptionally good, and this is with a Zorro II system. I imagine that this board would fly on a Zorro III system (you will need an up-to-date Buster chip for Zorro III though). Scroll speeds on a EGS 640x480 pixel 16-color Workbench are about 8 times faster than when using an equivalent native Amiga mode. Even when using an EGS 800x600 pixel 256-color Workbench, scroll speeds do not substantially degrade. An awesome feature of the Spectrum/EGS system is that you can move windows with their contents intact in real time. This looks really incredible in 24-bit color. In EGS Paint, moving around with an oversized 800x1200 24-bit image was done in real time as well. The image quickly and smoothly scrolled as I moved the windows sliders to reveal the hidden parts of the image.

        The output of the Spectrum is exceptional. All of the EGS display modes are very crisp. When the native Amiga display modes are passed through (this is handled automatically), they appear as they always did with no noticeable noise or interference from the Spectrum board. I am a little disappointed that the maximum refresh rate for a 800x600 pixel 24-bit screen is 50Hz. I guess you Europeans won't mind this, as you all are used to that 50Hz flicker. I did define a 800x600 pixel 16-bit screen mode at 60Hz and I am pleased with this mode. To be honest, I can't discern much difference between the 16-bit and 24-bit modes; they both look very good.

        One slight glitch I noticed was that the EGS's cursor produces a short line of horizontal pixels if you moved it to the very top line of the display screen. Not a big problem, though. After reading the manual, I discovered that this may be a result of the way in which the screen mode was defined. Sure enough with a little bit of tweaking, I was able to get rid this problem.

THE HARDWARE

        The board itself looks very clean and professionally designed. There is only 1 jumper, which controls the Force Zorro II option. There are two 512KB RAM chip sockets which were filled on my board as I have the 2MB version. There is also an empty socket in the middle of the board. I would guess that this socket will be used to support the upcoming RTG (ReTargetable Graphics) from Commodore. The board has 2 ports which are accessible from the back of the computer: one is a 9-pin video input, and the other is a 15-pin (SVGA type) video output.

        One thing worth mentioning is RAM. You will need a lot of it. The Spectrum board uses Fast RAM for storing screens. Chip RAM is not used at all unless you use a native Amiga display mode. For instance, I had both an 800x600x3 Workbench screen and a 736x556x24 EGS screen open and still had 980K of Chip RAM free on a 1MB Chip RAM machine. All EGS screens do use Fast RAM, however. My 12MB machine was constantly getting low on memory (less than 2MB free) when running several programs at once. Granted, I did have a couple of 24-bit images loaded in EGS-Paint and an Image processing program running at the same time.

THE SOFTWARE

        The supplied software includes EGS Paint and several preferences programs: one to set the default EGS Screen Mode, one to set the EGS System Fonts, one to set the Display Colors, and the Display Adjust program for defining and editing screen modes. Another preferences program lets you edit the EGS sprite pointers, although this program constantly crashed on me. And finally, there is a program to select which EGS screen blanker to use. The screen blanker program has several neat blankers to choose from like

raindrops, fractals, EGS wave, and others.

There are also several utility programs included such as an IFF
display program, a clock, an EGS version of the text display program 'More',
an EGS Shell (couldn't get this one to work), and a screen/window grabber
program which saves EGS displays to an IFF-24 file. There is a program to
let you define 24-bit backgrounds for your EGS screen. Several pre-defined
backgrounds are provided. In a directory named 'Tools' there is a neat
little function plotter program and a Tetris Game.

The software was all pretty straightforward: I was up and running
without opening the manuals. That is, until I tried actually using some of
EGS Paint's features. It took a little getting used to; but with a little
help from the manual, I quickly got the gist of it.

My impression of EGS Paint is not so favorable, but it does have a
few neat features. The author obviously spent a lot of time on the stencil
features. They allow you to mark off areas of the image which can/cannot be
modified. The stencil area can be captured as a brush or saved to disk.

EGS Paint will let you have multiple images open at the same time.
Also it will let you have 2 or 4 views of the same image within a window at
different magnifications if desired. Overall I would say that EGS Paint
still needs quite a bit more work. I haven't really found any bugs with EGS
Paint, but there are a few things which need fixing. For instance the window
which contains the image being edited constantly updates its title when the
mouse moves (even when coordinates have been turned off). Not only does
this needlessly slow down painting, but it is very annoying to see the title
bar flickering like that. Another thing which I don't like about this
program is that when drawing lines with a brush larger than 1 pixel, you get
a thin 1 pixel wide representation of where the line will be drawn. I would
really like to have the option of seeing the entire thick line drawn before
I let go of the mouse button. I know that this would be slow, but they could
at least make it an option so that you can see what the line will really
look like if you want to.

Another dislike about EGS Paint is that when you grab a brush you
are given a 1 pixel deep outline image of what the brush looks like until
you stamp it down on the image. If the EGS system is fast enough to move
entire 24-bit windows with their contents intact in real time then why can't
EGS Paint show the full 24-bit brush? Brushes also don't seem to know about
using transparent background colors. I could go on and on about what
features are missing but I won't. Would I say that EGS Paint is useless?
No, not really. It is useful for touching up 24 bit images. It does have a
slick interface. But in comparison to a program like Deluxe Paint there is
quite a lot missing.

One notable capability missing from both EGS Paint and the IFF
Viewer program is the ability to read and write JPEG and GIF type images.
Currently only IFF is supported. It is a real headache to convert JPEG's to
IFF before working with them. And the size of them!!! A 150K JPEG image
becomes about 2MB once it's converted to IFF-24. To give GVP credit, they
do use external libraries to support file IO. This means all they have to
do is release modules for JPEG and GIF in the future and the programs will
automatically support them. I have been using HamLab II+ to do the
conversions. It's an excellent program that is well worth the modest asking
price. I would love direct Spectrum support in this program. Ed, are you
listening? Hint. Hint.

Moving on to the rest of the software.... A nice program included is
the display database/screen mode creator. You can define custom resolutions
to add to the display database. It gives you complete control over the
Vertical and Horizontal scan rates allowing you to squeeze the most out of
you monitor.

Compatibility with existing software is good as long as you don't
try and use an EGS display mode. This is probably the most disappointing
aspect of this package right now. I tried running ProPage 3.1, ProDraw 3.0,
and Final Copy II on a 256 color hi-res Workbench screen, and none of these

programs would work at all. In fact they crashed and burned. Both ProPage and ProDraw would not even work on their own custom screens if I had the workbench set to an EGS mode of any type. I did have a little luck, however. Most programs which open up a window on the Workbench screen will work. They don't seem to know or care about any extra colors you have over 16 though. Even the Workbench preferences programs won't use more than 16 colors. I'm running Workbench 2.1 by the way. I would really like to see GVP come up with a screen mode promoter program like the Retina graphics board has currently.

        Programs which use the Display Database do work correctly. I currently have exactly 2 programs which do use the display database (out of thousands). One is the Workbench and the other is Term 3.4. Final Copy II does work on large screens as long as they have 32 colors or less. I guess I'll be needing a lot of software upgrades in the near future.

SPECIFICATIONS

        Zorro II/III autosense (with a "force Zorro II" jumper on board)

        32-bit Video Local Bus

        1MB or 2MB of DRAM (I got the 2MB version)

        Maximum pixel display speed:
            28M pixels/sec @ 24bits
            80M pixels/sec @ 8bits

        Maximum Display Screen Sizes:
            1600x1280 @ 4 bits
            1280x1024 @ 8 bits
             1024x768 @ 16 bits
              800x600 @ 24 bits

        Zorro Bus to Spectrum bandwidth:
            Zorro II - 3.5 MB/Sec
            Zorro III - 12.0 MB/Sec

        Special Hardware:
            Hardware Blitter
            64x64 pixel sprite (pointer)
            Video Signal Passthrough (allows all Amiga modes to
                                      be displayed with 1 monitor)

BUGS

        The EGS sprite pointer program would not run -- it crashed constantly.

        I could not get the EGS shell program to work.

CONCLUSIONS

        In retrospect I would say that Spectrum board is a really nice piece of hardware. My complaints with this system are all software related. I think that we can count on the software's improving, knowing GVP's reputation. I feel that they rushed the software to get this board out because of the heavy competition now emerging. Not that all of the software included is all bad. In fact, it all has a very polished look, but it lacks a little substance right now. Once the software catches up, I will be in 24-bit bliss.

        The opinions expressed above are my own. I am in no way connected with Great Valley Products. I am a software engineer by trade and an artist by heart.

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